HPB18-0252

Traffic Impact Study

Park Hotel

355 19th Street
Miami Beach, Florida

January 9th, 2019

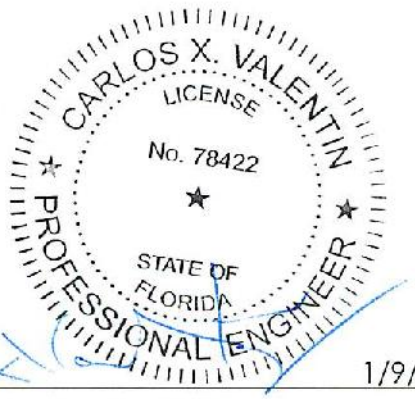
Richard Garcia & Associates, Inc.

Engineer's Certification

I, Carlos X. Valentin, P.E. # 78422, 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: Park Hotel - Traffic Impact Study

PROJECT LOCATION: 355 19th Street
Miami Beach, Florida



1/9/2019
Florida Registration No. 78422 Date

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Executive Summary

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

The subject site is located on the northeast corner of 19th Street and Park Avenue at the address 355 19th Street in the City of Miami Beach, Florida. This site has 32 multifamily housing units while the proposed redevelopment consists of a hotel with 100 rooms and a 800 square feet restaurant (café style with bar) with 60 seats. Moreover, this project will provide valet services and the drop-off will be on Park Avenue in front of the site. The project build-out year is slated for 2020.

The trip generation characteristics for the subject project were obtained from **ITE's Trip Generation Manual, 10th Edition**. The trip generation analysis was performed for a typical weekday's PM peak hour of the generator since the City requested traffic data between 10:00 PM - 12:00 AM. 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: Multifamily Housing (Low-Rise) - 32 dwelling units

Proposed: LU 310: Hotel - 100 rooms
LU 931: Quality Restaurant - 800 square feet (60 seats)
OR
LU 925: Drinking Place - 800 square feet

The trip generation calculations for the proposed project yielded 55 net trips (33 trips-in & 22 trips-out) during the weekday's PM peak. Note, these vehicle trips are likely to be reduced based on the rate and extent of transit and pedestrian/bicycle, since neither of these adjustments were utilized in the analysis as a conservative approach.

The above peak hour trips were distributed to the studied intersections. Note, since the subject project will have valet services for all patrons, the valet trips were also distributed to the studied intersections. The trip distribution was performed consistent with the trip distribution percentages of TAZ 636 and by interpolating between the 2010 and 2040 TAZ data for the projected design year of 2020.

Manual Turning Movement Counts (TMC's) and operational characteristics were gathered at the six (6) intersections identified in Table 1 as discussed with and agreed to by the City of Miami Beach during the scoping phase. These turning

movement counts were collected on Friday, November 30th, 2018 from 10:00 PM to 12:00 AM. Subsequently, the 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. As a result, the studied intersections yielded LOS A.

Based on historical trends and published traffic data from the Florida Department of Transportation (FDOT), a regression analysis was performed to estimate a growth rate to account for any potential background traffic growth within the project's vicinity. The highest growth rate yielded a reasonable 1.75 percent and was utilized to develop the future traffic volumes within the project's vicinity in 2020. The traffic volumes for the proposed future condition with project in 2020 were developed by augmenting the existing seasonally adjusted turning movement counts with the background traffic, the project net trips and valet trips. The future traffic volumes were evaluated and the analysis yielded LOS A for all the studied intersections except for the intersection of Washington Avenue and 20th Street that will operate at LOS B. Table 1 summarizes the LOS results.

Additionally, the subject project will provide valet services for all patrons. The proposed drop-off / pick-up point will be located on Park Avenue, right in front of the subject site and will be able to accommodate two (2) vehicles. A valet operation analysis was performed for the weekday PM peak condition. This analysis revealed that there is over 94 % probability 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.

In conclusion, the studied intersections will operate at LOS B or better in the proposed future condition with project in 2020. Therefore, no off-site improvements are required or recommended at this time and an approval should be granted.

Table 1: Intersection LOS Summary - Weekday PM Peak

Existing Condition (2018)			PM Peak (Weekday)				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.1	-	-	-
2	Washington Avenue & 20 Street	Traffic Signal	A	9.7	-	-	-
3	Park Avenue & 19 Street	Two-Way Stop	A	4.2	SB	A	9.3
4	Park Avenue & 20 Street	All-Way Stop	A	7.7	-	-	-
5	Liberty Avenue & 19 Street	Two-Way Stop	A	3.8	SB	A	9.2
6	Liberty Avenue & 20 Street	Two-Way Stop	A	6.9	EB	B	10.4
Future Condition (with Project Trips) (2020)			**PM Peak (Weekday)**				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.0	-	-	-
2	Washington Avenue & 20 Street	Traffic Signal	B	10.7	-	-	-
3	Park Avenue & 19 Street	Two-Way Stop	A	4.2	SB	A	9.7
4	Park Avenue & 20 Street	All-Way Stop	A	7.8	-	-	-
5	Liberty Avenue & 19 Street	Traffic Signal	A	4.2	SB	A	9.2
6	Liberty Avenue & 20 Street	Two-Way Stop	A	7.9	WB	B	11.1

Introduction

The purpose of this report is to determine the vehicle trips associated with the subject project and to evaluate the traffic impacts to the studied intersections. As such, an operational analysis was performed to determine the Level of Service. Lastly, this report follows the traffic impact study methodology discussed with and approved by the City of Miami Beach during the scoping phase.

Project Location / Description

The subject site is located on the northeast corner of 19th Street and Park Avenue at the address 355 19th Street in the City of Miami Beach, Florida. This site has 32 multifamily housing units while the proposed redevelopment consists of a hotel with 100 rooms and a 800 square feet restaurant (café style with bar) with 60 seats. The project build-out year is slated for 2020.

Moreover, this project will provide valet services and the drop-off will be on Park Avenue in front of the site. The Valet Operations 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

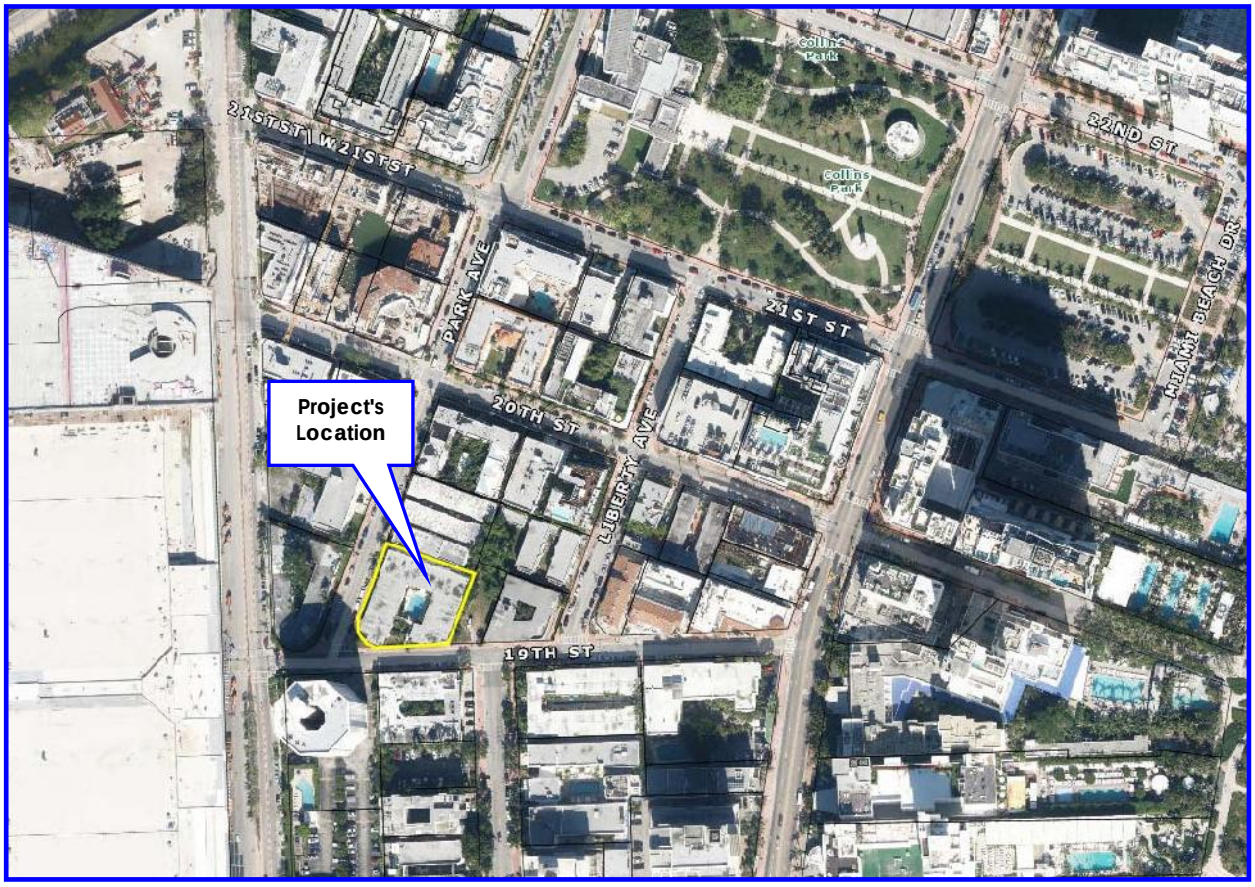

Figure 2: Site Plan

Existing Condition (2018)

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 Friday, November 30th, 2018 from 10:00 PM to 12:00 AM. Subsequently, the 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 & 19th Street
2. Washington Avenue & 20th Street
3. Park Avenue & 19th Street
4. Park Avenue & 20th Street
5. Liberty Avenue & 19th Street
6. Liberty Avenue & 20th Street

Figure 3 depicts the existing seasonally adjusted PM peak hour TMC's. Appendix 5 contains the raw data and the tables utilized to develop the seasonally adjusted turning movement counts.

Operational Analysis - Intersection Level of Service (LOS)

The seasonally adjusted turning movement counts were utilized to perform the operational analysis for the studied intersections during the Friday's PM peak hour as requested by the City. 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 studied intersections identified above are operating at LOS A. 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 - PM Peak

Table 2: Existing Condition LOS & Delay - PM Peak

Existing Condition (2018)			PM Peak (Weekday)				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.1	-	-	-
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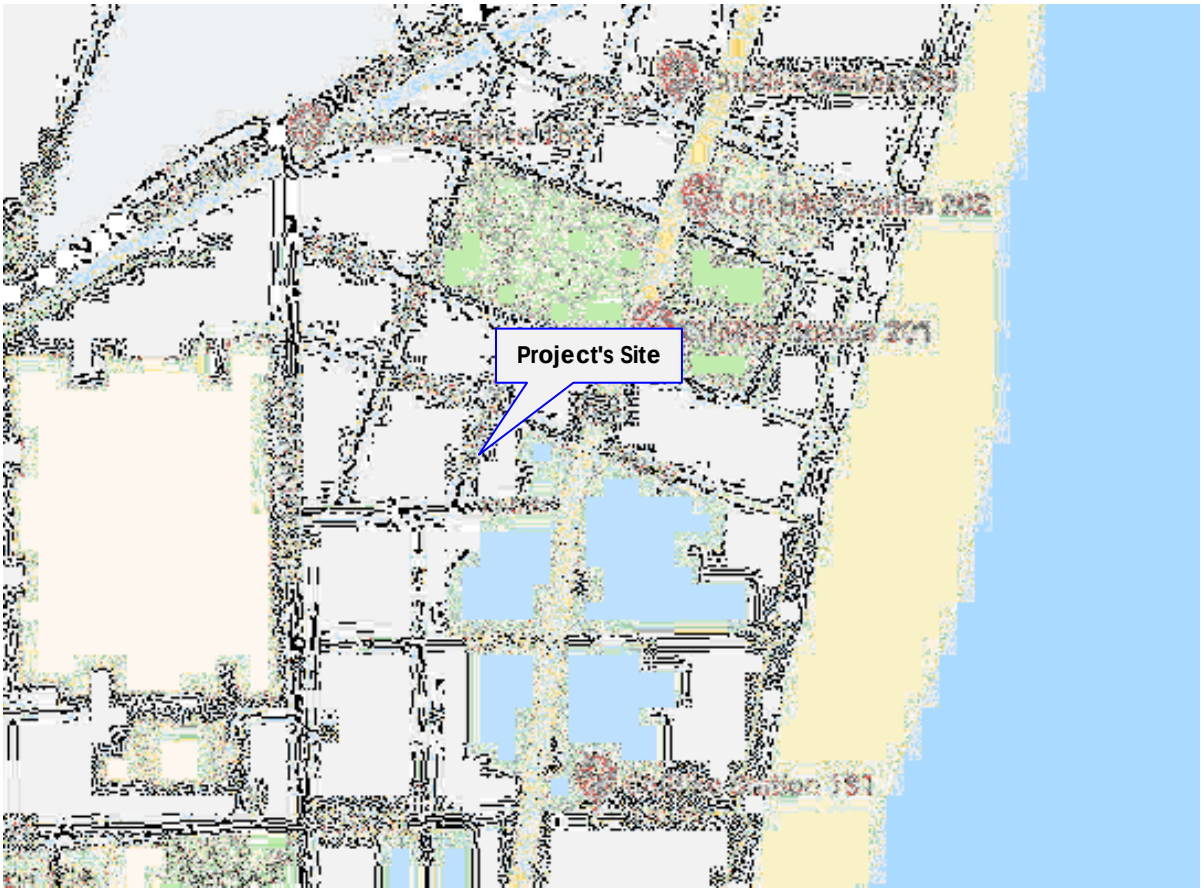
6	Liberty Avenue & 20 Street	Two-Way Stop	A	6.9	EB	B	10.4

Pedestrian & Bicycle Facilities

The project's surrounding area has existing sidewalks and curb ramps for pedestrian use. Furthermore, most of the nearby intersections have high emphasis crosswalks as well as pedestrian features (i.e. signs, pedestrian countdown signals, etc). Therefore, it is fair to indicate that pedestrians are properly accommodated within the study area.

In addition, this report has identified a number of bike stations near the subject project. These are called CitiBike stations which were implemented in 2011 as a city-wide public transit program. This transit program consists of bike sharing and is intended to help reducing the need for vehicles throughout the city. Figure 4 below depicts the CitiBike stations located within close proximity of the subject project. Lastly, this transit mode is expected to be utilized by visitors and employees to access the site.

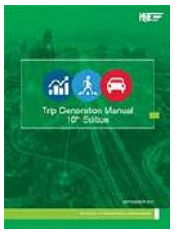
Figure 4: CitiBike Stations



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 Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition.

Trip Generation



The trip generation characteristics for the subject project were obtained from **ITE's Trip Generation Manual, 10th Edition**. The trip generation analysis was performed for a typical weekday's PM peak hour of the generator since the City requested traffic data between 10:00 PM - 12:00 AM. 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: Multifamily Housing (Low-Rise) - 32 dwelling units

Proposed

- LU 310: Hotel - 100 rooms
- LU 931: Quality Restaurant - 800 square feet (60 seats)

  OR
- LU 925: Drinking Place - 800 square feet

The trip generation calculations for the proposed project yielded 55 net trips (33 trips-in & 22 trips-out) during the weekday's PM Peak Hour of Generator. Note, these vehicle trips are likely to be reduced based on the rate and extent of transit and pedestrian/bicycle, since neither of these adjustments were utilized in the analysis as a conservative approach. Table 3 summarizes the trip generation results for the PM peak hour of generator. Appendix 2 contains the supporting documentation.

Table 3: Trip Generation - PM Peak Hour of Generator (Weekday)

LAND USE (LU)	UNITS	ITE LU CODE	TRIP GENERATION RATE / EQUATION	PM PEAK HOUR OF GENERATOR TRIPS (WEEKDAY)		
				IN	OUT	TOTAL
Existing						
Multifamily Housing (Low-Rise)	32 D.U.	220	0.67	12	9	21
			T=0.66(X)+1.41	*14*	*9*	*23*
Proposed						
Hotel	100 Rooms	310	0.61	35	26	61
			Ln(T)=0.93Ln(X)-0.14	*37*	*26*	*63*
Quality Restaurant (Café Style)	0.800 Th.SF.	931	8.28	4	3	7
			Not Given	-	-	-
OR						
Quality Restaurant (Café Style)	60 Seats	931	0.29	10	7	17
			T=0.35(X)-16.83	2	2	*4*
OR						
Drinking Place	0.800 Th.SF.	925	15.53	8	4	12
			Not Given	-	-	-
External Trips *(Proposed Gross Trips)*				47	33	80
Internal Capture Trip Adjustment *5% of Gross Trips*				2	2	4
Net External Trips *(External Trips - Existing Trips - Internal Trips)*				**33**	**22**	**55**
** Rideshare Trip Adjustment* *40% of Gross Trips*				19	13	32
Valet Trips *(External Trips - Rideshare Trips)*				**28**	**20**	**48**

Notes: Trip Generation methodology conforms with the ITE Trip Generation, 10th Edition & ITE Trip Generation Handbook, 3rd Edition.
Th.SF.= Thousand Square Feet; D.U. = Dwelling Units
Trips utilized in the analysis.
* Rideshare Trip Adjustment was used to develope the valet peak hour trips.

Trip Distribution

The subject project is located within the Traffic Analysis Zone (TAZ) 636 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 636 and by interpolating between the 2010 and 2040 TAZ data for the projected design year of 2020. 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

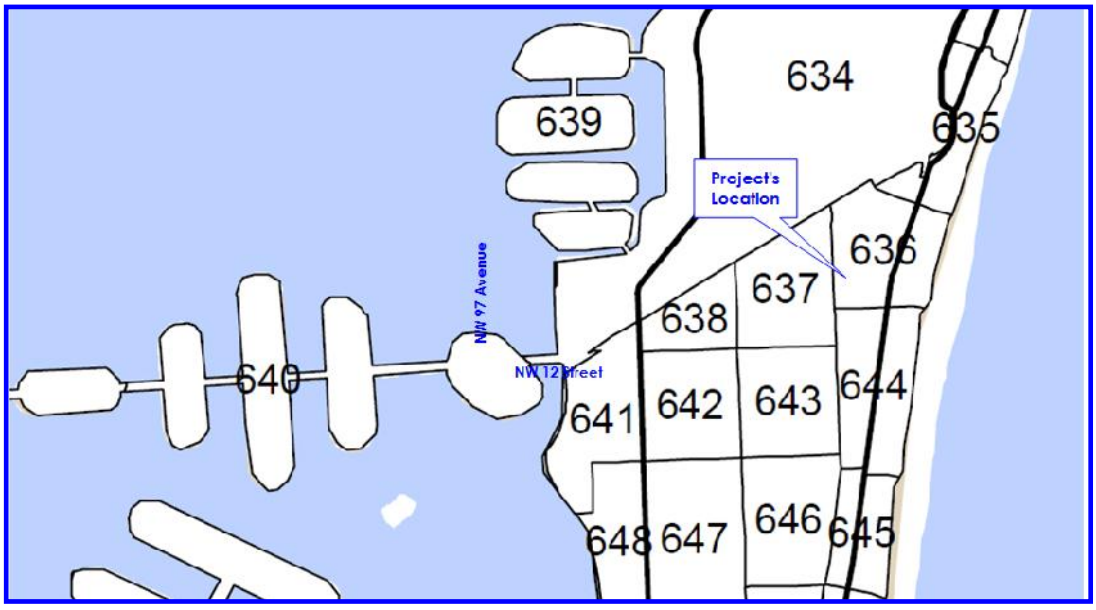


Table 4: Directional Trip Distribution Percentages

DIRECTION	DISTRIBUTION PERCENTAGES (%)		
	MIAMI-DADE LRTP MODEL YEAR		DESIGN YEAR
	2010	2040	2020
NNE	10.70	19.50	13.63
ENE	0.00	0.00	0.00
ESE	0.00	0.00	0.00
SSE	4.40	8.20	5.67
SSW	10.00	14.80	11.60
WSW	34.00	29.50	32.50
WNW	20.80	14.80	18.80
NNW	20.10	13.30	17.83
TOTAL	100.00	100.00	100.00

Trip Assignment

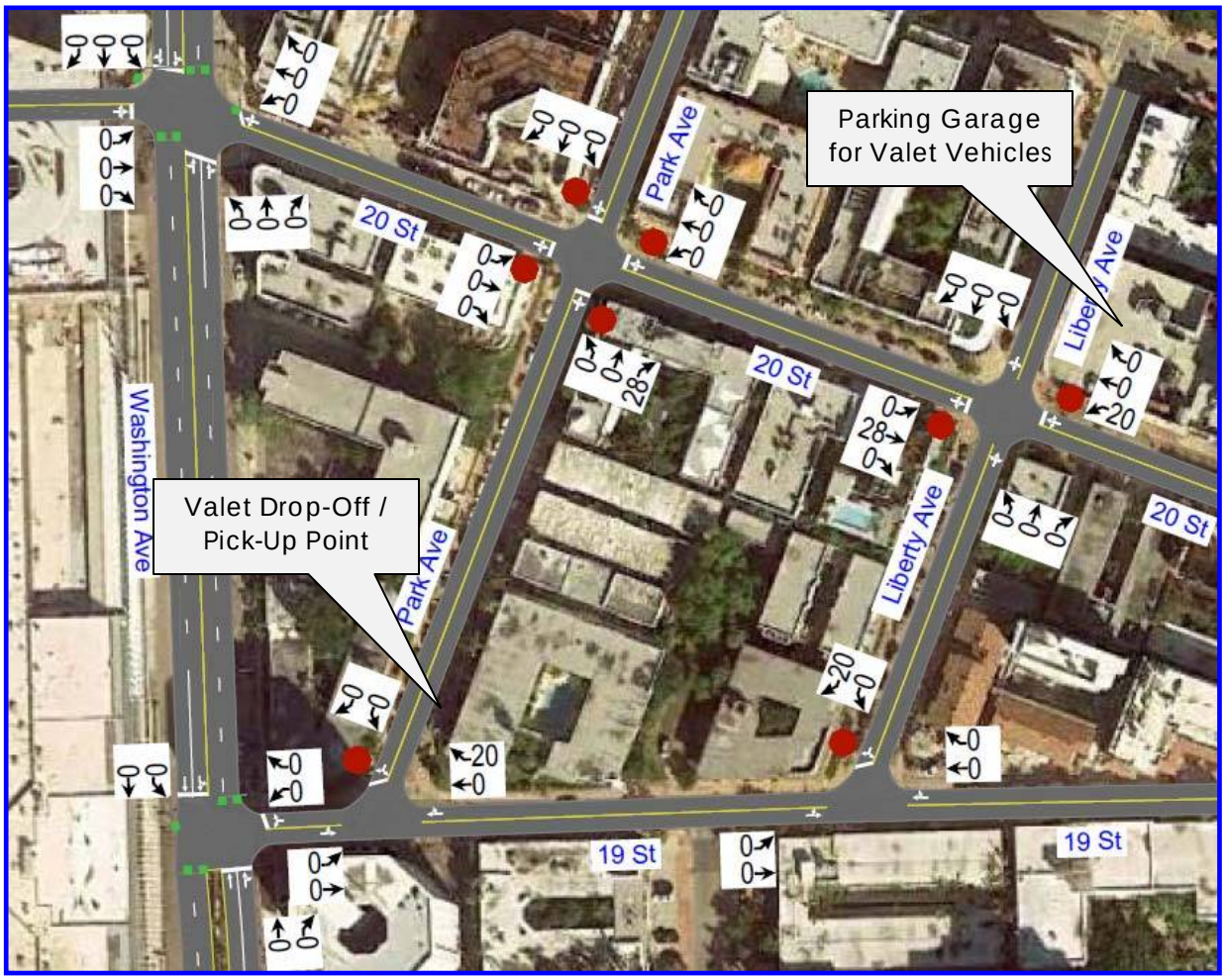
The net trips generated by the subject project during the weekday PM peak hour of generator have been distributed into the four quadrants: North, South, East and West. Table 5 includes the trip distribution percentages and the corresponding trip assignments. Figure 6 depicts the net trips assigned to the studied intersections. Lastly, since the subject project will have valet services for all patrons, the valet trips were also distributed to the studied intersections. Note, the Valet Operations section further describes the proposed valet services.

Table 5: Directional Trip Assignment

DIRECTION	DISTRIBUTION (%) DESIGN YEAR	DIRECTION	DISTRIBUTION	PM PEAK HOUR GENERATOR TRIPS		
				IN	OUT	TOTAL
NNE	13.63	NORTH	31.47%	10	7	17
ENE	0.00					
ESE	0.00	EAST	0.00%	0	0	0
SSE	5.67					
SSW	11.60	SOUTH	17.27%	6	4	10
WSW	32.50					
WNW	18.80	WEST	51.30%	17	11	28
NNW	17.83					
TOTAL	100.00		100.00%	33	22	55

Figure 6: Site Traffic (Project Net Trips) - PM Peak Hour of Generator (Weekday)

Figure 7: Valet Trips - PM Peak



Proposed Future Condition (2020)

This section of the report describes the traffic parameters utilized to develop the future peak hour volumes and to evaluate the future condition with the project trips in 2020 (build-out year).

Background Traffic Growth

Using available roadway traffic data from the Florida Department of Transportation (FDOT Count Stations 5170 & 8414), a regression analysis was performed using the available data for each count station. The highest growth rate yielded a reasonable 1.75 percent. This growth rate was compounded and utilized in the analysis to account for any potential background traffic and to develop the future traffic volumes within the project's vicinity in 2020. Appendix 4 contains the supporting documentation.

Future Traffic Volumes - Weekday PM Peak

The traffic volumes for the proposed future condition with project in 2020 were developed by augmenting the existing seasonally adjusted turning movement counts with the background traffic, the project net trips and valet trips. The calculations for the specific movements are contained in Appendix 5. Figures 8 and 10 depict the future weekday and weekend PM peak hour, respectively.

Operational Analysis - Intersection LOS

The future traffic volumes with project traffic were evaluated to determine the Level of Service at each intersection in 2020. As a result, the studied intersections will maintain the existing LOS A during the weekday PM peak except for the intersection of Washington Avenue and 20th Street that will operate at LOS B. Table 6 summarizes the LOS and vehicle delay per approach for each intersection. Appendix 6 includes the Synchro software sheets with other outputs such as queue lengths and volume to capacity ratios.

Table 6: Future Condition LOS & Delay - Weekday PM Peak

Future Condition (with Project Trips) (2020)			PM Peak (Weekday)				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.0	-	-	-
2	Washington Avenue & 20 Street	Traffic Signal	B	10.7	-	-	-
3	Park Avenue & 19 Street	Two-Way Stop	A	4.2	SB	A	9.7
4	Park Avenue & 20 Street	All-Way Stop	A	7.8	-	-	-
5	Liberty Avenue & 19 Street	Traffic Signal	A	4.2	SB	A	9.2
6	Liberty Avenue & 20 Street	Two-Way Stop	A	7.9	WB	B	11.1

Figure 8: Future Condition with Project (2020) - Weekday PM Peak

Valet Operation

The subject project will provide valet services for all patrons. The proposed drop-off / pick-up point will be located on Park Avenue, right in front of the subject site and will be able to accommodate two (2) vehicles. 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 valet vehicles within the two (2) valet spaces available. Figure 9 depicts the valet services traffic circulation.

