



SUNSET PARK

1759 Purdy Avenue

Miami Beach, Florida 33139

prepared for:

Deco Capital Group, LLC

traffic study

TRAFTECH
ENGINEERING, INC.

August 22, 2018

August 22, 2018

Mr. Bradley W. Colmer
Managing Principal
Deco Capital Group, LLC
119 Washington Avenue, Suite 505
Miami Beach, Florida 33139

**Re: Sunset Park - Traffic Engineering Study
Miami Beach, Florida**

Dear Bradley:

Traf Tech Engineering, Inc. is pleased to provide you with the results of the traffic study undertaken for the proposed Sunset Park project planned to be located at 1759 Purdy Avenue in Miami Beach, Florida. The revised study addresses the traffic impacts created by the proposed project to the surrounding street system.

It has been a pleasure working with Deco Capital Group, LLC on this project.

Sincerely,

TRAF TECH ENGINEERING, INC.

Joaquin E. Vargas, P.E.
Senior Transportation Engineer



August 22, 2018

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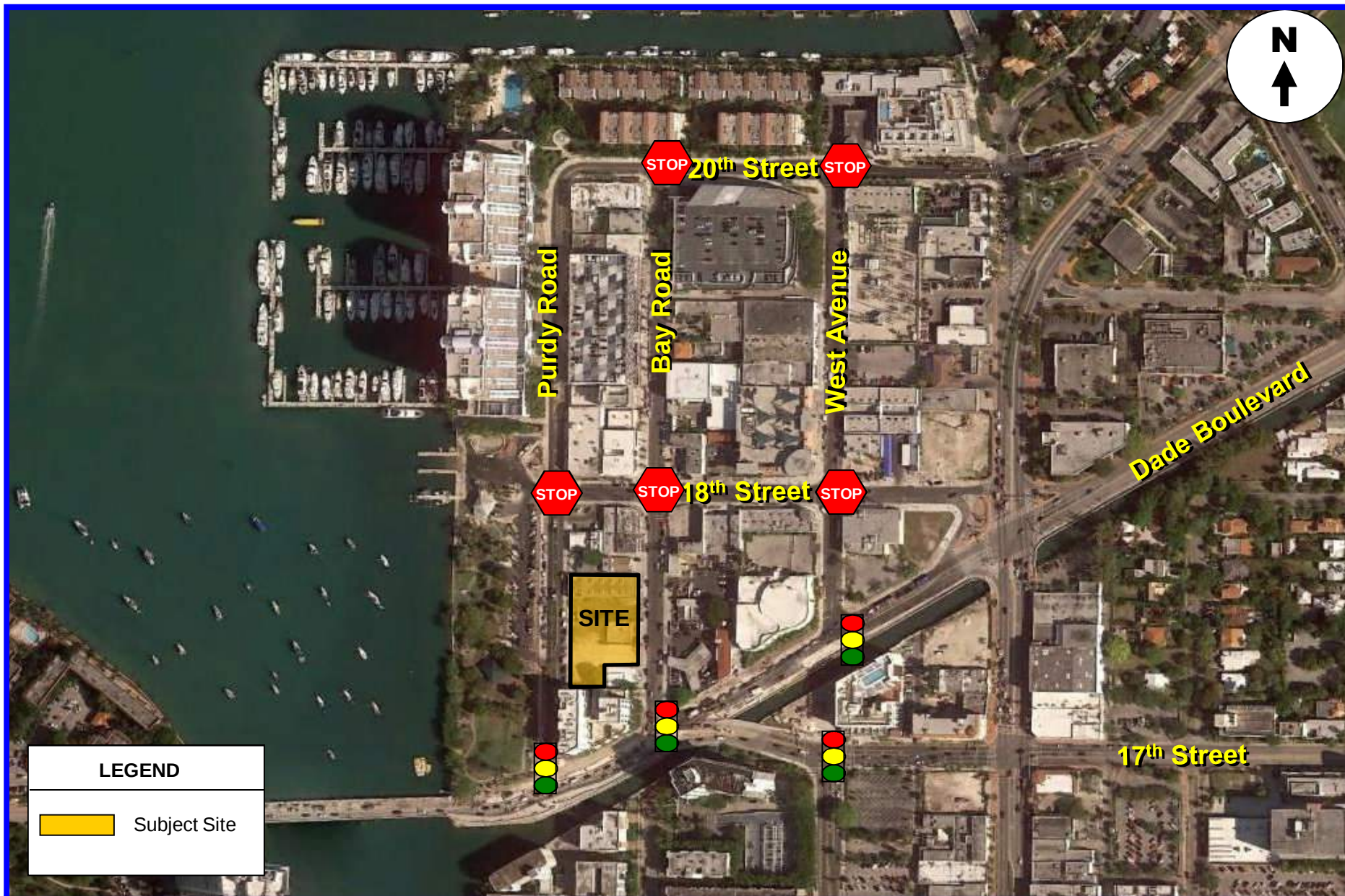
INTRODUCTION

Sunset Park is a proposed mixed-use development, including retail and residential units planned to be located at 1759 Purdy Avenue in the City of Miami Beach in Miami-Dade County, Florida. The location of the project site is illustrated in Figure 1 on the following page.

Traf Tech Engineering, Inc. was retained by Deco Capital Group, LLC to conduct a traffic study¹ in connection with the proposed development. The study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network. This study is divided into seven (7) sections, as listed below:

1. Inventory
2. Existing Conditions
3. Traffic Counts
4. Trip Generation
5. Trip Distribution and Traffic Assignment
6. Traffic Impact Analysis
7. Conclusions and Recommendations

¹ The traffic methodology was discussed and agreed with the City of Miami Beach staff and is included in Appendix A



INVENTORY

Existing Land Use

The project site is currently primarily vacant.

Proposed Land Use and Access

Proposed for the site is an approximately 19,988 square-foot commercial building plus 12 residential units (ownership) with a parking structure on site. The commercial space includes approximately 18,015 square feet of retail/restaurants/cafe tenants plus approximately 1,973 square feet of back-of-house for a total area of approximately 19,988 square feet of gross area. The proposed access to the parking structure will be off of Bay Road. An internal pedestrian/vehicular connection linking Purdy Avenue and Bay Road is proposed within the site (Project Breezeway). Only residents will be permitted to self-park. Only residents will also have access to the private valet located within the project breezeway. Even though residents will be permitted to self-park, it was assumed that 100% of the residential trips will use the valet service located along the breezeway. All commercial users, patrons, employees, and residential guests will be required to valet. The valet service for the commercial users, patrons, employees and residential guests will be located curbside on Purdy Avenue.

Appendix B contains a copy of the proposed site plan for the project. The maneuverability of trucks at the 18'6"-wide loading dock/trash area off of Bay Road has been undertaken by the architect and is also included in Appendix B. For purposes of this traffic study, the project is anticipated to be built and occupied in the year 2020.

EXISTING CONDITIONS

This section addresses the existing roadway system located in the vicinity of the project site and nearby intersections.

Roadway System

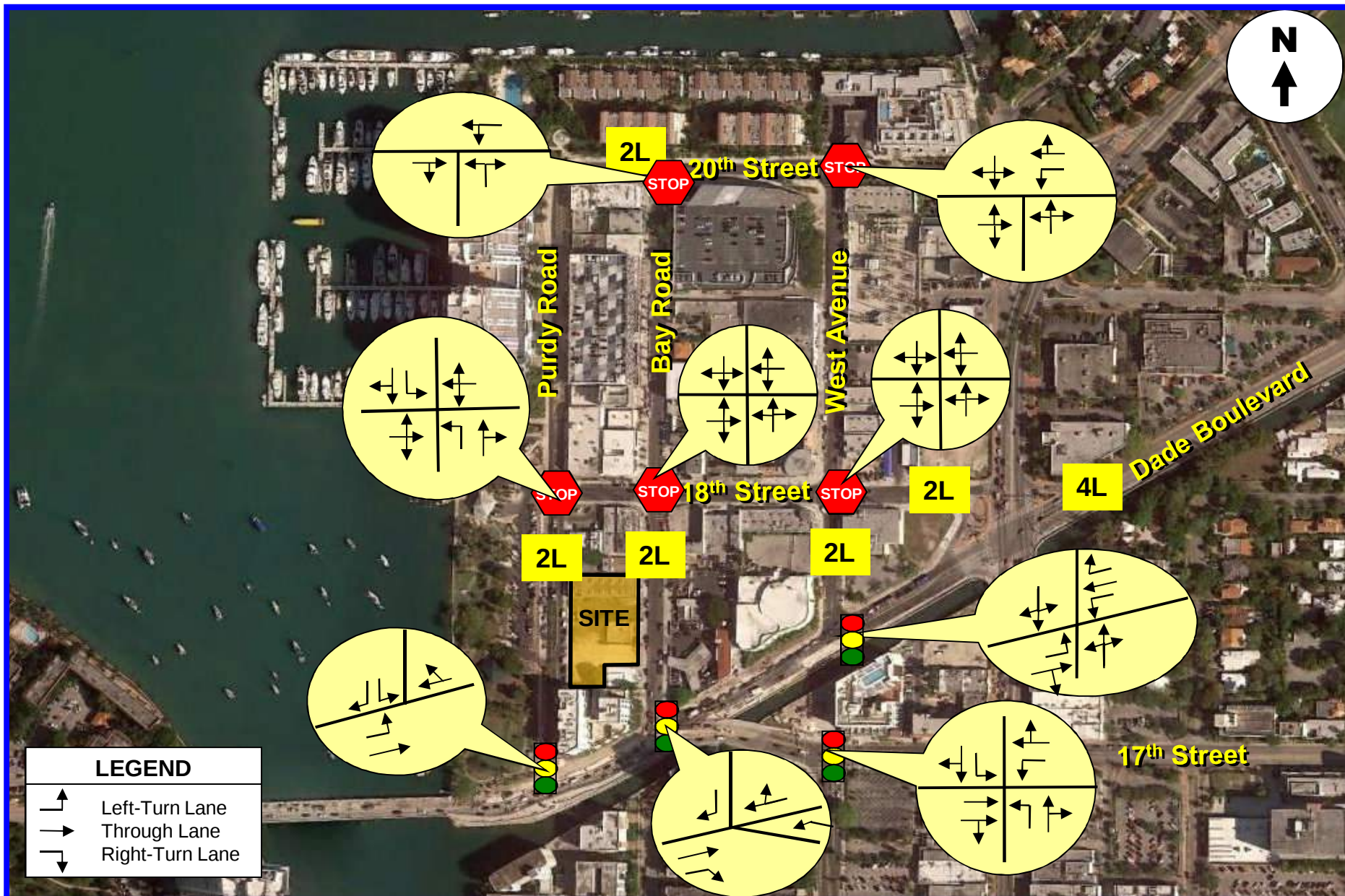
The roadway system located near the project site includes Dade Boulevard, 17th Street, West Avenue, Bay Road, Purdy Avenue, 18th Street, and 20th Street. Dade Boulevard is a 4-lane facility while 17th Street, West Avenue, Bay Road, Purdy Avenue, 18th Street and 20th Street are generally 2-lane local streets.

Nearby Intersections

With the assistance of City of Miami Beach staff, nine intersections (were identified as the locations that will be impacted the most by the proposed project. These intersections include:

1. Dade Boulevard and Purdy Avenue (signalized)
2. Dade Boulevard and Bay Road (signalized)
3. Dade Boulevard and West Avenue (stop controlled)
4. 17th Street and West Avenue (signalized)
5. 18th Street and West Avenue
6. 18th Street and Bay Road
7. 18th Street and Purdy Avenue
8. 20th Street and West Avenue
9. 20th Street and Bay Road (stop controlled)

Figure 2 shows the existing lane geometry of the study intersections selected for analysis purposes. The number of lanes on the street system surrounding the project site is also depicted in the figure.



TRAFFIC COUNTS

Traf Tech Engineering, Inc., in association with Traffic Survey Specialists, Inc., collected intersection turning movement counts at the following nine (9) intersections located within the study area:

- Dade Boulevard and Purdy Avenue (signalized)
- Dade Boulevard and Bay Road (signalized)
- Dade Boulevard and West Avenue (stop controlled)
- 17th Street and West Avenue (signalized)
- 18th Street and West Avenue
- 18th Street and Bay Road
- 18th Street and Purdy Avenue
- 20th Street and West Avenue
- 20th Street and Bay Road

The intersection turning movement counts were collected on Friday, December 15, 2017 . The intersection turning movement counts were recorded during the afternoon (4:30 PM to 7:00 PM) peak period. At the intersection of 20th Street and Bay Road, 12-hour turning movement counts were collected on March 9, 2018 from 9 AM to 9 PM.

Figure 3 summarizes the results of the intersection turning movement counts. Appendix C contains the intersection turning movement counts, as collected in the field. The signal timing plans were obtained from the Miami-Dade County's ftp site and are also contained in Appendix C.

TRIP GENERATION

The trip generation for the project was based on information contained in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual* (10th Edition). According to the subject ITE manual, the most appropriate "land use" categories for the proposed land uses includes: Land Use 820 – Shopping Center and Land Use 220 – Multifamily Housing. Even though the commercial space includes retail, restaurants and café area, the entire commercial square footage was treated as shopping center for a conservative approach (shopping center rate results in more trips for the restaurant space and does not assume internal trips between restaurants and retail uses). Table 1 summarizes the trips associated with the proposed development.

TABLE 1 Trip Generation Summary (Proposed Uses) Sunset Harbour					
Land Use	Size	Daily Trips	PM Peak Hour		
			Total Trips	Inbound	Outbound
Retail/Restaurant/Cafe (LUC 820)	19,988 sf	2,012	165	79	86
Residential (LUC 220)	12 units	50	9	6	3
Gross Trips		2,061	174	85	89
Internalization (5%)		-103	-9	-4	-5
Multimodal Trip Reduction (20%)		-392	-33	-16	-17
Driveway Trips		1,567	132	65	68
Pass-by (Retail -34%)		-513	-41	-21	-20
Net New Trips		1,054	92	44	48
<i>Source: ITE Trip Generation Manual (10th Edition)</i>					

As indicated in Table 1, the new trips anticipated to be generated by the proposed development consist of approximately 1,054 daily trips and approximately 92 trips during the weekday PM peak hour (44 inbound and 48 outbound).

The trip generation rates/equations used to determine the trips associated with the proposed land uses are presented below:

ITE Land Use 820 – Shopping Center

Weekday Daily Trip Generation

$$\ln T = 0.68 \ln (X) + 5.57$$

Where T = number of weekday daily trips and
X = 1,000 Sq. feet of gross leasable area

Weekday PM Peak Hour of Adjacent Street

$$\ln T = 0.74 \ln (X) + 2.89 \text{ (48\% inbound and 52\% outbound)}$$

Where T = number of weekday peak hour trips and
X = 1,000 Sq. feet of gross leasable area

ITE Land Use 220 – Multifamily Housing

Weekday Daily Trip Generation

$$T = 7.56 (X) - 40.86$$

Where T = number of weekday daily trips and
X = number of dwelling units

Weekday PM Peak Hour of Adjacent Street

$$\ln T = 0.89 \ln (X) - 0.02 \text{ (63\% inbound and 37\% outbound)}$$

Where T = number of weekday peak hour trips and
X = number of dwelling units

TRIP DISTRUBUTION AND TRAFFIC ASSIGNMENT

The trip distribution and traffic assignment for the project were based on Miami-Dade County's Cardinal Distribution information for the study area. Table 2 summarizes the County's cardinal distribution data for Traffic Analysis Zone 639, which is applicable to the project site from the latest SERPM data published by Miami-Dade County.

TABLE 2		
Project Trip Distribution		
Sunset Park		
Direction		% of Total Trips
North:	Northwest	9.8
	Northeast	15.2
South:	Southwest	2.3
	Southeast	19.6
East:	Northeast	5.8
	Southeast	3.5
West:	Northwest	17.0
	Southwest	26.8
Total		100.00%

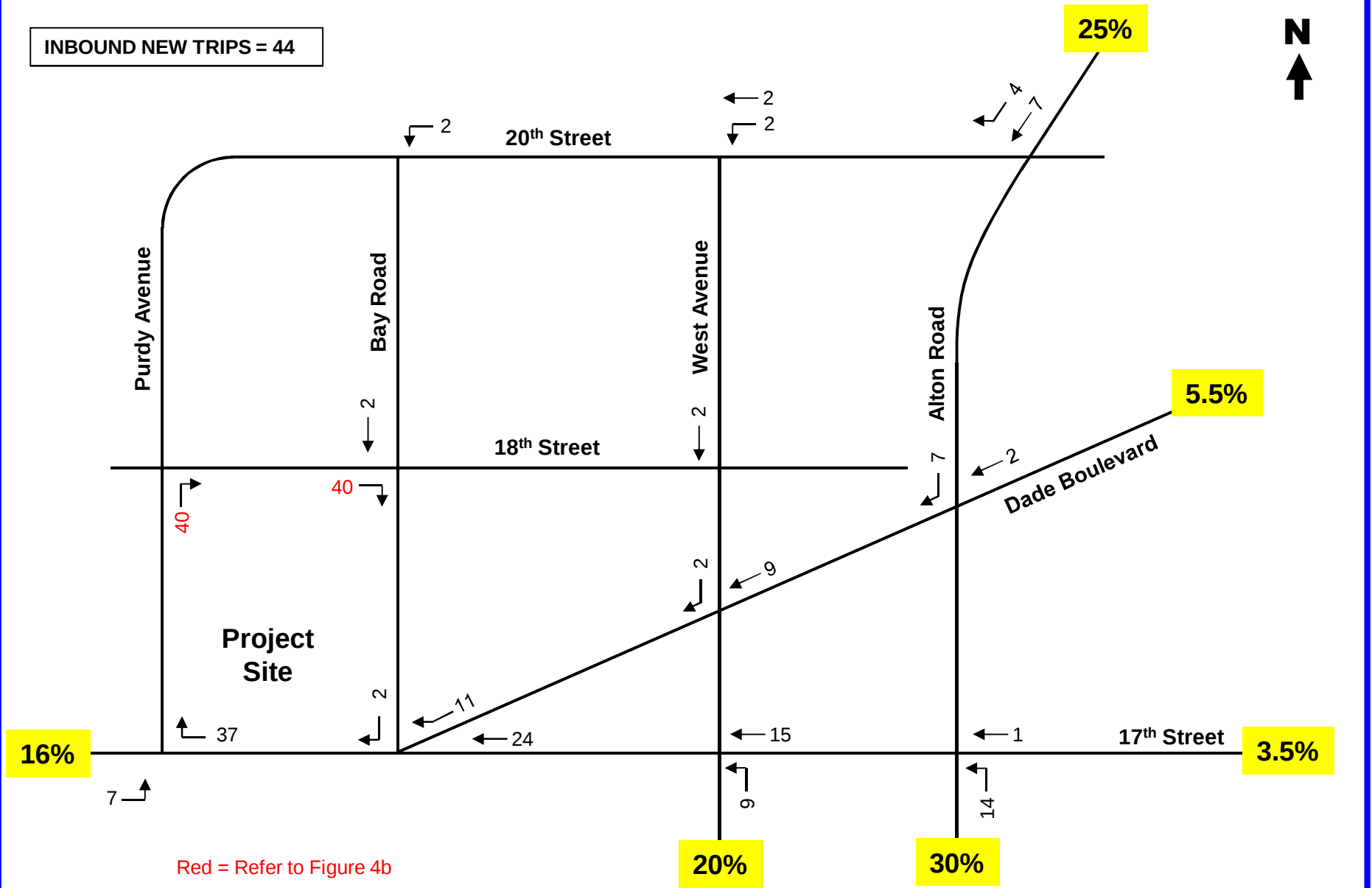
Source: Miami-Dade County. LEGEND: 2040

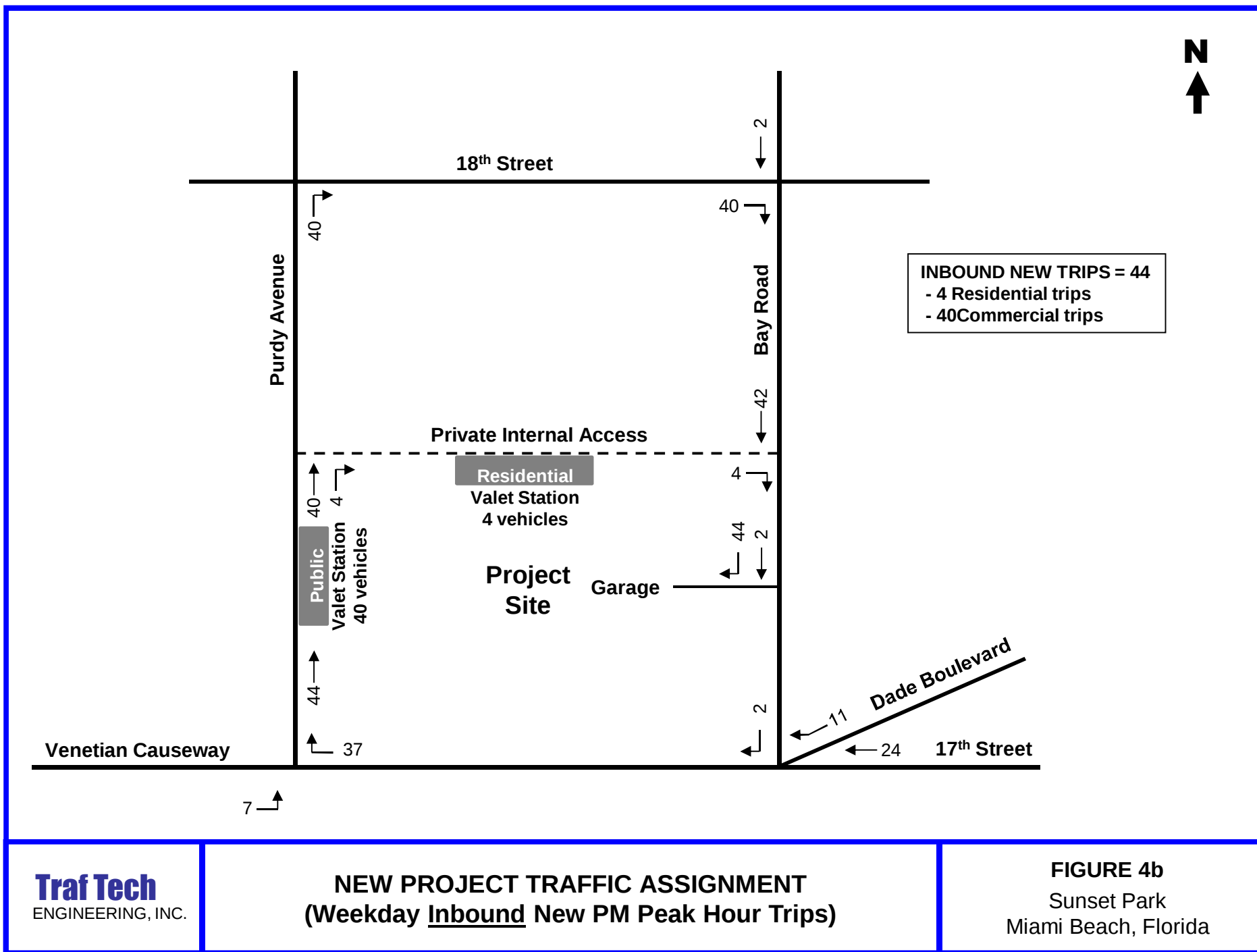
Based on the above, the following traffic assignment was assumed for the proposed development:

- o 16% to and from the west via Dade Boulevard
- o 30% to and from the west via MacArthur Causeway – These trips were assigned to Alton Road (all inbound trips) and to West Avenue (all outbound trips)
- o 5.5% to and from the east via Dade Boulevard
- o 3.5% to and from the east via 17 Street
- o 25% to and from the north via Alton Road – Approximately 10% of the inbound trips were assigned to 20th Street to access the site via West Avenue and Bay Road. The remaining 15% were assumed to continue south on Alton Road to access the site via Dade Boulevard. All exiting trips heading north to Alton Road were assigned to 20th Street via Purdy Avenue due to the location of the pick-up valet station on Purdy Avenue.
- o 20% to and from the south via West Avenue

The new peak hour traffic generated by the project was assigned to the nearby transportation network using the traffic assignment documented above. The new project traffic assignment is summarized in Figures 4a through 4e.

INBOUND NEW TRIPS = 44



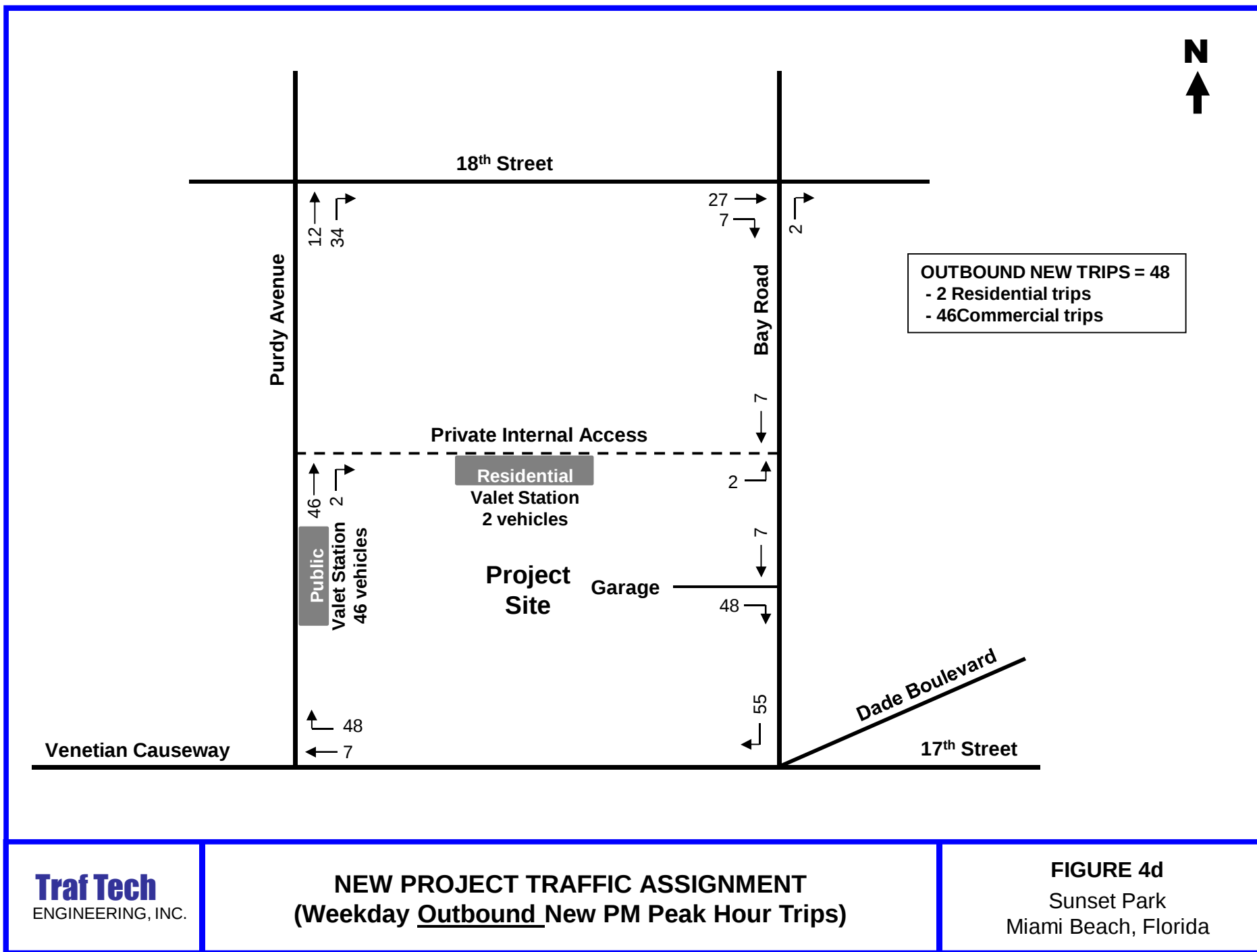


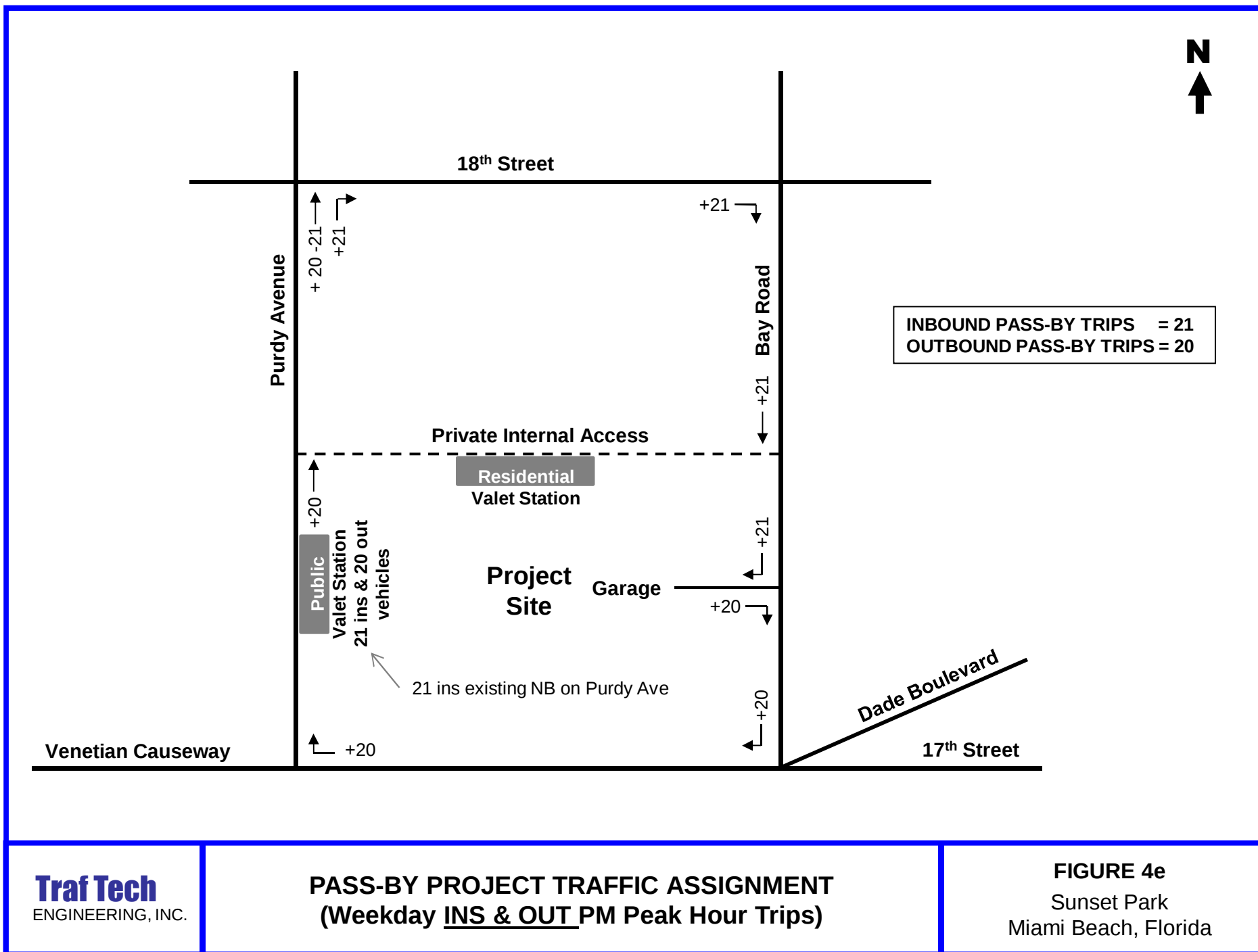
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FIGURE 4c
Sunset Park
Miami Beach, Florida

FIGURE 4c
Sunset Park
Miami Beach, Florida





TRAFFIC ANALYSIS

This section of the study is divided into three parts. The first part consists of developing the future conditions traffic volumes for the study area. The second part includes level-of-service analyses for existing and future conditions. The final section focusses on valet parking.

Future Conditions Traffic Volumes

Two sets of future traffic volumes were developed. The first set includes project buildout conditions without the proposed project and the second set adds the new trips anticipated to be generated by the project.

In order to develop year 2020 traffic volumes (project anticipated to be built and occupied by the year 2020), without the proposed project, two separate analyses were undertaken. The first analysis converts the existing peak hour traffic counts collected in the field during the month of December to average peak season conditions. Based on FDOT's Peak Season Factor Category report, 1.04 and 1.0 factors are required to convert traffic counts collected in second week of December and first week of March to average peak season conditions (refer to Appendix D). The second analysis includes a growth factor to project 2017 peak season traffic volumes to the year 2020. Based on traffic growth data published by the FDOT for a nearby traffic count stations, minimal/negligible traffic growth has occurred during the past five years (refer to Appendix D). However, in order to assess impacts with a conservative approach, and to account for unforeseen approved project (committed trips) that may impact the study intersections, a one percent (1%) growth rate was used for purposes of this study. Additionally, trips associated with the approved 1901 Alton, Trader Joes, 1747 Bay Road Development, and 1750 Alton were added as committed developments.

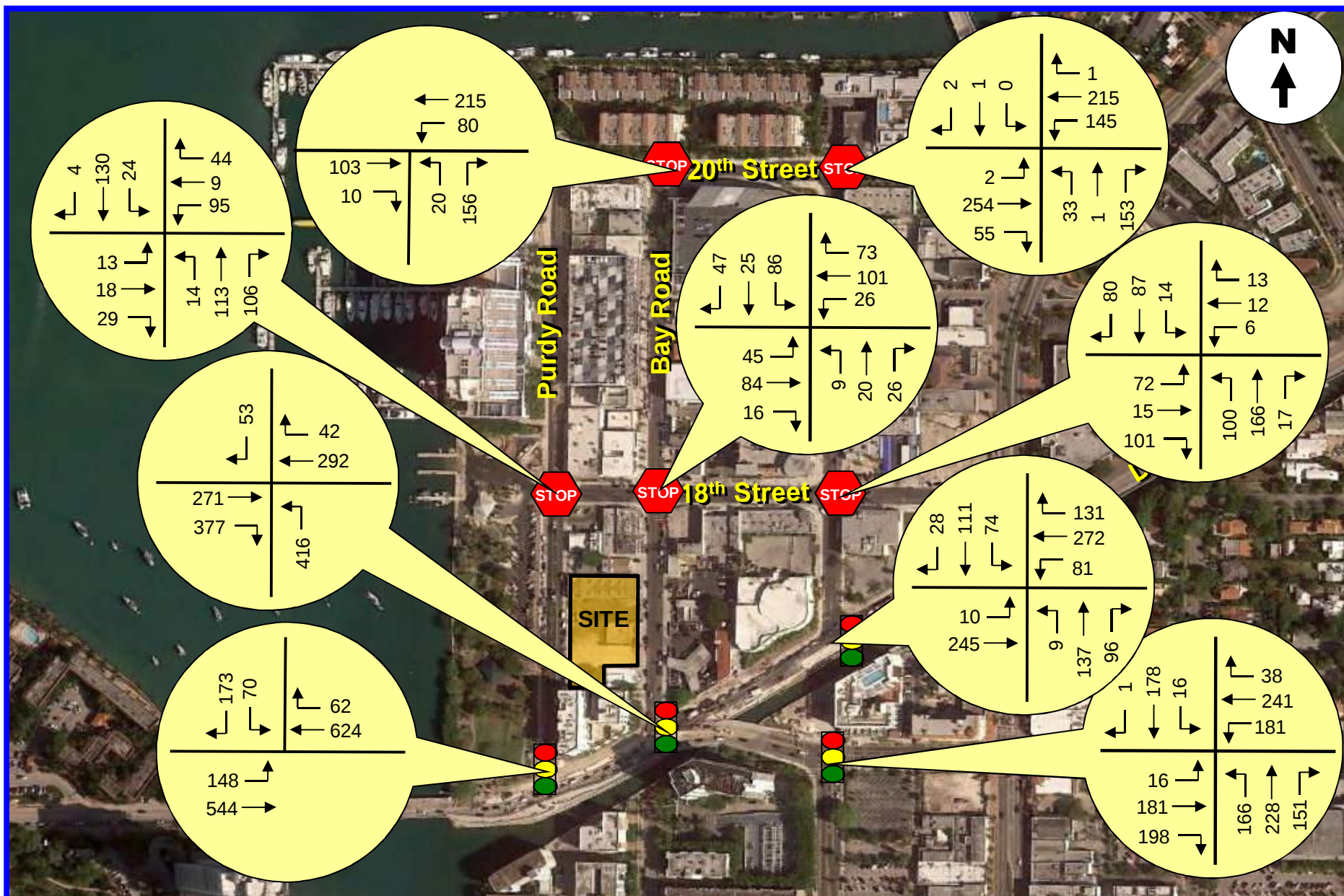
The new trips generated by the Sunset Park (refer to Figure 4) were added to the 2020 background traffic in order to develop total traffic conditions. The future traffic projections for the study intersections (peak season adjustments, traffic growth rates, committed developments and project traffic) are presented in tabular format in Appendix E. Figures 5 and 6 present the year 2020 future traffic volumes for the study area.

Figure 5 includes background traffic only (without the proposed project) and Figure 6 includes the additional traffic anticipated to be generated by the Sunset Park project.

Level of Service Analyses

Intersection capacity/level of service analyses were conducted for the eight study intersections. The analyses were undertaken following the capacity/level of service procedures outlined in the Highway Capacity Manual (HCM) using the SYNCHRO software. The results of the capacity analyses are summarized in Tables 3 and 4. As indicated in Tables 3 and 4, all study intersections are currently operating at an acceptable level of service. In the year 2020 with the proposed project in place, all intersections are expected to continue to operate at an acceptable level of service.

Tables 5 and 6 summarize the existing turn lane storage and the expected queues at all turn lanes of the study intersections.



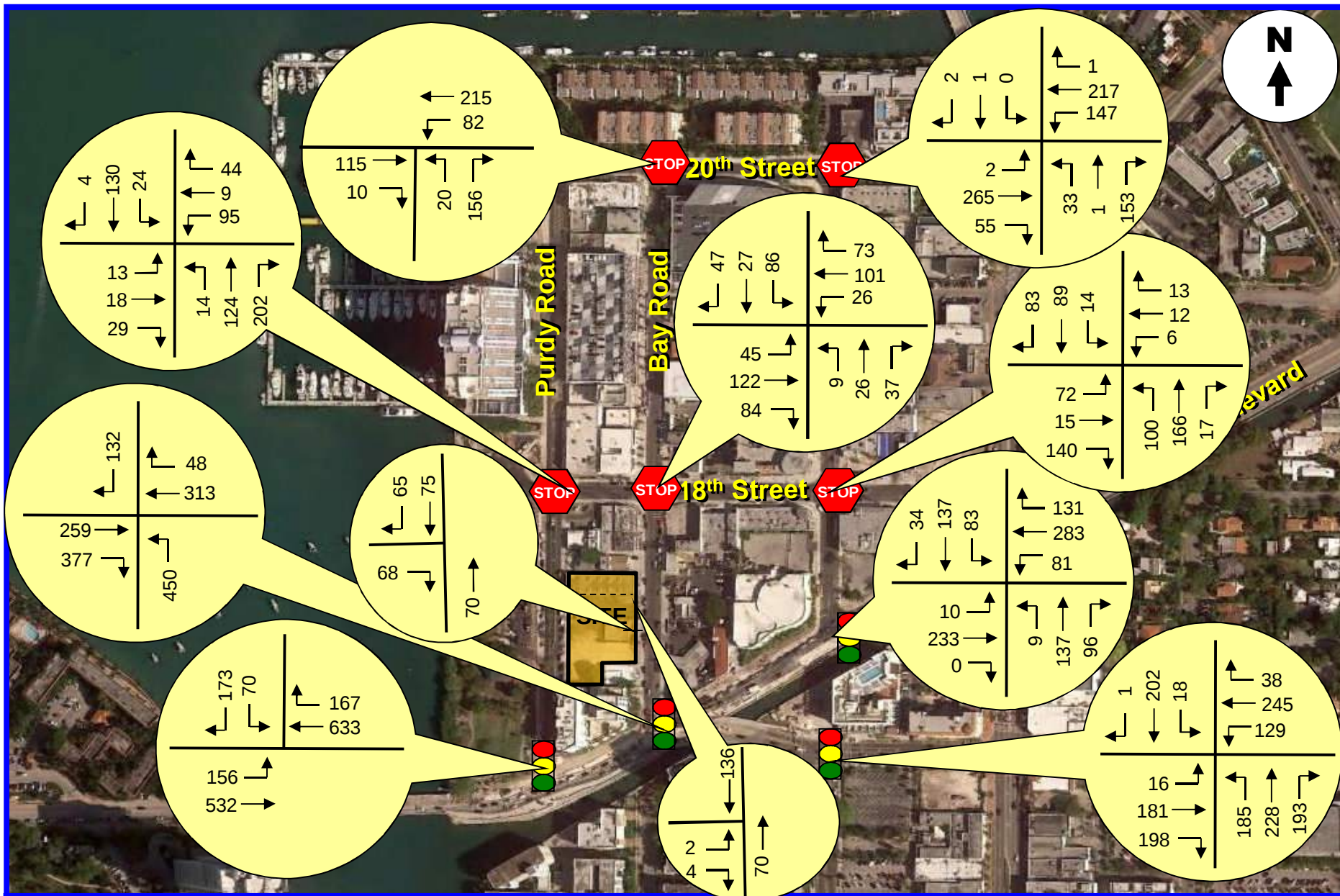


TABLE 3 Intersection Level of Service – (Signalized Intersections) Sunset Park			
		Future Traffic Conditions	
	2017	2020	2020
Intersection	Existing	w/o Project	With Project
Dade Blvd & Purdy Ave	C	C	D
Dade Blvd & Bay Road/17th St	C	C	C
West Ave & Dade Blvd	D	D	D
17 th St & West Ave	D	D	D
SOURCE: Highway Capacity Manual			

TABLE 4 Intersection Level of Service (Unsignalized Intersections) Sunset Park			
		Future Traffic Conditions	
	2017	2020	2020
Intersection/Movement	Existing	w/o Project	With Project
18 St & West Ave	A	B	B
18 St & Bay Rd	A	A	A
18 St & Purdy Ave	A	A	B
20 St & West Ave	B	B	B
20 St & Bay Rd	B	B	B
Bay Rd & Garage			A
Bay Rd & Breezeway			A
SOURCE: Highway Capacity Manual			
NOTE: All intersections on Table 4 are stop control and were analyzed as such, except the access driveway			

TABLE 5 95th Queue – (Signalized Intersections) Sunset Park				
Intersection	Storage Bay (ft)	2017	Future Traffic Conditions	
		Existing (ft)	2020 w/o Project (ft)	2020 With Project (ft)
Dade Blvd & Purdy Ave				
EBL	80	69	85	130
SBL	100	79	80	80
17 th St & West Ave				
NBL	170	123	130	142
WBL	160	120	#162	#162
SBL	50	21	18	20
<i>SOURCE: Highway Capacity Manual</i>				
<i>Intersection Summary # 95th percentile volume exceeds capacity, queue may be longer.</i>				

TABLE 6 95th Queue (Unsignalized Intersections) Sunset Park				
Intersection/Movement	Storage Bay (ft)	2017	Future Traffic Conditions	
		Existing (ft)	2020 w/o Project (ft)	2020 With Project (ft)
18 St & Purdy Ave				
NBL	100	0.1	0.1	0.1
SBL	100	0.1	0.1	0.1
20 St & West Ave				
WBL	85	1.5	1.6	1.6
<i>SOURCE: Highway Capacity Manual</i>				

The computer printouts of the intersection capacity analyses are contained in Appendix F.

