4000 Collins
Miami Beach, Florida

traffic study

prepared for:
Duncan Hillsley Capital, LLC

Traf Tech
ENGINEERING, INC.

October 2016
Second Revision April 2017

Traf Tech
ENGINEERING, INC.

April 7, 2017

Mr. Bob Morgan
Duncan Hillsley Capital, LLC
7900 Glades Road, Suite 260
Boca Raton, Florida 33434

Re: 4000 Collins –Traffic Study (Revised)

Dear Mr. Morgan:

Traf Tech Engineering, Inc. is pleased to provide you with the results of the revised traffic study conducted for the 4000 Collins project located in the City of Miami Beach in Miami-Dade County, Florida.

It has been a pleasure working with you on this project.

Sincerely,

TRAF TECH ENGINEERING, INC.

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

April 7, 2017

8400 North University Drive, Suite 309, Tamarac, Florida 33321
Tel: (954) 582-0988 Fax: (954) 582-0989

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INTRODUCTION

4000 Collins is a proposed hotel and retail development planned to be located on the southwest corner of Collins Avenue and 41st Street 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 Duncan Hillsley Capital, LLC to conduct a traffic study[1] 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.

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PROJECT LOCATION MAP

FIGURE 1
4000 Collins
Miami Beach, Florida

INVENTORY

Existing Land Use

The subject site currently contains a 5-story hotel building and a parking lot. During the day of the traffic counts, the existing hotel was closed due to renovations and therefore, the trips associated with the existing hotel were not accounted for in the traffic counts.

Proposed Land Use and Access

The proposed 4000 Collins project will consist of 100 hotel rooms and 11,141 square feet of retail. Access to the site will be provided by a new access driveway on 41st Street on the north side of the site. The proposed development also includes valet parking service for all patrons that will be located on 40th Street on the south side of the site. Appendix B contains a copy of the site plan for the project site.

EXISTING CONDITIONS

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

Roadway System

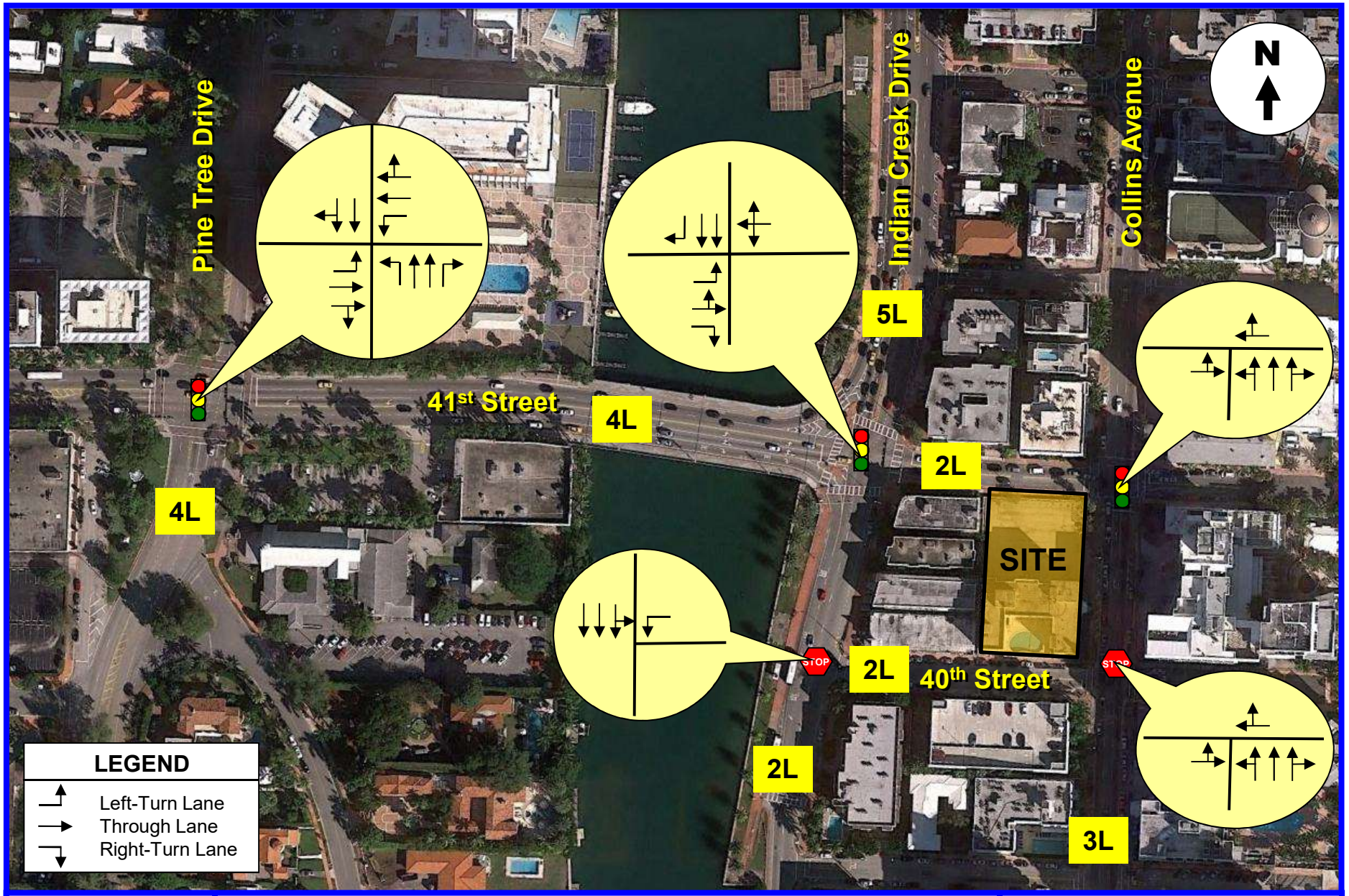
The roadway system located near the project site includes Collins Avenue, SR A1A/Indian Creek Drive, Pine Tree Drive, 41st Street, and 40th Street. Near the project site, Collins Avenue is a three-lane one-way facility in the northbound direction. SR A1A/Indian Creek Drive is a five-lane facility in the north and south directions from 41st Street to the north and a two-lane one-way facility in the southbound direction from 41st to the south. Pine Tree Drive is a four-lane facility in the north and south directions and 41st Street and 40th Street are two-lane facilities oriented in the east and west directions near the project site.

Nearby Intersections

With the assistance of City of Miami Beach staff, five intersections (plus the future access driveways) were identified as the locations that will be impacted the most by the proposed project. These intersections include:

- Collins Avenue & 41st Street (Signalized)
- Collins Avenue & 40th Street (Stop controlled)
- SR A1A Indian Creek Drive & 41st Street (Signalized)
- SR A1A Indian Creek Drive & 40th Street (Stop controlled)
- Pine Tree Drive & 41st Street (Signalized)

Figure 2 on the following page shows the existing lane geometry of the five (5) intersections selected for analysis purposes. The number of lanes on the street system surrounding the project site is also depicted in the figure.



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EXISTING LANE GEOMETRY

FIGURE 2
4000 Collins
Miami Beach, Florida

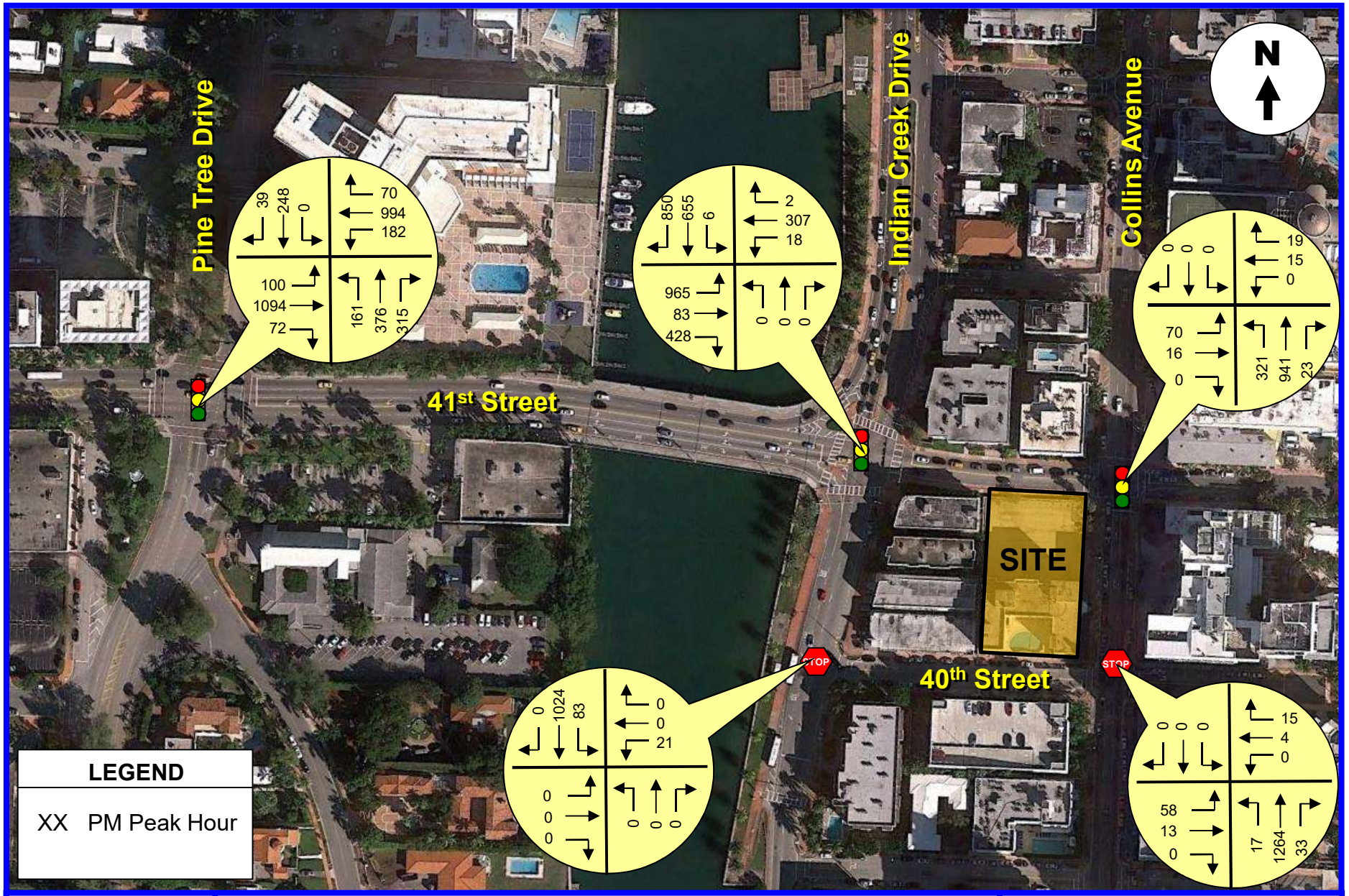
TRAFFIC COUNTS

Traf Tech Engineering, Inc., in association with Traffic Survey Specialists, Inc., collected traffic data at the following locations:

- Collins Avenue & 41st Street (Signalized)
- Collins Avenue & 40th Street (Stop controlled)
- SR A1A Indian Creek Drive & 41st Street (Signalized)
- SR A1A Indian Creek Drive & 40th Street (Stop controlled)
- Pine Tree Drive & 41st Street (Signalized)

The intersection turning movement counts performed by Traffic Survey Specialists, Inc., were collected on Friday, October 14, 2016 during the PM peak period (4:30 PM to 7:00 PM).

The existing PM peak hour traffic counts are presented in Figure 3 on the following page. Appendix C contains the traffic data as collected in the field. The signal timing plans for the signalized intersections were obtained from the Miami-Dade County Signals and Signs Division and are included in Appendix C.



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EXISTING TRAFFIC COUNTS
(March 4 and August 26, 2016)

FIGURE 3
4000 Collins
Miami Beach, Florida

TRIP GENERATION

The trip generation for the project was based on information contained in the Institute of Transportation Engineer's (ITE) *Trip Generation Manual (9th Edition)*. According to the subject ITE manual, the most appropriate "land use" category for the proposed land uses are: Land Use 310 – Hotel and Land Use 826 – Specialty Retail. Table 1 below summarizes the external trips associated with the proposed 4000 Collins development.

TABLE 1
Trip Generation Summary
4000 Collins

Land Use	Size	Daily Trips	PM Peak Hour Total Trips	PM Peak Hour Inbound	PM Peak Hour Outbound
Hotel (LUC 310)	100 Rooms	892	70	34	36
Retail (LUC 826)	11,141 Sf	514	48	21	27
Total Gross Trips		**1,406**	**118**	**55**	**63**
Hotel Internal Trips (-3%)		-27	-2	-1	-1
Retail Internal Trips (-3%)		-15	-2	-1	-1
New Trips - Hotel		**865**	**68**	**33**	**35**
New Trips - Retail		**499**	**46**	**20**	**26**
Total New Trips		**1,364**	**114**	**53**	**61**

Source: ITE Trip Generation Manual (9th Edition)

Source: ITE Trip Generation Manual (9th Edition)

As indicated in Table 1, the proposed 4000 Collins development is anticipated to generate approximately 1,406 gross daily trips and approximately 114 gross trips (53 inbound and 61 outbound) during the typical PM peak hour. The net new trips (proposed trips minus internal trips) include approximately 1,364 new daily trips and approximately 114 additional PM peak hour trips (53 inbound and 61 outbound).

ITE Land Use 310 – Hotel

Weekday Trip Generation
T = 8.17 (X)
Where T = number of weekday trips and
X = 1,000 square feet of gross leasable area

Weekday PM Peak Hour of Adjacent Street
T = 0.6 (X) (51% inbound and 49% outbound)
Where T = number of weekday PM peak hour trips and
X = 1,000 square feet of gross leasable area

ITE Land Use 826 – Specialty Retail Center

Weekday Trip Generation
T = 42.78 (X) + 37.66
Where T = number of weekday trips and
X = 1,000 square feet gross leasable area

Weekday PM Peak Hour of Adjacent Street
T = 2.40 (X) + 21.48 (44% inbound and 56% outbound)
Where T = number of weekday PM peak hour trips and
X = number of seats

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 633, which is applicable to the project site from the latest SERPM data published by Miami-Dade County.

TABLE 2
Project Trip Distribution
4000 Collins

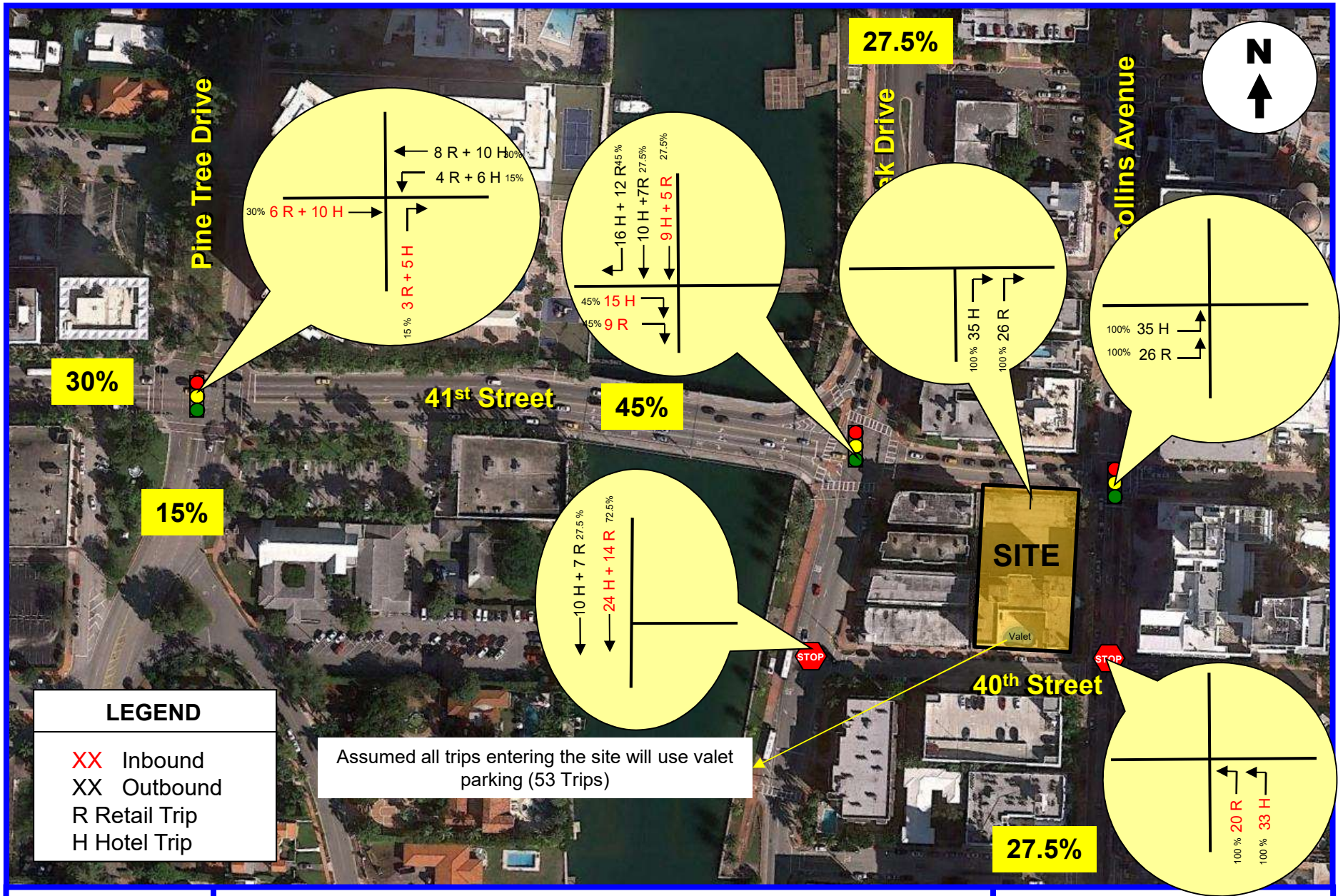
Direction		% of Total Trips
North:	Northwest	17.6
	Northeast	9.8
South:	Southwest	26.3
	Southeast	0.0
East:	Northeast	0.0
	Southeast	0.0
West:	Northwest	15.0
	Southwest	31.3
	Total	100.00%

Source: Miami-Dade County (2040 SERPM)

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

- 27.5% to/from the north via SR A1A Indian Creek Drive
- 27.5 % to/from the south via Collins Avenue
- 45% to/from the west via 41st Street

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 and 4B.



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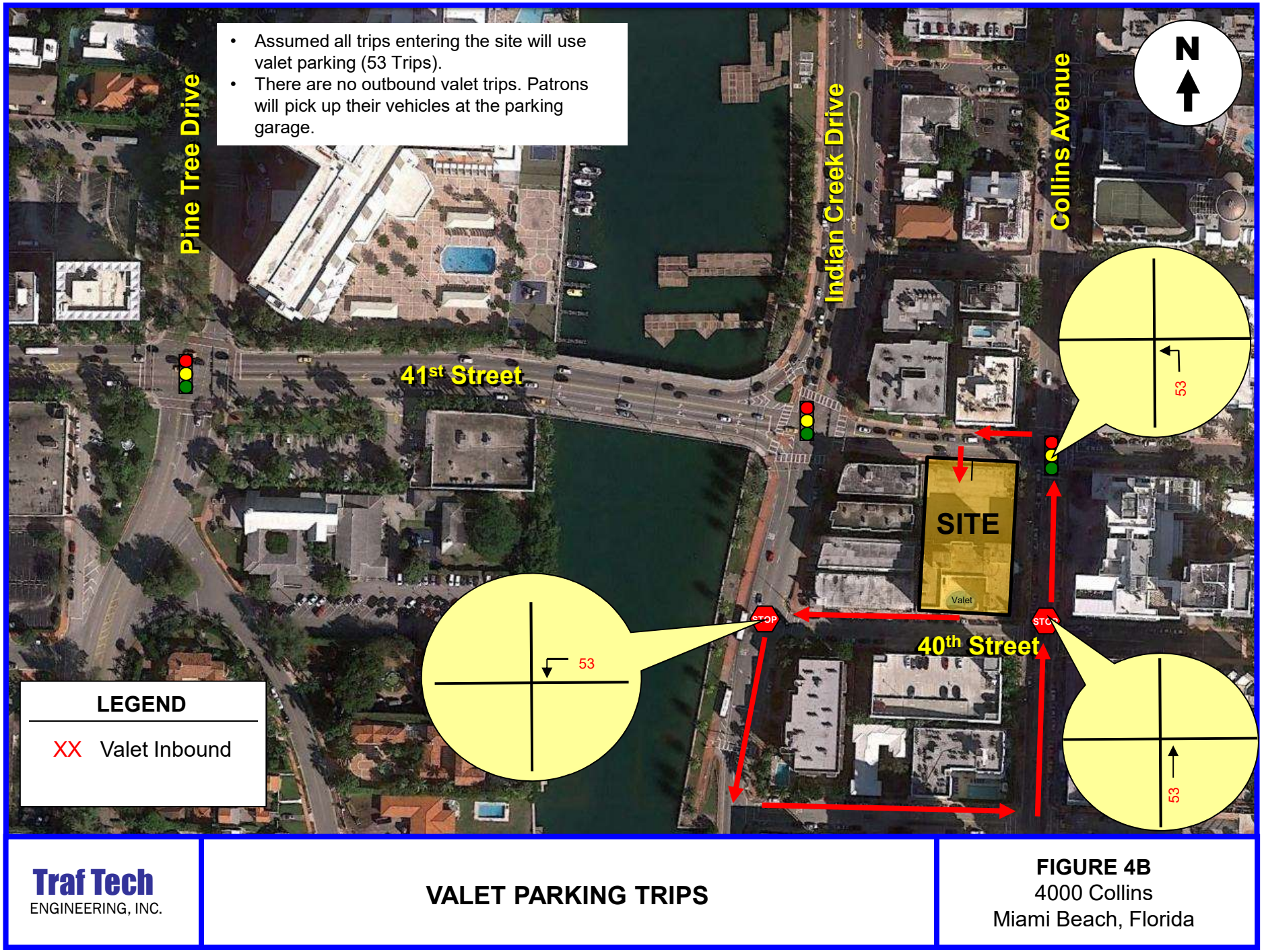
PROJECT TRAFFIC ASSIGNMENT

FIGURE 4A
4000 Collins
Miami Beach, Florida



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VALET PARKING TRIPS

FIGURE 4B
4000 Collins
Miami Beach, Florida

TRAFFIC ANALYSIS

This section of the study is divided into three (3) 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 third section addresses the projected operating conditions of the project's access driveways.

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 2018 traffic volumes (project anticipated to be built and occupied by the year 2018), 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 October to average peak season conditions. Based on FDOT's Peak Season Factor Category report, a factor of 1.00 is required to convert traffic counts collected during the second week of October to average peak season conditions (refer to Appendix D).

The second analysis includes a growth factor to project 2016 peak season traffic volumes to the year 2018. Based on traffic growth data published by the FDOT for a nearby traffic count stations, minimal 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 three percent (3%) growth rate was used for purposes of this study. Moreover, committed development trips associated with some projects were added to the peak season volumes in order to develop 2018 background traffic conditions for the study area.

The new trips generated by the 4000 Collins project (refer to Figures 4A and 4B) were added to the 2018 background traffic in order to develop total traffic conditions. The future traffic projections for the study intersections (peak season adjustments, growth rates, committed development trips and project traffic) are presented in tabular format in Appendix E. Figures 5 and 6 present the year 2018 future traffic volumes for the study area.

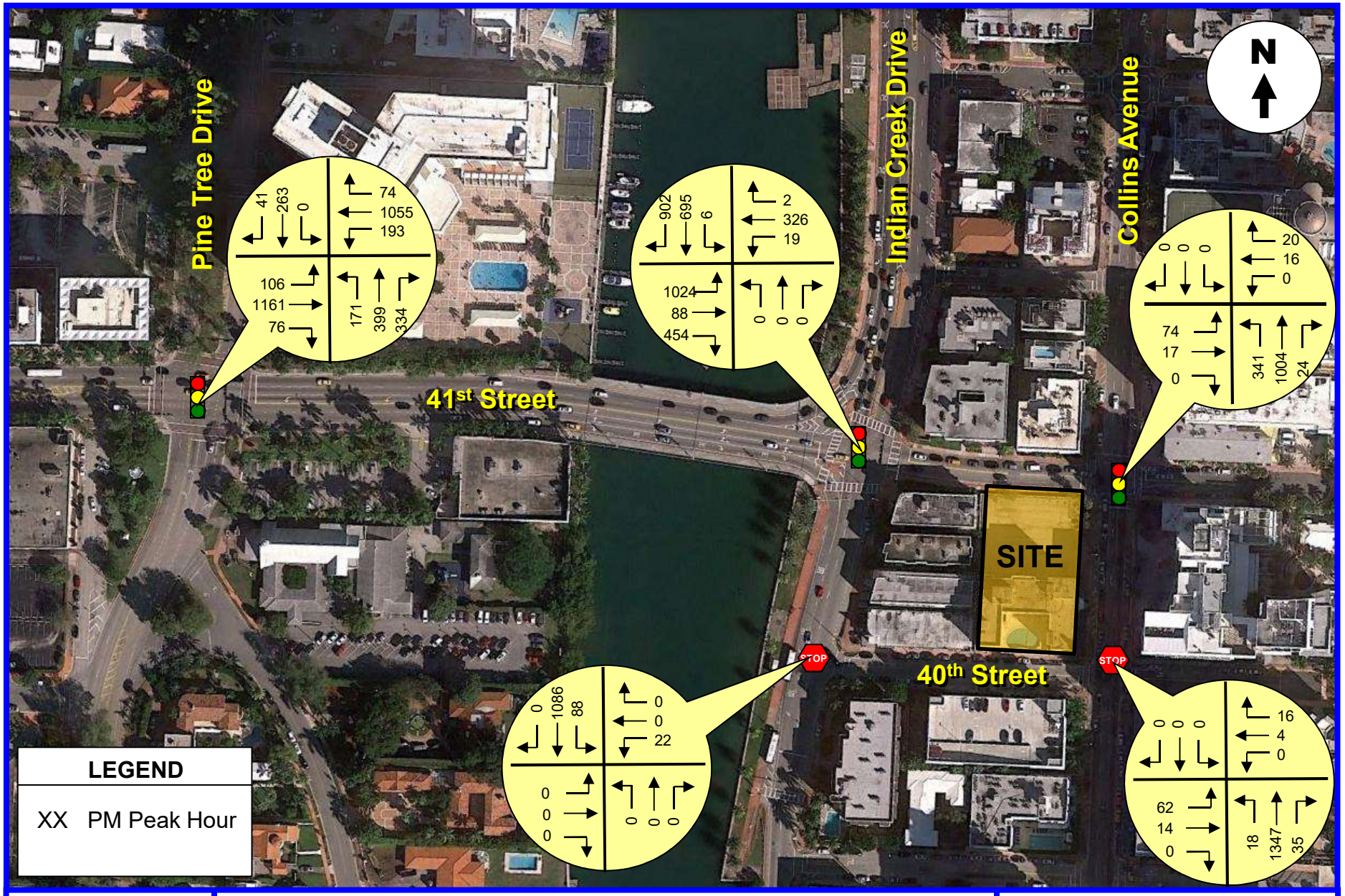
Figure 5 includes background traffic only (without the proposed project) and Figure 6 includes the additional traffic anticipated to be generated by the 4000 Collins project.