Based on our analysis, a total of 48 vehicles (28 drop-off & 20 pick-up) will require valet services during the weekday PM peak. The valet demand was estimated using the trip generation results and a conservative 40 percent rideshare. Note, daily vehicle counts at a similar hotel within Miami Beach revealed over 60 percent rideshare. Appendix 1 contains the supporting documentation.

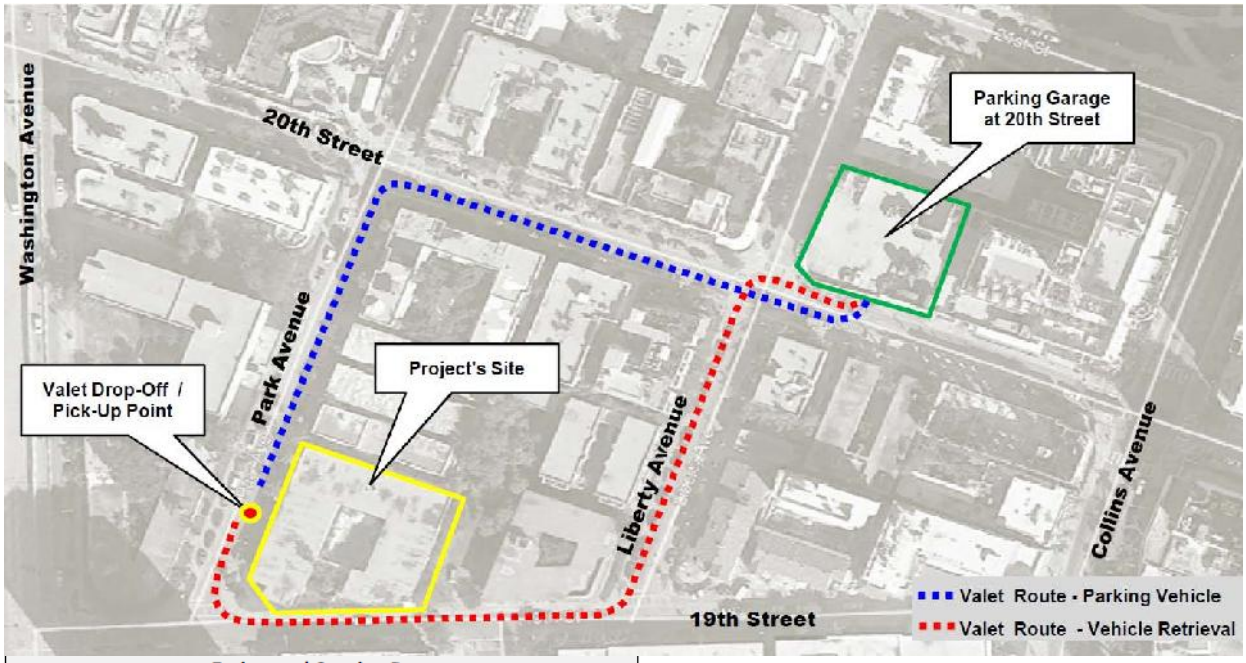
Using the above valet demand, a Statistical Queuing Analysis was performed to determine the probability of the number of vehicles using the valet that would exceed the maximum queuing spaces. Again, the proposed drop-off/pick-up point can accommodate two (2) valet vehicles. Additionally, it was further estimated that each vehicle has a service rate of 150 seconds, since multiple vehicles can be serviced at the same time from two valet spaces.

The valet 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 3 Valet Attendants to meet the peak demand during the weekday PM peak. The results found that there is over 94 % probability (94.1% drop-off & 97.9% pick-up) of there being less than 2 vehicles in queue with 3 valet attendants in this area. 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 the above analysis while Appendix 7 provides the detailed Statistical Queuing Analysis.

Table 7: Statistical Queuing Analysis Summary - Valet Operation

Valet Services				
PM Peak	Valet Operation	Valet Trips	Average Queue Length (veh)	Probability Vehicle (n) being less than Maximum of 2 Vehicles Queuing
Weekday	Drop-Off	28	0.25	94.1%
	Pick-Up	20	0.11	97.9%

Figure 9: Valet Services Traffic Circulation



Estimated Service Rate	
Drop-Off Vehicle / Parking	Time (s)
	PM Peak
Drop-Off Veh. / Get Ticket	40
Travel N Park Ave	5
Delay NBR 20 St	7.6
Travel E on 20 St	5
EBT delay at Liberty Ave	10.8
EBL at Parking Garage Driveway	5
Delay To Park Vehicle	15
Back to Service Station	60
Total	**148.4**
Pick-Up Vehicle / Retrieval	Time (s)
	PM Peak
Attendant: Service Station to Parking	60
Drive-out parking slot & site	15
Delay WBL Liberty Ave	11.1
Travel S on Liberty Ave	5
Delay SBR on 19 St	9.2
Travel W on 19 St	5
Delay WBR Park Ave	0.0
Pick-up processing	40.0
Total	**145.3**

Transportation Demand Management Plan

The developer for the subject project recognizes the need to minimize the single-occupant Auto-Trip Based mode of transportation. As such, every effort will be made to promote the use of various modes available to this site. Such strategies as carpooling and ridesharing will be considered in keeping with the City's effort to alleviate traffic congestion. Figure 10 depicts the proposed Transportation Demand Management Plan while Appendix 8 contains a signed copy of the TDM plan.

Figure 10: Transportation Demand Management Plan

blue road

December 21st, 2018

Transportation Demand Management Plan

Park Hotel, LLC recognizes the need to minimize the single occupant Auto-Trip-Based mode of transportation in Miami Beach. As such, we will promote the use of various alternative modes available to this site and encourage both Management and Staff towards the City's effort to alleviate traffic congestion.

With said objective in mind, we will implement the following TDM Program:

- Designate EDEL LIMA as the Employee Transportation Coordinator, under which responsibility he will provide all Staff with available information on ridesharing and biking alternatives to commute to/from the workplace. Additionally, he will coordinate the implementation of a car pooling program between employees.
- Bike Racks: the company will provide a 16 units bike rack for the use of the Managers and/or Employees that decide to use this alternative transportation.
- Employees Lockers & Bathroom facility will be provided for this same objective.
- Bicycles: The company will provide non-interest bearing loans to all Employees towards the purchase of a bicycle, with an individual cap of $100
- Carpooling: The company will provide a 50% for those Employees that Carpool on their commute to/from the workplace (2+ employees per car).
- Communication: The Park Hotel will showcase all "ridesharing" services, such as Uber, Lyft, Car2Go in its corporate communication, including its web page, social media, brochures and Front Desk banners.
- Telecommuting: Park Hotel, LLC will allow Management to work from home one or more days a week when operations allow to do so.

The Park Hotel will employ around 15 to 20 full time & part time Employees on a 5 daily Shifts basis.

Conclusion

In conclusion, the studied intersections are operating at LOS A during the weekday's PM peak hour of generator and will continue to do so in the proposed future condition with project in 2020. Therefore, no off-site improvements are required or recommended at this time since the subject project will not have a negative impact on traffic operations within the study area.

Additionally, a valet operations analysis was performed for the weekday PM peak condition. This analysis revealed that there is over 94 % probability of there being less than 2 vehicles in queue with 3 valet attendants in the proposed valet service area along Park Avenue. As such, it is our opinion that the proposed drop-off / pick-up point is adequate and will not block the right-of-way.

Appendix 1: Traffic Impact Study Methodology

MIAMIBEACH

Transportation Department, 1688 Meridian Avenue, Suite 801r
Miami Beach, Florida 33139, www.miamibeachfl.gov
305.673.7514

LAST UPDATED: 06/26/18

Property address: 355 19th Street **Board:** HPB **Date:** 11.20.2018

TRANSPORTATION DEPARTMENT CHECK LIST

Incomplete, or submittals found to be insufficient will not be placed on a Board agenda.

ITEM #	ITEMS TO BE SUBMITTED BY APPLICANT 15 DAYS PRIOR BOARD FIRST SUBMITTAL (VIA CSS) ** To be uploaded online (CSS) by the applicant before 1:00 pm ALL PLANS MUST BE DIMENSIONED AND LEGIBLE. INCLUDE A GRAPHIC SCALE.	Required
1	Copy of signed and dated check list issued at Transportation meeting.	
2	**Contents of Traffic Study**	X
a	Name of development.	X
b	All proposed uses.	X
c	A legible map showing the study site in relation to the surrounding network. Context Location Plan, Min 8.5"X11" Color Aerial 1/2 mile radius, identifying project and showing name of streets. (no Google images)	X
3	**Land Use Information**	
a	Zoning district	X
b	Existing land uses.	X
c	All proposed uses.	X
4	**Site Plan, Floor plans and Site Accessibility.**	
a	Survey: original signed & sealed, dated no more than six months from date of application. Survey must provide: lot area, grade per Section 114-1 of the City Code. (If no sidewalk exists, provide the elevation of the crown of the road) and spot elevations.	X
b	Site plan -(fully dimensioned with setbacks, existing and proposed, including adjacent right-of-way widths). with a brief narrative identifying the key features below on the plan/drawing:	X
c	North arrow and legend shall be placed on drawings and figures	X
d	Site Boundaries and adjacent streets (Street Names	X
e	Location of existing driveways on site and/or street intersections in close proximity to the site (include dimensions)	X
f	Existing rights-of-way of adjacent roadways, lane configurations, and width of pavement	X
g	Existing sidewalks with dimensions and/or existing multi use trails on all adjacent streets	X
h	Proposed site plan/ floor plans:	X
i	Proposed building configuration and pedestrian access including sidewalks (include dimensions)	X
j	Identify: setbacks X Height ___ Drive aisle widths X Streets and sidewalks widths X	X
k	Location and design of all proposed driveways ___ Parking layout, internal circulation ___	X
l	# parking spaces & dimensions ___ Loading spaces locations & dimensions ___	X
m	# of bicycle parking spaces ___	X
n	Interior and loading area location & dimensions X	X
o	Delivery route X Sanitation operation X Valet drop-off & pick-up X Valet route in and out X	
p	Valet route to and from X auto-turn analysis for delivery and sanitation vehicles X	x
q	Preliminary on-street loading plan	x
r	Any deed restrictions affecting access or transportation to/from site	
s	Existing and proposed medians & median openings	
t	Existing Conditions Drawings (Floor Plans & Elevations with dimensions). Number of seats, furniture layout if applicable	X
u	Proposed Floor Plans and Roof Plan, including mechanical equipment plan and section marks. Plans shall indicate location of all property lines and setbacks.	X

Indicate N/A If Not Applicable

Initials: FA

MIAMIBEACH

Transportation Department, 1688 Meridian Avenue, Suite 801r
Miami Beach, Florida 33139, www.miamibeachfl.gov
305.673.7514

Property address: _____

v	Maneuvering plan for loading within the existing/proposed conditions, delivery and garbage trucks size (length and width).	X
	Floor Plan (dimensioned)	
w	Total floor area	X
x	Identify # seats indoors X outdoors X seating in public right of way X Total X	
y	Occupancy load indoors and outdoors per venue X Total when applicable X	
5	**Influence Area**	x
	Study area will be determined during the methodology meeting	
	Committed developments within study area including trip generation	
6	**Data Collection**	x
	Data collection of vehicles, heavy vehicles, bicycles, pedestrians, transit routes and transit ridership at stops within study area	
	Field visit and observations shall be documented with pictures and other reports as applicable	X
	All data collected shall be presented in raw(excel) and pdf format	
7	**Existing Condition Analysis**	x
	Roadway network characteristics within the study area.	
	Traffic volume (Graphics must be provided which show the various peak volume and turning movements)	
	Capacity and Level of Service(LOS) analysis utilizing Traffic Modelling Software(Synchro latest version)	
	The signal timing data sheets (if applicable)	
	Synchro model results	
8	**Trip Generation**	x
	Trip generation calculations presented in table format based on ITE Trip Generation Manual 9th Edition or another acceptable and pre-agreed method.	X
9	**Trip Distribution**	x
	Trip distribution analysis presented in table and figure format.	
10	**Future Condition Analysis**	x
	Background Growth Traffic and Future Traffic Analysis	
	Synchro model results	
11	**Queue Analysis**	
12	**Multi-Modal Review and Analysis**	
	Bicycle and Pedestrian Facilities	x
	Provide information on existing and committed bicycle facilities in the area.	x
	SUPPLEMENTAL STUDIES - to be determined during methodology meeting	
13	**Valet Service Analysis**	x
14	**Transportation Demand Management Plan**	X
15	**Other:**	
	Notes: The applicant is responsible for checking above referenced sections of the Code. If not applicable write N/A	

ADDITIONAL INFORMATION AND ACKNOWLEDGEMENTS

A. **Other information/documentation required for First submittal will be identified during Pre-Application meeting but may be modified based on further analysis.**

Richard Garcia, P.E.
Applicant's or designee's Name

Applicant's or designee's signature

11/20/2018
Date

Indicate N/A If Not Applicable

Initials:_____

Carlos X. Valentin

From: Akcay, Firat [FiratAkcay@miamibeachfl.gov]
Sent: Tuesday, November 20, 2018 1:00 PM
To: 'Richard Garcia'; Ferrer, Josiel
Cc: GonzalezAJ@gtlaw.com; edellima@buslam.com; ivanbustoiii@buslam.com; Carlos Valentin
Subject: RE: Sadigo Hotel Traffic Study - Checklist
Attachments: Transportation Check List 11-14-18.pdf

Richard,

Please see attached for the checklist. Please review and let us know if you have any question.
The checklist is a guide for you to refer to in providing a complete study.

Based on the count collected in this area, the peak hours are determined to be Friday night 10 PM – 12 AM.

TMC are to be collected at the following intersections

- Washington Avenue x 19th Street
- Washington Avenue x 20th Street
- Park Avenue x 19th Street
- Park Avenue x 20th Street
- Liberty Avenue x 19th Street
- Liberty Avenue x 20th Street

Please let us know if you have any questions during any aspect of the study,
We will be glad to answer any questions that will help you on a timely delivery.
Thank you

MIAMIBEACH

Firat Akcay, *Transportation Analyst*
TRANSPORTATION DEPARTMENT
1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139
Tel: 305-673-7000 X 6839 / www.miamibeachfl.gov

From: Richard Garcia [mailto:rgarcia@rgatraffic.com]
Sent: Tuesday, November 20, 2018 11:35 AM
To: Akcay, Firat; Ferrer, Josiel
Cc: GonzalezAJ@gtlaw.com; edellima@buslam.com; ivanbustoiii@buslam.com; Carlos Valentin
Subject: RE: Sadigo Hotel Traffic Study - Checklist

Gents,

It was a pleasure meeting with you last week. Just following up on the traffic study Checklist... Could you kindly forward that to us at your earliest convenience.

Remember, we have a deadline of December 10th, so we need to begin coordinating. Thanks again.

Respectfully,

Richard Garcia, P.E.

Richard Garcia & Associates Inc.
8065 NW 98th Street
Hialeah Gardens, FL 33016
PH: 305-362-0677
FAX: 305-675-6474

Appendix 2: Trip Generation

TABLE: A1

TRIP GENERATION ANALYSIS
PM PEAK HOUR OF GENERATOR (WEEKDAY)

Project Name: Park Hotel

LAND USE (LU)	UNITS	ITE LU CODE	TRIP GENERATION RATE / EQUATION	PM PEAK HOUR OF GENERATOR TRIPS (WEEKDAY)				
				%	IN	%	OUT	TOTAL
Existing								
Multifamily Housing (Low-Rise)	32 D.U.	220	0.67	59%	12	41%	9	21
			T=0.66(X)+1.41	*59%*	*14*	*41%*	*9*	*23*
Proposed								
Hotel	100 Rooms	310	0.61	58%	35	42%	26	61
			Ln(T)=0.93Ln(X)-0.14	*58%*	*37*	*42%*	*26*	*63*
Quality Restaurant (Café Style)	0.800 Th.SF.	931	8.28	61%	4	39%	3	7
			Not Given	-	-	-	-	-
OR								
Quality Restaurant (Café Style)	60 Seats	931	0.29	59%	10	41%	7	17
			T=0.35(X)-16.83	59%	2	41%	2	*4*
OR								
Drinking Place	0.800 Th.SF.	925	15.53	68%	8	32%	4	12
			Not Given	-	-	-	-	-
External Trips *(Proposed Gross Trips)*				59%	47	41%	33	80
Internal Capture Trip Adjustment	*5% of Gross Trips*			50%	2	50%	2	4
Net External Trips *(External Trips - Existing Trips - Internal Trips)*				**60%**	**33**	**40%**	**22**	**55**
** Rideshare Trip Adjustment*	*40% of Gross Trips*			59%	19	41%	13	32
Valet Trips *(External Trips - Rideshare Trips)*				**59%**	**28**	**41%**	**20**	**48**

Notes: Trip Generation methodology conforms with the ITE Trip Generation, 10th Edition & ITE Trip Generation Handbook, 3rd Edition.
Th.SF.= Thousand Square Feet; D.U. = Dwelling Units
Trips utilized in the analysis.

* Rideshare Trip Adjustment was used to develope the valet peak hour trips.

Multifamily Housing (Low-Rise)
(220)

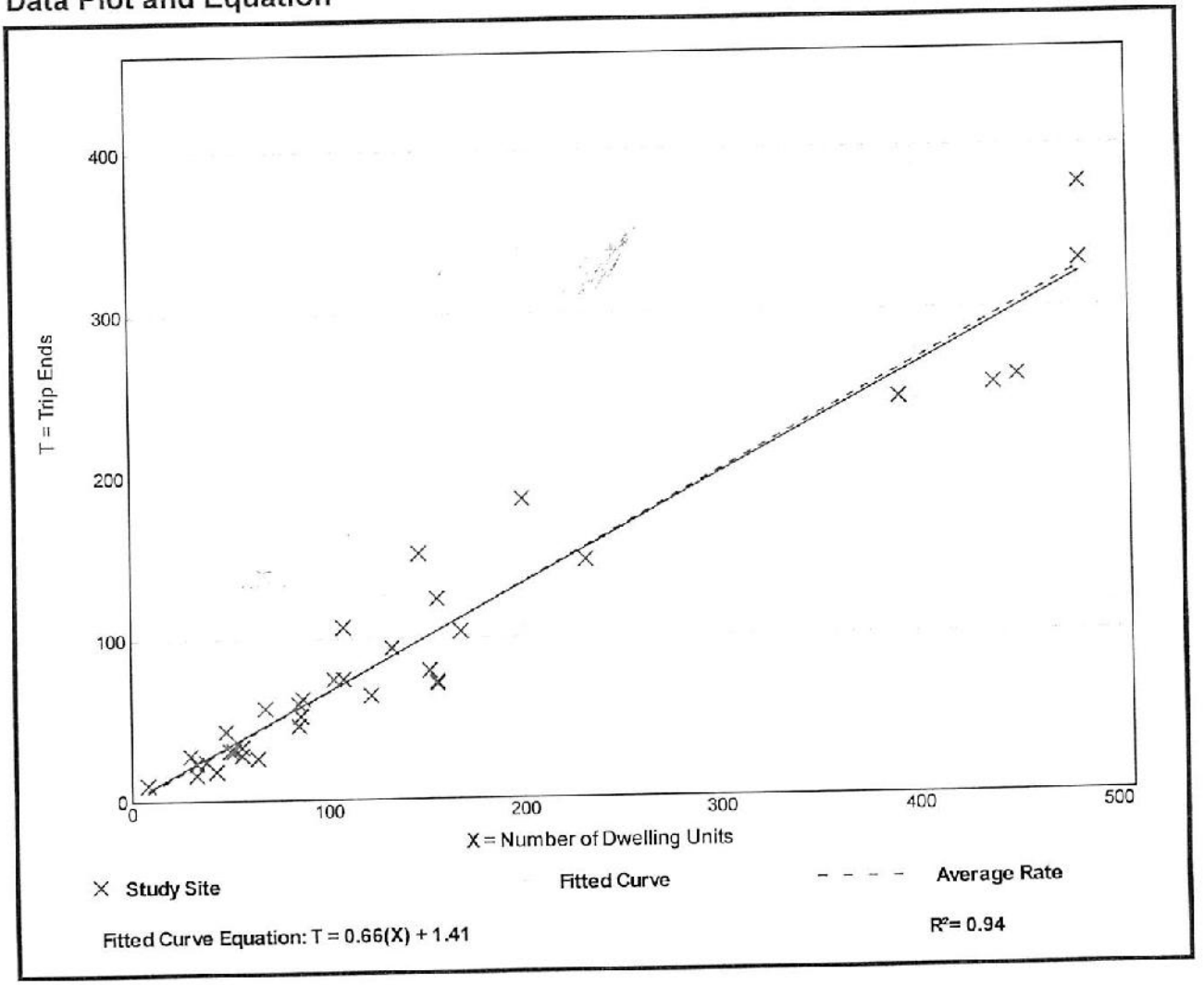
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 35
Avg. Num. of Dwelling Units: 146
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.67	0.41 - 1.25	0.14

Data Plot and Equation



Hotel
(310)

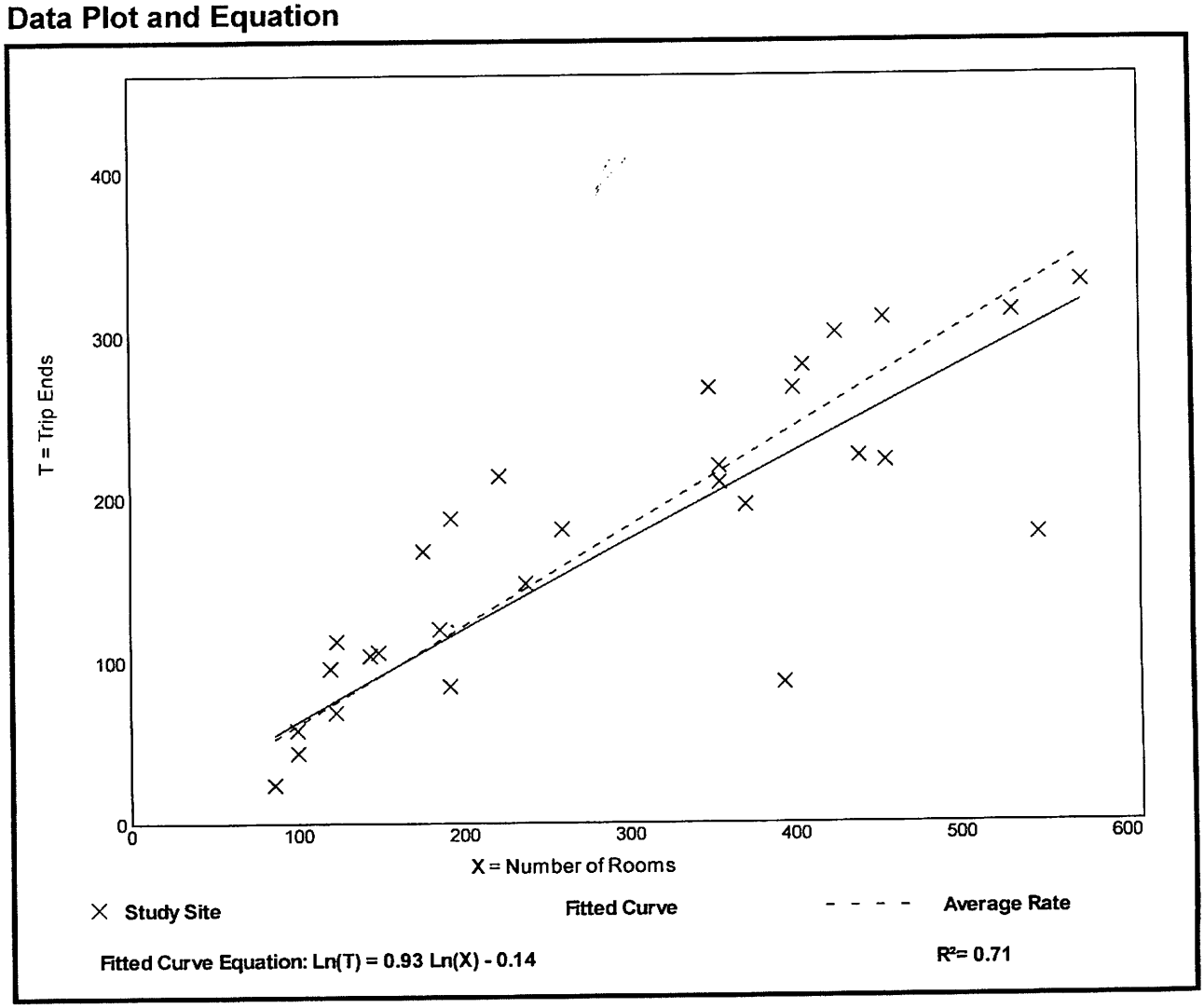
Vehicle Trip Ends vs: **Rooms**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 29
Avg. Num. of Rooms: 292
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.61	0.22 - 0.97	0.18

Data Plot and Equation



Quality Restaurant
(931)