Valet Operation

The valet station for non-residents is anticipated to be located on Purdy Avenue and all entrance and exiting movements to and from the garage will occur off of Bay Road. Hence, all commercial vehicles will be dropped-off along Purdy Avenue, will head north towards 18th Street, turn right on 18th Street and right on Bay Road in order to access the entrance lane of the garage. Once a car is claimed, the vehicle will exit the garage on Bay Road, head south toward Dade Boulevard, turn right on Dade Boulevard, and right on Purdy Avenue in order to be picked up at the Purdy Avenue valet station. Residents that wish to use valet service will be allowed to use the one-way eastbound drive aisle located between Purdy Avenue and Bay Road (Breezeway). Residents will be allowed to use the Porte Cochere located approximately midpoint along the Breezeway for vehicle drop-off and pick-up.

In order to determine the stacking requirements associated with the valet operation, queuing analyses were undertaken. A queuing analysis was conducted in order to ensure that the Purdy Avenue (commercial vehicles) and Breezeway (residents) stacking is sufficient to accommodate the maximum inbound vehicular demand anticipated at this facility.

The length of queue anticipated was determined using information contained in ITE's *Transportation and Land Development*, Chapter 8 – Drive-In Facilities¹. For this analysis, the following input variables were used:

Commercial Vehicle Valet Operation

- o Service Rate: As documented in Appendix G, it was assumed that the average time to park/unpark a vehicle by a valet runner is approximately 4 minutes, or 15 vehicles per hour per valet runner. Assuming up to eight (8) valet runners, the maximum service rate of the facility is 120 vehicles in a one-hour period.

¹ By Vergil G. Stover and Frank J. Koepke.

-
- o Demand Rate: As indicated in Appendix G, a maximum of 61 non-resident vehicles will arrive during the highest hour (i.e., PM peak).

Using equation 8-9b and Table 8-11 of ITE's *Transportation and Land Development*, the maximum length of queue at the 95% confidence level, is one vehicle. Therefore, the valet station on Purdy Avenue should provide stacking for at least one (1) vehicle and should have up to eight (8) valet runners during the peak valet periods. The results of the ITE queuing for commercial traffic procedure is contained in Appendix G.

Residents Vehicle Valet Operation

- o Service Rate: As documented in Appendix G, it was assumed that the average time to park/unpark a vehicle by a valet runner is approximately 3 minutes, or 20 vehicles per hour per valet runner. With only one (1) valet runner, the maximum service rate of the facility is 20 vehicles in a one-hour period.
- o Demand Rate: As indicated in Appendix G, a maximum of 4 residential vehicles will arrive during the highest hour (i.e., PM peak).

Using equation 8-9b and Table 8-11 of ITE's *Transportation and Land Development*, the maximum length of queue at the 95% confidence level, is one vehicle. Therefore, the breezeway area should provide stacking for at least one (1) vehicle and should have one (1) valet runner during the peak valet periods. The results of the ITE queuing procedure for residential traffic is contained in Appendix G.

Garage Entrance Queuing Analysis

- o Service Rate: As documented in Appendix G, it was assumed that the security gate system at the garage can process up to 300 vehicles in a one-hour period. For purposes of this evaluation, an overhead coiling roll-up gate has been assumed for a conservative approach. However, the final design of the type of security gate will be determined at the time of construction based on security-gate technologies available at that time.
- o Demand Rate: As indicated in Appendix G, a maximum of 65 inbound vehicles will enter the garage during the highest hour (i.e., PM peak).

Using equation 8-9b and Table 8-11 of ITE's *Transportation and Land Development*, the maximum length of queue at the 95% confidence level, is one vehicle. Therefore, the security gate system at the entrance to the garage should provide an inbound reservoir area sufficient to store one vehicle (22 feet). The results of the ITE queuing procedure for garage entrance is contained in Appendix G.

Garage Entrance Sign

A "RESIDENTS ONLY" sign is proposed at the entrance to the garage. Even though the sign will only display the words "RESIDENTS ONLY", the valet operator will have access to the proposed gate within the garage. The word "VALET" should not be displayed at this sign in order to avoid confusion by visitors and/or retail customers that wish to valet their vehicle (they may misinterpret the word "VALET" by thinking it means drivers that wish to use valet service can also enter the garage).

CONCLUSIONS AND RECOMMENDATIONS

Sunset Park is a proposed mixed-use development, including retail and residential units planned to be located at 1759 Purdy Avenue in the City of Miami Beach in Miami-Dade County, Florida.

The project site is primarily vacant. Proposed to the site is a 19,988 square-foot commercial building plus 12 residential units (ownership) with a parking structure on site. The proposed access to the parking structure will be off of Bay Road. An internal pedestrian/vehicular connection linking Purdy Avenue and Bay Road is proposed within the site (Project Breezeway). Only residents will be permitted to self-park. Only residents will also have access to the private valet located within the project breezeway. Even though residents will be permitted to self-park, it was assumed that 100% of the residential trips will use the valet service located along the breezeway. All commercial users, patrons, employees, and residential guests will be required to valet. The valet service for the commercial users, patrons, employees and residential guests will be located curbside on Purdy Avenue.

Traf Tech Engineering, Inc. was retained by Deco Capital Group, LLC to conduct a traffic study in connection with the proposed development. The conclusions and recommendations of the traffic study are presented below:

- o The new trips anticipated to be generated by the proposed development consist of approximately 1,054 daily trips and approximately 92 trips during the weekday PM peak hour (44 inbound and 48 outbound).
- o All study intersections are currently operating at an acceptable level of service. In the year 2020 with the proposed project in place, all intersections are expected to continue to operate at an acceptable level of service.

-
- o The valet station on Purdy Avenue should provide stacking for at least one (1) vehicle and should have up to eight (8) valet runners during the peak valet periods.
 - o The breezeway area should provide stacking for at least one (1) vehicle and should have one (1) valet runner during the peak valet periods.
 - o The security gate system at the entrance to the garage should provide an inbound reservoir area sufficient to store one vehicle (22 feet).
 - o A “RESIDENTS ONLY” sign is proposed at the entrance to the garage.

TRANSPORTATION DEMAND MANAGEMENT (TDM) PLAN

Traf Tech Engineering, Inc. prepared a Transportation Demand Management (TDM) plan for the proposed development.

Introduction

Travel Demand Management plans (TDM) establish policies and mechanisms to reduce automobile trips to and from designated facilities. TDM plans usually use several approaches to address all modes of transportation likely to be used to provide access to a facility such as single occupant driving, carpooling, transit, bicycling and walking. The goal of TDM plans is to increase the use of alternatives modes to single occupant driving, i.e., to reduce the number of automobile trips to and from the facility and consequently, minimizing automobile traffic impacts on the street system.

Successful TDM plans not only address all modes of transportation, but also use policies such as inducements for alternative modes (subsidies), physical enhancements (bike lockers, preferential parking for carpools) and disincentives for automobile use (no free parking for employees).

Potential measures for each mode are addressed below. Use of an employee transportation subsidy is also presented.

Pedestrian Access

Walking not only reduces automobile trips and their contribution to congestion and emissions, it also provides health benefits to the employees who use this mode of transportation. It is, however, the mode that is least likely to be used for a number of reasons. It is unlikely that employees of the restaurant/bar use will reside within a reasonable walking distance (within $\frac{1}{4}$ - $\frac{1}{2}$ mile) of the subject facility. However, the area near the subject project is a high pedestrian traffic area and therefore, many future customers of the Sunset Park development are expected to be walking trips. Sidewalks exist on the east and west sides of project as well as safe pedestrian crosswalks

(with ramps and pedestrian signals).

Bicycling

The site of the Sunset Park project offers two potential approaches to encourage cycling, the use of the Citi Bike program and use of retail employee-owned bicycles.

Use of Citi Bike could be supported by providing monthly passes to employees. Monthly passes are \$15.00 for unlimited 30 minute rides and \$25.00 for unlimited 60 minute rides. Within the immediate area of the project, there is one convenient Citi Bike rental station (Station 177 - Purdy Ave & 18th Street (Marina), and Station 187 - West Ave & 20th Street (Publix on the Bay)) and employees will be informed of the Citi Bike Stations.

(Goal: Offer 2 free City Bike passes to employees. Integrate bikeshare information into communication materials for commuters and visitors).

Mass Transit

There is a wealth of transit options for the Sunset Park development. These transit routes include A, M, and 115. The nearest bus stop for these services is located at the intersection of Dade Boulevard and Purdue Avenue. These transit routes provide frequent service and access to all of Miami-Dade County as well as connections to other destinations outside of the County. Employers of the restaurant can provide a significant inducement to employees to use public transportation (Miami-Dade Transit, MDT) through a transit subsidy. Transit subsidies can also provide tax benefits to both employees and employers.

MDT offers three methods to provide transit subsidies:

The employee uses pre-tax dollars from their salary to purchase monthly transit passes. There is no income tax on the portion of their salary used for transit passes. The pre-tax funds also reduce the employees' taxable salary, reducing the total amount of income tax paid by the employees. The employer pays the total cost of a monthly transit pass using a tax-deductible (to the employer) subsidy. The employer receives a tax deduction equivalent to the value of the transit subsidies provided to the employees. The transit subsidy is a fringe benefit to employees and is not taxable income.

Both the employer and employees share the cost of transit passes, paying for them with pre-tax dollars. The employer reduces his/her payroll taxes. Employees do not pay income tax on the money used for transit passes.

MDT monthly passes if purchased by an individual are \$112.50. Corporate discounts are available based on the number of participating employees. For 4 – 99 employees, monthly passes are \$101.25 per employee, for 100 or more employees, the cost is \$95.65 per employee.

Goal: Offer 2 free transit passes to employees. Request employee origin/destination information from commercial employers and identify opportunities).

Carpooling

Carpooling is historically the least effective alternative transportation mode, even when implemented on a regional basis. Given the relatively small employee base of a single employer, it is unlikely that carpooling will provide a significant amount of trip reduction. However, preferential parking could be made available to employees that carpool.

Goal: 2 free valet passes to carpool riders.

APPENDIX A

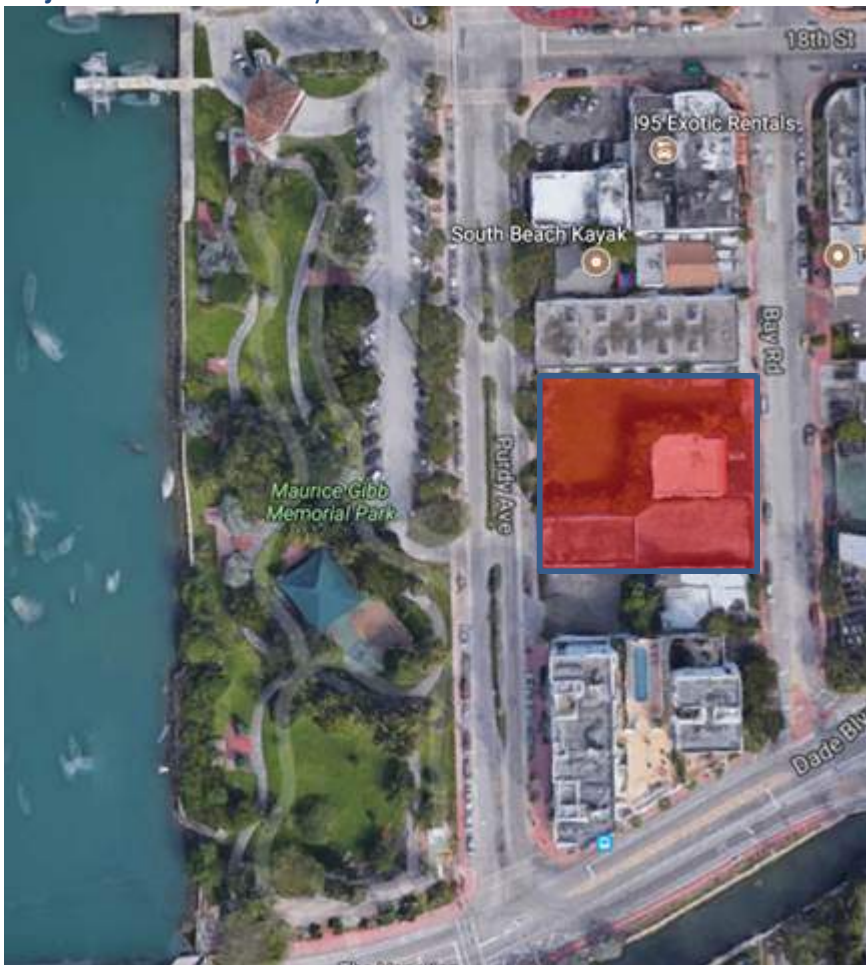
Traffic Methodology

From: Akcay, Firat <FiratAkcay@miamibeachfl.gov>
Sent: Tuesday, October 10, 2017 1:25 PM
To: Joaquin@traftech.biz
Cc: Munday, Tui; 'Claudia Lamus'; Ferrer, Josiel
Subject: RE: PB 10-02-2017 Sunset Harbor

Joaquin,

From the methodology meeting with Joaquin on Friday and after meeting with Josiel for an extended review of the project our suggested scope. The traffic study shall include, at a minimum, the following scope items:

Project Location: 1752 Bay Road



Project Scope: Joaquin, please provide final proposed development plan by land use and number of units for residential component as the study from 2015 suggests 15 units compared to 12 units with the latest plans you provided.

If you have any information regarding the possible tenants of the retail component as well as for the restaurant component, please provide this information for trip generation purposes.

Otherwise, we suggest shopping center 820(equation) for the retail land uses.

Traffic Counts: The West Ave Bridge and Dade Boulevard construction is scheduled to be completed on the 17th of this month.

Generally we would allow at least 3 months' time to allow for traffic to normalize and drivers to adjust to the new traffic pattern after the implementation of the new bridge.

Provide the date of hearing for the Planning Board Meeting. Based on the date, our Department is willing to allow traffic counts to be collected as soon as 2 weeks following opening of the bridge, the week of October 31st, if meeting date and time of review are a concern.

The intersections that will need to be counted:

Dade Blvd -	Purdy Avenue
	Bay Road
	West Avenue
17 th Street -	West Avenue
18 th Street-	West Avenue
	Bay Road
	Purdy Avenue
20 th Street-	West Avenue
	Bay Road(please collect multimodal counts for an AWSC warrant analysis)

Committed Developments:

Reach out to the Planning Department and copy me to obtain information on committed developments in the area.

Valet and Parking:

According to the site plan submitted, there is a parking deficit of 4 vehicles.

The valet plan needs to be submitted as well as pick up and drop off locations.

Will the restaurant have a separate valet station than the residential and retail valet service?

Please provide as much detail on this as possible.

Trip reduction factors:

Multimodal trip reduction: 20%

Internalization – Please use methodology presented in ITE Trip Generation Manual 9th Edition, Chapter 7, Multi-Use Developments.

Master Plan:

According to the Bicycle Pedestrian Master Plan, we are implementing a bicycle greenway along West Avenue. This greenway will continue over the West Avenue Bridge. Can you please collect geometric data on West Avenue, north of Dade Boulevard for a feasibility study of a 6 feet bicycle lane?

Travel Demand Management Plan:

Please provide a TDM plan.

Peer Review:

The type of peer review will be a Level B, in the amount of \$5800.00

Thank you and please feel free to contact us with any questions,



Firat Akcay, Transportation Analyst

TRANSPORTATION DEPARTMENT

1688 Meridian Avenue, Suite 801, Miami Beach, FL 33139

Tel: 305-673-7000 X 6839 / www.miamibeachfl.gov

We are committed to providing excellent public service and safety to all who live, work and play in our vibrant, tropical, historic, community.



Please do not print this e-mail unless necessary.

From: Munday, Tui
Sent: Monday, October 09, 2017 1:21 PM
To: Akcay, Firat; Ferrer, Josiel
Cc: 'Joaquin@traftech.biz'
Subject: RE: PB 10-02-2017 Sunset Harbor

What was the decision about peer review and the price/level of the peer review?



Tui Munday, Senior Planner
PLANNING DEPARTMENT
1700 Convention Center Drive, Miami Beach, FL 33139
Tel: 305-673-7000 X 6320 / Fx: 305-673-7559 / www.miamibeachfl.gov

We are committed to providing excellent public service and safety to all who live, work and play in our vibrant, tropical, historic, community.



Please do not print this e-mail unless necessary.

From: Joaquin@traftech.biz [<mailto:joaquin@traftech.biz>]
Sent: Friday, October 06, 2017 10:38 AM
To: Akcay, Firat; Ferrer, Josiel
Cc: Munday, Tui
Subject: PB 10-02-2017 Sunset Harbor

Firat and Josiel,

Will see you around 2PM to discuss the traffic methodology. Josiel may remember, we evaluated this project back in late 2015 (see attached study without appendix) and had to rely on old traffic counts because at that time the area was under construction. The project is very similar (less residential units). It consists of two restaurants 5,768 sf and retail of about 12,498 sf plus 12 residential units.

Joaquin

Joaquin E. Vargas, P.E.

Traf Tech ENGINEERING
8400 N. University Drive, Suite 309
Tamarac, Florida 33321
Tel: (954) 582-0988
Fax: (954) 582-0989
Mobile: (954) 643-1671
joaquin@traftech.biz

APPENDIX B

Site Plan – Sunset Park

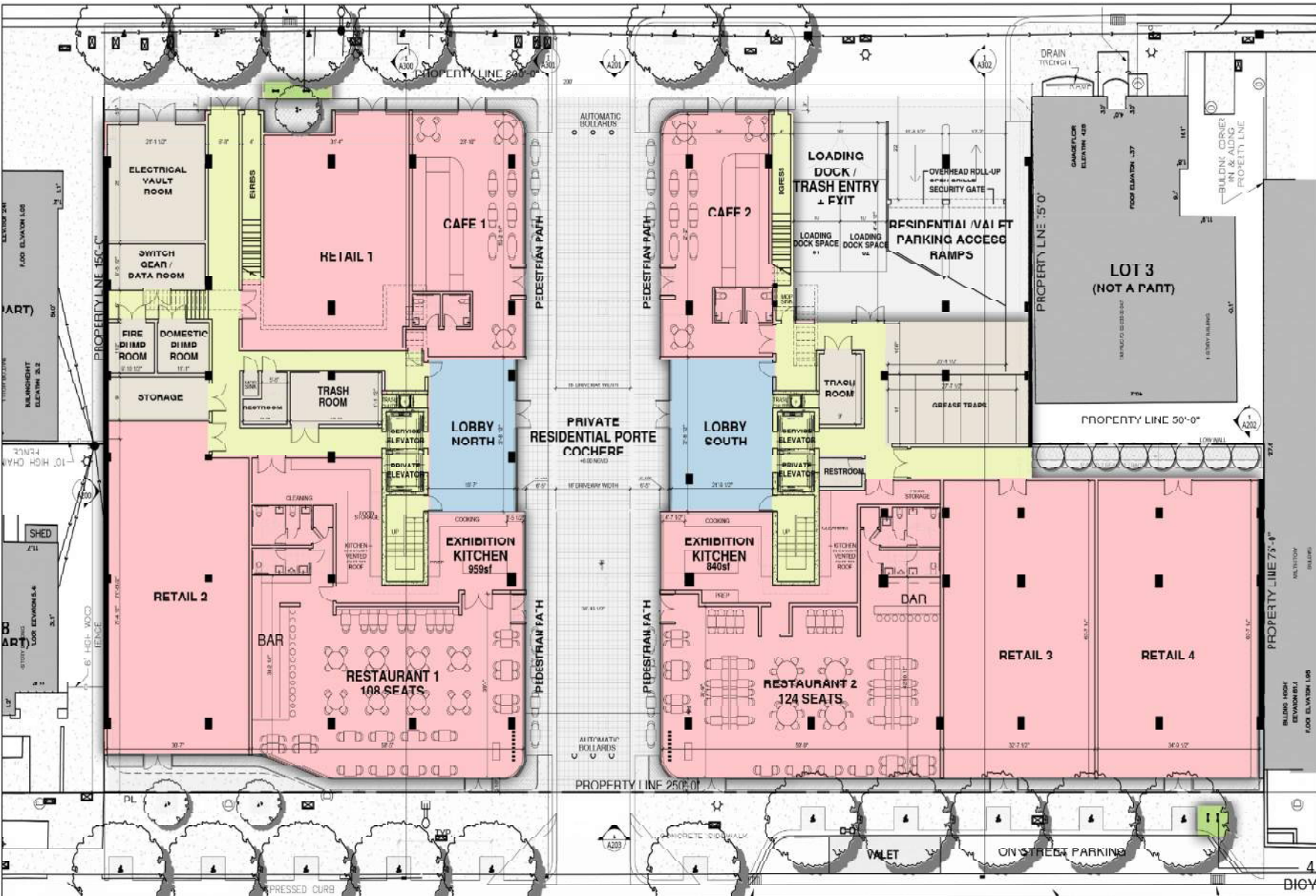
NOTE: EXISTING OVERHEAD UTILITY LINES FACING BAY ROAD ARE TO BE REPLACED UNDERGROUND PER THE CITY OF MIAMI REACH P.7

DAY ROAD

PURDY AVENUE

FLOOR	AREA SQ. FT.
GROUND FLOOR	24271 SQ. FT.
SECOND FLOOR	14300 SQ. FT.
THIRD FLOOR	13501 SQ. FT.
FOURTH FLOOR	13501 SQ. FT.
FIFTH FLOOR	13409 SQ. FT.
TOTAL AREA:	67,400 SQ. FT.
LOT AREA	33750 SQ. FT.
ALLOWED FAR	2.0
MAX AREA	67,500 SQ. FT.
PROPOSED FAR	2.0

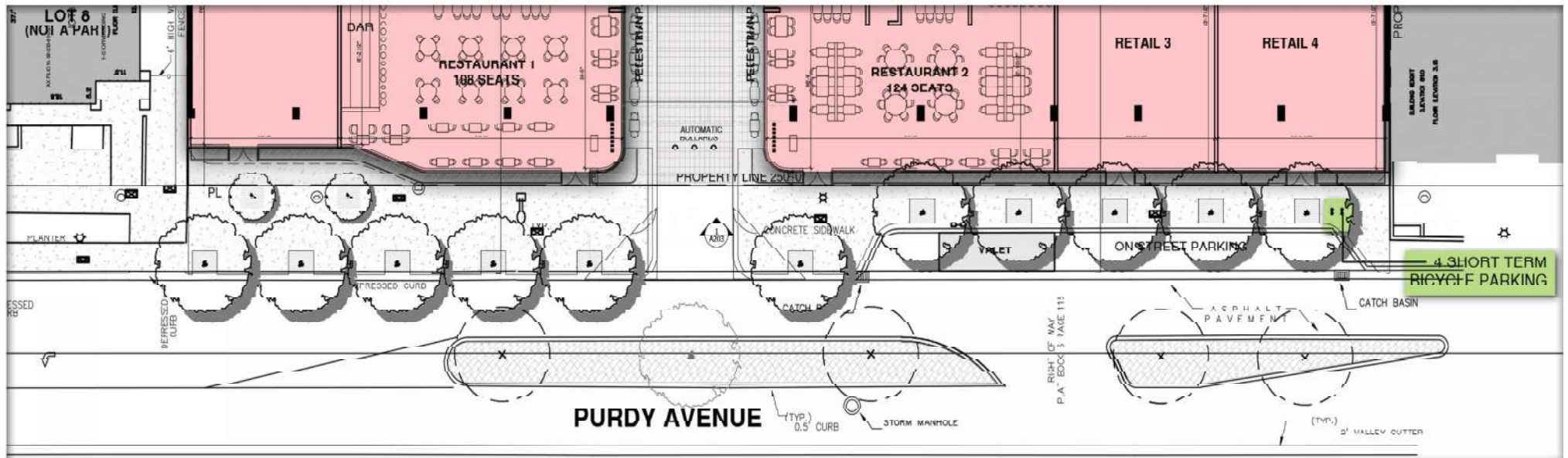
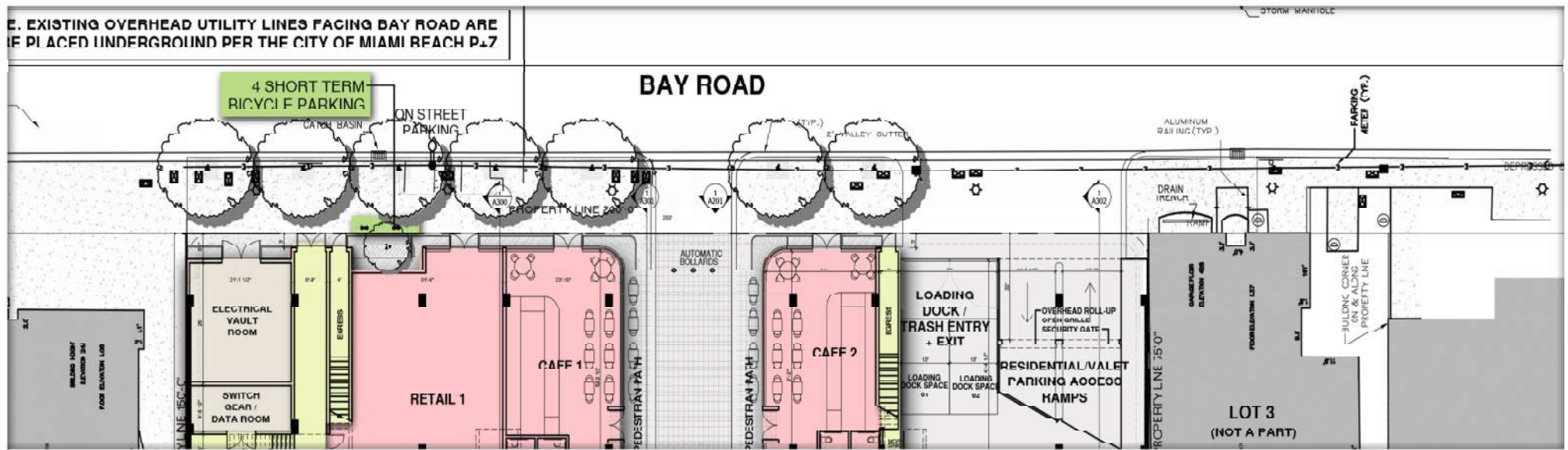
SCALE: 1"=30'-0"



GROUND FLOOR AREAS	
ROOM	AREA
INTERIOR	
RETAIL 1	1850 SQ. FT.
RETAIL 2	2207.0 SQ. FT.
RETAIL 3	2122 SQ. FT.
RETAIL 4	2846 SQ. FT.
CAFE 1	1300 SQ. FT.
CAFE 2	1279 SQ. FT.
RESTAURANT 1	3556 SQ. FT.
RESTAURANT 2	3514 SQ. FT.
COMMERCIAL TOTAL	18015 SQ. FT.
DOIT	1070.0 SQ. FT.
NORTH LOBBY	839 SQ. FT.
SOUTH LOBBY	766 SQ. FT.
CORE/CIRCULATION	2857.0 SQ. FT.
TOTAL (FAR)	24271.0 SQ. FT.
EXTERIOR	
DRIVEWAY	4874 SQ. FT.
TOTAL	20045 SQ. FT.

1 SHORT TERM BICYCLE PARKING

SCALE: 1"=20'-0"



SUNSET PARK - SHORT TERM BICYCLE PARKING



APPENDIX C

Signal Timing Plan and Traffic Counts

TOD Schedule Report

for 4130: West Av&17 St

Print Date:

5/22/2018

Print Time:

2:20 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4130	West Av&17 St	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	WBT	-	NBT	WBL	EBT	-	SBT
0	0	0	0	0	0	0	0
							

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>							
	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	24 - 24 - 24	7 - 7 - 5	1 - 1 - 1	40 - 30 - 30	0 - 0 - 0	4	2.2
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 NBT	7 - 7 - 7	20 - 20 - 20	7 - 7 - 5	2.5 - 2.5 - 2.5	15 - 12 - 12	65 - 50 - 50	4	2.2
5 WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 0	2 - 2 - 2	10 - 10 - 10	30 - 12 - 12	3.7	2
6 EBT	7 - 7 - 7	24 - 24 - 24	7 - 7 - 5	1 - 1 - 1	40 - 30 - 30	0 - 0 - 0	4	2.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 5	2.5 - 2.5 - 2.5	15 - 12 - 12	65 - 50 - 50	4	2.2

Last In Service Date: unknown

Permitted Phases

12345678

Default -2-456-8
 External Permit 0 -2-4-6--
 External Permit 1 -2-4-6--
 External Permit 2 -2-4-6--

TOD Schedule Report

for 4130: West Av&17 St

Print Date:

5/22/2018

Print Time:

2:20 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 WBT	3 -	4 NBT	5 WBL	6 EBT	7 -	8 SBT		
1		160	0	69	0	79	14	49	0	79	0	72
2		160	0	69	0	79	14	49	0	79	0	72
3		90	0	49	0	29	9	34	0	29	0	75
4		130	0	69	0	49	14	49	0	49	0	54
5		90	0	49	0	29	9	34	0	29	0	75
6		130	0	69	0	49	14	49	0	49	0	44
7		90	0	49	0	29	9	34	0	29	0	72
8		120	0	59	0	49	9	44	0	49	0	109
9		120	0	59	0	49	9	44	0	49	0	111
10		130	0	69	0	49	9	54	0	49	0	44
13		90	0	49	0	29	9	34	0	29	0	87
14		105	0	64	0	29	9	49	0	29	0	75
15		130	0	69	0	49	9	54	0	49	0	66
16		130	0	69	0	49	9	54	0	49	0	114
17		130	0	69	0	49	9	54	0	49	0	44
18		90	0	49	0	29	9	34	0	29	0	75
19		90	0	49	0	29	9	34	0	29	0	75
20		130	0	69	0	49	9	54	0	49	0	75
23		90	0	49	0	29	9	34	0	29	0	75

Local TOD Schedule

Time	Plan	DOW
0000	8	Su M T W Th F S
0030	Free	M T W Th
0100	Free	Su F S
0600	8	Su M T W Th F S
0700	13	M T W Th F
0800	7	Su S
0930	5	M T W Th F
1515	3	M T W Th F
1600	7	Su S
1830	4	Su S
2000	8	Su M T W Th F S
2330	Free	M T W Th

Current Time of Day Function

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

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-----	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 4131: Bay Rd&Dade Blvd&17 St

Print Date:
5/22/2018

Print Time:
2:20 PM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4131	Bay Rd&Dade Blvd&17 St	DOW-3		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	SWT	-	WBT	-	NET	-	-
0	0	0	0	0	0	0	0



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>			1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0
2 SWT	0	-	0	0	0	0	14	-	14	-	14	2.5	-	2.5	-	12	-	12	-	12
3 -	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0
4 WBT	0	-	0	0	0	0	14	-	14	-	14	3.5	-	3.5	-	10	-	10	-	10
5 -	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0
6 NET	0	-	0	0	0	0	14	-	14	-	14	2.5	-	2.5	-	12	-	12	-	12
7 -	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

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--

TOD Schedule Report

for 4131: Bay Rd&Dade Blvd&17 St

Print Date:

5/22/2018

Print Time:

2:20 PM

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1 -	2 SWT	3 -	4 WBT	5 -	6 NET	7 -	8 -		
1		85	0	27	0	43	0	27	0	0	0	64
2		90	0	42	0	33	0	42	0	0	0	20
3		90	0	42	0	33	0	42	0	0	0	10
4		95	0	37	0	43	0	37	0	0	0	0
5		80	0	22	0	43	0	22	0	0	0	0
6		90	0	32	0	43	0	32	0	0	0	68
13		90	0	42	0	33	0	42	0	0	0	4
25		140	0	82	0	43	0	82	0	0	0	122
26		180	0	122	0	43	0	122	0	0	0	58
27		140	0	82	0	43	0	82	0	0	0	64
28		140	0	82	0	43	0	82	0	0	0	114

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0530	2	M T W Th F
0700	13	Su M T W Th F S
0900	3	Su S
0930	5	M T W Th F
1515	3	M T W Th F
1830	2	M T W Th F
2030	Free	Su S
2330	Free	M T W Th F

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
0530	TOD OUTPUTS	---3---	M T W ThF
1600	TOD OUTPUTS	---4---	M T W ThF
2330	TOD OUTPUTS	-----	M T W ThF

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
0530	TOD OUTPUTS	---3---	M T W ThF
0930	TOD OUTPUTS	---2---	Su S
1600	TOD OUTPUTS	---4---	M T W ThF
2030	TOD OUTPUTS	-----	Su S
2330	TOD OUTPUTS	-----	M T W ThF

* 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

No Calendar Defined/Enabled

TOD Schedule Report
for 6593: Dade Blvd&Purdy Av

Print Date:
4/19/2018

Print Time:
2:03 AM

Current Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFU	---4---	SuM T W ThF S
0030	TOD OUTPUTS	-----1	SuM T W ThF S
0500	TOD LOCAL MULTIFU	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	SuM T W ThF S
2330	TOD OUTPUTS	-----1	M T W ThF

Local Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0000	TOD LOCAL MULTIFUNCT	---4---	SuM T W ThF S
0030	TOD OUTPUTS	-----1	SuM T W ThF S
0500	TOD LOCAL MULTIFUNCT	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----	SuM T W ThF S
2000	TOD OUTPUTS	-----1	Su S
2330	TOD OUTPUTS	-----1	M T W ThF

* 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

No Calendar Defined/Enabled

TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & PURDY AVENUE

85 SE 4TH AVENUE, UNIT 109

Site Code : 00170211

MIAMI BEACH, FLORIDA

DELRAY BEACH, FLORIDA

Start Date: 12/15/17

COUNTED BY: RALPH MARTINEZ

PHONE (561)272-3255

File I.D. : DADEPURD

NOT SIGNALIZED

Page : 1

ALL VEHICLES

PURDY AVENUE From North					DADE BOULEVARD From East				----- From South	DADE BOULEVARD From West								Total
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right		
Date 12/15/17 -----																		
16:30	0	21	0	34	0	0	137	9	0	0	0	0	0	29	91	0		321
16:45	0	16	0	40	0	0	146	13	0	0	0	0	0	42	115	0		372
17:00	0	13	0	43	1	0	119	17	0	0	0	0	0	29	104	0		326
17:15	0	15	0	44	0	0	120	19	0	0	0	0	0	38	128	0		364
Hr Total	0	65	0	161	1	0	522	58	0	0	0	0	0	138	438	0		1383
17:30	0	8	0	47	0	0	121	17	0	0	0	0	1	42	82	0		318
17:45	0	12	0	52	0	0	111	17	0	0	0	0	0	40	113	0		345
18:00	0	12	0	32	0	0	85	25	0	0	0	0	0	40	110	0		304
18:15	1	13	0	33	0	0	89	21	0	0	0	0	0	24	102	0		283
Hr Total	1	45	0	164	0	0	406	80	0	0	0	0	1	146	407	0		1250
18:30	0	4	0	30	4	0	102	20	0	0	0	0	0	17	81	0		258
18:45	0	16	0	30	0	0	124	22	0	0	0	0	0	28	111	0		331
Hr Total	0	20	0	60	4	0	226	42	0	0	0	0	0	45	192	0		589

TOTAL	1	130	0	385	5	0	1154	180	0	0	0	0	1	329	1037	0		3222

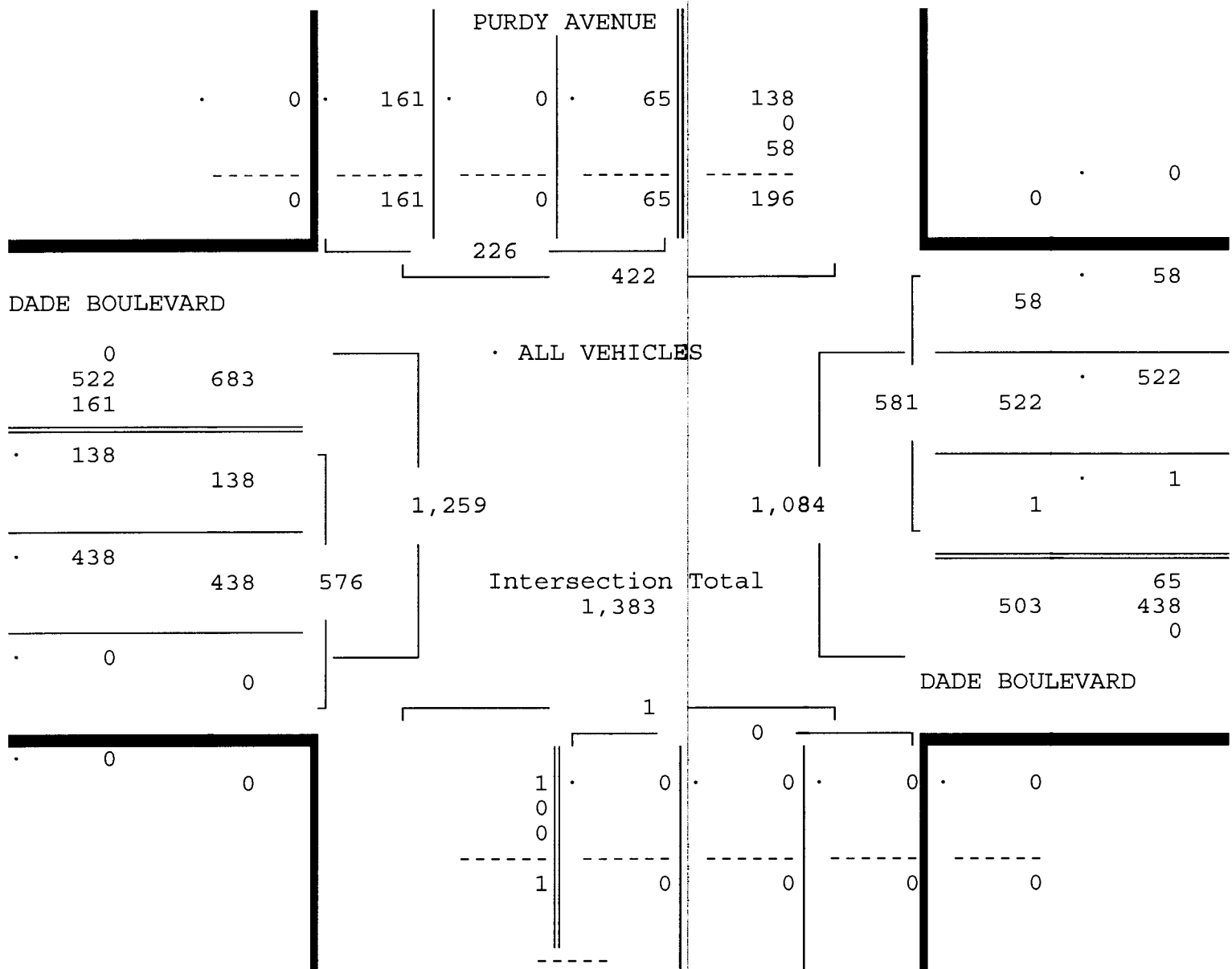
DADE BOULEVARD & PURDY AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: RALPH MARTINEZ
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADEPURD
 Page : 2

ALL VEHICLES

PURDY AVENUE					DADE BOULEVARD					-----				DADE BOULEVARD					Total
From North					From East					From South				From West					
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	
Date 12/15/17 -----																			
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																			
Peak start 16:30					16:30					16:30					16:30				
Volume	0	65	0	161	1	0	522	58	0	0	0	0	0	0	138	438	0		
Percent	0%	29%	0%	71%	0%	0%	90%	10%	0%	0%	0%	0%	0%	0%	24%	76%	0%		
Pk total	226				581					0					576				
Highest	17:15				16:45					16:30					17:15				
Volume	0	15	0	44	0	0	146	13	0	0	0	0	0	0	38	128	0		
Hi total	59				159					0					166				
PHF	.96				.91					.0					.87				



TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & PURDY AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: RALPH MARTINEZ
 NOT SIGNALIZED

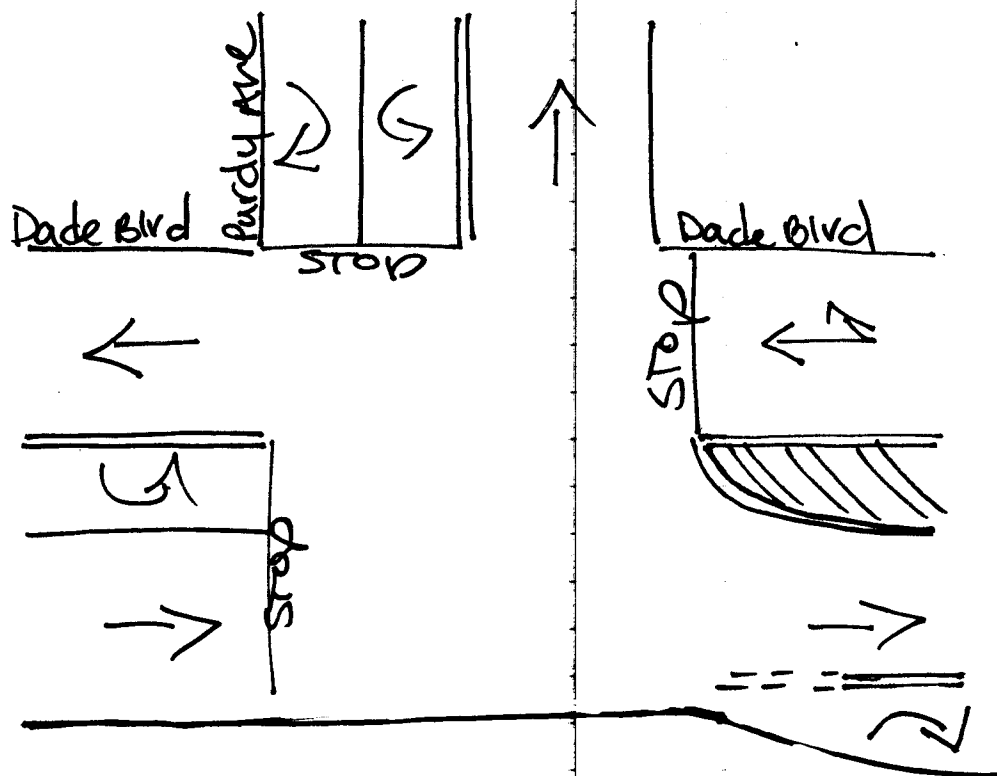
85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADEPURD
 Page : 1

PEDESTRIANS & BIKES

PURDY AVENUE					DADE BOULEVARD					-----				DADE BOULEVARD					
From North					From East					From South				From West					
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total	
Date 12/15/17																			
16:30	0	8	0	5	0	0	0	0	0	0	5	0	4	0	1	0	6	29	
16:45	0	17	0	7	0	0	0	0	0	0	2	0	4	0	1	0	11	42	
17:00	0	8	0	4	0	1	0	0	0	0	2	0	1	0	1	0	5	22	
17:15	0	5	0	8	0	0	0	1	0	0	0	0	0	0	2	0	16	32	
Hr Total	0	38	0	24	0	1	0	1	0	0	9	0	9	0	5	0	38	125	
17:30	0	12	0	5	0	2	0	0	0	0	6	0	3	0	6	0	7	41	
17:45	0	9	0	4	0	0	0	0	0	0	1	0	5	0	1	0	13	33	
18:00	0	9	0	3	0	0	0	1	0	0	0	0	0	0	0	0	6	19	
18:15	0	1	0	2	0	0	0	0	0	0	2	0	0	0	1	0	7	13	
Hr Total	0	31	0	14	0	2	0	1	0	0	9	0	8	0	8	0	33	106	
18:30	0	8	0	3	0	1	0	1	0	0	1	0	0	0	0	0	12	26	
18:45	0	2	0	9	0	0	0	0	0	0	3	0	1	0	1	0	5	21	
Hr Total	0	10	0	12	0	1	0	1	0	0	4	0	1	0	1	0	17	47	
TOTAL	0	79	0	50	0	4	0	3	0	0	22	0	18	0	14	0	88	278	

↑
North



Miami Beach, Florida
December 15, 2017
drawn by Luis Palomino
NOT Signalized

TOD Schedule Report
for 6593: Dade Blvd&Purdy Av

Print Date:
4/19/2018

Print Time:
2:03 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
6593	Dade Blvd&Purdy Av	DOW-5		N/A	0	0	N/A	0	Max 0

Splits

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	WBT	-	-	-	EBT	-	SBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>
	<u>Phase Bank</u>							
	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2 WBT	7 - 7 - 7	22 - 22 - 22	14 - 14 - 14	1 - 1 - 1	35 - 55 - 55	0 - 0 - 0	4	2.1
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
5 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6 EBT	0 - 0 - 0	0 - 0 - 0	14 - 14 - 14	1 - 1 - 1	35 - 55 - 55	0 - 0 - 0	4	2.1
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	7 - 7 - 7	17 - 17 - 17	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 14 - 22	60 - 0 - 0	4	2

Last In Service Date: unknown

Permitted Phases

12345678

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

<u>Current</u>	<u>Green Time</u>											
<u>TOD Schedule</u>	<u>Plan</u>	<u>Cycle</u>	1	2	3	4	5	6	7	8	<u>Ring Offset</u>	<u>Offset</u>
			-	WBT	-	-	-	EBT	-	SBT		
	2	90	0	53	0	0	0	53	0	25	0	0
	3	90	0	43	0	0	0	43	0	35	0	86
	4	90	0	52	0	0	0	52	0	26	0	32
	5	80	0	43	0	0	0	43	0	25	0	24
	13	90	0	53	0	0	0	53	0	25	0	56
	20	110	0	73	0	0	0	73	0	25	0	24
	25	140	0	103	0	0	0	103	0	25	0	19
	26	180	0	143	0	0	0	143	0	25	0	28
	27	140	0	103	0	0	0	103	0	25	0	66
	28	140	0	103	0	0	0	103	0	25	0	12

Local TOD Schedule

<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S
0530	2	M T W Th F
0700	13	M T W Th F
0930	5	Su M T W Th F S
1515	3	M T W Th F
1830	2	M T W Th F
2030	Free	Su S
2330	Free	M T W Th F

TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & BAY ROAD
 MIAMI BEACH, FLORIDA
 COUNTED BY: SEBASTIAN SALVO
 SIGNALIZED WITH STOP

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADE_BAY
 Page : 1

ALL VEHICLES

BAY ROAD From North					DADE BOULEVARD From East				17TH STREET From South				DADE BOULEVARD From West						
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	Total
Date 12/15/17 -----																			
16:30	0	0	0	7	0	0	59	2	0	86	0	1	0	0	42	71		268	
16:45	0	0	0	5	0	0	52	4	0	103	0	2	0	0	41	83		290	
17:00	0	0	0	2	0	0	42	6	0	94	0	1	0	0	40	75		260	
17:15	0	0	0	10	0	0	59	14	0	83	0	0	0	0	55	104		325	
Hr Total	0	0	0	24	0	0	212	26	0	366	0	4	0	0	178	333		1143	
17:30	0	0	2	7	0	0	46	5	0	89	0	0	0	0	41	49		239	
17:45	0	0	2	9	0	0	54	2	0	75	0	0	0	0	43	80		265	
18:00	0	0	0	12	0	0	27	7	0	68	0	0	1	0	42	75		232	
18:15	0	0	0	11	0	0	39	4	0	59	0	1	0	0	44	74		232	
Hr Total	0	0	4	39	0	0	166	18	0	291	0	1	1	0	170	278		968	
18:30	0	0	7	17	0	0	39	9	0	69	0	1	0	0	27	61		230	
18:45	0	0	3	6	0	0	53	6	0	99	0	1	0	0	44	81		293	
Hr Total	0	0	10	23	0	0	92	15	0	168	0	2	0	0	71	142		523	

TOTAL	0	0	14	86	0	0	470	59	0	825	0	7	1	0	419	753		2634	

TRAFFIC SURVEY SPECIALISTS, INC.