Level of Service Analyses

Intersection capacity/level of service analyses were conducted for the five (5) study intersections and the garage driveway. 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 adequately and will continue to operate at an acceptable level of service in the year 2018 with the proposed project in place, with two exceptions. The exceptions include the intersection of SR A1A/Indian Creek Drive and 41st Street and Collins Avenue and 41st Street. The Indian Creek Drive intersection is currently operating at LOS F and will continue to operate at deficient level of service with the project in place. The intersection of Collins Avenue and 41st Street is currently operating at level of service E, which is generally an acceptable level of service in Miami-Dade County, and it is expected to continue to operate at the same level of service with the project in place.

Garage Driveway

The proposed garage driveway along 41st Street is projected to operate at level of service "A" (refer to Table 4).



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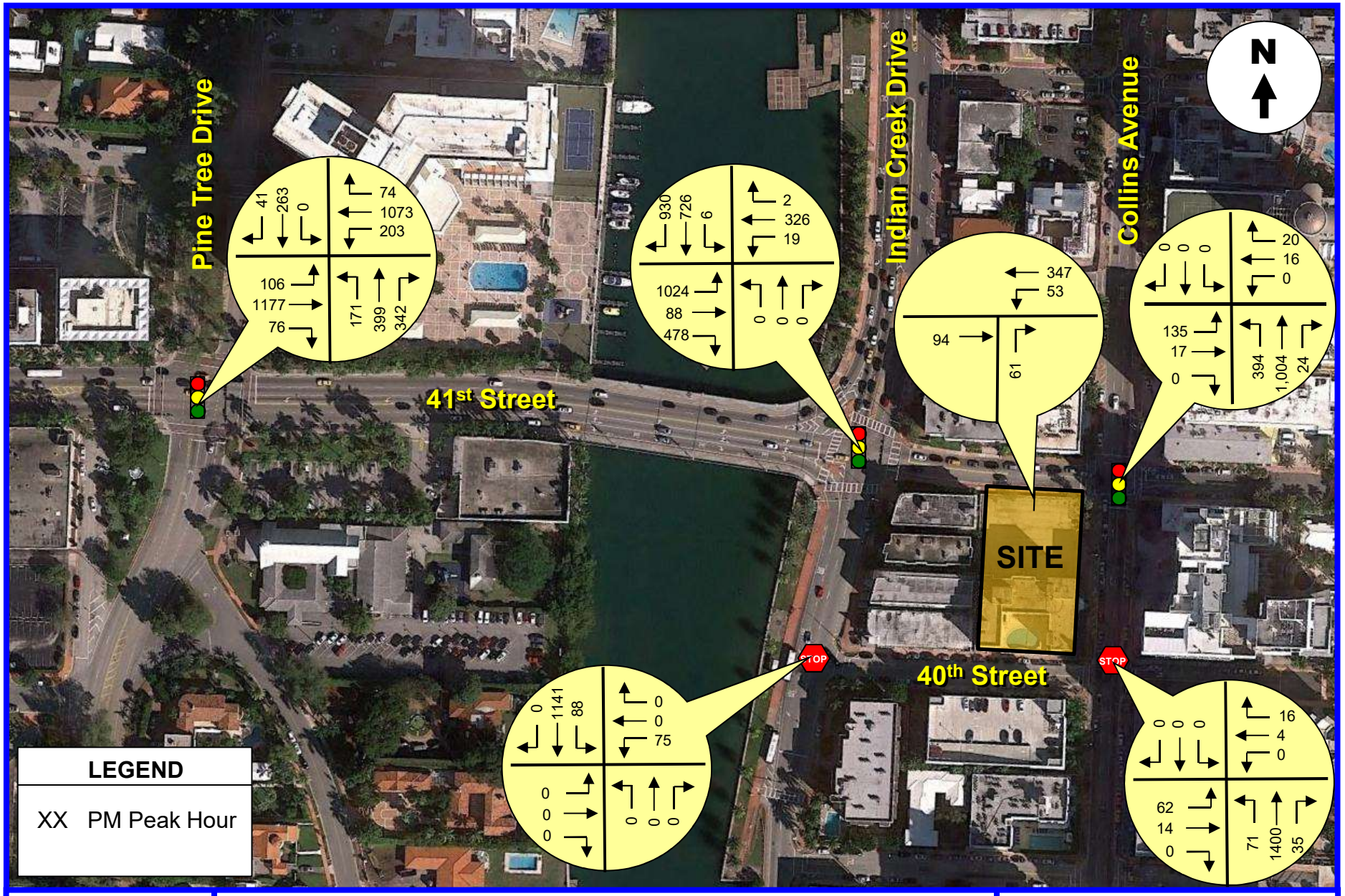
BACKGROUND TRAFFIC – YEAR 2018

FIGURE 5
4000 Collins
Miami Beach, Florida



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TOTAL TRAFFIC w/PROJECT – YEAR 2018

FIGURE 6
4000 Collins
Miami Beach, Florida

TABLE 3 Intersection Levels of Service – (Signalized Intersections) 4000 Collins			
		Future Traffic Conditions	
Intersection	2016 Existing	2018 w/o Project	2018 With Project
Collins Ave & 41st St	E	E	E
Indian Creek Dr & 41st St	F	F	F
Pine Tree Dr & 41st St	C	C	C

Source: Highway Capacity Manual

TABLE 4 Intersection Levels of Service (Stop-Controlled Intersections) 4000 Collins			
		Future Traffic Conditions	
Intersection/Movement	2016 Existing	2018 w/o Project	2018 With Project
Collins Ave & 40th St			
-EB	D	D	D
-WB	C	C	C
Indian Creek Dr & 40th St			
-WB	A	A	B
41st St & Garage Dwy			
-NB			A

Source: Highway Capacity Manual

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

Valet Operation and Parking

The 4000 Collins project will provide valet service to all patrons. It was assumed that 100% of the patrons arriving to the site will stop at a valet station located on the north side of 40th Street (south side of the project).

Parking within the site is served by two parking elevators located near the garage driveway to the site. Parking elevators will be used to move vehicles vertically by the

valet attendant to the designated parking level. The parking garage will consist of 105 parking spaces.

In order to determine the stacking requirements associated with the valet operation, a queuing analysis was undertaken. As indicated in Table 1, the inbound vehicles associated with the site, during a one-hour period, is approximately 53 vehicles.

A queuing analysis was conducted in order to ensure that the on-street stacking is sufficient to accommodate the maximum inbound vehicular demand anticipated at this facility. The length of queue anticipated on 40th Street was determined using information contained in ITE's *Transportation and Land Development*, Chapter 8 – Drive-In Facilities[1]. For this analysis, the following input variables were used:

- Service Rate: It conservatively was assumed that the average time to park a vehicle by a valet runner is approximately seven minutes[2], or approximately 9 vehicles per hour per valet runner (the elevators are not the critical component of the total valet time). Assuming up to nine (9) valet runners, the maximum service rate of the facility is 81 vehicles in a one-hour period.

- Demand Rate: As indicated above, a maximum of 53 vehicles will arrive during the highest hour.

Using equation 8-9b and Table 8-11 of ITE's *Transportation and Land Development*, the maximum length of queue anticipated on 40th Street, at the 90% confidence level, is three vehicles. Therefore, the valet station on 40th Street should provide stacking for at least three (3) vehicles. The results of the ITE queuing procedure is contained in Appendix H.

[1] By Vergil G. Stover and Frank J. Koepke.
[2] Refer to Appendix H.

OTHER MODES OF TRANSPORTATION

Throughout much of Miami Beach, and specifically within the immediate area of the proposed 4000 Collins project, there are many convenient and cost-effective transportation alternatives for residents, patrons, and visitors alike. Many patrons of the 4000 Collins project are likely to avail themselves of alternative travel modes as opposed to the automobile. Several of the more prominent modes in this area include bus transit services, bicycling (including the Deco Bike), and the sidewalk network throughout the surrounding area. Each of these is explained in further detail below.

Miami-Dade Transit

Transit services on Miami Beach are provided by Miami-Dade Transit. There are numerous transit routes serving the immediate study area including 150, 120, 115/117, S. C, and M routes. The nearest bus stops for these services are located at the intersections of Collins Avenue and 41st Street and Indian Creek Drive and 41st Street. 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.

DecoBike

DecoBike is a bicycle sharing and rental program on Miami Beach. This program offers a network of 100 solar-powered bicycle rental stations and a fleet of 1,000 bicycles which can be rented 24 hours per day. Within the immediate area of the 4000 Collins project, there are two (2) convenient DecoBike rental stations. These stations are as follows:

- Station 212: 40th Street & Collins Ave
- Station 220: Collins Ave & 44th Street (Fontainebleau Hotel)

Pedestrian Network

Most of Miami Beach is considered a very walkable environment. Specifically, within the project study area, each of the existing roadways has sidewalks on both sides and crosswalks are present at each of the major signalized intersections. There are many attractive destinations within easy access to the 4000 Collins and the project has been designed in such a manner as to provide direct access to this sidewalk network.

In summary, this project is located within an area that provides excellent access to alternative modes of transportation. It is expected that many of the customers of the 4000 Collins project will utilize these services as opposed to driving passenger vehicles.

CONCLUSIONS AND RECOMMENDATIONS

4000 Collins is a proposed hotel and retail development planned to be located on the southwest corner of Collins Avenue and 41st Street in the City of Miami Beach in Miami-Dade County, Florida. The subject site currently contains a 5-story hotel building and a parking lot. The proposed 4000 Collins project will consist of 100 hotel rooms and 11,141 square feet of retail. Access to the site will be provided by an access driveway on 41st Street on the north side of the site. The proposed development also includes valet parking service for all patrons that will be located on 40th Street on the south side of the site.

Traf Tech Engineering, Inc. was retained by Duncan Hillsley Capital, LLC to conduct a traffic study in connection with the proposed retail development. The study addresses trip generation and the traffic impacts created by the proposed project on the nearby transportation network. The conclusions of the traffic study are presented below:

- The proposed 4000 Collins development is anticipated to generate approximately 1,406 gross daily trips and approximately 114 gross trips (53 inbound and 61 outbound) during the typical PM peak hour. The net new trips (proposed trips minus internal trips) include approximately 1,364 new daily trips and approximately 114 additional PM peak hour trips (53 inbound and 61 outbound).

- All intersections are currently operating adequately and will continue to operate at an acceptable level of service in the year 2018 with the proposed project in place, with two exceptions. The exceptions include the intersection of SR A1A/Indian Creek Drive/41st Street and Collins Avenue/41st Street. These intersections are currently operating below the level of service standard and will continue to operate poorly in the future.

- The proposed garage driveway along 41st Street is projected to operate at level of service "A".

- The valet station on 40th Street should provide stacking for at least three (3) vehicles

APPENDIX A

Traffic Methodology

TO: 4000 Collins

FROM: Joaquin Vargas

DATE: October 5, 2016

SUBJECT: Traffic Methodology for 4000 Collins

4000 Collins is a proposed quality restaurant planned as part of the redevelopment of the existing parking lot located on the southwest corner of Collins Avenue and 41st Street in the City of Miami Beach in Miami-Dade County, Florida. The existing 100-room hotel will remain on the site.

A traffic study documenting the impacts of the proposed restaurant will be undertaken. The following is our proposed methodology for the traffic study associated with this project:

- The trip generation for the proposed restaurant will be based on ITE's *Trip Generation Manual* (9th Edition). For the proposed restaurant, ITE LUC 931 – Quality Restaurant will be used. The number of restaurant seats will be used for trip generation purposes.

- The traffic study will evaluate intersections located in the immediate vicinity of the project. The analyses will be undertaken for the critical PM peak hour (Friday 4PM to 7PM). These intersections are:

    1. Collins Avenue & 41st Street (Signalized)
    2. Collins Avenue & 40th Street (Stop controlled)
    3. SR A1A Indian Creek Drive & 41st Street (Signalized)
    4. SR A1A Indian Creek Drive & 40th Street (Stop controlled)
    5. Pine Tree Drive & 41st Street (Signalized)

- Traffic circulation will be evaluated in the traffic study, including its impact to the surrounding street system and adjacent driveways, if any.

- For purposes of the traffic study, the build-out year will be 2018. For purposes of traffic growth, FDOT historical traffic data will be used.

- Existing traffic signal timing data and traffic counts will be included in the appendix of the traffic study.

- The traffic study will address any anticipated / proposed impacts onto the existing on-street vehicular parking, if applicable. Any impacts to on-street parking will be discussed with the City's Parking Department.

- Traffic figures will be prepared for the following trip generation scenarios for each of the intersections analyzed:

  1. Existing trips
  2. Proposed site trips distribution
  3. Existing + traffic growth
  4. Future or build-out + traffic growth + site trips

- The presence of transit and nearby routes will be discussed as will the provision and location of bicycle racks.

- Provide bicycle racks at the site to encourage other modes of transportation.

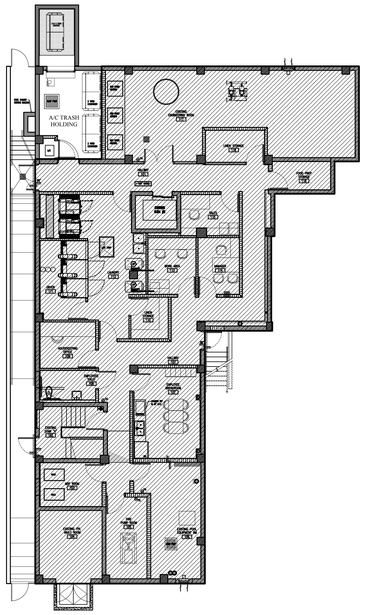
- The site plan will also include the location of bicycle parking, garbage pick-up area and place designated for deliveries.

- Valet service will only be provided for the future restaurant (the hotel is not required to park and therefore, will not be allowed to park at the future parking structure.

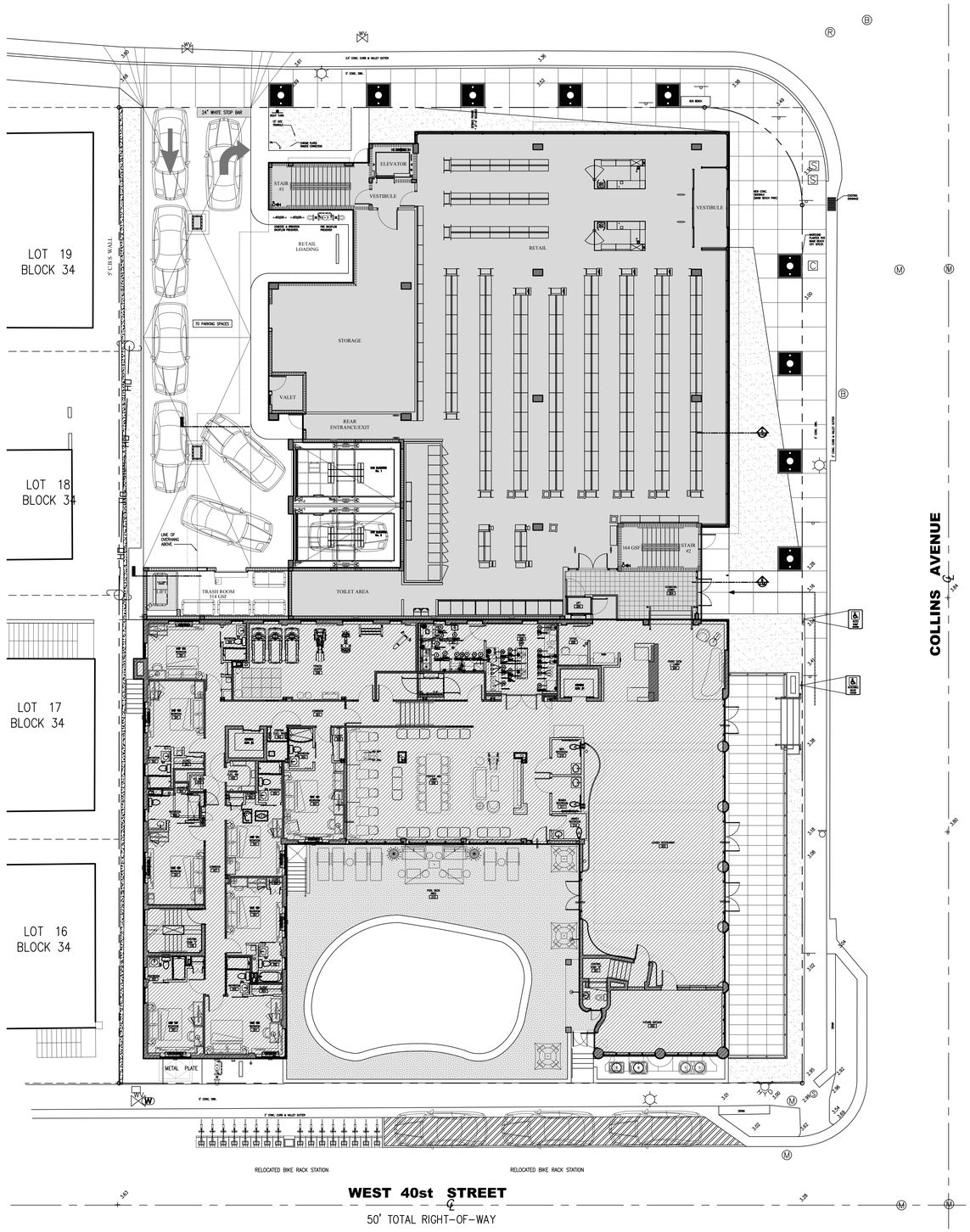
- The submittal of the study will include LOS calculations for review by the peer reviewer.

APPENDIX B

Site Plan
4000 Collins



BASEMENT LEVEL
SCALE: 1/32" = 1'-0"
F.A.R. 3316 S.F.



GROUND LEVEL
SCALE: 1/32" = 1'-0"
F.A.R. 16194 S.F.

LEGEND
EXISTING F.A.R.
PROPOSED F.A.R.

NEW RETAIL EXPANSION FOR:

CONTINENTAL HOTEL

4000 COLLINS AVE. MIAMI BEACH, FL. 33140

CHARLES H. BENSON & ASSOCIATES ARCHITECTS, P.A.
architect planner interiors
1665 WASHINGTON AVE. 2nd. FLOOR MIAMI BEACH, FLORIDA 33139 Ph: 305-532-6161 * Fax: 305-532-6151
ARCHITECTURE LICENSE # AR14022 NCARB CERTIFICATE # 42,136

DRAWN BY	SCALE	DATE	PROJECT NUMBER
CHARLES BENSON	AS SHOWN	1-31-17	21612

GN-1.03
OF
5

STATE OF FLORIDA · CHARLES H. BENSON · REGISTERED ARCHITECT · AR0014022

APPENDIX C

Signal Timing Plan and Traffic Counts

TOD Schedule Report

for 2677: Art Godfrey Rd&Collins Av

Print Date: 8/17/2013

Print Time: 1:48 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2677	Art Godfrey Rd&Collins Av	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase		Walk Phase Bank 1 2 3	Don't Walk 1 2 3	Min Initial 1 2 3	Veh Ext 1 2 3	Max Limit 1 2 3	Max 2 1 2 3	Yellow	Red
1	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
2	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
3	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4	EBT	7 - 7 - 7	16 - 16 - 15	7 - 7 - 7	2.5 - 2.5 - 2.5	22 - 22 - 22	31 - 31 - 31	4	0.1
5	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
6	NBT	7 - 7 - 7	8 - 8 - 8	7 - 7 - 7	1 - 1 - 1	60 - 30 - 60	0 - 0 - 0	4	0.1
7	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8	WBT	7 - 7 - 7	16 - 16 - 15	7 - 7 - 7	2.5 - 2.5 - 2.5	22 - 22 - 22	31 - 31 - 31	4	0.1

Last In Service Date: unknown

Permitted Phases

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

Current TOD Schedule	Plan	Cycle	Green Time 1 -	2 -	3 -	4 EBT	5 -	6 NBT	7 -	8 WBT	Ring Offset	Offset
	1	90	0	0	0	23	0	59	0	23	0	73
	2	100	0	0	0	23	0	69	0	23	0	89
	3	100	0	0	0	23	0	69	0	23	0	33
	4	140	0	0	0	23	0	109	0	23	0	65
	5	100	0	0	0	23	0	69	0	23	0	33
	6	100	0	0	0	23	0	69	0	23	0	33
	8	105	0	0	0	23	0	74	0	23	0	22
	9	105	0	0	0	23	0	74	0	23	0	91
	10	120	0	0	0	23	0	89	0	23	0	9
	11	140	0	0	0	23	0	109	0	23	0	26
	12	120	0	0	0	29	0	83	0	29	0	73
	13	100	0	0	0	31	0	61	0	31	0	92
	14	105	0	0	0	23	0	74	0	23	0	26
	15	120	0	0	0	23	0	89	0	23	0	86
	16	100	0	0	0	23	0	69	0	23	0	49
	17	100	0	0	0	23	0	69	0	23	0	49
	18	140	0	0	0	23	0	109	0	23	0	122
	19	140	0	0	0	23	0	109	0	23	0	124
	20	120	0	0	0	23	0	89	0	23	0	101
	21	120	0	0	0	23	0	89	0	23	0	101

Local TOD Schedule

Time	Plan	DOW
0000	1	Su S
0000	2	M T W Th F
0600	18	M T W Th F
0915	15	M T W Th F
1000	2	Su S
1100	10	M T W Th F
1530	19	M T W Th F
2000	1	Su S
2200	2	M T W Th F

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

No Calendar Defined/Enabled

TOD Schedule Report

for 2720: Art Godfrey Rd&Indian Creek Dr

Print Date: 8/17/2013

Print Time: 1:53 PM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2720	Art Godfrey Rd&Indian Creek Dr	DOW-7		N/A	0	0	N/A	0	Max 0

Splits

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

Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
Phase Bank	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 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
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 WBT	5 - 5 - 5	16 - 16 - 16	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 24 - 15	40 - 24 - 24	4	1.2
6 EBT	5 - 5 - 5	26 - 26 - 26	5 - 7 - 7	1 - 1 - 1	30 - 27 - 30	0 - 27 - 30	4	1.2
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
8 SBT	5 - 5 - 5	24 - 24 - 24	5 - 7 - 7	1 - 1 - 1	27 - 27 - 25	55 - 38 - 38	4	1.5

Last In Service Date: unknown

Permitted Phases

	12345678
Default	----56-8
External Permit 0	--------
External Permit 1	--------
External Permit 2	--------

Current TOD Schedule	Plan	Cycle	Green Time 1	2	3	4	5	6	7	8	Ring Offset	Offset
			-	-	-	-	WBT	EBT	-	SBT		
	2	100	0	0	0	0	**	26	0	30	0	52
	3	120	0	0	0	0	**	37	0	27	0	34
	4	100	0	0	0	0	**	26	0	30	0	98
	5	120	0	0	0	0	**	37	0	27	0	43
	6	105	0	0	0	0	**	29	0	27	0	24
	7	120	0	0	0	0	**	37	0	27	0	47
	8	120	0	0	0	0	**	37	0	27	0	14
	9	140	0	0	0	0	**	52	0	37	0	68
	10	180	0	0	0	0	**	103	0	30	0	154
	11	100	0	0	0	0	**	26	0	30	0	34
	13	140	0	0	0	0	**	57	0	32	0	17
	18	160	0	0	0	0	**	86	0	30	0	23
	19	160	0	0	0	0	**	51	0	47	0	63

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Free	Su S
0600	13	M T W Th F
0700	4	Su S
0715	9	M T W Th F
0800	2	Su S
0915	2	M T W Th F
1100	5	M T W Th F
1100	5	S
1230	7	S
1230	5	Su
1345	7	M T W Th F
1430	13	W
1530	13	M T Th F
1800	9	Su S
1930	2	M T W Th F
2000	4	Su S
2300	Free	M T W Th F

Current Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0700	TOD OUTPUTS	--------	Su S