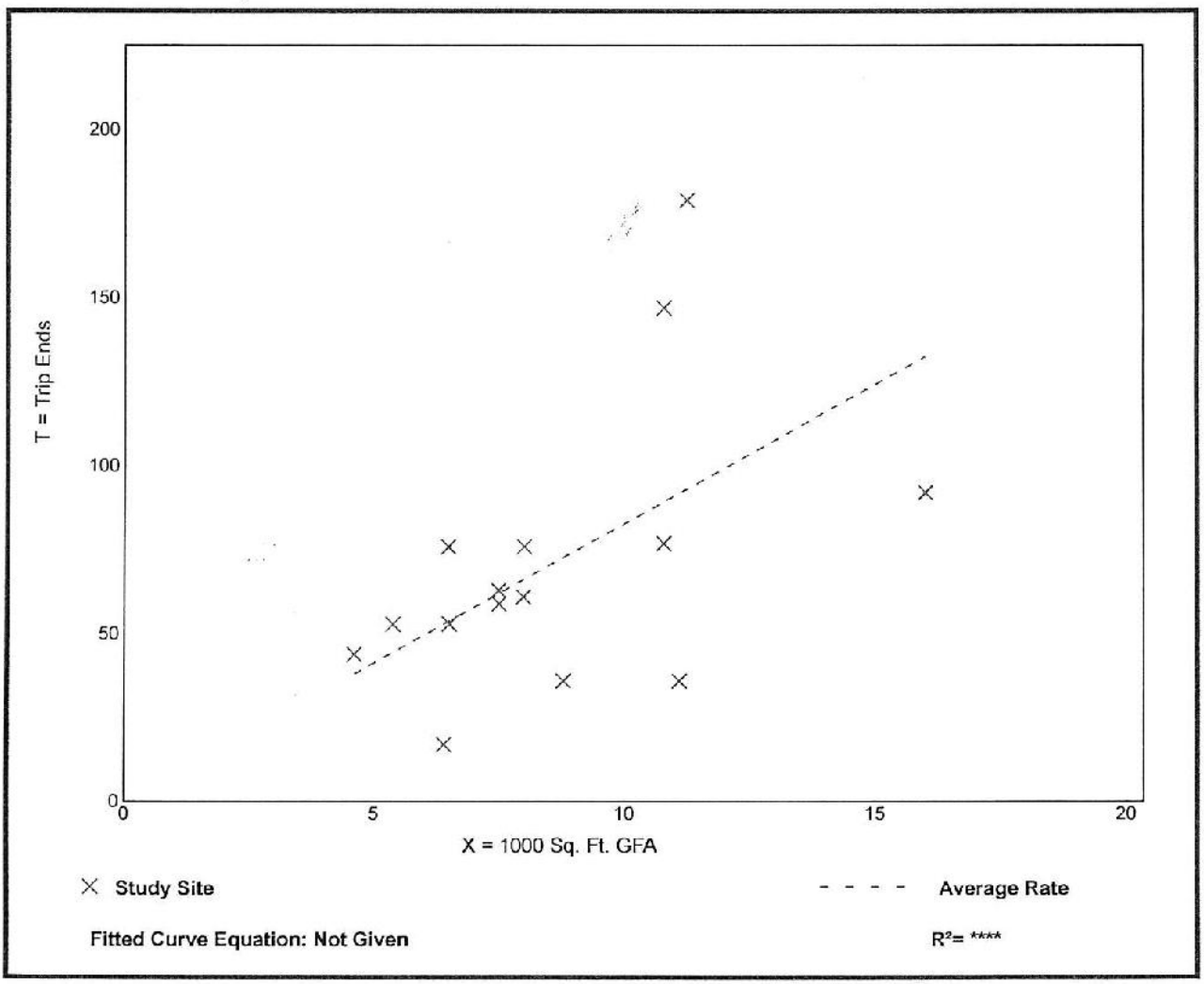
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 15
1000 Sq. Ft. GFA: 9
Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.28	2.66 - 15.90	3.89

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

Quality Restaurant
(931)

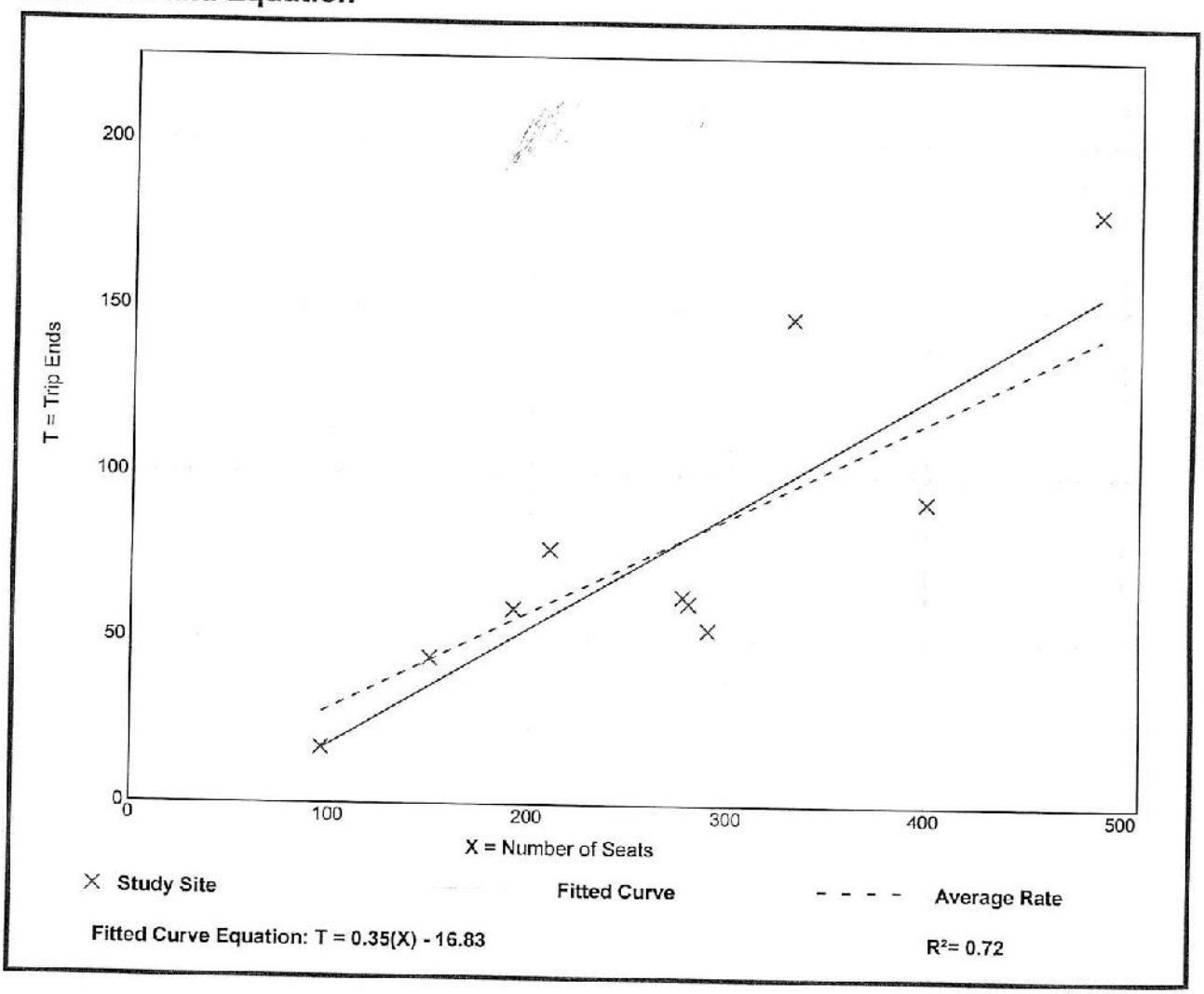
Vehicle Trip Ends vs: Seats
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 10
Avg. Num. of Seats: 272
Directional Distribution: 59% entering, 41% exiting

Vehicle Trip Generation per Seat

Average Rate	Range of Rates	Standard Deviation
0.29	0.18 - 0.44	0.09

Data Plot and Equation



Fitted Curve Equation: T = 0.35(X) - 16.83

R^2= 0.72

Drinking Place
(925)

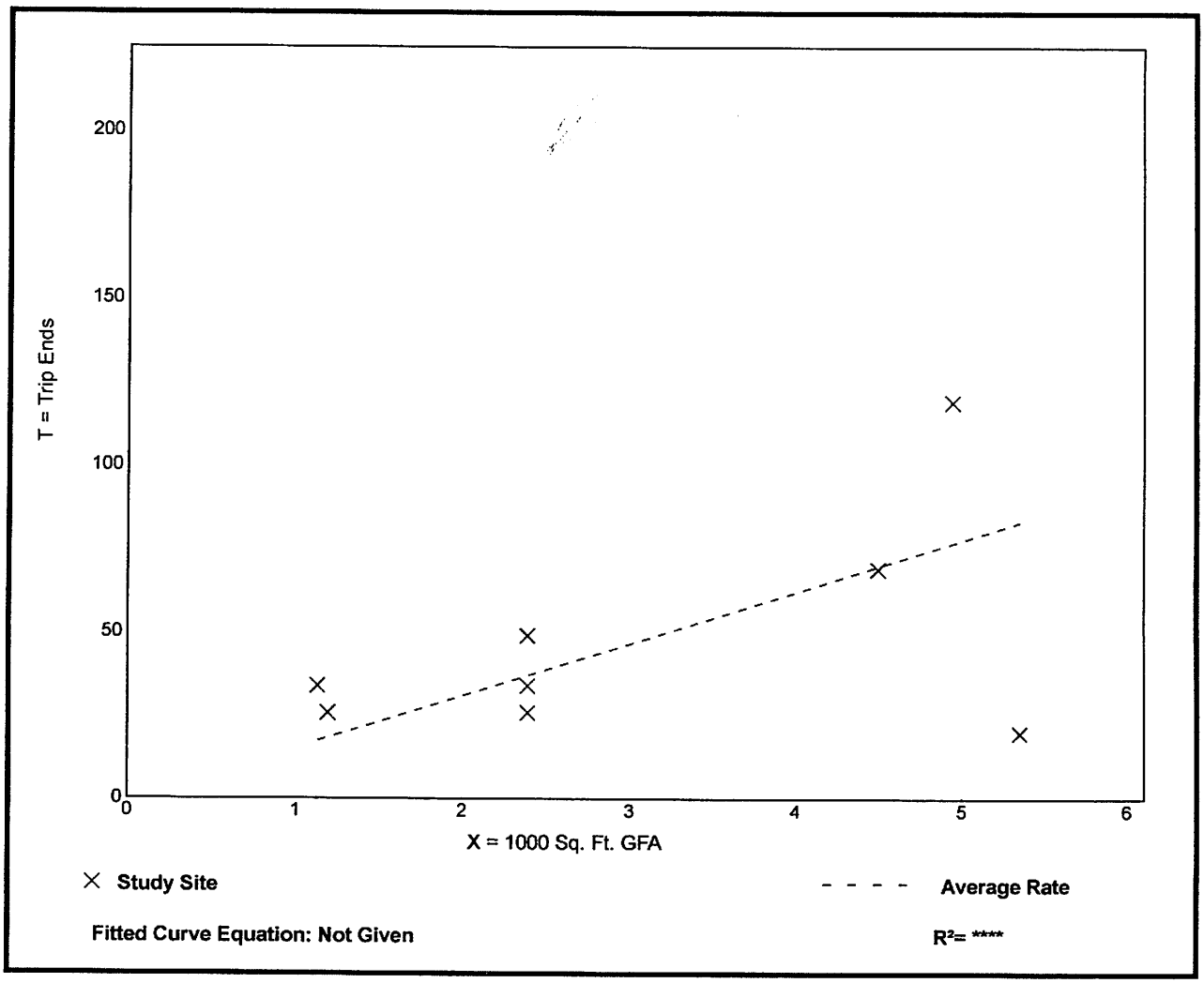
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
1000 Sq. Ft. GFA: 3
Directional Distribution: 68% entering, 32% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
15.53	3.74 - 30.09	8.42

Data Plot and Equation



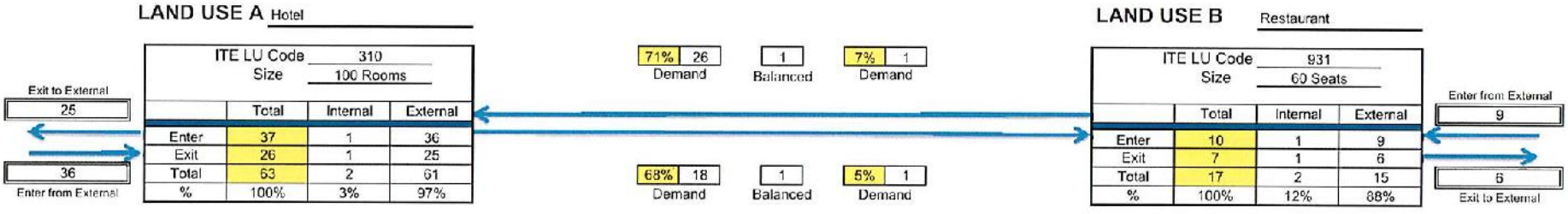
Park Hotel

MULTI-USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Analyst CV

Date December 19, 2018

Time Period PM Peak Hour



Net External Trips for Multi-Use Development				
	LAND USE A	LAND USE B		TOTAL
Enter	36	9		45
Exit	25	6		31
Total	61	15		76
Single-Use Trip Gen. Est.	63	17		80

INTERNAL CAPTURE: 5%

Sources: ITE Trip Generation Handbook, 3rd Edition.

Input variables.

Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

Hotel Drop-Off Area
Daily Vehicle Count

Redbury Hotel - 1776 Collins Avenue
Miami Beach, FL

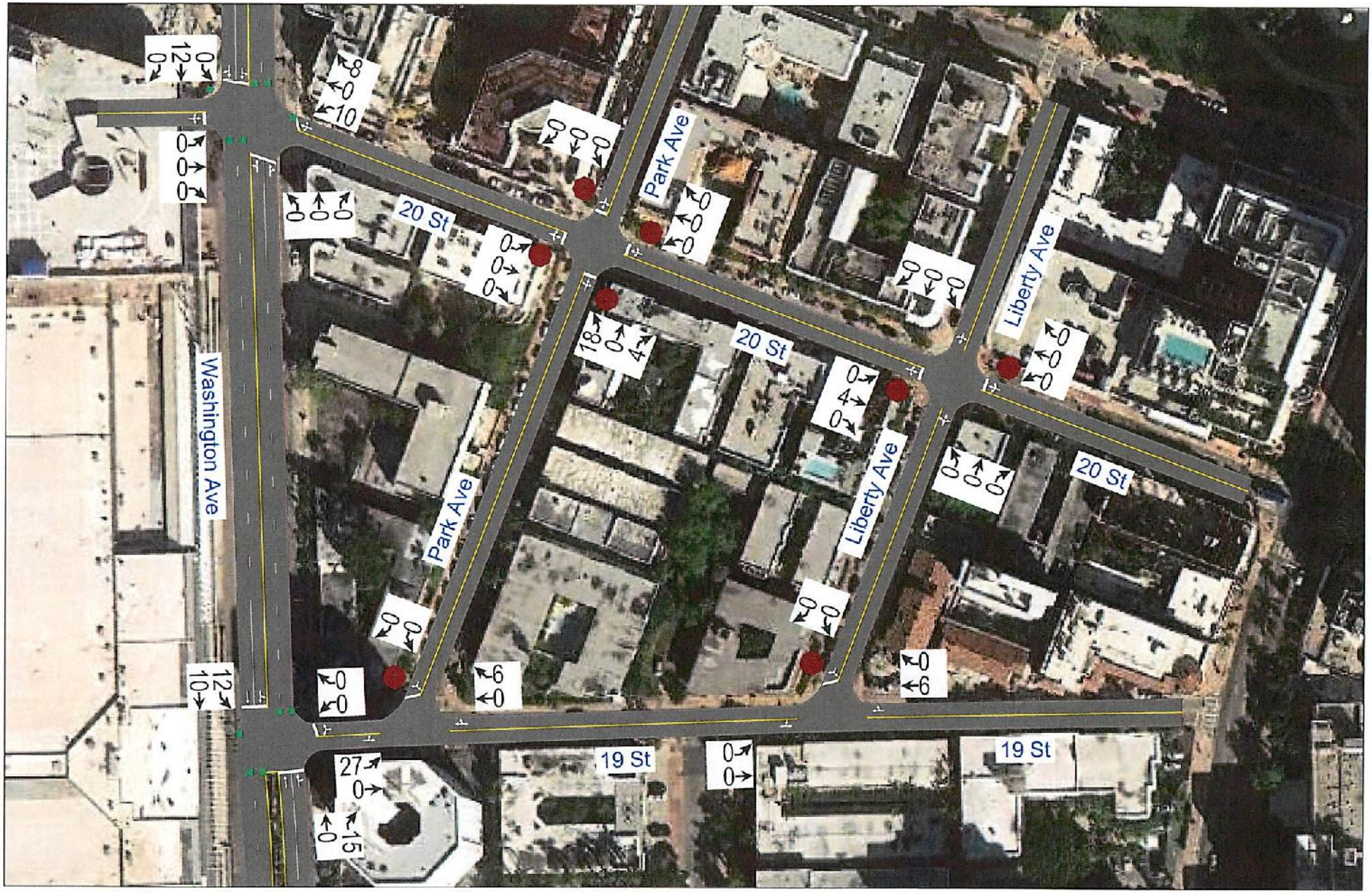
Type of Transportation	Date / Number of Vehicles					Valet	Non Valet	Total
	20-Nov	30-Nov	1-Dec	2-Dec	3-Dec			
Taxi	1				4		5	5
Uber (TNC)	2	1	2	3	5		13	13
Lyft (TNC)	2		1	1			4	4
Own Car	3					3		3
Rented	4	3	5	3		15		15
Shuttle		2	4	1			7	7
Total	**12**	**6**	**12**	**8**	**9**	**18**	**29**	**47**

Valet (Own Car & Rented)	18	38%
Non Valet (Taxi, Uber, Lyft, Shuttle)	29	62%

Appendix 3: Trip Distribution / Assignment

Park Hotel

Site Traffic (Net Trips) - PM Peak Hour



HPB18-0252

Park Hotel

Valet Trips - PM Peak Hour

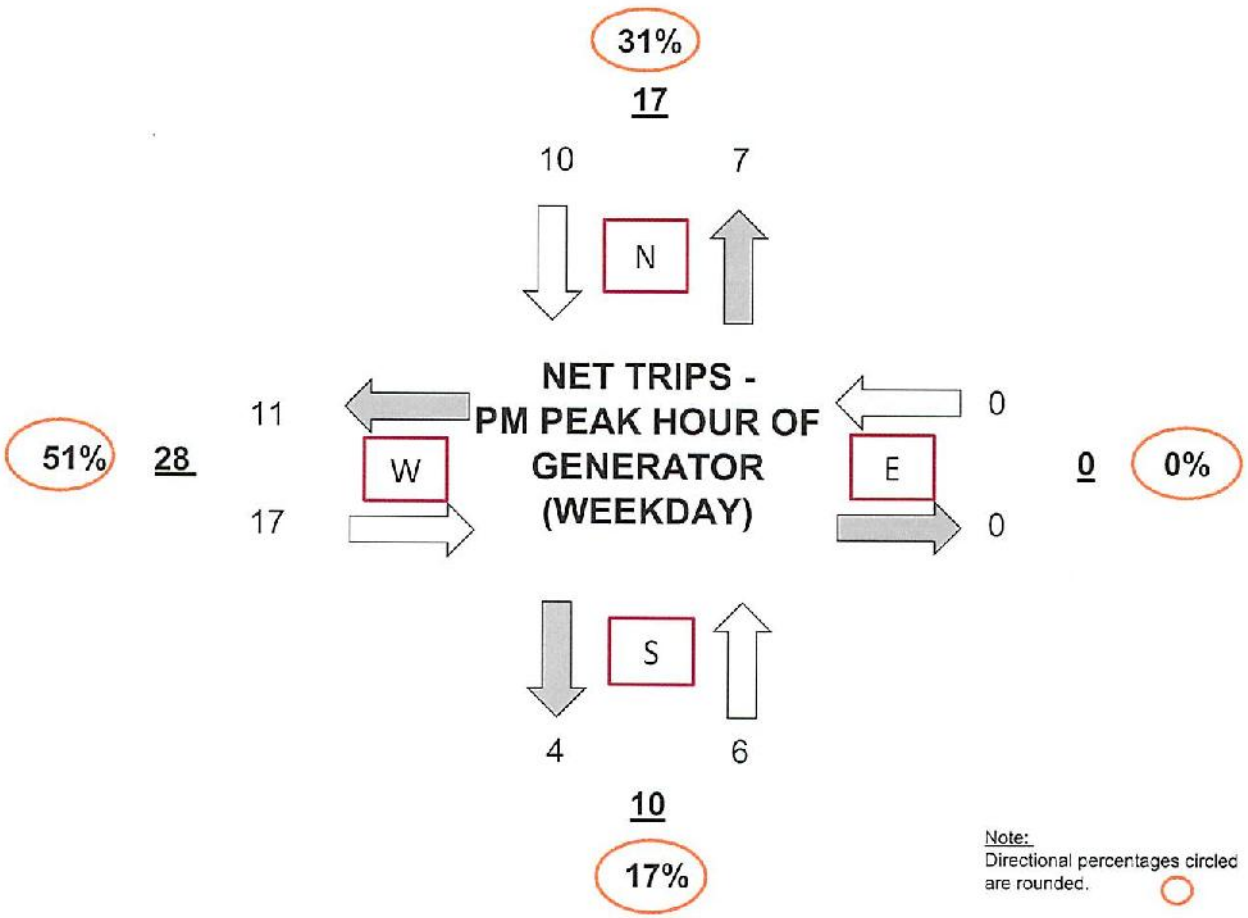
HPB18-0252

TABLE: A2

Cardinal Distribution
PM Peak Hour of Generator (Weekday)
Traffic Analysis Zone (TAZ) 636

Project Name: Park Hotel

DIRECTION	DISTRIBUTION (%) DESIGN YEAR	DIRECTION	DISTRIBUTION	PM PEAK HOUR GENERATOR TRIPS		
				IN	OUT	TOTAL
NNE	13.63	NORTH	31.47%	10	7	17
ENE	0.00					
ESE	0.00	EAST	0.00%	0	0	0
SSE	5.67					
SSW	11.60	SOUTH	17.27%	6	4	10
WSW	32.50					
WNW	18.80	WEST	51.30%	17	11	28
NNW	17.83					
TOTAL	100.00		100.00%	33	22	55



Note:
Directional percentages circled are rounded.

TABLE: A2-1

Cardinal Distribution
PM Peak Hour of Generator (Weekday)
Traffic Analysis Zone (TAZ) 636

Project Name: Park Hotel

DIRECTION	DISTRIBUTION PERCENTAGES (%)			PM PEAK HOUR OF GENERATOR TRIPS		
	MIAMI-DADE LRTP MODEL YEAR		DESIGN YEAR	IN	OUT	TOTAL
	2010	2040	2020			
NNE	10.70	19.50	13.63	4	3	7
ENE	0.00	0.00	0.00	0	0	0
ESE	0.00	0.00	0.00	0	0	0
SSE	4.40	8.20	5.67	2	1	3
SSW	10.00	14.80	11.60	4	3	7
WSW	34.00	29.50	32.50	11	7	18
WNW	20.80	14.80	18.80	6	4	10
NNW	20.10	13.30	17.83	6	4	10
TOTAL	100.00	100.00	100.00	33	22	55

Note:

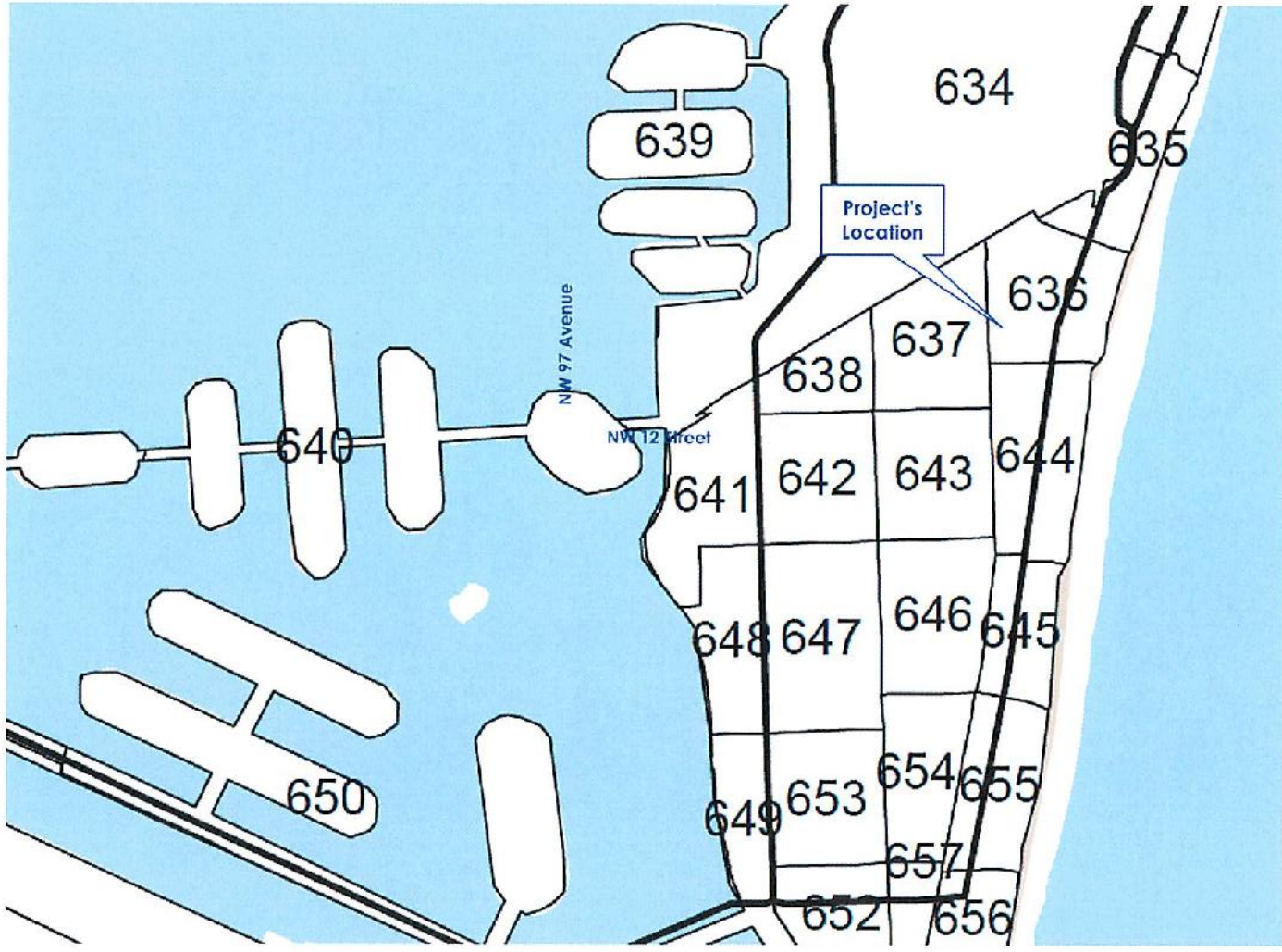
Based on Miami-Dade Transportation Plan (to the Year 2040) Directional Trip Distribution Report, October 2014. Since the current data is only available for the model years 2010 and 2040, the eight (8) cardinal directions were interpolated to the design year of 2020.