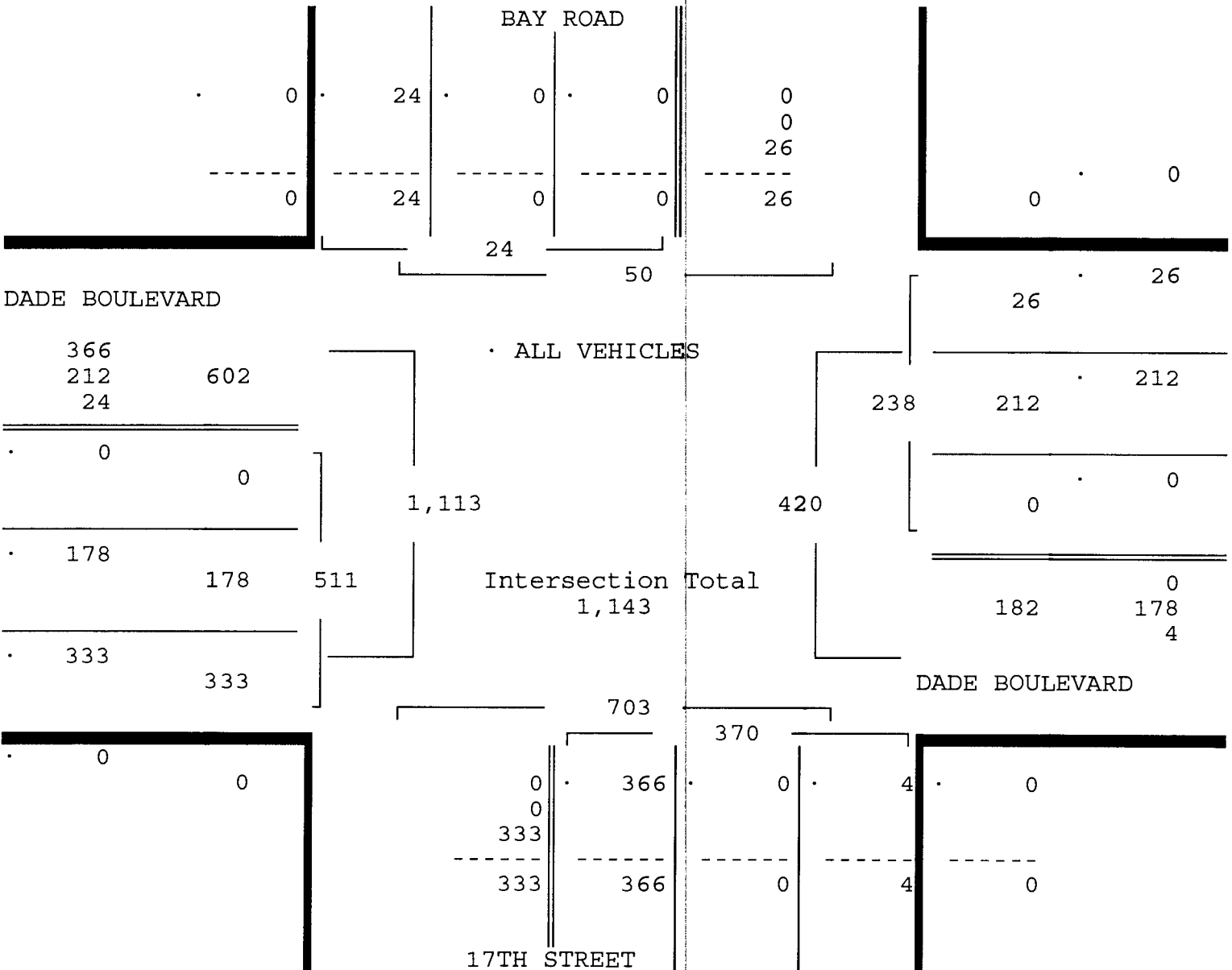
DADE BOULEVARD & BAY ROAD
MIAMI BEACH, FLORIDA
COUNTED BY: SEBASTIAN SALVO
SIGNALIZED WITH STOP

85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00170211
Start Date: 12/15/17
File I.D. : DADE_BAY
Page : 2

ALL VEHICLES

BAY ROAD					DADE BOULEVARD				17TH STREET				DADE BOULEVARD						
From North					From East				From South				From West						
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	Total
Date 12/15/17																			
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																			
Peak start 16:30					16:30				16:30				16:30						
Volume	0	0	0	24	0	0	212	26	0	366	0	4	0	0	178	333			
Percent	0%	0%	0%	100%	0%	0%	89%	11%	0%	99%	0%	1%	0%	0%	35%	65%			
Pk total	24				238				370				511						
Highest	17:15				17:15				16:45				17:15						
Volume	0	0	0	10	0	0	59	14	0	103	0	2	0	0	55	104			
Hi total	10				73				105				159						
PHF	.60				.82				.88				.80						



TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & BAY ROAD
 MIAMI BEACH, FLORIDA
 COUNTED BY: SEBASTIAN SALVO
 SIGNALIZED WITH STOP

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADE_BAY
 Page : 1

PEDESTRIANS & BIKES

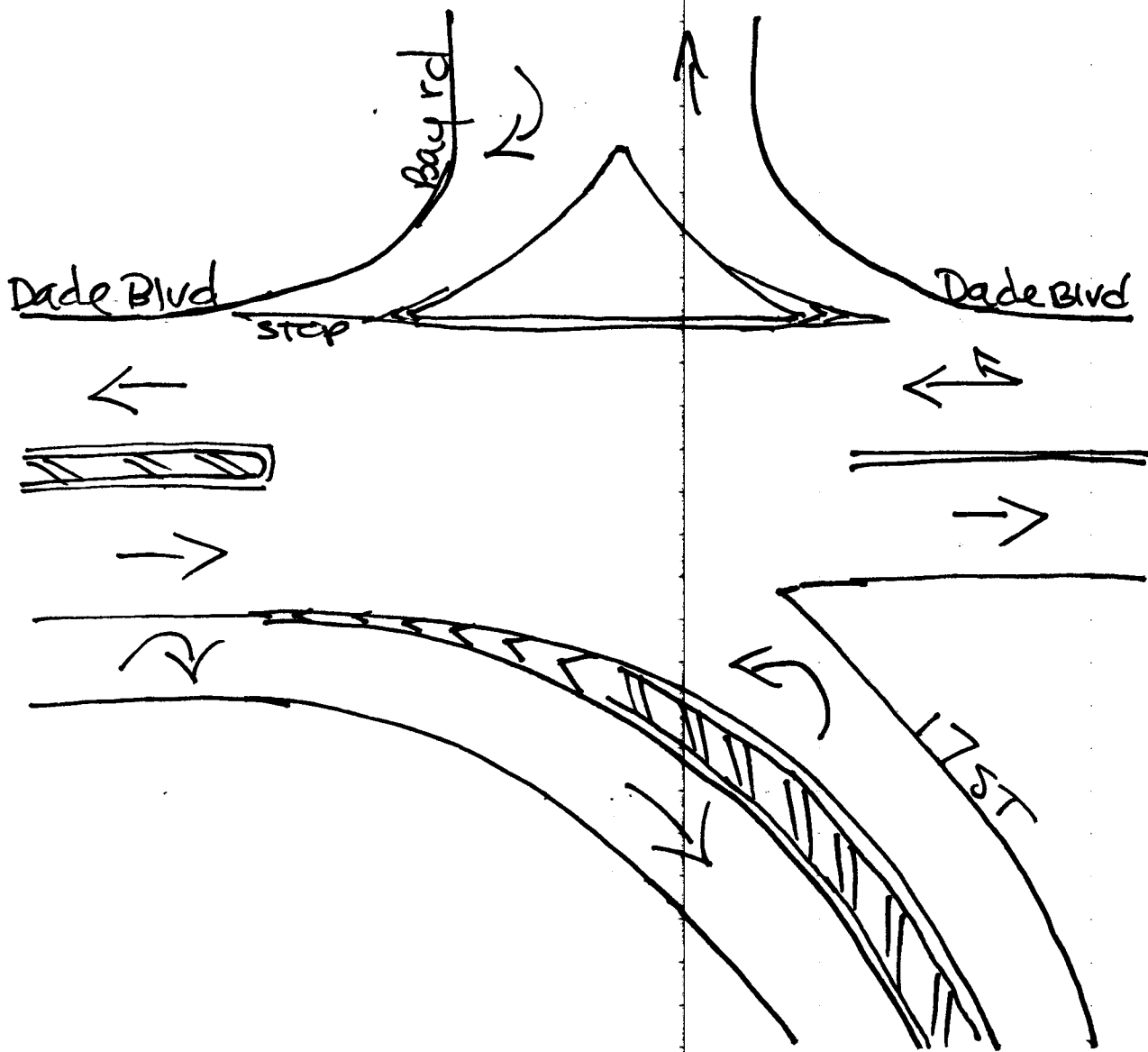
BAY ROAD From North					DADE BOULEVARD From East					17TH STREET From South					DADE BOULEVARD From West					
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Total
Date 12/15/17 -----																				
16:30	0	5	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	10
16:45	0	1	0	6	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	14
17:00	0	4	0	3	0	0	0	3	0	0	1	0	0	0	0	0	0	0	0	11
17:15	0	4	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Hr Total	0	14	0	17	0	4	0	10	0	0	1	0	0	0	0	0	0	0	0	46

17:30	0	5	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	8
17:45	0	2	0	6	0	3	0	6	0	0	1	0	0	0	0	1	0	0	0	19
18:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
18:15	0	0	0	3	0	1	0	6	0	0	2	0	0	0	0	0	0	0	0	12
Hr Total	0	12	0	9	0	5	0	14	0	0	3	0	0	0	0	1	0	0	0	44

18:30	0	6	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	11
18:45	0	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	6
Hr Total	0	7	0	2	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	17

TOTAL	0	33	0	28	0	9	0	32	0	0	4	0	0	0	0	1	0	0	0	107

↑
North



Miami Beach, Florida
December 15, 2017
drawn by: Luis Palomino
signalized w/ stop

TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: GERMAIN CAMPUSANO
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADEWEST
 Page : 1

ALL VEHICLES

WEST AVENUE From North					DADE BOULEVARD From East					WEST AVENUE From South					DADE BOULEVARD From West					
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		
Date 12/15/17 -----										-----										
16:30	1	14	24	7	0	16	54	35	0	2	39	25	0	3	38	0			258	
16:45	0	20	24	7	0	15	40	22	0	3	24	23	0	2	34	0			214	
17:00	0	20	31	6	0	21	43	39	0	1	37	23	0	1	39	0			261	
17:15	0	14	25	6	0	24	56	26	0	2	28	19	0	3	48	0			251	
Hr Total	1	68	104	26	0	76	193	122	0	8	128	90	0	9	159	0			984	
17:30	0	18	23	1	0	18	45	34	0	2	23	11	0	5	34	0			214	
17:45	0	15	29	4	0	29	51	30	0	1	29	16	0	1	41	0			246	
18:00	0	13	37	7	0	16	27	31	0	1	37	22	0	0	44	0			235	
18:15	0	18	25	4	0	22	36	28	0	1	22	17	0	4	38	2			217	
Hr Total	0	64	114	16	0	85	159	123	0	5	111	66	0	10	157	2			912	
18:30	0	15	32	5	0	17	39	23	0	4	33	23	0	0	26	1			218	
18:45	0	11	23	2	0	15	54	25	0	4	32	24	0	6	37	1			234	
Hr Total	0	26	55	7	0	32	93	48	0	8	65	47	0	6	63	2			452	
TOTAL	1	158	273	49	0	193	445	293	0	21	304	203	0	25	379	4			2348	

Site Code : 00170211
Start Date: 12/15/17
File I.D. : DADEWEST
Page : 2

[illegible]

TRAFFIC SURVEY SPECIALISTS, INC.

DADE BOULEVARD & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: GERMAIN CAMPUSANO
 NOT SIGNALIZED

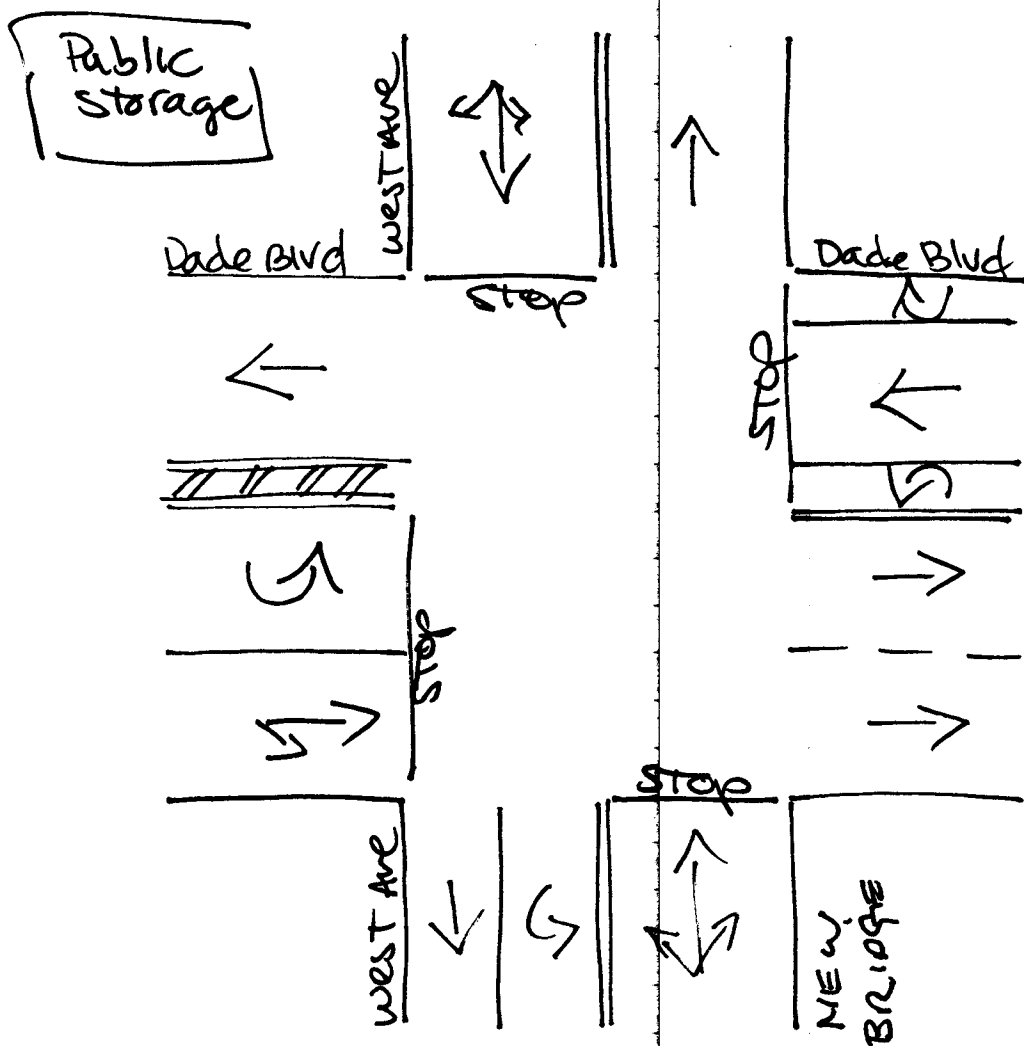
85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : DADEWEST
 Page : 1

PEDESTRIANS & BIKES

WEST AVENUE From North					DADE BOULEVARD From East					WEST AVENUE From South					DADE BOULEVARD From West					
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Total
Date 12/15/17																				
16:30	0	3	0	3	0	4	0	6	0	0	0	0	0	0	0	3	0	5	0	24
16:45	0	0	0	2	0	1	0	8	0	0	0	0	1	0	0	1	0	5	0	18
17:00	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	0	0	3	0	8
17:15	0	0	0	0	0	2	0	6	0	0	0	0	0	0	0	0	0	5	0	13
Hr Total	0	3	0	6	0	8	0	21	0	0	1	0	2	0	0	4	0	18	0	63
17:30	0	2	0	0	0	3	0	3	0	0	0	0	0	0	0	1	0	2	0	11
17:45	0	1	0	1	0	0	0	4	0	0	0	0	1	0	0	0	0	0	0	7
18:00	0	0	0	3	0	2	0	11	0	0	2	0	0	0	0	2	0	9	0	29
18:15	0	1	0	0	0	2	0	10	0	0	1	0	0	0	0	3	0	6	0	23
Hr Total	0	4	0	4	0	7	0	28	0	0	3	0	1	0	0	6	0	17	0	70
18:30	0	0	0	0	0	4	0	3	0	0	0	0	2	0	0	5	0	13	0	27
18:45	0	0	0	2	0	2	0	10	0	0	0	0	0	0	0	3	0	9	0	26
Hr Total	0	0	0	2	0	6	0	13	0	0	0	0	2	0	0	8	0	22	0	53
TOTAL	0	7	0	12	0	21	0	62	0	0	4	0	5	0	0	18	0	57	0	186

↑
North



Miami Beach, Florida
December 15, 2017
drawn by: Luis Palomino
NOT signalized

TRAFFIC SURVEY SPECIALISTS, INC.

17TH STREET & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: MICHAEL MALONE
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 17STWEST
 Page : 1

ALL VEHICLES

WEST AVENUE					17TH STREET					WEST AVENUE					17TH STREET					
From North					From East					From South					From West					
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		
Date 12/15/17																				
16:30	0	3	40	1	0	27	46	14	0	38	57	30	0	0	34	37		327		
16:45	0	4	32	0	0	31	51	3	0	41	51	41	0	0	41	46		341		
17:00	0	5	45	0	0	28	64	6	0	30	59	41	0	1	36	41		356		
17:15	0	3	49	0	0	34	47	12	1	32	46	29	0	0	49	49		351		
Hr Total	0	15	166	1	0	120	208	35	1	141	213	141	0	1	160	173		1375		
17:30	0	3	35	0	0	35	52	3	0	32	42	33	0	0	14	34		283		
17:45	0	2	50	1	0	38	43	6	0	26	48	38	0	0	42	42		336		
18:00	0	7	45	0	0	36	37	7	0	34	55	26	0	0	38	40		325		
18:15	0	6	43	1	0	24	33	12	0	23	38	31	0	0	37	41		289		
Hr Total	0	18	173	2	0	133	165	28	0	115	183	128	0	0	131	157		1233		
18:30	0	2	49	0	0	32	43	7	0	34	48	32	0	0	32	34		313		
18:45	0	7	37	0	0	27	33	5	1	46	57	32	1	0	44	44		334		
Hr Total	0	9	86	0	0	59	76	12	1	80	105	64	1	0	76	78		647		
TOTAL	0	42	425	3	0	312	449	75	2	336	501	333	1	1	367	408		3255		

TRAFFIC SURVEY SPECIALISTS, INC.

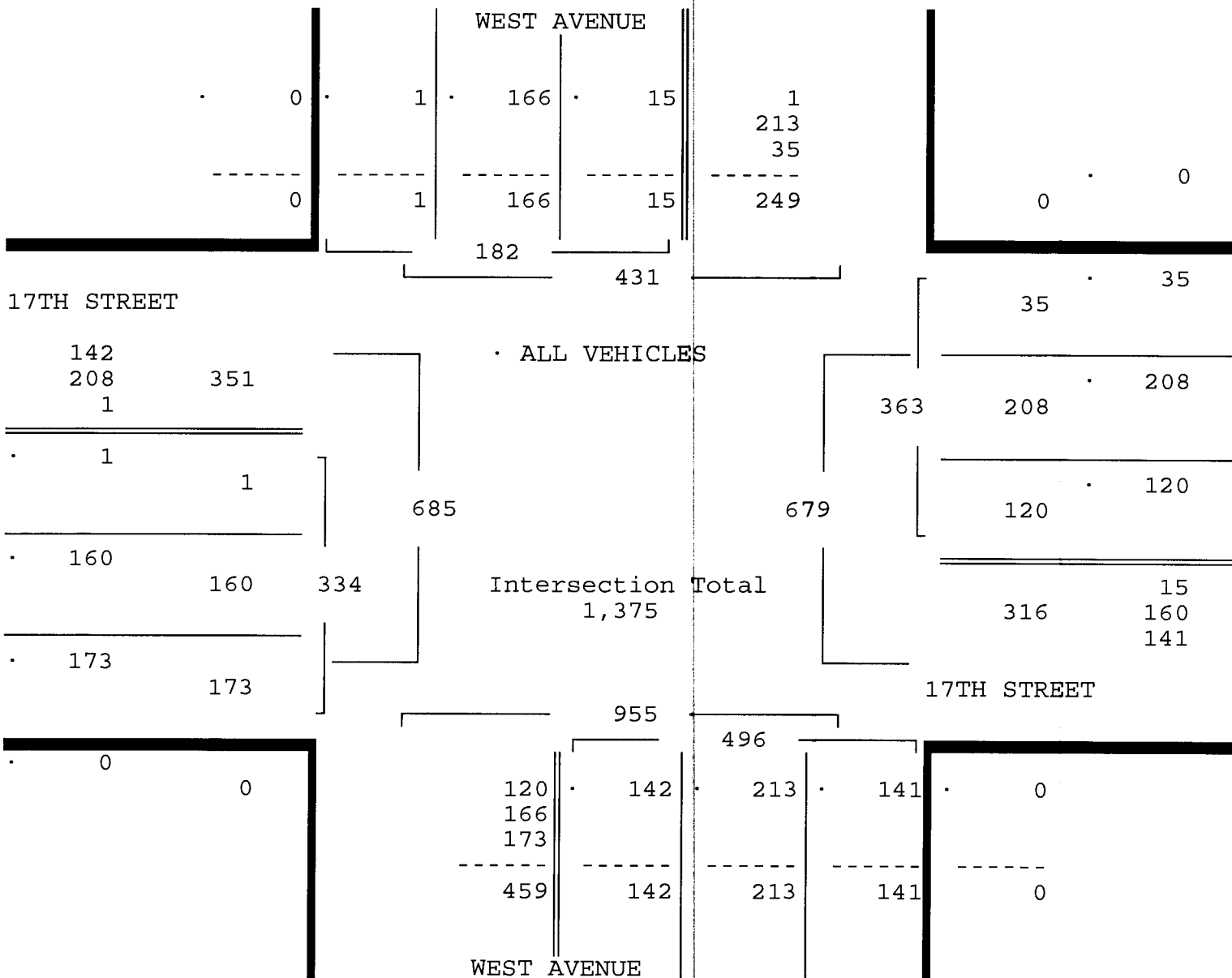
17TH STREET & WEST AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: MICHAEL MALONE
SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00170211
Start Date: 12/15/17
File I.D. : 17STWEST
Page : 2

ALL VEHICLES

WEST AVENUE					17TH STREET					WEST AVENUE					17TH STREET					
From North					From East					From South					From West					
U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	Total
Date 12/15/17																				
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																				
Peak start 16:30					16:30					16:30					16:30					
Volume	0	15	166	1	0	120	208	35	1	141	213	141	0	1	160	173				
Percent	0%	8%	91%	1%	0%	33%	57%	10%	0%	28%	43%	28%	0%	0%	48%	52%				
Pk total	182				363				496				334							
Highest	17:15				17:00				16:45				17:15							
Volume	0	3	49	0	0	28	64	6	0	41	51	41	0	0	49	49				
Hi total	52				98				133				98							
PHF	.88				.93				.93				.85							



TRAFFIC SURVEY SPECIALISTS, INC.

17TH STREET & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: MICHAEL MALONE
 SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

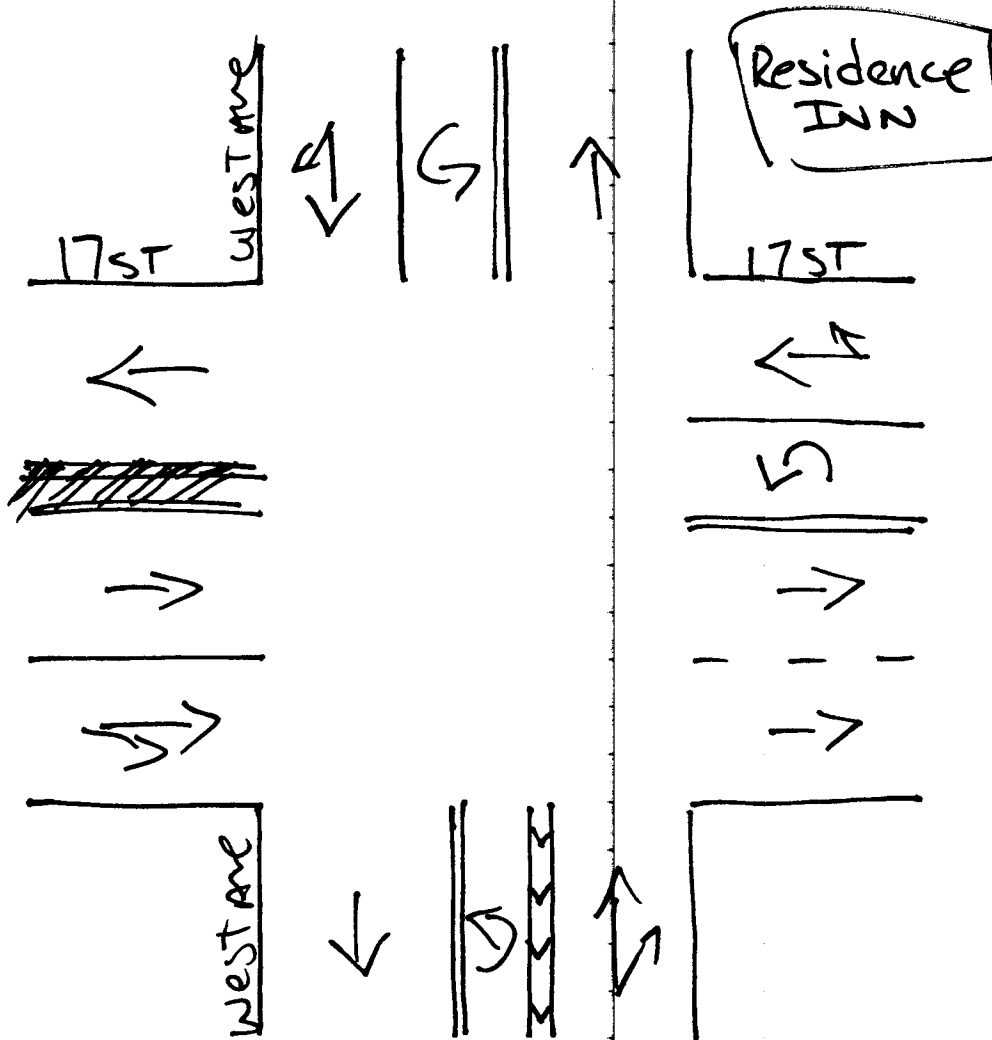
Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 17STWEST
 Page : 1

PEDESTRIANS & BIKES

WEST AVENUE					17TH STREET					WEST AVENUE					17TH STREET					
From North					From East					From South					From West					
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total			
Date 12/15/17																				
16:30	0	1	0	16	0	5	0	6	0	4	0	7	0	2	0	7	48			
16:45	0	10	0	16	0	6	0	15	0	5	0	16	0	8	0	7	83			
17:00	0	4	0	6	0	6	0	6	0	0	0	15	0	2	0	6	45			
17:15	0	4	0	9	0	11	0	10	0	3	0	8	0	4	0	15	64			
Hr Total	0	19	0	47	0	28	0	37	0	12	0	46	0	16	0	35	240			
17:30	0	12	0	9	0	12	0	18	0	3	0	8	0	6	0	9	77			
17:45	0	3	0	2	0	10	0	23	0	3	0	18	0	4	0	4	67			
18:00	0	6	0	13	0	9	0	23	0	0	0	16	0	2	0	7	76			
18:15	0	1	0	5	0	3	0	12	0	3	0	1	0	4	0	5	34			
Hr Total	0	22	0	29	0	34	0	76	0	9	0	43	0	16	0	25	254			
18:30	0	9	0	13	0	5	0	11	0	1	0	11	0	4	0	8	62			
18:45	0	4	0	16	0	4	0	8	0	3	0	5	0	1	0	10	51			
Hr Total	0	13	0	29	0	9	0	19	0	4	0	16	0	5	0	18	113			
TOTAL	0	54	0	105	0	71	0	132	0	25	0	105	0	37	0	78	607			

NEW BRIDGE

North



Miami Beach, Florida
December 15, 2017
drawn by: Luis Pabmino
Signalized

TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: WILLIAN DE LUNA VARGAS
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-1255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18STWEST
 Page : 1

ALL VEHICLES

WEST AVENUE					18TH STREET					WEST AVENUE					18TH STREET					
From North					From East					From South					From West					
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		
Date 12/15/17																				
16:30	0	3	17	13	0	3	2	7	0	0	18	47	7	0	0	20	3	20	160	
16:45	1	3	22	9	0	2	5	4	0	0	19	32	2	0	0	16	3	24	142	
17:00	1	1	17	15	0	1	2	3	1	1	24	41	2	0	0	14	6	28	156	
17:15	0	4	20	23	0	1	7	4	0	0	26	38	2	0	0	18	4	22	169	
Hr Total	2	11	76	60	0	7	16	18	1	1	87	158	13	0	0	68	16	94	627	
17:30	0	1	20	11	0	1	2	2	0	0	26	35	3	0	0	13	2	25	141	
17:45	1	3	21	28	0	2	1	2	0	0	19	37	6	0	0	22	2	26	170	
18:00	0	4	20	15	0	2	1	4	0	0	22	45	5	0	0	14	6	21	159	
18:15	0	1	19	23	0	3	2	1	0	0	24	32	2	1	1	15	7	26	156	
Hr Total	1	9	80	77	0	8	6	9	0	0	91	149	16	1	1	64	17	98	626	
18:30	0	0	13	12	0	2	0	6	0	0	22	38	0	1	1	11	4	33	142	
18:45	0	1	15	12	0	2	1	2	0	0	30	30	1	0	0	20	5	21	140	
Hr Total	0	1	28	24	0	4	1	8	0	0	52	68	1	1	1	31	9	54	282	
TOTAL	3	21	184	161	0	19	23	35	1	1	230	375	30	2	2	163	42	246	1535	

TRAFFIC SURVEY SPECIALISTS, INC.

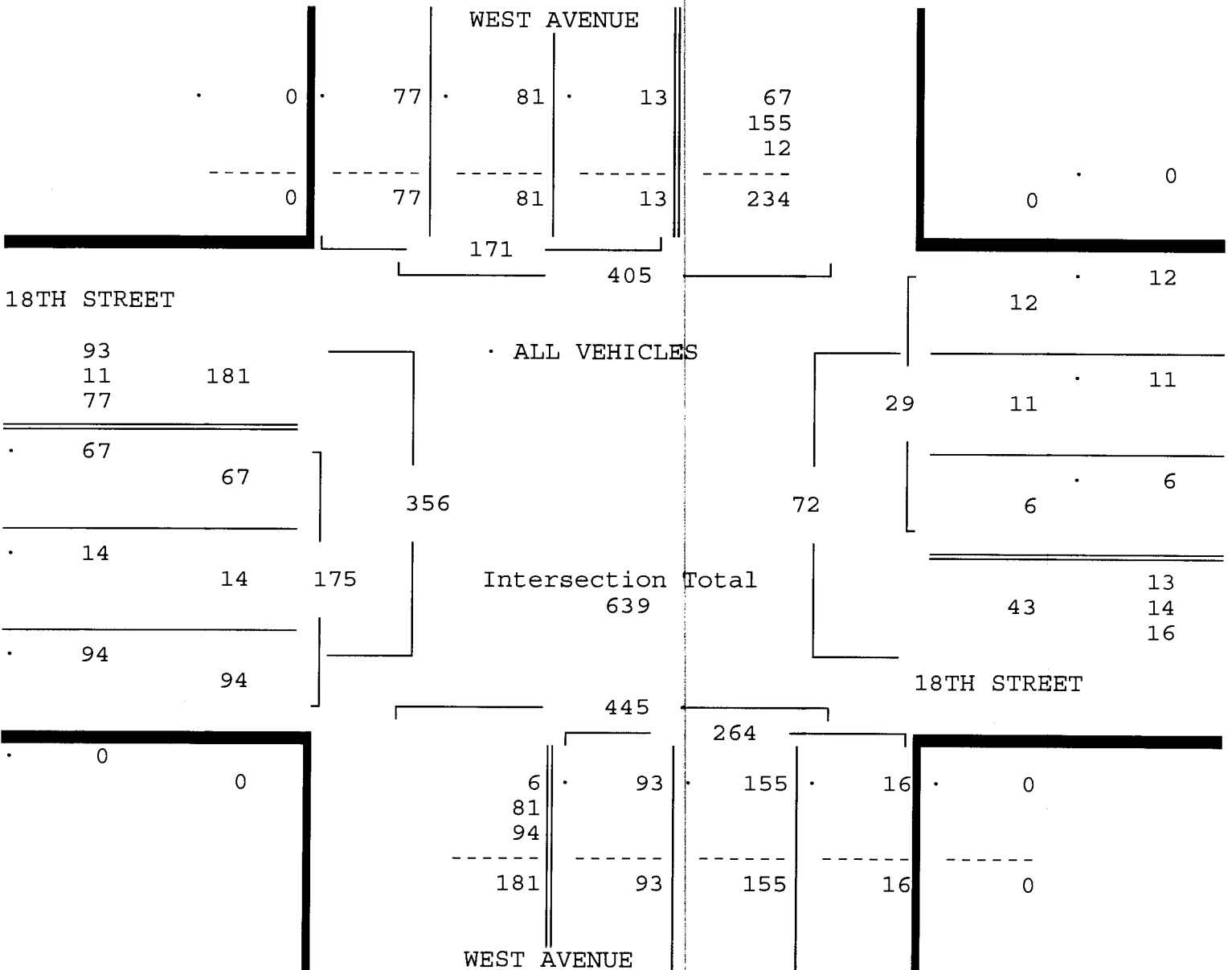
18TH STREET & WEST AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: WILLIAN DE LUNA VARGAS
NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

Site Code : 00170211
Start Date: 12/15/17
File I.D. : 18STWEST
Page : 2

ALL VEHICLES

WEST AVENUE					18TH STREET				WEST AVENUE				18TH STREET						
From North					From East				From South				From West						
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	Total
Date 12/15/17																			
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																			
Peak start 17:15					17:15				17:15				17:15						
Volume	1	12	81	77	0	6	11	12	0	93	155	16	0	67	14	94			
Percent	1%	7%	47%	45%	0%	21%	38%	41%	0%	35%	59%	6%	0%	38%	8%	54%			
Pk total	171				29				264				175						
Highest	17:45				17:15				18:00				17:45						
Volume	1	3	21	28	0	1	7	4	0	22	45	5	0	22	2	26			
Hi total	53				12				72				50						
PHF	.81				.60				.92				.88						



TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & WEST AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: WILLIAN DE LUNA VARGAS
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

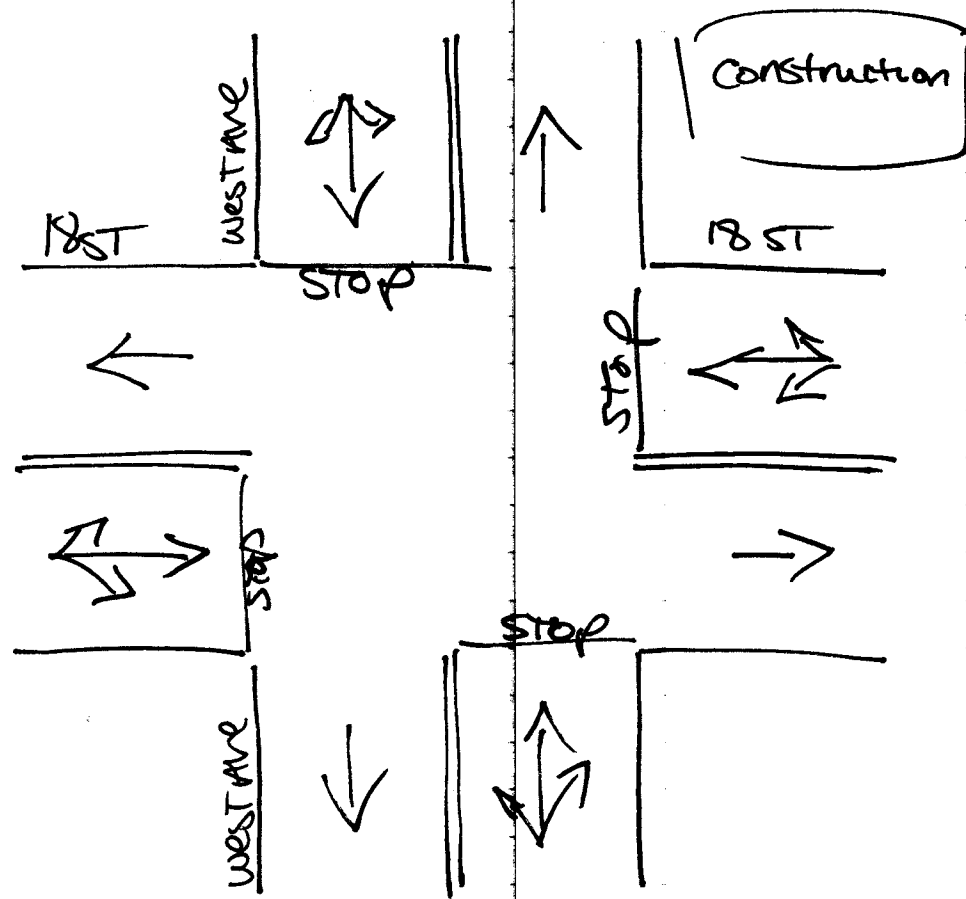
Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18STWEST
 Page : 1