Local Time of Day Function

Time	Function	Settings *	Day of Week
0000	TOD OUTPUTS	-------1	SuM T W ThF S
0630	TOD OUTPUTS	--------	M T W ThF
0700	TOD OUTPUTS	--------	Su S
2300	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

TOD Schedule Report

for 2771: Art Godfrey Rd&Pine Tree Dr

Print Date: 9/20/2013

Print Time: 8:04 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
2771	Art Godfrey Rd&Pine Tree Dr	DOW-6		N/A	0	0	N/A	0	Max 0

Splits

PH 1	PH 2	PH 3	PH 4	PH 5	PH 6	PH 7	PH 8
EBL	WBT	-	NBT	WBL	EBT	NBL	SBT
0	0	0	0	0	0	0	0

Active Phase Bank: Phase Bank 1

Phase		Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red
		Phase Bank 1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3		
1	EBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	7 - 5 - 5	21 - 10 - 10	3	0
2	WBT	4 - 4 - 4	34 - 34 - 34	4 - 4 - 4	1 - 1 - 1	30 - 30 - 30	0 - 47 - 47	4	1.9
3	-	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0
4	NBT	4 - 4 - 4	24 - 24 - 24	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 12 - 12	37 - 37 - 37	4	1.6
5	WBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	5 - 5 - 5	21 - 20 - 20	3	0
6	EBT	4 - 4 - 4	34 - 34 - 34	4 - 4 - 4	1 - 1 - 1	30 - 30 - 30	0 - 47 - 47	4	1.9
7	NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 6 - 6	21 - 10 - 10	3	0
8	SBT	4 - 4 - 4	24 - 24 - 24	7 - 7 - 7	2.5 - 2.5 - 2.5	12 - 12 - 12	37 - 37 - 37	4	1.6

Last In Service Date: unknown

Permitted Phases

	12345678
Default	12-45678
External Permit 0	-2-4-6-8
External Permit 1	12-456-8
External Permit 2	-2-4-6-8

Current TOD Schedule	Plan	Cycle	Green Time 1 EBL	2 WBT	3 -	4 NBT	5 WBL	6 EBT	7 NBL	8 SBT	Ring Offset	Offset
	1	90	9	38	0	28	9	38	0	28	0	68
	2	100	11	38	0	36	11	38	5	28	0	28
	3	120	14	44	0	47	14	44	7	37	0	18
	4	100	13	38	0	34	13	38	0	34	0	68
	5	120	11	47	0	47	11	47	7	37	0	34
	6	105	12	38	0	40	12	38	8	29	0	12
	7	120	11	50	0	44	11	50	7	34	0	28
	8	120	11	50	0	44	11	50	7	34	0	8
	9	140	18	67	0	40	19	66	7	30	0	134
	10	180	11	113	0	41	11	113	7	31	0	128
	11	100	8	38	0	39	8	38	6	30	0	56
	13	140	20	65	0	40	20	65	8	29	0	6
	18	160	14	92	0	39	14	92	8	28	0	154
	19	160	6	100	0	39	6	100	8	28	0	128

Local TOD Schedule

Time	Plan	DOW
0000	Free	Su M T W Th F S
0200	Free	Su S
0600	13	M T W Th F
0700	4	Su S
0715	9	M T W Th F
0800	2	Su S
0915	2	M T W Th F
1100	5	M T W Th F
1100	5	S
1230	7	S
1230	5	Su
1345	7	M T W Th F
1430	13	W
1530	13	M T Th F
1800	9	Su S
1930	2	M T W Th F
2000	4	Su S
2300	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

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

No Calendar Defined/Enabled

Traffic Survey Specialists, Inc.
85 SE 4th Avenue, Unit 109
Delray Beach, Florida 33483
(561)272-3255

PROJECT DRIVEWAY & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: AMBER PALOMINO
NOT SIGNALIZED, INS & OUTS ONLY

Study Name: DWY__A1A
Site Code : 00160227
Start Date: 10/14/16

INS & OUTS ONLY

Start Time	COLLINS AVENUE From North				----- From East				COLLINS AVENUE From South				PROJECT DRIVEWAY From West				Intvl.
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
10/14/16																	
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Apr.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
% Int.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

40TH STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: RICHARD MENDEZ
NOT SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40ST_A1A
Page : 1

ALL VEHICLES

	COLLINS AVENUE From North				40TH STREET From East				COLLINS AVENUE From South				40TH STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
16:30	0	0	0	0	0	0	0	1	0	3	325	7	0	15	0	0	351
16:45	0	0	0	0	0	0	1	3	0	1	299	9	0	12	5	0	330
17:00	0	0	0	0	0	0	3	7	0	7	310	8	0	17	3	0	355
17:15	0	0	0	0	0	0	0	4	0	6	330	9	0	14	5	0	368
Hr Total	0	0	0	0	0	0	4	15	0	17	1264	33	0	58	13	0	1404
17:30	0	0	0	0	0	0	1	6	0	4	308	7	0	9	6	0	341
17:45	0	0	0	0	0	0	1	5	0	4	286	11	0	20	4	0	331
18:00	0	0	0	0	0	0	0	2	0	3	300	9	0	16	1	0	331
18:15	0	0	0	0	0	0	1	4	0	3	320	9	0	13	6	0	356
Hr Total	0	0	0	0	0	0	3	17	0	14	1214	36	0	58	17	0	1359
18:30	0	0	0	0	0	0	2	3	0	3	256	8	0	17	4	0	293
18:45	0	0	0	0	0	0	1	1	0	3	253	6	0	23	0	0	287
Hr Total	0	0	0	0	0	0	3	4	0	6	509	14	0	40	4	0	580
TOTAL	0	0	0	0	0	0	10	36	0	37	2987	83	0	156	34	0	3343

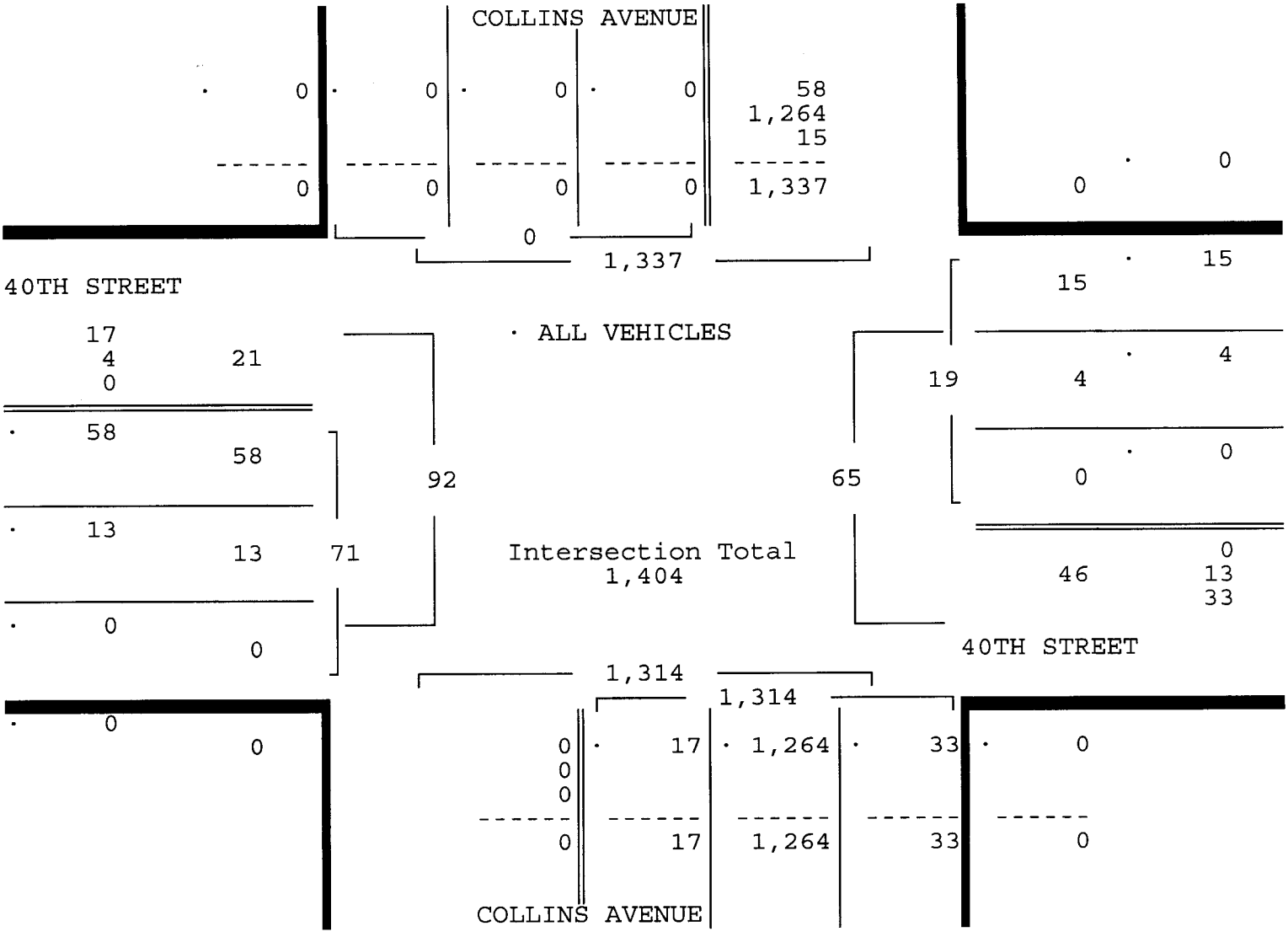
40TH STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: RICHARD MENDEZ
NOT SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40ST_A1A
Page : 2

ALL VEHICLES

	COLLINS AVENUE From North				40TH STREET From East				COLLINS AVENUE From South				40TH STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 10/14/16																	
Peak start					16:30				16:30				16:30				
Volume	0	0	0	0	0	0	4	15	0	17	1264	33	0	58	13	0	
Percent	0%	0%	0%	0%	0%	0%	21%	79%	0%	1%	96%	3%	0%	82%	18%	0%	
Pk total	0				19				1314				71				
Highest	16:30				17:00				17:15				17:00				
Volume	0	0	0	0	0	0	3	7	0	6	330	9	0	17	3	0	
Hi total	0				10				345				20				
PHF	.0				.48				.95				.89				



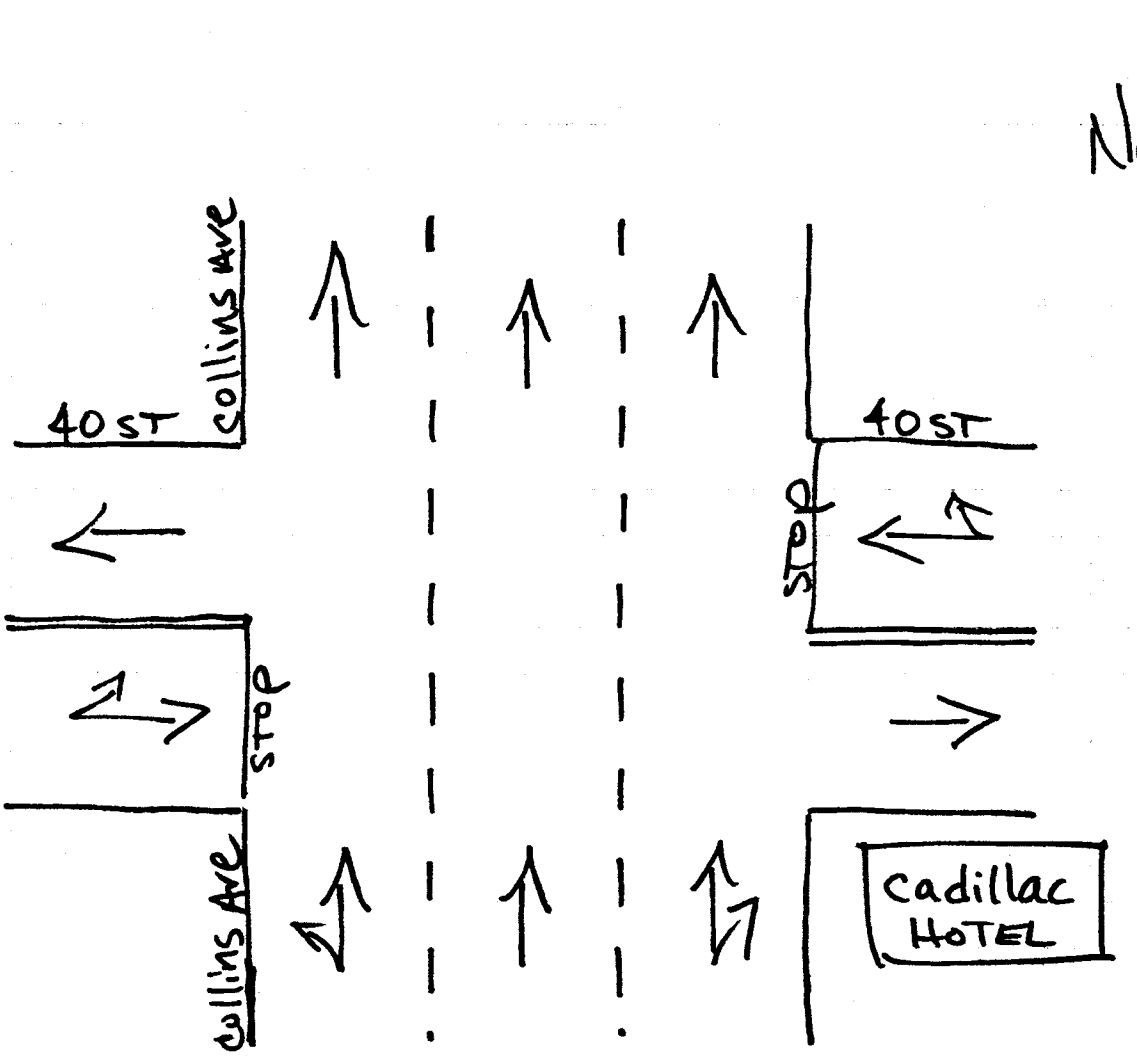
40TH STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: RICHARD MENDEZ
NOT SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40ST_A1A
Page : 1

PEDESTRIANS & BIKES

	COLLINS AVENUE From North				40TH STREET From East				COLLINS AVENUE From South				40TH STREET From West				
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total
Date 10/14/16																	
16:30	0	0	0	4	0	1	0	55	0	0	0	16	0	0	0	13	89
16:45	0	1	0	8	0	5	0	31	0	0	0	5	0	1	0	18	69
17:00	0	0	0	5	0	1	0	23	0	0	0	6	0	1	0	10	46
17:15	0	0	0	4	0	1	0	19	0	0	0	11	0	1	0	24	60
Hr Total	0	1	0	21	0	8	0	128	0	0	0	38	0	3	0	65	264
17:30	0	0	0	4	0	0	0	27	0	0	0	12	0	1	0	33	77
17:45	0	0	0	7	0	0	0	42	0	0	0	10	0	2	0	35	96
18:00	0	0	0	8	0	0	0	20	0	0	0	15	0	1	0	29	73
18:15	0	0	0	6	0	1	0	33	0	0	0	3	0	1	0	21	65
Hr Total	0	0	0	25	0	1	0	122	0	0	0	40	0	5	0	118	311
18:30	0	0	0	4	0	0	0	28	0	0	0	20	0	0	0	30	82
18:45	0	0	0	4	0	0	0	51	0	0	0	12	0	0	0	25	92
Hr Total	0	0	0	8	0	0	0	79	0	0	0	32	0	0	0	55	174
TOTAL	0	1	0	54	0	9	0	329	0	0	0	110	0	8	0	238	749



Miami Beach, Florida
JULY 30, 2013

41ST STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: MARISA CRUZ
SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41ST_A1A
Page : 1

ALL VEHICLES

	COLLINS AVENUE From North				41ST STREET From East				COLLINS AVENUE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
16:30	0	0	0	0	0	0	1	4	0	92	244	2	0	10	1	0	354
16:45	0	0	0	0	0	0	5	4	0	74	229	7	0	16	9	0	344
17:00	0	0	0	0	0	0	5	2	0	74	243	6	0	17	2	0	349
17:15	0	0	0	0	0	0	3	5	0	88	236	5	0	18	3	0	358
Hr Total	0	0	0	0	0	0	14	15	0	328	952	20	0	61	15	0	1405
17:30	0	0	0	0	0	0	2	8	0	85	233	5	0	19	2	0	354
17:45	0	0	0	0	0	0	1	0	0	76	226	7	0	15	1	0	326
18:00	0	0	0	0	0	0	5	1	0	72	240	4	0	22	1	0	345
18:15	0	0	0	0	0	0	1	1	0	81	251	4	0	12	4	0	354
Hr Total	0	0	0	0	0	0	9	10	0	314	950	20	0	68	8	0	1379
18:30	0	0	0	0	0	0	6	3	0	84	196	4	0	14	3	0	310
18:45	0	0	0	0	0	0	1	2	0	73	189	3	0	22	3	0	293
Hr Total	0	0	0	0	0	0	7	5	0	157	385	7	0	36	6	0	603
TOTAL	0	0	0	0	0	0	30	30	0	799	2287	47	0	165	29	0	3387

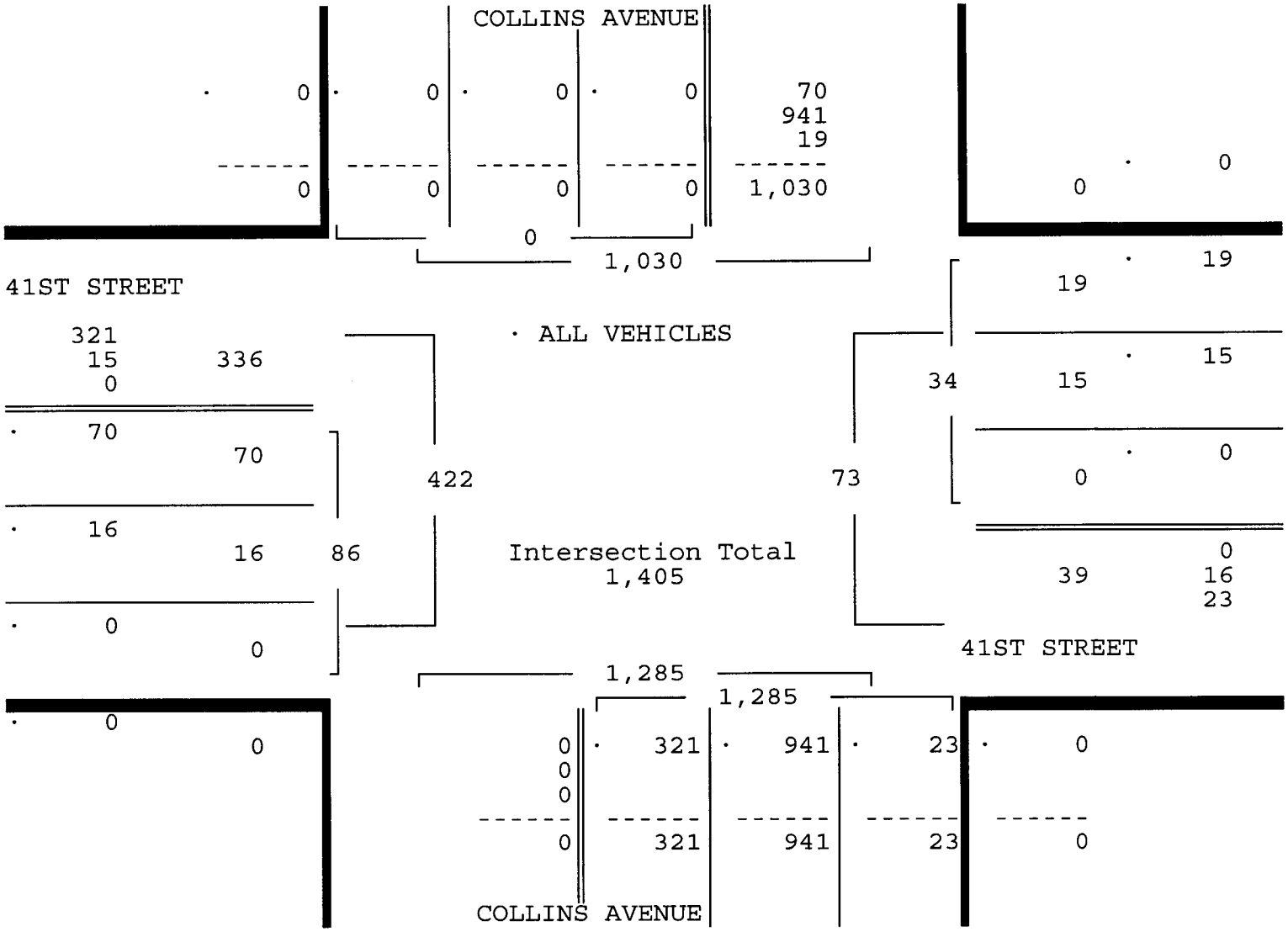
41ST STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: MARISA CRUZ
SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41ST_A1A

ALL VEHICLES

	COLLINS AVENUE From North				41ST STREET From East				COLLINS AVENUE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 10/14/16																	
Peak start					16:45				16:45				16:45				
Volume	0	0	0	0	0	0	15	19	0	321	941	23	0	70	16	0	
Percent	0%	0%	0%	0%	0%	0%	44%	56%	0%	25%	73%	2%	0%	81%	19%	0%	
Pk total	0				34				1285				86				
Highest	16:30				17:30				17:15				16:45				
Volume	0	0	0	0	0	0	2	8	0	88	236	5	0	16	9	0	
Hi total	0				10				329				25				
PHF	.0				.85				.98				.86				



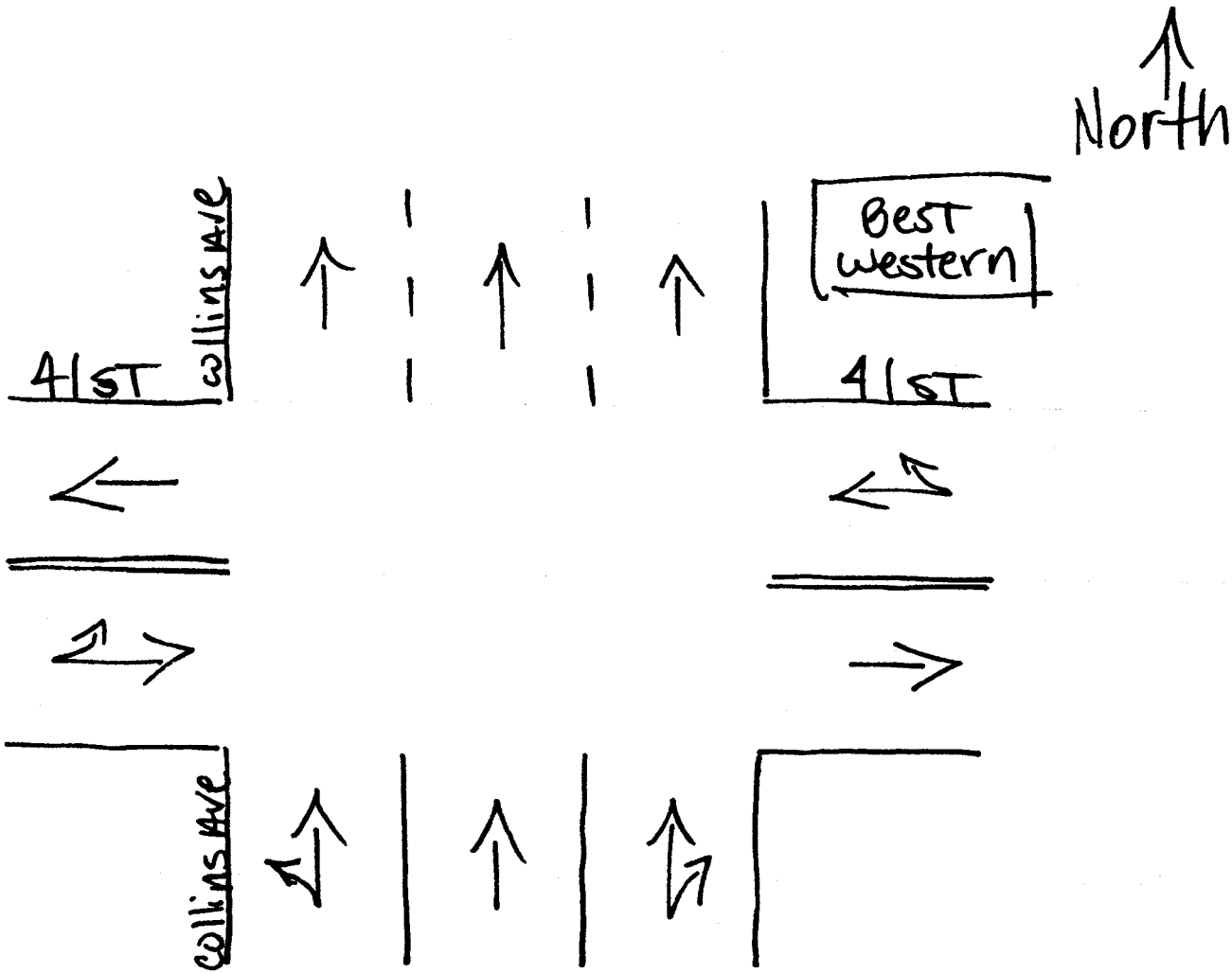
41ST STREET & COLLINS AVENUE
MIAMI BEACH, FLORIDA
COUNTED BY: MARISA CRUZ
SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41ST_A1A
Page : 1