TABLE: A2-2

PM PEAK HOUR GENERATOR	IN	OUT	TOTAL
TRIPS:	33	22	55
PERCENT:	60.00%	40.00%	(Calculated)

DIRECTION	DISTRIBUTION %	INGRESS		EGRESS		TOTAL
		CALCULATED	USED	CALCULATED	USED	
NNE	13.63	4.499	4	2.999	3	7
ENE	0.00	0.000	0	0.000	0	0
ESE	0.00	0.000	0	0.000	0	0
SSE	5.67	1.870	2	1.247	1	3
SSW	11.60	3.828	4	2.552	3	7
WSW	32.50	10.725	11	7.150	7	18
WNW	18.80	6.204	6	4.136	4	10
NNW	17.83	5.885	6	3.923	4	10
TOTAL	100.00	33.011	33	22.007	22	55

TRAFFIC ANALYSIS ZONE (TAZ)



MOBILITY OPTIONS
2040 Miami-Dade Transportation Plan
EYES ON THE FUTURE

MIAMI-DADE 2040
Long Range Transportation Plan
Directional Trip Distribution Report

October 23, 2014




MIAMI-DADE METROPOLITAN
PLANNING ORGANIZATION

Miami-Dade 2010 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	10.7	0.0	0.0	4.4	10.0	34.0	20.8	20.1	
637	3537	TRIPS	437	39	52	212	109	449	313	207	1,818
637	3537	PERCENT	24.0	2.2	2.9	11.7	6.0	24.7	17.2	11.4	
638	3538	TRIPS	148	25	57	108	66	231	258	107	1,000
638	3538	PERCENT	14.8	2.5	5.7	10.8	6.6	23.1	25.8	10.7	
639	3539	TRIPS	694	286	232	913	139	1,445	989	693	5,391
639	3539	PERCENT	12.9	5.3	4.3	16.9	2.6	26.8	18.4	12.9	
640	3540	TRIPS	436	242	845	100	107	663	503	303	3,199
640	3540	PERCENT	13.6	7.6	26.4	3.1	3.3	20.7	15.7	9.5	
641	3541	TRIPS	1,374	1,440	228	555	352	2,014	2,014	1,124	9,101
641	3541	PERCENT	15.1	15.8	2.5	6.1	3.9	22.1	22.1	12.4	
642	3542	TRIPS	2,054	891	109	1,000	541	3,435	3,075	2,196	13,301
642	3542	PERCENT	15.4	6.7	0.8	7.5	4.1	25.8	23.1	16.5	
643	3543	TRIPS	1,551	277	0	514	462	2,180	2,043	1,648	8,675
643	3543	PERCENT	17.9	3.2	0.0	5.9	5.3	25.1	23.6	19.0	
644	3544	TRIPS	1,376	0	0	0	1,181	3,638	3,350	2,709	12,254
644	3544	PERCENT	11.2	0.0	0.0	0.0	9.6	29.7	27.3	22.1	
645	3545	TRIPS	547	0	0	0	341	1,032	1,603	1,258	4,781
645	3545	PERCENT	11.4	0.0	0.0	0.0	7.1	21.6	33.5	26.3	
646	3546	TRIPS	862	0	61	243	184	1,226	1,566	1,133	5,275
646	3546	PERCENT	16.3	0.0	1.2	4.6	3.5	23.2	29.7	21.5	
647	3547	TRIPS	454	68	83	148	89	427	406	402	2,077
647	3547	PERCENT	21.9	3.3	4.0	7.1	4.3	20.6	19.6	19.4	
648	3548	TRIPS	1,234	415	131	265	56	788	950	546	4,385
648	3548	PERCENT	28.1	9.5	3.0	6.0	1.3	18.0	21.7	12.5	
649	3549	TRIPS	846	215	84	123	15	631	680	403	2,997
649	3549	PERCENT	28.2	7.2	2.8	4.1	0.5	21.1	22.7	13.5	
650	3550	TRIPS	124	133	83	0	20	325	229	66	980
650	3550	PERCENT	12.7	13.6	8.5	0.0	2.0	33.2	23.4	6.7	
651	3551	TRIPS	612	46	55	0	11	438	656	555	2,373
651	3551	PERCENT	25.8	1.9	2.3	0.0	0.5	18.5	27.6	23.4	
652	3552	TRIPS	743	68	63	25	87	625	873	981	3,465
652	3552	PERCENT	21.4	2.0	1.8	0.7	2.5	18.0	25.2	28.3	
653	3553	TRIPS	708	34	64	143	67	703	835	753	3,307
653	3553	PERCENT	21.4	1.0	1.9	4.3	2.0	21.3	25.3	22.8	
654	3554	TRIPS	490	0	203	74	114	628	1,068	1,058	3,635
654	3554	PERCENT	13.5	0.0	5.6	2.0	3.1	17.3	29.4	29.1	
655	3555	TRIPS	1,475	0	0	0	368	1,892	2,676	2,034	8,445
655	3555	PERCENT	17.5	0.0	0.0	0.0	4.4	22.4	31.7	24.1	
656	3556	TRIPS	372	0	0	0	96	740	997	698	2,903
656	3556	PERCENT	12.8	0.0	0.0	0.0	3.3	25.5	34.3	24.0	

Miami-Dade 2040 Directional Distribution Summary

Origin TAZ			Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
636	3536	PERCENT	19.5	0.0	0.0	8.2	14.8	29.5	14.8	13.3	
637	3537	TRIPS	374	82	83	225	55	396	261	151	1,627
637	3537	PERCENT	23.0	5.0	5.1	13.8	3.4	24.3	16.0	9.3	
638	3538	TRIPS	232	28	34	125	70	269	193	126	1,077
638	3538	PERCENT	21.5	2.6	3.2	11.6	6.5	25.0	17.9	11.7	
639	3539	TRIPS	735	283	169	948	113	1,300	821	476	4,845
639	3539	PERCENT	15.2	5.8	3.5	19.6	2.3	26.8	17.0	9.8	
640	3540	TRIPS	430	255	683	151	73	932	515	373	3,412
640	3540	PERCENT	12.6	7.5	20.0	4.4	2.1	27.3	15.1	10.9	
641	3541	TRIPS	1,419	1,154	177	632	303	1,982	1,752	1,049	8,468
641	3541	PERCENT	16.8	13.6	2.1	7.5	3.6	23.4	20.7	12.4	
642	3542	TRIPS	2,179	1,098	137	956	454	3,066	2,615	1,535	12,040
642	3542	PERCENT	18.1	9.1	1.1	7.9	3.8	25.5	21.7	12.8	
643	3543	TRIPS	2,025	464	0	785	437	2,968	1,920	1,574	10,173
643	3543	PERCENT	19.9	4.6	0.0	7.7	4.3	29.2	18.9	15.5	
644	3544	TRIPS	2,373	0	0	0	1,831	4,426	3,267	2,854	14,751
644	3544	PERCENT	16.1	0.0	0.0	0.0	12.4	30.0	22.2	19.4	
645	3545	TRIPS	1,336	0	0	0	789	1,367	1,649	1,160	6,301
645	3545	PERCENT	21.2	0.0	0.0	0.0	12.5	21.7	26.2	18.4	
646	3546	TRIPS	950	0	142	324	255	1,435	1,393	1,140	5,639
646	3546	PERCENT	16.9	0.0	2.5	5.8	4.5	25.5	24.7	20.2	
647	3547	TRIPS	400	97	99	84	58	528	545	323	2,134
647	3547	PERCENT	18.7	4.6	4.6	3.9	2.7	24.7	25.5	15.1	
648	3548	TRIPS	1,129	496	172	440	46	1,080	1,249	650	5,262
648	3548	PERCENT	21.5	9.4	3.3	8.4	0.9	20.5	23.7	12.4	
649	3549	TRIPS	917	197	118	194	38	829	1,043	478	3,814
649	3549	PERCENT	24.0	5.2	3.1	5.1	1.0	21.7	27.4	12.5	
650	3550	TRIPS	88	112	79	9	31	340	412	150	1,221
650	3550	PERCENT	7.2	9.2	6.5	0.7	2.5	27.9	33.7	12.3	
651	3551	TRIPS	833	9	103	0	52	472	1,049	629	3,147
651	3551	PERCENT	26.5	0.3	3.3	0.0	1.7	15.0	33.3	20.0	
652	3552	TRIPS	856	91	112	82	128	551	1,157	859	3,836
652	3552	PERCENT	22.3	2.4	2.9	2.1	3.3	14.4	30.2	22.4	
653	3553	TRIPS	659	74	119	117	68	718	812	627	3,194
653	3553	PERCENT	20.6	2.3	3.7	3.7	2.1	22.5	25.4	19.6	
654	3554	TRIPS	814	0	220	127	186	1,003	1,184	881	4,415
654	3554	PERCENT	18.4	0.0	5.0	2.9	4.2	22.7	26.8	20.0	
655	3555	TRIPS	2,196	0	0	0	807	1,970	3,347	2,212	10,532
655	3555	PERCENT	20.9	0.0	0.0	0.0	7.7	18.7	31.8	21.0	
656	3556	TRIPS	565	0	0	0	108	489	1,022	769	2,953
656	3556	PERCENT	19.1	0.0	0.0	0.0	3.7	16.6	34.6	26.0	

Appendix 4: Signal Timing, Background Growth and Adjustment Factor

RICHARD GARCIA & ASSOCIATES, INC.

MIAMI-DADE ATMS
SIGNAL DATA SHEET

Signal Asset ID: 3394
Signal Location: Washington Ave & 19 St
Analysis Period: AM / PM (Circle One)
Local Time of Day Schedule: 8 Plan
Local Time of Day Function: - Setting (Blank or Number#)

Signal Settings: -
(i.e. Blank, Plan #1 – Phase Bank 1, Max 1)

Cycle Length: 80 seconds
Offset: 27 seconds

PHASE:	Φ1	Φ2		
	↓ ↑	←		
WALK	0	5		
DON'TWALK	0	24		
MIN INITIAL	16	7		
VEH EXT	1	2.5		
GREEN	39	29		
YELLOW	4	4		
RED	2	2		
SPLIT	45	35		

HPB18-0252

TOD Schedule Report
for 3394: Washington Av&19 St

Print Date: 12/3/2018

Print Time: 9:56 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
3394	Washington Av&19 St	DOW-2	TOD	[04] HEAVY AM PEAK	100	51	N/A	1	Max 2

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	NBT	-	-
0	59	0	29	0	59	0	0

Active Phase Bank: Phase Bank 1

Phase	Walk (Phase Bank 1 2 3)	Don't Walk (1 2 3)	Min Initial (1 2 3)	Veh Ext (1 2 3)	Max Limit (1 2 3)	Max 2 (1 2 3)	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	5 - 5 - 5	24 - 24 - 24	7 - 7 - 7	2.5 - 2.5 - 2.5	10 - 10 - 10	22 - 22 - 22	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	0 - 0 - 0	0 - 0 - 0	16 - 16 - 16	1 - 1 - 1	40 - 40 - 40	0 - 40 - 40	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4-6--
External Permit 0	-2-4-6--
External Permit 1	-2-4-6--
External Permit 2	-2-4-6--

HPB18-0252

TOD Schedule Report

for 3394: Washington Av&19 St

Print Date: 12/3/2018

Print Time: 9:56 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 SBT	3 -	4 WBT	5 -	6 NBT	7 -	8 -	Ring Offset	Offset
	10	80	0	39	0	29	0	39	0	0	0	58
0600	1	70	0	29	0	29	0	29	0	0	0	11
0715	2	90	0	49	0	29	0	49	0	0	0	49
0800	11	100	0	59	0	29	0	59	0	0	0	24
0900	4	100	0	59	0	29	0	59	0	0	0	51
1330	12	110	0	69	0	29	0	69	0	0	0	105
1530	6	90	0	49	0	29	0	49	0	0	0	32
1800	8	80	0	39	0	29	0	39	0	0	0	27
	3	80	0	39	0	29	0	39	0	0	0	43
	5	90	0	49	0	29	0	49	0	0	0	37
	7	90	0	49	0	29	0	49	0	0	0	55
	9	80	0	39	0	29	0	39	0	0	0	49
	13	80	0	39	0	29	0	39	0	0	0	61
	14	90	0	49	0	29	0	49	0	0	0	32
	15	110	0	69	0	29	0	69	0	0	0	63
	16	150	0	109	0	29	0	109	0	0	0	78
	17	70	0	29	0	29	0	29	0	0	0	13
	18	90	0	49	0	29	0	49	0	0	0	25
	19	100	0	59	0	29	0	59	0	0	0	0
	20	110	0	69	0	29	0	69	0	0	0	0
	21	110	0	69	0	29	0	69	0	0	0	0

Local TOD Schedule

Time	Plan	DOW
0000	10	Su S
0000	10	M T W Th F
0530	1	Su S
0600	1	M T W Th F
0715	2	M T W Th F
0800	11	M T W Th F
0900	4	M T W Th F
1000	4	Su S
1330	12	M T W Th F
1530	6	M T W Th F
1800	8	M T W Th F
2000	10	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	--------	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	--------	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	--------	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 3394: Washington Av&19 St

Print Date:
12/3/2018

Print Time:
9:56 AM

No Calendar Defined/Enabled

RICHARD GARCIA & ASSOCIATES, INC.

MIAMI-DADE ATMS
SIGNAL DATA SHEET

Signal Asset ID: 2809
Signal Location: Washington Ave & 20 St
Analysis Period: AM / PM (Circle One)
Local Time of Day Schedule: 8 Plan
Local Time of Day Function: - Setting (Blank or Number#)

Signal Settings: -
(i.e. Blank, Plan #1 – Phase Bank 1, Max 1)

Cycle Length: 80 seconds
Offset: 42 seconds

PHASE:	Φ1	Φ2		
	↓ ↑	← →		
WALK	0	5		
DON'TWALK	0	22		
MIN INITIAL	15	7		
VEH EXT	1	2.5		
GREEN	41	27		
YELLOW	4	4		
RED	2	2		
SPLIT	47	33		

HPB18-0252

TOD Schedule Report
for 2809: Washington Av&20 St

Print Date: 12/3/2018

Print Time: 9:57 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2809	Washington Av&20 St	DOW-2	TOD	[04] HEAVY AM PEAK	100	31	N/A	1	Max 2

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
-	SBT	-	WBT	-	NBT	-	EBT
0	61	0	27	0	61	0	27

Active Phase Bank: Phase Bank 1

Phase	Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 SBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 35 - 35	0 - 35 - 35	4	2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 WBT	5 - 5 - 5	22 - 22 - 22	7 - 7 - 7	2.5 -2.5 - 2.5	8 - 12 - 12	16 - 12 - 8	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 NBT	0 - 0 - 0	0 - 0 - 0	15 - 15 - 15	1 - 1 - 1	35 - 35 - 35	0 - 35 - 35	4	2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 EBT	5 - 5 - 5	22 - 22 - 22	7 - 7 - 7	2.5 -2.5 - 2.5	8 - 12 - 12	16 - 12 - 8	4	2

Last In Service Date: unknown

Permitted Phases

	12345678
Default	-2-4-6-8
External Permit 0	-2-4-6-8
External Permit 1	-2-4-6-8
External Permit 2	-2-4-6-8

HPB18-0252

TOD Schedule Report

for 2809: Washington Av&20 St

Print Date: 12/3/2018

Print Time: 9:57 AM

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 SBT	3 -	4 WBT	5 -	6 NBT	7 -	8 EBT	Ring Offset	Offset
	10	80	0	41	0	27	0	41	0	27	0	75
0600	1	70	0	31	0	27	0	31	0	27	0	69
0715	2	90	0	51	0	27	0	51	0	27	0	60
0800	11	100	0	61	0	27	0	61	0	27	0	35
0900	4	100	0	61	0	27	0	61	0	27	0	31
1330	12	110	0	71	0	27	0	71	0	27	0	12
1530	6	90	0	51	0	27	0	51	0	27	0	33
1800	8	80	0	41	0	27	0	41	0	27	0	42
	3	80	0	41	0	27	0	41	0	27	0	28
	5	90	0	51	0	27	0	51	0	27	0	37
	7	90	0	51	0	27	0	51	0	27	0	22
	9	80	0	41	0	27	0	41	0	27	0	50
	13	80	0	41	0	27	0	41	0	27	0	66
	14	90	0	51	0	27	0	51	0	27	0	33
	15	110	0	71	0	27	0	71	0	27	0	60
	16	150	0	111	0	27	0	111	0	27	0	63
	17	70	0	31	0	27	0	31	0	27	0	15
	18	90	0	51	0	27	0	51	0	27	0	11
	19	100	0	61	0	27	0	61	0	27	0	0
	20	110	0	71	0	27	0	71	0	27	0	0
	21	110	0	71	0	27	0	71	0	27	0	0

Local TOD Schedule

Time	Plan	DOW
0000	10	Su S
0000	10	M T W Th F
0530	1	Su S
0600	1	M T W Th F
0715	2	M T W Th F
0800	11	M T W Th F
0900	4	M T W Th F
1000	4	Su S
1330	12	M T W Th F
1530	6	M T W Th F
1800	8	M T W Th F
2000	10	Su S

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	----4---	SuM T W ThF S
0000	TOD LOCAL MULTIFU	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFU	--------	SuM T W ThF S
0530	TOD OUTPUTS	------2-	SuM T W ThF S
0700	TOD OUTPUTS	--------	SuM T W ThF S
0900	TOD OUTPUTS	------2-	SuM T W ThF S
1500	TOD OUTPUTS	--------	SuM T W ThF S
1900	TOD OUTPUTS	------2-	SuM T W ThF S
2200	TOD OUTPUTS	----4---	SuM T W ThF S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	----4---	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	----4---	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	--------	SuM T W ThF S
0530	TOD OUTPUTS	------2-	SuM T W ThF S
0700	TOD OUTPUTS	--------	SuM T W ThF S
0900	TOD OUTPUTS	------2-	SuM T W ThF S
1500	TOD OUTPUTS	--------	SuM T W ThF S
1900	TOD OUTPUTS	------2-	SuM T W ThF S
2200	TOD OUTPUTS	----4---	SuM T W ThF S

* Settings

Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

TOD Schedule Report

for 2809: Washington Av&20 St

Print Date:
12/3/2018

Print Time:
9:57 AM

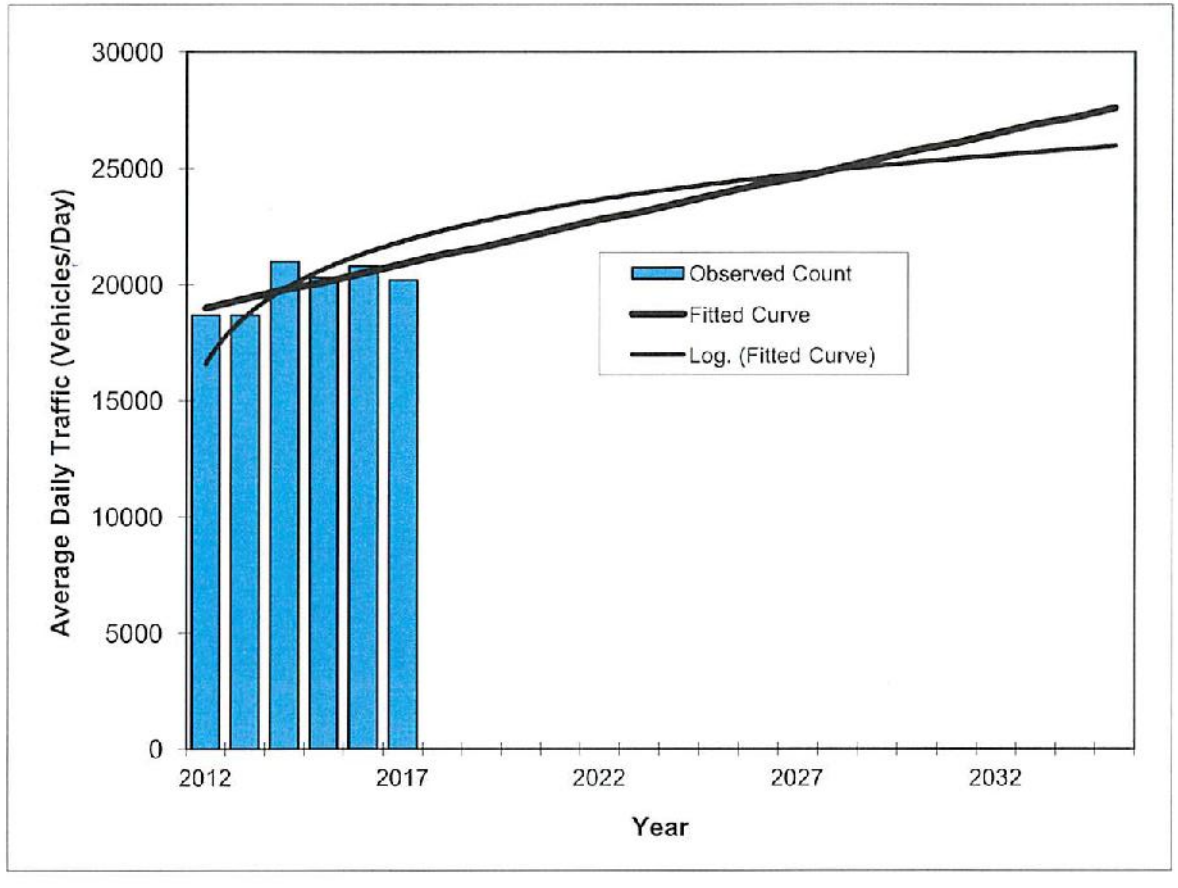
No Calendar Defined/Enabled

Traffic Trends - V2.0

WASHINGTON AVE -- 200' N OF 12 ST

PIN#	973215-1
Location	1

County:	Miami (87)
Station #:	8414
Highway:	WASHINGTON AVE



Year	Traffic (ADT/AADT) Count*	Trend**
2012	18700	19000
2013	18700	19400
2014	21000	19800
2015	20300	20100
2016	20800	20500
2017	20200	20900
2018 Opening Year Trend		
2018	N/A	21300
2019 Mid-Year Trend		
2019	N/A	21600
2020 Design Year Trend		
2020	N/A	22000
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	374
Trend R-squared:	47.74%
Trend Annual Historic Growth Rate:	2.00%
Trend Growth Rate (2017 to Design Year):	1.75%
Printed:	9-Jan-19
Straight Line Growth Option	

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8414 - WASHINGTON AVE, 200 FT N OF 12 ST (2011 OFF SYSTEM CYCLE)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	20200 C	N 9200	S 11000	9.00	59.30	2.40
2016	20800 C	N 9800	S 11000	9.00	56.10	1.90
2015	20300 C	N 9800	S 10500	9.00	57.40	17.50
2014	21000 C	N 10000	S 11000	9.00	59.30	13.90
2013	18700 F	N 9200	S 9500	9.00	58.90	16.20
2012	18700 C	N 9200	S 9500	9.00	59.70	16.00

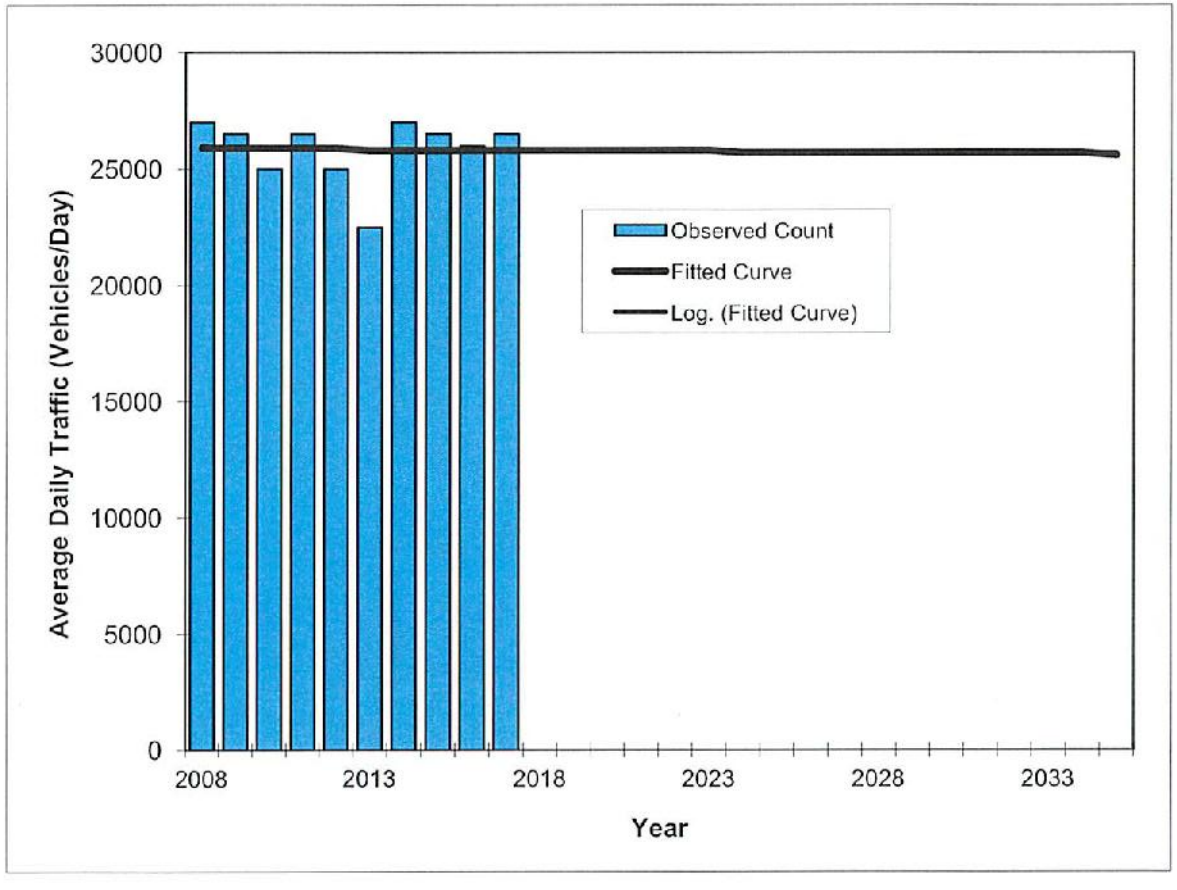
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR A1A/COLLINS AV -- N OF 21 ST (MIAMI BEACH)

PIN#	973215-1
Location	1

County:	Miami (87)
Station #:	5170
Highway:	SR A1A/COLLINS AV



Year	Traffic (ADT/AADT) Count*	Trend**
2008	27000	25900
2009	26500	25900
2010	25000	25900
2011	26500	25900
2012	25000	25900
2013	22500	25800
2014	27000	25800
2015	26500	25800
2016	26000	25800
2017	26500	25800
2018 Opening Year Trend		
2018	N/A	25800
2019 Mid-Year Trend		
2019	N/A	25800
2020 Design Year Trend		
2020	N/A	25800
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	-9
Trend R-squared:	0.04%
Trend Annual Historic Growth Rate:	-0.04%
Trend Growth Rate (2017 to Design Year):	0.00%
Printed:	9-Jan-19
Straight Line Growth Option	

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2017 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5170 - SR A1A/COLLINS AV, N OF 21 ST (MIAMI BEACH)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2017	26500 C	N 13000	S 13500	9.00	55.00	6.60
2016	26000 C	N 13500	S 12500	9.00	54.50	20.20
2015	26500 C	N 12500	S 14000	9.00	54.70	4.20
2014	27000 C	N 12500	S 14500	9.00	54.50	4.10
2013	22500 C	N 10500	S 12000	9.00	52.40	9.00
2012	25000 C	N 12000	S 13000	9.00	55.70	4.30
2011	26500 C	N 13500	S 13000	9.00	55.10	2.80
2010	25000 C	N 12500	S 12500	8.98	54.08	2.80
2009	26500 C	N 13000	S 13500	8.99	53.24	2.70
2008	27000 C	N 13500	S 13500	9.09	55.75	4.60
2007	25500 C	N 12500	S 13000	8.01	54.34	5.10
2006	25500 C	N 12500	S 13000	7.97	54.22	2.70
2005	25500 C	N 13000	S 12500	8.80	53.80	11.60
2004	30500 C	N 15000	S 15500	9.00	53.30	11.60
2003	23500 C	N 11500	S 12000	8.80	53.40	6.90
2002	31500 C	N 16000	S 15500	9.80	52.30	4.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; R = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