PEDESTRIANS & BIKES

WEST AVENUE From North					18TH STREET From East				WEST AVENUE From South				18TH STREET From West						
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds	Total
Date 12/15/17 -----																			
16:30	0	0	0	13	0	0	0	4	0	0	0	0	6	0	0	0	8		31
16:45	0	0	0	14	0	0	0	3	0	0	0	0	3	0	1	0	7		28
17:00	0	0	0	8	0	1	0	5	0	1	0	1	1	0	0	0	7		23
17:15	0	0	0	11	0	0	0	7	0	0	0	0	12	0	0	0	4		34
Hr Total	0	0	0	46	0	1	0	19	0	1	0	22	0	0	1	0	26		116
17:30	0	2	0	7	0	0	0	6	0	0	0	3	0	2	0	7		27	
17:45	0	0	0	8	0	0	0	18	0	0	0	3	0	0	0	9		38	
18:00	0	0	0	4	0	0	0	10	0	0	0	3	0	0	0	12		29	
18:15	0	0	0	4	0	1	0	5	0	0	0	10	0	1	0	10		31	
Hr Total	0	2	0	23	0	1	0	39	0	0	0	19	0	3	0	38		125	
18:30	0	1	0	11	0	1	0	0	0	0	0	2	0	0	0	10		25	
18:45	0	0	0	4	0	0	0	2	0	0	0	0	0	0	0	13		19	
Hr Total	0	1	0	15	0	1	0	2	0	0	0	2	0	0	0	23		44	

TOTAL	0	3	0	84	0	3	0	60	0	1	0	43	0	4	0	87		285	

↑
North



Miami Beach, Florida
December 15, 2017
drawn by: Luis Palomino
NOT signalized

TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & BAY ROAD
 MIAMI BEACH, FLORIDA
 COUNTED BY: ROLANDO MARTINEZ
 NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18ST_BAY
 Page : 1

ALL VEHICLES

BAY ROAD					18TH STREET				BAY ROAD				18TH STREET							
From North					From East				From South				From West							
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		Total
Date 12/15/17																				
16:30	0	22	5	14	0	2	26	10	0	0	1	3	4	0	0	6	18	0	0	111
16:45	0	18	4	11	0	2	18	10	0	0	5	3	6	1	0	7	18	2	0	105
17:00	0	27	5	14	0	3	22	17	0	0	2	5	5	0	0	11	20	0	0	131
17:15	0	20	6	7	0	10	26	17	0	0	5	8	6	0	0	14	17	4	0	140
Hr Total	0	87	20	46	0	17	92	54	0	0	13	19	21	1	0	38	73	6	0	487
17:30	1	16	4	12	0	6	17	21	0	0	1	2	7	0	0	11	17	4	0	119
17:45	0	16	8	11	0	5	29	13	0	0	0	4	6	0	0	6	24	7	0	129
18:00	0	13	10	9	0	0	24	11	0	0	1	4	11	1	0	11	18	3	0	116
18:15	0	21	9	10	0	2	22	21	0	0	1	2	5	1	0	11	14	4	0	123
Hr Total	1	66	31	42	0	13	92	66	0	0	3	12	29	2	0	39	73	18	0	487
18:30	0	21	11	12	1	6	18	11	0	0	0	8	8	0	0	12	19	8	0	135
18:45	0	16	8	13	2	5	19	15	1	1	1	4	6	0	0	11	21	2	0	124
Hr Total	0	37	19	25	3	11	37	26	1	1	1	12	14	0	0	23	40	10	0	259
TOTAL	1	190	70	113	3	41	221	146	1	1	17	43	64	3	0	100	186	34	0	1233

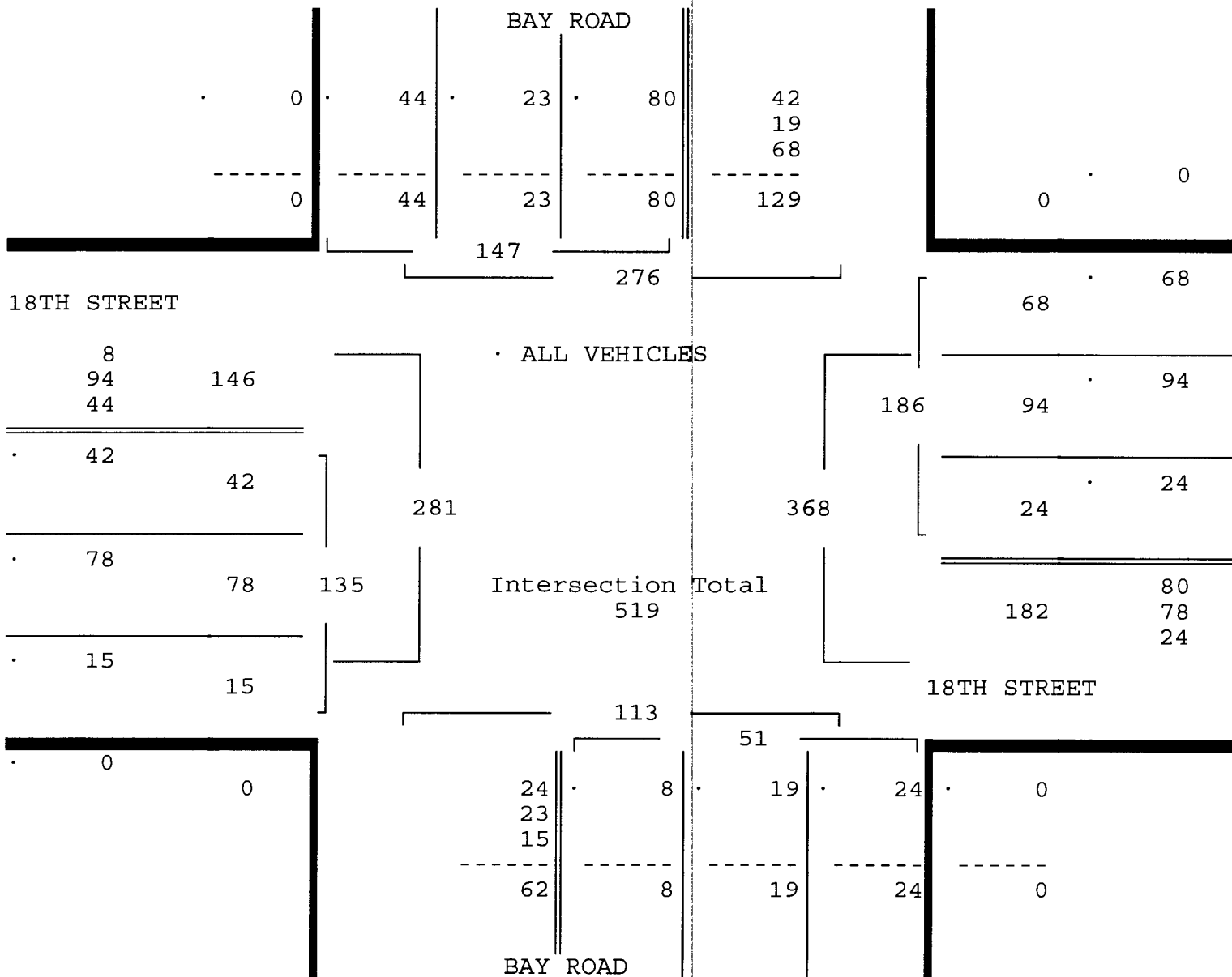
18TH STREET & BAY ROAD
 MIAMI BEACH, FLORIDA
 COUNTED BY: ROLANDO MARTINEZ
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18ST_BAY
 Page : 2

ALL VEHICLES

BAY ROAD					18TH STREET				BAY ROAD				18TH STREET							
From North					From East				From South				From West							
U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	U	Turn	Left	Thru	Right	Total
Date 12/15/17																				
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																				
Peak start 17:00					17:00				17:00				17:00							
Volume	1	79	23	44	0	24	94	68	0	8	19	24	0	42	78	15				
Percent	1%	54%	16%	30%	0%	13%	51%	37%	0%	16%	37%	47%	0%	31%	58%	11%				
Pk total	147				186				51				135							
Highest	17:00				17:15				17:15				17:45							
Volume	0	27	5	14	0	10	26	17	0	5	8	6	0	6	24	7				
Hi total	46				53				19				37							
PHF	.80				.88				.67				.91							



TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & BAY ROAD
 MIAMI BEACH, FLORIDA
 COUNTED BY: ROLANDO MARTINEZ
 NOT SIGNALIZED

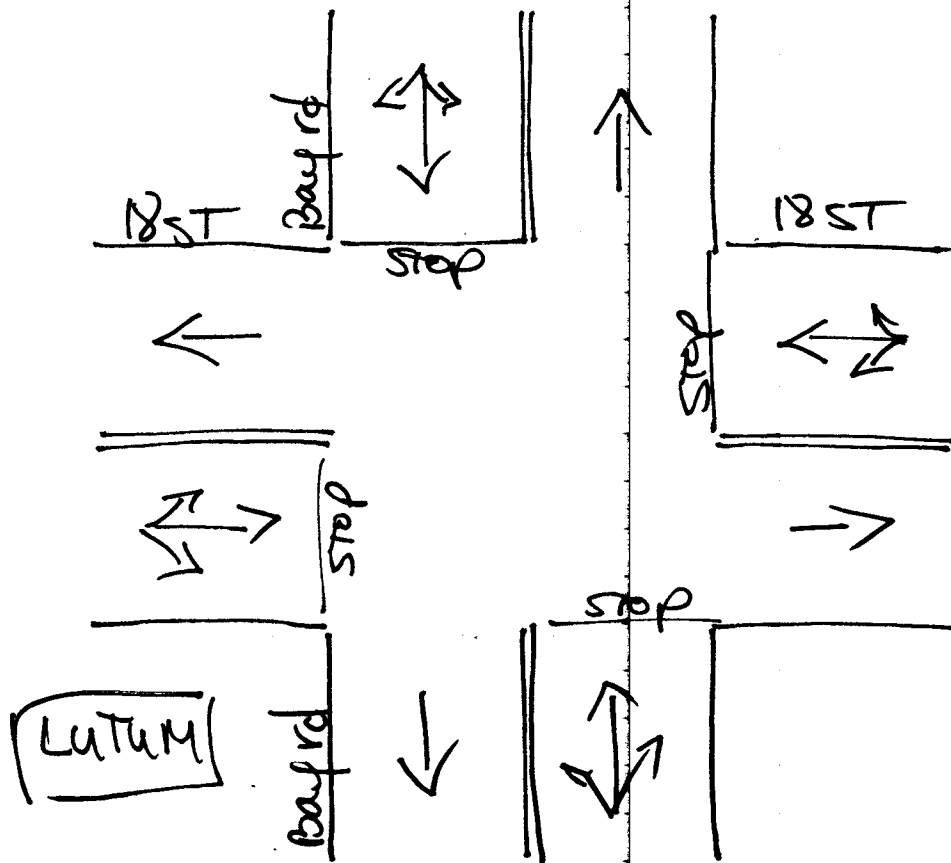
85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18ST_BAY
 Page : 1

PEDESTRIANS & BIKES

BAY ROAD					18TH STREET				BAY ROAD				18TH STREET							
From North					From East				From South				From West							
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		
Date 12/15/17 -----																				
16:30	0	6	0	15	0	1	0	4	0	0	1	0	6	0	0	3	0	2	0	
16:45	0	3	0	15	0	4	0	5	0	0	0	0	4	0	0	2	0	9	0	
17:00	0	0	0	18	0	0	0	1	0	0	3	0	4	0	0	1	0	5	0	
17:15	0	5	0	11	0	2	0	2	0	0	3	0	11	0	0	7	0	3	0	
Hr Total	0	14	0	59	0	7	0	12	0	0	7	0	25	0	0	13	0	19	0	
17:30	0	6	0	5	0	0	0	0	0	0	6	0	10	0	0	3	0	5	0	
17:45	0	3	0	17	0	1	0	2	0	0	1	0	0	0	0	2	0	10	0	
18:00	0	4	0	8	0	1	0	2	0	0	5	0	6	0	0	0	0	8	0	
18:15	0	3	0	10	0	1	0	5	0	0	0	0	3	0	0	0	0	6	0	
Hr Total	0	16	0	40	0	3	0	9	0	0	12	0	19	0	0	5	0	29	0	
18:30	0	1	0	17	0	3	0	9	0	0	2	0	5	0	0	2	0	4	0	
18:45	0	1	0	20	0	0	0	9	0	0	3	0	9	0	0	2	0	13	0	
Hr Total	0	2	0	37	0	3	0	18	0	0	5	0	14	0	0	4	0	17	0	
TOTAL	0	32	0	136	0	13	0	39	0	0	24	0	58	0	0	22	0	65	0	

↑
North



Miami Beach, Florida
December 15, 2017
drawn by: Luis Palomino
NOT Signalized

TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & PURDY AVENUE

85 SE 4TH AVENUE, UNIT 109

Site Code : 00170211

MIAMI BEACH, FLORIDA

DELRAY BEACH, FLORIDA

Start Date: 12/15/17

COUNTED BY: MARISA CRUZ

PHONE (561)272-3255

File I.D. : 18STPURD

NOT SIGNALIZED

Page : 1

ALL VEHICLES

PURDY AVENUE From North					18TH STREET From East				PURDY AVENUE From South				DRIVEWAY From West							
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	Total	
Date 12/15/17																				
16:30	0	2	22	0	0	20	2	11	0	0	1	19	16	0	0	2	0	11	106	
16:45	0	3	30	1	0	17	1	12	1	0	4	23	23	1	0	2	0	7	125	
17:00	0	4	37	3	0	19	0	18	0	0	2	18	17	0	0	3	6	2	129	
17:15	0	7	34	1	1	20	2	15	0	0	4	25	25	0	0	3	4	3	144	
Hr Total	0	16	123	5	1	76	5	56	1	0	11	85	81	1	0	10	10	23	504	
17:30	0	3	31	1	0	17	2	9	1	0	3	19	23	0	0	3	5	2	119	
17:45	0	7	35	2	0	27	3	8	0	0	1	32	28	0	0	6	3	12	164	
18:00	0	5	21	0	0	24	1	9	0	0	4	29	23	0	0	0	5	10	131	
18:15	0	10	25	3	0	15	0	15	2	0	2	23	21	0	0	5	3	10	134	
Hr Total	0	25	112	6	0	83	6	41	3	0	10	103	95	0	0	14	16	34	548	
18:30	0	9	20	1	2	20	1	12	1	0	0	13	22	0	0	4	8	3	116	
18:45	0	4	28	0	0	18	1	9	3	0	4	20	24	0	0	1	2	5	119	
Hr Total	0	13	48	1	2	38	2	21	4	0	4	33	46	0	0	5	10	8	235	
TOTAL	0	54	283	12	3	197	13	118	8	0	25	221	222	1	0	29	36	65	1287	

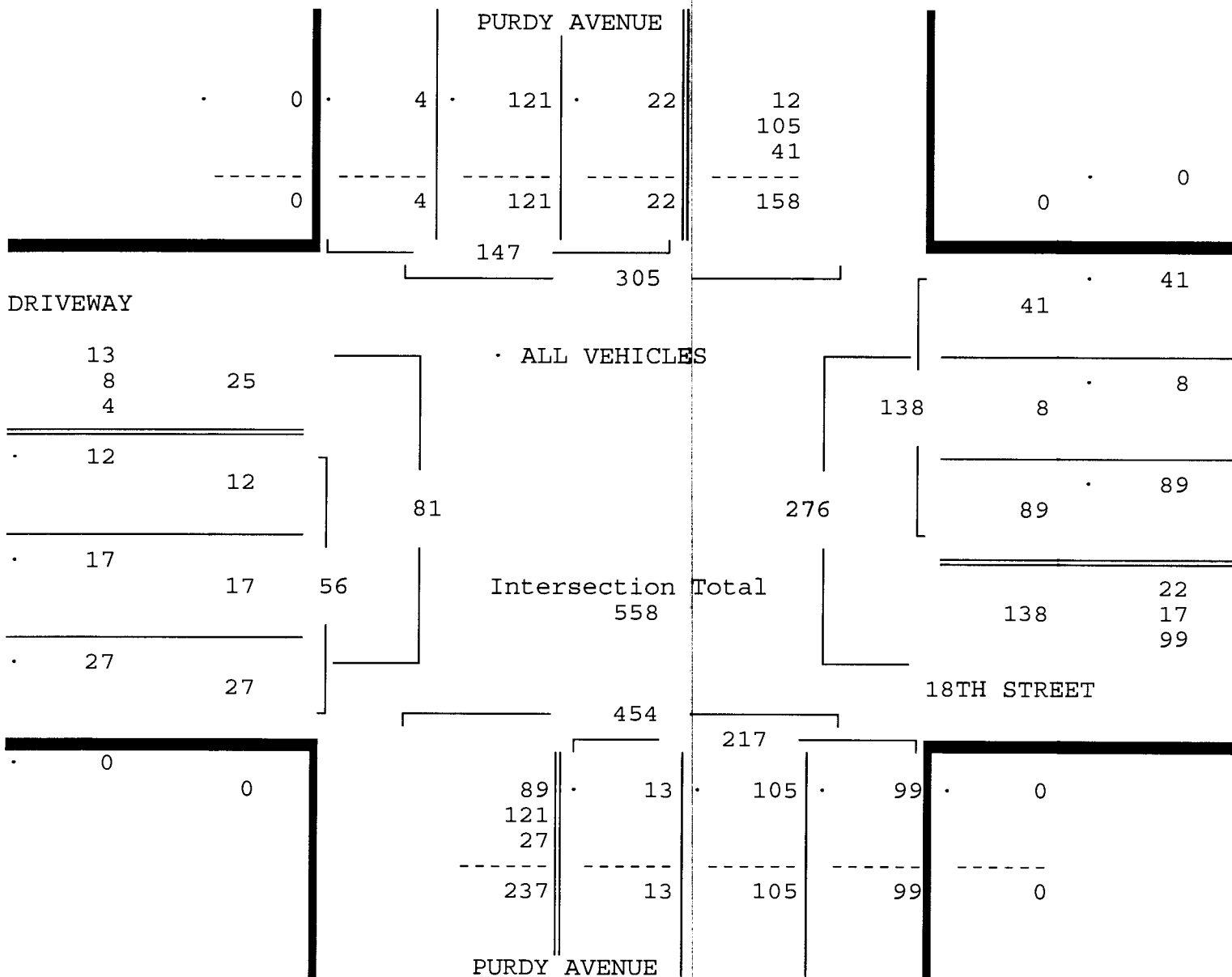
18TH STREET & PURDY AVENUE
 MIAMI BEACH, FLORIDA
 COUNTED BY: MARISA CRUZ
 NOT SIGNALIZED

TRAFFIC SURVEY SPECIALISTS, INC.
 85 SE 4TH AVENUE, UNIT 109
 DELRAY BEACH, FLORIDA
 PHONE (561)272-3255

Site Code : 00170211
 Start Date: 12/15/17
 File I.D. : 18STPURD
 Page : 2

ALL VEHICLES

PURDY AVENUE					18TH STREET				PURDY AVENUE				DRIVEWAY				
From North					From East				From South				From West				
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 12/15/17																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																	
Peak start 17:15					17:15				17:15				17:15				
Volume	0	22	121	4	1	88	8	41	1	12	105	99	0	12	17	27	
Percent	0%	15%	82%	3%	1%	64%	6%	30%	0%	6%	48%	46%	0%	21%	30%	48%	
Pk total	147				138				217				56				
Highest	17:45				17:15				17:45				17:45				
Volume	0	7	35	2	1	20	2	15	0	1	32	28	0	6	3	12	
Hi total	44				38				61				21				
PHF	.84				.91				.89				.67				



TRAFFIC SURVEY SPECIALISTS, INC.

18TH STREET & PURDY AVENUE

85 SE 4TH AVENUE, UNIT 109

Site Code : 00170211

MIAMI BEACH, FLORIDA

DELRAY BEACH, FLORIDA

Start Date: 12/15/17

COUNTED BY: MARISA CRUZ

PHONE (561)272-1255

File I.D. : 18STPURD

NOT SIGNALIZED

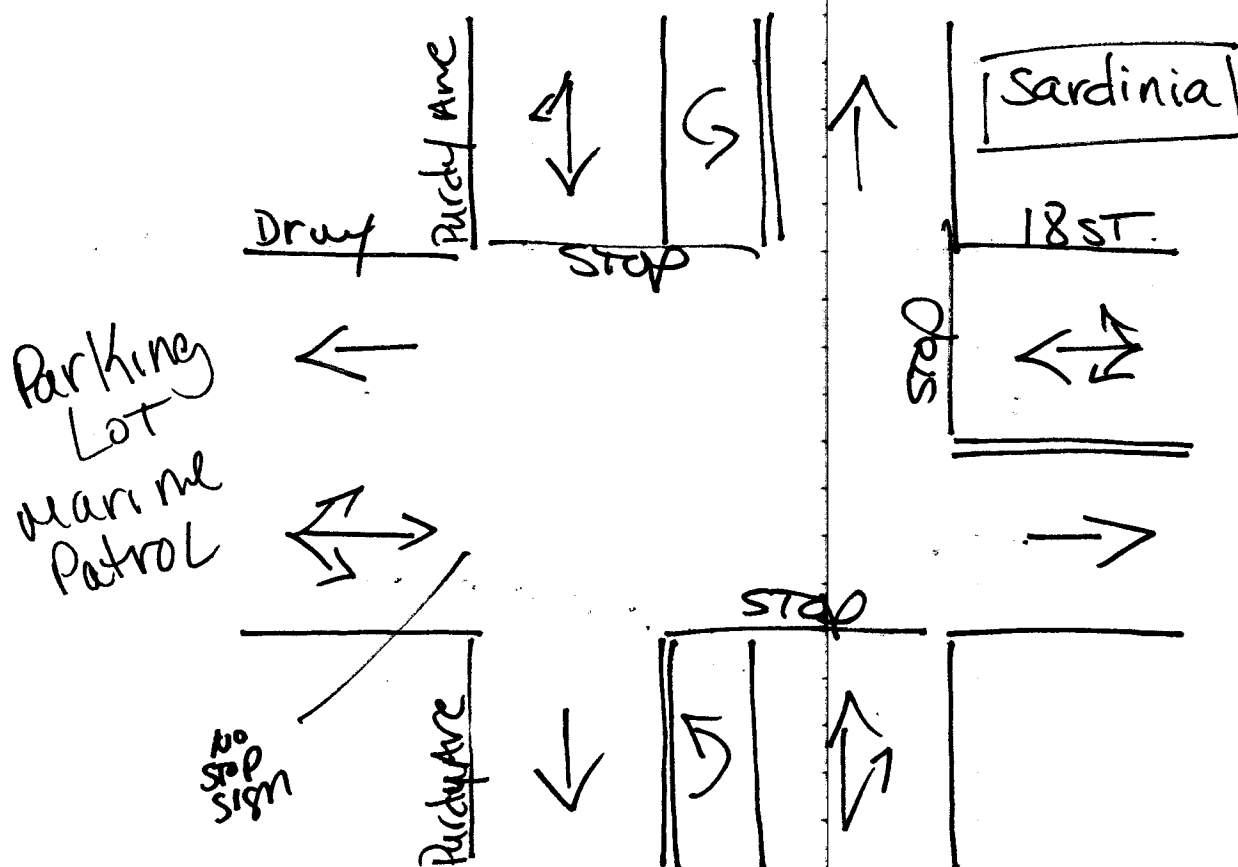
Page : 1

PEDESTRIANS & BIKES

PURDY AVENUE From North					18TH STREET From East					PURDY AVENUE From South					DRIVEWAY From West					
Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds		Left	BIKES	Right	Peds	Total	
Date 12/15/17 -----																				
16:30	0	2	0	17	0	1	0	12	0	0	0	0	2	0	0	2	0	6	42	
16:45	0	2	0	13	0	1	0	3	0	0	2	0	7	0	0	1	0	15	44	
17:00	0	2	0	7	0	2	0	7	0	0	0	0	5	0	0	1	0	5	29	
17:15	0	1	0	9	0	0	0	6	0	0	0	0	2	0	0	2	0	6	26	
Hr Total	0	7	0	46	0	4	0	28	0	0	2	0	16	0	0	6	0	32	141	
17:30	0	1	0	10	0	1	0	2	0	0	0	0	9	0	0	1	0	8	32	
17:45	0	2	0	1	0	0	0	4	0	0	0	0	6	0	0	0	0	0	13	
18:00	0	2	0	7	0	0	0	8	0	0	2	0	5	0	0	4	0	0	28	
18:15	0	0	0	2	0	1	0	9	0	0	0	0	2	0	0	0	0	2	16	
Hr Total	0	5	0	20	0	2	0	23	0	0	2	0	22	0	0	5	0	10	89	
18:30	0	0	0	18	0	0	0	9	0	0	0	0	2	0	0	0	0	1	30	
18:45	0	0	0	23	0	0	0	15	0	0	0	0	6	0	0	1	0	11	56	
Hr Total	0	0	0	41	0	0	0	24	0	0	0	0	8	0	0	1	0	12	86	

TOTAL	0	12	0	107	0	6	0	75	0	0	4	0	46	0	0	12	0	54	316	

North



Miami Beach, Florida
December 15, 2017
taken by: Luis Palomino
not signalized

TRAFFIC SURVEY SPECIALISTS, INC.

20TH STREET & WEST AVENUE

85 SE 4TH AVENUE, UNIT 109

Site Code : 00170211

MIAMI BEACH, FLORIDA

DELRAY BEACH, FLORIDA

Start Date: 12/15/17

COUNTED BY: RICH MENDEZ

PHONE (561)272-3255

File I.D. : 20STWEST

NOT SIGNALIZED

Page : 1

ALL VEHICLES

DRIVEWAY					20TH STREET					WEST AVENUE					20TH STREET					
From North					From East					From South					From West					
UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right		UTurn	Left	Thru	Right	Total	
Date 12/15/17																				
16:30	0	0	1	0	0	39	31	0	0	0	11	0	48	1	0	58	12	201		
16:45	0	0	0	0	0	31	38	1	0	0	7	0	38	0	0	54	14	183		
17:00	0	0	0	0	0	39	52	0	0	0	9	1	32	0	0	63	8	204		
17:15	0	0	0	2	0	32	55	0	0	0	6	0	41	0	0	44	20	200		
Hr Total	0	0	1	2	0	141	176	1	0	0	33	1	159	1	0	219	54	788		
17:30	0	0	1	0	0	33	56	0	0	0	9	0	32	0	2	76	9	218		
17:45	0	0	0	2	0	33	49	0	2	0	2	2	29	0	1	48	10	178		
18:00	0	0	1	0	0	27	49	0	0	0	9	1	31	0	1	49	10	178		
18:15	0	0	0	0	0	29	38	0	0	0	4	0	25	1	1	54	12	164		
Hr Total	0	0	2	2	0	122	192	0	2	0	24	3	117	1	5	227	41	738		
18:30	0	0	0	0	0	21	50	1	0	0	9	0	35	0	0	54	7	177		
18:45	0	0	1	0	0	24	38	0	0	0	13	0	27	0	0	49	12	164		
Hr Total	0	0	1	0	0	45	88	1	0	0	22	0	62	0	0	103	19	341		
TOTAL	0	0	4	4	0	308	456	2	2	2	79	4	338	2	5	549	114	1867		

TRAFFIC SURVEY SPECIALISTS, INC.

20TH STREET & WEST AVENUE

MIAMI BEACH, FLORIDA

COUNTED BY: RICH MENDEZ

NOT SIGNALIZED

85 SE 4TH AVENUE, UNIT 109

DELRAY BEACH, FLORIDA

PHONE (561)272-3255

Site Code : 00170211

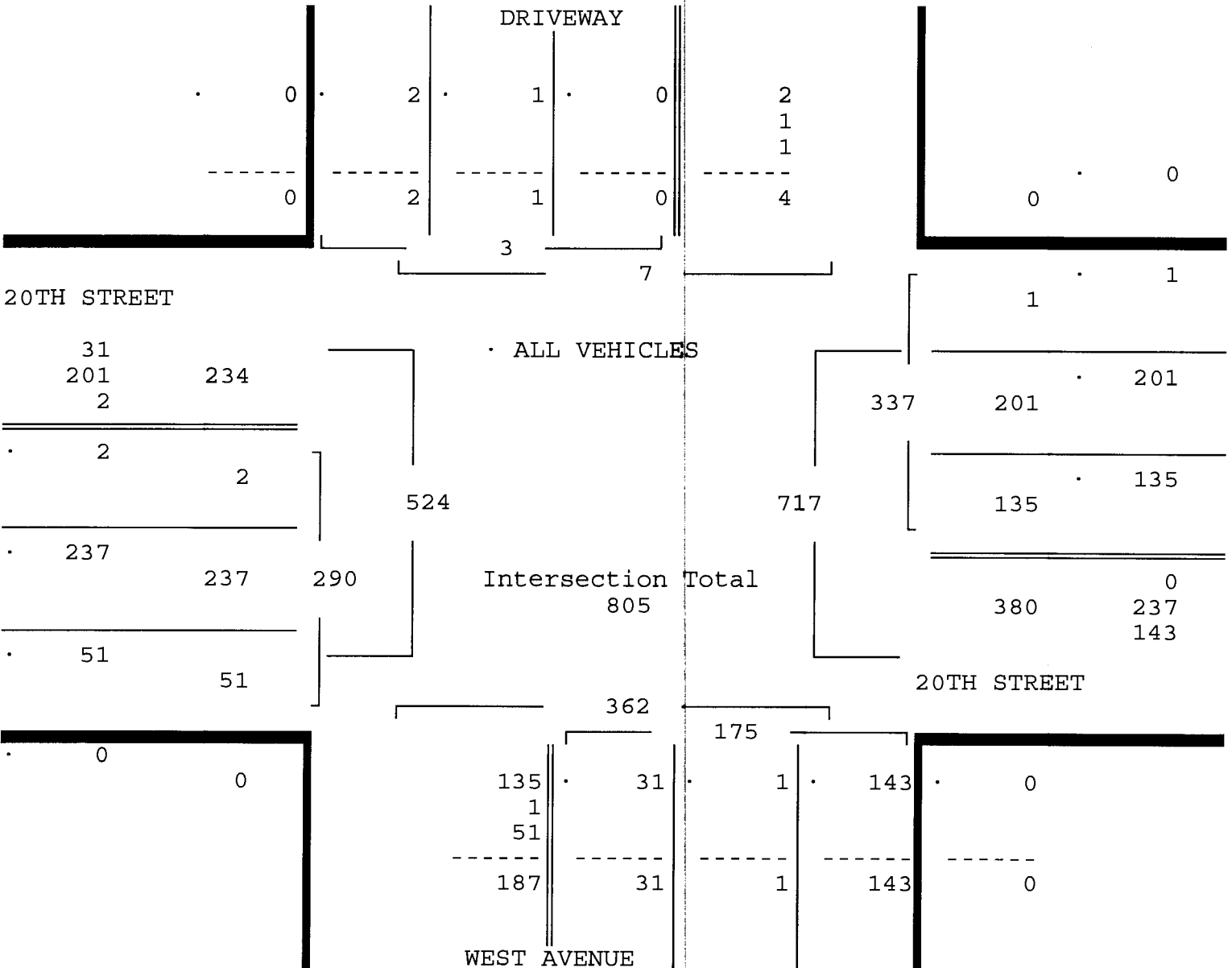
Start Date: 12/15/17

File I.D. : 20STWEST

Page : 2

ALL VEHICLES

DRIVEWAY				20TH STREET				WEST AVENUE				20TH STREET				
From North				From East				From South				From West				
UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 12/15/17 -----																
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 12/15/17																
Peak start 16:45				16:45				16:45				16:45				
Volume	0	0	1	2	0	135	201	1	0	31	1	143	0	2	237	51
Percent	0%	0%	33%	67%	0%	40%	60%	0%	0%	18%	1%	82%	0%	1%	82%	18%
Pk total	3				337				175				290			
Highest	17:15				17:00				17:15				17:30			
Volume	0	0	0	2	0	39	52	0	0	6	0	41	0	2	76	9
Hi total	2				91				47				87			
PHF	.38				.93				.93				.83			



TRAFFIC SURVEY SPECIALISTS, INC.

20TH STREET & WEST AVENUE

85 SE 4TH AVENUE, UNIT 109

Site Code : 00170211

MIAMI BEACH, FLORIDA

DELRAY BEACH, FLORIDA

Start Date: 12/15/17

COUNTED BY: RICH MENDEZ

PHONE (561)272-3255

File I.D. : 20STWEST

NOT SIGNALIZED

Page : 1

PEDESTRIANS & BIKES

DRIVEWAY					20TH STREET					WEST AVENUE					20TH STREET					
From North					From East					From South					From West					
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total			
Date 12/15/17																				
16:30	0	2	0	1	0	1	0	4	0	2	0	18	0	1	0	0	29			
16:45	0	2	0	4	0	0	0	1	0	0	0	22	0	0	0	4	33			
17:00	0	2	0	5	0	0	0	5	0	4	0	25	0	1	0	3	45			
17:15	0	4	0	4	0	0	0	1	0	4	0	13	0	0	0	4	30			
Hr Total	0	10	0	14	0	1	0	11	0	10	0	78	0	2	0	11	137			
17:30	0	2	0	6	0	0	0	1	0	2	0	19	0	0	0	2	32			
17:45	0	2	0	7	0	0	0	5	0	1	0	18	0	0	0	4	37			
18:00	0	4	0	5	0	0	0	2	0	6	0	13	0	0	0	2	32			
18:15	0	1	0	6	0	0	0	6	0	1	0	18	0	2	0	3	37			
Hr Total	0	9	0	24	0	0	0	14	0	10	0	68	0	2	0	11	138			
18:30	0	0	0	11	0	0	0	2	0	0	0	15	0	0	0	6	34			
18:45	0	1	0	7	0	0	0	0	0	1	0	12	0	0	0	1	22			
Hr Total	0	1	0	18	0	0	0	2	0	1	0	27	0	0	0	7	56			
TOTAL	0	20	0	56	0	1	0	27	0	21	0	173	0	4	0	29	331			

Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

Page No : 1

Groups Printed- Auto - Heavy Vehicles

	Bay Rd Southbound					20th Street Westbound					Bay Rd Northbound					20th Street Eastbound					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
09:00 AM	0	0	0	0	0	0	36	25	0	61	27	0	1	0	28	2	34	0	0	36	125
09:15 AM	0	0	0	0	0	0	32	29	0	61	30	0	10	0	40	4	14	0	0	18	119
09:30 AM	0	0	0	0	0	0	31	18	0	49	32	0	4	0	36	3	18	0	0	21	106
09:45 AM	0	0	0	0	0	0	31	19	0	50	38	0	2	0	40	2	25	0	0	27	117
Total	0	0	0	0	0	0	130	91	0	221	127	0	17	0	144	11	91	0	0	102	467
10:00 AM	0	0	0	0	0	0	34	23	0	57	33	0	3	0	36	6	21	0	0	27	120
10:15 AM	0	0	0	0	0	0	39	34	0	73	45	0	4	0	49	9	20	0	0	29	151
10:30 AM	0	0	0	0	0	0	31	20	0	51	51	0	6	0	57	6	22	0	0	28	136
10:45 AM	0	0	0	0	0	0	20	8	0	28	0	0	0	0	0	4	31	0	0	35	63
Total	0	0	0	0	0	0	124	85	0	209	129	0	13	0	142	25	94	0	0	119	470
11:00 AM	0	0	0	0	0	0	22	19	0	41	36	0	4	0	40	11	22	0	0	33	114
11:15 AM	0	0	0	0	0	0	32	8	0	40	33	0	0	0	33	4	26	0	0	30	103
11:30 AM	0	0	0	0	0	0	28	26	0	54	54	0	1	0	55	9	21	0	0	30	139
11:45 AM	0	0	0	0	0	0	32	22	0	54	33	0	6	0	39	7	29	0	0	36	129
Total	0	0	0	0	0	0	114	75	0	189	156	0	11	0	167	31	98	0	0	129	485
12:00 PM	0	0	0	0	0	0	34	19	0	53	40	0	2	0	42	16	29	0	0	45	140
12:15 PM	0	0	0	0	0	0	38	16	0	54	45	0	4	0	49	6	29	0	1	36	139
12:30 PM	0	0	0	0	0	0	31	20	0	51	40	0	6	0	46	14	23	0	0	37	134
12:45 PM	0	0	0	0	0	0	27	13	0	40	41	0	8	0	49	10	28	0	0	38	127
Total	0	0	0	0	0	0	130	68	0	198	166	0	20	0	186	46	109	0	1	156	540
01:00 PM	0	0	0	0	0	0	42	19	0	61	48	0	8	0	56	7	24	0	0	31	148
01:15 PM	0	0	0	0	0	0	30	20	0	50	39	0	2	0	41	16	29	0	0	45	136
01:30 PM	0	0	0	0	0	0	30	15	0	45	45	0	9	0	54	3	31	0	0	34	133
01:45 PM	0	0	0	0	0	0	33	19	0	52	26	0	4	0	30	11	28	0	0	39	121
Total	0	0	0	0	0	0	135	73	0	208	158	0	23	0	181	37	112	0	0	149	538
02:00 PM	0	0	0	0	0	0	34	17	0	51	43	0	4	0	47	6	25	0	0	31	129
02:15 PM	0	0	0	0	0	0	30	20	0	50	42	0	7	0	49	10	33	0	0	43	142
02:30 PM	0	0	0	0	0	0	36	16	0	52	54	0	6	0	60	3	20	0	0	23	135
02:45 PM	0	0	0	0	0	0	28	14	0	42	35	0	3	0	38	5	17	0	1	23	103
Total	0	0	0	0	0	0	128	67	0	195	174	0	20	0	194	24	95	0	1	120	509
03:00 PM	0	0	0	0	0	0	36	14	0	50	54	0	4	0	58	4	26	0	0	30	138
03:15 PM	0	0	0	0	0	0	36	22	0	58	33	0	3	0	36	9	28	0	0	37	131
03:30 PM	0	0	0	0	0	0	40	18	0	58	42	0	6	0	48	3	37	0	0	40	146
03:45 PM	0	0	0	0	0	0	32	17	0	49	28	0	4	1	33	7	30	0	0	37	119
Total	0	0	0	0	0	0	144	71	0	215	157	0	17	1	175	23	121	0	0	144	534

Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

Page No : 2

Groups Printed- Auto - Heavy Vehicles

	Bay Rd Southbound					20th Street Westbound					Bay Rd Northbound					20th Street Eastbound					
Start Time	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Right	Thru	Left	U-Turns	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	37	13	0	50	41	0	4	0	45	2	26	0	0	28	123
04:15 PM	0	0	0	0	0	0	52	16	0	68	33	0	5	0	38	4	30	0	0	34	140
04:30 PM	0	0	0	0	0	0	66	18	0	84	39	0	4	0	43	8	29	0	0	37	164
04:45 PM	0	0	0	0	0	0	49	11	0	60	32	0	4	0	36	2	27	0	0	29	125
Total	0	0	0	0	0	0	204	58	0	262	145	0	17	0	162	16	112	0	0	128	552
05:00 PM	0	0	0	0	0	0	30	8	0	38	32	0	1	0	33	2	17	0	0	19	90
05:15 PM	0	0	0	0	0	0	64	26	0	90	44	0	5	0	49	4	29	0	0	33	172
05:30 PM	0	0	0	0	0	0	57	12	0	69	38	0	7	0	45	4	21	0	0	25	139
05:45 PM	0	0	0	0	0	0	43	14	0	57	35	0	3	0	38	0	31	0	0	31	126
Total	0	0	0	0	0	0	194	60	0	254	149	0	16	0	165	10	98	0	0	108	527
06:00 PM	0	0	0	0	0	0	47	26	0	73	36	0	5	0	41	2	20	0	0	22	136
06:15 PM	0	0	0	0	0	0	39	15	0	54	27	0	5	0	32	4	29	0	0	33	119
06:30 PM	0	0	0	0	0	0	30	28	0	58	58	0	5	0	63	4	24	0	0	28	149
06:45 PM	0	0	0	0	0	0	34	17	0	51	41	0	1	0	42	13	24	0	0	37	130
Total	0	0	0	0	0	0	150	86	0	236	162	0	16	0	178	23	97	0	0	120	534
07:00 PM	0	0	0	0	0	0	28	23	0	51	37	0	5	0	42	10	24	0	0	34	127
07:15 PM	0	0	0	0	0	0	39	25	0	64	33	0	9	0	42	8	21	0	0	29	135
07:30 PM	0	0	0	0	0	0	28	29	0	57	32	0	8	0	40	8	16	0	9	33	130
07:45 PM	0	0	0	0	0	0	34	26	0	60	37	0	7	0	44	12	15	0	1	28	132
Total	0	0	0	0	0	0	129	103	0	232	139	0	29	0	168	38	76	0	10	124	524
08:00 PM	0	0	0	0	0	0	35	24	0	59	35	0	7	0	42	10	18	0	0	28	129
08:15 PM	0	0	0	0	0	0	37	28	0	65	32	0	5	0	37	8	20	0	0	28	130
08:30 PM	0	0	0	0	0	0	31	22	0	53	40	0	6	0	46	4	19	0	0	23	122
08:45 PM	0	0	0	0	0	0	36	25	0	61	38	0	8	0	46	5	20	0	0	25	132
Total	0	0	0	0	0	0	139	99	0	238	145	0	26	0	171	27	77	0	0	104	513
Grand Total	0	0	0	0	0	0	1721	936	0	2657	1807	0	225	1	2033	311	1180	0	12	1503	6193
Apprch %	0	0	0	0	0	0	64.8	35.2	0	64.8	88.9	0	11.1	0	88.9	20.7	78.5	0	0.8	79.3	
Total %	0	0	0	0	0	0	27.8	15.1	0	42.9	29.2	0	3.6	0	32.8	5	19.1	0	0.2	24.3	
Auto	0	0	0	0	0	0	1716	923	0	2639	1798	0	222	0	2020	306	1171	0	0	1477	6136
% Auto	0	0	0	0	0	0	99.7	98.6	0	99.3	99.5	0	98.7	0	99.4	98.4	99.2	0	0	98.3	99.1
Heavy Vehicles	0	0	0	0	0	0	5	13	0	18	9	0	3	1	13	5	9	0	12	26	57
% Heavy Vehicles	0	0	0	0	0	0	0.3	1.4	0	0.7	0.5	0	1.3	100	0.6	1.6	0.8	0	100	1.7	0.9

Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

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[illegible]

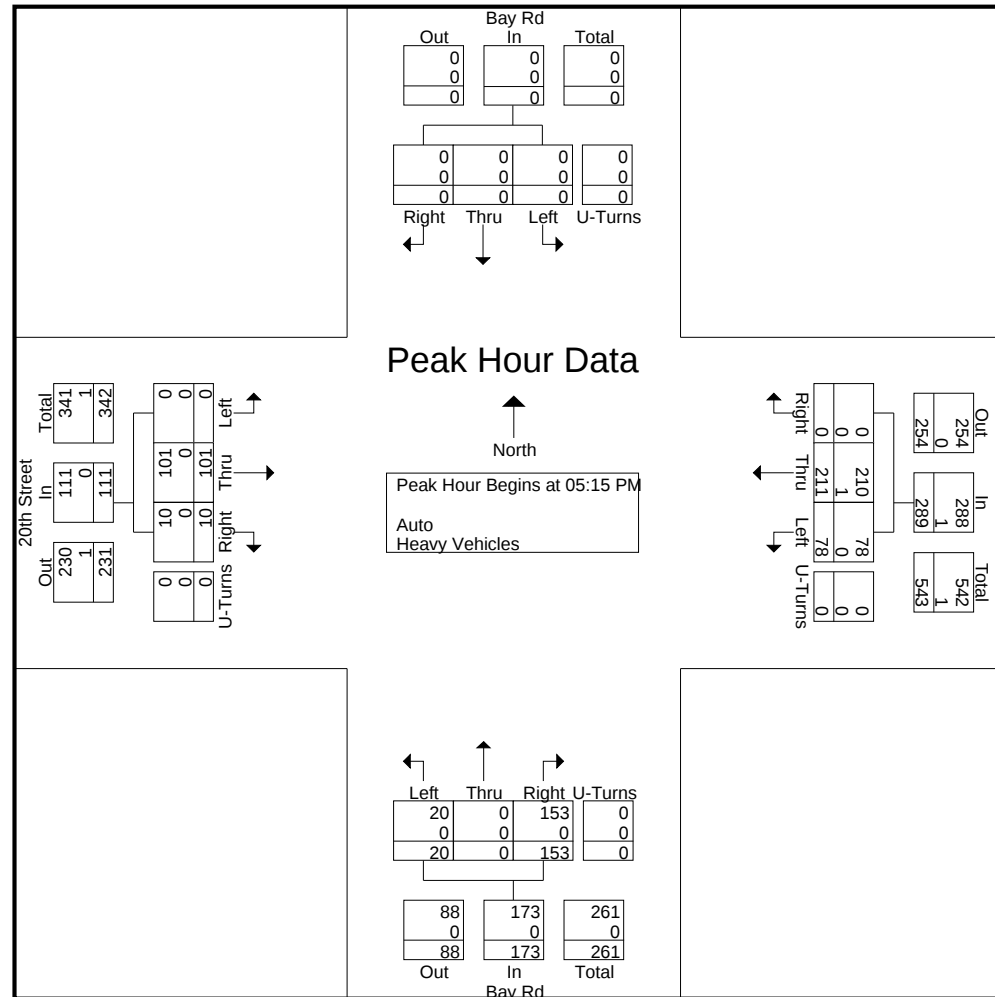
Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

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Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

Page No : 1

Groups Printed- Peds

	Bay Rd Southbound					20th Street Westbound					Bay Rd Northbound					20th Street 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
09:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	17	17	0	0	0	3	3	21
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	17	17	0	0	0	3	3	20
09:30 AM	0	0	0	0	0	0	0	0	6	6	0	0	0	16	16	0	0	0	2	2	24
09:45 AM	0	0	0	0	0	0	0	0	3	3	0	0	0	18	18	0	0	0	1	1	22
Total	0	0	0	0	0	0	0	0	10	10	0	0	0	68	68	0	0	0	9	9	87
10:00 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	15	15	0	0	0	0	0	16
10:15 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	33	33	0	0	0	0	0	35
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	22	22	0	0	0	4	4	26
10:45 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	4	4	0	0	0	70	70	0	0	0	4	4	78
11:00 AM	0	0	0	0	0	0	0	0	4	4	0	0	0	16	16	0	0	0	0	0	20
11:15 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	20	20	0	0	0	0	0	22
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	19	19	0	0	0	2	2	21
11:45 AM	0	0	0	0	0	0	0	0	4	4	0	0	0	33	33	0	0	0	1	1	38
Total	0	0	0	0	0	0	0	0	10	10	0	0	0	88	88	0	0	0	3	3	101
12:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	34	34	0	0	0	1	1	36
12:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	34	34	0	0	0	2	2	38
12:30 PM	0	0	0	0	0	0	0	0	5	5	0	0	0	39	39	0	0	0	1	1	45
12:45 PM	0	0	0	0	0	0	0	0	6	6	0	0	0	23	23	0	0	0	1	1	30
Total	0	0	0	0	0	0	0	0	14	14	0	0	0	130	130	0	0	0	5	5	149
01:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	26	26	0	0	0	1	1	28
01:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	21	21	0	0	0	8	8	30
01:30 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	27	27	0	0	0	4	4	34
01:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	25	25	0	0	0	0	0	27
Total	0	0	0	0	0	0	0	0	7	7	0	0	0	99	99	0	0	0	13	13	119
02:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	17	17	0	0	0	0	0	18
02:15 PM	0	0	0	0	0	0	0	0	4	4	0	0	0	13	13	0	0	0	2	2	19
02:30 PM	0	0	0	0	0	0	0	0	5	5	0	0	0	41	41	0	0	0	1	1	47
02:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	14	14	0	0	0	2	2	18
Total	0	0	0	0	0	0	0	0	12	12	0	0	0	85	85	0	0	0	5	5	102
03:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	14	14	0	0	0	1	1	17
03:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	14	14	0	0	0	0	0	15
03:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	18	18	0	0	0	2	2	22
03:45 PM	0	0	0	0	0	0	0	0	11	11	0	0	0	23	23	0	0	0	1	1	35
Total	0	0	0	0	0	0	0	0	16	16	0	0	0	69	69	0	0	0	4	4	89

Traf Tech Engineering, Inc.

File Name : Bay Rd & 20th Street

Site Code : 00000000

Start Date : 3/9/2018

Page No : 2

Groups Printed- Peds

	Bay Rd Southbound					20th Street Westbound					Bay Rd Northbound					20th Street 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
04:00 PM	0	0	0	0	0	0	0	0	3	3	1	0	0	16	17	0	0	0	1	1	21
04:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	13	13	0	0	0	1	1	16
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18	0	0	0	0	0	18
04:45 PM	0	0	0	0	0	0	0	0	4	4	0	0	0	19	19	0	0	0	0	0	23
Total	0	0	0	0	0	0	0	0	9	9	1	0	0	66	67	0	0	0	2	2	78
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	16	16	0	0	0	0	0	17
05:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	21	21	0	0	0	0	0	23
05:30 PM	0	0	0	0	0	0	0	0	5	5	0	0	0	19	19	0	0	0	5	5	29
05:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	24	24	0	0	0	2	2	28
Total	0	0	0	0	0	0	0	0	10	10	0	0	0	80	80	0	0	0	7	7	97
06:00 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	15	15	0	0	0	3	3	21
06:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	29	29	0	0	0	1	1	31
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	28	28	0	0	0	8	8	36
06:45 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	15	15	0	0	0	0	0	18
Total	0	0	0	0	0	0	0	0	7	7	0	0	0	87	87	0	0	0	12	12	106
07:00 PM	0	0	0	0	0	0	0	0	5	5	0	0	0	26	26	0	0	0	5	5	36
07:15 PM	0	0	0	0	0	0	0	0	6	6	0	0	0	15	15	0	0	0	0	0	21
07:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	22	22	0	0	0	1	1	25
07:45 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	23	23	0	0	0	2	2	28
Total	0	0	0	0	0	0	0	0	16	16	0	0	0	86	86	0	0	0	8	8	110
08:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	26	26	0	0	0	3	3	31
08:15 PM	0	0	0	0	0	0	0	0	5	5	0	0	0	20	20	0	0	0	2	2	27
08:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	21	21	0	0	0	2	2	25
08:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	23	23	0	0	0	3	3	27
Total	0	0	0	0	0	0	0	0	10	10	0	0	0	90	90	0	0	0	10	10	110
Grand Total	0	0	0	0	0	0	0	0	125	125	1	0	0	1018	1019	0	0	0	82	82	1226
Apprch %	0	0	0	0	0	0	0	0	100	100	0.1	0	0	99.9	99.9	0	0	0	100	100	
Total %	0	0	0	0	0	0	0	0	10.2	10.2	0.1	0	0	83	83.1	0	0	0	6.7	6.7	

APPENDIX D

Peak Season Conversion Factors Historical Traffic Data and Committed Developments

2016 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 8700 MIAMI-DADE NORTH

WEEK	DATES	SF	MOCF: 0.98 PSCF
1	01/01/2016 - 01/02/2016	1.02	1.04
2	01/03/2016 - 01/09/2016	1.03	1.05
3	01/10/2016 - 01/16/2016	1.04	1.06
4	01/17/2016 - 01/23/2016	1.03	1.05
5	01/24/2016 - 01/30/2016	1.02	1.04
6	01/31/2016 - 02/06/2016	1.00	1.02
7	02/07/2016 - 02/13/2016	0.99	1.01
* 8	02/14/2016 - 02/20/2016	0.97	0.99
* 9	02/21/2016 - 02/27/2016	0.97	0.99
*10	02/28/2016 - 03/05/2016	0.98	1.00
*11	03/06/2016 - 03/12/2016	0.98	1.00
*12	03/13/2016 - 03/19/2016	0.98	1.00
*13	03/20/2016 - 03/26/2016	0.98	1.00
*14	03/27/2016 - 04/02/2016	0.98	1.00
*15	04/03/2016 - 04/09/2016	0.98	1.00
*16	04/10/2016 - 04/16/2016	0.98	1.00
*17	04/17/2016 - 04/23/2016	0.98	1.00
*18	04/24/2016 - 04/30/2016	0.98	1.00
*19	05/01/2016 - 05/07/2016	0.98	1.00
*20	05/08/2016 - 05/14/2016	0.99	1.01
21	05/15/2016 - 05/21/2016	0.99	1.01
22	05/22/2016 - 05/28/2016	0.99	1.01
23	05/29/2016 - 06/04/2016	1.00	1.02
24	06/05/2016 - 06/11/2016	1.00	1.02
25	06/12/2016 - 06/18/2016	1.01	1.03
26	06/19/2016 - 06/25/2016	1.02	1.04
27	06/26/2016 - 07/02/2016	1.02	1.04
28	07/03/2016 - 07/09/2016	1.03	1.05
29	07/10/2016 - 07/16/2016	1.03	1.05
30	07/17/2016 - 07/23/2016	1.03	1.05
31	07/24/2016 - 07/30/2016	1.03	1.05
32	07/31/2016 - 08/06/2016	1.02	1.04
33	08/07/2016 - 08/13/2016	1.02	1.04
34	08/14/2016 - 08/20/2016	1.02	1.04
35	08/21/2016 - 08/27/2016	1.02	1.04
36	08/28/2016 - 09/03/2016	1.02	1.04
37	09/04/2016 - 09/10/2016	1.02	1.04
38	09/11/2016 - 09/17/2016	1.01	1.03
39	09/18/2016 - 09/24/2016	1.01	1.03
40	09/25/2016 - 10/01/2016	1.00	1.02
41	10/02/2016 - 10/08/2016	1.00	1.02
42	10/09/2016 - 10/15/2016	0.99	1.01
43	10/16/2016 - 10/22/2016	1.00	1.02
44	10/23/2016 - 10/29/2016	1.00	1.02
45	10/30/2016 - 11/05/2016	1.01	1.03
46	11/06/2016 - 11/12/2016	1.01	1.03
47	11/13/2016 - 11/19/2016	1.02	1.04
48	11/20/2016 - 11/26/2016	1.02	1.04
49	11/27/2016 - 12/03/2016	1.02	1.04
50	12/04/2016 - 12/10/2016	1.02	1.04
51	12/11/2016 - 12/17/2016	1.02	1.04
52	12/18/2016 - 12/24/2016	1.03	1.05
53	12/25/2016 - 12/31/2016	1.04	1.06

* PEAK SEASON

21-FEB-2017 10:54:35

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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 0012 - SR 907/ALTON RD, 200' N OF 20 ST (MIAMI BEACH)

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2016	46000	C	N 22500		S 23500	9.00	54.50	3.70
2015	46000	C	N 22500		S 23500	9.00	54.70	3.20
2014	47500	S	N 22000		S 25500	9.00	54.50	2.50
2013	47500	F	N 22000		S 25500	9.00	52.40	2.50
2012	48500	C	N 22500		S 26000	9.00	55.70	2.50
2011	47000	C	N 22500		S 24500	9.00	55.10	3.50
2010	46000	C	N 23000		S 23000	8.98	54.08	3.50
2009	47000	C	N 23500		S 23500	8.99	53.24	3.90
2008	46500	C	N 23000		S 23500	9.09	55.75	2.10
2007	47500	C	N 23000		S 24500	8.01	54.34	2.20
2006	46500	C	N 23000		S 23500	7.97	54.22	3.00
2005	46500	F	N 22500		S 24000	8.80	53.80	5.30
2004	46500	C	N 22500		S 24000	9.00	53.30	5.30
2003	42500	C	N 20500		S 22000	8.80	53.40	4.80
2002	44000	C	N 21500		S 22500	9.80	52.30	1.70
2001	45500	C	N 22500		S 23000	8.20	53.50	5.00

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

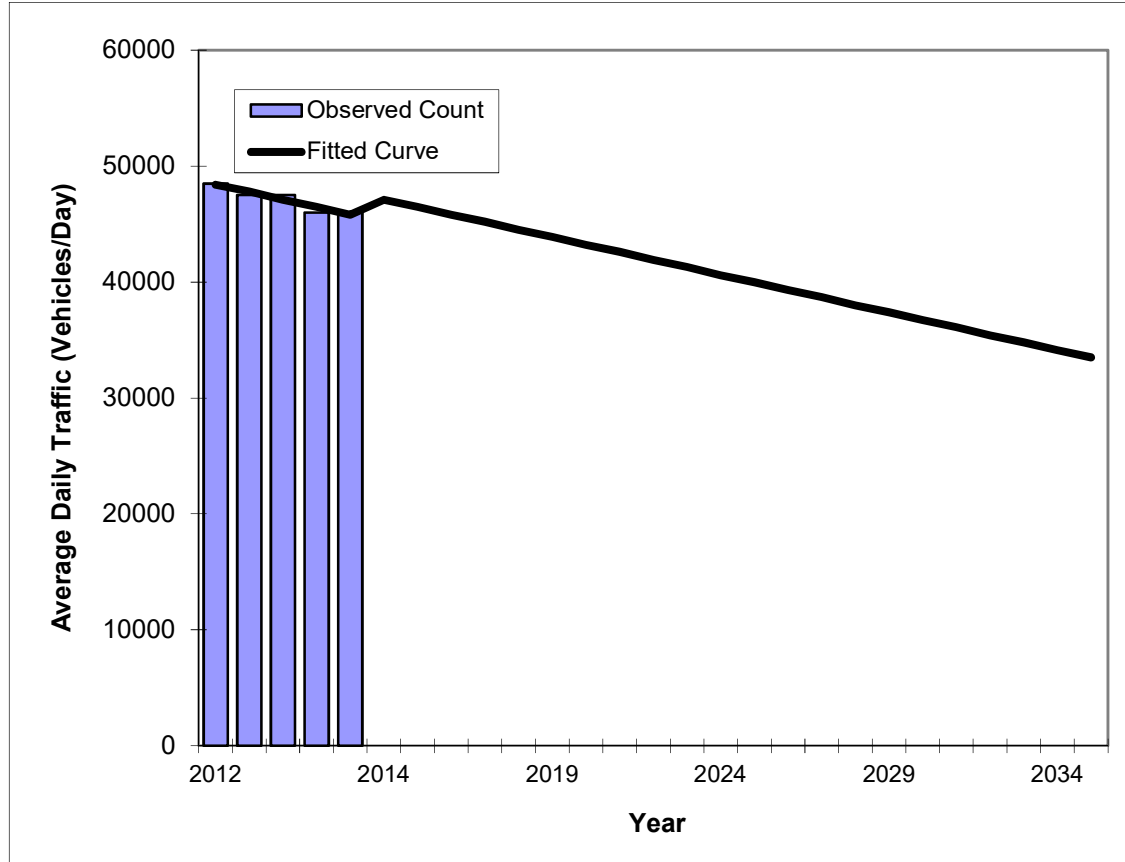
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR 907/ALTON RD -- 200' N OF 20 ST

PIN#	0
Location	1

County:	Miami-Dade
Station #:	0012
Highway:	SR 907/ALTON RD



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	48500	48400
2013	47500	47800
2014	47500	47100
2015	46000	46500
2016	46000	45800
2017 Opening Year Trend		
2017	N/A	45200
2018 Mid-Year Trend		
2018	N/A	44500
2020 Design Year Trend		
2020	N/A	43200
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-650
Trend R-squared:	89.89%
Trend Annual Historic Growth Rate:	-1.34%
Trend Growth Rate (2016 to Design Year):	-1.42%
Printed:	16-Jan-18
Straight Line Growth Option	

*Axle-Adjusted

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2016 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 2542 - SR 907/ALTON RD, 200' S OF VENETIAN CSWY

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
----	-----		-----		-----	-----	-----	-----
2016	30000	C	N 15000		S 15000	9.00	54.50	5.90
2015	41000	C	N 21000		S 20000	9.00	54.70	1.60
2014	30500	F	N 14000		S 16500	9.00	54.50	7.60
2013	30500	C	N 14000		S 16500	9.00	52.40	7.60
2012	37000	C	N 19000		S 18000	9.00	55.70	7.50
2011	39500	C	N 19000		S 20500	9.00	55.10	1.50
2010	39000	C	N 20000		S 19000	8.98	54.08	1.50
2009	38500	C	N 19000		S 19500	8.99	53.24	6.20
2008	37500	C	N 17500		S 20000	9.09	55.75	4.80
2007	39500	C	N 18500		S 21000	8.01	54.34	5.20
2006	36500	C	N 17500		S 19000	7.97	54.22	1.60
2005	34000	C	N 17000		S 17000	8.80	53.80	9.30
2004	39000	C	N 18500		S 20500	9.00	53.30	9.30
2003	32500	C	N 16000		S 16500	8.80	53.40	10.60
2002	33000	C	N 16000		S 17000	9.80	52.30	5.80
2001	32500	C	N 16500		S 16000	8.20	53.50	5.50

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

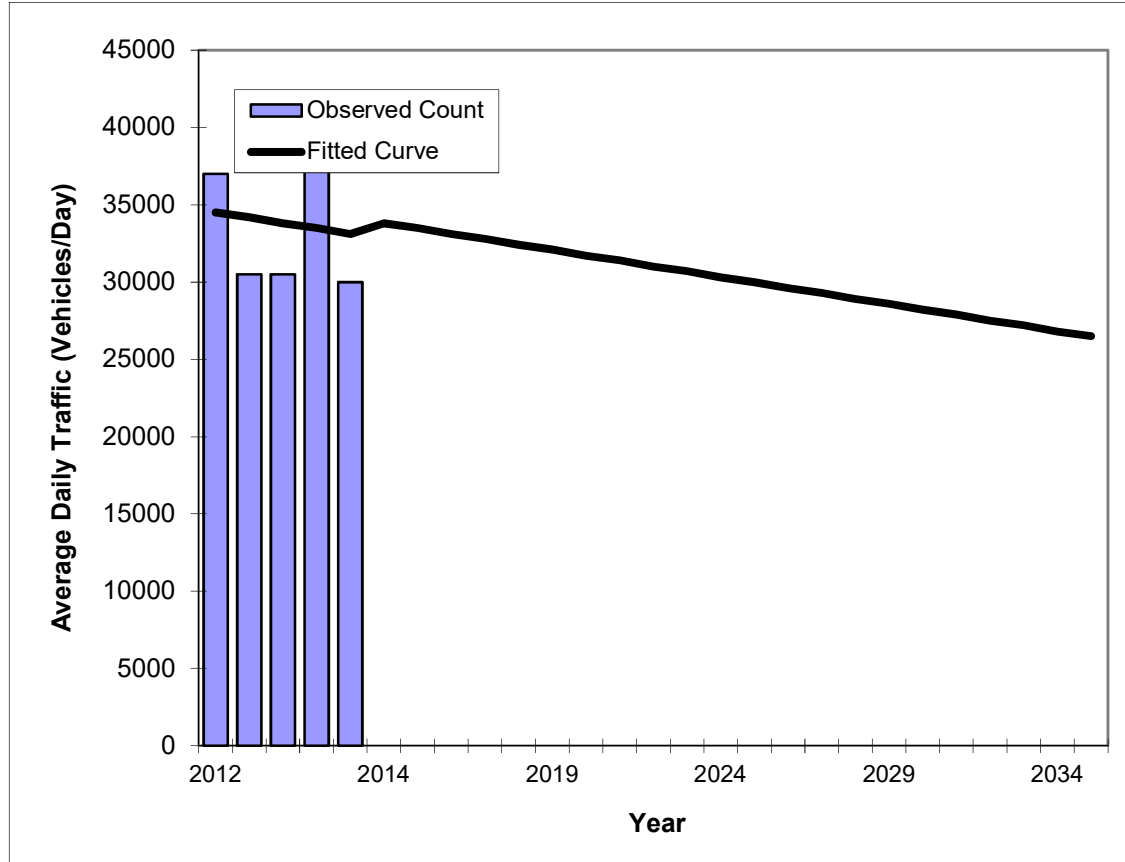
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR 907/ALTON RD -- 200' S OF VENETIAN CSWY

PIN#	0
Location	2

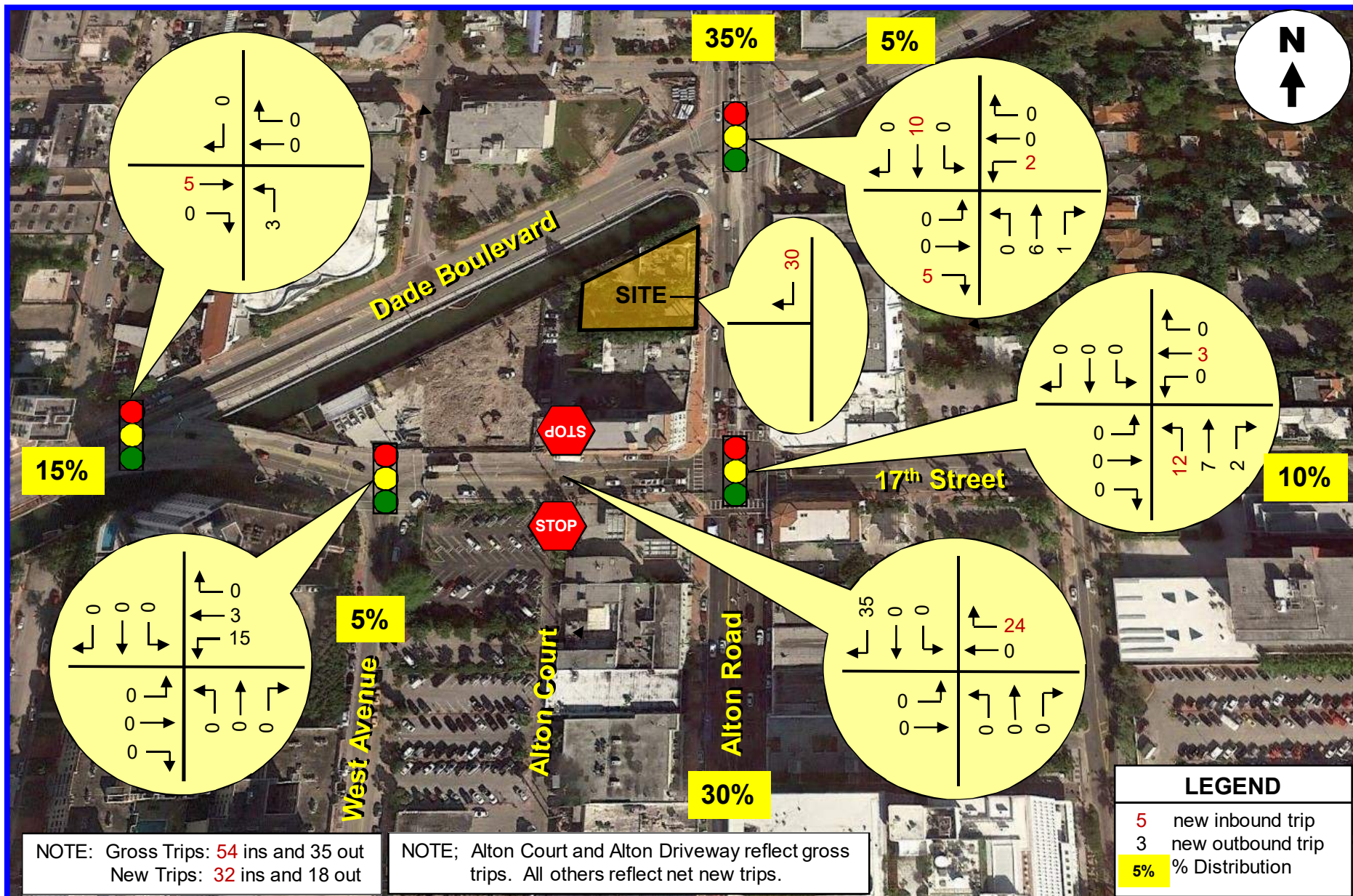
County:	Miami-Dade
Station #:	2542
Highway:	SR 907/ALTON RD

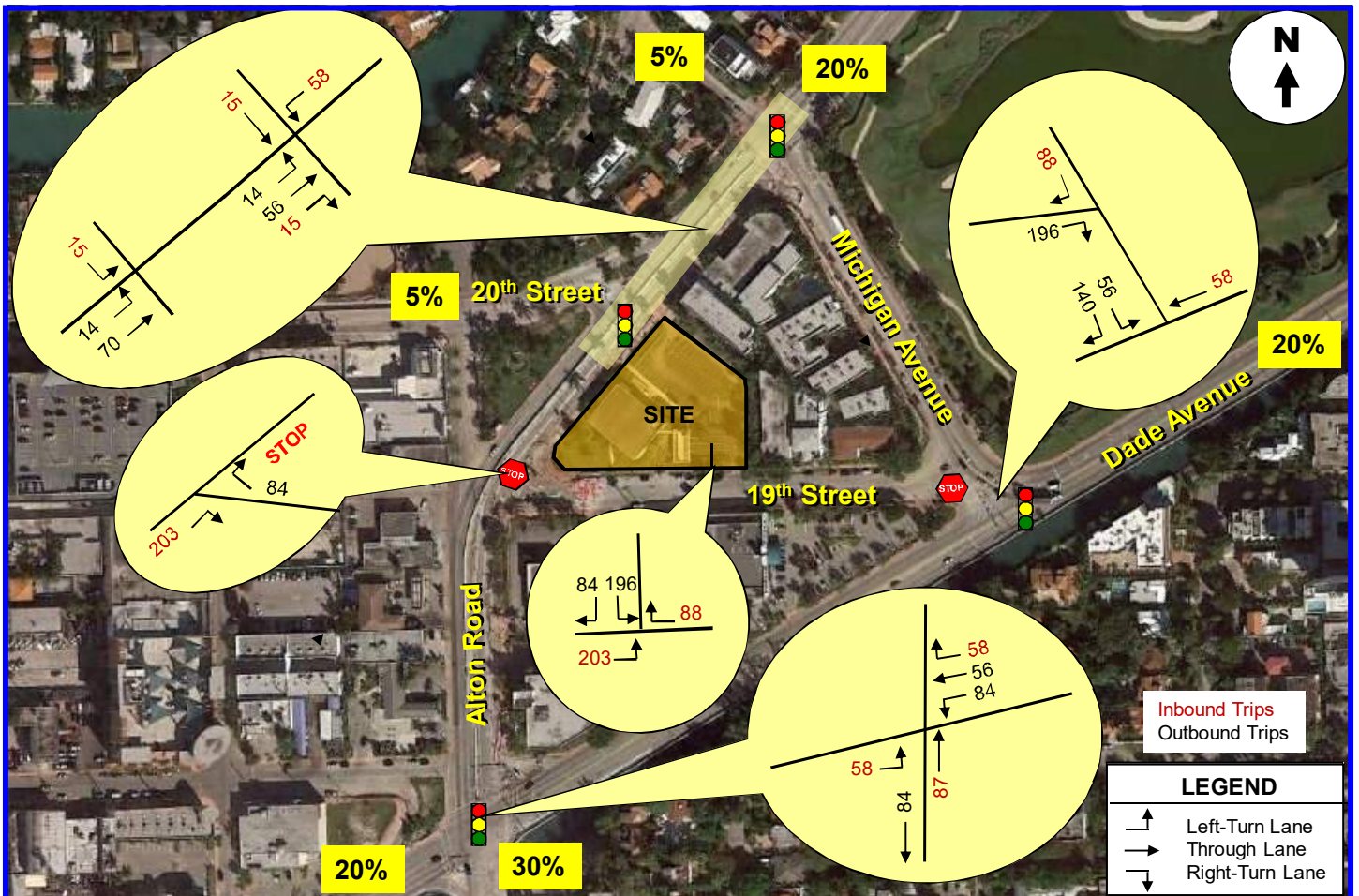


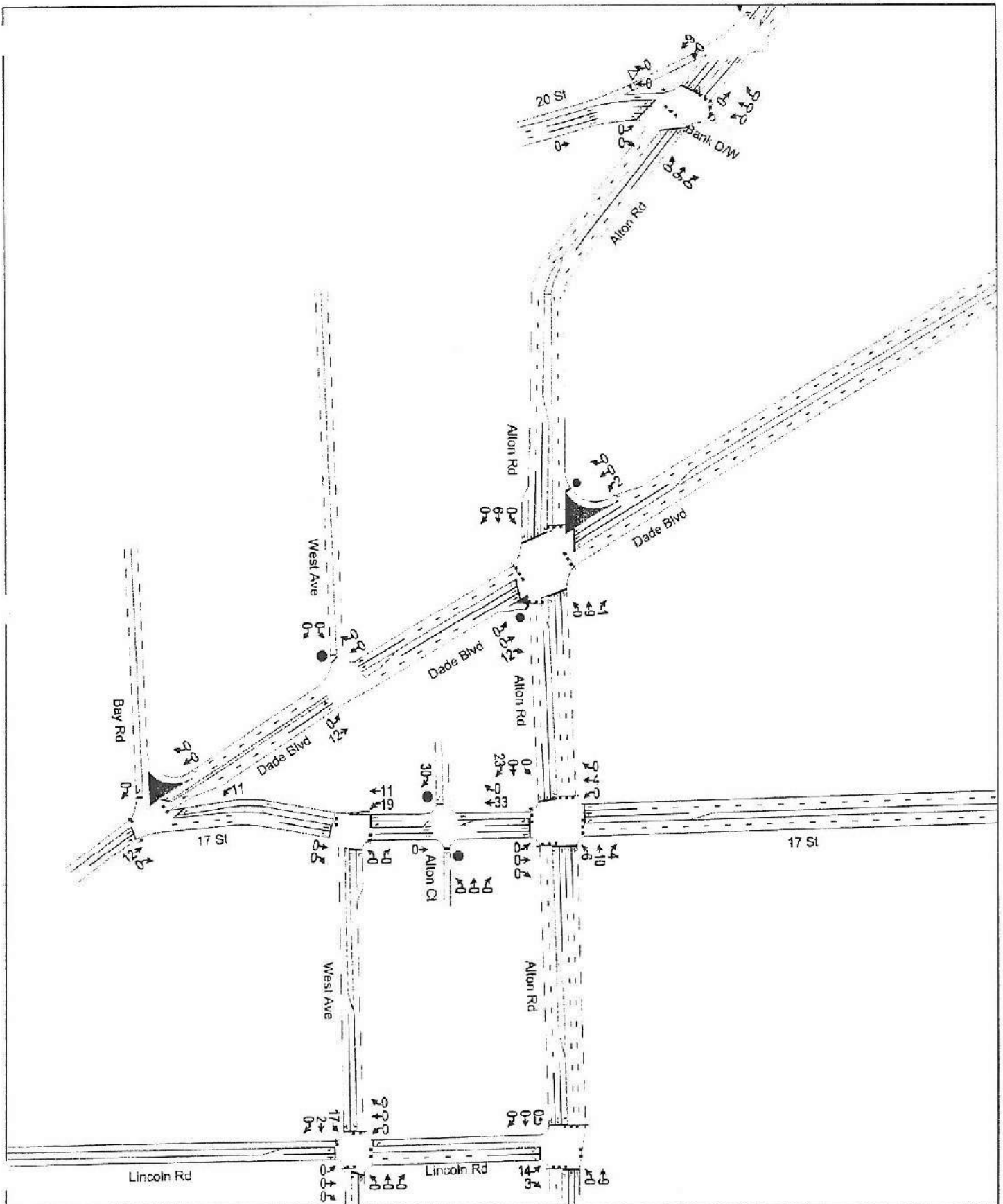
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2012	37000	34500
2013	30500	34200
2014	30500	33800
2015	41000	33500
2016	30000	33100
2017 Opening Year Trend		
2017	N/A	32800
2018 Mid-Year Trend		
2018	N/A	32400
2020 Design Year Trend		
2020	N/A	31700
TRANPLAN Forecasts/Trends		

** Annual Trend Increase:	-350
Trend R-squared:	1.25%
Trend Annual Historic Growth Rate:	-1.01%
Trend Growth Rate (2016 to Design Year):	-1.06%
Printed:	16-Jan-18
Straight Line Growth Option	

*Axle-Adjusted







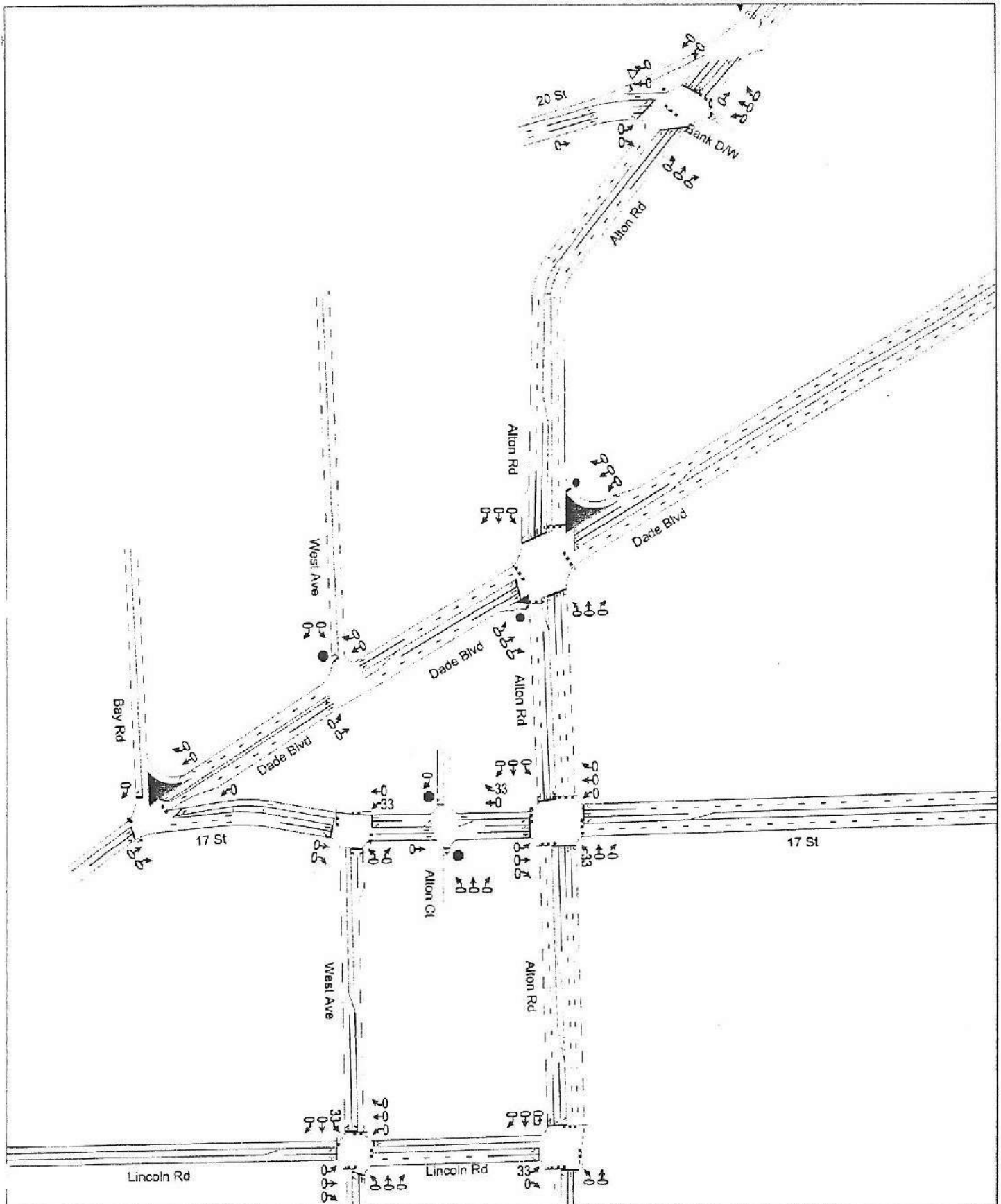


TABLE: A4
17th Street Hotel
PM PEAK HOUR INTERSECTION APPROACH VOLUMES

INTERSECTION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14			
	INTERSECTION NAME	APPROACH	MOVEMENT	PM PEAK HR COUNT	DATE OF COUNT	PHF	SF	PM PEAK SEASONALLY ADJUSTED (EXISTING) (2012)	BACKGROUND GROWTH @ 0.52% FOR 3 YEARS	COMMITTED DEVELOPMENT	TOTAL TRAFFIC (VPH) (PROPOSED W/O PROJECT) (2015)	SITE TRAFFIC (VPH) VALET OPERATION	SITE TRAFFIC (VPH) VALET OPERATION	TOTAL TRAFFIC (VPH) (PROPOSED W/ PROJECT) (2015)			
1	Allan Road & 17 Street	SOUTHBOUND	SBR	171	Tuesday, July 10, 2012	0.933	1.02	174	3	0	178	23	0	201			
			SBT	810			1.02	826	15	0	842	0	0	842			
			SBL	209			1.02	213	4	0	217	0	0	217			
			TOTAL	1190				1214	23	0	1237	23	0	1260			
		WESTBOUND	WBR	301			1.02	307	8	0	313	0	0	313			
			WBT	144			1.02	147	3	0	150	4	0	154			
			WBL	272			1.02	277	5	0	283	0	0	283			
			TOTAL	717				731	14	0	745	4	0	749			
		NORTHBOUND	NBR	173			1.02	176	3	0	180	4	0	184			
			NBT	785			1.02	802	15	0	817	10	0	827			
NBL	59		1.02	50	1	0	51	5	33	100							
TOTAL	1018			1038	19	0	1058	20	33	1111							
EASTBOUND	EBR	75	1.02	78	1	0	79	0	0	79							
	EBT	142	1.02	145	3	0	148	0	0	148							
	EBL	372	1.02	379	7	0	387	0	0	387							
	TOTAL	590		602	11	0	613	0	0	613							
		TOTAL		3515			3585	67	0	3652	47	33	3732				
2	17 Street & West Avenue	SOUTHBOUND	SBR	0	Tuesday, July 10, 2012	0.958	1.02	0	0	0	0	0	0	0			
			SBT	0			1.02	0	0	0	0	0	0	0			
			SBL	0			1.02	0	0	0	0	0	0	0			
			TOTAL	0				0	0	0	0	0	0	0			
		WESTBOUND	WBR	0			1.02	0	0	0	0	0	0	0	0	0	0
			WBT	176			1.02	180	3	7	190	11	0	201			
			WBL	301			1.02	307	6	0	313	19	33	365			
			TOTAL	477				487	9	7	503	30	33	566			
		NORTHBOUND	NBR	255			1.02	270	5	0	275	0	0	275	0	0	275
			NBT	0			1.02	0	0	0	0	0	0	0	0	0	0
NBL	215		1.02	219	4	14	237	0	0	237	0	0	237				
TOTAL	490			490	9	14	513	0	0	513							
EASTBOUND	EBR	259	1.02	264	5	13	282	0	0	282	0	0	282				
	EBT	228	1.02	233	4	7	244	0	0	244	0	0	244				
	EBL	0	1.02	0	0	0	0	0	0	0	0	0	0				
	TOTAL	487		497	9	20	526	0	0	526	0	0	526				
		TOTAL		1444			1473	28	47	1541	30	33	1604				