PEDESTRIANS & BIKES

	COLLINS AVENUE From North				41ST STREET From East				COLLINS AVENUE From South				41ST STREET From West				
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total
Date 10/14/16																	
16:30	0	0	0	5	0	1	0	33	0	0	0	13	0	0	0	8	60
16:45	0	1	0	15	0	6	0	31	0	1	0	20	0	0	0	11	85
17:00	0	0	0	15	0	4	0	26	0	1	0	20	0	2	0	15	83
17:15	0	1	0	8	0	1	0	18	0	0	0	22	0	0	0	21	71
Hr Total	0	2	0	43	0	12	0	108	0	2	0	75	0	2	0	55	299
17:30	0	0	0	15	0	3	0	23	0	0	0	16	0	1	0	19	77
17:45	0	0	0	13	0	3	0	27	0	0	0	17	0	1	0	28	89
18:00	0	0	0	7	0	2	0	13	0	1	0	6	0	0	0	16	45
18:15	0	0	0	13	0	6	0	24	0	1	0	23	0	1	0	11	79
Hr Total	0	0	0	48	0	14	0	87	0	2	0	62	0	3	0	74	290
18:30	0	0	0	16	0	4	0	33	0	1	0	3	0	1	0	11	69
18:45	0	0	0	30	0	0	0	24	0	0	0	26	0	0	0	30	110
Hr Total	0	0	0	46	0	4	0	57	0	1	0	29	0	1	0	41	179
TOTAL	0	2	0	137	0	30	0	252	0	5	0	166	0	6	0	170	768



Miami Beach, Florida

JULY 30, 2013

drawn by: Luis Palomino

Signalized

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

40TH STREET & INDIAN CREEK DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: ALEX RICKETTS
NOT SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40STINDI
Page : 1

ALL VEHICLES

	INDIAN CREEK DRIVE From North				40TH STREET From East				INDIAN CREEK DRIVE From South				----- From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
16:30	0	17	235	0	0	6	0	0	0	0	0	0	0	0	0	0	258
16:45	0	21	245	0	0	4	0	0	0	0	0	0	0	0	0	0	270
17:00	0	28	236	0	0	13	0	0	0	0	0	0	0	0	0	0	277
17:15	0	16	216	0	0	7	0	0	0	0	0	0	0	0	0	0	239
Hr Total	0	82	932	0	0	30	0	0	0	0	0	0	0	0	0	0	1044
17:30	0	14	242	0	0	5	0	0	0	0	0	0	0	0	0	0	261
17:45	0	20	256	0	0	4	0	0	0	0	0	0	0	0	0	0	280
18:00	0	22	236	0	0	7	0	0	0	0	0	0	0	0	0	0	265
18:15	0	26	270	0	0	5	0	0	0	0	0	0	0	0	0	0	301
Hr Total	0	82	1004	0	0	21	0	0	0	0	0	0	0	0	0	0	1107
18:30	0	15	262	0	0	5	0	0	0	0	0	0	0	0	0	0	282
18:45	0	19	243	0	0	3	0	0	0	0	0	0	0	0	0	0	265
Hr Total	0	34	505	0	0	8	0	0	0	0	0	0	0	0	0	0	547
TOTAL	0	198	2441	0	0	59	0	0	0	0	0	0	0	0	0	0	2698

TRAFFIC SURVEY SPECIALISTS, INC.
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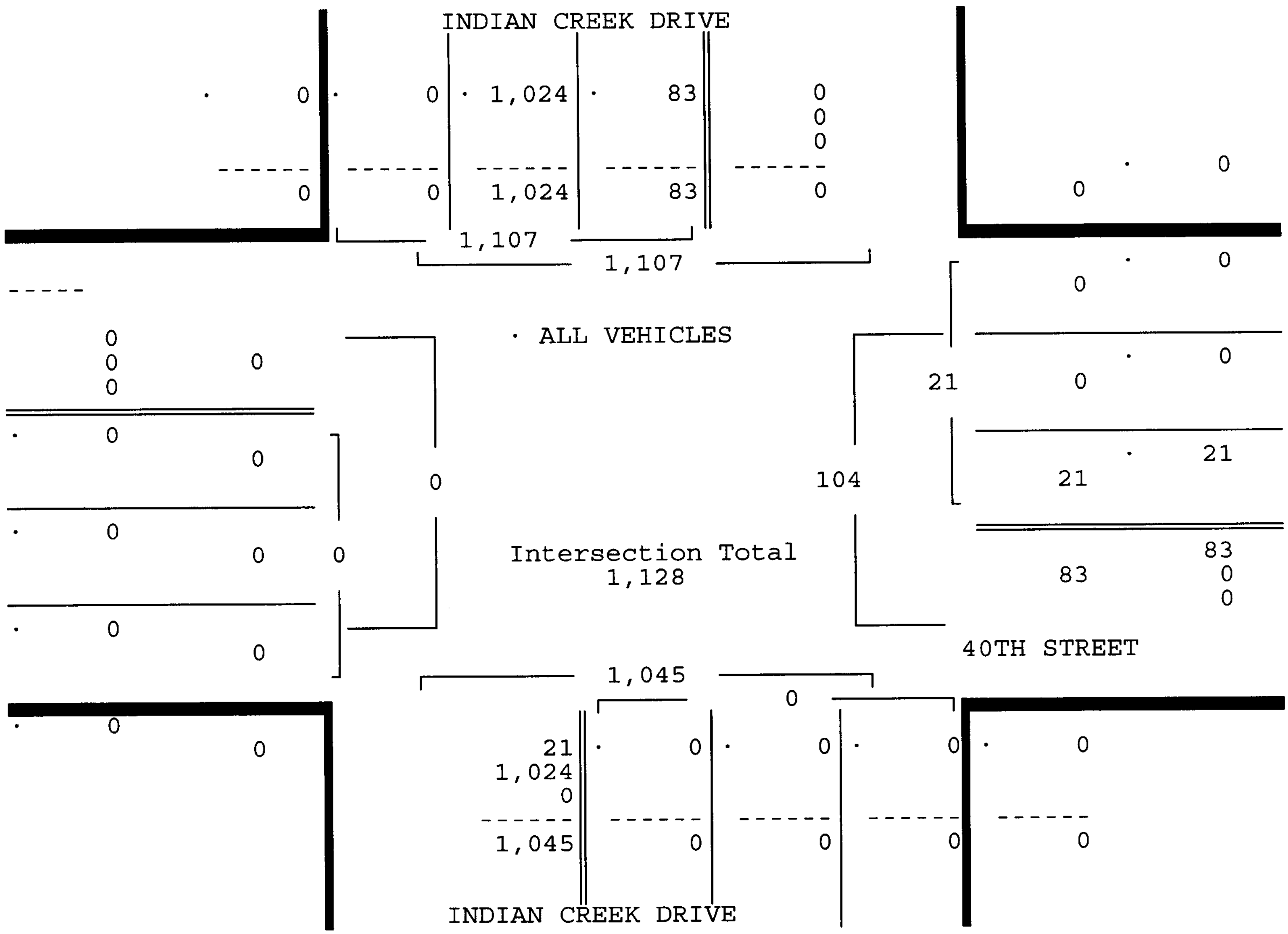
40TH STREET & INDIAN CREEK DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: ALEX RICKETTS
NOT SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40STINDI
Page : 2

ALL VEHICLES

	INDIAN CREEK DRIVE From North				40TH STREET From East				INDIAN CREEK DRIVE From South				----- From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 10/14/16																	
Peak start	17:45				17:45				17:45				17:45				
Volume	0	83	1024	0	0	21	0	0	0	0	0	0	0	0	0	0	
Percent	0%	7%	93%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Pk total	1107				21				0				0				
Highest	18:15				18:00				16:30				16:30				
Volume	0	26	270	0	0	7	0	0	0	0	0	0	0	0	0	0	
Hi total	296				7				0				0				
PHF	.93				.75				.0				.0				



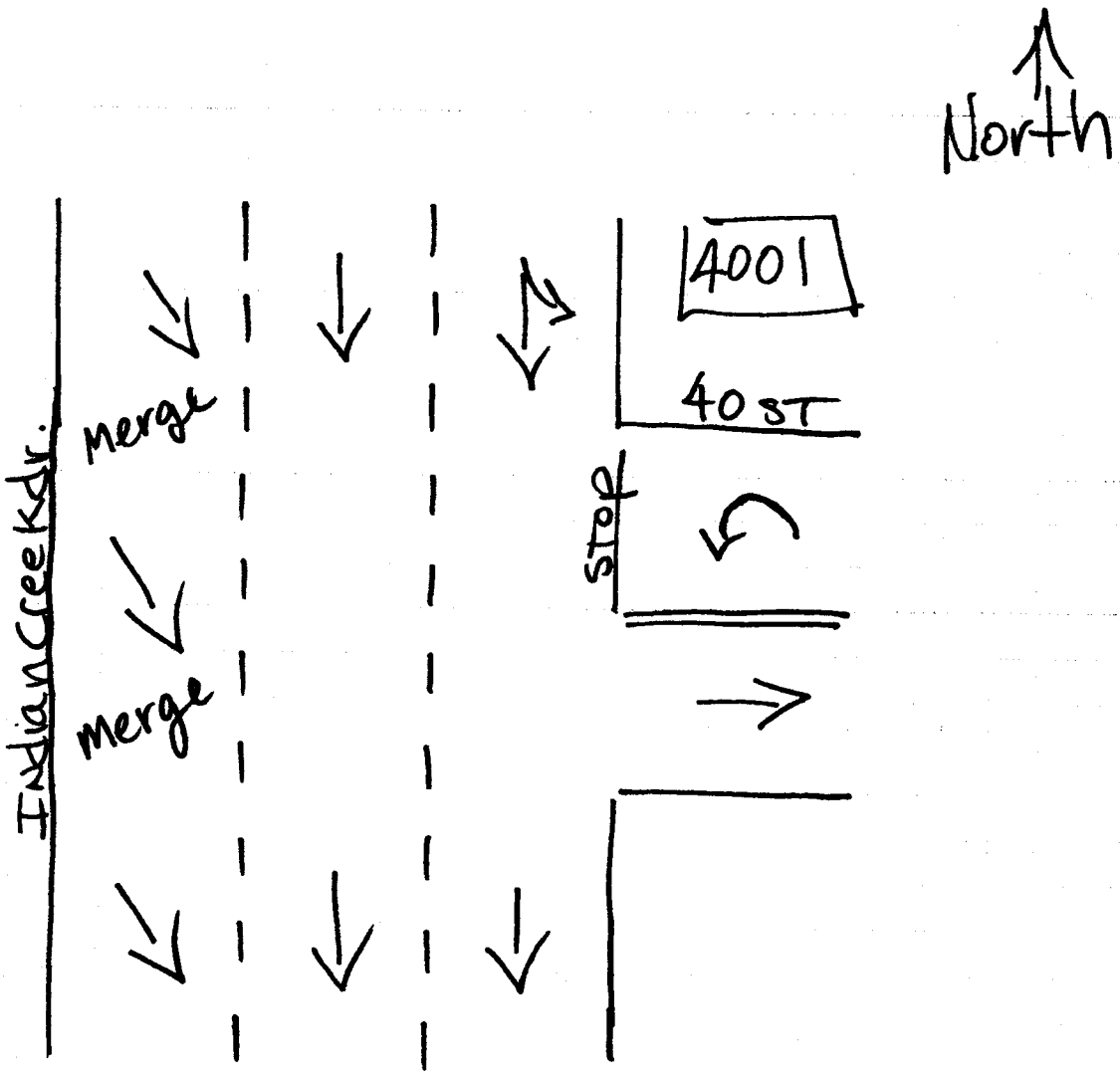
40TH STREET & INDIAN CREEK DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: ALEX RICKETTS
NOT SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 40STINDI
Page : 1

PEDESTRIANS & BIKES

	INDIAN CREEK DRIVE From North				40TH STREET From East				INDIAN CREEK DRIVE From South				----- From West				
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total
Date 10/14/16																	
16:30	0	0	0	3	0	6	0	7	0	0	0	1	0	0	0	0	17
16:45	0	0	0	0	0	3	0	4	0	0	0	1	0	0	0	0	8
17:00	0	0	0	8	0	0	0	6	0	0	0	2	0	0	0	0	16
17:15	0	0	0	0	0	0	0	3	0	0	0	2	0	0	0	0	5
Hr Total	0	0	0	11	0	9	0	20	0	0	0	6	0	0	0	0	46
17:30	0	0	0	7	0	0	0	4	0	0	0	4	0	0	0	0	15
17:45	0	0	0	5	0	0	0	1	0	0	0	1	0	0	0	0	7
18:00	0	0	0	0	0	2	0	2	0	0	0	2	0	0	0	0	6
18:15	0	0	0	5	0	0	0	3	0	0	0	1	0	0	0	0	9
Hr Total	0	0	0	17	0	2	0	10	0	0	0	8	0	0	0	0	37
18:30	0	0	0	4	0	0	0	3	0	0	0	4	0	0	0	0	11
18:45	0	0	0	1	0	0	0	4	0	0	0	2	0	0	0	0	7
Hr Total	0	0	0	5	0	0	0	7	0	0	0	6	0	0	0	0	18
TOTAL	0	0	0	33	0	11	0	37	0	0	0	20	0	0	0	0	101



Miami beach, Florida
JULY 30, 2013
drawn by: Luis Palomino
not Signalized

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

41ST STREET & PINE TREE DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: S. SALVO & R. MARTINEZ
SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STPINE

ALL VEHICLES

	PINE TREE DRIVE From North				41ST STREET From East				PINE TREE DRIVE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
16:30	0	1	59	9	0	47	276	18	1	34	84	83	0	22	271	22	927
16:45	0	1	70	12	0	49	233	13	0	50	106	73	0	27	236	21	891
17:00	0	0	65	7	0	36	261	18	0	41	84	70	0	28	303	12	925
17:15	0	0	54	11	0	50	224	21	0	35	102	89	0	23	284	17	910
Hr Total	0	2	248	39	0	182	994	70	1	160	376	315	0	100	1094	72	3653
17:30	0	0	70	9	0	56	191	15	0	48	101	102	0	25	217	12	846
17:45	0	1	49	11	0	43	227	18	0	36	104	82	0	31	279	11	892
18:00	0	1	61	6	0	49	238	7	0	32	89	60	0	20	295	9	867
18:15	0	1	52	8	0	53	228	10	0	44	96	76	0	29	261	11	869
Hr Total	0	3	232	34	0	201	884	50	0	160	390	320	0	105	1052	43	3474
18:30	0	0	48	6	0	52	226	13	1	28	65	65	0	17	300	7	828
18:45	1	0	59	9	0	44	187	14	0	44	83	70	0	15	295	12	833
Hr Total	1	0	107	15	0	96	413	27	1	72	148	135	0	32	595	19	1661
TOTAL	1	5	587	88	0	479	2291	147	2	392	914	770	0	237	2741	134	8788

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
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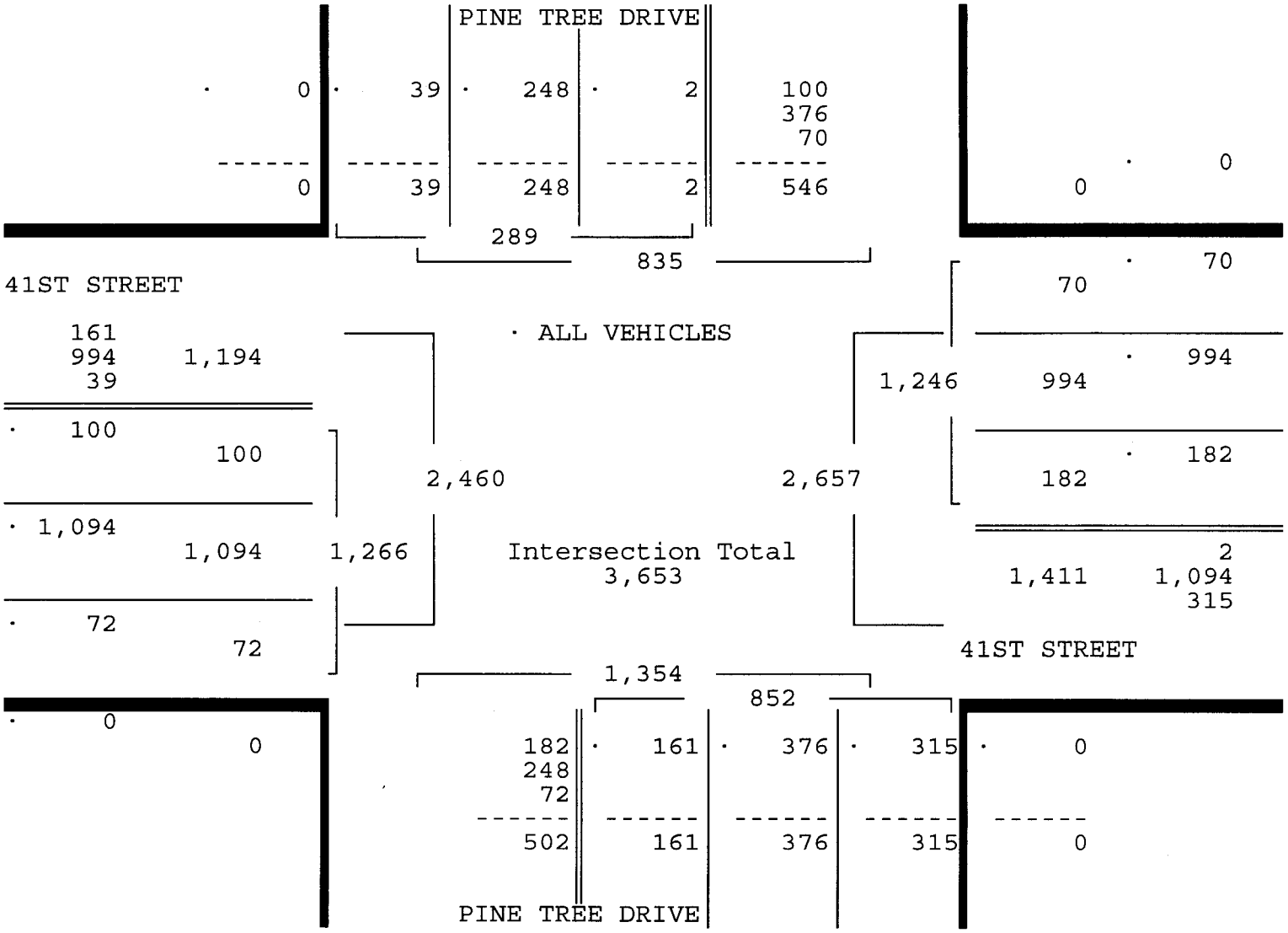
41ST STREET & PINE TREE DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: S. SALVO & R. MARTINEZ
SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STPINE

ALL VEHICLES

	PINE TREE DRIVE From North				41ST STREET From East				PINE TREE DRIVE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 10/14/16																	
Peak start 16:30					16:30				16:30				16:30				
Volume	0	2	248	39	0	182	994	70	1	160	376	315	0	100	1094	72	
Percent	0%	1%	86%	13%	0%	15%	80%	6%	0%	19%	44%	37%	0%	8%	86%	6%	
Pk total	289				1246				852				1266				
Highest	16:45				16:30				16:45				17:00				
Volume	0	1	70	12	0	47	276	18	0	50	106	73	0	28	303	12	
Hi total	83				341				229				343				
PHF	.87				.91				.93				.92				



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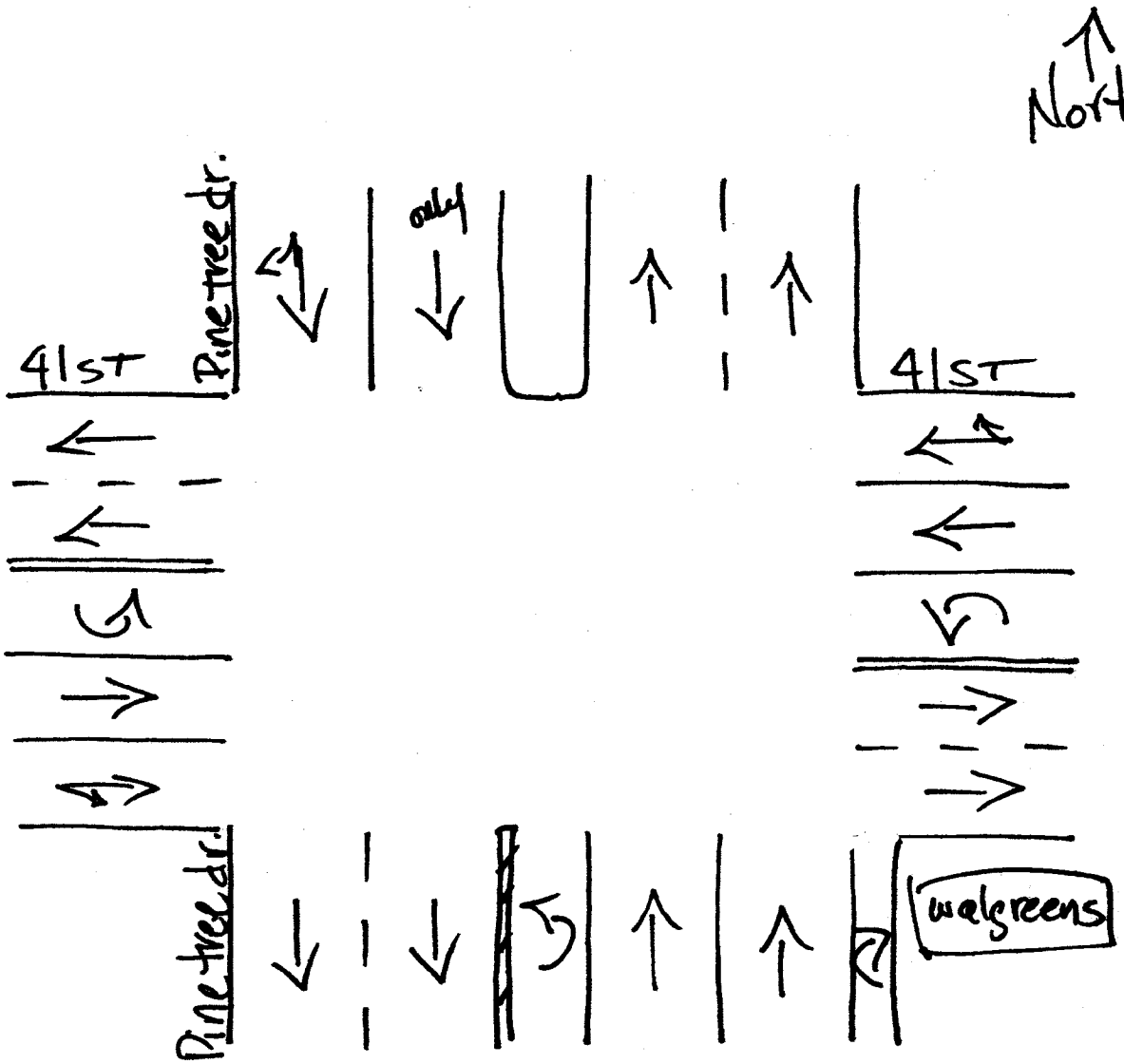
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
PHONE (561)272-3255

41ST STREET & PINE TREE DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: S. SALVO & R. MARTINEZ
SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STPINE
Page : 1

PEDESTRIANS & BIKES

	PINE TREE DRIVE From North				41ST STREET From East				PINE TREE DRIVE From South				41ST STREET From West				
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total
Date 10/14/16																	
16:30	0	2	0	24	0	0	0	9	0	1	0	17	0	0	0	4	57
16:45	0	2	0	20	0	1	0	6	0	4	0	19	0	0	0	0	52
17:00	0	3	0	17	0	1	0	9	0	5	0	15	0	0	0	5	55
17:15	0	6	0	26	0	0	0	4	0	1	0	29	0	0	0	0	66
Hr Total	0	13	0	87	0	2	0	28	0	11	0	80	0	0	0	9	230
17:30	0	1	0	17	0	1	0	10	0	0	0	17	0	0	0	6	52
17:45	0	5	0	14	0	1	0	7	0	0	0	7	0	0	0	0	34
18:00	0	2	0	17	0	0	0	4	0	0	0	13	0	0	0	4	40
18:15	0	0	0	31	0	0	0	7	0	1	0	20	0	0	0	1	60
Hr Total	0	8	0	79	0	2	0	28	0	1	0	57	0	0	0	11	186
18:30	0	1	0	43	0	0	0	16	0	1	0	20	0	0	0	2	83
18:45	0	0	0	26	0	1	0	5	0	1	0	23	0	1	0	8	65
Hr Total	0	1	0	69	0	1	0	21	0	2	0	43	0	1	0	10	148
TOTAL	0	22	0	235	0	5	0	77	0	14	0	180	0	1	0	30	564



Miami Beach, Florida
November 16, 2015
drawn by: Luis Palomino
signalized

TRAFFIC SURVEY SPECIALISTS, INC.
85 SE 4TH AVENUE, UNIT 109
DELRAY BEACH, FLORIDA
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41ST STREET & INDIAN CREEK DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: M. MALONE & G. CAMPUSANO
SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STINDI
Page : 1