HPB18-0252

2017 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8700 MIAMI-DADE NORTH

MOCF: 0.96

WEEK	DATES	SF	PSCF
1	01/01/2017 - 01/07/2017	1.07	1.11
2	01/08/2017 - 01/14/2017	1.04	1.08
3	01/15/2017 - 01/21/2017	1.01	1.05
4	01/22/2017 - 01/28/2017	1.00	1.04
5	01/29/2017 - 02/04/2017	0.99	1.03
6	02/05/2017 - 02/11/2017	0.98	1.02
7	02/12/2017 - 02/18/2017	0.97	1.01
* 8	02/19/2017 - 02/25/2017	0.97	1.01
* 9	02/26/2017 - 03/04/2017	0.96	1.00
*10	03/05/2017 - 03/11/2017	0.95	0.99
*11	03/12/2017 - 03/18/2017	0.95	0.99
*12	03/19/2017 - 03/25/2017	0.95	0.99
*13	03/26/2017 - 04/01/2017	0.96	1.00
*14	04/02/2017 - 04/08/2017	0.96	1.00
*15	04/09/2017 - 04/15/2017	0.97	1.01
*16	04/16/2017 - 04/22/2017	0.97	1.01
*17	04/23/2017 - 04/29/2017	0.97	1.01
*18	04/30/2017 - 05/06/2017	0.97	1.01
*19	05/07/2017 - 05/13/2017	0.97	1.01
*20	05/14/2017 - 05/20/2017	0.97	1.01
21	05/21/2017 - 05/27/2017	0.98	1.02
22	05/28/2017 - 06/03/2017	0.98	1.02
23	06/04/2017 - 06/10/2017	0.99	1.03
24	06/11/2017 - 06/17/2017	0.99	1.03
25	06/18/2017 - 06/24/2017	1.00	1.04
26	06/25/2017 - 07/01/2017	1.00	1.04
27	07/02/2017 - 07/08/2017	1.01	1.05
28	07/09/2017 - 07/15/2017	1.01	1.05
29	07/16/2017 - 07/22/2017	1.01	1.05
30	07/23/2017 - 07/29/2017	1.01	1.05
31	07/30/2017 - 08/05/2017	1.00	1.04
32	08/06/2017 - 08/12/2017	1.00	1.04
33	08/13/2017 - 08/19/2017	1.00	1.04
34	08/20/2017 - 08/26/2017	1.04	1.08
35	08/27/2017 - 09/02/2017	1.07	1.11
36	09/03/2017 - 09/09/2017	1.11	1.16
37	09/10/2017 - 09/16/2017	1.14	1.19
38	09/17/2017 - 09/23/2017	1.12	1.17
39	09/24/2017 - 09/30/2017	1.10	1.15
40	10/01/2017 - 10/07/2017	1.08	1.13
41	10/08/2017 - 10/14/2017	1.06	1.10
42	10/15/2017 - 10/21/2017	1.04	1.08
43	10/22/2017 - 10/28/2017	1.05	1.09
44	10/29/2017 - 11/04/2017	1.06	1.10
45	11/05/2017 - 11/11/2017	1.07	1.11
46	11/12/2017 - 11/18/2017	1.07	1.11
47	11/19/2017 - 11/25/2017	1.07	1.11
48	11/26/2017 - 12/02/2017	1.07	1.11
49	12/03/2017 - 12/09/2017	1.07	1.11
50	12/10/2017 - 12/16/2017	1.07	1.11
51	12/17/2017 - 12/23/2017	1.05	1.09
52	12/24/2017 - 12/30/2017	1.03	1.07
53	12/31/2017 - 12/31/2017	1.01	1.05

* PEAK SEASON

02-MAR-2018 15:35:06 830UPD 6_8700_PKSEASON.TXT

Appendix 5: Traffic Counts (TMC's)

TABLE: A3

INTERSECTION APPROACH VOLUMES - PM PEAK (WEEKDAY)

Project Name: Park Hotel

INTERSECTION NO.	1 INTERSECTION NAME	2 APPROACH	3 MOVEMENT	4 PM PEAK HOUR OF GENERATOR (WEEKDAY) COUNT	5 DATE OF COUNT	6 PHF	7 SF	8 PM PEAK HOUR OF GENERATOR SEASONALLY ADJUSTED (EXISTING) (2018)	9 BACKGROUND GROWTH @ 1.75% FOR PROJECT BUILD-OUT OF 2020 (2 YEARS GROWTH)	10 PROPOSED FUTURE TRAFFIC W/O PROJECT (2020)	11 SITE TRAFFIC (PROJECT NET TRIPS) (VPH)	12 VALET OPERATION TRIPS	13 PROPOSED FUTURE TRAFFIC W/ PROJECT (VPH) (2020)
1	Washington Avenue & 19 Street	SOUTHBOUND	SBR	0	Friday, November 30, 2018	0.946	1.07	0	0	0	0	0	0
			SBT	148			1.07	158	6	164	10	0	174
			SBL	23			1.07	25	1	25	12	0	37
			TOTAL	**171**				**183**	**6**	**189**	**22**	**0**	**211**
		WESTBOUND	WBR	26			1.07	28	1	29	0	0	29
			WBT	0			1.07	0	0	0	0	0	0
			WBL	47			1.07	50	2	52	0	0	52
			TOTAL	**73**				**78**	**3**	**81**	**0**	**0**	**81**
		NORTHBOUND	NBR	17			1.07	18	1	19	15	0	34
			NBT	436			1.07	467	16	483	0	0	483
			NBL	0			1.07	0	0	0	0	0	0
			TOTAL	**453**				**485**	**17**	**502**	**15**	**0**	**517**
		EASTBOUND	EBR	0			1.07	0	0	0	0	0	0
			EBT	0			1.07	0	0	0	0	0	0
			EBL	0			1.07	0	0	0	0	0	0
			TOTAL	**0**				**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL			***697***				***746***	***26***	***772***	***37***	***0***	***809***
2	Washington Avenue & 20 Street	SOUTHBOUND	SBR	0	Friday, November 30, 2018	0.963	1.07	0	0	0	0	0	0
			SBT	138			1.07	148	5	153	12	0	165
			SBL	35			1.07	37	1	39	0	0	39
			TOTAL	**173**				**185**	**7**	**192**	**12**	**0**	**204**
		WESTBOUND	WBR	14			1.07	15	1	16	8	0	24
			WBT	0			1.07	0	0	0	0	0	0
			WBL	24			1.07	26	1	27	10	0	37
			TOTAL	**38**				**41**	**1**	**42**	**18**	**0**	**60**
		NORTHBOUND	NBR	28			1.07	30	1	31	0	0	31
			NBT	443			1.07	474	17	491	0	0	491
			NBL	0			1.07	0	0	0	0	0	0
			TOTAL	**471**				**504**	**18**	**522**	**0**	**0**	**522**
		EASTBOUND	EBR	0			1.07	0	0	0	0	0	0
			EBT	0			1.07	0	0	0	0	0	0
			EBL	0			1.07	0	0	0	0	0	0
			TOTAL	**0**				**0**	**0**	**0**	**0**	**0**	**0**
	TOTAL			***682***				***730***	***26***	***756***	***30***	***0***	***786***

TABLE: A3

INTERSECTION APPROACH VOLUMES - PM PEAK (WEEKDAY)

Project Name: Park Hotel

INTERSECTION NO.	1 INTERSECTION NAME	2 APPROACH	3 MOVEMENT	4 PM PEAK HOUR OF GENERATOR (WEEKDAY) COUNT	5 DATE OF COUNT	6 PHF	7 SF	8 PM PEAK HOUR OF GENERATOR SEASONALLY ADJUSTED (EXISTING) (2018)	9 BACKGROUND GROWTH @ 1.75% FOR PROJECT BUILD-OUT OF 2020 (2 YEARS GROWTH)	10 PROPOSED FUTURE TRAFFIC W/O PROJECT (2020)	11 SITE TRAFFIC (PROJECT NET TRIPS) (VPH)	12 VALET OPERATION TRIPS	13 PROPOSED FUTURE TRAFFIC W/ PROJECT (VPH) (2020)
3	Park Avenue & 19 Street	SOUTHBOUND	SBR	35	Friday, November 30, 2018	0.880	1.07	37	1	39	0	0	39
			SBT	0			1.07	0	0	0	0	0	0
			SBL	37			1.07	40	1	41	0	0	41
			TOTAL	**72**				**77**	**3**	**80**	**0**	**0**	**80**
		WESTBOUND	WBR	16			1.07	17	1	18	6	20	44
			WBT	36			1.07	39	1	40	0	0	40
			WBL	0			1.07	0	0	0	0	0	0
			TOTAL	**52**				**56**	**2**	**58**	**6**	**20**	**84**
		NORTHBOUND	NBR	0			1.07	0	0	0	0	0	0
			NBT	0			1.07	0	0	0	0	0	0
			NBL	0			1.07	0	0	0	0	0	0
			TOTAL	**0**				**0**	**0**	**0**	**0**	**0**	**0**
		EASTBOUND	EBR	0			1.07	0	0	0	0	0	0
			EBT	43			1.07	46	2	48	0	0	48
			EBL	8			1.07	9	0	9	27	0	36
			TOTAL	**51**				**55**	**2**	**56**	**27**	**0**	**83**
	TOTAL			***175***				***187***	***7***	***194***	***33***	***20***	***247***
4	Park Avenue & 20 Street	SOUTHBOUND	SBR	4	Friday, November 30, 2018	0.897	1.07	4	0	4	0	0	4
			SBT	51			1.07	55	2	56	0	0	56
			SBL	24			1.07	26	1	27	0	0	27
			TOTAL	**79**				**85**	**3**	**88**	**0**	**0**	**88**
		WESTBOUND	WBR	16			1.07	17	1	18	0	0	18
			WBT	38			1.07	41	1	42	0	0	42
			WBL	4			1.07	4	0	4	0	0	4
			TOTAL	**58**				**62**	**2**	**64**	**0**	**0**	**64**
		NORTHBOUND	NBR	2			1.07	2	0	2	4	28	34
			NBT	18			1.07	19	1	20	0	0	20
			NBL	3			1.07	3	0	3	18	0	21
			TOTAL	**23**				**25**	**1**	**25**	**22**	**28**	**75**
		EASTBOUND	EBR	5			1.07	5	0	6	0	0	6
			EBT	50			1.07	54	2	55	0	0	55
			EBL	6			1.07	6	0	7	0	0	7
			TOTAL	**61**				**65**	**2**	**68**	**0**	**0**	**68**
	TOTAL			***221***				***236***	***8***	***245***	***22***	***28***	***295***

TABLE: A3

INTERSECTION APPROACH VOLUMES - PM PEAK (WEEKDAY)

Project Name: Park Hotel

INTERSECTION NO.	1 INTERSECTION NAME	2 APPROACH	3 MOVEMENT	4 PM PEAK HOUR OF GENERATOR (WEEKDAY) COUNT	5 DATE OF COUNT	6 PHF	7 SF	8 PM PEAK HOUR OF GENERATOR SEASONALLY ADJUSTED (EXISTING) (2018)	9 BACKGROUND GROWTH @ 1.75% FOR PROJECT BUILD-OUT OF 2020 (2 YEARS GROWTH)	10 PROPOSED FUTURE TRAFFIC W/O PROJECT (2020)	11 SITE TRAFFIC (PROJECT NET TRIPS) (VPH)	12 VALET OPERATION TRIPS	13 PROPOSED FUTURE TRAFFIC W/ PROJECT (VPH) (2020)
5	Liberty Avenue & 19 Street	SOUTHBOUND	SBR	32	Friday, November 30, 2018	0.907	1.07	34	1	35	0	20	55
			SBT	0			1.07	0	0	0	0	0	0
			SBL	17			1.07	18	1	19	0	0	19
			TOTAL	**49**				**52**	**2**	**54**	**0**	**20**	**74**
		WESTBOUND	WBR	28			1.07	30	1	31	0	0	31
			WBT	29			1.07	31	1	32	6	0	38
			WBL	0			1.07	0	0	0	0	0	0
			TOTAL	**57**				**61**	**2**	**63**	**6**	**0**	**69**
		NORTHBOUND	NBR	0			1.07	0	0	0	0	0	0
			NBT	0			1.07	0	0	0	0	0	0
			NBL	0			1.07	0	0	0	0	0	0
			TOTAL	**0**				**0**	**0**	**0**	**0**	**0**	**0**
		EASTBOUND	EBR	0			1.07	0	0	0	0	0	0
			EBT	37			1.07	40	1	41	0	0	41
			EBL	27			1.07	29	1	30	0	0	30
			TOTAL	**64**				**68**	**2**	**71**	**0**	**0**	**71**
	TOTAL			***170***				***182***	***6***	***188***	***6***	***20***	***214***
6	Liberty Avenue & 20 Street	SOUTHBOUND	SBR	5	Friday, November 30, 2018	0.856	1.07	5	0	6	0	0	6
			SBT	18			1.07	19	1	20	0	0	20
			SBL	16			1.07	17	1	18	0	0	18
			TOTAL	**39**				**42**	**1**	**43**	**0**	**0**	**43**
		WESTBOUND	WBR	11			1.07	12	0	12	0	0	12
			WBT	39			1.07	42	1	43	0	0	43
			WBL	6			1.07	6	0	7	0	20	27
			TOTAL	**56**				**60**	**2**	**62**	**0**	**20**	**82**
		NORTHBOUND	NBR	16			1.07	17	1	18	0	0	18
			NBT	24			1.07	26	1	27	0	0	27
			NBL	2			1.07	2	0	2	0	0	2
			TOTAL	**42**				**45**	**2**	**47**	**0**	**0**	**47**
		EASTBOUND	EBR	11			1.07	12	0	12	0	0	12
			EBT	50			1.07	54	2	55	4	28	87
			EBL	7			1.07	7	0	8	0	0	8
			TOTAL	**68**				**73**	**3**	**75**	**4**	**28**	**107**
	TOTAL			***205***				***219***	***8***	***227***	***4***	***48***	***279***

Notes:

1 Intersection Name
2 Intersection Approach
3 Intersection Approach Movement
4 TMC data provided by RGA, Inc.
5 Date of Count
6 Peak Hour Factor
7 Seasonal Factor
8 Seasonally Adjusted TMC = Count * SF (Existing Condition).
9 A 1.75 percent background growth was utilized with a project build-out of 2020.
10 Proposed Traffic w/o Project = Seasonally Adjusted TMC + Backgound
11 Project Net Trips
12 Valet Operation Trips
13 Total Traffic = Net Traffic w/o Project + Site Traffic (Proposed Condition with Project)

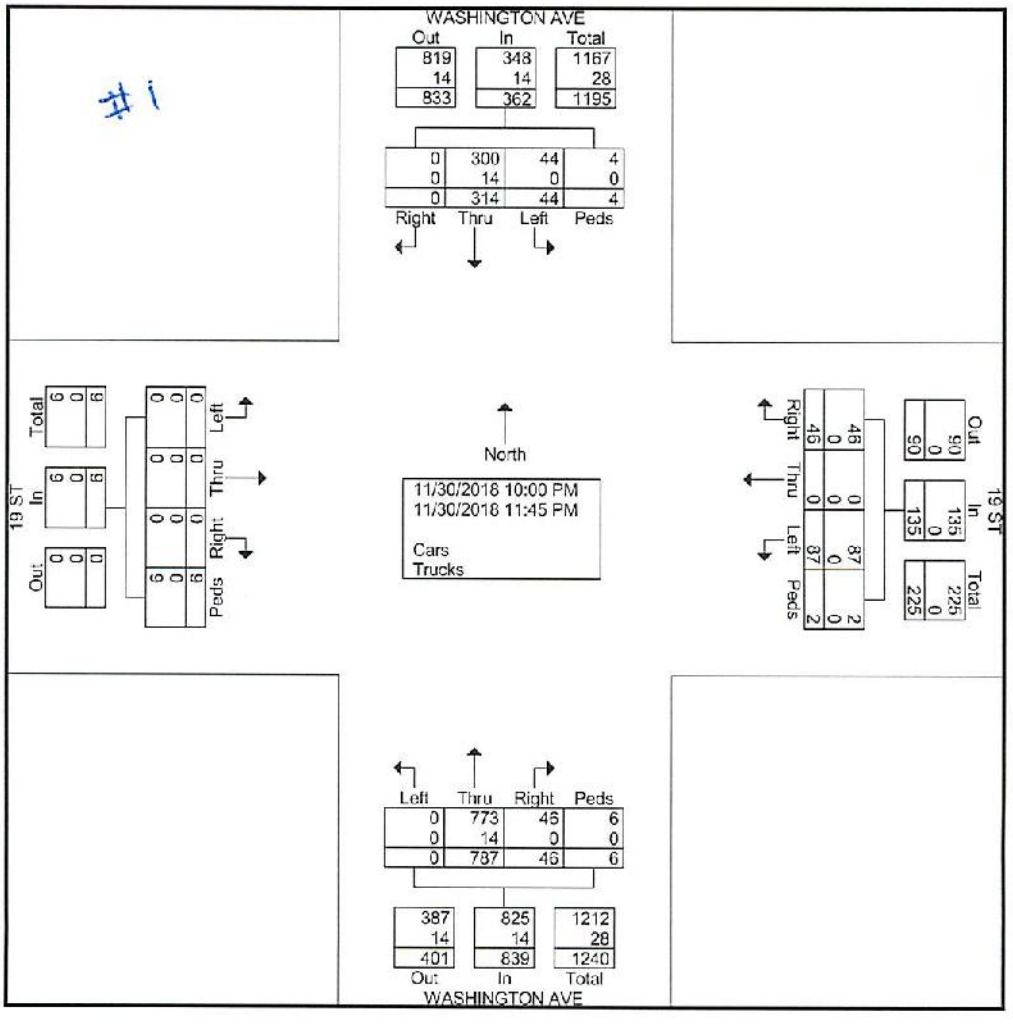
HPB18-0252

Richard Garcia & Associates, Inc.
8065 NW 98 Street
Hialeah Gardens, FL 33016
Phone: 305-362-0677
Fax: 305-675-6474

File Name : 19 St_Washington Ave_PM
Site Code : 00000000
Start Date : 11/30/2018
Page No : 1

Groups Printed- Cars - Trucks

	WASHINGTON AVE Southbound					19 ST Westbound					WASHINGTON AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	0	51	8	2	61	8	0	9	0	17	5	89	0	1	95	0	0	0	0	0	173
10:15 PM	0	43	3	0	46	2	0	11	0	13	4	81	0	0	85	0	0	0	4	4	148
10:30 PM	0	44	8	0	52	6	0	10	0	16	13	83	0	0	96	0	0	0	1	1	165
10:45 PM	0	43	9	0	52	5	0	9	0	14	5	95	0	0	100	0	0	0	0	0	166
Total	0	181	28	2	211	21	0	39	0	60	27	348	0	1	376	0	0	0	5	5	652
11:00 PM	0	45	5	0	50	10	0	11	1	22	5	106	0	2	113	0	0	0	1	1	186
11:15 PM	0	34	5	2	41	8	0	12	0	20	3	108	0	0	111	0	0	0	0	0	172
11:30 PM	0	26	4	0	30	3	0	15	1	19	4	127	0	0	131	0	0	0	0	0	180
11:45 PM	0	28	2	0	30	4	0	10	0	14	7	98	0	3	108	0	0	0	0	0	152
Total	0	133	16	2	151	25	0	48	2	75	19	439	0	5	463	0	0	0	1	1	690
Grand Total	0	314	44	4	362	46	0	87	2	135	46	787	0	6	839	0	0	0	6	6	1342
Apprch %	0	86.7	12.2	1.1		34.1	0	64.4	1.5		5.5	93.8	0	0.7		0	0	0	100		
Total %	0	23.4	3.3	0.3	27	3.4	0	6.5	0.1	10.1	3.4	58.6	0	0.4	62.5	0	0	0	0.4	0.4	
Cars	0	300	44	4	348	46	0	87	2	135	46	773	0	6	825	0	0	0	6	6	1314
% Cars	0	95.5	100	100	96.1	100	0	100	100	100	100	98.2	0	100	98.3	0	0	0	100	100	97.9
Trucks	0	14	0	0	14	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	28
% Trucks	0	4.5	0	0	3.9	0	0	0	0	0	0	1.8	0	0	1.7	0	0	0	0	0	2.1



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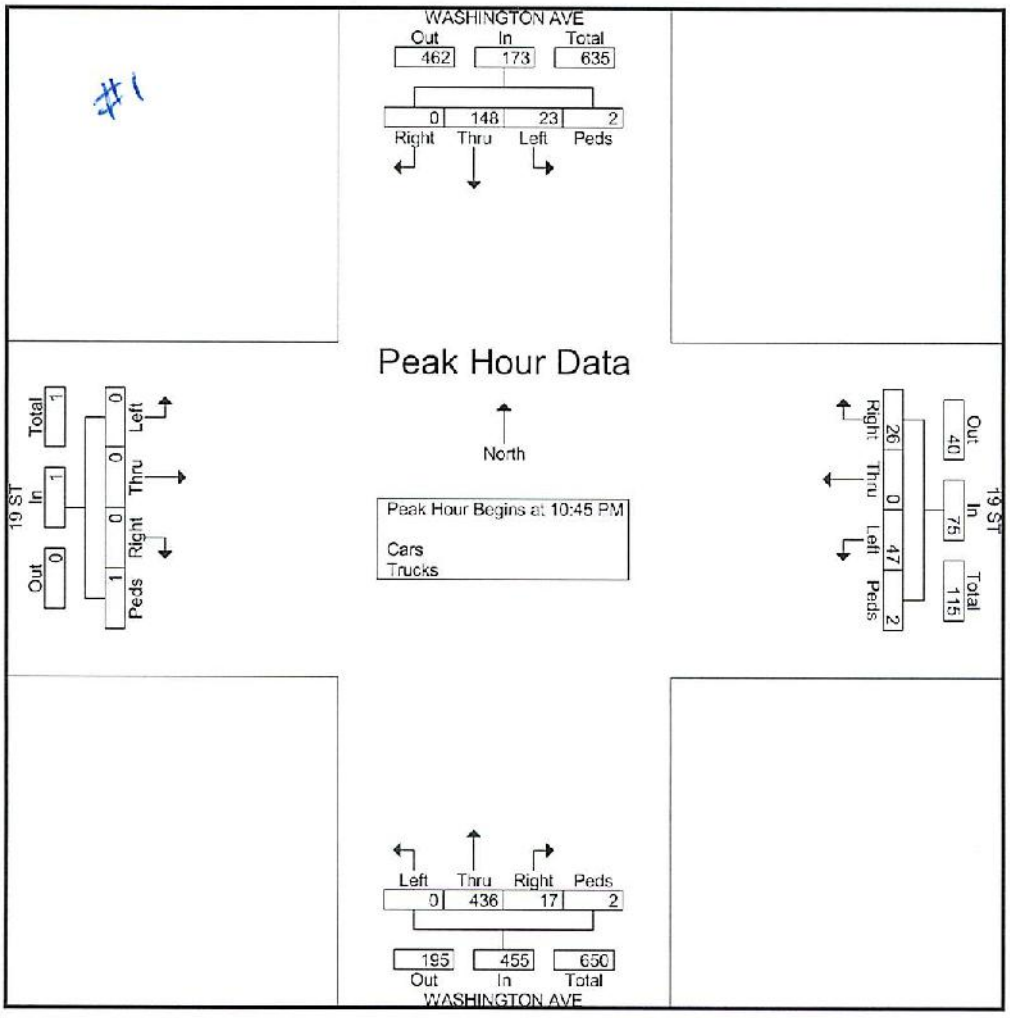
	WASHINGTON AVE Southbound					19 ST Westbound					WASHINGTON AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:45 PM																					
10:45 PM	0	43	9	0	52	5	0	9	0	14	5	95	0	0	100	0	0	0	0	0	166
11:00 PM	0	45	5	0	50	10	0	11	1	22	5	106	0	2	113	0	0	0	1	1	186
11:15 PM	0	34	5	2	41	8	0	12	0	20	3	108	0	0	111	0	0	0	0	0	172
11:30 PM	0	26	4	0	30	3	0	15	1	19	4	127	0	0	131	0	0	0	0	0	180
Total Volume	0	148	23	2	173	26	0	47	2	75	17	436	0	2	455	0	0	0	1	1	704
% App. Total	0	85.5	13.3	1.2		34.7	0	62.7	2.7		3.7	95.8	0	0.4		0	0	0	100		
PHF	.000	.822	.639	.250	.832	.650	.000	.783	.500	.852	.850	.858	.000	.250	.868	.000	.000	.000	.250	.250	.946



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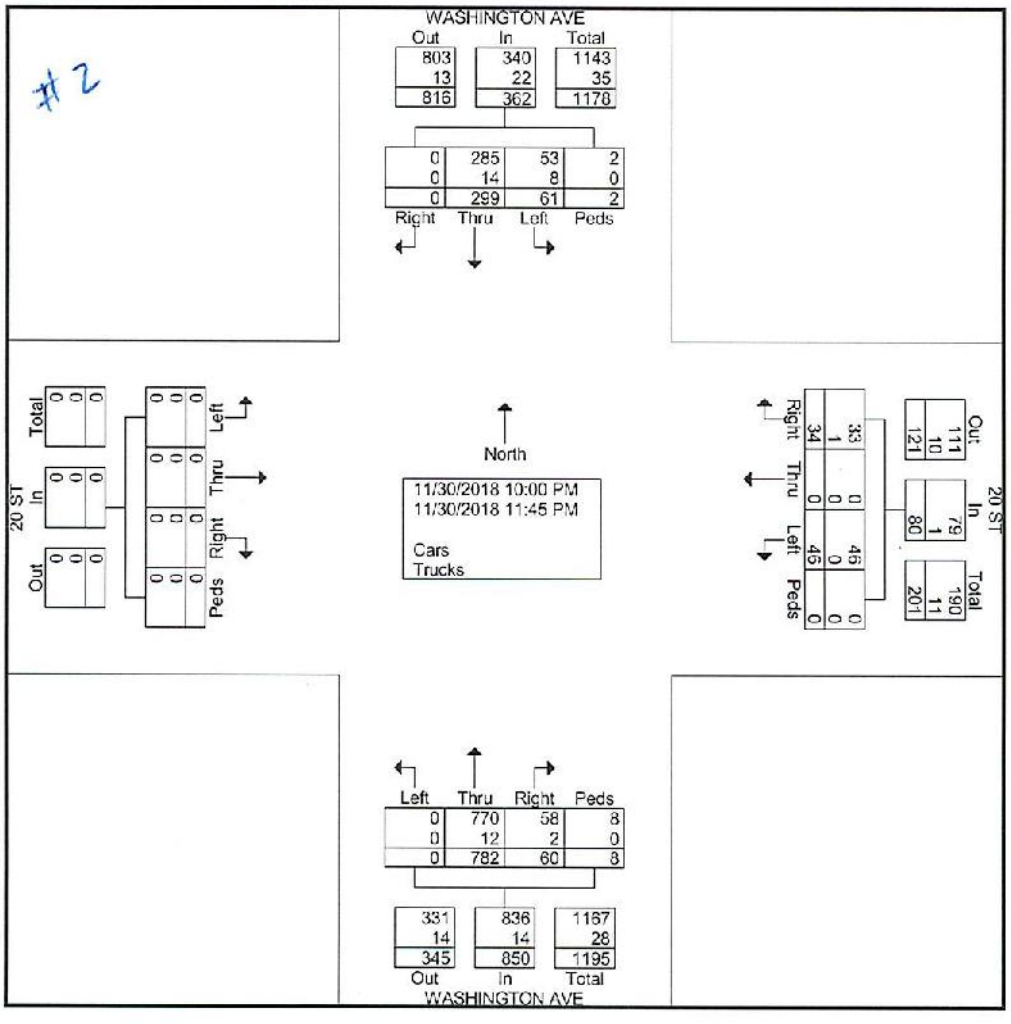
Groups Printed- Cars - Trucks