TABLE: A4

17th Street Hotel

PM PEAK HOUR INTERSECTION APPROACH VOLUMES

INTERSECTION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
INTERSECTION NAME	APPROACH	MOVEMENT	PM PEAK HR COUNT	DATE OF COUNT	PHF	SF	PM PEAK SEASONALLY ADJUSTED (EXISTING) (2012)	BACKGROUND GROWTH @ 0.62% FOR 3 YEARS	COMMITTED DEVELOPMENT	TOTAL TRAFFIC (VPH) (PROPOSED W/O PROJECT) (2016)	SITE TRAFFIC (VPH) VALET OPERATION	TOTAL TRAFFIC (VPH) (PROPOSED W/ PROJECT) (2016)		
3	Dade Boulevard & West Avenue	SBR	50	Tuesday, July 10, 2012	0.967	1.02	51	1	0	52	0	52		
		SBL	0			1.02	0	0	0	0	0			
		TOTAL	90			1.02	92	2	7	101	0	101		
		SWBR	91			1.02	143	3	7	152	0	152		
		SWBL	181			1.02	93	2	0	95	0	95		
	SWBT	0	1.02			185	3	14	202	0	202			
	SWBL	0	1.02			0	0	0	0	0	0			
	TOTAL	272	1.02			277	6	14	297	0	297			
	NBR	0	1.02			0	0	0	0	0	0			
	NBL	0	1.02			0	0	0	0	0	0			
	TOTAL	0	1.02			0	0	0	0	0	0			
	TOTAL	0	1.02			0	0	0	0	0	0			
	NORTHEASTBOUND	*NEBT	237			1.02	242	5	0	246	12	258		
*NEBL		25	1.02	26	0	21	47	0	47					
TOTAL		262	1.02	267	5	21	293	12	305					
TOTAL		674	1.02	687	13	42	742	12	754					
TOTAL		43	1.02	44	1	0	45	0	45					
4	SOUTHBOUND	SBR	900	Tuesday, July 10, 2012	0.985	1.02	918	17	13	948	9	957		
		SBL	50			1.02	51	1	7	59	0	59		
		SBU	22			1.02	22	0	0	23	0	23		
		TOTAL	1016			1.02	1013	19	20	1075	9	1084		
		WBR	96			1.02	98	2	0	100	0	100		
	WBT	110	1.02			112	2	7	121	0	121			
	WBL	259	1.02			274	5	0	280	2	282			
	TOTAL	475	1.02			485	9	7	501	2	503			
	NBR	224	1.02			228	4	0	233	1	234			
	NBL	1141	1.02			1164	22	7	1193	9	1202			
	TOTAL	1439	1.02			1468	27	14	1509	10	1519			
	*EBR	59	1.02			60	1	61	121	0	121			
	*EBT	101	1.02			103	2	7	112	0	112			
*EBL	97	1.02	99	2	0	101	0	101						
TOTAL	257	1.02	262	5	7	274	12	286						
TOTAL	3186	1.02	3227	61	48	3359	33	3392						

TABLE: A4

17th Street Hotel
PM PEAK HOUR INTERSECTION APPROACH VOLUMES

INTERSECTION NO.	INTERSECTION NAME	2	3	4	5	6	7	8	9	10	11	12	13	14			
		APPROACH	MOVEMENT	PM PEAK HR COUNT	DATE OF COUNT	PHF	SF	PM PEAK SEASONALLY ADJUSTED (EXISTING) (2012)	BACKGROUND GROWTH @ 0.92% FOR 3 YEARS	COMMITTED DEVELOPMENT	TOTAL TRAFFIC (VPH) (PROPOSED W/O PROJECT) (2016)	SITE TRAFFIC (VPH) VALET OPERATION	SITE TRAFFIC (VPH) VALET OPERATION	TOTAL TRAFFIC (VPH) (PROPOSED W/ PROJECT) (2016)			
5	17 Street / Bay Road & Dade Boulevard	SOUTHBOUND	SBR	23	Tuesday, July 10, 2012	0.963	1.02	23	0	27	51	0	0	51			
			SBT	0			1.02	0	0	0	0	0	0				
			SBL	0			1.02	0	0	0	0	0	0				
		TOTAL	23	1.02			23	0	27	51	0	0	51				
		WESTBOUND	WBR	0			1.02	0	0	0	0	0	0	0	0	0	0
			WBT	0			1.02	0	0	0	0	0	0	0	0	0	0
			TOTAL	357			1.02	364	7	21	392	11	0	403			
		NORTHEASTBOUND	NBR	508			1.02	516	10	20	546	0	20	546	0	0	546
			NBL	319			1.02	325	6	0	331	0	0	331	0	0	343
			TOTAL	825			1.02	842	16	20	877	12	0	889			
		SOUTHWESTBOUND	SWBR	69			1.02	70	1	14	86	0	0	86	0	0	86
			SWBT	152			1.02	165	3	0	168	0	0	168	0	0	168
TOTAL	231		1.02	236	4	14	254	0	0	254							
TOTAL																	
6	Allon Road & 20 Street	SOUTHBOUND	SBR	205	Tuesday, July 10, 2012	0.984	1.02	209	27	82	1574	23	0	1597			
			SBT	846			1.02	863	16	0	879	9	0	888			
			SBL	23			1.02	23	0	0	24	0	0	24			
		TOTAL	1074	1.02			1095	21	52	1168	9	0	1177				
		WESTBOUND	WBR	12			1.02	12	0	0	12	0	0	12	0	0	12
			WBT	1			1.02	1	0	0	1	0	0	1	0	0	1
			TOTAL	13			1.02	13	0	0	13	0	0	13	0	0	13
		NORTHBOUND	NBR	1089			1.02	1111	21	0	1132	9	0	1141	0	0	1141
			NBL	107			1.02	109	2	16	127	0	0	127	0	0	127
			TOTAL	1288			1.02	1253	23	16	1292	9	0	1301			
		EASTBOUND	EBR	5			1.02	22	0	0	23	0	0	23	0	0	23
			EBT	5			1.02	0	0	0	0	0	0	0	0	0	0
TOTAL	247		1.02	252	5	45	302	0	0	302							
TOTAL																	

17th Street Hotel

PM PEAK HOUR INTERSECTION APPROACH VOLUMES

INTERSECTION NO.	INTERSECTION NAME	APPROACH	MOVEMENT	PM PEAK HR COUNT	DATE OF COUNT	PHF	SF	PM PEAK SEASONALLY ADJUSTED (EXISTING) (2012)	BACKGROUND GROWTH @ 0.62% FOR 3 YEARS	COMMITTED DEVELOPMENT	TOTAL TRAFFIC (VPH) (PROPOSED W/O PROJECT) (2018)	SITE TRAFFIC (VPH) VALET OPERATION	TOTAL TRAFFIC (VPH) (PROPOSED W/ PROJECT) (2018)					
7	Alton Road & Lincoln Road	SOUTHBOUND	SBR	100	Tuesday, July 10, 2012	0.975	1.02	102	2	0	104	0	104					
			SBL	1025			1.02	1046	20	0	1065	0	1065					
			SBU	25			1.02	25	25	0	25	0	25					
			TOTAL	1150			1.02	1173	22	0	1195	0	1195					
		WESTBOUND	WBR	0			1.02	0	0	0	0	0	0	0	0	0		
			WBL	0			1.02	0	0	0	0	0	0	0	0	0		
			WBT	0			1.02	0	0	0	0	0	0	0	0	0		
			TOTAL	0			1.02	0	0	0	0	0	0	0	0	0		
		NORTHBOUND	NBR	0			1.02	0	0	0	0	0	0	0	0	0	0	
			NBL	938			1.02	957	18	0	975	8	975	8	984	0	984	
			NBT	70			1.02	71	1	0	73	0	73	0	73	0	73	
			TOTAL	1008			1.02	1028	19	0	1047	9	1056	9	1065	0	1065	
		EASTBOUND	EBR	65			1.02	66	1	0	68	1	68	1	69	0	71	
			EBT	0			1.02	0	0	0	0	0	0	0	0	0	0	
EBL	68		1.02	69	1	0	71	14	71	14	85	33	118					
TOTAL	133		1.02	136	3	0	139	17	152	33	187	33	215					
TOTAL																		
8	Lincoln Road & West Avenue	SOUTHBOUND	SBR	89	Tuesday, July 10, 2012	0.944	1.02	91	2	0	92	0	92					
			SBL	397			1.02	405	8	0	413	2	415					
			SBU	25			1.02	25	0	25	17	33	78					
			TOTAL	511			1.02	521	10	0	531	19	583					
		WESTBOUND	WBR	42			1.02	43	1	0	44	0	44	0	44	0	47	
			WBL	45			1.02	45	1	0	47	0	47	0	47	0	47	
			WBT	46			1.02	47	1	0	48	0	48	0	48	0	48	
			TOTAL	133			1.02	136	3	0	139	0	138	0	138	0	138	
		NORTHBOUND	NBR	46			1.02	47	1	0	48	0	48	0	48	0	48	
			NBL	411			1.02	419	8	0	427	0	427	0	427	0	427	
			NBT	13			1.02	13	0	0	14	0	14	0	14	0	14	
			TOTAL	470			1.02	478	9	0	488	0	488	0	488	0	488	
		EASTBOUND	EBR	23			1.02	23	0	0	24	0	24	0	24	0	24	
			EBT	29			1.02	30	1	0	30	0	30	0	30	0	30	
EBL	54		1.02	55	1	0	56	0	56	0	56	0	55					
TOTAL	106		1.02	108	2	0	110	0	110	0	110	0	110					
TOTAL																		
9	17 Street & Alton Court	SOUTHBOUND	SBR	15	Tuesday, July 10, 2012	0.936	1.02	15	23	0	1268	19	33	1320				
			SBL	0			1.02	0	0	0	0	0	0	0	0	0	0	
			SBU	12			1.02	12	0	12	0	12	0	12	0	12	0	12
			TOTAL	27			1.02	28	1	0	28	0	28	0	28	0	28	
		WESTBOUND	WBR	11			1.02	11	0	11	11	11	0	11	0	33	33	44
			WBL	435			1.02	444	8	0	459	33	459	33	492	0	492	
			WBT	0			1.02	0	0	0	0	0	0	0	0	0	0	
			TOTAL	446			1.02	455	8	0	470	33	470	33	538	33	538	
		NORTHBOUND	NBR	78			1.02	80	1	0	81	0	81	0	81	0	81	
			NBL	1			1.02	1	0	0	1	0	1	0	1	0	1	
			NBT	26			1.02	27	0	0	27	0	27	0	27	0	27	
			TOTAL	105			1.02	107	2	0	109	0	109	0	109	0	109	
		EASTBOUND	EBR	0			1.02	0	0	0	0	0	0	0	0	0	0	0
			EBT	489			1.02	499	9	0	508	0	508	0	508	0	508	
EBL	4		1.02	4	0	0	4	0	4	0	4	0	4					
TOTAL	493		1.02	503	9	0	512	0	512	0	512	0	512					
TOTAL																		

Notes:

* Volumes extrapolated from PD&E TMC data.

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 obtained from FDOT

©Richard Garcia and Associates, Inc., 2008

8 Seasonally Adjusted TMC = Count * SF (These are the volumes utilized in the existing condition intersection LOS).

9 A 0.62 percent background growth was utilized with a project build-out of three years.

*0 Committed Traffic.

11 Proposed Traffic w/o Project = Peak Seasonally Adjusted TMC + Background+Committed

12 Site traffic assignment

13 Site traffic assignment for Valet Operation

14 Total Traffic = Net Traffic + Site Traffic (These are the volumes utilized in the proposed intersection LOS analysis)

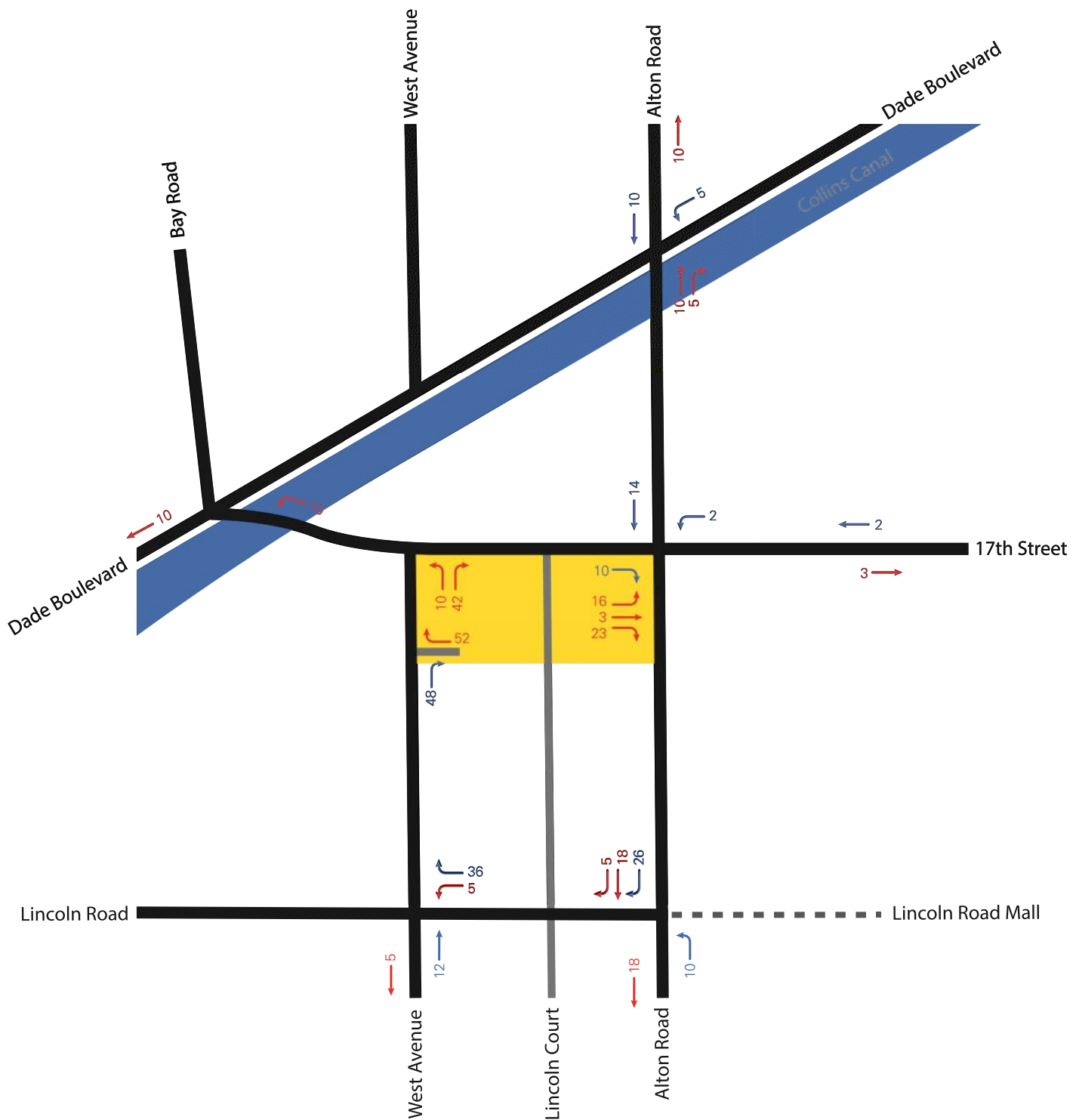
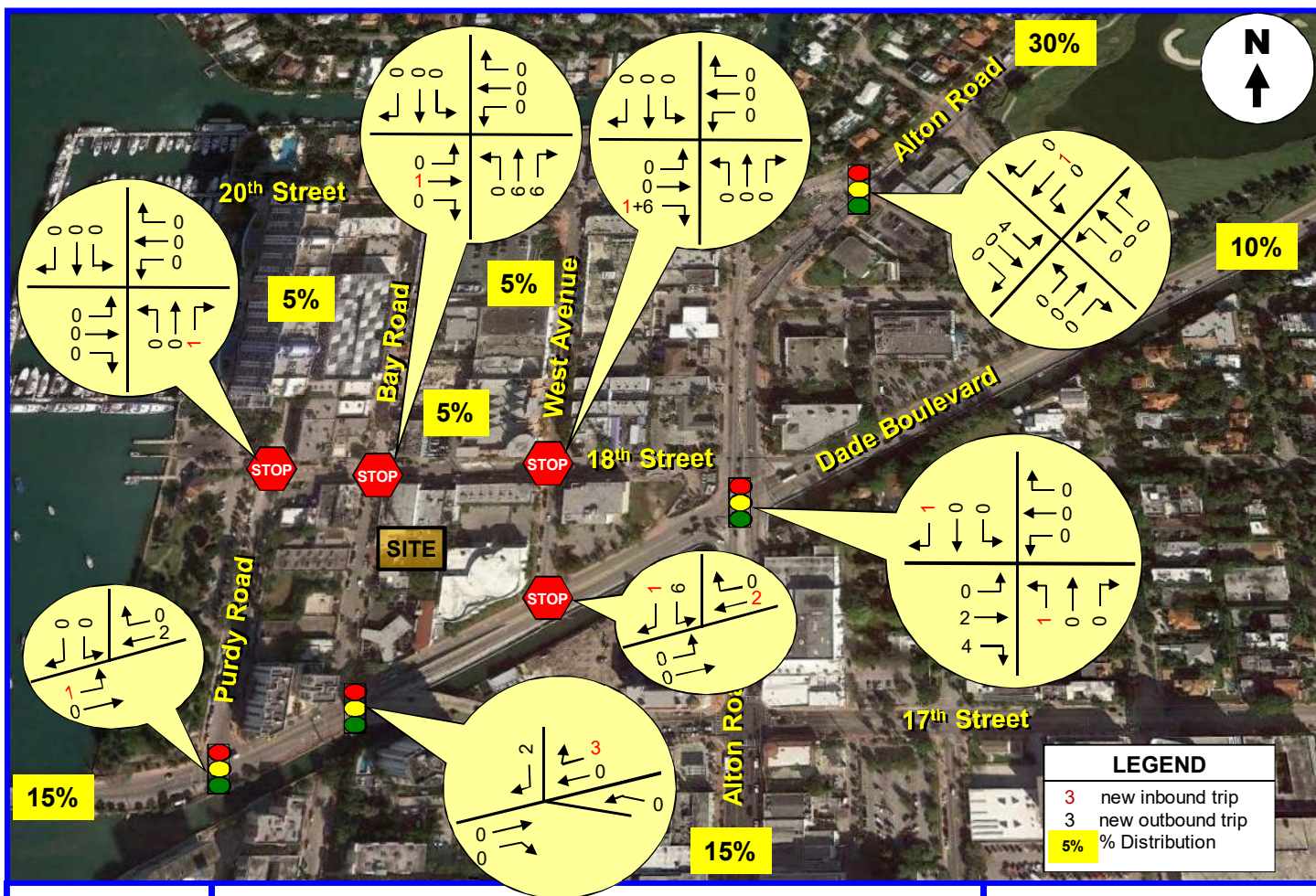


Exhibit 9A

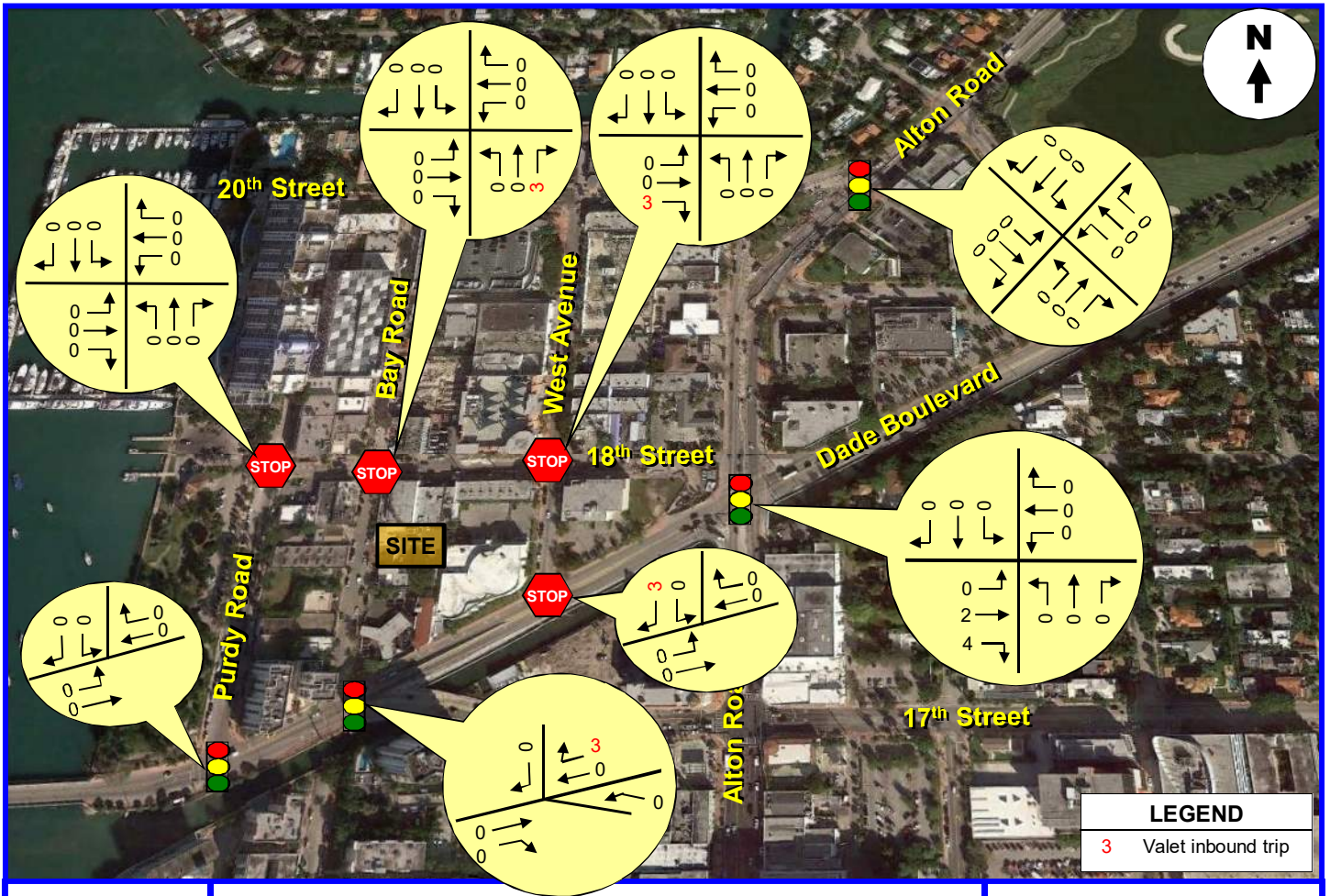
PROJECT TRIP ASSIGNMENT



Traf Tech
ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT (Weekday New PM Peak Hour Trips)

FIGURE 3a
1747 Bay Road
Miami Beach, Florida



Traf Tech
ENGINEERING, INC.

**NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday Valet PM Peak Hour Trips)**

FIGURE 3b
1747 Bay Road
Miami Beach, Florida

APPENDIX E

Future Turning Movement Volumes

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Dade Boulevard and Purdy Avenue PM Peak Hour

Description	Dade Boulevard Northbound			Purdy Avenue Southbound			Dade Boulevard Eastbound			Dade Boulevard Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)				65		161	138	438			522	58
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	0	0	0	68	0	167	144	456	0	0	543	60
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments:												
1901 Alton								58			56	
Trader Joes												
1750 Alton												
Other Committed Developments								5			9	
1747 Bay Road Development							1				2	
2020 Background Traffic	0	0	0	70	0	173	149	532	0	0	626	62
Sunset Harbour Trips New Trips							7				7	85
Pass-by												20
2020 Total Traffic	0	0	0	70	0	173	156	532	0	0	633	167

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Dade Boulevard and Bay Road PM Peak Hour

Description	17 Street Northbound			Bay Road Southbound			Dade Boulevard Eastbound			Dade Boulevard Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	366					24		178	333		212	26
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	381	0	0	0	0	25	0	185	346	0	220	27
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments:												
1901 Alton								58			56	
Trader Joes	10										10	
1750 Alton	3							5				
Other Committed Developments	21					27		5	20		9	14
1747 Bay Road Development						2						6
2020 Background Traffic	426	0	0	0	0	55	0	259	377	0	302	48
Sunset Harbour Trips New Trips Pass-by	24					57 20					11	
2020 Total Traffic	450	0	0	0	0	132	0	259	377	0	313	48

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Dade Boulevard and West Avenue PM Peak Hour

Description	West Avenue Northbound			West Avenue Southbound			Dade Boulevard Eastbound			Dade Boulevard Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	8	128	90	69	104	26	9	159		76	193	122
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	8	133	94	72	108	27	9	165	0	79	201	127
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton								58			56	
Trader Joes												
1750 Alton												
Other Committed Developments								5			9	
1747 Bay Road Development				9		1					2	
2020 Background Traffic	9	137	96	83	111	29	10	233	0	81	274	131
Sunset Harbour Trips New Trips Pass-by					26	5					9	
2020 Total Traffic	9	137	96	83	137	34	10	233	0	81	283	131

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

17th Street and West Avenue PM Peak Hour

Description	West Avenue Northbound			West Avenue Southbound			17th Street Eastbound			17th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	142	213	141	15	166	1	1	160	173	120	208	35
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	148	222	147	16	173	1	1	166	180	125	216	36
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments:												
1901 Alton												
Trader Joes	10		42									
1750 Alton												
Other Committed Developments	14						15	3				
1747 Bay Road Development							7	13		7		
2020 Background Traffic	176	228	193	16	178	1	16	181	198	129	230	38
Sunset Harbour Trips New Trips Pass-by	9			2	24						15	
2020 Total Traffic	185	228	193	18	202	1	16	181	198	129	245	38

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

18th Street and West Avenue PM Peak Hour

Description	West Avenue Northbound			West Avenue Southbound			18th Street Eastbound			18th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	93	155	16	13	81	77	67	14	94	6	11	12
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	97	161	17	14	84	80	70	15	98	6	11	12
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development									10			
2020 Background Traffic	100	166	17	14	87	83	72	15	111	6	12	13
Sunset Harbour Trips New Trips Pass-by					2				29			
2020 Total Traffic	100	166	17	14	89	83	72	15	140	6	12	13

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

18th Street and Bay Road PM Peak Hour

Description	Bay Road Northbound			Bay Road Southbound			18th Street Eastbound			18th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	8	19	24	80	23	44	42	78	15	24	94	68
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	8	20	25	83	24	46	44	81	16	25	98	71
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development		6	9					1				
2020 Background Traffic	9	26	35	86	25	47	45	85	16	26	101	73
Sunset Harbour Trips New Trips Pass-by			2		2			27 21	47			
2020 Total Traffic	9	26	37	86	27	47	45	133	63	26	101	73

Sunset Harbour	INS	PM Peak OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

18th Street and Purdy Avenue PM Peak Hour

Description	Purdy Avenue Northbound			Purdy Avenue Southbound			18th Street Eastbound			18th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	13	105	99	22	121	4	12	17	27	89	8	41
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	14	109	103	23	126	4	12	18	28	93	8	43
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development			1									
2020 Background Traffic	14	113	107	24	130	4	13	18	29	95	9	44
Sunset Harbour Trips New Trips Pass-by		12 -1	74 21									
2020 Total Traffic	14	124	202	24	130	4	13	18	29	95	9	44

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

20th Street and West Avenue PM Peak Hour

Description	West Avenue Northbound			Driveway Southbound			20th Street Eastbound			20th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)	31	1	143	0	1	2	2	237	51	135	201	1
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	32	1	149	0	1	2	2	246	53	140	209	1
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development												
2020 Background Traffic	33	1	153	0	1	2	2	254	55	145	215	1
Sunset Harbour Trips New Trips Pass-by								12		2	2	
2020 Total Traffic	33	1	153	0	1	2	2	266	55	147	217	1

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

20th Street and Bay Road PM Peak Hour

Description	Bay Road Northbound			Southbound			20th Street Eastbound			20th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (3/9/2018)	20		153					101	10	78	211	
Season Adjustment Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2017 Peak Season Traffic	20	0	153	0	0	0	0	101	10	78	211	0
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development												
2020 Background Traffic	20	0	156	0	0	0	0	103	10	80	215	0
Sunset Harbour Trips New Trips Pass-by								12		2		
2020 Total Traffic	20	0	156	0	0	0	0	115	10	82	215	0

Sunset Harbour	PM Peak		
	INS	OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Garage and Bay Road PM Peak Hour

Description	Bay Road Northbound			Bay Road Southbound			Garage Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)		51			62							
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	0	53	0	0	64	0	0	0	0	0	0	0
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development		15										
2020 Background Traffic	0	70	0	0	66	0	0	0	0	0	0	0
Sunset Harbour Trips New Trips Pass-by					9 21	44			48 20			
2020 Total Traffic	0	70	0	0	75	65	0	0	68	0	0	0

Sunset Harbour	INS	PM Peak OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Private Internal Access and Bay Road PM Peak Hour

Description	Bay Road Northbound			Bay Road Southbound			Private Int Access Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (12/15/2017)		51			62							
Season Adjustment Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
2017 Peak Season Traffic	0	53	0	0	64	0	0	0	0	0	0	0
Annual Growth Rate	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Committed Developments: 1901 Alton Trader Joes 1750 Alton Other Committed Developments 1747 Bay Road Development		15										
2020 Background Traffic	0	70	0	0	66	0	0	0	0	0	0	0
Sunset Harbour Trips New Trips Pass-by					49 21		2		4			
2020 Total Traffic	0	70	0	0	136	0	2	0	4	0	0	0

Sunset Harbour	INS	PM Peak OUTS	Total
Net New Trips	44	48	92
Pass-by	21	20	41
Gross Trips	65	68	133

APPENDIX F

SYNCHRO Analyses

HCM 2010 Signalized Intersection Summary

101: Dade Boulevard & Purdy Avenue

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	144	456	543	60	68	167		
Future Volume (veh/h)	144	456	543	60	68	167		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	0.90	0.90	0.90		
Adj Sat Flow, veh/h/ln	1676	1676	1676	1710	1676	1676		
Adj Flow Rate, veh/h	157	496	590	65	74	182		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	290	1175	932	103	237	212		
Arrive On Green	0.70	0.70	0.23	0.23	0.16	0.16		
Sat Flow, veh/h	697	1676	1331	147	1437	1282		
Grp Volume(v), veh/h	157	496	0	655	74	182		
Grp Sat Flow(s),veh/h/ln	697	1676	0	1477	1437	1282		
Q Serve(g_s), s	18.3	11.3	0.0	35.9	4.1	12.4		
Cycle Q Clear(g_c), s	54.2	11.3	0.0	35.9	4.1	12.4		
Prop In Lane	1.00			0.10	1.00	1.00		
Lane Grp Cap(c), veh/h	290	1175	0	1035	237	212		
V/C Ratio(X)	0.54	0.42	0.00	0.63	0.31	0.86		
Avail Cap(c_a), veh/h	290	1175	0	1035	399	356		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.72	1.00	1.00		
Uniform Delay (d), s/veh	28.3	5.7	0.0	24.2	33.1	36.6		
Incr Delay (d2), s/veh	7.1	1.1	0.0	2.1	0.6	8.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	5.5	0.0	15.3	1.7	4.9		
LnGrp Delay(d),s/veh	35.4	6.8	0.0	26.3	33.6	44.8		
LnGrp LOS	D	A		C	C	D		
Approach Vol, veh/h		653	655		256			
Approach Delay, s/veh		13.7	26.3		41.6			
Approach LOS		B	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		69.2				69.2		20.8
Change Period (Y+Rc), s		6.1				6.1		6.0
Max Green Setting (Gmax), s		53.0				53.0		25.0
Max Q Clear Time (g_c+I1), s		37.9				56.2		14.4
Green Ext Time (p_c), s		1.5				0.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			23.6					
HCM 2010 LOS			C					

Timings

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	144	456	543	68	167
Future Volume (vph)	144	456	543	68	167
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	20.8	20.8	35.1	30.0	30.0
Total Split (s)	59.1	59.1	59.1	31.0	31.0
Total Split (%)	65.6%	65.6%	65.6%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	67.9	67.9	67.9	10.1	10.1
Actuated g/C Ratio	0.75	0.75	0.75	0.11	0.11
v/c Ratio	0.37	0.44	0.58	0.46	0.63
Control Delay	7.4	5.9	7.9	46.0	15.8
Queue Delay	0.0	0.0	0.6	0.0	0.0
Total Delay	7.4	5.9	8.5	46.0	15.8
LOS	A	A	A	D	B
Approach Delay		6.3	8.5	24.5	
Approach LOS		A	A	C	

Intersection Summary

Cycle Length: 90.1

Actuated Cycle Length: 90.1

Offset: 86 (95%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 10.2

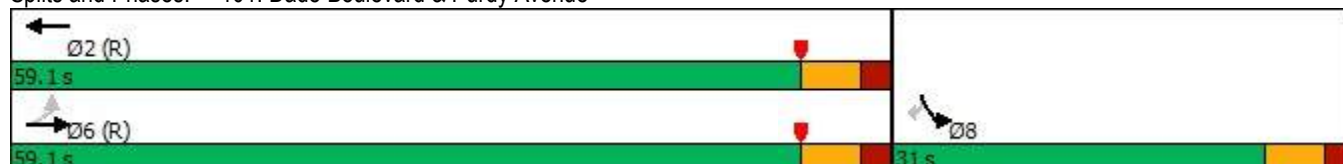
Intersection LOS: B

Intersection Capacity Utilization 78.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 101: Dade Boulevard & Purdy Avenue



Queues

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	157	496	655	74	182
v/c Ratio	0.37	0.44	0.58	0.46	0.63
Control Delay	7.4	5.9	7.9	46.0	15.8
Queue Delay	0.0	0.0	0.6	0.0	0.0
Total Delay	7.4	5.9	8.5	46.0	15.8
Queue Length 50th (ft)	24	80	124	40	0
Queue Length 95th (ft)	69	169	269	79	59
Internal Link Dist (ft)		273	491	484	
Turn Bay Length (ft)	80			100	
Base Capacity (vph)	425	1137	1122	397	453
Starvation Cap Reductn	0	0	177	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.37	0.44	0.69	0.19	0.40

Intersection Summary

HCM Signalized Intersection Capacity Analysis

102: 17th Street/Bay Road & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	185	346	0	220	27	381	0	0	0	0	25
Future Volume (vph)	0	185	346	0	220	27	381	0	0	0	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.9		6.9		7.7					6.9
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00
Frpb, ped/bikes		1.00	1.00		0.99		1.00					1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00
Frt		1.00	0.85		0.99		1.00					0.86
Flt Protected		1.00	1.00		1.00		0.95					1.00
Satd. Flow (prot)		1509	1282		1479		1433					1233
Flt Permitted		1.00	1.00		1.00		0.95					1.00
Satd. Flow (perm)		1509	1282		1479		1433					1233
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	213	398	0	253	31	438	0	0	0	0	29
RTOR Reduction (vph)	0	0	210	0	5	0	0	0	0	0	0	15
Lane Group Flow (vph)	0	213	188	0	279	0	438	0	0	0	0	14
Confl. Peds. (#/hr)	17					17			10	10		
Confl. Bikes (#/hr)			1			14			4			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Turn Type		NA	custom		NA		Prot					Perm
Protected Phases			6				4					
Permitted Phases		6			2							6
Actuated Green, G (s)		42.3	42.3		42.3		32.7					42.3
Effective Green, g (s)		42.3	42.3		42.3		32.7					42.3
Actuated g/C Ratio		0.47	0.47		0.47		0.36					0.47
Clearance Time (s)		6.9	6.9		6.9		7.7					6.9
Vehicle Extension (s)		2.5	2.5		2.5		3.5					2.5
Lane Grp Cap (vph)		712	605		698		522					582
v/s Ratio Prot			0.15				c0.31					
v/s Ratio Perm		0.14			c0.19							0.01
v/c Ratio		0.30	0.31		0.40		0.84					0.02
Uniform Delay, d1		14.5	14.6		15.4		26.0					12.6
Progression Factor		1.00	1.00		1.00		1.00					1.00
Incremental Delay, d2		1.1	1.3		1.7		11.6					0.1
Delay (s)		15.6	16.0		17.1		37.6					12.7
Level of Service		B	B		B		D					B
Approach Delay (s)		15.8			17.1			37.6			12.7	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			23.0				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			89.6				Sum of lost time (s)			14.6		
Intersection Capacity Utilization			64.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	185	346	220	381	25
Future Volume (vph)	185	346	220	381	25
Turn Type	NA	custom	NA	Prot	Perm
Protected Phases		6		4	
Permitted Phases	6		2		6
Detector Phase	6	6	2	4	6
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	20.9	20.9	20.9	21.7	20.9
Total Split (s)	48.9	48.9	48.9	40.7	48.9
Total Split (%)	54.6%	54.6%	54.6%	45.4%	54.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.9	2.9	2.9	3.7	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	7.7	6.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	C-Min
Act Effect Green (s)	42.3	42.3	42.3	32.7	42.3
Actuated g/C Ratio	0.47	0.47	0.47	0.36	0.47
v/c Ratio	0.30	0.49	0.40	0.84	0.04
Control Delay	17.6	4.2	18.6	40.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	4.2	18.6	40.6	0.1
LOS	B	A	B	D	A
Approach Delay	8.9		18.6		
Approach LOS	A		B		

Intersection Summary

Cycle Length: 89.6

Actuated Cycle Length: 89.6

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 20.9

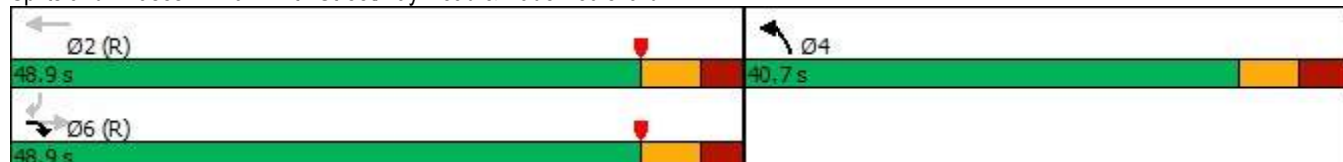
Intersection LOS: C

Intersection Capacity Utilization 64.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 102: 17th Street/Bay Road & Dade Boulevard



Queues

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Group Flow (vph)	213	398	284	438	29
v/c Ratio	0.30	0.49	0.40	0.84	0.04
Control Delay	17.6	4.2	18.6	40.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.6	4.2	18.6	40.6	0.1
Queue Length 50th (ft)	73	0	99	219	0
Queue Length 95th (ft)	133	47	177	294	0
Internal Link Dist (ft)	491		508		
Turn Bay Length (ft)					
Base Capacity (vph)	748	836	737	560	727
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.28	0.48	0.39	0.78	0.04
Intersection Summary					

HCM 2010 Signalized Intersection Summary

103: West Avenue & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	165	0	79	201	127	8	133	94	72	108	27
Future Volume (veh/h)	9	165	0	79	201	127	8	133	94	72	108	27
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		0.96	0.98		0.93	0.98		0.94
Parking Bus, Adj	1.00	0.90	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1676	1710	1676	1710	1710	1676	1710
Adj Flow Rate, veh/h	10	176	0	84	214	135	9	141	100	77	115	29
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	252	0	228	356	262	46	223	152	140	181	40
Arrive On Green	0.00	0.06	0.00	0.06	0.21	0.21	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1597	1509	0	1597	1676	1232	18	801	546	309	650	145
Grp Volume(v), veh/h	10	176	0	84	214	135	250	0	0	221	0	0
Grp Sat Flow(s),veh/h/ln	1597	1509	0	1597	1676	1232	1365	0	0	1104	0	0
Q Serve(g_s), s	0.5	10.3	0.0	3.9	10.4	8.7	0.0	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear(g_c), s	0.5	10.3	0.0	3.9	10.4	8.7	14.5	0.0	0.0	17.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.04		0.40	0.35		0.13
Lane Grp Cap(c), veh/h	189	252	0	228	356	262	422	0	0	361	0	0
V/C Ratio(X)	0.05	0.70	0.00	0.37	0.60	0.52	0.59	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	293	469	0	260	522	383	555	0	0	479	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.0	40.3	0.0	29.2	32.0	31.4	28.7	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	14.4	0.0	1.0	1.6	1.6	1.3	0.0	0.0	1.7	0.0	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	0.2	5.3	0.0	1.7	5.0	3.1	5.6	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	31.1	54.7	0.0	30.2	33.6	32.9	30.0	0.0	0.0	30.8	0.0	0.0
LnGrp LOS	C	D		C	C	C	C			C		
Approach Vol, veh/h		186			433			250			221	
Approach Delay, s/veh		53.4			32.8			30.0			30.8	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	26.5		31.7	12.6	22.4		31.7				
Change Period (Y+Rc), s	7.4	7.4		6.6	7.4	7.4		6.6				
Max Green Setting (Gmax), s	7.0	28.0		34.0	7.0	28.0		34.0				
Max Q Clear Time (g_c+I1), s	2.5	12.4		16.5	5.9	12.3		19.0				
Green Ext Time (p_c), s	0.0	1.5		1.4	0.0	0.7		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				35.3								
HCM 2010 LOS				D								

Timings

103: West Avenue & Dade Boulevard

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	9	165	79	201	127	8	133	72	108
Future Volume (vph)	9	165	79	201	127	8	133	72	108
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6	5	2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	5	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	34.4	12.4	34.4	34.4	38.6	38.6	38.6	38.6
Total Split (s)	14.4	35.4	14.4	35.4	35.4	40.6	40.6	40.6	40.6
Total Split (%)	15.9%	39.2%	15.9%	39.2%	39.2%	44.9%	44.9%	44.9%	44.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.4	7.4	7.4	7.4	7.4		6.6		6.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	Min	Min	Min	Min	Min	Min
Act Effect Green (s)	46.7	41.9	54.1	51.9	51.9		21.7		21.7
Actuated g/C Ratio	0.52	0.46	0.60	0.57	0.57		0.24		0.24
v/c Ratio	0.02	0.25	0.15	0.25	0.18		0.69		0.91
Control Delay	10.7	20.1	10.2	13.9	3.9		34.8		69.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	10.7	20.1	10.2	13.9	3.9		34.8		69.0
LOS	B	C	B	B	A		C		E
Approach Delay		19.6		10.0			34.8		69.0
Approach LOS		B		B			C		E

Intersection Summary

Cycle Length: 90.4

Actuated Cycle Length: 90.4

Offset: 75 (83%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 29.3

Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

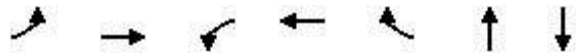
Analysis Period (min) 15

Splits and Phases: 103: West Avenue & Dade Boulevard

		
Ø1	Ø2	Ø4
14.4 s	35.4 s	40.6 s
		
Ø5	Ø6 (R)	Ø8
14.4 s	35.4 s	40.6 s

Queues

103: West Avenue & Dade Boulevard



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	10	176	84	214	135	250	221
v/c Ratio	0.02	0.25	0.15	0.25	0.18	0.69	0.91
Control Delay	10.7	20.1	10.2	13.9	3.9	34.8	69.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	20.1	10.2	13.9	3.9	34.8	69.0
Queue Length 50th (ft)	2	62	18	52	0	108	118
Queue Length 95th (ft)	11	138	49	154	38	166	186
Internal Link Dist (ft)		508		381		432	477
Turn Bay Length (ft)							
Base Capacity (vph)	529	702	563	865	769	543	375
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.25	0.15	0.25	0.18	0.46	0.59
Intersection Summary							