ALL VEHICLES

	INDIAN CREEK DRIVE From North				41ST STREET From East				INDIAN CREEK DRIVE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
16:30	1	1	137	246	0	2	96	0	0	0	0	0	0	231	13	111	838
16:45	0	1	170	241	0	3	72	0	0	0	0	0	0	228	27	84	826
17:00	0	1	144	249	0	7	70	2	0	0	0	0	0	201	16	118	808
17:15	0	1	123	204	0	5	90	3	0	0	0	0	0	259	22	103	810
Hr Total	1	4	574	940	0	17	328	5	0	0	0	0	0	919	78	416	3282
17:30	1	0	172	213	0	5	71	1	0	0	0	0	0	235	24	82	804
17:45	0	0	173	213	0	0	72	4	0	0	0	0	0	215	14	105	796
18:00	0	0	157	220	0	4	76	0	0	0	0	0	0	251	24	100	832
18:15	6	0	172	236	0	6	77	1	0	0	0	0	0	220	19	119	856
Hr Total	7	0	674	882	0	15	296	6	0	0	0	0	0	921	81	406	3288
18:30	0	0	172	198	0	5	87	1	0	0	0	0	1	240	13	99	816
18:45	0	0	154	196	0	3	67	0	0	0	0	0	0	253	27	110	810
Hr Total	0	0	326	394	0	8	154	1	0	0	0	0	1	493	40	209	1626
TOTAL	8	4	1574	2216	0	40	778	12	0	0	0	0	1	2333	199	1031	8196

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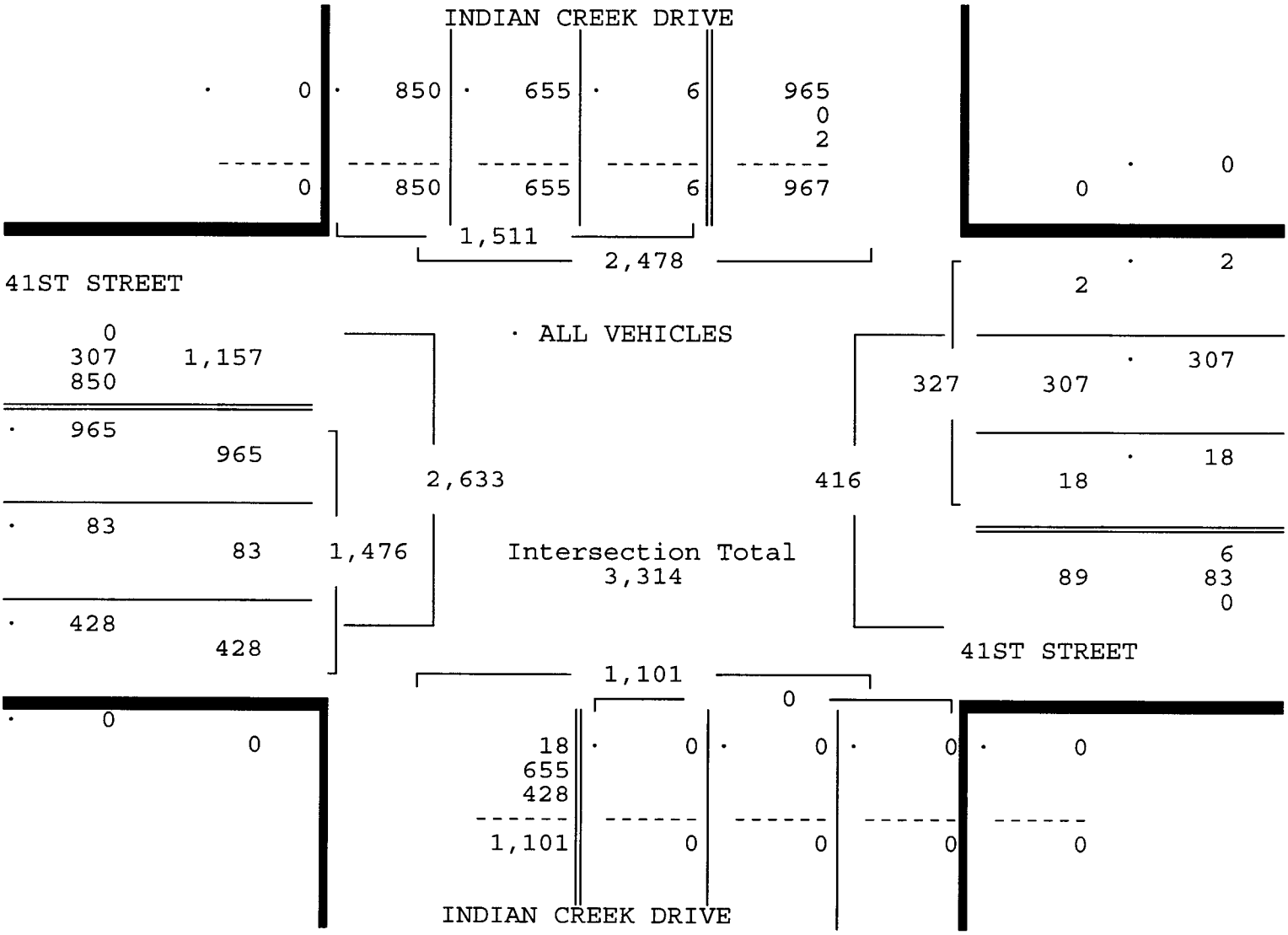
COUNTED BY: M. MALONE & G. CAMPUSANO
SIGNALIZED

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STINDI

ALL VEHICLES

	INDIAN CREEK DRIVE From North				41ST STREET From East				INDIAN CREEK DRIVE From South				41ST STREET From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 10/14/16																	
Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 19:00 on 10/14/16																	
Peak start	18:00				18:00				18:00				18:00				
Volume	6	0	655	850	0	18	307	2	0	0	0	0	1	964	83	428	
Percent	0%	0%	43%	56%	0%	6%	94%	1%	0%	0%	0%	0%	0%	65%	6%	29%	
Pk total	1511				327				0				1476				
Highest	18:15				18:30				16:30				18:45				
Volume	6	0	172	236	0	5	87	1	0	0	0	0	0	253	27	110	
Hi total	414				93				0				390				
PHF	.91				.88				.0				.95				



TRAFFIC SURVEY SPECIALISTS, INC.

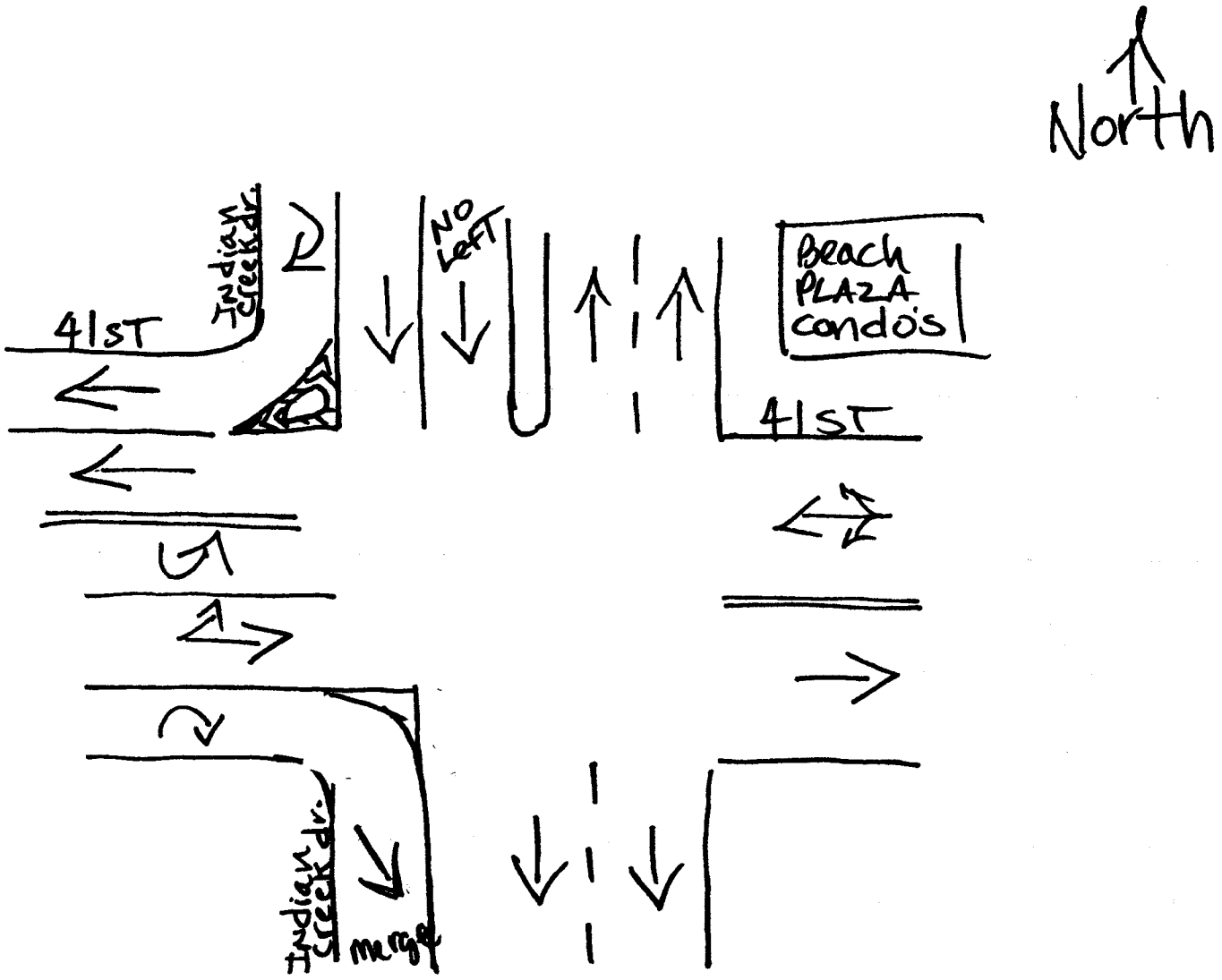
41ST STREET & INDIAN CREEK DRIVE
MIAMI BEACH, FLORIDA
COUNTED BY: M. MALONE & G. CAMPUSANO
SIGNALIZED

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

Site Code : 00160227
Start Date: 10/14/16
File I.D. : 41STINDI
Page : 1

PEDESTRIANS & BIKES

	INDIAN CREEK DRIVE From North				41ST STREET From East				INDIAN CREEK DRIVE From South				41ST STREET From West				
	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Left	BIKES	Right	Peds	Total
Date 10/14/16																	
16:30	0	4	0	11	0	5	0	3	0	0	0	15	0	1	0	1	40
16:45	0	1	0	11	0	1	0	5	0	2	0	12	0	2	0	0	34
17:00	0	0	0	14	0	0	0	5	0	0	0	0	0	0	0	0	19
17:15	0	1	0	12	0	0	0	14	0	0	0	19	0	3	0	7	56
Hr Total	0	6	0	48	0	6	0	27	0	2	0	46	0	6	0	8	149
17:30	0	0	0	5	0	0	0	17	0	0	0	30	0	1	0	3	56
17:45	0	3	0	6	0	1	0	6	0	0	0	16	0	6	0	5	43
18:00	0	3	0	7	0	0	0	2	0	0	0	13	0	2	0	7	34
18:15	0	0	0	19	0	0	0	3	0	1	0	16	0	1	0	10	50
Hr Total	0	6	0	37	0	1	0	28	0	1	0	75	0	10	0	25	183
18:30	0	0	0	17	0	0	0	4	0	1	0	8	0	0	0	9	39
18:45	0	0	0	1	0	0	0	0	0	0	0	31	0	2	0	12	46
Hr Total	0	0	0	18	0	0	0	4	0	1	0	39	0	2	0	21	85
TOTAL	0	12	0	103	0	7	0	59	0	4	0	160	0	18	0	54	417



Miami beach, Florida

JULY 30, 2013

drawn by: Luis Palomino

Signalized

APPENDIX D

Peak Season Conversion Factors and Growth Rate Calculations

2014 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8701 MIAMI-DADE SOUTH

MOCF: 0.99

WEEK	DATES	SF	PSCF
1	01/01/2014 - 01/04/2014	0.98	0.99
2	01/05/2014 - 01/11/2014	1.01	1.02
3	01/12/2014 - 01/18/2014	1.03	1.04
4	01/19/2014 - 01/25/2014	1.02	1.03
5	01/26/2014 - 02/01/2014	1.01	1.02
6	02/02/2014 - 02/08/2014	1.00	1.01
7	02/09/2014 - 02/15/2014	1.00	1.01
8	02/16/2014 - 02/22/2014	0.99	1.00
* 9	02/23/2014 - 03/01/2014	0.99	1.00
*10	03/02/2014 - 03/08/2014	0.99	1.00
*11	03/09/2014 - 03/15/2014	0.99	1.00
*12	03/16/2014 - 03/22/2014	0.99	1.00
*13	03/23/2014 - 03/29/2014	0.99	1.00
*14	03/30/2014 - 04/05/2014	0.99	1.00
*15	04/06/2014 - 04/12/2014	0.99	1.00
*16	04/13/2014 - 04/19/2014	0.99	1.00
*17	04/20/2014 - 04/26/2014	0.99	1.00
*18	04/27/2014 - 05/03/2014	0.99	1.00
*19	05/04/2014 - 05/10/2014	0.99	1.00
*20	05/11/2014 - 05/17/2014	0.99	1.00
*21	05/18/2014 - 05/24/2014	0.99	1.00
22	05/25/2014 - 05/31/2014	1.00	1.01
23	06/01/2014 - 06/07/2014	1.01	1.02
24	06/08/2014 - 06/14/2014	1.01	1.02
25	06/15/2014 - 06/21/2014	1.02	1.03
26	06/22/2014 - 06/28/2014	1.02	1.03
27	06/29/2014 - 07/05/2014	1.03	1.04
28	07/06/2014 - 07/12/2014	1.03	1.04
29	07/13/2014 - 07/19/2014	1.04	1.05
30	07/20/2014 - 07/26/2014	1.03	1.04
31	07/27/2014 - 08/02/2014	1.02	1.03
32	08/03/2014 - 08/09/2014	1.02	1.03
33	08/10/2014 - 08/16/2014	1.01	1.02
34	08/17/2014 - 08/23/2014	1.00	1.01
35	08/24/2014 - 08/30/2014	1.01	1.02
36	08/31/2014 - 09/06/2014	1.01	1.02
37	09/07/2014 - 09/13/2014	1.01	1.02
38	09/14/2014 - 09/20/2014	1.01	1.02
39	09/21/2014 - 09/27/2014	1.01	1.02
40	09/28/2014 - 10/04/2014	1.00	1.01
41	10/05/2014 - 10/11/2014	1.00	1.01
42	10/12/2014 - 10/18/2014	0.99	1.00
43	10/19/2014 - 10/25/2014	0.99	1.00
44	10/26/2014 - 11/01/2014	1.00	1.01
45	11/02/2014 - 11/08/2014	1.00	1.01
46	11/09/2014 - 11/15/2014	1.00	1.01
47	11/16/2014 - 11/22/2014	1.00	1.01
48	11/23/2014 - 11/29/2014	1.00	1.01
49	11/30/2014 - 12/06/2014	0.99	1.00
50	12/07/2014 - 12/13/2014	0.99	1.00
51	12/14/2014 - 12/20/2014	0.98	0.99
52	12/21/2014 - 12/27/2014	1.01	1.02
53	12/28/2014 - 12/31/2014	1.03	1.04

* PEAK SEASON

Growth Rate Trend Analysis Calcualtions

Description	Station #				
	2646	5171	5388	8600	
Trend Growth Rate(1)	8.20	3.26	-5.04	-1.05	
Adjusted Growth Rate	8.20	3.26	0.50	0.50	
Average Growth Rate					3.12
Growth Rate Used					**3.00**

Notes:

1: Refer to Trend Analysis Chart

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 2646 - INDIAN CREEK DR. 200' SOUTH OF 38 STREET

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	16000 C	S 16000	0	9.00	99.90	4.60
2014	19000 C	S 19000		9.00	99.90	5.10
2013	16000 C	S 16000	0	9.00	99.90	6.10
2012	15000 C	S 15000	0	9.00	99.90	8.40
2011	10500 C	S 10500	0	9.00	99.90	7.50
2010	12000 C	S 12000	0	8.98	99.99	8.80
2009	14000 C	S 14000	0	8.99	99.99	8.40
2008	13500 C	S 13500	0	9.09	99.99	5.30
2007	16500 C	S 16500	0	8.01	99.99	4.90
2006	12500 C	S 12500	B 0	7.97	99.99	2.20
2005	25500 F	S		8.80	99.90	5.50
2004	25500 C	S 25500	0	9.00	99.90	8.20
2003	18500 C	S 18500	0	8.80	99.90	4.90

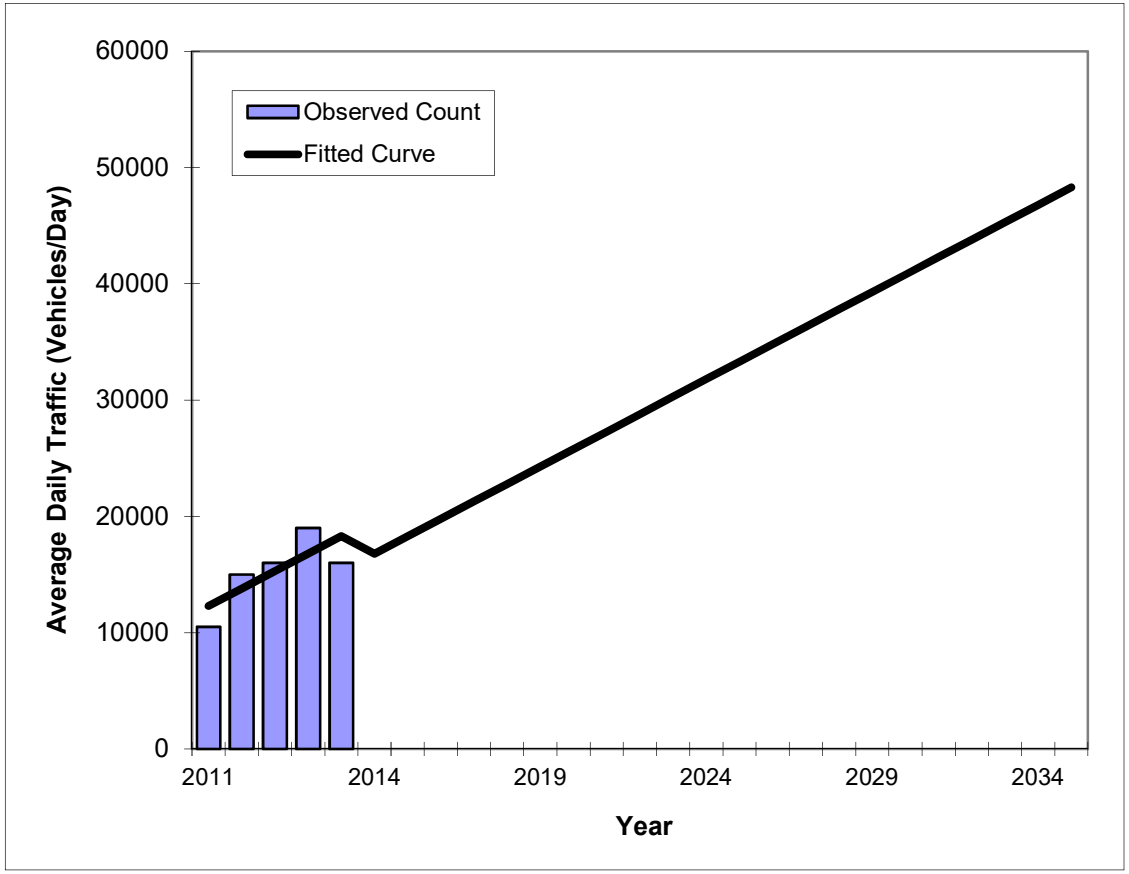
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

INDIAN CREEK DRIVE -- 200' S OF 38 STREET

PIN#	0
Location	3

County:	Miami-Dade (87)
Station #:	2646
Highway:	INDIAN CREEK DRIVE



Year	Traffic (ADT/AADT) Count*	Trend**
2011	10500	12300
2012	15000	13800
2013	16000	15300
2014	19000	16800
2015	16000	18300
2016 Opening Year Trend		
2016	N/A	19800
2017 Mid-Year Trend		
2017	N/A	21300
2018 Design Year Trend		
2018	N/A	22800
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	1,500
Trend R-squared:	59.52%
Trend Annual Historic Growth Rate:	12.20%
Trend Growth Rate (2015 to Design Year):	8.20%
Printed:	26-Oct-16
Straight Line Growth Option	

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5171 - 200' N OF 35 ST. (MIAMI BEACH)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	15000 C	N 15000	0	9.00	99.90	4.60
2014	12500 C	N 12500		9.00	99.90	5.10
2013	14000 C	N 14000	0	9.00	99.90	6.10
2012	13000 C	N 13000	0	9.00	99.90	8.40
2011	12500 C	N 12500	0	9.00	99.90	7.50
2010	10500 C	N 10500	0	8.98	99.99	8.80

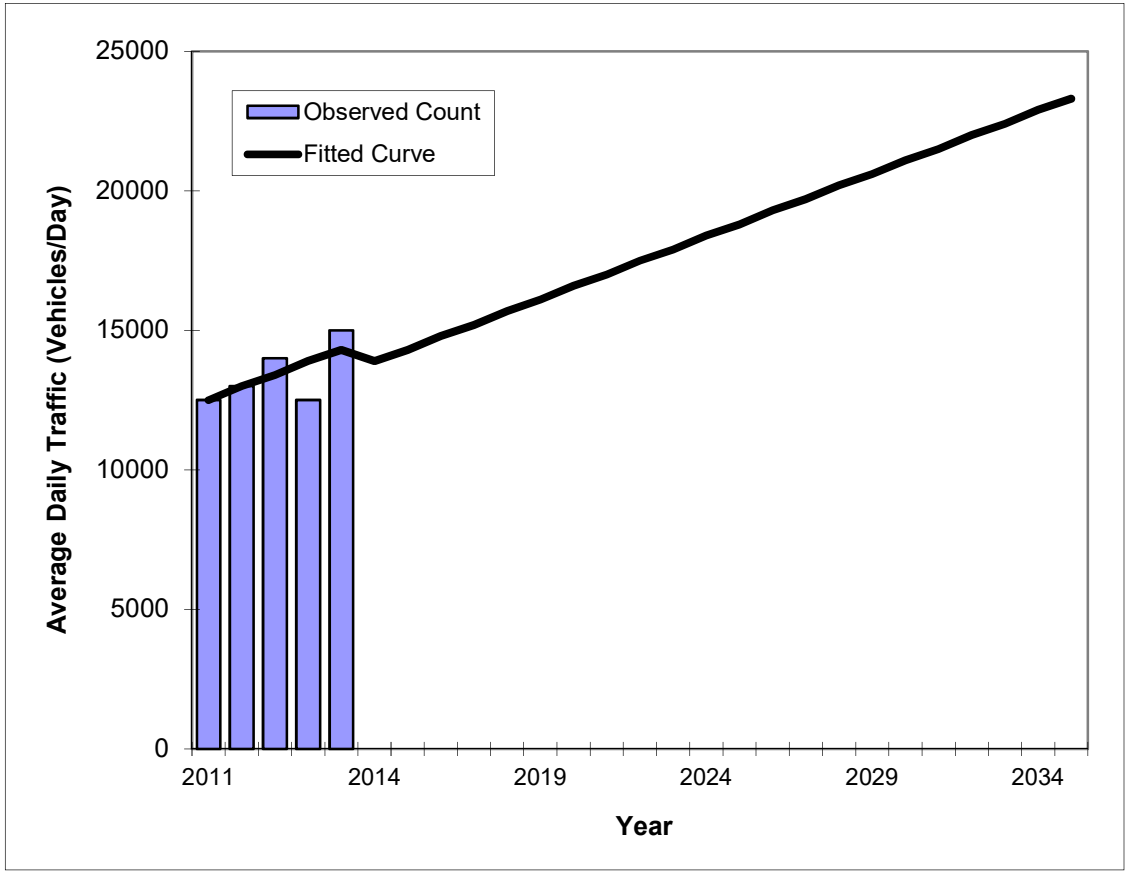
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

COLLINS AVENUE -- 200' N OF 35 ST

PIN#	0
Location	1

County:	Miami-Dade (87)
Station #:	5171
Highway:	COLLINS AVENUE



Year	Traffic (ADT/AADT) Count*	Trend**
2011	12500	12500
2012	13000	13000
2013	14000	13400
2014	12500	13900
2015	15000	14300
2016 Opening Year Trend		
2016	N/A	14800
2017 Mid-Year Trend		
2017	N/A	15200
2018 Design Year Trend		
2018	N/A	15700
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	450
Trend R-squared:	43.09%
Trend Annual Historic Growth Rate:	3.60%
Trend Growth Rate (2015 to Design Year):	3.26%
Printed:	26-Oct-16

Straight Line Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 5388 - SR 112/ARTHUR GODFREY RD, 200' W INDIAN CREEK DR

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	39000 C	E 19000	W 20000	9.00	54.70	4.40
2014	34000 C	E 17000	W 17000	9.00	54.50	4.40
2013	41000 C	E 20500	W 20500	9.00	52.40	5.20
2012	42500 C	E 23000	W 19500	9.00	55.70	4.90
2011	44000 C	E 23000	W 21000	9.00	55.10	5.00
2010	38500 C	E 20500	W 18000	8.98	54.08	6.20
2009	37500 C	E 19000	W 18500	8.99	53.24	6.00
2008	36500 C	E 19000	W 17500	9.09	55.75	5.90
2007	39000 C	E 22000	W 17000	8.36	54.73	5.70
2006	36500 C	E 21000	W 15500	8.70	56.15	13.70
2005	32000 C	E 17000	W 15000	8.50	53.00	5.50
2004	34500 C	E 18000	W 16500	8.70	54.00	7.00
2003	38500 C	E 20500	W 18000	8.50	53.40	4.20
2002	39500 C	E 20000	W 19500	9.80	52.30	3.50
2001	40000 C	E 21000	W 19000	8.20	53.50	4.10
2000	40000 C	E 20500	W 19500	8.20	53.10	3.10