	WASHINGTON AVE Southbound					20 ST Westbound					WASHINGTON AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	0	49	10	0	59	7	0	5	0	12	6	91	0	2	99	0	0	0	0	0	170
10:15 PM	0	40	6	0	46	3	0	5	0	8	8	75	0	1	84	0	0	0	0	0	138
10:30 PM	0	47	5	1	53	4	0	8	0	12	8	81	0	0	89	0	0	0	0	0	154
10:45 PM	0	42	10	0	52	2	0	4	0	6	6	93	0	0	99	0	0	0	0	0	157
Total	0	178	31	1	210	16	0	22	0	38	28	340	0	3	371	0	0	0	0	0	619
11:00 PM	0	44	6	0	50	3	0	4	0	7	7	109	0	1	117	0	0	0	0	0	174
11:15 PM	0	29	11	0	40	4	0	7	0	11	7	120	0	0	127	0	0	0	0	0	178
11:30 PM	0	23	8	1	32	5	0	9	0	14	8	121	0	2	131	0	0	0	0	0	177
11:45 PM	0	25	5	0	30	6	0	4	0	10	10	92	0	2	104	0	0	0	0	0	144
Total	0	121	30	1	152	18	0	24	0	42	32	442	0	5	479	0	0	0	0	0	673
Grand Total	0	299	61	2	362	34	0	46	0	80	60	782	0	8	850	0	0	0	0	0	1292
Apprch %	0	82.6	16.9	0.6		42.5	0	57.5	0		7.1	92	0	0.9		0	0	0	0		
Total %	0	23.1	4.7	0.2	28	2.6	0	3.6	0	6.2	4.6	60.5	0	0.6	65.8	0	0	0	0	0	
Cars	0	285	53	2	340	33	0	46	0	79	58	770	0	8	836	0	0	0	0	0	1255
% Cars	0	95.3	86.9	100	93.9	97.1	0	100	0	98.8	96.7	98.5	0	100	98.4	0	0	0	0	0	97.1
Trucks	0	14	8	0	22	1	0	0	0	1	2	12	0	0	14	0	0	0	0	0	37
% Trucks	0	4.7	13.1	0	6.1	2.9	0	0	0	1.2	3.3	1.5	0	0	1.6	0	0	0	0	0	2.9



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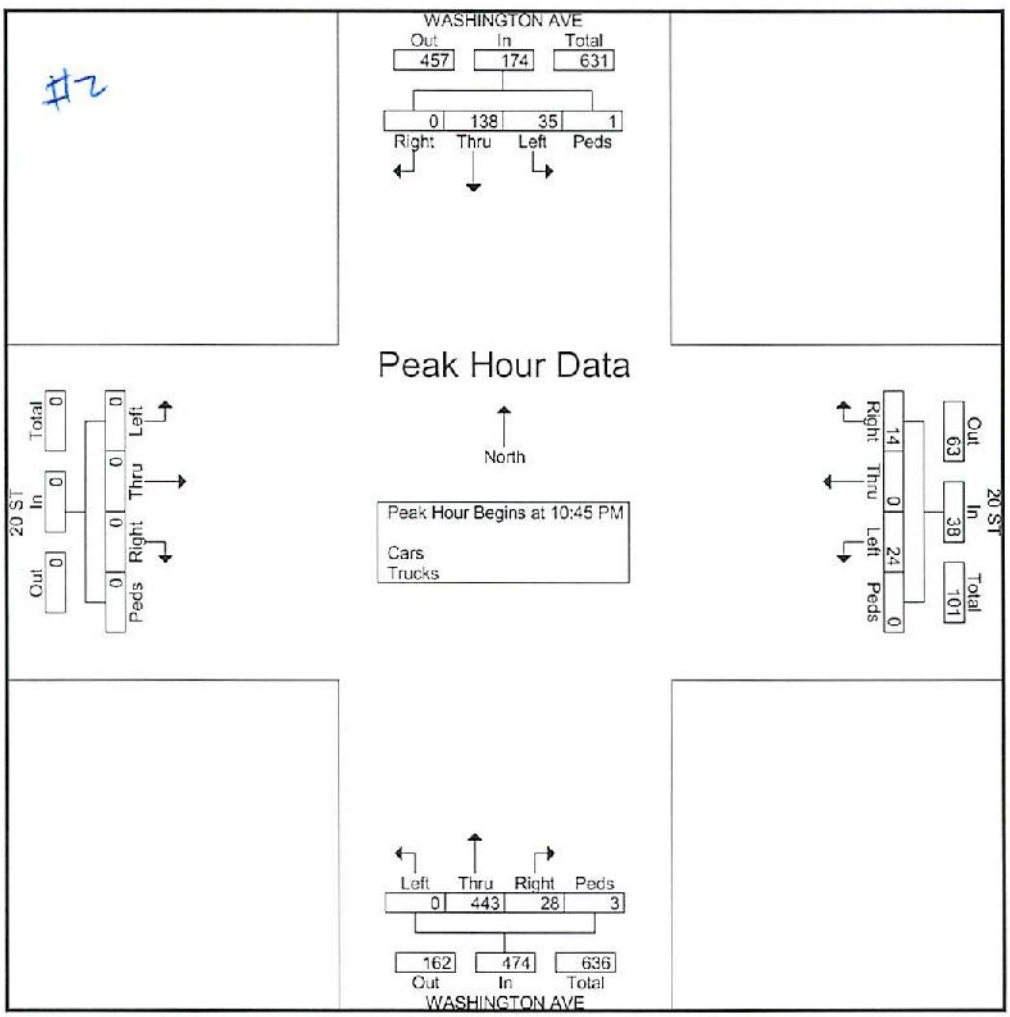
	WASHINGTON AVE Southbound					20 ST Westbound					WASHINGTON AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:45 PM																					
10:45 PM	0	42	10	0	**52**	2	0	4	0	6	6	93	0	0	99	0	0	0	0	0	157
11:00 PM	0	**44**	6	0	50	3	0	4	0	7	7	109	0	1	117	0	0	0	0	0	174
11:15 PM	0	29	**11**	0	40	4	0	7	0	11	7	120	0	0	127	0	0	0	0	0	**178**
11:30 PM	0	23	8	1	32	**5**	0	**9**	0	**14**	**8**	**121**	0	**2**	**131**	0	0	0	0	0	177
Total Volume	0	138	35	1	174	14	0	24	0	38	28	443	0	3	474	0	0	0	0	0	686
% App. Total	0	79.3	20.1	0.6		36.8	0	63.2	0		5.9	93.5	0	0.6		0	0	0	0		
PHF	.000	.784	.795	.250	.837	.700	.000	.667	.000	.679	.875	.915	.000	.375	.905	.000	.000	.000	.000	.000	.983



HPB18-0252

Richard Garcia & Associates, Inc.
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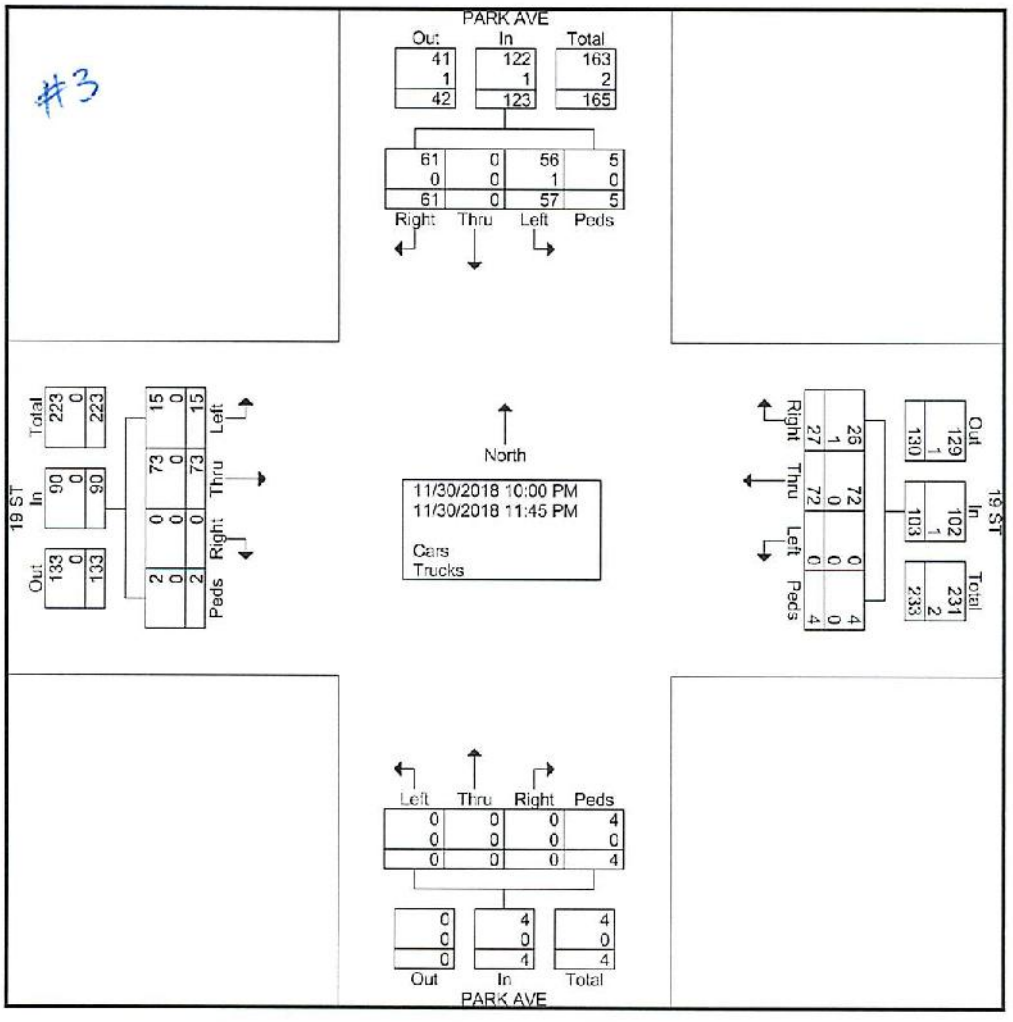
File Name : 19 St_Park Ave_PM
Site Code : 00000000
Start Date : 11/30/2018
Page No : 1

Groups Printed- Cars - Trucks

	PARK AVE Southbound					19 ST Westbound					PARK AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	7	0	6	0	13	4	10	0	2	16	0	0	0	0	0	0	11	2	0	13	42
10:15 PM	5	0	7	0	12	2	8	0	0	10	0	0	0	0	0	0	6	1	0	7	29
10:30 PM	9	0	6	2	17	3	7	0	0	10	0	0	0	0	0	0	18	3	0	21	48
10:45 PM	9	0	11	1	21	2	5	0	0	7	0	0	0	0	0	0	13	1	0	14	42
Total	30	0	30	3	63	11	30	0	2	43	0	0	0	0	0	0	48	7	0	55	161
11:00 PM	8	0	11	0	19	9	13	0	0	22	0	0	0	1	1	0	6	2	2	10	52
11:15 PM	9	0	9	0	18	2	11	0	0	13	0	0	0	2	2	0	6	2	0	8	41
11:30 PM	7	0	3	0	10	3	11	0	2	16	0	0	0	1	1	0	7	1	0	8	35
11:45 PM	7	0	4	2	13	2	7	0	0	9	0	0	0	0	0	0	6	3	0	9	31
Total	31	0	27	2	60	16	42	0	2	60	0	0	0	4	4	0	25	8	2	35	159
Grand Total	61	0	57	5	123	27	72	0	4	103	0	0	0	4	4	0	73	15	2	90	320
Apprch %	49.6	0	46.3	4.1		26.2	69.9	0	3.9		0	0	0	100		0	81.1	16.7	2.2		
Total %	19.1	0	17.8	1.6	38.4	8.4	22.5	0	1.2	32.2	0	0	0	1.2	1.2	0	22.8	4.7	0.6	28.1	
Cars	61	0	56	5	122	26	72	0	4	102	0	0	0	4	4	0	73	15	2	90	318
% Cars	100	0	98.2	100	99.2	96.3	100	0	100	99	0	0	0	100	100	0	100	100	100	100	99.4
Trucks	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0	1.8	0	0.8	3.7	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.6



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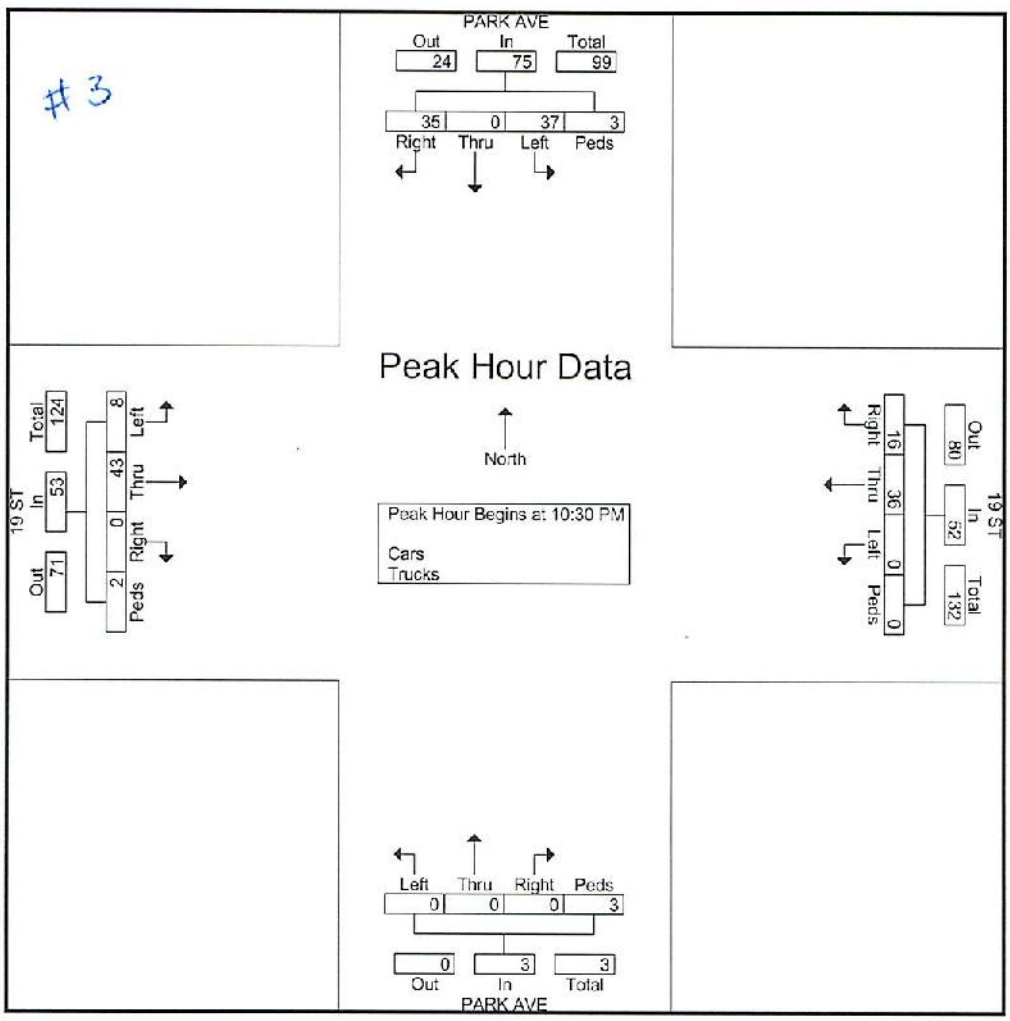
	PARK AVE Southbound					19 ST Westbound					PARK AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:30 PM																					
10:30 PM	9	0	6	2	17	3	7	0	0	10	0	0	0	0	0	0	18	3	0	21	48
10:45 PM	9	0	11	1	21	2	5	0	0	7	0	0	0	0	0	0	13	1	0	14	42
11:00 PM	8	0	11	0	19	9	13	0	0	22	0	0	0	1	1	0	6	2	2	10	52
11:15 PM	9	0	9	0	18	2	11	0	0	13	0	0	0	2	2	0	6	2	0	8	41
Total Volume	35	0	37	3	75	16	36	0	0	52	0	0	0	3	3	0	43	8	2	53	183
% App. Total	46.7	0	49.3	4		30.8	69.2	0	0		0	0	0	100		0	81.1	15.1	3.8		
PHF	.972	.000	.841	.375	.893	.444	.692	.000	.000	.591	.000	.000	.000	.375	.375	.000	.597	.667	.250	.631	.880



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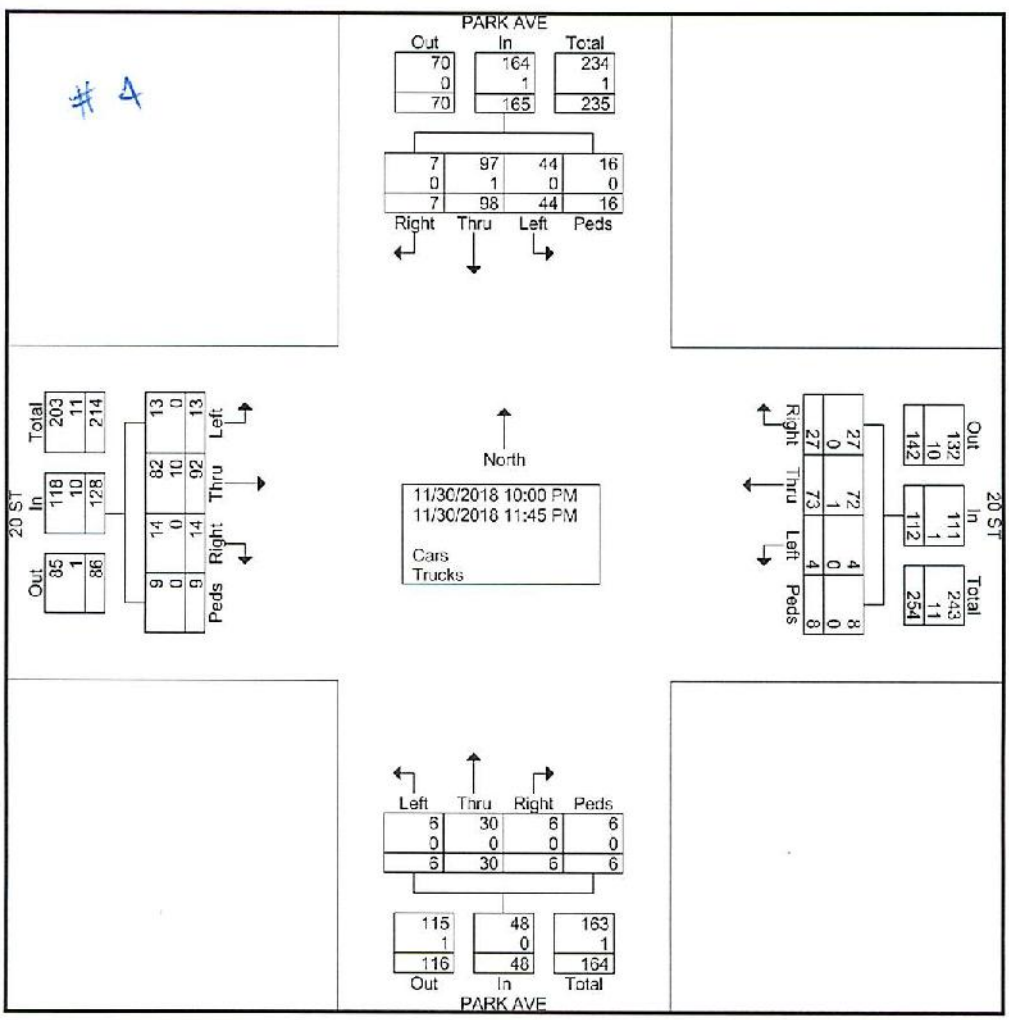
File Name : 20 St_Park Ave_PM
Site Code : 00000000
Start Date : 11/30/2018
Page No : 1

Groups Printed- Cars - Trucks

	PARK AVE Southbound					20 ST Westbound					PARK AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	0	11	5	0	16	4	12	0	4	20	1	2	3	0	6	4	11	1	1	17	59
10:15 PM	1	9	6	3	19	2	7	0	0	9	0	3	0	1	4	2	9	3	0	14	46
10:30 PM	1	9	5	4	19	3	11	0	2	16	3	5	0	1	9	0	11	1	0	12	56
10:45 PM	1	18	4	0	23	2	5	0	0	7	0	2	0	0	2	3	11	2	0	16	48
Total	3	47	20	7	77	11	35	0	6	52	4	12	3	2	21	9	42	7	1	59	209
11:00 PM	2	16	4	2	24	5	5	1	0	11	0	9	1	0	10	1	11	1	1	14	59
11:15 PM	1	18	6	1	26	5	10	2	0	17	1	3	0	0	4	0	15	3	3	21	68
11:30 PM	1	7	7	2	17	5	13	1	2	21	0	3	2	4	9	2	14	0	3	19	66
11:45 PM	0	10	7	4	21	1	10	0	0	11	1	3	0	0	4	2	10	2	1	15	51
Total	4	51	24	9	88	16	38	4	2	60	2	18	3	4	27	5	50	6	8	69	244
Grand Total	7	98	44	16	165	27	73	4	8	112	6	30	6	6	48	14	92	13	9	128	453
Apprch %	4.2	59.4	26.7	9.7		24.1	65.2	3.6	7.1		12.5	62.5	12.5	12.5		10.9	71.9	10.2	7		
Total %	1.5	21.6	9.7	3.5	36.4	6	16.1	0.9	1.8	24.7	1.3	6.6	1.3	1.3	10.6	3.1	20.3	2.9	2	28.3	
Cars	7	97	44	16	164	27	72	4	8	111	6	30	6	6	48	14	82	13	9	118	441
% Cars	100	99	100	100	99.4	100	98.6	100	100	99.1	100	100	100	100	100	100	89.1	100	100	92.2	97.4
Trucks	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	10	0	0	10	12
% Trucks	0	1	0	0	0.6	0	1.4	0	0	0.9	0	0	0	0	0	0	10.9	0	0	7.8	2.6



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File Name : 20 St_Park Ave_PM
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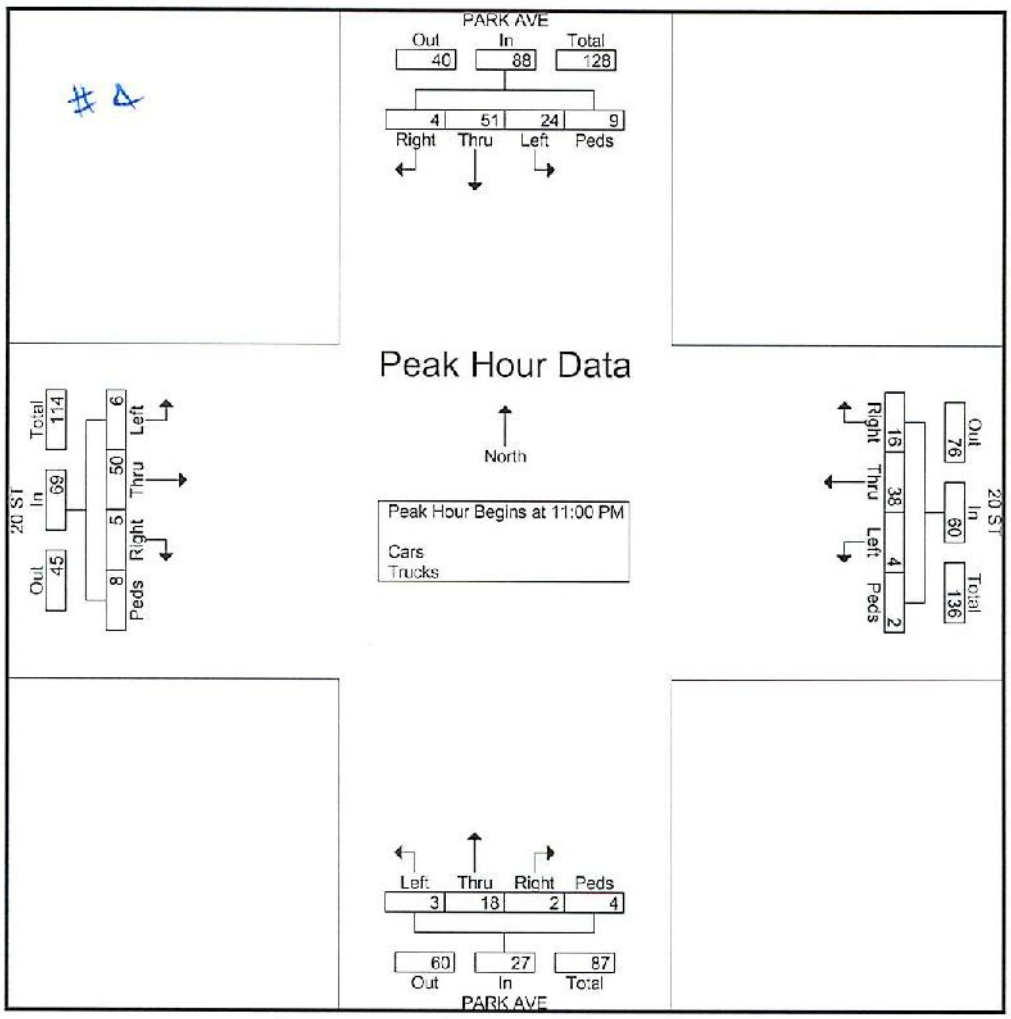
Start Date : 11/30/2018
Page No : 2