HCM 2010 Signalized Intersection Summary

104: West Avenue & 17th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	166	180	125	216	36	148	222	147	16	173	1
Future Volume (veh/h)	1	166	180	125	216	36	148	222	147	16	173	1
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.85	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	1	173	188	130	225	38	154	231	153	17	180	1
Adj No. of Lanes	0	2	0	1	1	0	1	1	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	40	643	408	157	677	114	313	248	164	106	477	3
Arrive On Green	0.38	0.38	0.38	0.10	0.55	0.55	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1	1674	1061	1597	1242	210	1037	777	515	893	1498	8
Grp Volume(v), veh/h	174	0	188	130	0	263	154	0	384	17	0	181
Grp Sat Flow(s),veh/h/ln	1676	0	1061	1597	0	1452	1037	0	1292	893	0	1506
Q Serve(g_s), s	0.0	0.0	12.1	7.3	0.0	9.2	12.3	0.0	26.2	1.7	0.0	8.5
Cycle Q Clear(g_c), s	6.5	0.0	12.1	7.3	0.0	9.2	20.8	0.0	26.2	27.9	0.0	8.5
Prop In Lane	0.01		1.00	1.00		0.14	1.00		0.40	1.00		0.01
Lane Grp Cap(c), veh/h	684	0	408	157	0	791	313	0	412	106	0	480
V/C Ratio(X)	0.25	0.00	0.46	0.83	0.00	0.33	0.49	0.00	0.93	0.16	0.00	0.38
Avail Cap(c_a), veh/h	684	0	408	167	0	791	313	0	412	106	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.2	0.0	21.0	40.3	0.0	11.5	32.0	0.0	30.0	43.6	0.0	24.0
Incr Delay (d2), s/veh	0.9	0.0	3.7	25.1	0.0	1.1	0.9	0.0	27.9	0.5	0.0	0.4
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	3.2	0.0	3.9	4.3	0.0	3.9	3.6	0.0	12.5	0.4	0.0	3.6
LnGrp Delay(d),s/veh	20.1	0.0	24.7	65.4	0.0	12.6	32.9	0.0	57.9	44.1	0.0	24.4
LnGrp LOS	C		C	E		B	C		E	D		C
Approach Vol, veh/h	362				393				538			
Approach Delay, s/veh	22.5				30.1				50.8			
Approach LOS	C				C				D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4		6		8				
Phs Duration (G+Y+Rc), s	55.8			35.2		14.6		35.2				
Change Period (Y+Rc), s	* 6.2			* 6.2		* 5.7		* 6.2				
Max Green Setting (Gmax), s	* 49			* 29		* 9.5		* 29				
Max Q Clear Time (g_c+l1), s	11.2			28.2		9.3		29.9				
Green Ext Time (p_c), s	0.6			0.2		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	35.2											
HCM 2010 LOS	D											
Notes												

Timings

104: West Avenue & 17th Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	166	125	216	148	222	16	173
Future Volume (vph)	1	166	125	216	148	222	16	173
Turn Type	Perm	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases		6	5	2		4		8
Permitted Phases	6				4		8	
Detector Phase	6	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	37.2	37.2	12.0	37.2	35.2	35.2	32.2	32.2
Total Split (s)	40.2	40.2	15.2	55.2	35.2	35.2	35.2	35.2
Total Split (%)	44.4%	44.4%	16.8%	60.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.0	4.0	3.7	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.0	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.2	5.7	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min	Min	Min
Act Effect Green (s)		29.3	14.9	49.9	28.3	28.3	28.3	28.3
Actuated g/C Ratio		0.32	0.16	0.55	0.31	0.31	0.31	0.31
v/c Ratio		0.38	0.57	0.33	0.57	0.84	0.11	0.38
Control Delay		14.6	44.2	13.4	33.2	41.9	21.0	25.4
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		14.6	44.2	13.4	33.2	41.9	21.0	25.4
LOS		B	D	B	C	D	C	C
Approach Delay		14.6		23.6		39.4		25.0
Approach LOS		B		C		D		C

Intersection Summary

Cycle Length: 90.6

Actuated Cycle Length: 90.6

Offset: 75 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 27.3

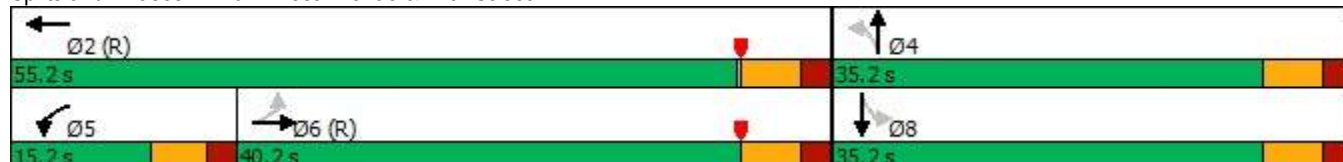
Intersection LOS: C

Intersection Capacity Utilization 102.4%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 104: West Avenue & 17th Street



Queues

104: West Avenue & 17th Street

							
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	362	130	263	154	384	17	181
v/c Ratio	0.38	0.57	0.33	0.57	0.84	0.11	0.38
Control Delay	14.6	44.2	13.4	33.2	41.9	21.0	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	44.2	13.4	33.2	41.9	21.0	25.4
Queue Length 50th (ft)	38	69	75	72	181	7	79
Queue Length 95th (ft)	91	120	147	123	267	21	122
Internal Link Dist (ft)	476		364		407		104
Turn Bay Length (ft)		160		170		50	
Base Capacity (vph)	1117	228	841	300	500	169	518
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.57	0.31	0.51	0.77	0.10	0.35
Intersection Summary							

HCM 2010 AWSC
105: West Avenue & 18 Street

Intersection

Intersection Delay, s/veh 10

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	15	98	6	11	12	97	161	17	14	84	80
Future Vol, veh/h	70	15	98	6	11	12	97	161	17	14	84	80
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	16	105	6	12	13	104	173	18	15	90	86
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	9.7	8.5	10.8	9.2
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	38%	21%	8%
Vol Thru, %	59%	8%	38%	47%
Vol Right, %	6%	54%	41%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	183	29	178
LT Vol	97	70	6	14
Through Vol	161	15	11	84
RT Vol	17	98	12	80
Lane Flow Rate	296	197	31	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.39	0.265	0.044	0.244
Departure Headway (Hd)	4.75	4.854	5.136	4.597
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	754	736	690	775
Service Time	2.804	2.917	3.22	2.657
HCM Lane V/C Ratio	0.393	0.268	0.045	0.246
HCM Control Delay	10.8	9.7	8.5	9.2
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	1.9	1.1	0.1	1

HCM 2010 AWSC
106: Bay Road & 18 Street

Intersection

Intersection Delay, s/veh 9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	81	16	25	98	71	8	20	25	83	24	46
Future Vol, veh/h	44	81	16	25	98	71	8	20	25	83	24	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	88	17	27	107	77	9	22	27	90	26	50
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	8.9	9.1	8.2	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	31%	13%	54%
Vol Thru, %	38%	57%	51%	16%
Vol Right, %	47%	11%	37%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	141	194	153
LT Vol	8	44	25	83
Through Vol	20	81	98	24
RT Vol	25	16	71	46
Lane Flow Rate	58	153	211	166
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.2	0.261	0.22
Departure Headway (Hd)	4.732	4.708	4.463	4.767
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	753	760	803	750
Service Time	2.785	2.752	2.503	2.812
HCM Lane V/C Ratio	0.077	0.201	0.263	0.221
HCM Control Delay	8.2	8.9	9.1	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.7	1	0.8

HCM 2010 AWSC
107: Purdy Avenue & 18 Street

Intersection

Intersection Delay, s/veh 9.7

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	18	28	93	8	43	14	109	103	23	126	4
Future Vol, veh/h	12	18	28	93	8	43	14	109	103	23	126	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	21	32	107	9	49	16	125	118	26	145	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.6	9.6	10.1	9.6
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	21%	65%	100%	2%
Vol Thru, %	0%	51%	31%	6%	0%	95%
Vol Right, %	0%	49%	48%	30%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	212	58	144	21	132
LT Vol	14	0	12	93	21	2
Through Vol	0	109	18	8	0	126
RT Vol	0	103	28	43	0	4
Lane Flow Rate	16	244	67	166	24	152
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.026	0.336	0.092	0.232	0.039	0.226
Departure Headway (Hd)	5.808	4.961	4.993	5.039	5.877	5.36
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	721	711	708	606	665
Service Time	3.573	2.725	3.072	3.104	3.648	3.13
HCM Lane V/C Ratio	0.026	0.338	0.094	0.234	0.04	0.229
HCM Control Delay	8.7	10.2	8.6	9.6	8.9	9.7
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.5	0.3	0.9	0.1	0.9

HCM 2010 AWSC
108: West Avenue & 20 Street

Intersection

Intersection Delay, s/veh 11.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	246	53	140	209	1	32	1	149	0	1	2
Future Vol, veh/h	2	246	53	140	209	1	32	1	149	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	267	58	152	227	1	35	1	162	0	1	2
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	11.9	10.8	10.2	8.7
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	1%	100%	0%	0%
Vol Thru, %	1%	82%	0%	100%	33%
Vol Right, %	82%	18%	0%	0%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	301	140	210	3
LT Vol	32	2	140	0	0
Through Vol	1	246	0	209	1
RT Vol	149	53	0	1	2
Lane Flow Rate	198	327	152	228	3
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.279	0.444	0.247	0.338	0.005
Departure Headway (Hd)	5.085	4.886	5.844	5.337	5.625
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	700	730	609	667	640
Service Time	3.166	2.965	3.63	3.122	3.625
HCM Lane V/C Ratio	0.283	0.448	0.25	0.342	0.005
HCM Control Delay	10.2	11.9	10.6	10.9	8.7
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	1.1	2.3	1	1.5	0

HCM 2010 AWSC
109: Bay Road & 20 Street

Intersection

Intersection Delay, s/veh 10.3

Intersection LOS B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	101	10	78	211	20	153
Future Vol, veh/h	101	10	78	211	20	153
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	12	94	254	24	184
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	11.4	9.2
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	12%	0%	27%
Vol Thru, %	0%	91%	73%
Vol Right, %	88%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	173	111	289
LT Vol	20	0	78
Through Vol	0	101	211
RT Vol	153	10	0
Lane Flow Rate	208	134	348
Geometry Grp	1	1	1
Degree of Util (X)	0.263	0.177	0.448
Departure Headway (Hd)	4.544	4.768	4.629
Convergence, Y/N	Yes	Yes	Yes
Cap	788	749	776
Service Time	2.588	2.822	2.674
HCM Lane V/C Ratio	0.264	0.179	0.448
HCM Control Delay	9.2	8.9	11.4
HCM Lane LOS	A	A	B
HCM 95th-tile Q	1.1	0.6	2.3

HCM 2010 Signalized Intersection Summary

101: Dade Boulevard & Purdy Avenue

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	149	532	626	62	70	173		
Future Volume (veh/h)	149	532	626	62	70	173		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	0.90	0.90	0.90		
Adj Sat Flow, veh/h/ln	1676	1676	1676	1710	1676	1676		
Adj Flow Rate, veh/h	162	578	680	67	76	188		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	227	1167	938	92	244	218		
Arrive On Green	0.70	0.70	0.23	0.23	0.17	0.17		
Sat Flow, veh/h	640	1676	1348	133	1437	1282		
Grp Volume(v), veh/h	162	578	0	747	76	188		
Grp Sat Flow(s),veh/h/ln	640	1676	0	1480	1437	1282		
Q Serve(g_s), s	20.7	14.4	0.0	42.0	4.2	12.8		
Cycle Q Clear(g_c), s	62.6	14.4	0.0	42.0	4.2	12.8		
Prop In Lane	1.00			0.09	1.00	1.00		
Lane Grp Cap(c), veh/h	227	1167	0	1030	244	218		
V/C Ratio(X)	0.71	0.50	0.00	0.73	0.31	0.86		
Avail Cap(c_a), veh/h	227	1167	0	1030	399	356		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.64	1.00	1.00		
Uniform Delay (d), s/veh	35.6	6.3	0.0	26.7	32.8	36.4		
Incr Delay (d2), s/veh	17.4	1.5	0.0	2.9	0.5	9.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.1	7.1	0.0	18.1	1.7	5.1		
LnGrp Delay(d),s/veh	53.1	7.9	0.0	29.6	33.3	45.8		
LnGrp LOS	D	A		C	C	D		
Approach Vol, veh/h		740	747		264			
Approach Delay, s/veh		17.7	29.6		42.2			
Approach LOS		B	C		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		68.7				68.7		21.3
Change Period (Y+Rc), s		6.1				6.1		6.0
Max Green Setting (Gmax), s		53.0				53.0		25.0
Max Q Clear Time (g_c+I1), s		44.0				64.6		14.8
Green Ext Time (p_c), s		1.5				0.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			26.5					
HCM 2010 LOS			C					

Timings

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	149	532	626	70	173
Future Volume (vph)	149	532	626	70	173
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	20.8	20.8	35.1	30.0	30.0
Total Split (s)	59.1	59.1	59.1	31.0	31.0
Total Split (%)	65.6%	65.6%	65.6%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	67.8	67.8	67.8	10.2	10.2
Actuated g/C Ratio	0.75	0.75	0.75	0.11	0.11
v/c Ratio	0.44	0.51	0.67	0.47	0.63
Control Delay	9.4	6.9	9.8	46.0	15.7
Queue Delay	0.0	0.0	0.9	0.0	0.0
Total Delay	9.4	6.9	10.7	46.0	15.7
LOS	A	A	B	D	B
Approach Delay		7.4	10.7	24.5	
Approach LOS		A	B	C	

Intersection Summary

Cycle Length: 90.1

Actuated Cycle Length: 90.1

Offset: 86 (95%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 11.4

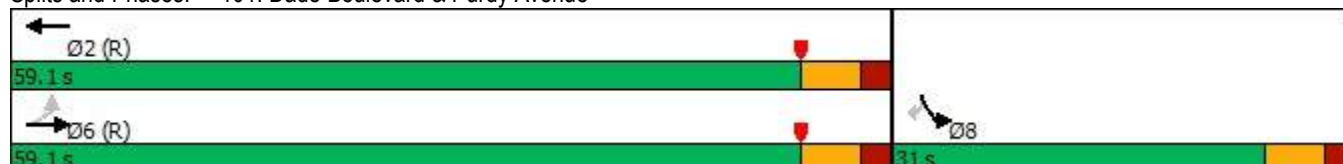
Intersection LOS: B

Intersection Capacity Utilization 83.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 101: Dade Boulevard & Purdy Avenue



Queues

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	162	578	747	76	188
v/c Ratio	0.44	0.51	0.67	0.47	0.63
Control Delay	9.4	6.9	9.8	46.0	15.7
Queue Delay	0.0	0.0	0.9	0.0	0.0
Total Delay	9.4	6.9	10.7	46.0	15.7
Queue Length 50th (ft)	26	102	161	42	0
Queue Length 95th (ft)	85	217	359	80	61
Internal Link Dist (ft)		273	491	484	
Turn Bay Length (ft)	80			100	
Base Capacity (vph)	369	1135	1122	397	457
Starvation Cap Reductn	0	0	155	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.51	0.77	0.19	0.41
Intersection Summary					

HCM Signalized Intersection Capacity Analysis

102: 17th Street/Bay Road & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	259	377	0	302	48	426	0	0	0	0	55
Future Volume (vph)	0	259	377	0	302	48	426	0	0	0	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.9		6.9		7.7					6.9
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00
Frpb, ped/bikes		1.00	1.00		0.99		1.00					1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00
Frt		1.00	0.85		0.98		1.00					0.86
Flt Protected		1.00	1.00		1.00		0.95					1.00
Satd. Flow (prot)		1509	1282		1471		1433					1233
Flt Permitted		1.00	1.00		1.00		0.95					1.00
Satd. Flow (perm)		1509	1282		1471		1433					1233
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	298	433	0	347	55	490	0	0	0	0	63
RTOR Reduction (vph)	0	0	243	0	7	0	0	0	0	0	0	35
Lane Group Flow (vph)	0	298	190	0	395	0	490	0	0	0	0	28
Confl. Peds. (#/hr)	17					17			10	10		
Confl. Bikes (#/hr)			1			14			4			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Turn Type		NA	custom		NA		Prot					Perm
Protected Phases			6				4					
Permitted Phases		6			2							6
Actuated Green, G (s)		39.3	39.3		39.3		35.7					39.3
Effective Green, g (s)		39.3	39.3		39.3		35.7					39.3
Actuated g/C Ratio		0.44	0.44		0.44		0.40					0.44
Clearance Time (s)		6.9	6.9		6.9		7.7					6.9
Vehicle Extension (s)		2.5	2.5		2.5		3.5					2.5
Lane Grp Cap (vph)		661	562		645		570					540
v/s Ratio Prot			0.15				c0.34					
v/s Ratio Perm		0.20			c0.27							0.02
v/c Ratio		0.45	0.34		0.61		0.86					0.05
Uniform Delay, d1		17.6	16.6		19.3		24.7					14.4
Progression Factor		1.00	1.00		1.00		1.00					1.00
Incremental Delay, d2		2.2	1.6		4.3		12.6					0.2
Delay (s)		19.8	18.2		23.6		37.2					14.6
Level of Service		B	B		C		D					B
Approach Delay (s)		18.9			23.6			37.2			14.6	
Approach LOS		B			C			D			B	
Intersection Summary												
HCM 2000 Control Delay			25.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			89.6				Sum of lost time (s)			14.6		
Intersection Capacity Utilization			73.9%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	259	377	302	426	55
Future Volume (vph)	259	377	302	426	55
Turn Type	NA	custom	NA	Prot	Perm
Protected Phases		6		4	
Permitted Phases	6		2		6
Detector Phase	6	6	2	4	6
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	20.9	20.9	20.9	21.7	20.9
Total Split (s)	48.9	48.9	48.9	40.7	48.9
Total Split (%)	54.6%	54.6%	54.6%	45.4%	54.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.9	2.9	2.9	3.7	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	7.7	6.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	C-Min
Act Effect Green (s)	39.3	39.3	39.3	35.7	39.3
Actuated g/C Ratio	0.44	0.44	0.44	0.40	0.44
v/c Ratio	0.45	0.54	0.62	0.86	0.10
Control Delay	21.0	4.5	24.5	41.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	4.5	24.5	41.2	0.3
LOS	C	A	C	D	A
Approach Delay	11.2		24.5		
Approach LOS	B		C		

Intersection Summary

Cycle Length: 89.6

Actuated Cycle Length: 89.6

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 22.7

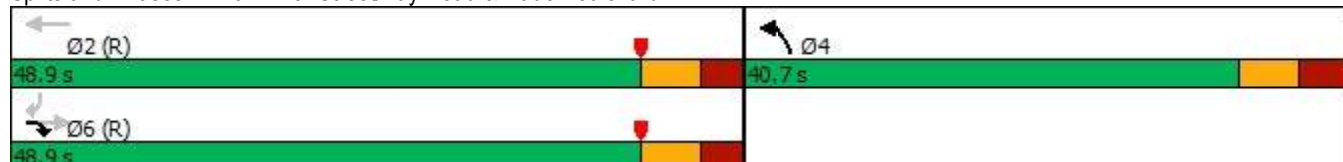
Intersection LOS: C

Intersection Capacity Utilization 73.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 102: 17th Street/Bay Road & Dade Boulevard



Queues

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Group Flow (vph)	298	433	402	490	63
v/c Ratio	0.45	0.54	0.62	0.86	0.10
Control Delay	21.0	4.5	24.5	41.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	4.5	24.5	41.2	0.3
Queue Length 50th (ft)	120	0	174	235	0
Queue Length 95th (ft)	176	45	249	#408	0
Internal Link Dist (ft)	491		508		
Turn Bay Length (ft)					
Base Capacity (vph)	719	838	707	581	687
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.41	0.52	0.57	0.84	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary

103: West Avenue & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	233	0	81	274	131	9	137	96	83	111	29
Future Volume (veh/h)	10	233	0	81	274	131	9	137	96	83	111	29
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		0.96	0.98		0.93	0.98		0.94
Parking Bus, Adj	1.00	0.90	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1676	1710	1676	1710	1710	1676	1710
Adj Flow Rate, veh/h	11	248	0	86	291	139	10	146	102	88	118	31
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	316	0	219	424	313	47	237	159	150	176	41
Arrive On Green	0.00	0.07	0.00	0.06	0.25	0.25	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1597	1509	0	1597	1676	1236	20	812	544	327	602	140
Grp Volume(v), veh/h	11	248	0	86	291	139	258	0	0	237	0	0
Grp Sat Flow(s),veh/h/ln	1597	1509	0	1597	1676	1236	1376	0	0	1069	0	0
Q Serve(g_s), s	0.5	14.6	0.0	3.8	14.1	8.5	0.0	0.0	0.0	4.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	14.6	0.0	3.8	14.1	8.5	14.8	0.0	0.0	19.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.04		0.40	0.37		0.13
Lane Grp Cap(c), veh/h	183	316	0	219	424	313	443	0	0	367	0	0
V/C Ratio(X)	0.06	0.78	0.00	0.39	0.69	0.44	0.58	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	286	469	0	253	522	385	559	0	0	467	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.89	0.89	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.2	39.9	0.0	26.9	30.4	28.3	27.8	0.0	0.0	29.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	15.8	0.0	1.1	2.8	1.0	1.2	0.0	0.0	2.0	0.0	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	0.2	7.5	0.0	1.7	6.9	3.0	5.7	0.0	0.0	5.6	0.0	0.0
LnGrp Delay(d),s/veh	28.3	55.7	0.0	28.0	33.2	29.3	29.0	0.0	0.0	31.0	0.0	0.0
LnGrp LOS	C	E		C	C	C	C			C		
Approach Vol, veh/h		259			516			258			237	
Approach Delay, s/veh		54.5			31.3			29.0			31.0	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	30.2		32.9	12.5	26.3		32.9				
Change Period (Y+Rc), s	7.4	7.4		6.6	7.4	7.4		6.6				
Max Green Setting (Gmax), s	7.0	28.0		34.0	7.0	28.0		34.0				
Max Q Clear Time (g_c+I1), s	2.5	16.1		16.8	5.8	16.6		21.1				
Green Ext Time (p_c), s	0.0	1.7		1.4	0.0	1.0		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			35.5									
HCM 2010 LOS			D									

Timings

103: West Avenue & Dade Boulevard

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	233	81	274	131	9	137	83	111
Future Volume (vph)	10	233	81	274	131	9	137	83	111
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6	5	2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	5	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	34.4	12.4	34.4	34.4	38.6	38.6	38.6	38.6
Total Split (s)	14.4	35.4	14.4	35.4	35.4	40.6	40.6	40.6	40.6
Total Split (%)	15.9%	39.2%	15.9%	39.2%	39.2%	44.9%	44.9%	44.9%	44.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.4	7.4	7.4	7.4	7.4		6.6		6.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	Min	Min	Min	Min	Min	Min
Act Effect Green (s)	45.3	40.5	51.5	50.0	50.0		23.6		23.6
Actuated g/C Ratio	0.50	0.45	0.57	0.55	0.55		0.26		0.26
v/c Ratio	0.02	0.37	0.17	0.35	0.19		0.66		0.90
Control Delay	11.6	22.4	11.5	16.3	4.2		32.1		65.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	11.6	22.4	11.5	16.3	4.2		32.1		65.3
LOS	B	C	B	B	A		C		E
Approach Delay		21.9		12.3			32.1		65.3
Approach LOS		C		B			C		E

Intersection Summary

Cycle Length: 90.4

Actuated Cycle Length: 90.4

Offset: 75 (83%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 28.2

Intersection LOS: C

Intersection Capacity Utilization 91.7%

ICU Level of Service F

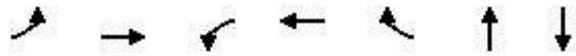
Analysis Period (min) 15

Splits and Phases: 103: West Avenue & Dade Boulevard

		
Ø1	Ø2	Ø4
14.4 s	35.4 s	40.6 s
		
Ø5	Ø6 (R)	Ø8
14.4 s	35.4 s	40.6 s

Queues

103: West Avenue & Dade Boulevard



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	248	86	291	139	258	237
v/c Ratio	0.02	0.37	0.17	0.35	0.19	0.66	0.90
Control Delay	11.6	22.4	11.5	16.3	4.2	32.1	65.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	22.4	11.5	16.3	4.2	32.1	65.3
Queue Length 50th (ft)	2	97	20	80	0	110	126
Queue Length 95th (ft)	12	192	53	224	40	166	194
Internal Link Dist (ft)		508		381		432	477
Turn Bay Length (ft)							
Base Capacity (vph)	488	676	505	834	747	542	374
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.37	0.17	0.35	0.19	0.48	0.63
Intersection Summary							

HCM 2010 Signalized Intersection Summary

104: West Avenue & 17th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	181	198	129	230	38	176	228	193	16	178	1
Future Volume (veh/h)	16	181	198	129	230	38	176	228	193	16	178	1
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.85	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	17	189	206	134	240	40	183	238	201	17	185	1
Adj No. of Lanes	0	2	0	1	1	0	1	1	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	595	405	161	679	113	309	220	186	79	477	3
Arrive On Green	0.38	0.38	0.38	0.10	0.55	0.55	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	65	1560	1061	1597	1245	208	1033	691	584	852	1498	8
Grp Volume(v), veh/h	206	0	206	134	0	280	183	0	439	17	0	186
Grp Sat Flow(s),veh/h/ln	1626	0	1061	1597	0	1453	1033	0	1275	852	0	1506
Q Serve(g_s), s	0.0	0.0	13.6	7.5	0.0	9.9	15.2	0.0	29.0	0.0	0.0	8.7
Cycle Q Clear(g_c), s	7.9	0.0	13.6	7.5	0.0	9.9	24.0	0.0	29.0	29.0	0.0	8.7
Prop In Lane	0.08		1.00	1.00		0.14	1.00		0.46	1.00		0.01
Lane Grp Cap(c), veh/h	663	0	405	161	0	792	309	0	406	79	0	480
V/C Ratio(X)	0.31	0.00	0.51	0.83	0.00	0.35	0.59	0.00	1.08	0.21	0.00	0.39
Avail Cap(c_a), veh/h	663	0	405	167	0	792	309	0	406	79	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	21.6	40.2	0.0	11.7	33.4	0.0	31.0	45.5	0.0	24.1
Incr Delay (d2), s/veh	1.2	0.0	4.5	26.3	0.0	1.2	2.6	0.0	68.0	1.0	0.0	0.4
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	3.9	0.0	4.5	4.5	0.0	4.2	4.5	0.0	17.8	0.4	0.0	3.7
LnGrp Delay(d),s/veh	21.1	0.0	26.1	66.5	0.0	12.9	36.0	0.0	99.0	46.5	0.0	24.5
LnGrp LOS	C		C	E		B	D		F	D		C
Approach Vol, veh/h		412			414			622			203	
Approach Delay, s/veh		23.6			30.2			80.5			26.3	
Approach LOS		C			C			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.8		35.2	14.9	40.9		35.2				
Change Period (Y+Rc), s		* 6.2		* 6.2	* 5.7	* 6.2		* 6.2				
Max Green Setting (Gmax), s		* 49		* 29	* 9.5	* 34		* 29				
Max Q Clear Time (g_c+I1), s		11.9		31.0	9.5	15.6		31.0				
Green Ext Time (p_c), s		0.6		0.0	0.0	1.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								
Notes												

Timings

104: West Avenue & 17th Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	16	181	129	230	176	228	16	178
Future Volume (vph)	16	181	129	230	176	228	16	178
Turn Type	Perm	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases		6	5	2		4		8
Permitted Phases	6				4		8	
Detector Phase	6	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	37.2	37.2	12.0	37.2	35.2	35.2	32.2	32.2
Total Split (s)	40.2	40.2	15.2	55.2	35.2	35.2	35.2	35.2
Total Split (%)	44.4%	44.4%	16.8%	60.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.0	4.0	3.7	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.0	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.2	5.7	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min	Min	Min
Act Effect Green (s)		24.8	13.9	44.4	33.8	33.8	33.8	33.8
Actuated g/C Ratio		0.27	0.15	0.49	0.37	0.37	0.37	0.37
v/c Ratio		0.50	0.63	0.39	0.56	0.82	0.09	0.33
Control Delay		17.3	50.6	17.3	28.4	35.0	17.3	20.8
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.3	50.6	17.3	28.4	35.0	17.3	20.8
LOS		B	D	B	C	C	B	C
Approach Delay		17.3		28.1		33.0		20.5
Approach LOS		B		C		C		C

Intersection Summary

Cycle Length: 90.6

Actuated Cycle Length: 90.6

Offset: 75 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.3

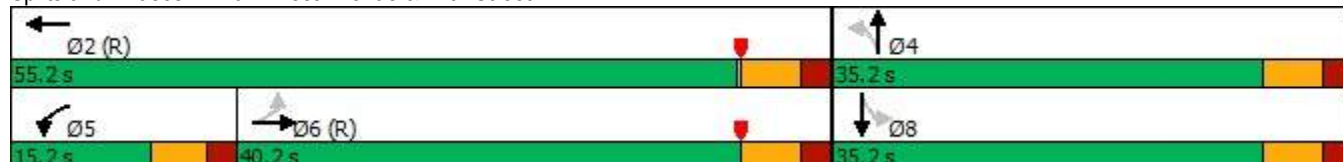
Intersection LOS: C

Intersection Capacity Utilization 106.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 104: West Avenue & 17th Street



Queues

104: West Avenue & 17th Street



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	412	134	280	183	439	17	186
v/c Ratio	0.50	0.63	0.39	0.56	0.82	0.09	0.33
Control Delay	17.3	50.6	17.3	28.4	35.0	17.3	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	50.6	17.3	28.4	35.0	17.3	20.8
Queue Length 50th (ft)	51	71	93	80	197	6	74
Queue Length 95th (ft)	104	#162	182	130	283	18	110
Internal Link Dist (ft)	476		364		407		104
Turn Bay Length (ft)		160		170		50	
Base Capacity (vph)	1074	213	809	336	549	184	574
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.63	0.35	0.54	0.80	0.09	0.32

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 AWSC
105: West Avenue & 18 Street

Intersection

Intersection Delay, s/veh 10.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	15	111	6	12	13	100	166	17	14	87	83
Future Vol, veh/h	72	15	111	6	12	13	100	166	17	14	87	83
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	16	119	6	13	14	108	178	18	15	94	89
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	10	8.6	11.2	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	36%	19%	8%
Vol Thru, %	59%	8%	39%	47%
Vol Right, %	6%	56%	42%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	283	198	31	184
LT Vol	100	72	6	14
Through Vol	166	15	12	87
RT Vol	17	111	13	83
Lane Flow Rate	304	213	33	198
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.289	0.048	0.256
Departure Headway (Hd)	4.809	4.88	5.199	4.659
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	742	730	680	764
Service Time	2.874	2.952	3.297	2.73
HCM Lane V/C Ratio	0.41	0.292	0.049	0.259
HCM Control Delay	11.2	10	8.6	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2	1.2	0.2	1

HCM 2010 AWSC
106: Bay Road & 18 Street

Intersection

Intersection Delay, s/veh 9.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	85	16	26	101	73	9	26	35	86	25	47
Future Vol, veh/h	45	85	16	26	101	73	9	26	35	86	25	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	92	17	28	110	79	10	28	38	93	27	51
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	9.1	9.3	8.4	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	31%	13%	54%
Vol Thru, %	37%	58%	51%	16%
Vol Right, %	50%	11%	36%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	146	200	158
LT Vol	9	45	26	86
Through Vol	26	85	101	25
RT Vol	35	16	73	47
Lane Flow Rate	76	159	217	172
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.211	0.274	0.231
Departure Headway (Hd)	4.759	4.784	4.535	4.832
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	746	789	740
Service Time	2.822	2.839	2.585	2.886
HCM Lane V/C Ratio	0.102	0.213	0.275	0.232
HCM Control Delay	8.4	9.1	9.3	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.8	1.1	0.9

HCM 2010 AWSC
107: Purdy Avenue & 18 Street

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	18	29	95	9	44	14	113	107	24	130	4
Future Vol, veh/h	13	18	29	95	9	44	14	113	107	24	130	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	21	33	109	10	51	16	130	123	28	149	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	8.7	9.8	10.4	9.7
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	22%	64%	100%	2%
Vol Thru, %	0%	51%	30%	6%	0%	95%
Vol Right, %	0%	49%	48%	30%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	220	60	148	22	136
LT Vol	14	0	13	95	22	2
Through Vol	0	113	18	9	0	130
RT Vol	0	107	29	44	0	4
Lane Flow Rate	16	253	69	170	25	157
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.026	0.351	0.097	0.24	0.041	0.235
Departure Headway (Hd)	5.838	4.99	5.042	5.082	5.911	5.394
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	610	716	703	701	602	660
Service Time	3.608	2.76	3.13	3.154	3.688	3.171
HCM Lane V/C Ratio	0.026	0.353	0.098	0.243	0.042	0.238
HCM Control Delay	8.8	10.5	8.7	9.8	8.9	9.8
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.6	0.3	0.9	0.1	0.9

HCM 2010 AWSC
108: West Avenue & 20 Street

Intersection

Intersection Delay, s/veh 11.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	254	55	145	215	1	33	1	153	0	1	2
Future Vol, veh/h	2	254	55	145	215	1	33	1	153	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	276	60	158	234	1	36	1	166	0	1	2
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	12.2	10.9	10.3	8.7
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	1%	100%	0%	0%
Vol Thru, %	1%	82%	0%	100%	33%
Vol Right, %	82%	18%	0%	0%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	311	145	216	3
LT Vol	33	2	145	0	0
Through Vol	1	254	0	215	1
RT Vol	153	55	0	1	2
Lane Flow Rate	203	338	158	235	3
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.29	0.462	0.257	0.35	0.005
Departure Headway (Hd)	5.133	4.918	5.876	5.368	5.704
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	693	723	605	662	631
Service Time	3.221	3.004	3.669	3.161	3.704
HCM Lane V/C Ratio	0.293	0.467	0.261	0.355	0.005
HCM Control Delay	10.3	12.2	10.7	11.1	8.7
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	1.2	2.5	1	1.6	0

HCM 2010 AWSC
109: Bay Road & 20 Street

Intersection

Intersection Delay, s/veh 10.4

Intersection LOS B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	103	10	80	215	20	156
Future Vol, veh/h	103	10	80	215	20	156
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	12	96	259	24	188
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	11.6	9.3
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	11%	0%	27%
Vol Thru, %	0%	91%	73%
Vol Right, %	89%	9%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	176	113	295
LT Vol	20	0	80
Through Vol	0	103	215
RT Vol	156	10	0
Lane Flow Rate	212	136	355
Geometry Grp	1	1	1
Degree of Util (X)	0.269	0.181	0.458
Departure Headway (Hd)	4.566	4.788	4.643
Convergence, Y/N	Yes	Yes	Yes
Cap	785	745	771
Service Time	2.612	2.845	2.691
HCM Lane V/C Ratio	0.27	0.183	0.46
HCM Control Delay	9.3	8.9	11.6
HCM Lane LOS	A	A	B
HCM 95th-tile Q	1.1	0.7	2.4

HCM 2010 Signalized Intersection Summary

101: Dade Boulevard & Purdy Avenue

								
Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	156	532	633	167	70	173		
Future Volume (veh/h)	156	532	633	167	70	173		
Number	1	6	2	12	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			0.97	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	0.90	0.90	0.90		
Adj Sat Flow, veh/h/ln	1676	1676	1676	1710	1676	1676		
Adj Flow Rate, veh/h	170	578	688	182	76	188		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	147	1167	795	210	244	218		
Arrive On Green	0.70	0.70	0.23	0.23	0.17	0.17		
Sat Flow, veh/h	571	1676	1142	302	1437	1282		
Grp Volume(v), veh/h	170	578	0	870	76	188		
Grp Sat Flow(s),veh/h/ln	571	1676	0	1444	1437	1282		
Q Serve(g_s), s	10.5	14.4	0.0	52.1	4.2	12.8		
Cycle Q Clear(g_c), s	62.6	14.4	0.0	52.1	4.2	12.8		
Prop In Lane	1.00			0.21	1.00	1.00		
Lane Grp Cap(c), veh/h	147	1167	0	1005	244	218		
V/C Ratio(X)	1.16	0.50	0.00	0.87	0.31	0.86		
Avail Cap(c_a), veh/h	147	1167	0	1005	399	356		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.65	1.00	1.00		
Uniform Delay (d), s/veh	42.6	6.3	0.0	30.6	32.8	36.4		
Incr Delay (d2), s/veh	123.7	1.5	0.0	6.7	0.5	9.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	8.7	7.1	0.0	22.8	1.7	5.1		
LnGrp Delay(d),s/veh	166.3	7.9	0.0	37.3	33.3	45.8		
LnGrp LOS	F	A		D	C	D		
Approach Vol, veh/h		748	870		264			
Approach Delay, s/veh		43.9	37.3		42.2			
Approach LOS		D	D		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		68.7				68.7		21.3
Change Period (Y+Rc), s		6.1				6.1		6.0
Max Green Setting (Gmax), s		53.0				53.0		25.0
Max Q Clear Time (g_c+I1), s		54.1				64.6		14.8
Green Ext Time (p_c), s		0.0				0.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			40.6					
HCM 2010 LOS			D					

Timings

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	156	532	633	70	173
Future Volume (vph)	156	532	633	70	173
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	7.0	7.0
Minimum Split (s)	20.8	20.8	35.1	30.0	30.0
Total Split (s)	59.1	59.1	59.1	31.0	31.0
Total Split (%)	65.6%	65.6%	65.6%	34.4%	34.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.1	2.1	2.1	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.1	6.1	6.0	6.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	67.8	67.8	67.8	10.2	10.2
Actuated g/C Ratio	0.75	0.75	0.75	0.11	0.11
v/c Ratio	0.56	0.51	0.79	0.47	0.63
Control Delay	15.0	6.9	14.4	46.0	15.7
Queue Delay	0.0	0.0	1.9	0.0	0.0
Total Delay	15.0	6.9	16.4	46.0	15.7
LOS	B	A	B	D	B
Approach Delay		8.7	16.4	24.5	
Approach LOS		A	B	C	

Intersection Summary

Cycle Length: 90.1

Actuated Cycle Length: 90.1

Offset: 86 (95%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 14.5

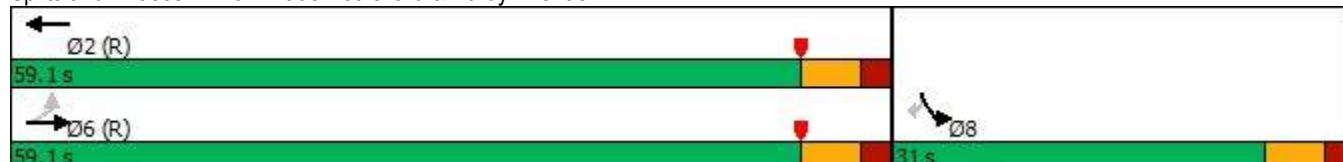
Intersection LOS: B

Intersection Capacity Utilization 91.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 101: Dade Boulevard & Purdy Avenue



Queues

101: Dade Boulevard & Purdy Avenue



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	170	578	870	76	188
v/c Ratio	0.56	0.51	0.79	0.47	0.63
Control Delay	15.0	6.9	14.4	46.0	15.7
Queue Delay	0.0	0.0	1.9	0.0	0.0
Total Delay	15.0	6.9	16.4	46.0	15.7
Queue Length 50th (ft)	32	102	225	42	0
Queue Length 95th (ft)	130	217	#649	80	61
Internal Link Dist (ft)		273	491	484	
Turn Bay Length (ft)	80			100	
Base Capacity (vph)	301	1135	1104	397	457
Starvation Cap Reductn	0	0	114	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.56	0.51	0.88	0.19	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

102: 17th Street/Bay Road & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	259	377	0	313	48	450	0	0	0	0	132
Future Volume (vph)	0	259	377	0	313	48	450	0	0	0	0	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.9	6.9		6.9		7.7					6.9
Lane Util. Factor		1.00	1.00		1.00		1.00					1.00
Frpb, ped/bikes		1.00	1.00		0.99		1.00					1.00
Flpb, ped/bikes		1.00	1.00		1.00		1.00					1.00
Frt		1.00	0.85		0.98		1.00					0.86
Flt Protected		1.00	1.00		1.00		0.95					1.00
Satd. Flow (prot)		1509	1282		1472		1433					1233
Flt Permitted		1.00	1.00		1.00		0.95					1.00
Satd. Flow (perm)		1509	1282		1472		1433					1233
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	0	298	433	0	360	55	517	0	0	0	0	152
RTOR Reduction (vph)	0	0	252	0	7	0	0	0	0	0	0	88
Lane Group Flow (vph)	0	298	181	0	408	0	517	0	0	0	0	64
Confl. Peds. (#/hr)	17					17			10	10		
Confl. Bikes (#/hr)			1			14			4			
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	10
Turn Type		NA	custom		NA		Prot					Perm
Protected Phases			6				4					
Permitted Phases		6			2							6
Actuated Green, G (s)		37.5	37.5		37.5		37.5					37.5
Effective Green, g (s)		37.5	37.5		37.5		37.5					37.5
Actuated g/C Ratio		0.42	0.42		0.42		0.42					0.42
Clearance Time (s)		6.9	6.9		6.9		7.7					6.9
Vehicle Extension (s)		2.5	2.5		2.5		3.5					2.5
Lane Grp Cap (vph)		631	536		616		599					516
v/s Ratio Prot			0.14				c0.36					
v/s Ratio Perm		0.20			c0.28							0.05
v/c Ratio		0.47	0.34		0.66		0.86					0.12
Uniform Delay, d1		18.9	17.6		21.0		23.7					16.0
Progression Factor		1.00	1.00		1.00		1.00					1.00
Incremental Delay, d2		2.5	1.7		5.5		12.5					0.5
Delay (s)		21.4	19.3		26.5		36.2					16.5
Level of Service		C	B		C		D					B
Approach Delay (s)		20.2			26.5			36.2			16.5	
Approach LOS		C			C			D			B	
Intersection Summary												
HCM 2000 Control Delay			25.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			89.6				Sum of lost time (s)			14.6		
Intersection Capacity Utilization			76.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

Timings

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Configurations	↑	↑	↑	↑	↑
Traffic Volume (vph)	259	377	313	450	132
Future Volume (vph)	259	377	313	450	132
Turn Type	NA	custom	NA	Prot	Perm
Protected Phases		6		4	
Permitted Phases	6		2		6
Detector Phase	6	6	2	4	6
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	14.0	14.0
Minimum Split (s)	20.9	20.9	20.9	21.7	20.9
Total Split (s)	48.9	48.9	48.9	40.7	48.9
Total Split (%)	54.6%	54.6%	54.6%	45.4%	54.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.9	2.9	2.9	3.7	2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.9	6.9	6.9	7.7	6.9
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	C-Min
Act Effect Green (s)	37.5	37.5	37.5	37.5	37.5
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42
v/c Ratio	0.47	0.55	0.67	0.86	0.25
Control Delay	22.0	4.6	26.8	40.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	4.6	26.8	40.6	3.0
LOS	C	A	C	D	A
Approach Delay	11.7		26.8		
Approach LOS	B		C		