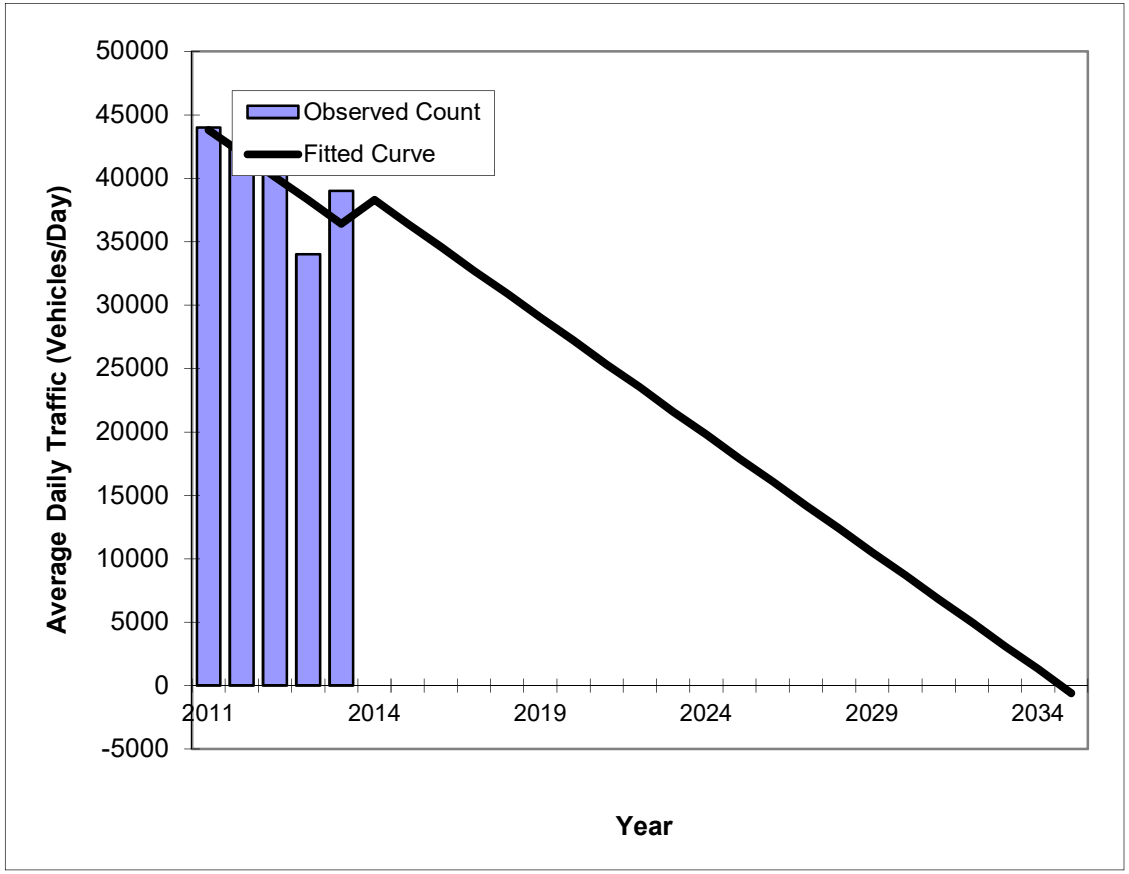
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

SR 112/ARTHUR GODFREY RD -- 200' W OF INDIAN CREEK DR

PIN#	0
Location	2

County:	Miami-Dade (87)
Station #:	5388
Highway:	SR 112/ARTHUR GODFREY RD



Year	Traffic (ADT/AADT) Count*	Trend**
2011	44000	43800
2012	42500	42000
2013	41000	40100
2014	34000	38300
2015	39000	36400
2016 Opening Year Trend		
2016	N/A	34600
2017 Mid-Year Trend		
2017	N/A	32700
2018 Design Year Trend		
2018	N/A	30900
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	-1,850
Trend R-squared:	56.85%
Trend Annual Historic Growth Rate:	-4.22%
Trend Growth Rate (2015 to Design Year):	-5.04%
Printed:	26-Oct-16

Straight Line Growth Option

***Axle-Adjusted**

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2015 HISTORICAL AADT REPORT

COUNTY: 87 - MIAMI-DADE

SITE: 8600 - PINE TREE DR, 200' SOUTH OF 37 ST (2011 OFF SYSTEM CYCLE)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2015	15700 C	N 8600	S 7100	9.00	57.40	7.10
2014	16000 S	N 8100	S 7900	9.00	59.30	10.70
2013	16200 F	N 8200	S 8000	9.00	58.90	16.20
2012	16200 C	N 8200	S 8000	9.00	59.70	16.00

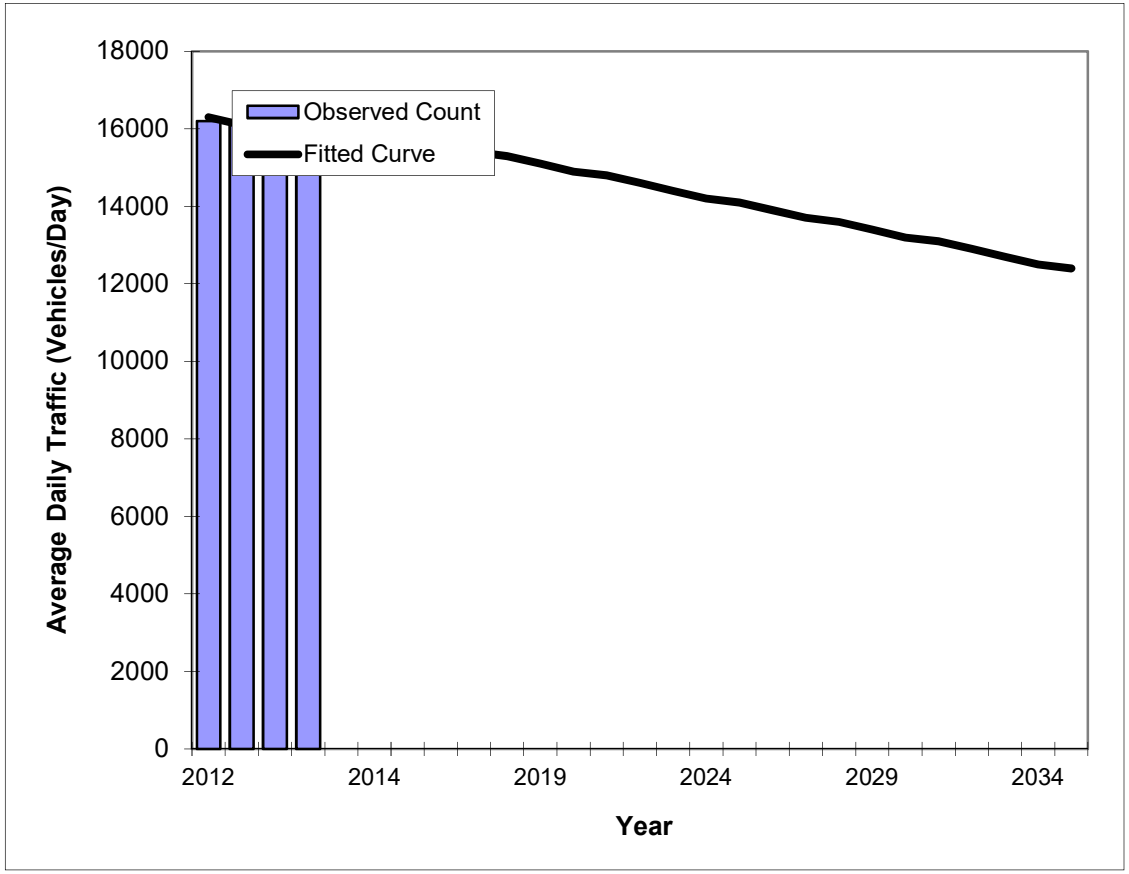
AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

Traffic Trends - V2.0

PINE TREE DRIVE -- 200' S OF 37 ST

PIN#	0
Location	4

County:	Miami-Dade (87)
Station #:	8600
Highway:	PINE TREE DRIVE



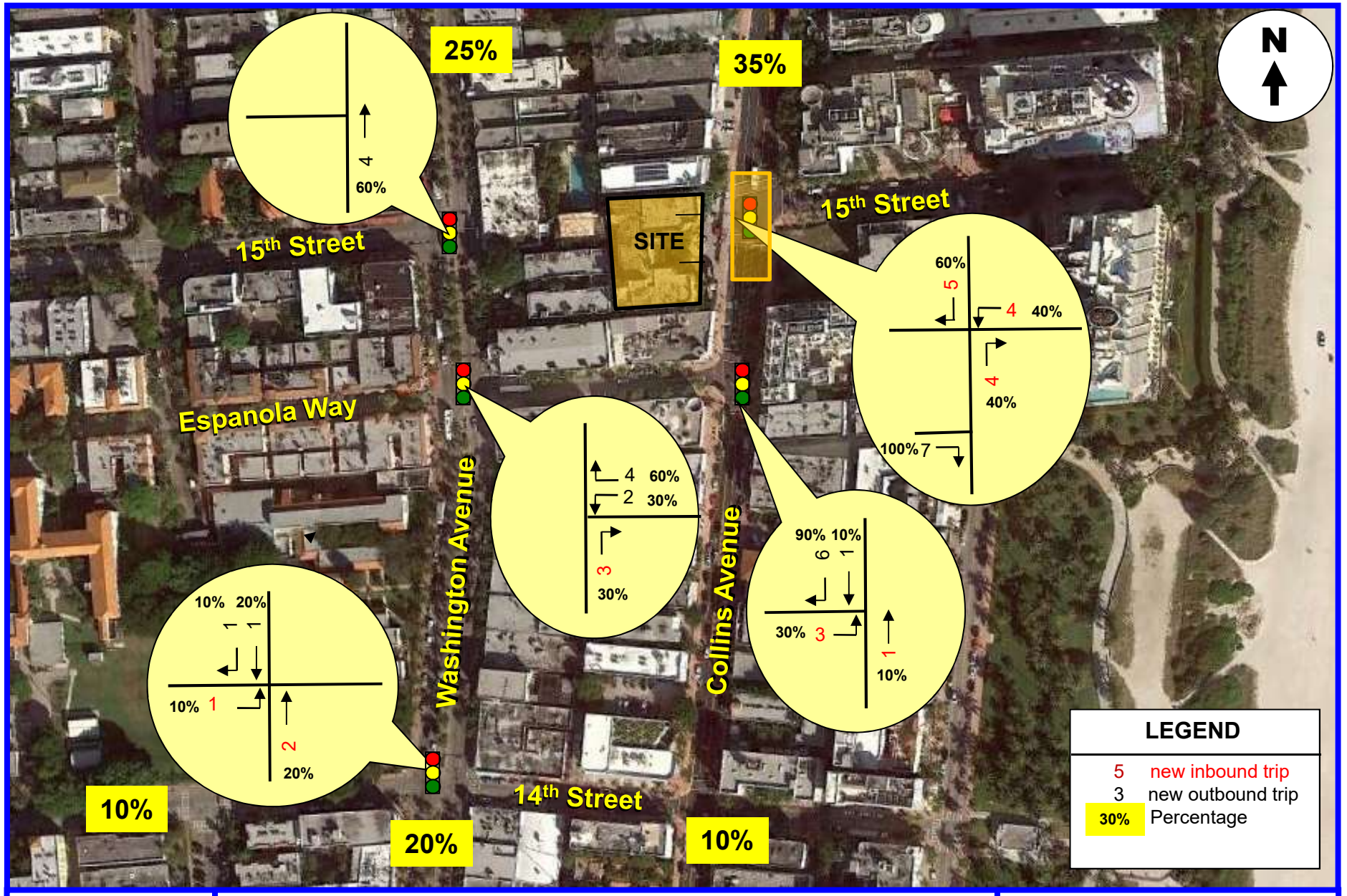
Year	Traffic (ADT/AADT) Count*	Trend**
2012	16200	16300
2013	16200	16100
2014	16000	15900
2015	15700	15800
2016 Opening Year Trend		
2016	N/A	15600
2017 Mid-Year Trend		
2017	N/A	15400
2018 Design Year Trend		
2018	N/A	15300
TRANPLAN Forecasts/Trends		

**** Annual Trend Increase:**	-170
Trend R-squared:	86.27%
Trend Annual Historic Growth Rate:	-1.02%
Trend Growth Rate (2015 to Design Year):	-1.05%
Printed:	26-Oct-16
Straight Line Growth Option	

***Axle-Adjusted**

APPENDIX E

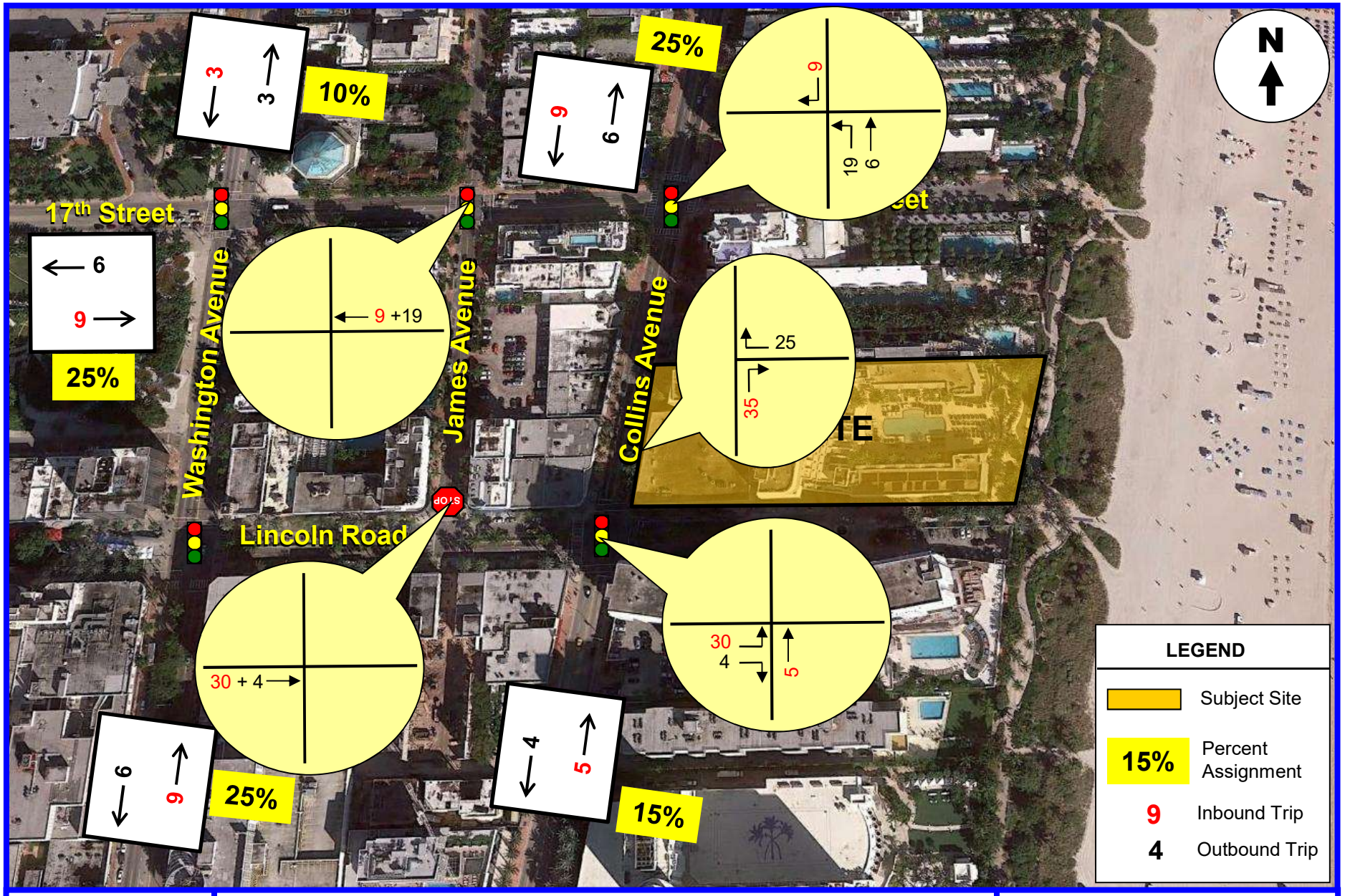
Committed Developments



Traf Tech
ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4
Haddon Hall
Miami Beach, Florida



Traf Tech
ENGINEERING, INC.

NEW PROJECT TRAFFIC ASSIGNMENT
(Weekday New Peak Hour Trips)

FIGURE 4
Tatel Restaurant
Miami Beach, Florida

APPENDIX F

Future Turning Movement Volumes

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Collins Avenue and 41st Street
PM Peak Hour

Description	Collins Avenue Northbound			Collins Avenue Southbound			41st Street Eastbound			41st Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (10/14/2016)	321	941	23	0	0	0	70	16	0	0	15	19
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
2016 Peak Season Traffic	321	941	23	0	0	0	70	16	0	0	15	19
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Committed Developments												
Tatel Restaurant		6										
Hardon Hall												
2018 Background Traffic	341	1,004	24	0	0	0	74	17	0	0	16	20
4000 Collins							61					
Valet	53											
2018 Total Traffic	**394**	**1,004**	**24**	**0**	**0**	**0**	**135**	**17**	**0**	**0**	**16**	**20**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Collins Avenue and 40th Street
PM Peak Hour

Description	Collins Avenue Northbound			Collins Avenue Southbound			40th Street Eastbound			40th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (10/14/2016)	17	1,264	33	0	0	0	58	13	0	0	4	15
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
2016 Peak Season Traffic	17	1,264	33	0	0	0	58	13	0	0	4	15
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Committed Developments												
Tatel Restaurant		6										
Hardon Hall												
2018 Background Traffic	18	1,347	35	0	0	0	62	14	0	0	4	16
4000 Collins	53											
Valet		53										
2018 Total Traffic	**71**	**1,400**	**35**	**0**	**0**	**0**	**62**	**14**	**0**	**0**	**4**	**16**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Indian Creek Drive and 41st Street
PM Peak Hour

Description	Indian Creek Drive Northbound			Indian Creek Drive Southbound			41st Street Eastbound			41st Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (10/14/2016)				6	655	850	965	83	428	18	307	2
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
2016 Peak Season Traffic	0	0	0	6	655	850	965	83	428	18	307	2
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Committed Developments												
Tatel Restaurant												
Hardon Hall												
2018 Background Traffic	0	0	0	6	695	902	1,024	88	454	19	326	2
4000 Collins					31	28			24			
Valet												
2018 Total Traffic	**0**	**0**	**0**	**6**	**726**	**930**	**1,024**	**88**	**478**	**19**	**326**	**2**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Indian Creek Drive and 40th Street
PM Peak Hour

Description	Indian Creek Drive Northbound			Indian Creek Drive Southbound			40th Street Eastbound			40th Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (10/14/2016)				83	1,024	0	0	0	0	21		
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
2016 Peak Season Traffic	0	0	0	83	1,024	0	0	0	0	21	0	0
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Committed Developments												
Tatel Restaurant												
Hardon Hall												
2018 Background Traffic	0	0	0	88	1,086	0	0	0	0	22	0	0
4000 Collins					55							
Valet										53		
2018 Total Traffic	**0**	**0**	**0**	**88**	**1,141**	**0**	**0**	**0**	**0**	**75**	**0**	**0**

Traf Tech
ENGINEERING, INC.

FUTURE TURNING MOVEMENT VOLUME ANALYSIS

Pine Tree Drive and 41st Street
PM Peak Hour

Description	Pine Tree Drive Northbound			Pine Tree Drive Southbound			41st Street Eastbound			41st Street Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
Existing Traffic (10/14/2016)	161	376	315		248	39	100	1,094	72	182	994	70
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
2016 Peak Season Traffic	161	376	315	0	248	39	100	1,094	72	182	994	70
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Committed Developments												
Tatel Restaurant												
Hardon Hall												
2018 Background Traffic	171	399	334	0	263	41	106	1,161	76	193	1,055	74
4000 Collins			8					16		10	18	
Valet												
2018 Total Traffic	**171**	**399**	**342**	**0**	**263**	**41**	**106**	**1,177**	**76**	**203**	**1,073**	**74**

Traf Tech
ENGINEERING, INC.

APPENDIX G

Intersection Capacity Analyses

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	16	0	0	15	19	321	941	23	0	0	0
Future Volume (veh/h)	70	16	0	0	15	19	321	941	23	0	0	0
Number	7	4	14	3	8	18	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.85		1.00	1.00		0.81	1.00		0.80			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	71	16	0	0	15	19	328	960	23			
Adj No. of Lanes	0	1	0	0	1	0	0	3	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	184	37	0	0	102	129	360	1143	28			
Arrive On Green	0.15	0.15	0.00	0.00	0.15	0.15	0.29	0.29	0.29			
Sat Flow, veh/h	887	238	0	0	655	830	1250	3966	96			
Grp Volume(v), veh/h	87	0	0	0	0	34	472	405	434			
Grp Sat Flow(s),veh/h/ln	1126	0	0	0	0	1485	1800	1695	1817			
Q Serve(g_s), s	8.4	0.0	0.0	0.0	0.0	2.8	35.7	31.5	31.5			
Cycle Q Clear(g_c), s	11.2	0.0	0.0	0.0	0.0	2.8	35.7	31.5	31.5			
Prop In Lane	0.82		0.00	0.00		0.56	0.69		0.05			
Lane Grp Cap(c), veh/h	221	0	0	0	0	230	519	488	524			
V/C Ratio(X)	0.39	0.00	0.00	0.00	0.00	0.15	0.91	0.83	0.83			
Avail Cap(c_a), veh/h	240	0	0	0	0	253	1392	1310	1405			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	55.9	0.0	0.0	0.0	0.0	51.5	48.4	46.9	46.9			
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.2	22.7	14.9	14.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	0.0	0.0	1.2	21.0	16.8	17.8			
LnGrp Delay(d),s/veh	56.0	0.0	0.0	0.0	0.0	51.7	71.1	61.9	61.0			
LnGrp LOS	E					D	E	E	E			
Approach Vol, veh/h		87			34			1311				
Approach Delay, s/veh		56.0			51.7			64.9				
Approach LOS		E			D			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				26.0		44.7		26.0
Change Period (Y+Rc), s				* 4.1		4.1		* 4.1
Max Green Setting (Gmax), s				* 24		109.0		* 24
Max Q Clear Time (g_c+I1), s				13.2		37.7		4.8
Green Ext Time (p_c), s				0.4		2.9		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	64.1
HCM 2010 LOS	E

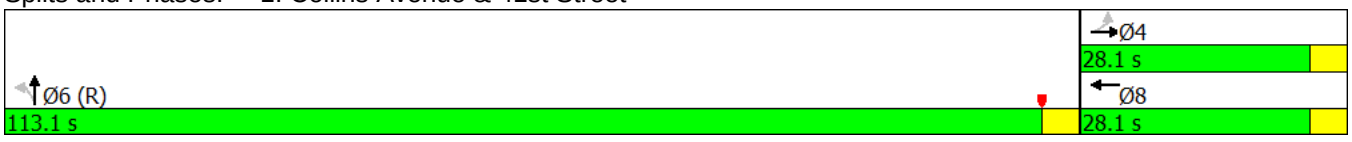
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBT
Lane Configurations				
Traffic Volume (vph)	70	16	15	941
Future Volume (vph)	70	16	15	941
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	7.0	7.0
Minimum Split (s)	27.1	27.1	27.1	23.0
Total Split (s)	28.1	28.1	28.1	113.1
Total Split (%)	19.9%	19.9%	19.9%	80.1%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.1	0.1	0.1	0.1
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		4.1	4.1	4.1
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Min
Act Effct Green (s)		14.4	14.4	118.6
Actuated g/C Ratio		0.10	0.10	0.84
v/c Ratio		0.67	0.19	0.34
Control Delay		84.4	33.0	3.0
Queue Delay		0.0	0.0	0.0
Total Delay		84.4	33.0	3.0
LOS		F	C	A
Approach Delay		84.4	33.0	3.0
Approach LOS		F	C	A

Intersection Summary	
Cycle Length: 141.2	
Actuated Cycle Length: 141.2	
Offset: 124 (88%), Referenced to phase 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 52.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Collins Avenue & 41st Street



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	87	34	1311
v/c Ratio	0.67	0.19	0.34
Control Delay	84.4	33.0	3.0
Queue Delay	0.0	0.0	0.0
Total Delay	84.4	33.0	3.0
Queue Length 50th (ft)	78	13	77
Queue Length 95th (ft)	133	45	123
Internal Link Dist (ft)	281	435	170
Turn Bay Length (ft)			
Base Capacity (vph)	217	290	3849
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.40	0.12	0.34

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	13	0	0	4	15	17	1264	33	0	0	0
Future Volume (Veh/h)	58	13	0	0	4	15	17	1264	33	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	61	14	0	0	4	16	18	1331	35	0	0	0
Pedestrians		65			128			38			21	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			12			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											250	
pX, platoon unblocked												
vC, conflicting volume	584	1595	103	1558	1578	610	65			1494		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	584	1595	103	1558	1578	610	65			1494		
tC, single (s)	*5.5	*6.5	6.9	7.5	6.5	*4.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	84	100	100	95	97	99			100		
cM capacity (veh/h)	416	88	843	49	88	581	1440			391		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3
Volume Total	75	20	351	666	368
Volume Left	61	0	18	0	0
Volume Right	0	16	0	0	35
cSH	245	274	1440	1700	1700
Volume to Capacity	0.31	0.07	0.01	0.39	0.22
Queue Length 95th (ft)	31	6	1	0	0
Control Delay (s)	26.1	19.2	0.5	0.0	0.0
Lane LOS	D	C	A		
Approach Delay (s)	26.1	19.2	0.1		
Approach LOS	D	C			

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	47.1%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	965	83	428	18	307	2	0	0	0	6	655	850
Future Volume (vph)	965	83	428	18	307	2	0	0	0	6	655	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Lane Util. Factor	0.95	0.95	1.00		1.00						0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.87		1.00						1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00		1.00						1.00	1.00
Frt	1.00	1.00	0.85		1.00						1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00						1.00	1.00
Satd. Flow (prot)	1513	1528	1244		1665						3183	1336
Flt Permitted	0.95	0.96	1.00		0.95						1.00	1.00
Satd. Flow (perm)	1513	1528	1244		1592						3183	1336
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	995	86	441	19	316	2	0	0	0	6	675	876
RTOR Reduction (vph)	0	0	268	0	0	0	0	0	0	0	0	497
Lane Group Flow (vph)	537	544	173	0	337	0	0	0	0	0	681	379
Confl. Peds. (#/hr)	44		68	68		44	38		9	9		38
Confl. Bikes (#/hr)			2			3						5
Turn Type	Split	NA	Perm	Perm	NA					Perm	NA	Perm
Protected Phases	1	1			5						8	
Permitted Phases			1	5						8		8
Actuated Green, G (s)	37.0	37.0	37.0		40.0						27.0	27.0
Effective Green, g (s)	37.0	37.0	37.0		40.0						27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33						0.23	0.23
Clearance Time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Vehicle Extension (s)	2.5	2.5	2.5		1.0						1.0	1.0
Lane Grp Cap (vph)	466	471	383		531						716	300
v/s Ratio Prot	0.35	c0.36										
v/s Ratio Perm			0.14		c0.21						0.21	c0.28
v/c Ratio	1.15	1.15	0.45		0.63						0.95	1.26
Uniform Delay, d1	41.5	41.5	33.3		33.8						45.8	46.5
Progression Factor	1.00	1.00	1.00		1.00						1.00	1.00
Incremental Delay, d2	90.7	91.5	0.6		5.7						22.2	142.9
Delay (s)	132.1	132.9	33.9		39.5						68.0	189.4
Level of Service	F	F	C		D						E	F
Approach Delay (s)		103.9			39.5			0.0			136.3	
Approach LOS		F			D			A			F	

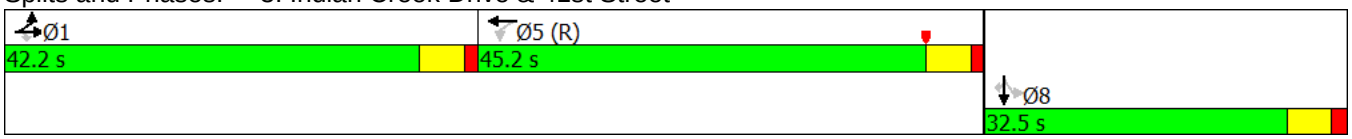
Intersection Summary			
HCM 2000 Control Delay	112.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	15.9
Intersection Capacity Utilization	96.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	965	83	428	18	307	655	850
Future Volume (vph)	965	83	428	18	307	655	850
Turn Type	Split	NA	Perm	Perm	NA	NA	Perm
Protected Phases	1	1			5	8	
Permitted Phases			1	5			8
Detector Phase	1	1	1	5	5	8	8
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.2	26.2	26.2	36.2	36.2	34.5	34.5
Total Split (s)	42.2	42.2	42.2	45.2	45.2	32.5	32.5
Total Split (%)	35.2%	35.2%	35.2%	37.7%	37.7%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.2	1.2	1.2	1.2	1.2	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.2	5.2	5.2		5.2	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	Min
Act Effct Green (s)	37.0	37.0	37.0		40.0	27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33	0.23	0.23
v/c Ratio	1.15	1.15	0.68		0.63	0.95	1.10
Control Delay	128.9	129.6	11.5		40.2	69.5	75.2
Queue Delay	0.0	0.0	0.0		7.8	0.0	0.0
Total Delay	128.9	129.6	11.5		48.1	69.5	75.2
LOS	F	F	B		D	E	E
Approach Delay		95.1			48.1	72.7	
Approach LOS		F			D	E	

Intersection Summary	
Cycle Length: 119.9	
Actuated Cycle Length: 119.9	
Offset: 47 (39%), Referenced to phase 5:WBTL, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 80.3	Intersection LOS: F
Intersection Capacity Utilization 96.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Indian Creek Drive & 41st Street



Lane Group	EBL	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	537	544	441	337	681	876
v/c Ratio	1.15	1.15	0.68	0.63	0.95	1.10
Control Delay	128.9	129.6	11.5	40.2	69.5	75.2
Queue Delay	0.0	0.0	0.0	7.8	0.0	0.0
Total Delay	128.9	129.6	11.5	48.1	69.5	75.2
Queue Length 50th (ft)	~514	~522	30	219	275	~357
Queue Length 95th (ft)	#742	#751	147	324	#394	#608
Internal Link Dist (ft)		770		281	407	
Turn Bay Length (ft)	450					
Base Capacity (vph)	466	471	651	531	717	797
Starvation Cap Reductn	0	0	0	152	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.15	1.15	0.68	0.89	0.95	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	0	0	0	83	1024
Future Volume (Veh/h)	21	0	0	0	83	1024
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	23	0	0	0	89	1101
Pedestrians	9		8			
Lane Width (ft)	12.0		0.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						250
pX, platoon unblocked	0.84					
vC, conflicting volume	562	9			9	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	9			9	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			94	
cM capacity (veh/h)	801	1061			1596	

Direction, Lane #	WB 1	SB 1	SB 2	SB 3
Volume Total	23	309	440	440
Volume Left	23	89	0	0
Volume Right	0	0	0	0
cSH	801	1596	1700	1700
Volume to Capacity	0.03	0.06	0.26	0.26
Queue Length 95th (ft)	2	4	0	0
Control Delay (s)	9.6	2.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.6	0.6		
Approach LOS	A			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1094	72	182	994	70	161	376	315	0	248	39
Future Volume (veh/h)	100	1094	72	182	994	70	161	376	315	0	248	39
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)	1.00		0.94	1.00		0.94	0.99		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	0	1863	1900
Adj Flow Rate, veh/h	102	1116	73	186	1014	71	164	384	321	0	253	40
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	288	1873	122	323	1927	135	275	927	490	0	547	85
Arrive On Green	0.04	0.56	0.56	0.02	0.19	0.19	0.06	0.26	0.26	0.00	0.18	0.18
Sat Flow, veh/h	1774	3357	219	1774	3339	234	1774	3539	1512	0	3155	477
Grp Volume(v), veh/h	102	588	601	186	537	548	164	384	321	0	145	148
Grp Sat Flow(s),veh/h/ln	1774	1770	1807	1774	1770	1804	1774	1770	1512	0	1770	1770
Q Serve(g_s), s	2.9	26.4	26.5	5.1	32.8	32.8	7.0	10.8	22.0	0.0	8.8	9.0
Cycle Q Clear(g_c), s	2.9	26.4	26.5	5.1	32.8	32.8	7.0	10.8	22.0	0.0	8.8	9.0
Prop In Lane	1.00		0.12	1.00		0.13	1.00		1.00	0.00		0.27
Lane Grp Cap(c), veh/h	288	987	1008	323	1021	1041	275	927	490	0	316	316
V/C Ratio(X)	0.35	0.60	0.60	0.58	0.53	0.53	0.60	0.41	0.66	0.00	0.46	0.47
Avail Cap(c_a), veh/h	380	987	1008	381	1021	1041	275	1298	649	0	501	501
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.16	0.16	0.16	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	15.1	17.6	17.6	15.3	33.8	33.8	39.8	36.7	35.1	0.0	44.1	44.2
Incr Delay (d2), s/veh	0.3	2.6	2.6	0.1	0.3	0.3	2.5	0.2	1.1	0.0	0.8	0.8
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	1.4	13.6	13.9	2.5	16.2	16.5	1.9	5.3	18.0	0.0	4.4	4.5
LnGrp Delay(d),s/veh	15.4	20.2	20.2	15.4	34.1	34.1	42.3	36.9	36.2	0.0	44.9	45.0
LnGrp LOS	B	C	C	B	C	C	D	D	D		D	D
Approach Vol, veh/h		1291			1271			869			293	
Approach Delay, s/veh		19.8			31.4			37.7			44.9	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	75.1		37.0	10.1	72.8	10.0	27.0
Change Period (Y+Rc), s	3.0	* 5.9		* 5.6	3.0	* 5.9	3.0	* 5.6
Max Green Setting (Gmax), s	4.0	* 50		* 44	11.0	* 50	7.0	* 34
Max Q Clear Time (g_c+I1), s	4.9	34.8		24.0	7.1	28.5	9.0	11.0
Green Ext Time (p_c), s	0.1	5.7		4.5	0.1	6.4	0.0	4.7

Intersection Summary	
HCM 2010 Ctrl Delay	29.9
HCM 2010 LOS	C

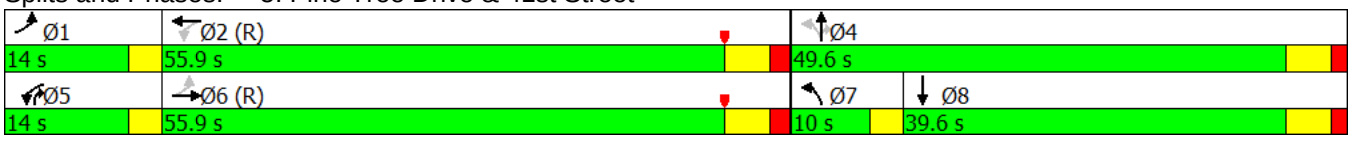
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Traffic Volume (vph)	100	1094	182	994	161	376	315	248
Future Volume (vph)	100	1094	182	994	161	376	315	248
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	NA
Protected Phases	1	6	5	2	7	4	5	8
Permitted Phases	6		2		4		4	
Detector Phase	1	6	5	2	7	4	5	8
Switch Phase								
Minimum Initial (s)	5.0	4.0	5.0	4.0	5.0	7.0	5.0	7.0
Minimum Split (s)	9.9	43.9	9.5	43.9	9.5	33.6	9.5	33.6
Total Split (s)	14.0	55.9	14.0	55.9	10.0	49.6	14.0	39.6
Total Split (%)	11.7%	46.8%	11.7%	46.8%	8.4%	41.5%	11.7%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	1.9	0.0	1.9	0.0	1.6	0.0	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.9	3.0	5.9	3.0	5.6	3.0	5.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	73.9	64.0	81.1	68.5	32.1	29.5	43.6	14.6
Actuated g/C Ratio	0.62	0.54	0.68	0.57	0.27	0.25	0.36	0.12
v/c Ratio	0.32	0.64	0.58	0.54	0.58	0.44	0.56	0.68
Control Delay	10.2	22.6	15.6	17.7	44.8	39.4	28.8	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	22.6	15.6	17.7	44.8	39.4	28.8	55.3
LOS	B	C	B	B	D	D	C	E
Approach Delay		21.6		17.4		36.5		55.3
Approach LOS		C		B		D		E

Intersection Summary	
Cycle Length: 119.5	
Actuated Cycle Length: 119.5	
Offset: 28 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 26.3	Intersection LOS: C
Intersection Capacity Utilization 80.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Pine Tree Drive & 41st Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	102	1189	186	1085	164	384	321	293
v/c Ratio	0.32	0.64	0.58	0.54	0.58	0.44	0.56	0.68
Control Delay	10.2	22.6	15.6	17.7	44.8	39.4	28.8	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	22.6	15.6	17.7	44.8	39.4	28.8	55.3
Queue Length 50th (ft)	26	339	50	273	99	127	165	109
Queue Length 95th (ft)	42	431	80	325	#187	182	244	152
Internal Link Dist (ft)		279		770		468		375
Turn Bay Length (ft)	130		250		100		100	
Base Capacity (vph)	376	1872	339	1997	282	1303	590	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.64	0.55	0.54	0.58	0.29	0.54	0.29

Intersection Summary

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	17	0	0	16	20	341	1004	24	0	0	0
Future Volume (veh/h)	74	17	0	0	16	20	341	1004	24	0	0	0
Number	7	4	14	3	8	18	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.85		1.00	1.00		0.81	1.00		0.81			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	76	17	0	0	16	20	348	1024	24			
Adj No. of Lanes	0	1	0	0	1	0	0	3	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	184	37	0	0	103	129	381	1215	29			
Arrive On Green	0.16	0.16	0.00	0.00	0.16	0.16	0.31	0.31	0.31			
Sat Flow, veh/h	881	235	0	0	661	827	1246	3975	94			
Grp Volume(v), veh/h	93	0	0	0	0	36	503	431	462			
Grp Sat Flow(s),veh/h/ln	1117	0	0	0	0	1488	1800	1695	1820			
Q Serve(g_s), s	9.1	0.0	0.0	0.0	0.0	3.0	37.9	33.4	33.4			
Cycle Q Clear(g_c), s	12.1	0.0	0.0	0.0	0.0	3.0	37.9	33.4	33.4			
Prop In Lane	0.82		0.00	0.00		0.56	0.69		0.05			
Lane Grp Cap(c), veh/h	220	0	0	0	0	232	550	518	556			
V/C Ratio(X)	0.42	0.00	0.00	0.00	0.00	0.16	0.91	0.83	0.83			
Avail Cap(c_a), veh/h	238	0	0	0	0	253	1392	1310	1407			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	56.3	0.0	0.0	0.0	0.0	51.5	47.2	45.6	45.6			
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.2	22.1	14.4	13.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	0.0	0.0	1.2	22.2	17.7	18.9			
LnGrp Delay(d),s/veh	56.3	0.0	0.0	0.0	0.0	51.7	69.2	60.0	59.1			
LnGrp LOS	E					D	E	E	E			
Approach Vol, veh/h		93			36			1396				
Approach Delay, s/veh		56.3			51.7			63.0				
Approach LOS		E			D			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				26.1		47.2		26.1
Change Period (Y+Rc), s				* 4.1		4.1		* 4.1
Max Green Setting (Gmax), s				* 24		109.0		* 24
Max Q Clear Time (g_c+I1), s				14.1		39.9		5.0
Green Ext Time (p_c), s				0.4		3.2		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	62.3
HCM 2010 LOS	E

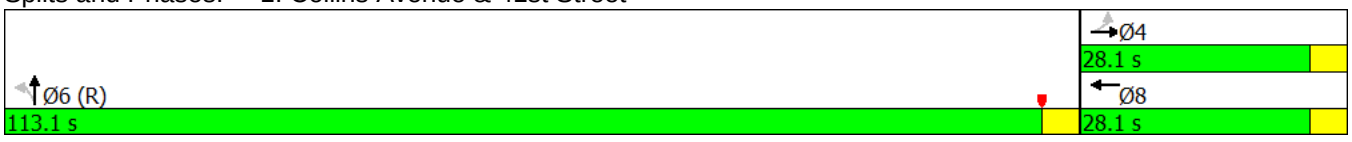
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBT	NBT
Lane Configurations				
Traffic Volume (vph)	74	17	16	1004
Future Volume (vph)	74	17	16	1004
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	7.0	7.0
Minimum Split (s)	27.1	27.1	27.1	23.0
Total Split (s)	28.1	28.1	28.1	113.1
Total Split (%)	19.9%	19.9%	19.9%	80.1%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.1	0.1	0.1	0.1
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		4.1	4.1	4.1
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Min
Act Effct Green (s)		15.1	15.1	117.9
Actuated g/C Ratio		0.11	0.11	0.83
v/c Ratio		0.69	0.19	0.36
Control Delay		84.5	32.5	3.3
Queue Delay		0.0	0.0	0.0
Total Delay		84.5	32.5	3.3
LOS		F	C	A
Approach Delay		84.5	32.5	3.3
Approach LOS		F	C	A

Intersection Summary	
Cycle Length: 141.2	
Actuated Cycle Length: 141.2	
Offset: 124 (88%), Referenced to phase 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 9.0	Intersection LOS: A
Intersection Capacity Utilization 54.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: Collins Avenue & 41st Street



Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	93	36	1396
v/c Ratio	0.69	0.19	0.36
Control Delay	84.5	32.5	3.3
Queue Delay	0.0	0.0	0.0
Total Delay	84.5	32.5	3.3
Queue Length 50th (ft)	84	13	87
Queue Length 95th (ft)	140	47	140
Internal Link Dist (ft)	281	435	170
Turn Bay Length (ft)			
Base Capacity (vph)	216	291	3829
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.43	0.12	0.36

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	14	0	0	4	16	18	1347	35	0	0	0
Future Volume (Veh/h)	62	14	0	0	4	16	18	1347	35	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	65	15	0	0	4	17	19	1418	37	0	0	0
Pedestrians		65			128			38			21	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			12			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											250	
pX, platoon unblocked												
vC, conflicting volume	616	1686	103	1648	1668	640	65			1583		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	616	1686	103	1648	1668	640	65			1583		
tC, single (s)	*5.5	6.5	6.9	7.5	6.5	*4.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	80	100	100	95	97	99			100		
cM capacity (veh/h)	398	76	843	40	78	566	1440			361		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3
Volume Total	80	21	374	709	392
Volume Left	65	0	19	0	0
Volume Right	0	17	0	0	37
cSH	221	257	1440	1700	1700
Volume to Capacity	0.36	0.08	0.01	0.42	0.23
Queue Length 95th (ft)	39	7	1	0	0
Control Delay (s)	30.2	20.2	0.5	0.0	0.0
Lane LOS	D	C	A		
Approach Delay (s)	30.2	20.2	0.1		
Approach LOS	D	C			

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1024	88	454	19	326	2	0	0	0	6	695	902
Future Volume (vph)	1024	88	454	19	326	2	0	0	0	6	695	902
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Lane Util. Factor	0.95	0.95	1.00		1.00						0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.87		1.00						1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00		1.00						1.00	1.00
Frt	1.00	1.00	0.85		1.00						1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00						1.00	1.00
Satd. Flow (prot)	1513	1528	1244		1665						3183	1336
Flt Permitted	0.95	0.96	1.00		0.95						1.00	1.00
Satd. Flow (perm)	1513	1528	1244		1587						3183	1336
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1056	91	468	20	336	2	0	0	0	6	716	930
RTOR Reduction (vph)	0	0	268	0	0	0	0	0	0	0	0	489
Lane Group Flow (vph)	570	577	200	0	358	0	0	0	0	0	722	441
Confl. Peds. (#/hr)	44		68	68		44	38		9	9		38
Confl. Bikes (#/hr)			2			3						5
Turn Type	Split	NA	Perm	Perm	NA					Perm	NA	Perm
Protected Phases	1	1			5						8	
Permitted Phases			1	5						8		8
Actuated Green, G (s)	37.0	37.0	37.0		40.0						27.0	27.0
Effective Green, g (s)	37.0	37.0	37.0		40.0						27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33						0.23	0.23
Clearance Time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Vehicle Extension (s)	2.5	2.5	2.5		1.0						1.0	1.0
Lane Grp Cap (vph)	466	471	383		529						716	300
v/s Ratio Prot	0.38	c0.38										
v/s Ratio Perm			0.16		c0.23						0.23	c0.33
v/c Ratio	1.22	1.23	0.52		0.68						1.01	1.47
Uniform Delay, d1	41.5	41.5	34.2		34.4						46.5	46.5
Progression Factor	1.00	1.00	1.00		1.00						1.00	1.00
Incremental Delay, d2	118.4	119.0	1.0		6.8						35.7	229.0
Delay (s)	159.8	160.4	35.2		41.2						82.2	275.4
Level of Service	F	F	D		D						F	F
Approach Delay (s)		123.9			41.2			0.0			191.0	
Approach LOS		F			D			A			F	

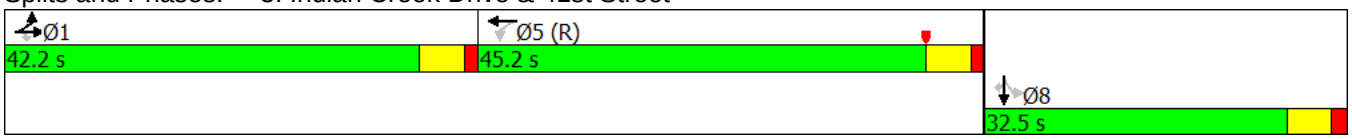
Intersection Summary			
HCM 2000 Control Delay	146.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	15.9
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1024	88	454	19	326	695	902
Future Volume (vph)	1024	88	454	19	326	695	902
Turn Type	Split	NA	Perm	Perm	NA	NA	Perm
Protected Phases	1	1			5	8	
Permitted Phases			1	5			8
Detector Phase	1	1	1	5	5	8	8
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.2	26.2	26.2	36.2	36.2	34.5	34.5
Total Split (s)	42.2	42.2	42.2	45.2	45.2	32.5	32.5
Total Split (%)	35.2%	35.2%	35.2%	37.7%	37.7%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.2	1.2	1.2	1.2	1.2	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.2	5.2	5.2		5.2	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	Min
Act Effct Green (s)	37.0	37.0	37.0		40.0	27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33	0.23	0.23
v/c Ratio	1.22	1.23	0.72		0.68	1.01	1.18
Control Delay	155.1	155.6	14.1		42.0	81.8	107.9
Queue Delay	0.0	0.0	0.0		12.3	0.0	0.0
Total Delay	155.1	155.6	14.1		54.3	81.8	107.9
LOS	F	F	B		D	F	F
Approach Delay		114.4			54.3	96.5	
Approach LOS		F			D	F	

Intersection Summary	
Cycle Length: 119.9	
Actuated Cycle Length: 119.9	
Offset: 47 (39%), Referenced to phase 5:WBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 100.3	Intersection LOS: F
Intersection Capacity Utilization 100.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Indian Creek Drive & 41st Street



Lane Group	EBL	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	570	577	468	358	722	930
v/c Ratio	1.22	1.23	0.72	0.68	1.01	1.18
Control Delay	155.1	155.6	14.1	42.0	81.8	107.9
Queue Delay	0.0	0.0	0.0	12.3	0.0	0.0
Total Delay	155.1	155.6	14.1	54.3	81.8	107.9
Queue Length 50th (ft)	~570	~577	46	237	~299	~459
Queue Length 95th (ft)	#803	#812	185	349	#431	#712
Internal Link Dist (ft)		770		281	407	
Turn Bay Length (ft)	450					
Base Capacity (vph)	466	471	651	529	717	789
Starvation Cap Reductn	0	0	0	148	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.23	0.72	0.94	1.01	1.18

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	22	0	0	0	88	1086
Future Volume (Veh/h)	22	0	0	0	88	1086
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	24	0	0	0	95	1168
Pedestrians	9		8			
Lane Width (ft)	12.0		0.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						250
pX, platoon unblocked	0.82					
vC, conflicting volume	596	9			9	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	9			9	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			94	
cM capacity (veh/h)	782	1061			1596	

Direction, Lane #	WB 1	SB 1	SB 2	SB 3
Volume Total	24	329	467	467
Volume Left	24	95	0	0
Volume Right	0	0	0	0
cSH	782	1596	1700	1700
Volume to Capacity	0.03	0.06	0.27	0.27
Queue Length 95th (ft)	2	5	0	0
Control Delay (s)	9.7	2.5	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7	0.7		
Approach LOS	A			

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1161	76	193	1055	74	171	399	334	0	263	41
Future Volume (veh/h)	106	1161	76	193	1055	74	171	399	334	0	263	41
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)	1.00		0.94	1.00		0.94	0.99		0.96	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	0	1863	1900
Adj Flow Rate, veh/h	108	1185	78	197	1077	76	174	407	341	0	268	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	270	1849	122	304	1907	134	272	940	501	0	559	86
Arrive On Green	0.04	0.55	0.55	0.02	0.19	0.19	0.06	0.27	0.27	0.00	0.18	0.18
Sat Flow, veh/h	1774	3356	221	1774	3337	235	1774	3539	1513	0	3159	474
Grp Volume(v), veh/h	108	624	639	197	571	582	174	407	341	0	153	157
Grp Sat Flow(s),veh/h/ln	1774	1770	1807	1774	1770	1803	1774	1770	1513	0	1770	1771
Q Serve(g_s), s	3.2	29.3	29.5	5.4	35.1	35.2	7.0	11.5	23.5	0.0	9.3	9.5
Cycle Q Clear(g_c), s	3.2	29.3	29.5	5.4	35.1	35.2	7.0	11.5	23.5	0.0	9.3	9.5
Prop In Lane	1.00		0.12	1.00		0.13	1.00		1.00	0.00		0.27
Lane Grp Cap(c), veh/h	270	975	996	304	1011	1030	272	940	501	0	322	323
V/C Ratio(X)	0.40	0.64	0.64	0.65	0.56	0.57	0.64	0.43	0.68	0.00	0.47	0.49
Avail Cap(c_a), veh/h	357	975	996	356	1011	1030	272	1298	654	0	501	502
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	16.3	18.7	18.7	17.7	35.1	35.2	40.4	36.6	35.0	0.0	43.9	44.0
Incr Delay (d2), s/veh	0.4	3.2	3.2	0.2	0.2	0.2	3.9	0.2	1.5	0.0	0.8	0.8
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	1.6	15.1	15.4	3.3	17.3	17.7	2.4	5.6	19.1	0.0	4.6	4.7
LnGrp Delay(d),s/veh	16.7	21.9	21.9	17.9	35.3	35.4	44.3	36.8	36.5	0.0	44.7	44.9
LnGrp LOS	B	C	C	B	D	D	D	D	D		D	D
Approach Vol, veh/h		1371			1350			922			310	
Approach Delay, s/veh		21.5			32.8			38.1			44.8	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	74.5		37.5	10.5	72.0	10.0	27.5
Change Period (Y+Rc), s	3.0	* 5.9		* 5.6	3.0	* 5.9	3.0	* 5.6
Max Green Setting (Gmax), s	5.0	* 50		* 44	11.0	* 50	7.0	* 34
Max Q Clear Time (g_c+I1), s	5.2	37.2		25.5	7.4	31.5	9.0	11.5
Green Ext Time (p_c), s	0.1	5.7		4.7	0.1	6.7	0.0	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

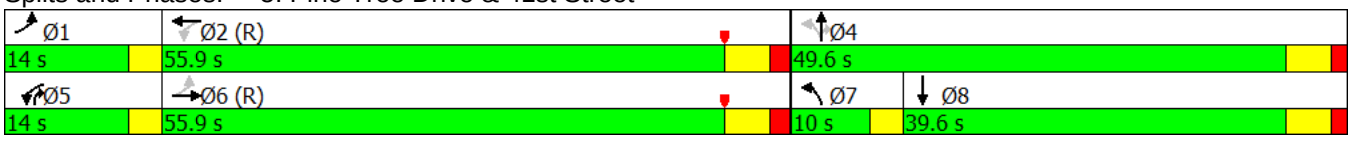
Notes

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Traffic Volume (vph)	106	1161	193	1055	171	399	334	263
Future Volume (vph)	106	1161	193	1055	171	399	334	263
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	NA
Protected Phases	1	6	5	2	7	4	5	8
Permitted Phases	6		2		4		4	
Detector Phase	1	6	5	2	7	4	5	8
Switch Phase								
Minimum Initial (s)	5.0	4.0	5.0	4.0	5.0	7.0	5.0	7.0
Minimum Split (s)	9.9	43.9	9.5	43.9	9.5	33.6	9.5	33.6
Total Split (s)	14.0	55.9	14.0	55.9	10.0	49.6	14.0	39.6
Total Split (%)	11.7%	46.8%	11.7%	46.8%	8.4%	41.5%	11.7%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	1.9	0.0	1.9	0.0	1.6	0.0	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.9	3.0	5.9	3.0	5.6	3.0	5.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	72.8	62.3	81.5	68.0	32.0	29.4	45.3	15.1
Actuated g/C Ratio	0.61	0.52	0.68	0.57	0.27	0.25	0.38	0.13
v/c Ratio	0.36	0.69	0.62	0.58	0.65	0.47	0.57	0.69
Control Delay	10.8	24.9	20.1	18.6	48.5	40.1	28.4	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	24.9	20.1	18.6	48.5	40.1	28.4	55.3
LOS	B	C	C	B	D	D	C	E
Approach Delay		23.8		18.8		37.3		55.3
Approach LOS		C		B		D		E

Intersection Summary	
Cycle Length: 119.5	
Actuated Cycle Length: 119.5	
Offset: 28 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 27.7	Intersection LOS: C
Intersection Capacity Utilization 83.8%	ICU Level of Service E
Analysis Period (min) 15	

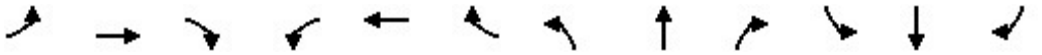
Splits and Phases: 5: Pine Tree Drive & 41st Street



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	108	1263	197	1153	174	407	341	310
v/c Ratio	0.36	0.69	0.62	0.58	0.65	0.47	0.57	0.69
Control Delay	10.8	24.9	20.1	18.6	48.5	40.1	28.4	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	24.9	20.1	18.6	48.5	40.1	28.4	55.3
Queue Length 50th (ft)	29	400	56	307	104	134	168	116
Queue Length 95th (ft)	45	494	118	375	#208	191	251	158
Internal Link Dist (ft)		279		770		468		375
Turn Bay Length (ft)	130		250		100		100	
Base Capacity (vph)	352	1822	328	1983	269	1303	604	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.69	0.60	0.58	0.65	0.31	0.56	0.31

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	17	0	0	16	20	394	1004	24	0	0	0
Future Volume (veh/h)	135	17	0	0	16	20	394	1004	24	0	0	0
Number	7	4	14	3	8	18	1	6	16			
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	0.85		1.00	1.00		0.82	1.00		0.81			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1863	0	0	1863	1900	1900	1863	1900			
Adj Flow Rate, veh/h	138	17	0	0	16	20	402	1024	24			
Adj No. of Lanes	0	1	0	0	1	0	0	3	0			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	202	19	0	0	108	135	439	1217	29			
Arrive On Green	0.16	0.16	0.00	0.00	0.16	0.16	0.32	0.32	0.32			
Sat Flow, veh/h	947	117	0	0	665	831	1385	3836	91			
Grp Volume(v), veh/h	155	0	0	0	0	36	521	448	481			
Grp Sat Flow(s),veh/h/ln	1064	0	0	0	0	1497	1794	1695	1822			
Q Serve(g_s), s	17.6	0.0	0.0	0.0	0.0	2.9	39.4	34.6	34.6			
Cycle Q Clear(g_c), s	20.5	0.0	0.0	0.0	0.0	2.9	39.4	34.6	34.6			
Prop In Lane	0.89		0.00	0.00		0.56	0.77		0.05			
Lane Grp Cap(c), veh/h	221	0	0	0	0	244	569	538	578			
V/C Ratio(X)	0.70	0.00	0.00	0.00	0.00	0.15	0.92	0.83	0.83			
Avail Cap(c_a), veh/h	230	0	0	0	0	255	1386	1310	1409			
HCM Platoon Ratio	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	0.00	0.00	0.00	1.00	1.00	1.00	1.00			
Uniform Delay (d), s/veh	59.4	0.0	0.0	0.0	0.0	50.6	46.3	44.7	44.7			
Incr Delay (d2), s/veh	8.0	0.0	0.0	0.0	0.0	0.2	21.8	14.1	13.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	0.0	0.0	1.2	23.0	18.3	19.5			
LnGrp Delay(d),s/veh	67.5	0.0	0.0	0.0	0.0	50.8	68.1	58.7	57.9			
LnGrp LOS	E					D	E	E	E			
Approach Vol, veh/h		155			36			1450				
Approach Delay, s/veh		67.5			50.8			61.8				
Approach LOS		E			D			E				

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				27.1		48.8		27.1
Change Period (Y+Rc), s				* 4.1		4.1		* 4.1
Max Green Setting (Gmax), s				* 24		109.0		* 24
Max Q Clear Time (g_c+I1), s				22.5		41.4		4.9
Green Ext Time (p_c), s				0.1		3.3		0.9

Intersection Summary	
HCM 2010 Ctrl Delay	62.1
HCM 2010 LOS	E

Notes

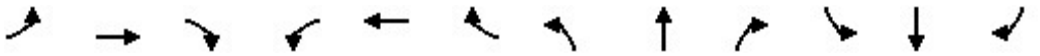
Lane Group	EBL	EBT	WBT	NBT
Lane Configurations				
Traffic Volume (vph)	135	17	16	1004
Future Volume (vph)	135	17	16	1004
Turn Type	Perm	NA	NA	NA
Protected Phases		4	8	6
Permitted Phases	4			
Detector Phase	4	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	7.0	7.0
Minimum Split (s)	27.1	27.1	27.1	23.0
Total Split (s)	28.1	28.1	28.1	113.1
Total Split (%)	19.9%	19.9%	19.9%	80.1%
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	0.1	0.1	0.1	0.1
Lost Time Adjust (s)		0.0	0.0	0.0
Total Lost Time (s)		4.1	4.1	4.1
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	None	C-Min
Act Effct Green (s)		22.5	22.5	110.5
Actuated g/C Ratio		0.16	0.16	0.78
v/c Ratio		0.79	0.13	0.41
Control Delay		83.1	27.2	5.8
Queue Delay		0.0	0.0	0.0
Total Delay		83.1	27.2	5.8
LOS		F	C	A
Approach Delay		83.1	27.2	5.8
Approach LOS		F	C	A

Intersection Summary	
Cycle Length: 141.2	
Actuated Cycle Length: 141.2	
Offset: 124 (88%), Referenced to phase 6:NBTL, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Collins Avenue & 41st Street

Lane Group	EBT	WBT	NBT
Lane Group Flow (vph)	155	36	1450
v/c Ratio	0.79	0.13	0.41
Control Delay	83.1	27.2	5.8
Queue Delay	0.0	0.0	0.0
Total Delay	83.1	27.2	5.8
Queue Length 50th (ft)	139	13	134
Queue Length 95th (ft)	208	43	203
Internal Link Dist (ft)	90	435	170
Turn Bay Length (ft)			
Base Capacity (vph)	225	311	3608
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.69	0.12	0.40

Intersection Summary

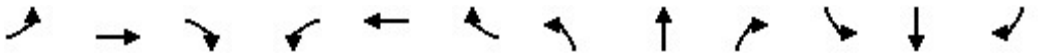


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	14	0	0	4	16	71	1400	35	0	0	0
Future Volume (Veh/h)	62	14	0	0	4	16	71	1400	35	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	65	15	0	0	4	17	75	1474	37	0	0	0
Pedestrians		65			128			38			21	
Lane Width (ft)		12.0			12.0			12.0			0.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			12			4			0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											250	
pX, platoon unblocked												
vC, conflicting volume	746	1854	103	1816	1836	659	65			1639		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	746	1854	103	1816	1836	659	65			1639		
tC, single (s)	*5.5	*6.0	6.9	7.5	6.5	*4.5	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	80	80	100	100	93	97	95			100		
cM capacity (veh/h)	331	75	843	29	59	558	1440			344		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3
Volume Total	80	21	444	737	406
Volume Left	65	0	75	0	0
Volume Right	0	17	0	0	37
cSH	202	213	1440	1700	1700
Volume to Capacity	0.40	0.10	0.05	0.43	0.24
Queue Length 95th (ft)	44	8	4	0	0
Control Delay (s)	34.0	23.8	1.7	0.0	0.0
Lane LOS	D	C	A		
Approach Delay (s)	34.0	23.8	0.5		
Approach LOS	D	C			

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

* User Entered Value



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1024	88	478	19	326	2	0	0	0	6	726	930
Future Volume (vph)	1024	88	478	19	326	2	0	0	0	6	726	930
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Lane Util. Factor	0.95	0.95	1.00		1.00						0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.87		1.00						1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00		1.00						1.00	1.00
Frt	1.00	1.00	0.85		1.00						1.00	0.85
Flt Protected	0.95	0.96	1.00		1.00						1.00	1.00
Satd. Flow (prot)	1513	1528	1244		1665						3184	1336
Flt Permitted	0.95	0.96	1.00		0.95						1.00	1.00
Satd. Flow (perm)	1513	1528	1244		1587						3184	1336
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	1056	91	493	20	336	2	0	0	0	6	748	959
RTOR Reduction (vph)	0	0	282	0	0	0	0	0	0	0	0	489
Lane Group Flow (vph)	570	577	211	0	358	0	0	0	0	0	754	470
Confl. Peds. (#/hr)	44		68	68		44	38		9	9		38
Confl. Bikes (#/hr)			2			3						5
Turn Type	Split	NA	Perm	Perm	NA					Perm	NA	Perm
Protected Phases	1	1			5						8	
Permitted Phases			1	5						8		8
Actuated Green, G (s)	37.0	37.0	37.0		40.0						27.0	27.0
Effective Green, g (s)	37.0	37.0	37.0		40.0						27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33						0.23	0.23
Clearance Time (s)	5.2	5.2	5.2		5.2						5.5	5.5
Vehicle Extension (s)	2.5	2.5	2.5		1.0						1.0	1.0
Lane Grp Cap (vph)	466	471	383		529						716	300
v/s Ratio Prot	0.38	c0.38										
v/s Ratio Perm			0.17		c0.23						0.24	c0.35
v/c Ratio	1.22	1.23	0.55		0.68						1.05	1.57
Uniform Delay, d1	41.5	41.5	34.5		34.4						46.5	46.5
Progression Factor	1.00	1.00	1.00		1.00						1.00	1.00
Incremental Delay, d2	118.4	119.0	1.4		6.8						48.5	270.8
Delay (s)	159.8	160.4	35.9		41.2						94.9	317.2
Level of Service	F	F	D		D						F	F
Approach Delay (s)		122.8			41.2			0.0			219.4	
Approach LOS		F			D			A			F	

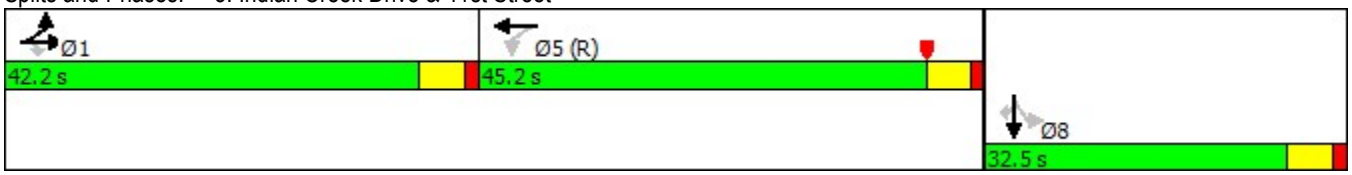
Intersection Summary			
HCM 2000 Control Delay	159.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	119.9	Sum of lost time (s)	15.9
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	1024	88	478	19	326	726	930
Future Volume (vph)	1024	88	478	19	326	726	930
Turn Type	Split	NA	Perm	Perm	NA	NA	Perm
Protected Phases	1	1			5	8	
Permitted Phases			1	5			8
Detector Phase	1	1	1	5	5	8	8
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	5.0	5.0	5.0	5.0
Minimum Split (s)	26.2	26.2	26.2	36.2	36.2	34.5	34.5
Total Split (s)	42.2	42.2	42.2	45.2	45.2	32.5	32.5
Total Split (%)	35.2%	35.2%	35.2%	37.7%	37.7%	27.1%	27.1%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.2	1.2	1.2	1.2	1.2	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	5.2	5.2	5.2		5.2	5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	Min	Min	Min	C-Max	C-Max	Min	Min
Act Effct Green (s)	37.0	37.0	37.0		40.0	27.0	27.0
Actuated g/C Ratio	0.31	0.31	0.31		0.33	0.23	0.23
v/c Ratio	1.22	1.23	0.74		0.68	1.05	1.22
Control Delay	155.1	155.6	14.7		42.0	92.9	123.5
Queue Delay	0.0	0.0	0.0		12.3	0.0	0.0
Total Delay	155.1	155.6	14.7		54.3	92.9	123.5
LOS	F	F	B		D	F	F
Approach Delay		113.1			54.3	110.1	
Approach LOS		F			D	F	

Intersection Summary	
Cycle Length: 119.9	
Actuated Cycle Length: 119.9	
Offset: 47 (39%), Referenced to phase 5:WBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 106.0	Intersection LOS: F
Intersection Capacity Utilization 102.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Indian Creek Drive & 41st Street



Lane Group	EBL	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	570	577	493	358	754	959
v/c Ratio	1.22	1.23	0.74	0.68	1.05	1.22
Control Delay	155.1	155.6	14.7	42.0	92.9	123.5
Queue Delay	0.0	0.0	0.0	12.3	0.0	0.0
Total Delay	155.1	155.6	14.7	54.3	92.9	123.5
Queue Length 50th (ft)	~570	~577	49	237	~335	~506
Queue Length 95th (ft)	#803	#812	198	349	#460	#760
Internal Link Dist (ft)		770		111	407	
Turn Bay Length (ft)	450					
Base Capacity (vph)	466	471	665	529	717	789
Starvation Cap Reductn	0	0	0	148	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.23	0.74	0.94	1.05	1.22

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	75	0	0	0	88	1141
Future Volume (Veh/h)	75	0	0	0	88	1141
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	81	0	0	0	95	1227
Pedestrians	9		8			
Lane Width (ft)	12.0		0.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						250
pX, platoon unblocked	0.82					
vC, conflicting volume	616	9			9	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	9			9	
tC, single (s)	*5.5	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	100			94	
cM capacity (veh/h)	782	1061			1596	

Direction, Lane #	WB 1	SB 1	SB 2	SB 3
Volume Total	81	340	491	491
Volume Left	81	95	0	0
Volume Right	0	0	0	0
cSH	782	1596	1700	1700
Volume to Capacity	0.10	0.06	0.29	0.29
Queue Length 95th (ft)	9	5	0	0
Control Delay (s)	10.1	2.4	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.1	0.6		
Approach LOS	B			

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	1177	76	203	1073	74	171	399	342	0	263	41
Future Volume (veh/h)	106	1177	76	203	1073	74	171	399	342	0	263	41
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)	1.00		0.94	1.00		0.94	0.99		0.96	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	0	1863	1900
Adj Flow Rate, veh/h	108	1201	78	207	1095	76	174	407	349	0	268	42
Adj No. of Lanes	1	2	0	1	2	0	1	2	1	0	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	265	1843	120	303	1908	132	272	940	504	0	559	86
Arrive On Green	0.04	0.55	0.55	0.02	0.19	0.19	0.06	0.27	0.27	0.00	0.18	0.18
Sat Flow, veh/h	1774	3359	218	1774	3342	232	1774	3539	1513	0	3159	474
Grp Volume(v), veh/h	108	632	647	207	579	592	174	407	349	0	153	157
Grp Sat Flow(s),veh/h/ln	1774	1770	1807	1774	1770	1804	1774	1770	1513	0	1770	1771
Q Serve(g_s), s	3.2	30.1	30.2	5.7	35.8	35.8	7.0	11.5	24.1	0.0	9.3	9.5
Cycle Q Clear(g_c), s	3.2	30.1	30.2	5.7	35.8	35.8	7.0	11.5	24.1	0.0	9.3	9.5
Prop In Lane	1.00		0.12	1.00		0.13	1.00		1.00	0.00		0.27
Lane Grp Cap(c), veh/h	265	971	992	303	1011	1030	272	940	504	0	323	323
V/C Ratio(X)	0.41	0.65	0.65	0.68	0.57	0.57	0.64	0.43	0.69	0.00	0.47	0.49
Avail Cap(c_a), veh/h	353	971	992	350	1011	1030	272	1298	657	0	501	502
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.09	0.09	0.09	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	19.0	19.0	18.7	35.4	35.4	40.4	36.6	35.0	0.0	43.9	44.0
Incr Delay (d2), s/veh	0.4	3.4	3.3	0.3	0.2	0.2	3.8	0.2	1.7	0.0	0.8	0.8
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	1.6	15.5	15.8	3.8	17.6	18.0	2.4	5.6	19.6	0.0	4.6	4.7
LnGrp Delay(d),s/veh	17.0	22.4	22.4	19.0	35.6	35.6	44.3	36.8	36.7	0.0	44.7	44.9
LnGrp LOS	B	C	C	B	D	D	D	D	D		D	D
Approach Vol, veh/h		1387			1378			930			310	
Approach Delay, s/veh		22.0			33.1			38.1			44.8	
Approach LOS		C			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	74.4		37.5	10.8	71.8	10.0	27.5
Change Period (Y+Rc), s	3.0	* 5.9		* 5.6	3.0	* 5.9	3.0	* 5.6
Max Green Setting (Gmax), s	11.0	* 50		* 44	11.0	* 50	7.0	* 34
Max Q Clear Time (g_c+I1), s	5.2	37.8		26.1	7.7	32.2	9.0	11.5
Green Ext Time (p_c), s	0.1	5.7		4.7	0.1	6.7	0.0	5.0

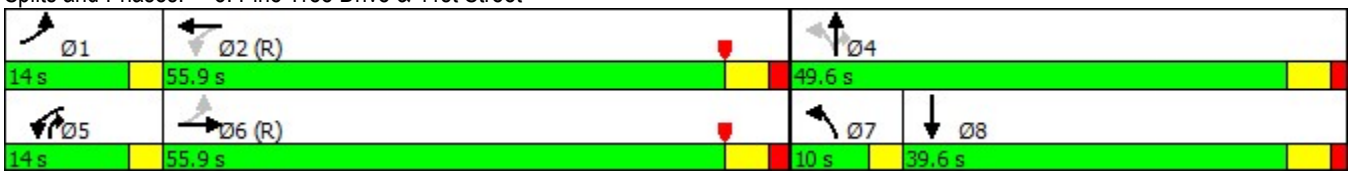
Intersection Summary		
HCM 2010 Ctrl Delay		31.3
HCM 2010 LOS		C

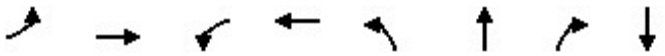
Notes

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Configurations								
Traffic Volume (vph)	106	1177	203	1073	171	399	342	263
Future Volume (vph)	106	1177	203	1073	171	399	342	263
Turn Type	pm+pt	NA	pm+pt	NA	pm+pt	NA	pm+ov	NA
Protected Phases	1	6	5	2	7	4	5	8
Permitted Phases	6		2		4		4	
Detector Phase	1	6	5	2	7	4	5	8
Switch Phase								
Minimum Initial (s)	5.0	4.0	5.0	4.0	5.0	7.0	5.0	7.0
Minimum Split (s)	9.9	43.9	9.5	43.9	9.5	33.6	9.5	33.6
Total Split (s)	14.0	55.9	14.0	55.9	10.0	49.6	14.0	39.6
Total Split (%)	11.7%	46.8%	11.7%	46.8%	8.4%	41.5%	11.7%	33.1%
Yellow Time (s)	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
All-Red Time (s)	0.0	1.9	0.0	1.9	0.0	1.6	0.0	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.0	5.9	3.0	5.9	3.0	5.6	3.0	5.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effct Green (s)	71.6	61.5	81.9	68.8	31.6	29.0	46.1	15.1
Actuated g/C Ratio	0.60	0.51	0.69	0.58	0.26	0.24	0.39	0.13
v/c Ratio	0.37	0.71	0.63	0.58	0.66	0.47	0.58	0.69
Control Delay	11.2	25.9	22.1	18.1	49.7	40.5	28.1	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	25.9	22.1	18.1	49.7	40.5	28.1	55.3
LOS	B	C	C	B	D	D	C	E
Approach Delay		24.7		18.7		37.6		55.3
Approach LOS		C		B		D		E

Intersection Summary	
Cycle Length: 119.5	
Actuated Cycle Length: 119.5	
Offset: 28 (23%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 84.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Pine Tree Drive & 41st Street





Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	108	1279	207	1171	174	407	349	310
v/c Ratio	0.37	0.71	0.63	0.58	0.66	0.47	0.58	0.69
Control Delay	11.2	25.9	22.1	18.1	49.7	40.5	28.1	55.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.2	25.9	22.1	18.1	49.7	40.5	28.1	55.3
Queue Length 50th (ft)	29	417	60	314	104	134	170	116
Queue Length 95th (ft)	45	511	133	374	#208	191	255	158
Internal Link Dist (ft)		279		770		468		375
Turn Bay Length (ft)	130		250		100		100	
Base Capacity (vph)	350	1799	332	2005	264	1303	610	994
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.71	0.62	0.58	0.66	0.31	0.57	0.31

Intersection Summary

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

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	94	0	53	347	0	61
Future Volume (Veh/h)	94	0	53	347	0	61
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	102	0	58	377	0	66
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)	191			170		
pX, platoon unblocked						
vC, conflicting volume			102		595	102
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			102		595	102
tC, single (s)			4.1		6.4	*4.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			96		100	93
cM capacity (veh/h)			1490		449	1001

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	102	435	66
Volume Left	0	58	0
Volume Right	0	0	66
cSH	1700	1490	1001
Volume to Capacity	0.06	0.04	0.07
Queue Length 95th (ft)	0	3	5
Control Delay (s)	0.0	1.3	8.9
Lane LOS		A	A
Approach Delay (s)	0.0	1.3	8.9
Approach LOS			A

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

* User Entered Value

APPENDIX H

Valet Queuing Analysis

Queuing Analysis based on ITE Procedures

q = 53 veh/hr (demand rate)*

Q = 9 veh/hr (service rate)

$$p = \frac{q}{NQ} = 0.6543 \text{ (N =9 valet runners)}$$

$$Q_M = 0.6543$$

Using Acceptable Probability of 10% (90% Confidence Level)

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

$$M = \left(\frac{Ln(0.10) - Ln(0.6543)}{Ln(0.6543)} \right) - 1$$

$$M = \left(\frac{-2.3026 - (-0.4241)}{-0.4241} \right) - 1$$

M = 4.42 – 1 = 3.42, say 3 vehicles

* Assumed 100% of inbound trips will use valet parking

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Service Rate:

The valet parking service rate was calculated by adding the time it will take a valet to park or retrieve a vehicle from parking garage (driving time), the delay time at the intersections from the parking garage to the valet station (delay time), the time to walk to/from the parking area to retrieve a vehicle inside parking garage (walking time) and the time the elevator will take to bring the car to the ground level (mechanic lift time). A processing time of 7 minutes per vehicle was use in the analysis. The driving time for the valet attendant was calculated on a conservative speed of 25 mph and the walking time for the valet attendant was calculated on a jogging speed of 6ft/sec.

Following is the calculated valet service rate:

Driving time: 2,609ft * 1mile/5280ft * 1hr/25miles * 60min/hr = 1.18 min

Delay time: 59 sec = 3.85 min

Walking time: 200ft * 1sec/6ft * 1min/60sec = 0.55 min

Lifting timing: 1 min

Total time: 1.18 min + 3.85 min + 0.55 min + 1 min = 6.58, USED = **7 min**.

Demand Rate:

Based on the assumption that 100% of all inbound vehicles will use the valet during the PM peak hour (highest volume peak), 53 inbound vehicles will have to be parked by valet staff. The inbound vehicles will be given priority over the outbound vehicles to minimize entrance delays during the peak valet period.