	PARK AVE Southbound					20 ST Westbound					PARK AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 PM																					
11:00 PM	2	16	4	2	24	5	5	1	0	11	0	9	1	0	10	1	11	1	1	14	59
11:15 PM	1	18	6	1	26	5	10	2	0	17	1	3	0	0	4	0	15	3	3	21	68
11:30 PM	1	7	7	2	17	5	13	1	2	21	0	3	2	4	9	2	14	0	3	19	66
11:45 PM	0	10	7	4	21	1	10	0	0	11	1	3	0	0	4	2	10	2	1	15	51
Total Volume	4	51	24	9	88	16	38	4	2	60	2	18	3	4	27	5	50	6	8	69	244
% App. Total	4.5	58	27.3	10.2		26.7	63.3	6.7	3.3		7.4	66.7	11.1	14.8		7.2	72.5	8.7	11.6		
PHF	.500	.708	.857	.563	.846	.800	.731	.500	.250	.714	.500	.500	.375	.250	.675	.625	.833	.500	.667	.821	.897



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File Name : 19 St_Liberty Ave_PM
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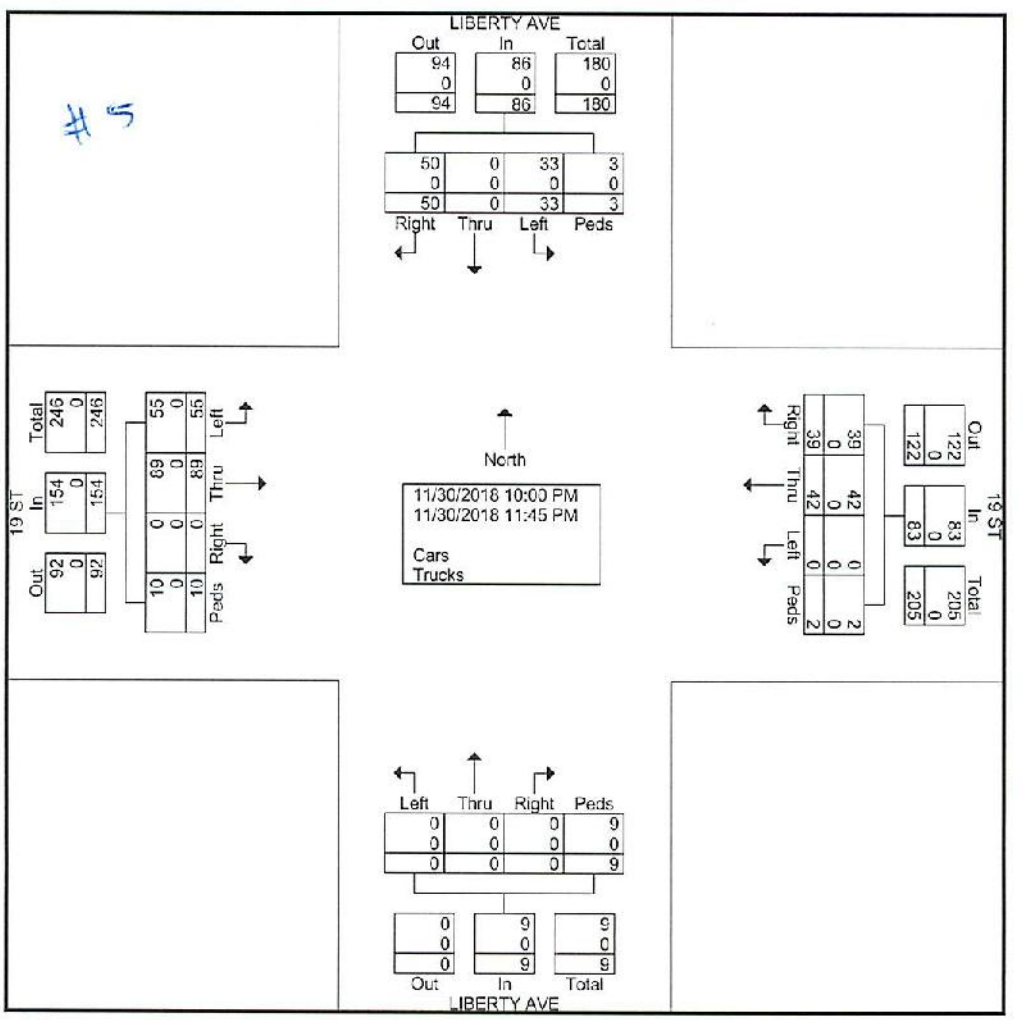
Start Date : 11/30/2018
Page No : 1

Groups Printed- Cars - Trucks

	LIBERTY AVE Southbound					19 ST Westbound					LIBERTY AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	3	0	4	0	7	4	6	0	1	11	0	0	0	0	0	0	14	9	0	23	41
10:15 PM	4	0	4	0	8	1	4	0	0	5	0	0	0	4	4	0	13	6	0	19	36
10:30 PM	9	0	5	0	14	2	3	0	1	6	0	0	0	0	0	0	10	5	1	16	36
10:45 PM	2	0	3	2	7	4	0	0	0	4	0	0	0	0	0	0	15	8	0	23	34
Total	18	0	16	2	36	11	13	0	2	26	0	0	0	4	4	0	52	28	1	81	147
11:00 PM	12	0	4	1	17	2	7	0	0	9	0	0	0	2	2	0	10	9	2	21	49
11:15 PM	7	0	6	0	13	8	9	0	0	17	0	0	0	1	1	0	13	4	3	20	51
11:30 PM	10	0	3	0	13	11	7	0	0	18	0	0	0	2	2	0	5	9	0	14	47
11:45 PM	3	0	4	0	7	7	6	0	0	13	0	0	0	0	0	0	9	5	4	18	38
Total	32	0	17	1	50	28	29	0	0	57	0	0	0	5	5	0	37	27	9	73	185
Grand Total	50	0	33	3	86	39	42	0	2	83	0	0	0	9	9	0	89	55	10	154	332
Apprch %	58.1	0	38.4	3.5		47	50.6	0	2.4		0	0	0	100		0	57.8	35.7	6.5		
Total %	15.1	0	9.9	0.9	25.9	11.7	12.7	0	0.6	25	0	0	0	2.7	2.7	0	26.8	16.6	3	46.4	
Cars	50	0	33	3	86	39	42	0	2	83	0	0	0	9	9	0	89	55	10	154	332
% Cars	100	0	100	100	100	100	100	0	100	100	0	0	0	100	100	0	100	100	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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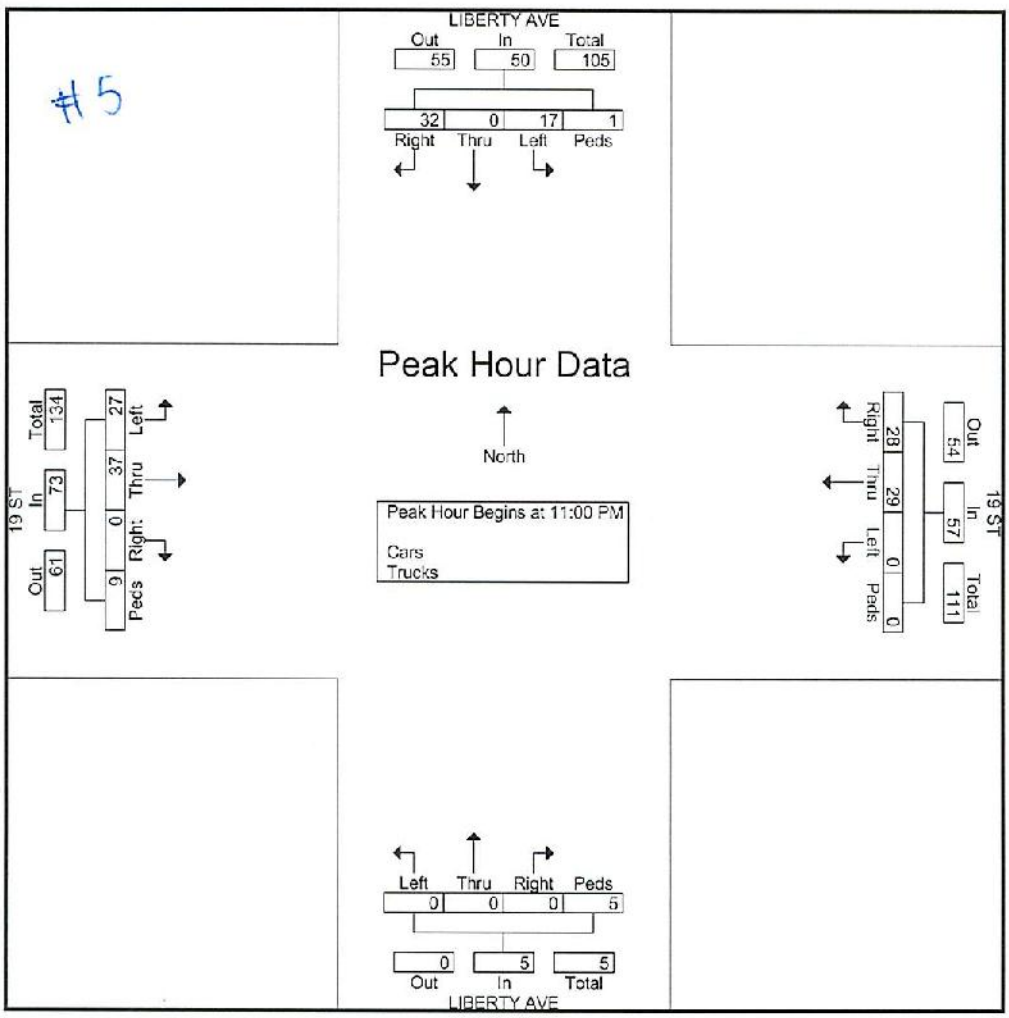
	LIBERTY AVE Southbound					19 ST Westbound					LIBERTY AVE Northbound					19 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 PM																					
11:00 PM	**12**	0	4	**1**	17	2	7	0	0	9	0	0	0	**2**	**2**	0	10	**9**	2	21	49
11:15 PM	7	0	**6**	0	13	8	**9**	0	0	17	0	0	0	1	1	0	**13**	4	3	20	**51**
11:30 PM	**10**	0	3	0	13	**11**	7	0	0	**18**	0	0	0	2	2	0	5	9	0	14	47
11:45 PM	3	0	4	0	7	7	6	0	0	13	0	0	0	0	0	0	9	5	**4**	18	38
Total Volume	32	0	17	1	50	28	29	0	0	57	0	0	0	5	5	0	37	27	9	73	185
% App. Total	64	0	34	2		49.1	50.9	0	0		0	0	0	100		0	50.7	37	12.3		
PHF	.667	.000	.708	.250	.735	.636	.806	.000	.000	.792	.000	.000	.000	.625	.625	.000	.712	.750	.563	.869	.907



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File Name : 20 St_Liberty Ave_PM
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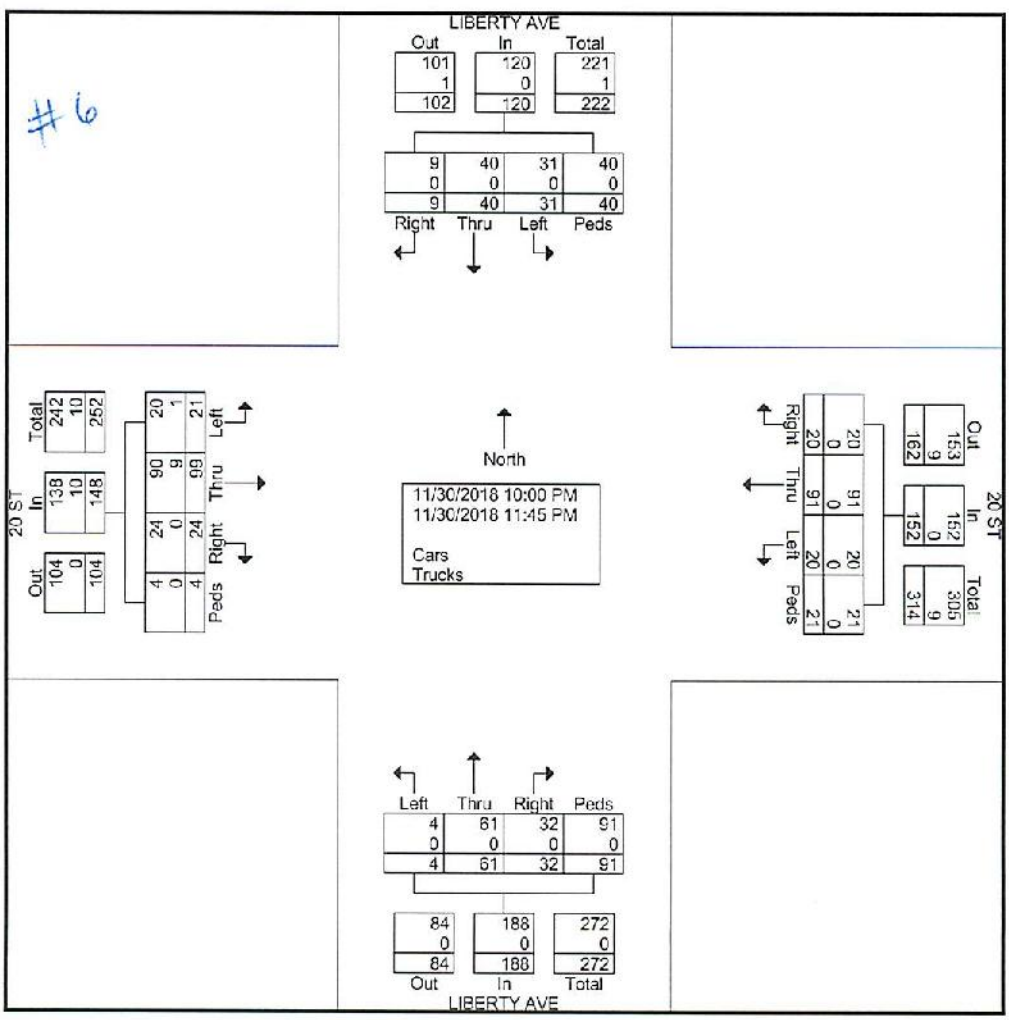
Page No : 1

Groups Printed- Cars - Trucks

	LIBERTY AVE Southbound					20 ST Westbound					LIBERTY AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
10:00 PM	1	5	1	9	16	6	15	0	3	24	5	10	0	17	32	2	15	0	1	18	90
10:15 PM	1	5	5	9	20	1	8	2	3	14	3	5	0	24	32	2	10	3	1	16	82
10:30 PM	2	7	7	4	20	3	11	3	7	24	4	2	1	11	18	4	14	3	0	21	83
10:45 PM	1	1	3	3	8	1	5	1	3	10	4	7	1	8	20	3	11	1	0	15	53
Total	5	18	16	25	64	11	39	6	16	72	16	24	2	60	102	11	50	7	2	70	308
11:00 PM	0	5	6	6	17	2	11	4	2	19	3	8	0	5	16	6	4	5	0	15	67
11:15 PM	2	8	4	3	17	4	14	2	0	20	2	9	1	10	22	3	17	2	1	23	82
11:30 PM	1	6	2	4	13	1	17	5	1	24	6	13	1	9	29	2	14	5	0	21	87
11:45 PM	1	3	3	2	9	2	10	3	2	17	5	7	0	7	19	2	14	2	1	19	64
Total	4	22	15	15	56	9	52	14	5	80	16	37	2	31	86	13	49	14	2	78	300
Grand Total	9	40	31	40	120	20	91	20	21	152	32	61	4	91	188	24	99	21	4	148	608
Apprch %	7.5	33.3	25.8	33.3		13.2	59.9	13.2	13.8		17	32.4	2.1	48.4		16.2	66.9	14.2	2.7		
Total %	1.5	6.6	5.1	6.6	19.7	3.3	15	3.3	3.5	25	5.3	10	0.7	15	30.9	3.9	16.3	3.5	0.7	24.3	
Cars	9	40	31	40	120	20	91	20	21	152	32	61	4	91	188	24	90	20	4	138	598
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	90.9	95.2	100	93.2	98.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	1	0	10	10
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9.1	4.8	0	6.8	1.6



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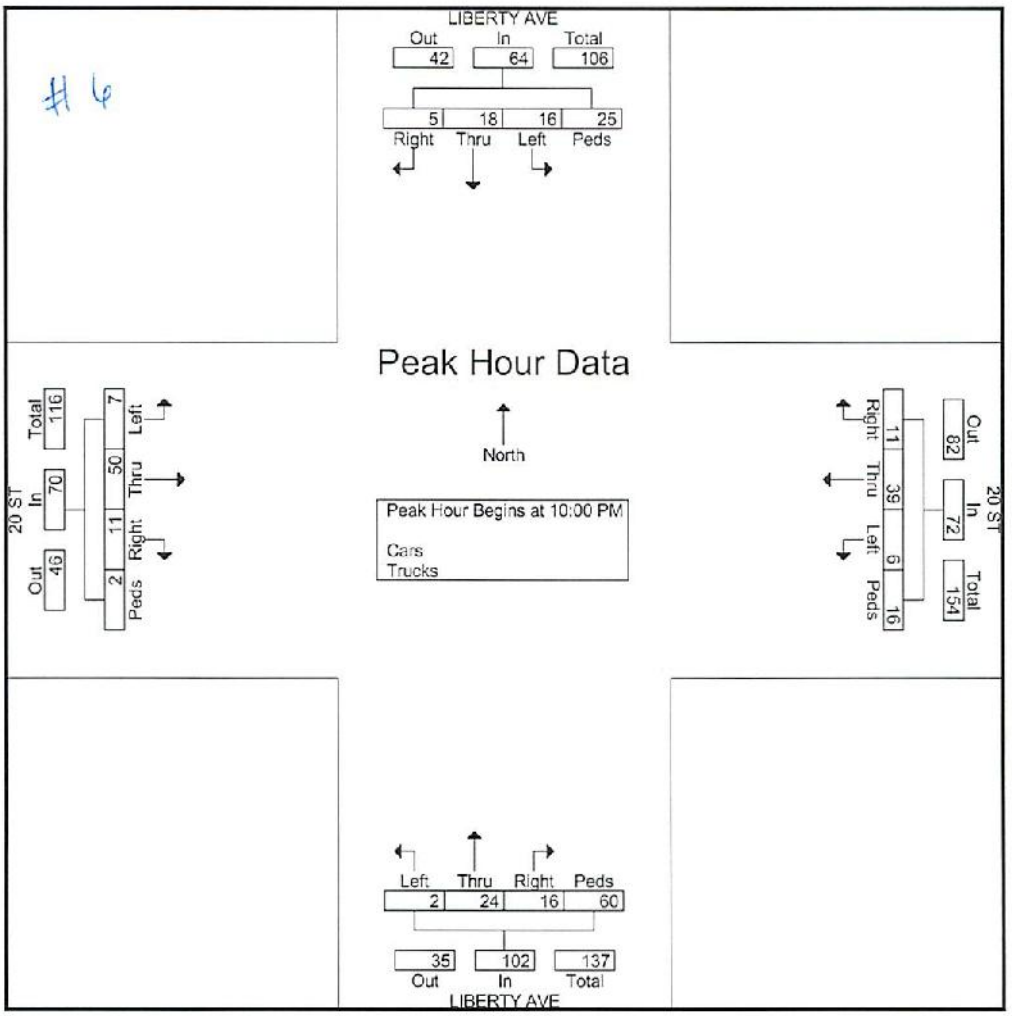
	LIBERTY AVE Southbound					20 ST Westbound					LIBERTY AVE Northbound					20 ST Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 PM to 11:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:00 PM																					
10:00 PM	1	5	1	9	16	**6**	**15**	0	3	**24**	**5**	**10**	0	17	**32**	2	**15**	0	**1**	18	**90**
10:15 PM	1	5	5	9	**20**	1	8	2	3	14	3	5	0	**24**	32	2	10	3	1	16	82
10:30 PM	**2**	**7**	**7**	**4**	20	3	**11**	**3**	**7**	**24**	4	2	**1**	11	18	**4**	**14**	**3**	0	**21**	**83**
10:45 PM	1	1	3	3	8	1	5	1	3	10	4	7	1	8	20	3	11	1	0	15	53
Total Volume	5	18	16	25	64	11	39	6	16	72	**16**	**24**	2	60	102	**11**	**50**	7	2	70	308
% App. Total	7.8	28.1	25	39.1		15.3	54.2	8.3	22.2		15.7	23.5	2	58.8		15.7	71.4	10	2.9		
PHF	.625	.643	.571	.694	.800	.458	.650	.500	.571	.750	.800	.600	.500	.625	.797	.688	.833	.583	.500	.833	.856



Appendix 6: Level of Service (LOS)

TABLE: A4

Level of Service (LOS) Summary - PM Peak Hour

Project Name: Park Hotel

Existing Condition (2018)			PM Peak (Weekday)				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.1	-	-	-
2	Washington Avenue & 20 Street	Traffic Signal	A	9.7	-	-	-
3	Park Avenue & 19 Street	Two-Way Stop	A	4.2	SB	A	9.3
4	Park Avenue & 20 Street	All-Way Stop	A	7.7	-	-	-
5	Liberty Avenue & 19 Street	Two-Way Stop	A	3.8	SB	A	9.2
6	Liberty Avenue & 20 Street	Two-Way Stop	A	6.9	EB	B	10.4
Future Condition (with Project Trips) (2020)			**PM Peak (Weekday)**				
Location		Intersection Control	Overall		Critical Approach TWSC		
			LOS	Delay (sec)	Approach	LOS	Delay (sec)
1	Washington Avenue & 19 Street	Traffic Signal	A	6.0	-	-	-
2	Washington Avenue & 20 Street	Traffic Signal	B	10.7	-	-	-
3	Park Avenue & 19 Street	Two-Way Stop	A	4.2	SB	A	9.7
4	Park Avenue & 20 Street	All-Way Stop	A	7.8	-	-	-
5	Liberty Avenue & 19 Street	Traffic Signal	A	4.2	SB	A	9.2
6	Liberty Avenue & 20 Street	Two-Way Stop	A	7.9	WB	B	11.1

Notes: * Critical Approach for TWSC.

Existing Condition - PM Peak Hour

Park Hotel

HCM Signalized Intersection Capacity Analysis
1: Washington Ave & 19 St

Park Hotel
Existing Condition - PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	50	28	467	18	25	158
Future Volume (vph)	50	28	467	18	25	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			0.99
Satd. Flow (prot)	1710		3517			3515
Flt Permitted	0.97		1.00			0.87
Satd. Flow (perm)	1710		3517			3085
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	29	492	19	26	166
RTOR Reduction (vph)	26	0	2	0	0	0
Lane Group Flow (vph)	56	0	509	0	0	192
Confl. Peds. (#/hr)		2		2	2	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	6.9		61.1			61.1
Effective Green, g (s)	6.9		61.1			61.1
Actuated g/C Ratio	0.09		0.76			0.76
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	2.5		1.0			1.0
Lane Grp Cap (vph)	147		2686			2356
v/s Ratio Prot	c0.03		c0.14			
v/s Ratio Perm						0.06
v/c Ratio	0.38		0.19			0.08
Uniform Delay, d1	34.5		2.6			2.4
Progression Factor	1.00		1.00			0.95
Incremental Delay, d2	1.2		0.2			0.1
Delay (s)	35.7		2.8			2.3
Level of Service	D		A			A
Approach Delay (s)	35.7		2.8			2.3
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

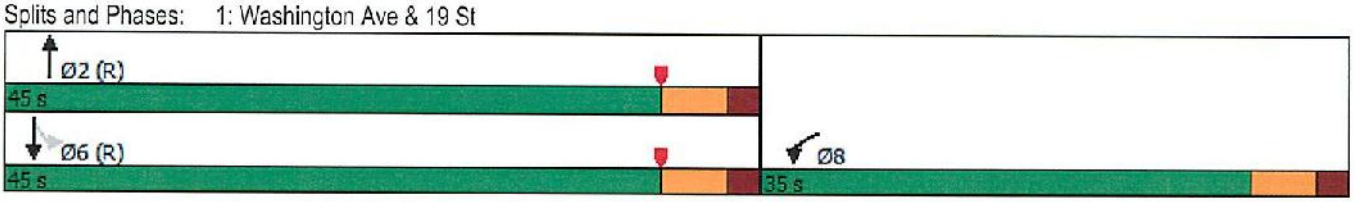
Timings
1: Washington Ave & 19 St

Park Hotel
Existing Condition - PM Peak Hour

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	50	467	25	158
Future Volume (vph)	50	467	25	158
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	7.0	16.0	16.0	16.0
Minimum Split (s)	35.0	24.0	24.0	24.0
Total Split (s)	35.0	45.0	45.0	45.0
Total Split (%)	43.8%	56.3%	56.3%	56.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	8.3	63.5		63.5
Actuated g/C Ratio	0.10	0.79		0.79
v/c Ratio	0.40	0.18		0.08
Control Delay	29.2	3.0		2.7
Queue Delay	0.0	0.0		0.0
Total Delay	29.2	3.0		2.7
LOS	C	A		A
Approach Delay	29.2	3.0		2.7
Approach LOS	C	A		A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 27 (34%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 5.7	Intersection LOS: A
Intersection Capacity Utilization 40.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Washington Ave & 19 St



Queues
1: Washington Ave & 19 St

Park Hotel
Existing Condition - PM Peak Hour

Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	82	511	192
v/c Ratio	0.40	0.18	0.08
Control Delay	29.2	3.0	2.7
Queue Delay	0.0	0.0	0.0
Total Delay	29.2	3.0	2.7
Queue Length 50th (ft)	25	28	10
Queue Length 95th (ft)	64	52	19
Internal Link Dist (ft)	41	262	492
Turn Bay Length (ft)			
Base Capacity (vph)	638	2792	2450
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.13	0.18	0.08

Intersection Summary

HCM 6th Signalized Intersection Summary
2: Washington Ave & 20 St

Park Hotel
Existing Condition - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	26	0	15	0	474	30	37	148	0
Future Volume (veh/h)	0	0	0	26	0	15	0	474	30	37	148	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	0	0	27	0	16	0	494	31	39	154	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	135	0	127	15	40	0	2620	164	410	1804	0
Arrive On Green	0.00	0.00	0.00	0.07	0.00	0.07	0.00	0.26	0.26	0.78	0.78	0.00
Sat Flow, veh/h	0	1856	0	735	208	559	0	3462	211	446	2405	0
Grp Volume(v), veh/h	0	0	0	43	0	0	0	258	267	94	99	0
Grp Sat Flow(s),veh/h/ln	0	1856	0	1501	0	0	0	1763	1818	1162	1604	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	0.0	0.0	9.1	9.2	0.5	1.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	9.1	9.2	9.7	1.2	0.0
Prop In Lane	0.00		0.00	0.63		0.37	0.00		0.12	0.41		0.00
Lane Grp Cap(c), veh/h	0	135	0	182	0	0	0	1371	1413	967	1247	0
V/C Ratio(X)	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.19	0.19	0.10	0.08	0.00
Avail Cap(c_a), veh/h	0	626	0	565	0	0	0	1371	1413	967	1247	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.99	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	35.3	0.0	0.0	0.0	10.0	10.0	2.4	2.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	3.2	3.3	0.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	35.8	0.0	0.0	0.0	10.3	10.3	2.6	2.2	0.0
LnGrp LOS	A	A	A	D	A	A	A	B	B	A	A	A
Approach Vol, veh/h		0			43			525			193	
Approach Delay, s/veh		0.0			35.8			10.3			2.4	
Approach LOS					D			B			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		68.2		11.8		68.2		11.8				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		41.0		27.0		41.0		27.0				
Max Q Clear Time (g_c+I1), s		11.2		0.0		11.7		4.0				
Green Ext Time (p_c), s		0.2		0.0		0.1		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.7
HCM 6th LOS	A

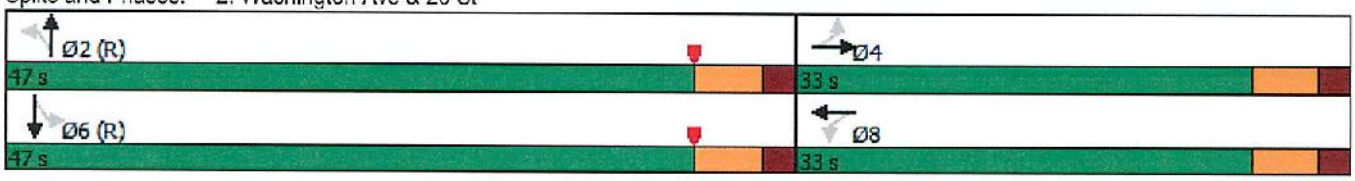
Timings
2: Washington Ave & 20 St

Park Hotel
Existing Condition - PM Peak Hour

Lane Group	WBL	WBT	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	26	0	474	37	148	
Future Volume (vph)	26	0	474	37	148	
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		8	2		6	4
Permitted Phases	8			6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	15.0	7.0
Minimum Split (s)	33.0	33.0	24.0	24.0	24.0	33.0
Total Split (s)	33.0	33.0	47.0	47.0	47.0	33.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	41%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	None
Act Effct Green (s)		7.2	68.4		68.4	
Actuated g/C Ratio		0.09	0.86		0.86	
v/c Ratio		0.26	0.18		0.08	
Control Delay		16.5	0.6		2.1	
Queue Delay		0.0	0.0		0.0	
Total Delay		16.5	0.6		2.1	
LOS		B	A		A	
Approach Delay		16.5	0.6		2.1	
Approach LOS		B	A		A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 42 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.26	
Intersection Signal Delay: 1.8	Intersection LOS: A
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Washington Ave & 20 St



Queues
2: Washington Ave & 20 St

Park Hotel
Existing Condition - PM Peak Hour

Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	43	525	193
v/c Ratio	0.26	0.18	0.08
Control Delay	16.5	0.6	2.1
Queue Delay	0.0	0.0	0.0
Total Delay	16.5	0.6	2.1
Queue Length 50th (ft)	1	5	10
Queue Length 95th (ft)	30	9	17
Internal Link Dist (ft)	262	492	315
Turn Bay Length (ft)			
Base Capacity (vph)	502	2971	2463
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.09	0.18	0.08

Intersection Summary

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⋔	
Traffic Vol, veh/h	9	46	39	17	40	37
Future Vol, veh/h	9	46	39	17	40	37
Conflicting Peds, #/hr	3	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	52	44	19	45	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	129	57
Stage 1	-	-	-	-	57	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1536	-	-	-	865	1009
Stage 1	-	-	-	-	966	-
Stage 2	-	-	-	-	951	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1532	-	-	-	854	1006
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	948	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1532	-	-	-	921
HCM Lane V/C Ratio	0.007	-	-	-	0.095
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	54	5	4	41	17	3	19	2	26	55	4
Future Vol, veh/h	6	54	5	4	41	17	3	19	2	26	55	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	60	6	4	46	19	3	21	2	29	61	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.5	7.5	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	9%	6%	31%
Vol Thru, %	79%	83%	66%	65%
Vol Right, %	8%	8%	27%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	65	62	85
LT Vol	3	6	4	26
Through Vol	19	54	41	55
RT Vol	2	5	17	4
Lane Flow Rate	27	72	69	94
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.084	0.078	0.111
Departure Headway (Hd)	4.243	4.187	4.066	4.248
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	830	844	869	834
Service Time	2.34	2.269	2.15	2.325
HCM Lane V/C Ratio	0.033	0.085	0.079	0.113
HCM Control Delay	7.5	7.7	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.4

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰↑	↑↱		⋔	
Traffic Vol, veh/h	29	40	31	30	18	34
Future Vol, veh/h	29	40	31	30	18	34
Conflicting Peds, #/hr	1	0	0	1	0	9
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	44	34	33	20	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	68	0	-	0	160	61
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1533	-	-	-	831	1004
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1532	-	-	-	812	994
Mov Cap-2 Maneuver	-	-	-	-	812	-
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	915	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1532	-	-	-	922
HCM Lane V/C Ratio	0.021	-	-	-	0.062
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	54	12	6	42	12	2	26	17	17	19	5
Future Vol, veh/h	7	54	12	6	42	12	2	26	17	17	19	5
Conflicting Peds, #/hr	25	0	60	60	0	25	2	0	16	16	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	63	14	7	49	14	2	30	20	20	22	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	168	137	87	224	130	81	30	0	0	66	0	0
Stage 1	67	67	-	60	60	-	-	-	-	-	-	-
Stage 2	101	70	-	164	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	796	754	971	732	761	979	1583	-	-	1536	-	-
Stage 1	943	839	-	951	845	-	-	-	-	-	-	-
Stage 2	905	837	-	838	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	718	731	914	619	737	941	1580	-	-	1513	-	-
Mov Cap-2 Maneuver	718	731	-	619	737	-	-	-	-	-	-	-
Stage 1	940	826	-	936	831	-	-	-	-	-	-	-
Stage 2	818	824	-	710	824	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.4	10.3	0.3	3.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1580	-	-	755	755	1513	-	-
HCM Lane V/C Ratio	0.001	-	-	0.112	0.092	0.013	-	-
HCM Control Delay (s)	7.3	0	-	10.4	10.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0.3	0	-	-

HPB18-0252

Future Condition - PM Peak Hour

Park Hotel

HCM Signalized Intersection Capacity Analysis
1: Washington Ave & 19 St

Park Hotel
Future Condition - PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	29	483	34	37	174
Future Volume (vph)	52	29	483	34	37	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0			6.0
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	1.00		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			0.99
Satd. Flow (prot)	1709		3499			3508
Flt Permitted	0.97		1.00			0.83
Satd. Flow (perm)	1709		3499			2935
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	55	31	508	36	39	183
RTOR Reduction (vph)	28	0	3	0	0	0
Lane Group Flow (vph)	58	0	541	0	0	222
Confl. Peds. (#/hr)		2		2	2	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	7.0		61.0			61.0
Effective Green, g (s)	7.0		61.0			61.0
Actuated g/C Ratio	0.09		0.76			0.76
Clearance Time (s)	6.0		6.0			6.0
Vehicle Extension (s)	2.5		1.0			1.0
Lane Grp Cap (vph)	149		2667			2237
v/s Ratio Prot	c0.03		c0.15			
v/s Ratio Perm						0.08
v/c Ratio	0.39		0.20			0.10
Uniform Delay, d1	34.5		2.7			2.4
Progression Factor	1.00		1.00			0.90
Incremental Delay, d2	1.2		0.2			0.1
Delay (s)	35.7		2.8			2.3
Level of Service	D		A			A
Approach Delay (s)	35.7		2.8			2.3
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

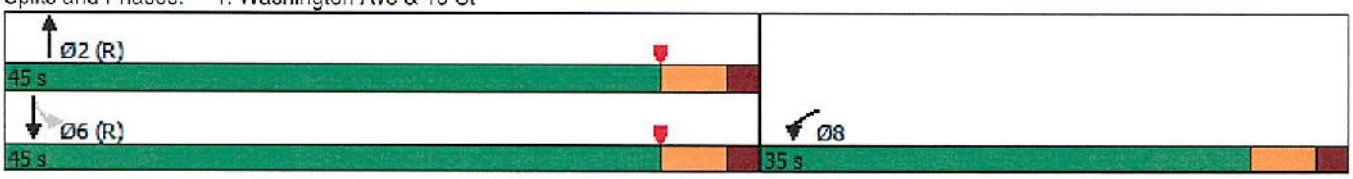
Timings
1: Washington Ave & 19 St

Park Hotel
Future Condition - PM Peak Hour

Lane Group	WBL	NBT	SBL	SBT
Lane Configurations				
Traffic Volume (vph)	52	483	37	174
Future Volume (vph)	52	483	37	174
Turn Type	Prot	NA	Perm	NA
Protected Phases	8	2		6
Permitted Phases			6	
Detector Phase	8	2	6	6
Switch Phase				
Minimum Initial (s)	7.0	16.0	16.0	16.0
Minimum Split (s)	35.0	24.0	24.0	24.0
Total Split (s)	35.0	45.0	45.0	45.0
Total Split (%)	43.8%	56.3%	56.3%	56.3%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0
Total Lost Time (s)	6.0	6.0		6.0
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	C-Min	C-Min	C-Min
Act Effct Green (s)	8.4	63.4		63.4
Actuated g/C Ratio	0.10	0.79		0.79
v/c Ratio	0.42	0.20		0.10
Control Delay	29.0	3.0		2.7
Queue Delay	0.0	0.0		0.0
Total Delay	29.0	3.0		2.7
LOS	C	A		A
Approach Delay	29.0	3.0		2.7
Approach LOS	C	A		A

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 27 (34%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 5.6	Intersection LOS: A
Intersection Capacity Utilization 48.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Washington Ave & 19 St



Lane Group	WBL	NBT	SBT
Lane Group Flow (vph)	86	544	222
v/c Ratio	0.42	0.20	0.10
Control Delay	29.0	3.0	2.7
Queue Delay	0.0	0.0	0.0
Total Delay	29.0	3.0	2.7
Queue Length 50th (ft)	26	31	11
Queue Length 95th (ft)	65	56	21
Internal Link Dist (ft)	41	262	492
Turn Bay Length (ft)			
Base Capacity (vph)	638	2776	2326
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.13	0.20	0.10

Intersection Summary

HCM 6th Signalized Intersection Summary
2: Washington Ave & 20 St

Park Hotel
Future Condition - PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Volume (veh/h)	0	0	0	37	0	24	0	491	31	39	165	0
Future Volume (veh/h)	0	0	0	37	0	24	0	491	31	39	165	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	0.99		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	0	0	0	39	0	25	0	511	32	41	172	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	0	156	0	135	14	49	0	2581	161	388	1794	0
Arrive On Green	0.00	0.00	0.00	0.08	0.00	0.08	0.00	0.25	0.25	0.77	0.77	0.00
Sat Flow, veh/h	0	1856	0	744	167	584	0	3463	211	424	2428	0
Grp Volume(v), veh/h	0	0	0	64	0	0	0	267	276	104	109	0
Grp Sat Flow(s),veh/h/ln	0	1856	0	1495	0	0	0	1763	1818	1163	1604	0
Q Serve(g_s), s	0.0	0.0	0.0	2.1	0.0	0.0	0.0	9.5	9.6	0.6	1.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	9.5	9.6	10.1	1.4	0.0
Prop In Lane	0.00		0.00	0.61		0.39	0.00		0.12	0.40		0.00
Lane Grp Cap(c), veh/h	0	156	0	198	0	0	0	1350	1392	954	1228	0
V/C Ratio(X)	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.20	0.20	0.11	0.09	0.00
Avail Cap(c_a), veh/h	0	626	0	566	0	0	0	1350	1392	954	1228	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.99	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	34.9	0.0	0.0	0.0	10.6	10.6	2.6	2.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.3	0.3	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	0.0	3.6	3.7	0.3	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	35.6	0.0	0.0	0.0	10.9	10.9	2.8	2.5	0.0
LnGrp LOS	A	A	A	D	A	A	A	B	B	A	A	A
Approach Vol, veh/h		0			64			543			213	
Approach Delay, s/veh		0.0			35.6			10.9			2.7	
Approach LOS					D			B			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	67.3	12.7	67.3	12.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	41.0	27.0	41.0	27.0
Max Q Clear Time (g_c+I1), s	11.6	0.0	12.1	5.2
Green Ext Time (p_c), s	0.3	0.0	0.1	0.1

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

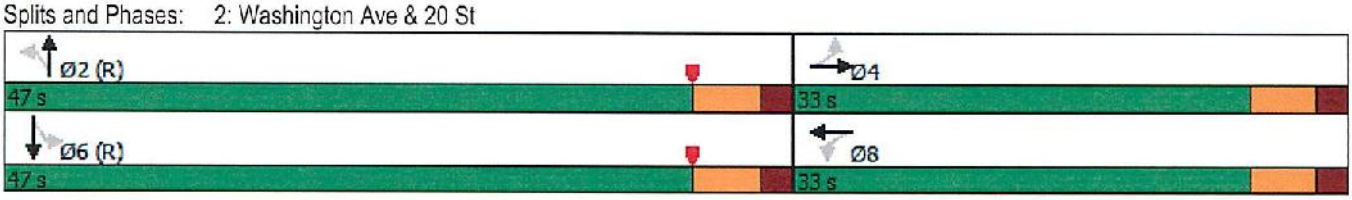
Timings
2: Washington Ave & 20 St

Park Hotel
Future Condition - PM Peak Hour

Lane Group	WBL	WBT	NBT	SBL	SBT	Ø4
Lane Configurations						
Traffic Volume (vph)	37	0	491	39	165	
Future Volume (vph)	37	0	491	39	165	
Turn Type	Perm	NA	NA	Perm	NA	
Protected Phases		8	2		6	4
Permitted Phases	8			6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	15.0	15.0	15.0	7.0
Minimum Split (s)	33.0	33.0	24.0	24.0	24.0	33.0
Total Split (s)	33.0	33.0	47.0	47.0	47.0	33.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	41%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0	
Total Lost Time (s)		6.0	6.0		6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Min	C-Min	C-Min	None
Act Effct Green (s)		7.7	64.1		64.1	
Actuated g/C Ratio		0.10	0.80		0.80	
v/c Ratio		0.37	0.20		0.09	
Control Delay		23.0	0.8		2.7	
Queue Delay		0.0	0.0		0.0	
Total Delay		23.0	0.8		2.7	
LOS		C	A		A	
Approach Delay		23.0	0.8		2.7	
Approach LOS		C	A		A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 42 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.37	
Intersection Signal Delay: 3.0	Intersection LOS: A
Intersection Capacity Utilization 49.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Washington Ave & 20 St



Queues
2: Washington Ave & 20 St

Park Hotel
Future Condition - PM Peak Hour

Lane Group	WBT	NBT	SBT
Lane Group Flow (vph)	64	543	213
v/c Ratio	0.37	0.20	0.09
Control Delay	23.0	0.8	2.7
Queue Delay	0.0	0.0	0.0
Total Delay	23.0	0.8	2.7
Queue Length 50th (ft)	11	6	11
Queue Length 95th (ft)	46	10	22
Internal Link Dist (ft)	262	492	315
Turn Bay Length (ft)			
Base Capacity (vph)	503	2783	2298
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.13	0.20	0.09

Intersection Summary

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⋔	
Traffic Vol, veh/h	36	48	40	44	41	39
Future Vol, veh/h	36	48	40	44	41	39
Conflicting Peds, #/hr	3	0	0	3	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	55	45	50	47	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	98	0	-	0	210	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	137	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1495	-	-	-	778	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1491	-	-	-	752	986
Mov Cap-2 Maneuver	-	-	-	-	752	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	887	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1491	-	-	-	850
HCM Lane V/C Ratio	0.027	-	-	-	0.107
HCM Control Delay (s)	7.5	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	55	6	4	42	18	21	20	34	27	56	4
Future Vol, veh/h	7	55	6	4	42	18	21	20	34	27	56	4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	8	61	7	4	47	20	23	22	38	30	62	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.7	7.6	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	10%	6%	31%
Vol Thru, %	27%	81%	66%	64%
Vol Right, %	45%	9%	28%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	68	64	87
LT Vol	21	7	4	27
Through Vol	20	55	42	56
RT Vol	34	6	18	4
Lane Flow Rate	83	76	71	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.092	0.085	0.119
Departure Headway (Hd)	4.172	4.399	4.282	4.416
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	817	839	817
Service Time	2.185	2.414	2.296	2.416
HCM Lane V/C Ratio	0.096	0.093	0.085	0.119
HCM Control Delay	7.6	7.9	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.3	0.4

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		⋎	
Traffic Vol, veh/h	30	41	38	31	19	55
Future Vol, veh/h	30	41	38	31	19	55
Conflicting Peds, #/hr	1	0	0	1	0	9
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	45	42	34	21	60

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	77	0	-	0	171	69
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1522	-	-	-	819	994
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	914	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1521	-	-	-	799	985
Mov Cap-2 Maneuver	-	-	-	-	799	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1521	-	-	-	929
HCM Lane V/C Ratio	0.022	-	-	-	0.088
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	87	12	27	43	12	2	27	18	18	20	6
Future Vol, veh/h	8	87	12	27	43	12	2	27	18	18	20	6
Conflicting Peds, #/hr	25	0	60	60	0	25	2	0	16	16	0	2
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	101	14	31	50	14	2	31	21	21	23	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	174	143	89	248	136	83	32	0	0	68	0	0
Stage 1	71	71	-	62	62	-	-	-	-	-	-	-
Stage 2	103	72	-	186	74	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	789	748	969	706	755	976	1580	-	-	1533	-	-
Stage 1	939	836	-	949	843	-	-	-	-	-	-	-
Stage 2	903	835	-	816	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	709	724	912	570	731	938	1577	-	-	1510	-	-
Mov Cap-2 Maneuver	709	724	-	570	731	-	-	-	-	-	-	-
Stage 1	936	823	-	934	830	-	-	-	-	-	-	-
Stage 2	815	822	-	655	820	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.8	11.1	0.3	3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1577	-	-	740	689	1510	-	-
HCM Lane V/C Ratio	0.001	-	-	0.168	0.138	0.014	-	-
HCM Control Delay (s)	7.3	0	-	10.8	11.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0	-	-

Appendix 7: Valet Operations

Table: A5

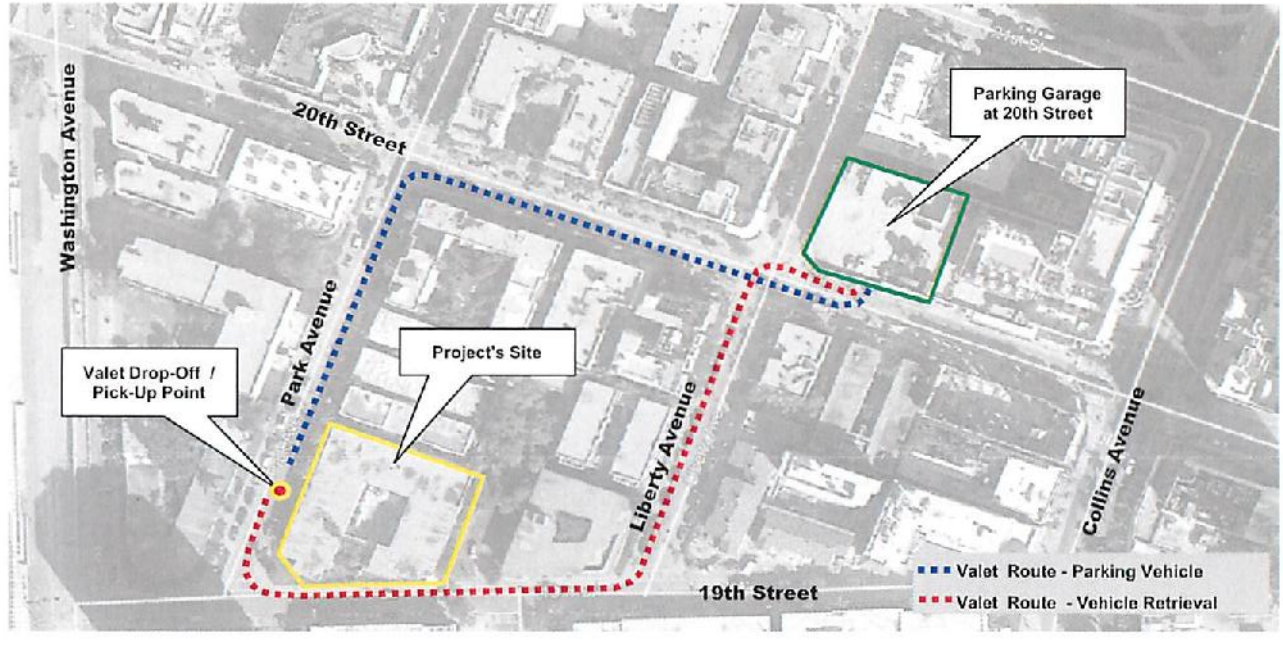
Park Hotel

Valet Queuing

Statistical Queuing Analysis - Summary

(M/M/1 Model)				
Valet Services				
PM Peak	Valet Operation	Valet Trips	Average Queue Length (veh)	Probability Vehicle (n) being less than Maximum of 2 Vehicles Queuing
Weekday	Drop-Off	28	0.25	94.1%
	Pick-Up	20	0.11	97.9%

Estimated Service Rate	
Drop-Off Vehicle / Parking	Time (s)
	PM Peak
Drop-Off Veh. / Get Ticket	40
Travel N Park Ave	5
Delay NBR 20 St	7.6
Travel E on 20 St	5
EBT delay at Liberty Ave	10.8
EBL at Parking Garage Driveway	5
Delay To Park Vehicle	15
Back to Service Station	60
Total	**148.4**
Pick-Up Vehicle / Retrieval	Time (s)
	PM Peak
Attendant: Service Station to Parking	60
Drive-out parking slot & site	15
Delay WBL Liberty Ave	11.1
Travel S on Liberty Ave	5
Delay SBR on 19 St	9.2
Travel W on 19 St	5
Delay WBR Park Ave	0.0
Pick-up processing	40.0
Total	**145.3**



Park Hotel

Valet Queuing Analysis - Drop-Off Area (WEEKDAY)

PM Peak (Drop-Off Vehicle) - Statistical Queuing Analysis (M/M/1 Model)

N= 1 (number of lanes)	Eqn:	3.00		
Arrival Rate: λ	λ	0.47	vehicles/minute	28 veh/hour
Service Rate: μ	μ	1.20	vehicles/minute	150 seconds/veh
Utilization Factor: ρ=λ/μ	ρ=λ/μ	0.39		
Average Queue length: Qbar	E(m)=λ^2/μ(μ-λ)	**0.25**		
Average Time in Queue: Wbar	E(w)=λ/μ(μ-λ)	0.53		
Average Time in System: Tbar	ρ+E(w)	0.92		
Probability of Veh in System: Po=	Po=P(n)=ρ^n(1-ρ)	0.61		
Average # in System: L=	E(n)=λ/(μ-λ)	0.64		
Average # in Queu: Lq=	E(m)=λ^2/μ(μ-λ)	0.25		
Expected Wait Time in System: W=	E(v)=1/(μ-λ)	1.36		
Expected Wait Time in Queue: Wq=	E(w)=λ/μ(μ-λ)	0.53		

Probability of Vehicle (n) in system:	n	exactly n	less than n	greater than n
	0	61.1%	61.1%	38.9%
	1	23.8%	84.9%	15.1%
Maximum of 2 Vehicles Queuing	2	9.2%	94.1%	5.9%

Park Hotel

Valet Queuing Analysis - Drop-Off Area (WEEKDAY)

PM Peak (Pick-Up Vehicle) - Statistical Queuing Analysis (M/M/1 Model)

N= 1 (number of lanes)	Eqn:	3.00		
Arrival Rate: λ	λ	0.33	vehicles/minute	20 veh/hour
Service Rate: μ	μ	1.20	vehicles/minute	150 seconds/veh
Utilization Factor: ρ=λ/μ	ρ=λ/μ	0.28		
Average Queue length: Qbar	E(m)=λ^2/μ(μ-λ)	**0.11**		
Average Time in Queue: Wbar	E(w)=λ/μ(μ-λ)	0.32		
Average Time in System: Tbar	ρ+E(w)	0.60		
Probability of Veh in System: Po=	Po=P(n)=ρ^n(1-ρ)	0.72		
Average # in System: L=	E(n)=λ/(μ-λ)	0.38		
Average # in Queu: Lq=	E(m)=λ^2/μ(μ-λ)	0.11		
Expected Wait Time in System: W=	E(v)=1/(μ-λ)	1.15		
Expected Wait Time in Queue: Wq=	E(w)=λ/μ(μ-λ)	0.32		

Probability of Vehicle (n) in system:	n	exactly n	less than n	greater than n
	0	72.2%	72.2%	27.8%
	1	20.1%	92.3%	7.7%
Maximum of 2 Vehicles Queuing	2	5.6%	97.9%	2.1%

Appendix 8: Site Plan & Transportation Demand Management Plan

HPB18-0252

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AR-0007972

SCHEMATIC PHASE

Date	12/18/2018
Scale	AS SHOWN
Project No.	1822
Sheet Name	SITE PLAN GROUND
Sheet No.	A-006

December 21st, 2018

Transportation Demand Management Plan

Park Hotel, LLC recognizes the need to minimize the single occupant Auto-Trip-Based mode of transportation in Miami Beach. As such, we will promote the use of various alternative modes available to this site and encourage both Management and Staff towards the City's effort to alleviate traffic congestion.

With said objective in mind, we will implement the following TDM Program:

- Designate EDEL LIMA as the Employee Transportation Coordinator, under which responsibility he will provide all Staff with available information on ridesharing and biking alternatives to commute to/from the workplace. Additionally, he will coordinate the implementation of a car pooling program between employees.
- Bike Racks: the company will provide a 16 units bike rack for the use of the Managers and/or Employees that decide to use this alternative transportation.
- Employees Lockers & Bathroom facility will be provided for this same objective.
- Bicycles: The company will provide non-interest bearing loans to all Employees towards the purchase of a bicycle, with an individual cap of $100
- Carpooling: The company will provide a 50% for those Employees that Carpool on their commute to/from the workplace (2+ employees per car).
- Communication: The Park Hotel will showcase all "ridesharing" services, such as Uber, Lyft, Car2Go in its corporate communication, including its web page, social media, brochures and Front Desk banners.
- Telecommuting: Park Hotel, LLC will allow Management to work from home one or more days a week when operations allow to do so.

The Park Hotel will employ around 15 to 20 full time & part time Employees on a 5 daily Shifts basis.

Signature 

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