Intersection Summary

Cycle Length: 89.6

Actuated Cycle Length: 89.6

Offset: 10 (11%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 22.7

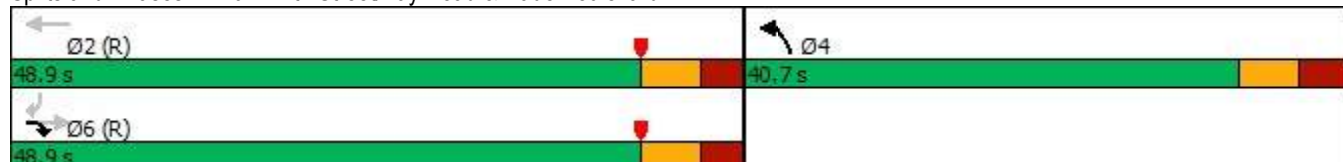
Intersection LOS: C

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 102: 17th Street/Bay Road & Dade Boulevard



Queues

102: 17th Street/Bay Road & Dade Boulevard



Lane Group	EBT	EBR	WBT	NBL	SBR
Lane Group Flow (vph)	298	433	415	517	152
v/c Ratio	0.47	0.55	0.67	0.86	0.25
Control Delay	22.0	4.6	26.8	40.6	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	4.6	26.8	40.6	3.0
Queue Length 50th (ft)	124	0	188	247	0
Queue Length 95th (ft)	173	45	254	#450	23
Internal Link Dist (ft)	491		508		
Turn Bay Length (ft)					
Base Capacity (vph)	707	831	696	599	669
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.52	0.60	0.86	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 Signalized Intersection Summary

103: West Avenue & Dade Boulevard

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	233	0	81	283	131	9	137	96	83	137	34
Future Volume (veh/h)	10	233	0	81	283	131	9	137	96	83	137	34
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		1.00	0.99		0.96	0.98		0.94	0.98		0.94
Parking Bus, Adj	1.00	0.90	1.00	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1676	1676	1710	1676	1676	1676	1710	1676	1710	1710	1676	1710
Adj Flow Rate, veh/h	11	248	0	86	301	139	10	146	102	88	146	36
Adj No. of Lanes	1	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	316	0	219	424	313	48	244	163	142	206	45
Arrive On Green	0.00	0.07	0.00	0.06	0.25	0.25	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1597	1509	0	1597	1676	1236	20	814	545	298	688	152
Grp Volume(v), veh/h	11	248	0	86	301	139	258	0	0	270	0	0
Grp Sat Flow(s),veh/h/ln	1597	1509	0	1597	1676	1236	1379	0	0	1138	0	0
Q Serve(g_s), s	0.5	14.6	0.0	3.8	14.7	8.5	0.0	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear(g_c), s	0.5	14.6	0.0	3.8	14.7	8.5	14.6	0.0	0.0	20.1	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	0.04		0.40	0.33		0.13
Lane Grp Cap(c), veh/h	177	316	0	219	424	313	455	0	0	394	0	0
V/C Ratio(X)	0.06	0.78	0.00	0.39	0.71	0.44	0.57	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	280	469	0	253	522	385	560	0	0	488	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	28.3	39.9	0.0	26.9	30.6	28.3	27.2	0.0	0.0	28.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	15.6	0.0	1.1	3.4	1.0	1.1	0.0	0.0	2.9	0.0	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	0.2	7.5	0.0	1.7	7.2	3.0	5.7	0.0	0.0	6.5	0.0	0.0
LnGrp Delay(d),s/veh	28.4	55.5	0.0	28.0	34.0	29.3	28.3	0.0	0.0	31.8	0.0	0.0
LnGrp LOS	C	E		C	C	C	C			C		
Approach Vol, veh/h		259			526			258			270	
Approach Delay, s/veh		54.3			31.8			28.3			31.8	
Approach LOS		D			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	30.2		33.6	12.5	26.3		33.6				
Change Period (Y+Rc), s	7.4	7.4		6.6	7.4	7.4		6.6				
Max Green Setting (Gmax), s	7.0	28.0		34.0	7.0	28.0		34.0				
Max Q Clear Time (g_c+l1), s	2.5	16.7		16.6	5.8	16.6		22.1				
Green Ext Time (p_c), s	0.0	1.7		1.4	0.0	1.0		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				35.5								
HCM 2010 LOS				D								

Timings

103: West Avenue & Dade Boulevard

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	10	233	81	283	131	9	137	83	137
Future Volume (vph)	10	233	81	283	131	9	137	83	137
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	1	6	5	2			4		8
Permitted Phases	6		2		2	4		8	
Detector Phase	1	6	5	2	2	4	4	8	8
Switch Phase									
Minimum Initial (s)	5.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.4	34.4	12.4	34.4	34.4	38.6	38.6	38.6	38.6
Total Split (s)	14.4	35.4	14.4	35.4	35.4	40.6	40.6	40.6	40.6
Total Split (%)	15.9%	39.2%	15.9%	39.2%	39.2%	44.9%	44.9%	44.9%	44.9%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.4	3.4	3.4	3.4	3.4	2.6	2.6	2.6	2.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	7.4	7.4	7.4	7.4	7.4		6.6		6.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	C-Min	None	Min	Min	Min	Min	Min	Min
Act Effect Green (s)	43.7	38.9	49.6	48.2	48.2		25.3		25.3
Actuated g/C Ratio	0.48	0.43	0.55	0.53	0.53		0.28		0.28
v/c Ratio	0.02	0.38	0.18	0.37	0.19		0.62		0.91
Control Delay	12.3	23.6	12.4	17.6	4.4		29.1		61.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	12.3	23.6	12.4	17.6	4.4		29.1		61.9
LOS	B	C	B	B	A		C		E
Approach Delay		23.1		13.3			29.1		61.9
Approach LOS		C		B			C		E

Intersection Summary

Cycle Length: 90.4

Actuated Cycle Length: 90.4

Offset: 75 (83%), Referenced to phase 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 92.7%

ICU Level of Service F

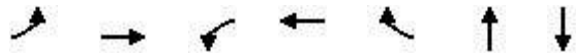
Analysis Period (min) 15

Splits and Phases: 103: West Avenue & Dade Boulevard

 Ø1	 Ø2	 Ø4
14.4 s	35.4 s	40.6 s
 Ø5	 Ø6 (R)	 Ø8
14.4 s	35.4 s	40.6 s

Queues

103: West Avenue & Dade Boulevard



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBT
Lane Group Flow (vph)	11	248	86	301	139	258	270
v/c Ratio	0.02	0.38	0.18	0.37	0.19	0.62	0.91
Control Delay	12.3	23.6	12.4	17.6	4.4	29.1	61.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.3	23.6	12.4	17.6	4.4	29.1	61.9
Queue Length 50th (ft)	3	102	22	89	0	106	142
Queue Length 95th (ft)	12	192	54	237	41	163	218
Internal Link Dist (ft)		508		381		432	477
Turn Bay Length (ft)							
Base Capacity (vph)	469	648	484	804	726	542	397
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.38	0.18	0.37	0.19	0.48	0.68
Intersection Summary							

HCM 2010 Signalized Intersection Summary

104: West Avenue & 17th Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	181	198	129	245	38	185	228	193	18	202	1
Future Volume (veh/h)	16	181	198	129	245	38	185	228	193	18	202	1
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	1.00		0.93	0.96		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	0.85	1.00	1.00	0.90
Adj Sat Flow, veh/h/ln	1710	1676	1710	1676	1676	1710	1676	1676	1710	1676	1676	1710
Adj Flow Rate, veh/h	17	189	206	134	255	40	193	238	201	19	210	1
Adj No. of Lanes	0	2	0	1	1	0	1	1	0	1	1	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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	595	405	161	686	108	289	220	186	79	478	2
Arrive On Green	0.38	0.38	0.38	0.10	0.55	0.55	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	65	1559	1061	1597	1258	197	1012	691	584	852	1500	7
Grp Volume(v), veh/h	206	0	206	134	0	295	193	0	439	19	0	211
Grp Sat Flow(s),veh/h/ln	1624	0	1061	1597	0	1455	1012	0	1275	852	0	1507
Q Serve(g_s), s	0.0	0.0	13.6	7.5	0.0	10.5	17.0	0.0	29.0	0.0	0.0	10.1
Cycle Q Clear(g_c), s	7.9	0.0	13.6	7.5	0.0	10.5	27.1	0.0	29.0	29.0	0.0	10.1
Prop In Lane	0.08		1.00	1.00		0.14	1.00		0.46	1.00		0.00
Lane Grp Cap(c), veh/h	663	0	405	161	0	793	289	0	406	79	0	480
V/C Ratio(X)	0.31	0.00	0.51	0.83	0.00	0.37	0.67	0.00	1.08	0.24	0.00	0.44
Avail Cap(c_a), veh/h	663	0	405	167	0	793	289	0	406	79	0	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	21.6	40.2	0.0	11.8	35.3	0.0	31.0	45.5	0.0	24.6
Incr Delay (d2), s/veh	1.2	0.0	4.5	26.3	0.0	1.3	5.3	0.0	68.0	1.1	0.0	0.5
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	3.9	0.0	4.5	4.5	0.0	4.5	5.1	0.0	17.8	0.5	0.0	4.2
LnGrp Delay(d),s/veh	21.1	0.0	26.1	66.5	0.0	13.1	40.6	0.0	99.0	46.6	0.0	25.0
LnGrp LOS	C		C	E		B	D		F	D		C
Approach Vol, veh/h		412			429			632			230	
Approach Delay, s/veh		23.6			29.8			81.2			26.8	
Approach LOS		C			C			F			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		55.8		35.2	14.9	40.9		35.2				
Change Period (Y+Rc), s		* 6.2		* 6.2	* 5.7	* 6.2		* 6.2				
Max Green Setting (Gmax), s		* 49		* 29	* 9.5	* 34		* 29				
Max Q Clear Time (g_c+l1), s		12.5		31.0	9.5	15.6		31.0				
Green Ext Time (p_c), s		0.6		0.0	0.0	1.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				47.0								
HCM 2010 LOS				D								
Notes												

Timings

104: West Avenue & 17th Street

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	16	181	129	245	185	228	18	202
Future Volume (vph)	16	181	129	245	185	228	18	202
Turn Type	Perm	NA	Prot	NA	Perm	NA	Perm	NA
Protected Phases		6	5	2		4		8
Permitted Phases	6				4		8	
Detector Phase	6	6	5	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	7.0	7.0	5.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	37.2	37.2	12.0	37.2	35.2	35.2	32.2	32.2
Total Split (s)	40.2	40.2	15.2	55.2	35.2	35.2	35.2	35.2
Total Split (%)	44.4%	44.4%	16.8%	60.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	4.0	4.0	3.7	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.2	2.2	2.0	2.2	2.2	2.2	2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		6.2	5.7	6.2	6.2	6.2	6.2	6.2
Lead/Lag	Lag	Lag	Lead					
Lead-Lag Optimize?	Yes	Yes	Yes					
Recall Mode	C-Min	C-Min	None	C-Min	Min	Min	Min	Min
Act Effect Green (s)		24.8	13.9	44.4	33.8	33.8	33.8	33.8
Actuated g/C Ratio		0.27	0.15	0.49	0.37	0.37	0.37	0.37
v/c Ratio		0.50	0.63	0.41	0.62	0.82	0.11	0.38
Control Delay		17.3	50.6	17.7	31.3	35.0	17.6	21.6
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		17.3	50.6	17.7	31.3	35.0	17.6	21.6
LOS		B	D	B	C	C	B	C
Approach Delay		17.3		28.0		33.9		21.3
Approach LOS		B		C		C		C

Intersection Summary

Cycle Length: 90.6

Actuated Cycle Length: 90.6

Offset: 75 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 26.7

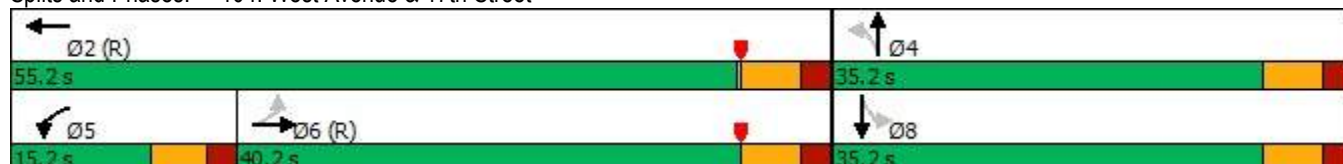
Intersection LOS: C

Intersection Capacity Utilization 106.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 104: West Avenue & 17th Street



Queues

104: West Avenue & 17th Street



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	412	134	295	193	439	19	211
v/c Ratio	0.50	0.63	0.41	0.62	0.82	0.11	0.38
Control Delay	17.3	50.6	17.7	31.3	35.0	17.6	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	50.6	17.7	31.3	35.0	17.6	21.6
Queue Length 50th (ft)	51	71	100	87	197	7	85
Queue Length 95th (ft)	104	#162	193	142	283	20	125
Internal Link Dist (ft)	476		364		407		104
Turn Bay Length (ft)		160		170		50	
Base Capacity (vph)	1073	213	810	320	549	184	574
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.63	0.36	0.60	0.80	0.10	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 2010 AWSC
105: West Avenue & 18 Street

Intersection

Intersection Delay, s/veh 10.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	15	140	6	12	13	100	166	17	14	89	83
Future Vol, veh/h	72	15	140	6	12	13	100	166	17	14	89	83
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	16	151	6	13	14	108	178	18	15	96	89
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	10.3	8.7	11.4	9.6
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	35%	32%	19%	8%
Vol Thru, %	59%	7%	39%	48%
Vol Right, %	6%	62%	42%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	283	227	31	186
LT Vol	100	72	6	14
Through Vol	166	15	12	89
RT Vol	17	140	13	83
Lane Flow Rate	304	244	33	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.413	0.329	0.05	0.264
Departure Headway (Hd)	4.888	4.856	5.376	4.743
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	732	670	748
Service Time	2.968	2.937	3.376	2.829
HCM Lane V/C Ratio	0.416	0.333	0.049	0.267
HCM Control Delay	11.4	10.3	8.7	9.6
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	2	1.4	0.2	1.1

HCM 2010 AWSC
106: Bay Road & 18 Street

Intersection

Intersection Delay, s/veh 9.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	133	63	26	101	73	9	26	37	86	27	47
Future Vol, veh/h	45	133	63	26	101	73	9	26	37	86	27	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	145	68	28	110	79	10	28	40	93	29	51
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	10.2	9.6	8.7	9.8
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	19%	13%	54%
Vol Thru, %	36%	55%	51%	17%
Vol Right, %	51%	26%	36%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	241	200	160
LT Vol	9	45	26	86
Through Vol	26	133	101	27
RT Vol	37	63	73	47
Lane Flow Rate	78	262	217	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.109	0.343	0.283	0.245
Departure Headway (Hd)	5.007	4.707	4.69	5.074
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	757	759	701
Service Time	3.101	2.776	2.762	3.155
HCM Lane V/C Ratio	0.11	0.346	0.286	0.248
HCM Control Delay	8.7	10.2	9.6	9.8
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.4	1.5	1.2	1

HCM 2010 AWSC
107: Purdy Avenue & 18 Street

Intersection

Intersection Delay, s/veh 11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	18	29	95	9	44	14	124	202	24	130	4
Future Vol, veh/h	13	18	29	95	9	44	14	124	202	24	130	4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	21	33	109	10	51	16	143	232	28	149	5
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	9.1	10.4	12.9	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	22%	64%	100%	2%
Vol Thru, %	0%	38%	30%	6%	0%	95%
Vol Right, %	0%	62%	48%	30%	0%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	326	60	148	22	136
LT Vol	14	0	13	95	22	2
Through Vol	0	124	18	9	0	130
RT Vol	0	202	29	44	0	4
Lane Flow Rate	16	375	69	170	25	157
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.027	0.524	0.105	0.258	0.042	0.246
Departure Headway (Hd)	5.973	5.03	5.462	5.459	6.157	5.639
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	603	723	656	658	582	638
Service Time	3.673	2.73	3.499	3.491	3.885	3.367
HCM Lane V/C Ratio	0.027	0.519	0.105	0.258	0.043	0.246
HCM Control Delay	8.8	13.1	9.1	10.4	9.2	10.2
HCM Lane LOS	A	B	A	B	A	B
HCM 95th-tile Q	0.1	3.1	0.4	1	0.1	1

HCM 2010 AWSC
108: West Avenue & 20 Street

Intersection

Intersection Delay, s/veh 11.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	266	55	147	217	1	33	1	153	0	1	2
Future Vol, veh/h	2	266	55	147	217	1	33	1	153	0	1	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	289	60	160	236	1	36	1	166	0	1	2
Number of Lanes	0	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	2	1
HCM Control Delay	12.6	11	10.4	8.8
HCM LOS	B	B	B	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	1%	100%	0%	0%
Vol Thru, %	1%	82%	0%	100%	33%
Vol Right, %	82%	17%	0%	0%	67%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	323	147	218	3
LT Vol	33	2	147	0	0
Through Vol	1	266	0	217	1
RT Vol	153	55	0	1	2
Lane Flow Rate	203	351	160	237	3
Geometry Grp	2	5	7	7	2
Degree of Util (X)	0.292	0.481	0.261	0.354	0.005
Departure Headway (Hd)	5.169	4.929	5.891	5.383	5.753
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	687	723	604	661	626
Service Time	3.26	3.018	3.688	3.18	3.753
HCM Lane V/C Ratio	0.295	0.485	0.265	0.359	0.005
HCM Control Delay	10.4	12.6	10.8	11.2	8.8
HCM Lane LOS	B	B	B	B	A
HCM 95th-tile Q	1.2	2.6	1	1.6	0

HCM 2010 AWSC
109: Bay Road & 20 Street

Intersection

Intersection Delay, s/veh 10.5

Intersection LOS B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	10	82	215	20	156
Future Vol, veh/h	115	10	82	215	20	156
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	139	12	99	259	24	188
Number of Lanes	1	0	0	1	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	1	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	1	0	1
HCM Control Delay	9.1	11.7	9.4
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	WBLn1
Vol Left, %	11%	0%	28%
Vol Thru, %	0%	92%	72%
Vol Right, %	89%	8%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	176	125	297
LT Vol	20	0	82
Through Vol	0	115	215
RT Vol	156	10	0
Lane Flow Rate	212	151	358
Geometry Grp	1	1	1
Degree of Util (X)	0.271	0.201	0.464
Departure Headway (Hd)	4.604	4.802	4.665
Convergence, Y/N	Yes	Yes	Yes
Cap	776	742	769
Service Time	2.655	2.86	2.715
HCM Lane V/C Ratio	0.273	0.204	0.466
HCM Control Delay	9.4	9.1	11.7
HCM Lane LOS	A	A	B
HCM 95th-tile Q	1.1	0.7	2.5

HCM 2010 TWSC
201: Bay Road & Garage

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	68	0	70	75	65
Future Vol, veh/h	0	68	0	70	75	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	0	76	82	71
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	118	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	-	-
Pot Cap-1 Maneuver	0	934	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	934	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT EBLn1		SBT	SBR		
Capacity (veh/h)	- 934		-	-		
HCM Lane V/C Ratio	- 0.079		-	-		
HCM Control Delay (s)	- 9.2		-	-		
HCM Lane LOS	- A		-	-		
HCM 95th %tile Q(veh)	- 0.3		-	-		

HCM 2010 TWSC
202: Bay Road & Private Internal Access

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	4	0	70	136	0
Future Vol, veh/h	2	4	0	70	136	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	4	0	76	148	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	224	148	148	0	-	0
Stage 1	148	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	764	899	1434	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	764	899	1434	-	-	-
Mov Cap-2 Maneuver	764	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.3	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1434	-	849	-	-	
HCM Lane V/C Ratio	-	-	0.008	-	-	
HCM Control Delay (s)	0	-	9.3	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

APPENDIX G

Queuing Analysis – Valet and Entry Gate

Queuing Analysis based on ITE Procedures Valet for Commercial Traffic

$$q = 61 \text{ veh/hr (demand rate)}^*$$

$$Q = 15 \text{ veh/hr (service rate)}^{**}$$

$$p = \frac{q}{NQ} = 0.5083 \text{ (N = 8 valet runners)}$$

$$Q_M = 0.0658$$

Using Acceptable Probability of 5% (95% Confidence Level)

$$M = \left[\frac{\ln(x > M) - \ln(Q_M)}{\ln(p)} \right] - 1$$

$$M = \left[\frac{\ln(0.05) - \ln(0.0658)}{\ln(0.5083)} \right] - 1$$

$$M = \left[\frac{-2.995 - (-2.7211)}{-0.6767} \right] - 1$$

$$M = 0.41 - 1 = -0.59, \text{ say } 1 \text{ vehicle}$$

* Includes 44 net new trips plus 21 pass-by traffic – 4 residential trips

** Ticket processing time = **60 sec** + travel time 900 feet public streets + 300 feet within garage at 15 mph = **55 sec** + delay at Purdy/18th Street and Bay/18th Street = **22.7 sec** + garage gate = **12 sec** + parking time = **30 sec** + walking distance back to valet 600 feet at 10 feet per sec = **60 sec** for a total of approximately **4 minutes**

Queuing Analysis based on ITE Procedures Valet for Residential Traffic

$$q = 4 \text{ veh/hr (demand rate)*}$$

$$Q = 20 \text{ veh/hr (service rate)**}$$

$$p = \frac{q}{NQ} = 0.20 \text{ (N = 1 valet runner)}$$

$$Q_M = 0.20$$

Using Acceptable Probability of 5% (95% Confidence Level)

$$M = \left[\frac{\ln(x > M) - \ln(Q_M)}{\ln(p)} \right] - 1$$

$$M = \left[\frac{\ln(0.05) - \ln(0.20)}{\ln(0.20)} \right] - 1$$

$$M = \left[\frac{-2.995 - (-1.6094)}{-1.6094} \right] - 1$$

$$M = 0.86 - 1 = -0.14, \text{ say } 1 \text{ vehicle}$$

* Includes 6 inbound trips minus internal and multimodal deductions

** Ticket processing time = **60 sec** + bollards at **15 sec** (refer to attached specs),
+ travel time 150 feet breezeway/Bay Rd + 300 feet within garage at 15 mph = **20 sec**
+ garage gate = **12 sec** + parking time = **30 sec** + walking distance back to valet
450 feet at 10 feet per sec = **45 sec** for a total of approximately **3 minutes**

Queuing Analysis based on ITE Procedures Garage Entrance

$q = 65 \text{ veh/hr}$ (inbound demand rate)*

$Q = 300 \text{ veh/hr}$ (service rate)**

$$p = \frac{q}{NQ} = 0.2167 \text{ (N = 1)}$$

$$Q_M = 0.2167$$

Using Acceptable Probability of 5% (95% Confidence Level)

$$M = \left(\frac{\ln(x > M) - \ln(Q_M)}{\ln(p)} \right) - 1$$

$$M = \left(\frac{\ln(0.05) - \ln(0.2167)}{\ln(0.2167)} \right) - 1$$

$$M = \left(\frac{-2.995 - (-1.5292)}{-1.5292} \right) - 1$$

$$M = 0.9590 - 1 = -0.0410, \text{ say } 1 \text{ vehicle queue}$$

* Includes 44 net new trips plus 21 pass-by traffic (both commercial and residential)

** As indicated in the attached specifications, at a speed of 20 inches per second, the proposed 8-foot entry gate system will open in approximately 4.8 seconds. For purposes of this analysis, 12 seconds were assumed (300 vehicles per hour)

location, a 5% probability of back-up onto the adjacent street is judged to be acceptable. Demand on the system for design is expected to be 110 vehicles in a 45-minute period. Average service time was expected to be 2.2 minutes. Is the queue storage adequate?

Such problems can be quickly solved using Equation (8-9b) given in Table 8-10 and repeated below for convenience.

$$M = \left[\frac{\ln P(x > M) - \ln Q_M}{\ln \rho} \right] - 1$$

where:

M = queue length which is exceeded p percent of the time

N = number of service channels (drive-in positions)

Q = service rate per channel (vehicles per hour)

$\rho = \frac{\text{demand rate}}{\text{service rate}} = \frac{q}{NQ} = \text{utilization factor}$

q = demand rate on the system (vehicles per hour)

Q_M = tabled values of the relationship between queue length, number of channels, and utilization factor (see Table 8.11)

TABLE 8-11

Table of Q_M Values

	$N = 1$	2	3	4	6	8	10
0.0	0.0000	0.0000	0.0000	0.0000			
0.1	.1000	.0182	.0037	.0008	.0000	0.0000	0.0000
.2	.2000	.0666	.0247	.0096	.0015	.0002	.0000
.3	.3000	.1385	.0700	.0370	.0111	.0036	.0011
.4	.4000	.2286	.1411	.0907	.0400	.0185	.0088
.5	.5000	.3333	.2368	.1739	.0991	.0591	.0360
.6	.6000	.4501	.3548	.2870	.1965	.1395	.1013
.7	.7000	.5766	.4923	.4286	.3359	.2706	.2218
.8	.8000	.7111	.6472	.5964	.5178	.4576	.4093
.9	.9000	.8526	.8172	.7878	.7401	.7014	.6687
1.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

$$\rho = \frac{q}{NQ} = \frac{\text{arrival rate, total}}{\text{(number of channels) (service rate per channel)}}$$

N = number of channels (service positions)

$0.5 \Rightarrow 0.0591$
 $0.5083 \Rightarrow 0.0658$
 $0.6 \Rightarrow 0.1395$

 0.1 0.0804

 0.0067

Solution

Step 1: $Q = \frac{60 \text{ min/hr}}{2.2 \text{ min/service}} = 27.3 \text{ services per hour}$

Step 2: $q = (110 \text{ veh/45 min}) \times (60 \text{ min/hr}) = 146.7 \text{ vehicles per hour}$

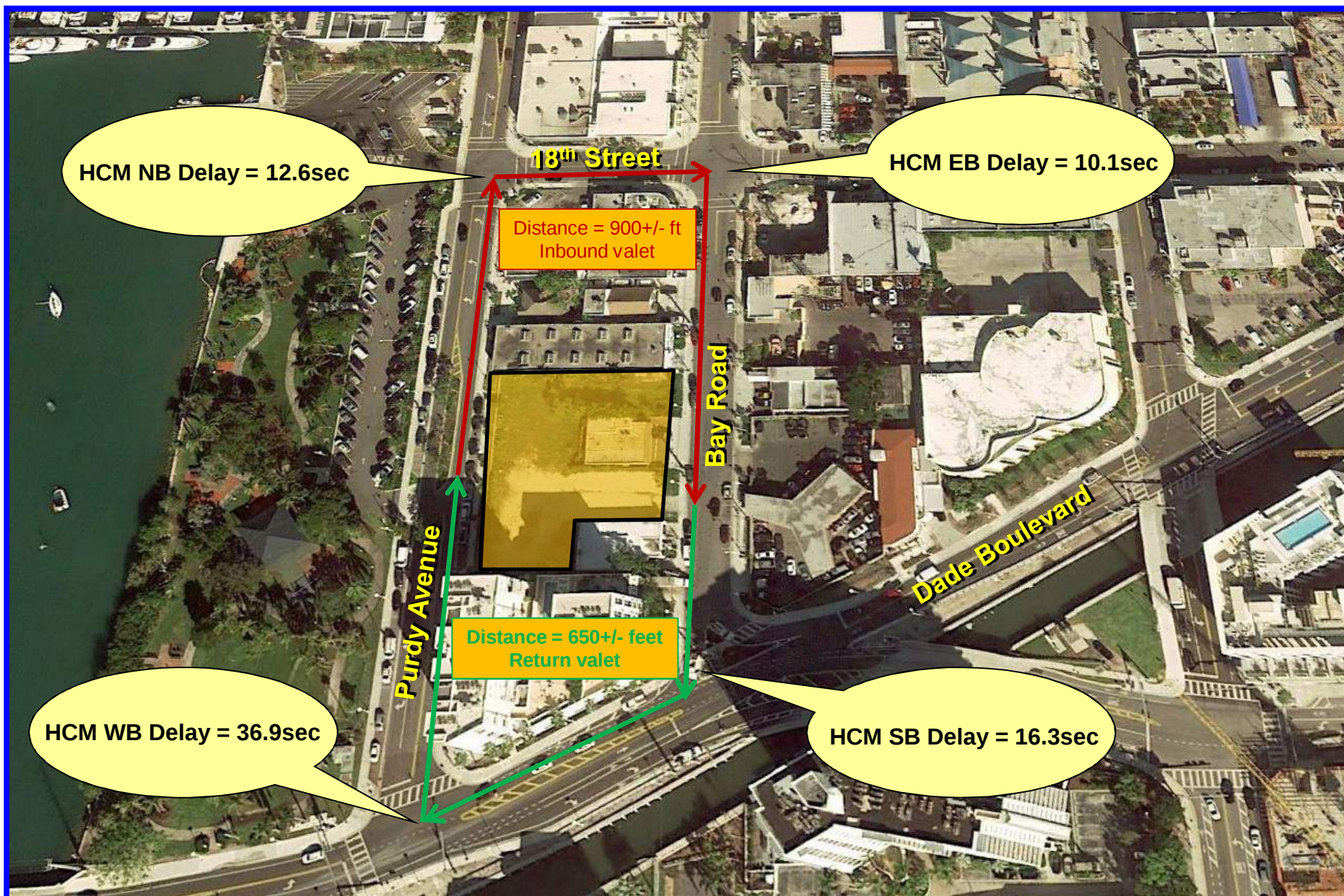
Step 3: $\rho = \frac{q}{NQ} = \frac{146.7}{(6)(27.3)} = 0.8956$

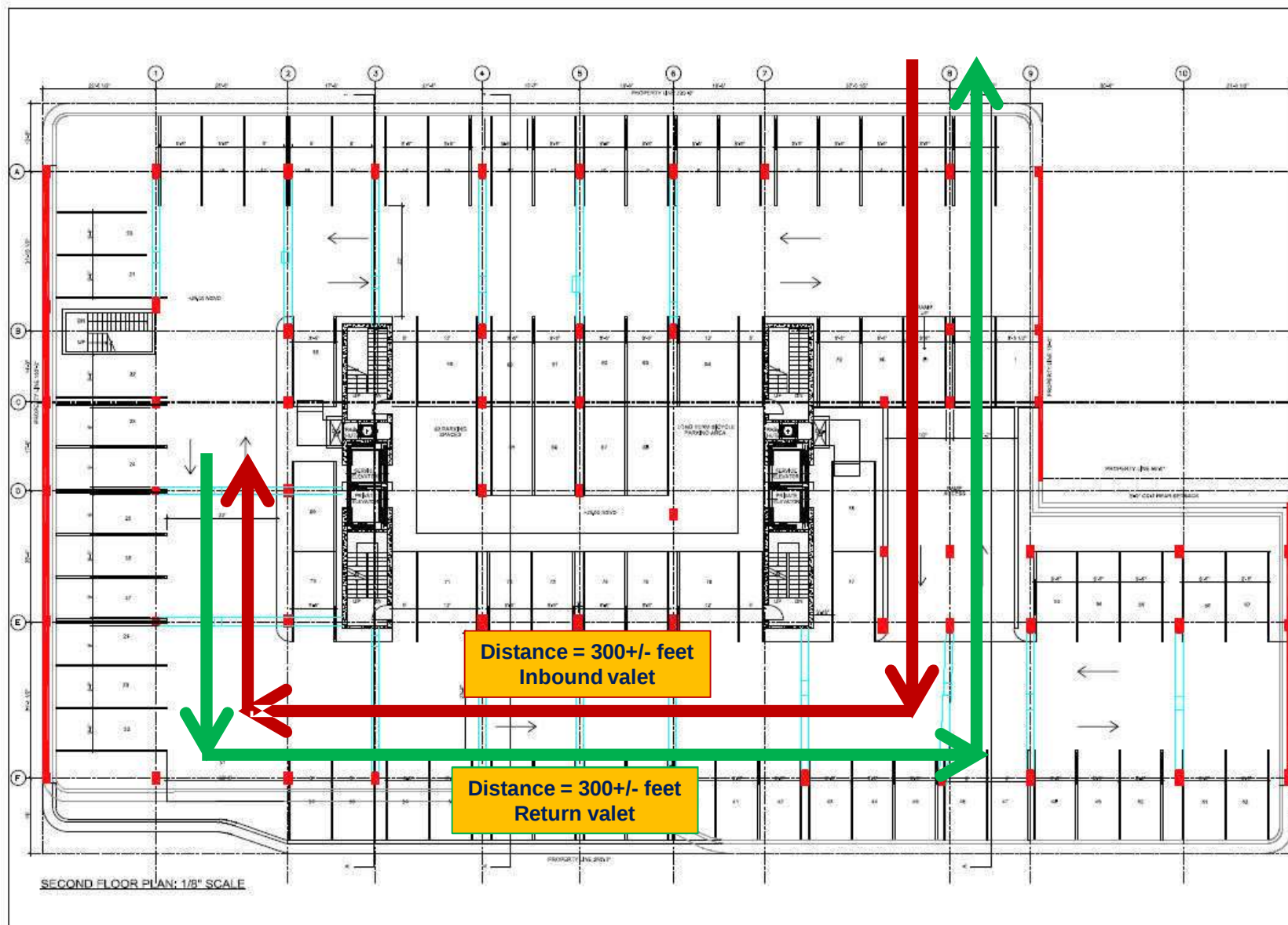
Step 4: $Q_M = 0.7303$ by interpolation between 0.8 and 0.9 for $N = 6$ from the table of Q_M values (see Table 8-11).

Step 5: The acceptable probability of the queue, M , being longer than the storage, 18 spaces in this example, was stated to be 5%. $P(x > M) = 0.05$, and:

$$M = \left[\frac{\ln 0.05 - \ln 0.7303}{\ln 0.8956} \right] - 1 = \left[\frac{-2.996 - (-0.314)}{-0.110} \right] - 1$$

$$= 24.38 - 1 = 23.38, \text{ say } 23 \text{ vehicles.}$$





Menu



127/P-600A

Automatic – semi-automatic - fixed

Diameter: 127 mm

Height: 500, 600, 800 mm

Cylinder thickness: 6 mm

- Standard finish: anthracite gray painted
- Optional finish: RAL color scale painted
- Optional finish (Stainless steel version): satin finish stainless steel
- Impact resistance: 30.000 J
- Breakout resistance: 150.000 J

Automatic



Raising speed: 10 cm/sec

Lowering speed: 10 cm/sec (20 cm/sec with DISP 23)

Use: intensive

For a 3 feet high bollard (91 cm), approximately 9.1 sec

For a 4 feet high bollard (121.9 cm), approximately 12.2. sec

For purposes of this traffic study, used 15 seconds.



220/P-600A

Automatic – semi-automatic - fixed

Diameter: 220 mm

Height: 600 mm

Cylinder thickness: 4 mm

- Standard finish: anthracite gray painted
- Optional finish: ivory or orange painted
- Optional finish (Stainless steel version): satin finish stainless steel
- Impact resistance: 30.000 J
- Breakout resistance: 150.000 J

Automatic



Raising speed: 6 cm/sec

Lowering speed: 20 cm/sec

Use: 60 operations/day



275/P 400A

Automatic – semi-automatic - fixed

Diameter: 275 mm

Height: 400, 500, 600, 800 mm

Cylinder thickness: 6 mm (10 mm reinforced version)

- Standard finish: anthracite gray painted
- Optional finish: RAL color scale painted
- Optional finish (Stainless steel version): satin finish stainless steel
- Impact resistance: 40.000 J
- Breakout resistance: 250.000 J

Automatic



Raising speed: 10 cm/sec

Lowering speed: 10 cm/sec (20 cm/sec with DISP 23)

Use: intensive



275/K12 900A

Automatic – fixed

Diameter: 275 mm

Height: 900 mm

Cylinder thickness: 25 mm

- Standard finish: anthracite gray painted
- Optional finish: RAL color scale painted
- Optional finish (Stainless steel version): satin
- Impact resistance: 700.000 J
- Breakout resistance: 2.000.000 J

Automatic

Raising speed: 20 cm/sec

Lowering speed: 20 cm/sec

Use: intensive





SECTION 08333
SECURITY GRILLES
RAPIDGRILLE™ AP MODEL 676 UPWARD COILING GRILLE

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Advanced Performance Overhead Coiling Grille.

1.2 RELATED SECTIONS

- A. Section 05500 - Metal Fabrications: Support framing and framed opening.
- B. Section 06200 - Finish Carpentry: Wood jamb and head trim.
- C. Section 08332 - Overhead Coiling Counter Doors.
- D. Section 08710 - Door Hardware: Product Requirements for cylinder core and keys.
- E. Section 16130 - Raceway and Boxes: Conduit from electric circuit to grille operator and from grille operator to control station.
- F. Section 16150 - Wiring Connections: Power to disconnect.

1.3 REFERENCES

- A. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
- C. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
- D. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- E. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- F. NEMA ICS 2 - Industrial Control and Systems: Controllers, Contactors, and Overload Relays, Rated Not More Than 2000 Volts AC or 750 Volts DC.
- G. NEMA MG 1 - Motors and Generators.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.

- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Include detailed plans, elevations, details of framing members, required clearances, anchors, and accessories. Include relationship with adjacent materials.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product specified, two samples, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing Work of this section with a minimum of five years experience in the fabrication and installation of security closures.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum three years and approved by manufacturer.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Install in areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship and installation is approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after wet work is complete and dry.
- C. Store materials in a dry, warm, ventilated weathertight location.

1.7 COORDINATION

- A. Coordinate Work with other operations and installation of adjacent finish materials to avoid damage to installed materials.

1.8 WARRANTY

- A. RapidGrille AP Model 676: Motor 5 year limited warranty; other components 2 year or 300,000 cycle limited warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Overhead Door Corp., 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ADVANCED PERFORMANCE OVERHEAD COILING GRILLE

- A. RapidGrille AP Model 676 by Overhead Door Corporation.
 - 1. Curtain: Horizontal 5/16 inch (7.8 mm) diameter rods with network of vertically interlocking links to form a pattern. Vertical rod 2 inch (51 mm) on center spacing. Bottom bar extruded aluminum tubular shape.
 - a. Material:
 - 1) Stainless Steel Link, Rod, and Spacer: No. 4 finish.
 - 2) Stainless Steel Link, Rod, and Spacer: No. 2B finish.
 - 3) Galvanized w/ Rust Inhibitor Steel Link, Rod, and Mill Aluminum Spacer.
 - 4) Mill Aluminum Link, Rod, and Spacer
 - 5) Clear Anodized Aluminum Link, Rod, and Spacer
 - b. Pattern:
 - 1) Straight lattice; horizontal spacing 9 inches (228 mm) on center.
 - 2) Brick pattern; horizontal spacing 4-1/2 inches (114 mm) on center.
 - 2. Performance:
 - a. Opening speed of no less than 20 inches/second
 - b. Closing speed of no higher than 12 inches/second
 - c. Springless direct drive mechanism without chain and sprocket connecting the drive mechanism to the door.
 - d. System cycle of no less than 300,000 cycles.
 - 3. Finish:
 - a. Prime all non-galvanized, exposed ferrous surfaces with one coat of rust-inhibitive primer
 - b. Powder coat: PowderGuard
 - 1) PowderGuard Premium: Weather resistant polyester powder coat color as selected by the Architect.
 - 4. Guides: Three Structural steel angles.
 - a. Finish: PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder.
 - b. Finish: PowderGuard Zinc Rich with PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder/color as selected by the Architect.
 - c. Finish: Stainless steel #4.
 - d. Finish: Stainless steel #2B.
 - 5. Bottom Bar:
 - a. Tubular extruded aluminum
 - 1) Finish: Mill finish aluminum
 - b. Double structure steel angle
 - 1) Finish: PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder.
 - 2) Finish: PowderGuard Zinc Rich with PowderGuard Premium: Weather resistant polyester powder coat with iron/black powder/color as selected by the Architect.

- 3) Finish: Stainless steel #4.
- 4) Finish: Stainless steel #2B.
- 6. Motor: Direct drive, hypoid gear motor/brake assembly sized for openings. Provide with a manual hand crank for operation during power outages. Operator and drive assembly is factory pre-assembled and provided with low voltage factory wiring with quick connect wiring harnesses where applicable.
 - a. Electrical Characteristics: 208/230V AC, three phase per motor/drive.
 - b. Electrical Characteristics: 460V AC, 3 phase per motor/drive.
 - c. Left hand mount.
 - d. Right hand mount.
- 7. Control Panel: Provide electronic Variable Frequency drive controller with microprocessor self-diagnostics. Two line LCD readout indicates door action, alarm conditions, and fault conditions. Time delay self close timer and non-resettable cycle counter is included. Enclosure is NEMA 4X rated.
- 8. Door Roll: Directly driven, springless roll shall be steel tube with integral shafts, keyed on the Drive End and supported by self-aligning grease-able sealed bearings. Door shall not require any counterbalance device.
- 9. Hood: Protecting drive motor, barrel, chain, stop lock brake and sprocket from dirt and debris and extending between the support brackets. Fabricated of:
 - a. 24 gauge black painted steel.
 - b. 24 gauge powder coated steel.
 - c. Stainless Steel with brush finish.
 - d. Powder coated aluminum.
 - e. Provide with sloped top for exterior mounting.
- 10. Brackets: Provide metal brackets to support motor, curtain, and hood and fabricated of:
 - a. Black powder coated steel.
 - b. Powder coated aluminum.
 - c. Stainless Steel.
- 11. Safety Devices: Provide door with following safety devices:
 - a. Photoelectric sensors that cast an invisible beam across the door opening and reverses the downward motion of the door when an object enters the path of the beam.
 - b. Self-monitoring 2-wire, black/yellow striped electric fail-safe sensing edge reverses downward motion upon impact.
 - c. Automatic stop lock brake eliminates uncontrolled curtain travel independent of other safeties.
- 12. Actuators:
 - a. One Open/Close/Stop push button station incorporated into Control Panel.
 - b. Loop detectors.
 - c. Radio control.
 - d. Push buttons.
 - e. Motion detectors.
 - f. Pull cords.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify opening sizes, tolerances and conditions are acceptable.
- B. Examine conditions of substrates, supports, and other conditions under which this work is to be performed.

- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Coordinate installation of electrical service with Section 16150. Complete wiring from disconnect to unit components.
- F. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.
- G. Install perimeter trim and closures.

3.4 ADJUSTING

- A. Test security grilles for proper operation and adjust as necessary to provide proper operation without binding or distortion.
- B. Adjust hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Clean curtain and components using non-abrasive materials and methods recommended by manufacturer.
- B. Remove labels and visible markings.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

3.6 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION