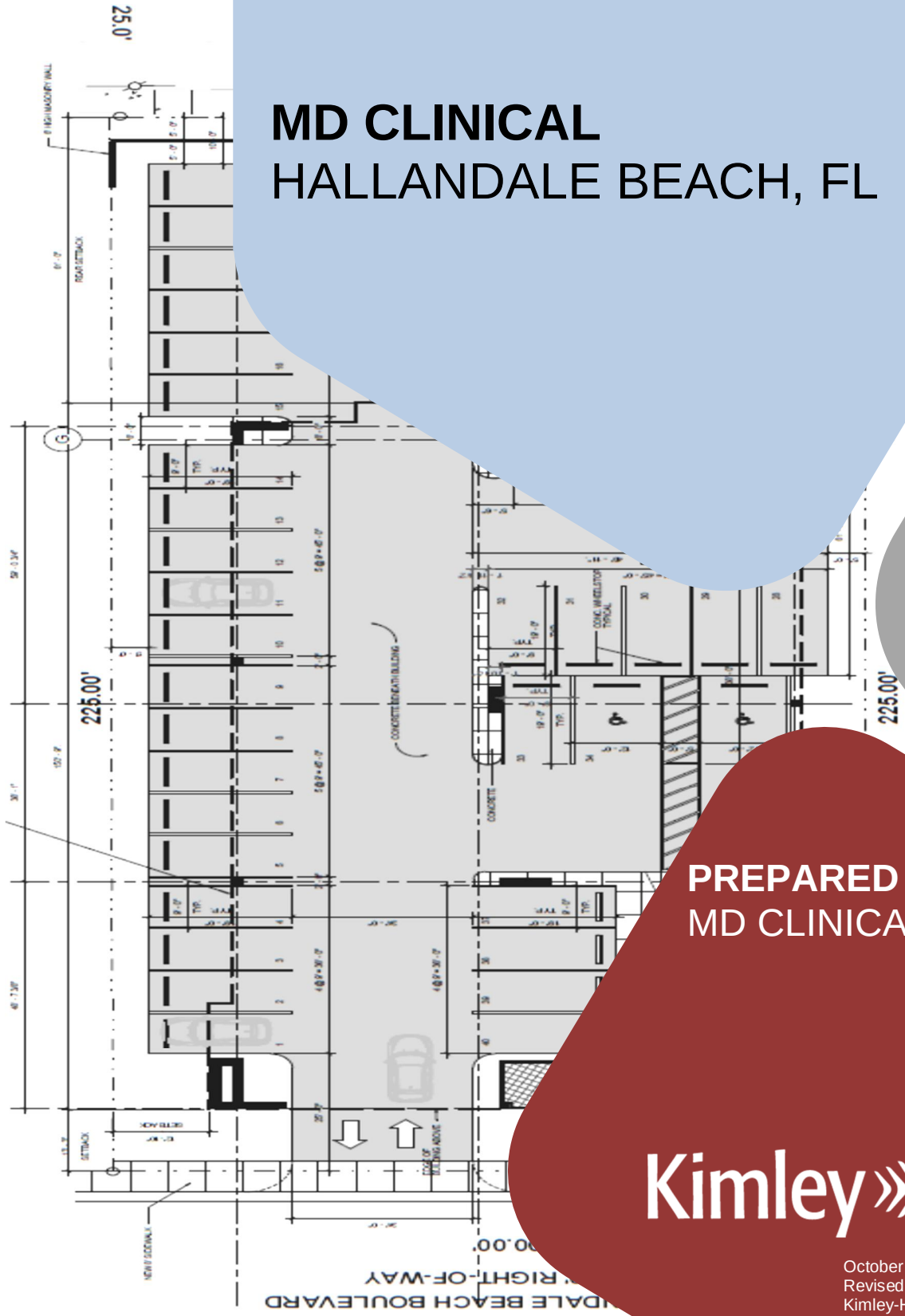
TRAFFIC IMPACT ANALYSIS

MD CLINICAL
HALLANDALE BEACH, FL



PREPARED FOR:
MD CLINICAL, INC.

Kimley»Horn

October 2014
Revised December 2014
Kimley-Horn Project # 144943000
CA 00000696
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33411
561/845-0665 TEL

TRAFFIC IMPACT ANALYSIS

MD CLINICAL

HALLANDALE BEACH, FL

Prepared by:
Kimley-Horn and Associates, Inc.
West Palm Beach, Florida

Kimley»Horn

October 2014
Revised December 2014
Kimley-Horn #144943000
CA 00000696
Kimley-Horn and Associates, Inc.
1920 Wekiva Way
West Palm Beach, Florida 33407
561/845-0665 TEL

Christopher W. Heggen, P.E.
Florida Registration Number 58636

TABLE OF CONTENTS

INTRODUCTION 1

STUDY REQUIREMENTS 2

DATA COLLECTION.....5

PROJECT TRAFFIC 6

Existing and Proposed Land Uses.....6

Trip Generation 6

Traffic Distribution.....7

Traffic Assignment.....7

VOLUME DEVELOPMENT.....9

Existing Traffic.....9

Future Traffic.....9

LINK ANALYSIS 10

INTERSECTION CAPACITY ANALYSIS 12

VEHICLE CIRCULATION AND QUEUING.....14

CONCLUSION.....16

APPENDIX A: SITE PLAN

APPENDIX B: TURNING MOVEMENT COUNTS, FDOT PEAK SEASON FACTORS AND GROWTH CALCULATIONS

APPENDIX C: VOLUME DEVELOPMENT

APPENDIX D: SYNCHRO WORKSHEETS

LIST OF TABLES

Table 1 Trip Generation 6
Table 2 Link Analysis 11
Table 3 Existing (2013) Intersection Summary 12
Table 4 Background (2016) Intersection Summary.....12
Table 5 Future Total (2016) Intersection Summary 13

LIST OF FIGURES

Figure 1: Site Location 4
Figure 2: Trip Assignment 8
Figure 3: Driveway Volumes 15

INTRODUCTION

It is proposed to develop 12,245 square feet of medical office uses on the south side of Hallandale Beach Boulevard, just west of SW 6th Avenue in the City of Hallandale Beach, Florida. Figure 1 illustrates the location of the proposed medical office.

Kimley-Horn and Associates, Inc. has prepared this traffic impact analysis for submittal to the City of Hallandale Beach. The purposed of the study is to assess the project's impact on the surrounding roadway network and determine if adequate capacity is available to support future traffic volumes. This report summarizes the data collection, project trip generation and distribution, and capacity analyses.

STUDY REQUIREMENTS

The City of Hallandale Beach Development Review Procedures – Impact Evaluation submission requirements are defined in City Code Section 32-788(g) as follows:

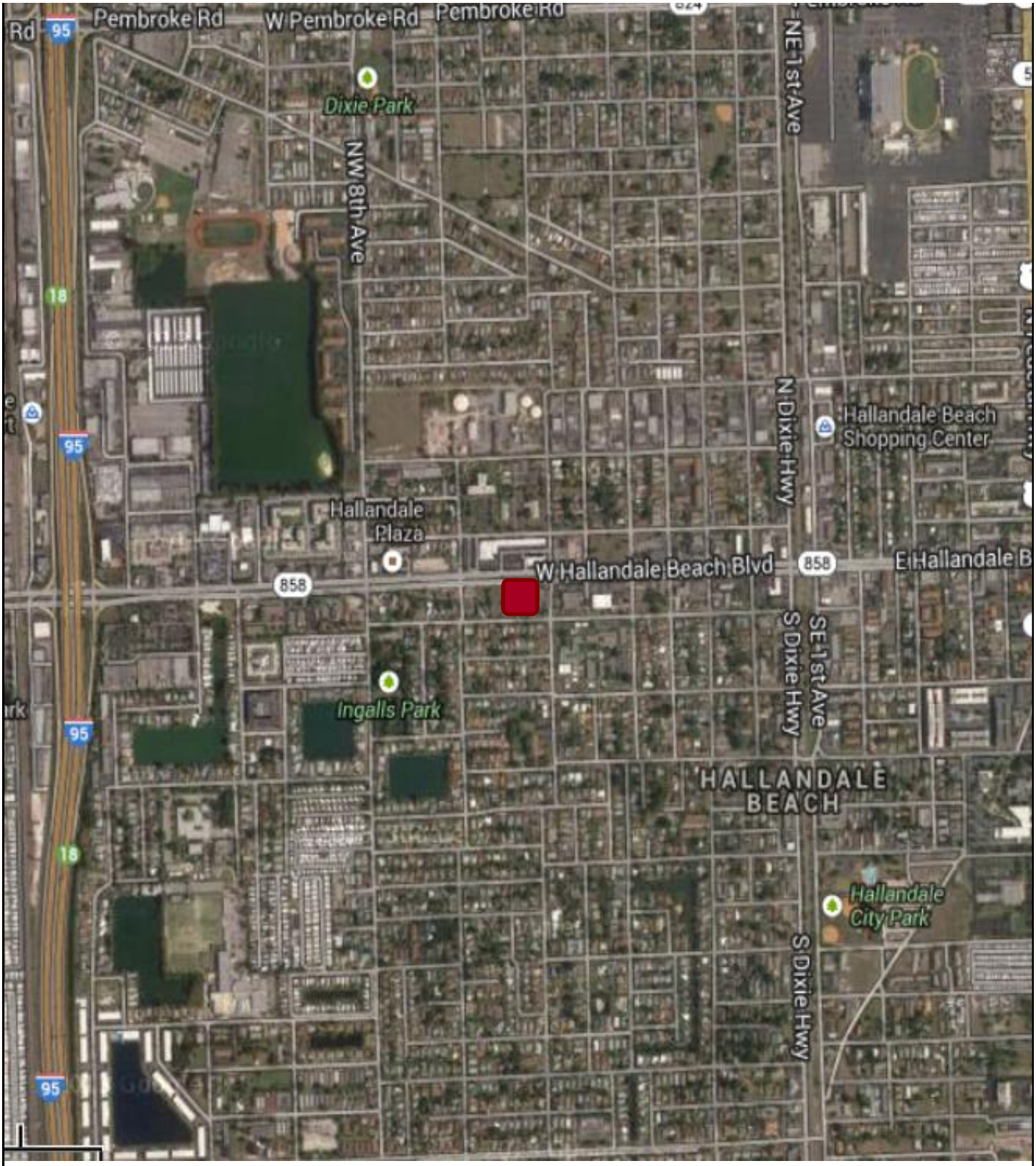
> *(g) Traffic. A description of vehicular traffic to be generated by the proposed development and its impact on both an average daily and peak hour basis as related to both current roadway usage, projected roadway usage, and design capacities at:*
>
> > *(1) Vehicular access points to the site; and*
> >
> > *(2) Street intersections within a 1,000-foot radius of the site;*
>
> *is required. Measures that will be taken by the developer to reduce any adverse traffic impact generated by the development on or off the site shall be indicated, including such improvements as additional rights-of-way dedications, improved traffic signalization, and acceleration or deceleration lanes.*

The Transportation Element of the City's Comprehensive Plan lists the following study parameters as Policy 1.3.7:

> ***Policy 1.3.7****: Development applications located within the boundaries of the City's urban infill or redevelopment area shall indicate traffic impacts to the local, state and Intrastate Highway system. The study will address over capacity roadway links and intersections within the City within one (1) mile of the subject site where impact exceeds de minimis levels. Although the study will be required to address improvements to over capacity links and/or intersections, the study shall not be limited by this approach. The study shall analyze alternatives or techniques to minimize traffic impacts on the Hallandale Beach roadway network. These techniques shall include but not be limited to Transportation Demand Management applications, Transportation Systems Management approaches and improving multi-modal access. For projects generating in total less than 100 average net daily trips per day, a traffic statement may be provided assessing conditions within 1,000 feet of the subject site, unless otherwise required by the City.*

The parameters described in the City Code and Comprehensive Plan differ from each other. For this analysis, roadway segments within one mile of the site were evaluated. As shown in that analysis, project traffic comprises well below 1% of the adopted service volume on any roadway segment and is therefore not anticipated to generate a significant impact at any of the

intersections within the study area. Nevertheless, the impacts have been evaluated at the three adjacent intersections that will be most impacted by project traffic: NW/SW 6th Avenue & Hallandale Beach Boulevard, NW/SW 7th Avenue & Hallandale Beach Boulevard and NW/SW 8th Avenue & Hallandale Beach Boulevard. This is consistent with the scope of the study undertaken for the adjacent 7th Avenue Village project, which generated 799 daily trips and 69 PM peak hour trips.



NORTH

LEGEND

SITE

FIGURE 1
SITE LOCATION
MD CLINICAL

Kimley»Horn

DATA COLLECTION

To conduct the traffic evaluations, traffic volume data was gathered on the adjacent roadway network. For the roadway link analysis, peak hour roadway count data published by the Broward County Metropolitan Planning Organization was utilized. For the intersection analyses, intersection turning movement counts were collected during the a.m. (7:00 a.m. to 9:00 a.m.) and p.m. peak period (4:00 p.m. to 6:00 p.m.) at the following intersections:

- Hallandale Beach Boulevard & NW/SW 8th Avenue
- Hallandale Beach Boulevard & NW/SW 7th Avenue
- Hallandale Beach Boulevard & NW/SW 6th Avenue

The turning movement counts were conducted during typical weekday conditions on July 23, 2013.

The volumes were collected in 15-minute intervals and the peak hour was determined for each intersection. The FDOT peak season conversion factor was applied to the traffic counts to adjust the traffic to peak season volumes. The turning movement counts and FDOT peak season factor category report are included in Appendix A.

PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the project, and the distribution and assignment of that traffic over the study roadway network.

Existing and Proposed Land Uses

The project site is currently vacant. It is proposed to develop the site with 12,245 square feet of medical office uses.

Trip Generation

The trip generation potential for amendment site was calculated using equations published by the Institute of Transportation Engineers (ITE) in *Trip Generation, Ninth Edition*. Table 1 summarizes the weekday trip generation potential.

TABLE 1
MD CLINICAL
TRIP GENERATION

Land Use	Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Proposed Development									
Medical Office	12,245	s.f.	442	29	23	6	44	12	32
Net New External Trips			*442*	*29*	*23*	*6*	*44*	*12*	*32*

Note: Trip generation was calculated using the following data obtained from Institute of Transportation Engineers:

Daily Traffic Generation
- Medical Office [ITE 720] = 36.13 trips / 1,000 SF

AM Peak Hour Traffic Generation
- Medical Office [ITE 720] = 2.39 trips / 1,000 SF; (79% in, 21% out)

PM Peak Hour Traffic Generation
- Medical Office [ITE 720] = Ln(T) = 0.90 Ln(X) + 1.53; (28% in, 72% out)

Pass-by
- Medical Office [ITE 720] = 10%

k:\wpb_tpto\1449\144943000 md clinical\[10-14-14-tripgen.xlsx]tgen *12/23/2014*

Traffic Distribution

Traffic distribution is the pairing of trip ends from the subject site with other land uses in the area. These trips were assigned to the surrounding roadways based upon a review of the roadway network proposed to be in place at the time of buildout and its travel time characteristics.

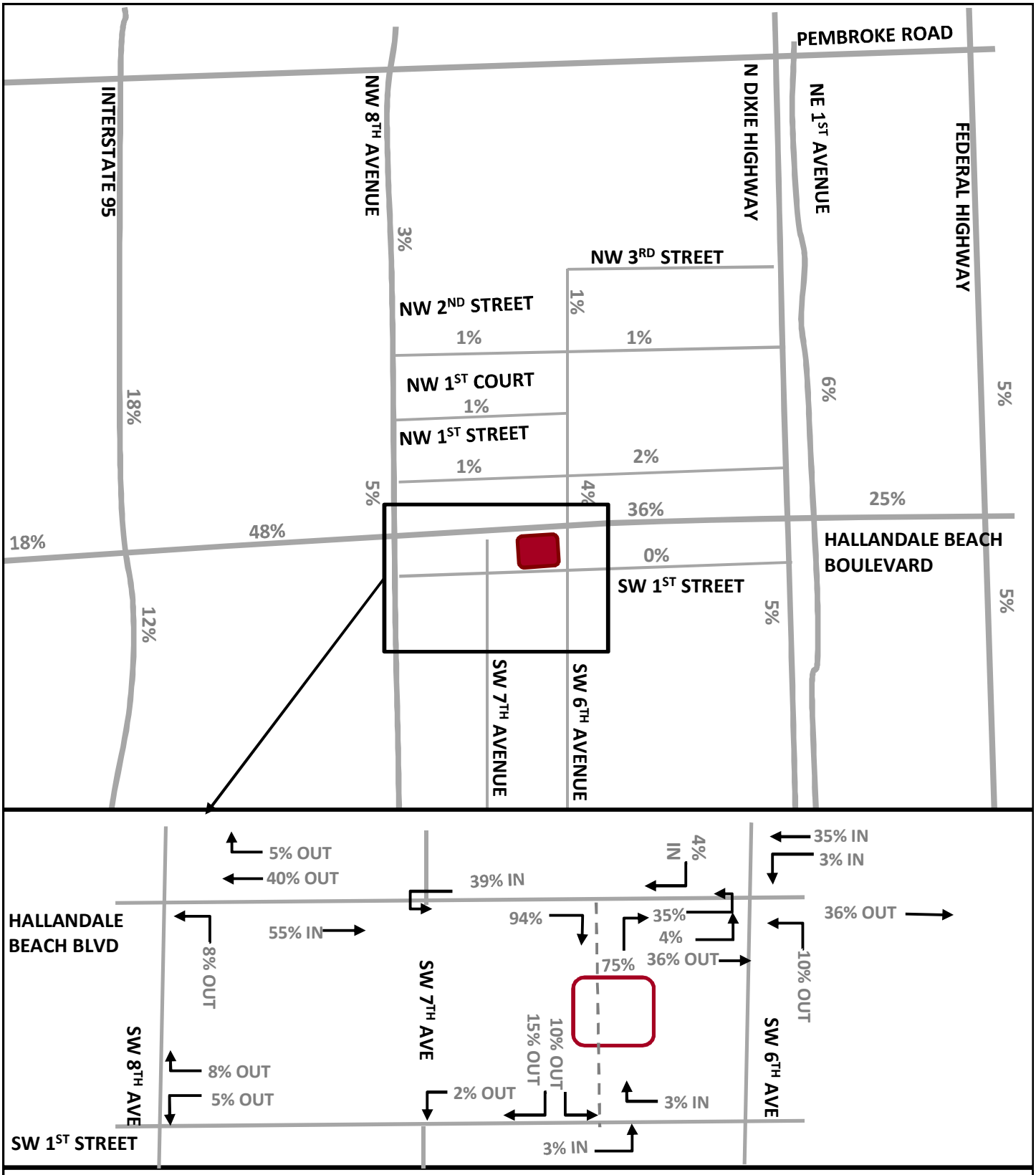
The distribution according to cardinal directions is:

NORTH	-	15 percent
SOUTH	-	25 percent
EAST	-	17 percent
WEST	-	43 percent

Traffic Assignment

The site traffic was assigned to the surrounding roadway network according to the trip distribution described above. The traffic assignment assumes that most inbound traffic will approach the site from traveling eastbound or westbound on W Hallandale Beach Boulevard and most outbound traffic will depart the site by traveling eastbound or westbound on W Hallandale Beach Boulevard.

Figure 2 illustrates the project traffic assignment percentages.



LEGEND

SITE

FIGURE 2
TRIP ASSIGNMENT
MD CLINICAL

Kimley»Horn

VOLUME DEVELOPMENT

Existing Traffic

A review was conducted of the Five-Year Plans of Broward County and the FDOT, as well as those improvements committed by the developers of projects in the area. No major projects were identified for roadways within the study area.

Future Traffic

Future traffic conditions are defined as the expected traffic conditions in the year 2016 after project trips have been applied to the roadway network. Total traffic volumes considered in the analysis for this project are the sum of the 2016 background traffic volumes and the expected project traffic volumes. Background traffic volumes are the sum of the existing traffic and an additional amount of traffic to account for potential growth in the study area. A nominal growth rate of 0.5% was applied to the existing traffic before project traffic was applied to the intersections. The committed trips associated with the 7th Avenue Village project were also added to the roadway network. Volume development worksheets for the study intersections are included in Appendix B.

LINK ANALYSIS

Existing AM and PM peak period traffic count data was collected from Broward County MPO for the major roadway links and intersections impacted by the proposed development. The background traffic was calculated from peak season factors and historical annual growth rates based on historical traffic data. The analysis is evaluated for year 2016 traffic conditions. The new external project traffic was assigned to all the major roadway links within the radius of development influence. For this analysis, the links on which the project traffic impact is greater than 1% of the level of service (LOS) D generalized service volume were considered significantly impacted links. As summarized in Table 2, none of the roadway links are considered significantly impacted using these criteria.

TABLE 2
MD CLINICAL
PM TWO-WAY PEAK HOUR SIGNIFICANCE CALCULATIONS (2016)

Roadway From	Roadway To	Roadway Class	Existing Lanes	Existing LOS D* Service Volume	Committed Lanes	Committed LOS D* Service Volume	2009 Base Peak Hour Volume		Growth Rate (1)	2016 Background Growth (from growth rate)	2016 Background Traffic	PM Peak Hour Project Traffic % Assignment	Trips	% Impact	Significant Impact?	2016 Peak Hour Volume With Proposed Project	
PM TWO-WAY PEAK HOUR																	
							Volume	LOS								Volume	LOS
Federal Highway																	
Pembroke Road	Hallandale Beach Blvd	Class I	4LD	3,580	4LD	3,580	2,840	C	1.90%	400	3,240	5%	2	0.06%	No	3,242	D
Hallandale Beach Blvd	South of Hallandale Beach Blvd	Class I	6LD	5,390	6LD	5,390	4,550	C	1.90%	641	5,191	5%	2	0.04%	No	5,193	E
Dixie Highway																	
Hallandale Beach Blvd	Countyline Rd	Class II	3LO	2,700	3LO	2,700	410	C	3.40%	108	518	5%	2	0.07%	No	520	D
E 1st Ave										0							
Pembroke Road	Hallandale Beach Blvd	Class II	2LO	1,752	2LO	1,752	370	C	3.10%	88	458	6%	3	0.17%	No	461	D
I-95																	
North of Hallandale Beach Blvd	Hallandale Beach Blvd	Uninterrupted	10LX	16,840	10LX	16,840	20,070	F	0.50%	713	20,783	18%	8	0.05%	No	20,791	F
Hallandale Beach Blvd	South of Hallandale Beach Blvd	Uninterrupted	10LX	16,840	10LX	16,840	19,720	F	0.50%	701	20,421	12%	5	0.03%	No	20,426	F
Park Lane										0							
Pembroke Road	Hallandale Beach Blvd	Class II	2LU	1,330	2LU	1,330	660	D	0.50%	23	683	1%	0	0.00%	No	683	D
NW 8th Avenue																	
Washington St	Pembroke Road	Class II	2LU	1,330	2LU	1,330	620	D	0.50%	22	642	1%	0	0.00%	No	642	D
Pembroke Road	Hallandale Beach Blvd	Class II	2LU	1,330	2LU	1,330	620	D	0.50%	22	642	5%	2	0.15%	No	644	D
Hallandale Beach Blvd	Countyline Road	Class II	2LU	1,330	2LU	1,330	760	D	0.50%	27	787	5%	2	0.15%	No	789	D
Hallandale Beach Boulevard																	
SW 40th Ave	Park Ln	Class I	6LD	5,390	6LD	5,390	2,520	C	0.70%	126	2,646	12%	5	0.09%	No	2,651	C
Park Ln	I-95	Class I	6LD	5,390	6LD	5,390	3,830	C	0.70%	192	4,022	13%	6	0.11%	No	4,028	C
I-95	NW 8th Ave	Class I	6LD	5,390	6LD	5,390	5,510	F	1.50%	605	6,115	43%	19	0.35%	No	6,134	F
NW 8th Ave	Project Driveway	Class I	6LD	5,390	6LD	5,390	5,510	F	1.50%	605	6,115	48%	21	0.39%	No	6,136	F
Project Driveway	Dixie Highway	Class I	6LD	5,390	6LD	5,390	5,510	F	1.50%	605	6,115	40%	18	0.33%	No	6,133	F
Dixie Highway	E 1st Ave	Class I	5L	3,580	5L	3,580	3,740	F	1.50%	411	4,151	31%	14	0.39%	No	4,165	F
E 1st Ave	Federal Highway	Class I	6LD	3,580	6LD	3,580	3,740	F	1.50%	411	4,151	25%	11	0.31%	No	4,162	F
Federal Highway	NE 14th Ave	Class I	4LD	3,580	4LD	3,580	4,190	F	1.50%	460	4,650	15%	7	0.20%	No	4,657	F

* LOS D Capacity is based FDOT 2013 generalized LOS D standards for two-way peak hour roadways

(1) Growth Rates based on historical data provided by Broward County MPO; a minimum of 0.5% growth was used for all links

INTERSECTION CAPACITY ANALYSIS

The operating conditions for three (existing, background and future total conditions) were analyzed using Trafficware's SYNCHRO 8.0 Software, which applies methodologies outlined in *the Highway Capacity Manual, 2000 Edition.*

Tables 3, 4 and 5 summarize the existing, background and future total conditions, respectively. As shown in these tables, all of the study intersections operate at level of service (LOS) D or better through buildout of the project.

TABLE 3
2013 Existing Traffic Conditions

Intersection	Traffic Control	Overall Delay/LOS	Approach LOS			
			NB	SB	EB	WB
AM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	27.0 C	D	C	C	C
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	B	B		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	16.6 B	D	D	B	B
PM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	35.1 D	D	C	C	D
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	D	C		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	13.2 B	D	D	B	B

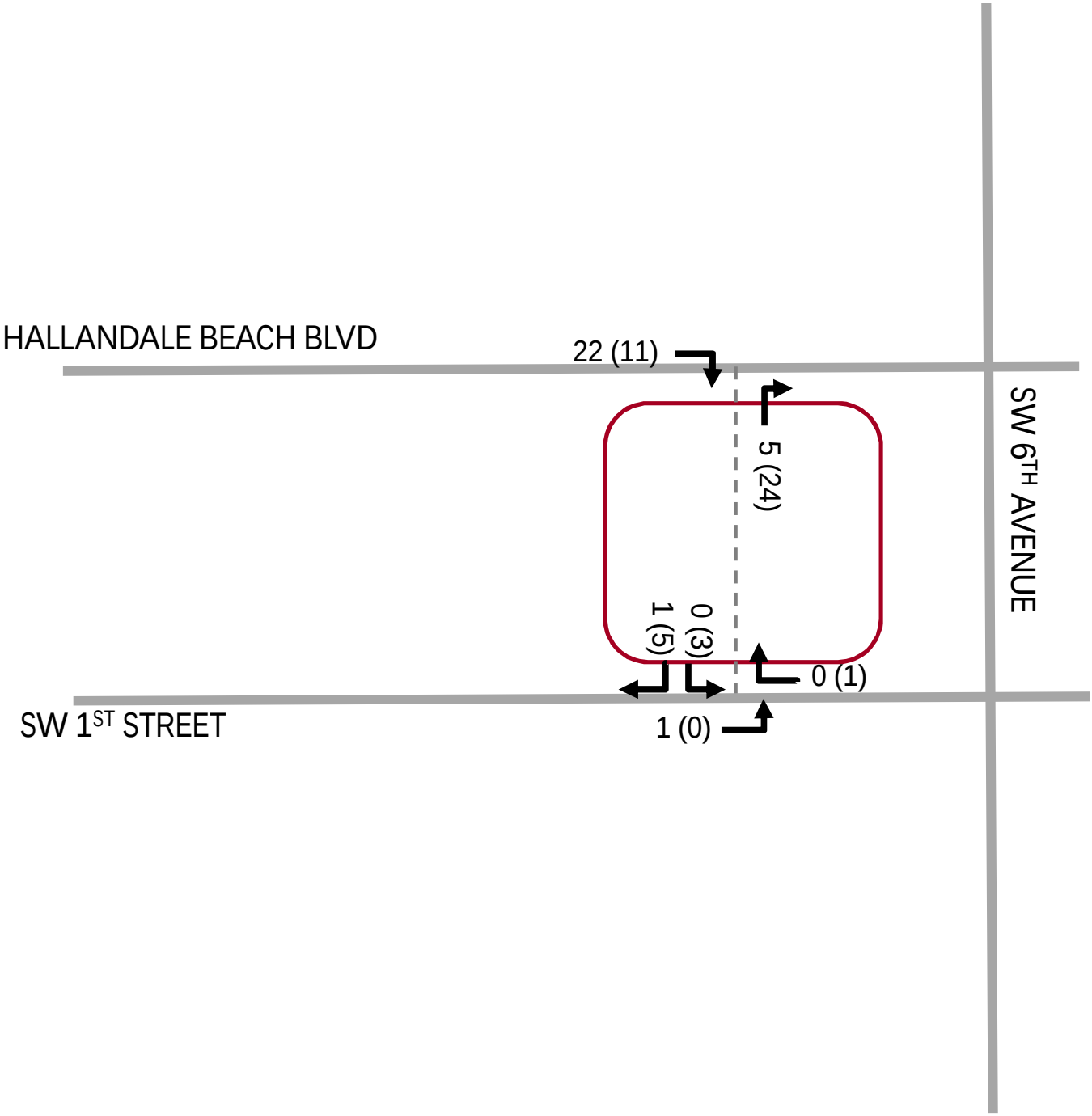
TABLE 4
2016 Background Conditions Without Project Traffic

Intersection	Traffic Control	Overall Delay/LOS	Approach LOS			
			NB	SB	EB	WB
AM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	27.5 C	D	C	C	C
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	B	C		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	16.9 B	D	D	B	B
PM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	36.5 D	D	C	C	D
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	D	C		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	13.4 B	D	D	B	B

TABLE 5 2016 Future Conditions With Project Traffic						
Intersection	Traffic Control	Overall Delay/LOS	Approach LOS			
			NB	SB	EB	WB
AM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	27.5 C	D	C	C	C
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	B	C		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	17.0 B	D	D	B	B
PM Peak Hour						
Hallandale Beach Boulevard & NW/SW 8th Avenue	Signalized	29.6 C	D	C	C	C
Hallandale Beach Boulevard & NW/SW 7th Avenue	Unsignalized	N/A	D	C		
Hallandale Beach Boulevard & NW/SW 6th Avenue	Signalized	20 C	C	C	B	C

VEHICLE CIRCULATION AND QUEUING

Access to the project site is provided via one right-in/right-out driveway on Hallandale Beach Boulevard and one full-access driveway on SW 1st Street. The FDOT Driveway Handbook was used to determine whether dedicated right-turn lanes were needed at the driveways. For a posted speed limit of 40 mph, FDOT recommends an exclusive right-turn lane for 80 – 125 peak hour right turns. Using this threshold, no turn lanes are recommended at either of the site's driveways. Figure 3 illustrates the proposed volumes at the site's driveways.



LEGEND

▢	SITE
XX	AM PEAK HOUR PROJECT TRAFFIC
(XX)	PM PEAK HOUR PROJEC TRAFFIC

FIGURE 3
DRIVEWAY VOLUMES
MD CLINICAL

Kimley»Horn

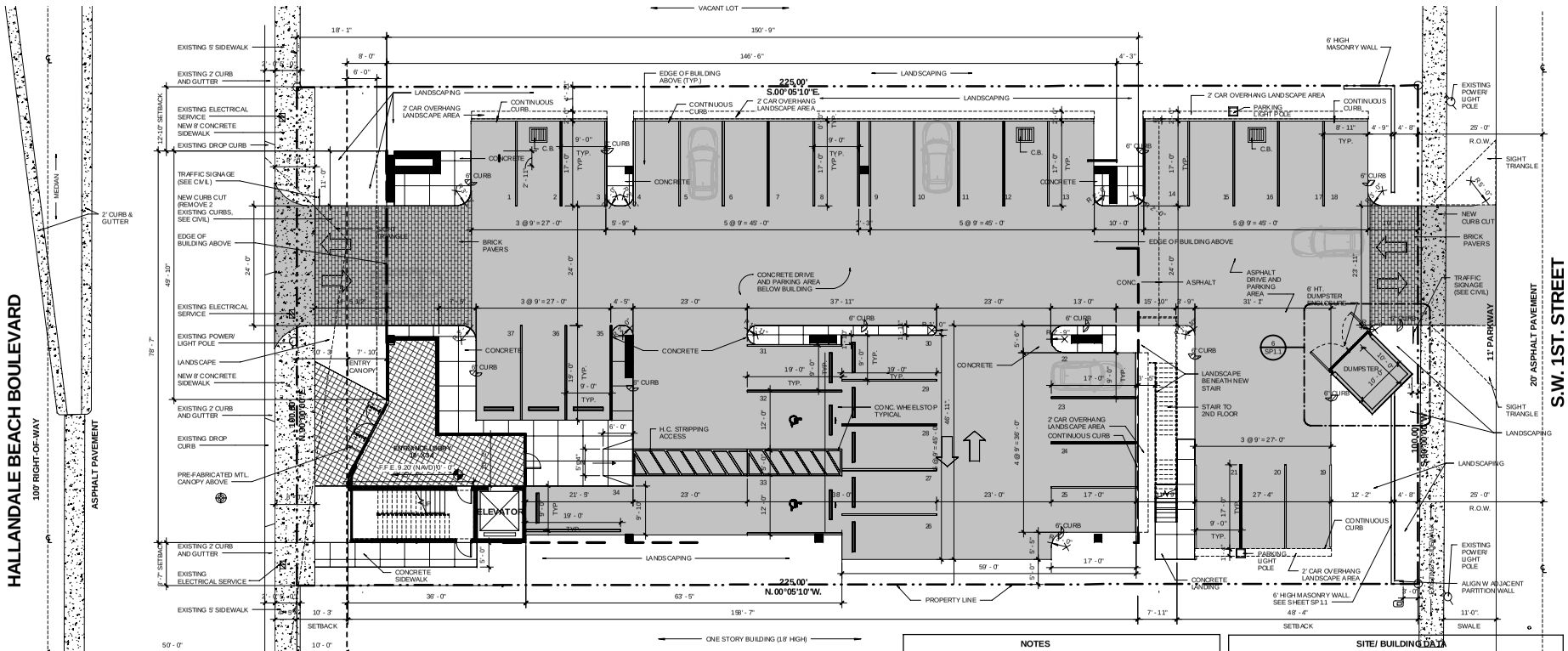
CONCLUSION

It is proposed to develop 12,245 square feet of medical office uses on the south side of Hallandale Beach Boulevard, just west of SW 6th Avenue, in the City of Hallandale Beach Florida.

The roadway link analysis conducted indicated that the project traffic accounts for less than 1% of the adopted level of service (LOS) D volumes for the surrounding roadway links. Therefore the impact of the project traffic on the surrounding links is not significant.

The intersection analyses conducted indicated that the study intersections will operate at LOS D or better in the future. Based upon the roadway link and intersection analyses, the proposed project therefore will not adversely impact the adjacent roadway system in the vicinity of the site.

APPENDIX A: SITE PLAN



1 SP1.0 SITE PLAN (INCLUDING FIRST FLOOR)
1" = 10'-0"

ELEVATION USES:
NAVD 1988

N

Building Division DRC Review Worksheet

Project Name: MD Clinical Location: 633 W. Hallandale Beach Blvd

Purpose

The Building Division's role on the Development Review Committee (DRC) is to identify any building code regulation that may govern or prevent the sitting of a project on the property for development purposed. This review is not intended to be a full building code review of the building components.

The Building Division DRC review consists of identifying regulations in the building code and related construction laws that would somehow limit the development based on proposed design. The checklist below identifies primary regulations used in this initial determination.

Should the applicant wish to obtain a preliminary building code review from all trades, a "dry-run" process can be requested as a separate process through the Building Division at a fee. However, this type of review is only valid to receive code review comments based on the level of completion of the plans submitted and cannot be converted into a permit.

CATEGORY	COMMENT	REFERENCE
Proposed Building Use	Business Medical Clinic	FBC Section 302
Main Occupancy Classification	Group: B	FBC Section 303-313
Type of Construction Req.	IIIB	FBC Section 602
Fire Sprinklered Building Req.	No If sprinkl. % of opening change	Building is going to be Sprinklered
Maximum Floor Area Allowed	Per Story: 19000	FBC Section 503
Area Modification Applied?	No	FBC Section 506
Maximum Building Hgt. Allowed	# Stories: 3 Height: 55 FT.	FBC Section 503
Building Setbacks Proposed	Front: N 10' Side: E13' Side: W8'7 Rear: S48'	
Exterior Wall Fire Rating Req.	2 Hours (If type II ext wall 1 hr).	FBC Table 602
Exterior Wall Opening Allowed	10 % West wall - 15% East wall	FBC Table 705.8
Flood Zone Designation	X Elevation: NAVD	Flood Maps
Design Flood Elevation Required		FBC 1612, ASCE 7-24
Coastal Construction Applies?	No	City Ord. 8-75(b)(3)
Construction Seaward of CCCL	No	FBC Section 3109
Structure Seaward of CCCL Ord.	No	City Ord. 8-75(b)(3)
Florida DEP Approval Required?	No	FS 161.041
Fair Housing Applies?	No	FBC Accessibility

Review Conducted by: RHA Date: 11/26/2014

NOTES

- ADA NOTES:
1. ACCESSIBLE ROUTE SLOPE SHALL NOT EXCEED 1:20 SLOPE.
2. CROSS SLOPES AT ACCESSIBLE ROUTE NOT TO EXCEED 1:50 SIDE SLOPE
3. CURB RAMPS NOT TO EXCEED 1:12 SLOPE
4. HC PARKING SPACES AND ACCESS ISLE SHALL NOT EXCEED 1:50 SLOPE

- SEE CIVIL ENGINEERS DWGS FOR PAVING, DRAINAGE, TRAFFIC AND FINISH FLOOR ELEVATIONS

- SEE LANDSCAPE DRAWINGS FOR LANDSCAPE DESIGN AND SPECS

- PARKING AREAS BENEATH THE BUILDING SHALL BE OF CONCRETE

LEGAL DESCRIPTION

LOT 5 AND 6, LESS THE NORTH 25.00 FEET AND LOTS 21 AND 22,
BLOCK 1, "BENNETT-PIPES FIRST ADDITION TO TOWN OF HALLANDALE", ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 18, PAGE 5, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

FLOOD ZONE X
MAP DATE 10/02/97
MAP NUMBER 12511003 18F

PARKING REDUCTION REQUEST

(*) REQUEST FOR REDUCTION OF PARKING SPACES PER SEC. 32-455 (C)(1) - PER MEETING WITH CITY MANAGER AND STAFF - UP TO 25% REDUCTION.

SITE/ BUILDING DATA

REFERENCED CODES:
FLORIDA BUILDING CODE 2010
FLORIDA FIRE PREVENTION CODE, NFPA 101

SCOPE OF WORK:
NEW TWO STORY MEDICAL OFFICE BUILDING WITH PARKING ON THE GROUND LEVEL AND OFFICES ON THE SECOND LEVEL.

ZONING: - B-G BUSINESS GENERAL DISTRICT
- PRD PLANNED REDEVELOPMENT OVERLAY DISTRICT

SITE INFO

UTILITY : FP&L
WATER AND SEWER : CITY OF HALLANDALE BEACH

CONSTRUCTION TYPE: IIIB - GROUP "B"

AREAS:

TOTAL SITE AREA:	22,500 S.F.	0.52 ACRES	100%
PERVIOUS AREA:	4,460 S.F.	0.12 ACRES	20% >15% REQUIRED
IMPERVIOUS AREA:	18,040 S.F.	0.38 ACRES	80%
BUILDING	968 S.F	0.02 ACRES	4%

BUILDING COVERAGE: 11,258 SF = 50%

SETBACKS:

	REQUIRED	PROVIDED
FRONT	MAXIMUM 15'-0"	10'-2"
INTERIOR SIDE YARDS	0'-0"	12'-10" EAST SIDE / 8'-7" WEST SIDE
REAR YARD	25'-0"	48'-4"

MAXIMUM BUILDING HEIGHT: 100'-0" PROVIDED: 40'-7"

BUILDING AREAS

STORIES: 2

FIRST FLOOR: 968 S.F. (ENTRY AND CIRCULATION)
SECOND FLOOR: 11,277 S.F. (MEDICAL OFFICE BUSINESS)
* **TOTAL BUILDING AREA: 12,245 S.F.**

PRESENT (ORDINANCE) PARKING REQUIREMENT
12,245 S.F. (GROSS) / 250 = 49 SPACES

REDUCTION REQUEST 49 - 25% = 37 SPACES
PROVIDED 37 SPACES

PARKING REQUIRED USING SQUARE FOOTAGE BASED ON THE GROSS AREA MINUS THE NET OF THE FIRST FLOOR 945 S.F. WHICH IS UTILIZED FOR ENTRY LOBBY AND VERTICAL CIRCULATION ONLY.

11,277 S.F. / 250 = 45 SPACES

REDUCTION REQUEST 45 - 8 (REQUIRED REDUCTION) = 18%
PROVIDED 37 SPACES
*
PROPOSED (CITY ORDINANCE REVISION) PARKING REQUIRED
12,245 S.F. / 300 = 41 SPACES

REDUCTION REQUEST 41 - 4 (REQUIRED REDUCTION) = 10 %
PROVIDED 37 SPACES

IN ALL ABOVE CASES PARKING PROVIDED FOR PROJECT IS 40 SPACES (WHICH INCLUDES TWO (2) A.D.A. SPACES)

STANDARD SPACES 9' X 19' OR 9' X 17' WITH 2' CAR OVERHANG
A.D.A. SPACES 12' X 19'

MD CLINICAL
MEDICAL OFFICE BUILDING

633 W HALLANDALE BEACH BLVD
HALLANDALE BEACH, FL

SALTZ MICHELSON
ARCHITECTS

3501 Griffin Road
Ft. Lauderdale, FL 33312
(954) 266-2700 Fx:(954) 266-2701
sma@saltzmichelson.com

AA-0002897

Charles Michelson AR 0009976

Project No. : 2014-157
Drawn By : AB, AA
Checked By : NS
Date: 10-22-2014

REVISIONS

1 12-12-14 REVISION RESPONSE TO CITY DRC COMMENTS

12/8/2014 3:36:07 PM C:\Users\smsma\Documents\Revit Local\2014-157 MD CLINICAL\2014-157 Medical Office Building_LOCAL\2014-14_central.rvt

SP1.0

APPENDIX B: TURNING MOVEMENT COUNTS, FDOT PEAK SEASON FACTORS AND GROWTH CALCULATIONS

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 8TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: M CRUZ & L PALOMINO
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA8AVE
Page : 1

ALL VEHICLES

	NW 8TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 8TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
07:00	0	3	8	33	3	10	203	1	0	51	4	4	6	24	198	44	592
07:15	0	8	24	24	0	9	223	0	0	80	13	3	9	21	232	32	678
07:30	0	4	35	15	0	14	289	1	0	68	20	3	5	29	354	58	895
07:45	0	8	36	22	1	18	303	2	0	76	33	1	7	38	337	51	933
Hr Total	0	23	103	94	4	51	1018	4	0	275	70	11	27	112	1121	185	3098
08:00	0	10	28	28	0	5	379	2	0	86	29	8	7	24	346	44	996
08:15	0	16	13	15	0	14	384	1	0	58	14	13	10	30	459	57	1084
08:30	0	17	34	24	1	9	377	0	0	74	10	8	6	18	440	49	1067
08:45	0	20	31	29	0	5	366	4	0	65	14	7	9	20	457	57	1084
Hr Total	0	63	106	96	1	33	1506	7	0	283	67	36	32	92	1702	207	4231
* BREAK *																	
16:00	0	7	8	17	8	10	457	9	0	61	20	8	7	21	391	45	1069
16:15	0	10	12	27	3	11	430	4	0	60	17	8	5	21	390	46	1044
16:30	0	14	12	18	4	3	423	10	0	75	26	1	6	21	354	46	1013
16:45	0	10	31	18	4	18	415	12	0	73	24	3	6	34	428	59	1135
Hr Total	0	41	63	80	19	42	1725	35	0	269	87	20	24	97	1563	196	4261
17:00	0	21	18	42	6	10	390	8	0	98	21	3	5	37	359	48	1066
17:15	0	13	18	21	4	10	423	12	0	110	37	5	2	37	437	65	1194
17:30	0	14	20	34	1	9	430	7	0	75	15	11	6	39	433	70	1164
17:45	0	18	28	29	5	13	396	6	0	91	20	10	5	26	372	56	1075
Hr Total	0	66	84	126	16	42	1639	33	0	374	93	29	18	139	1601	239	4499
TOTAL	0	193	356	396	40	168	5888	79	0	1201	317	96	101	440	5987	827	16089

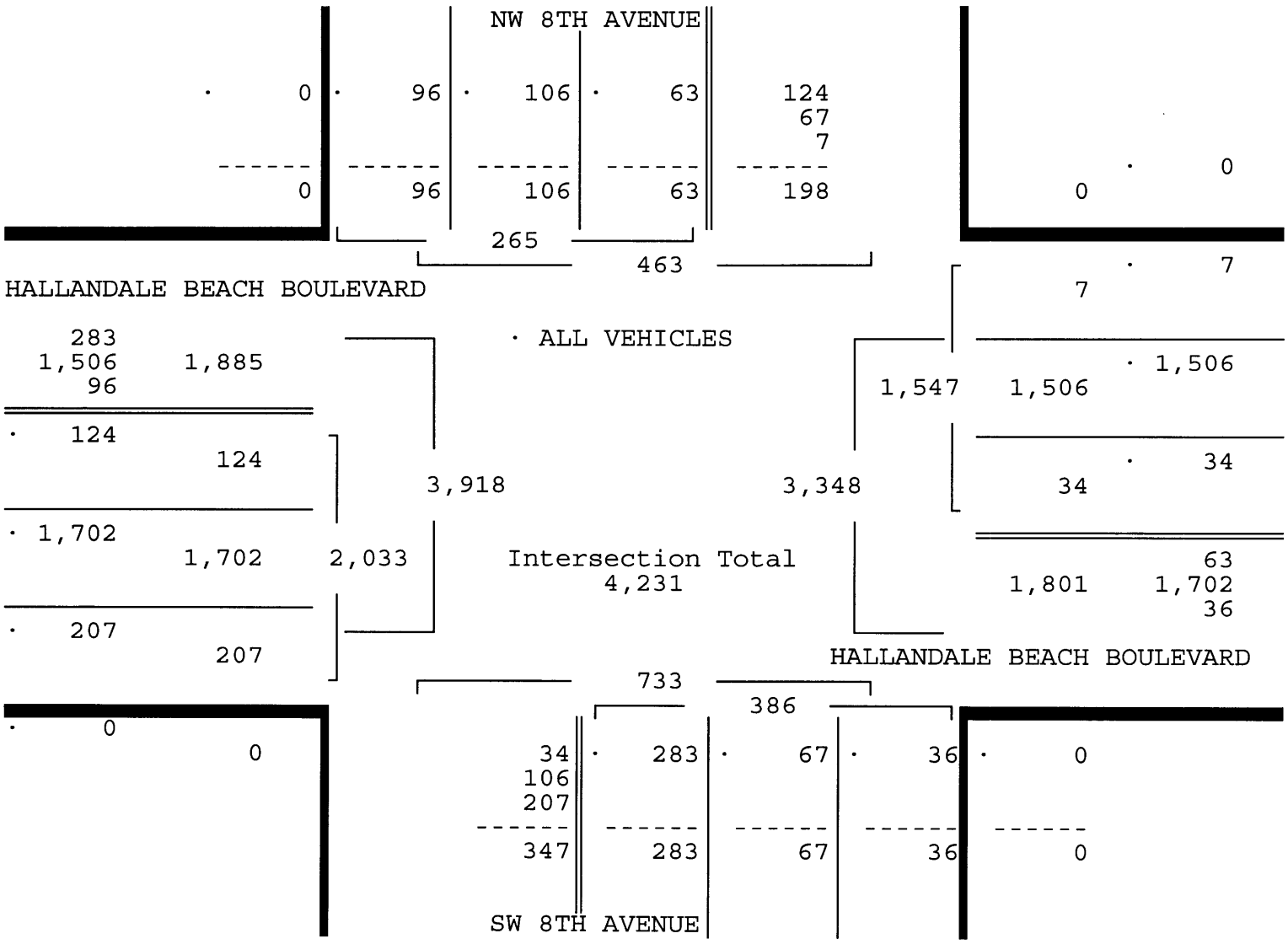
Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 8TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: M CRUZ & L PALOMINO
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA8AVE
Page : 2

ALL VEHICLES

	NW 8TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 8TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/23/13																	
Peak start 08:00					08:00				08:00				08:00				
Volume	0	63	106	96	1	33	1506	7	0	283	67	36	32	92	1702	207	
Percent	0%	24%	40%	36%	0%	2%	97%	0%	0%	73%	17%	9%	2%	5%	84%	10%	
Pk total	265				1547				386				2033				
Highest	08:45				08:15				08:00				08:15				
Volume	0	20	31	29	0	14	384	1	0	86	29	8	10	30	459	57	
Hi total	80				399				123				556				
PHF	.83				.97				.78				.91				



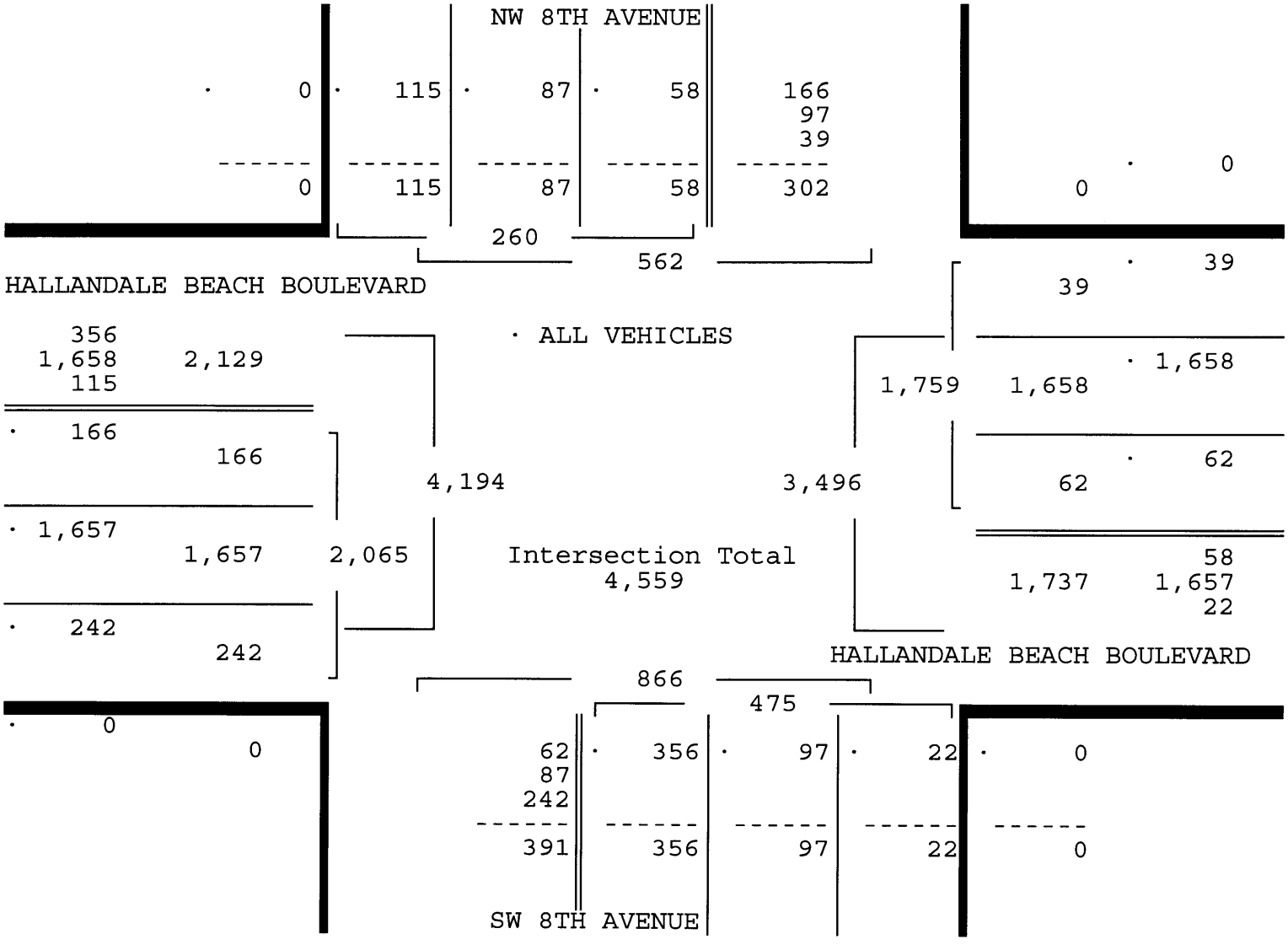
HALLANDALE BEACH BOULEVARD & NW/SW 8TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: M CRUZ & L PALOMINO
SIGNALIZED

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA8AVE
Page : 3

ALL VEHICLES

	NW 8TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 8TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 07/23/13																	
Peak start 16:45					16:45				16:45				16:45				
Volume	0	58	87	115	15	47	1658	39	0	356	97	22	19	147	1657	242	
Percent	0%	22%	33%	44%	1%	3%	94%	2%	0%	75%	20%	5%	1%	7%	80%	12%	
Pk total	260				1759				475				2065				
Highest	17:00				16:45				17:15				17:30				
Volume	0	21	18	42	4	18	415	12	0	110	37	5	6	39	433	70	
Hi total	81				449				152				548				
PHF	.80				.98				.78				.94				



HALLANDALE BEACH BOULEVARD & NW/SW 8TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: M CRUZ & L PALOMINO
SIGNALIZED

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

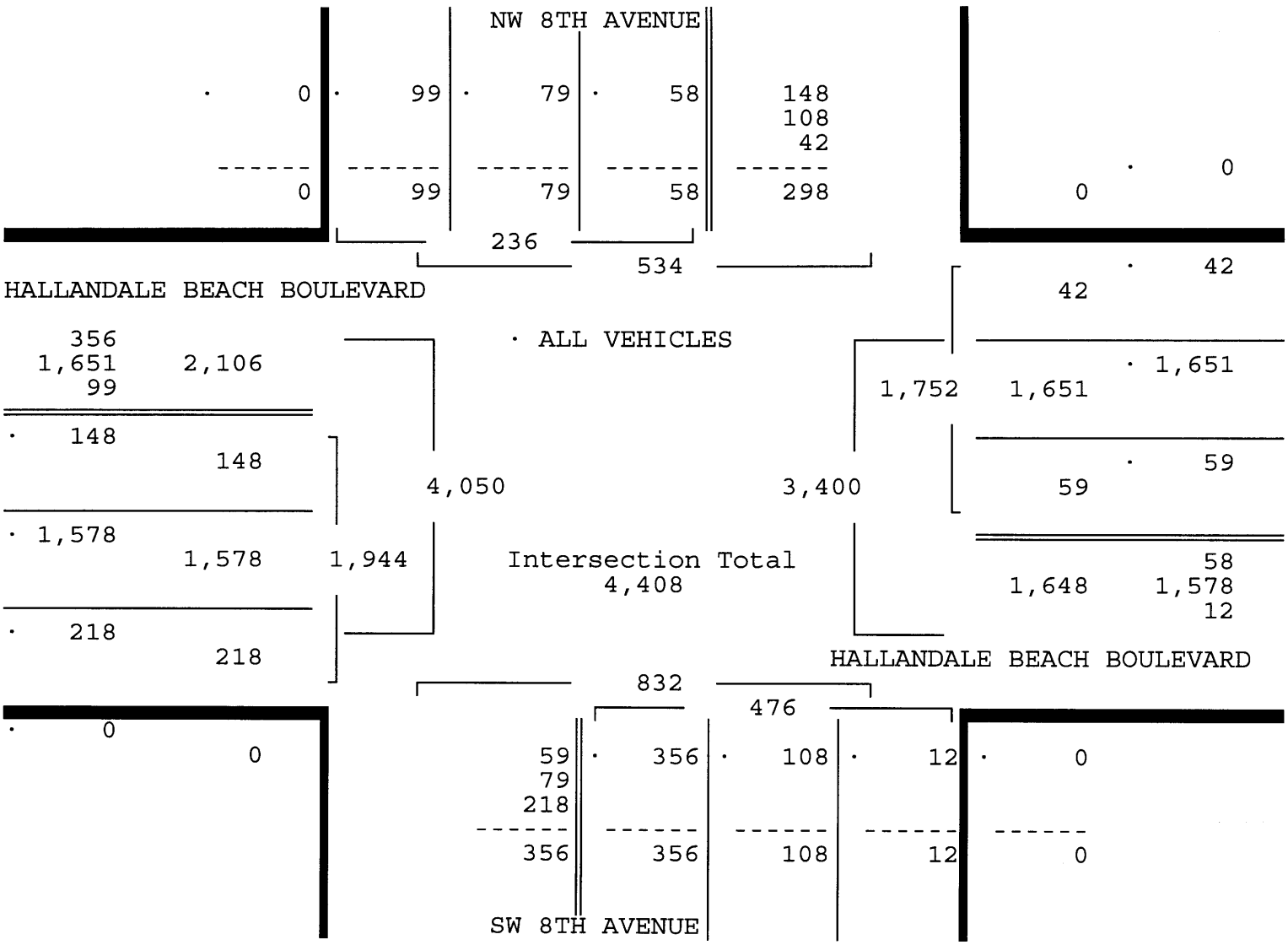
Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA8AVE
Page : 1

ALL VEHICLES

---------- * BREAK * ----------

Peak Hour Analysis By Entire Intersection for the Period: 16:30 to 16:45 on 07/23/13

Peak start	16:30				16:30				16:30				16:30				
Volume	0	58	79	99	18	41	1651	42	0	356	108	12	19	129	1578	218	
Percent	0%	25%	33%	42%	1%	2%	94%	2%	0%	75%	23%	3%	1%	7%	81%	11%	
Pk total	236				1752				476				1944				
Highest	17:00				16:45				17:15				17:15				
Volume	0	21	18	42	4	18	415	12	0	110	37	5	2	37	437	65	
Hi total	81				449				152				541				
PHF	.73				.98				.78				.90				



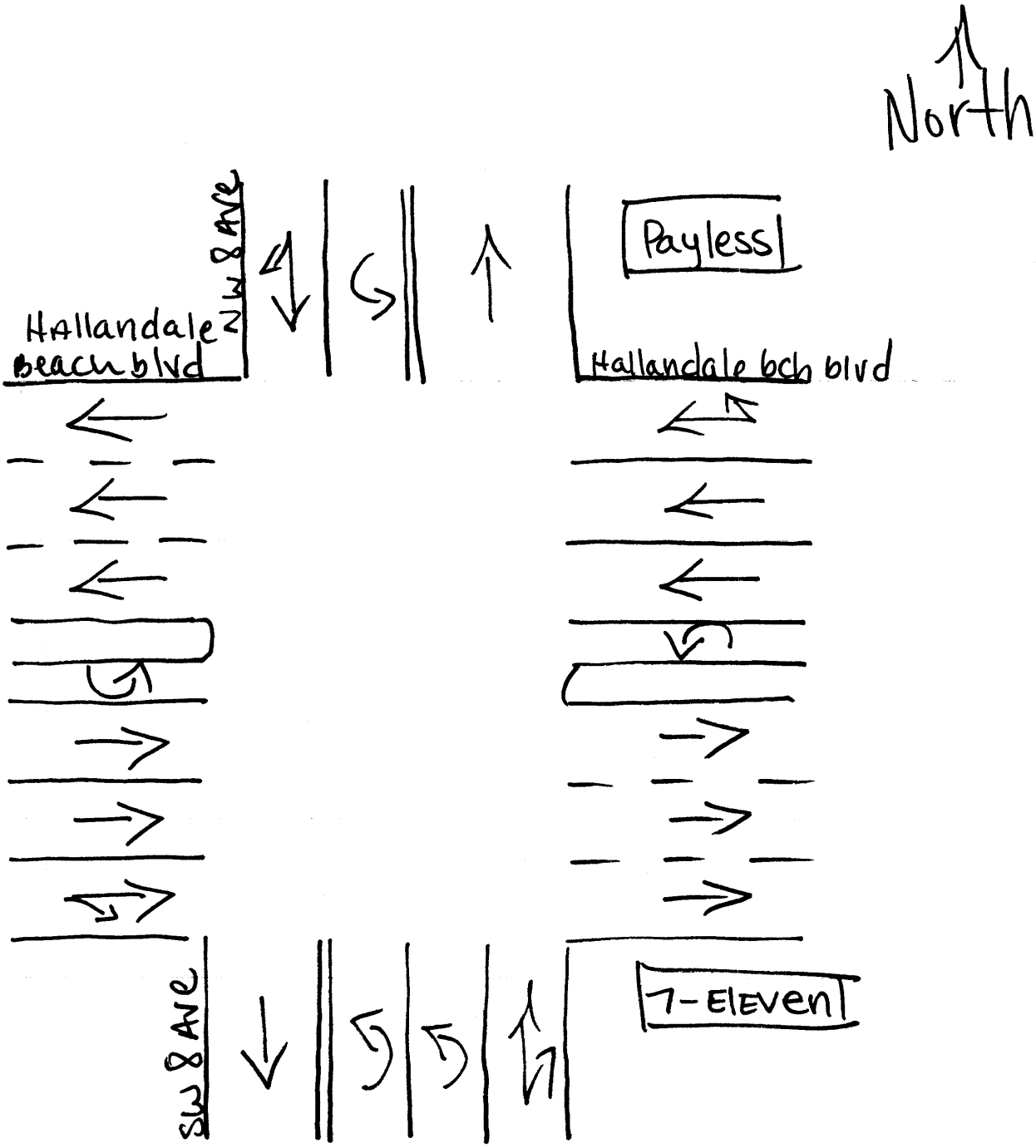
Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 8TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: M CRUZ & L PALOMINO
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA8AVE
Page : 1

PEDESTRIANS

	NW 8TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 8TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
Date 07/23/13																	
07:00	0	0	0	0	0	0	0	5	0	0	0	1	0	0	0	1	7
07:15	0	0	0	0	0	0	0	7	0	0	0	1	0	0	0	2	10
07:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
07:45	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	4
Hr Total	0	0	0	1	0	0	0	14	0	0	0	2	0	0	0	5	22
08:00	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	4	7
08:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	3
08:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
08:45	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
Hr Total	0	0	0	1	0	0	0	5	0	0	0	1	0	0	0	6	13
* BREAK *																	
16:00	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	3
16:15	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	5
16:30	0	0	0	2	0	0	0	6	0	0	0	0	0	0	0	1	9
16:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Hr Total	0	0	0	5	0	0	0	10	0	0	0	2	0	0	0	2	19
17:00	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
17:15	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	3
17:30	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	4
17:45	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	2	0	0	0	6	0	0	0	1	0	0	0	2	11
TOTAL	0	0	0	9	0	0	0	35	0	0	0	6	0	0	0	15	65



Hallandale, Florida
JULY 23, 2013
drawn by: Luis Palomino
Signalized

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 7TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: TINA & AMBER PALOMINO
NOT SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA7AVE
Page : 1

ALL VEHICLES

	NW 7TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 7TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
07:00	0	0	2	6	0	1	176	0	0	0	0	2	0	7	184	4	382
07:15	0	0	1	9	0	1	244	0	0	1	0	0	0	12	229	3	500
07:30	0	0	0	13	0	0	294	0	0	2	0	0	1	3	327	16	656
07:45	0	0	0	11	0	2	301	3	0	1	0	1	2	11	324	17	673
Hr Total	0	0	3	39	0	4	1015	3	0	4	0	3	3	33	1064	40	2211
08:00	0	0	0	3	0	6	374	1	0	1	0	2	0	7	355	10	759
08:15	0	0	1	8	0	1	389	2	0	1	0	1	0	12	459	8	882
08:30	0	0	0	1	0	0	372	1	0	3	0	3	0	6	441	9	836
08:45	0	0	0	2	0	0	351	3	0	1	0	2	3	8	471	12	853
Hr Total	0	0	1	14	0	7	1486	7	0	6	0	8	3	33	1726	39	3330
* BREAK *																	
16:00	0	1	0	6	6	7	435	4	0	0	0	1	2	9	384	4	859
16:15	0	0	0	3	0	5	382	4	0	3	2	2	4	4	374	5	788
16:30	0	1	0	6	1	6	423	2	0	2	0	3	4	6	364	8	826
16:45	0	0	1	4	0	3	394	4	0	0	0	0	6	9	401	8	830
Hr Total	0	2	1	19	7	21	1634	14	0	5	2	6	16	28	1523	25	3303
17:00	0	0	0	6	0	3	431	10	0	1	1	3	8	6	344	8	821
17:15	0	0	0	3	2	6	456	5	0	0	1	3	7	6	427	11	927
17:30	0	0	0	9	2	10	389	1	0	0	0	2	2	4	393	10	822
17:45	0	0	0	3	1	4	400	3	0	1	0	5	9	8	364	10	808
Hr Total	0	0	0	21	5	23	1676	19	0	2	2	13	26	24	1528	39	3378
TOTAL	0	2	5	93	12	55	5811	43	0	17	4	30	48	118	5841	143	12222

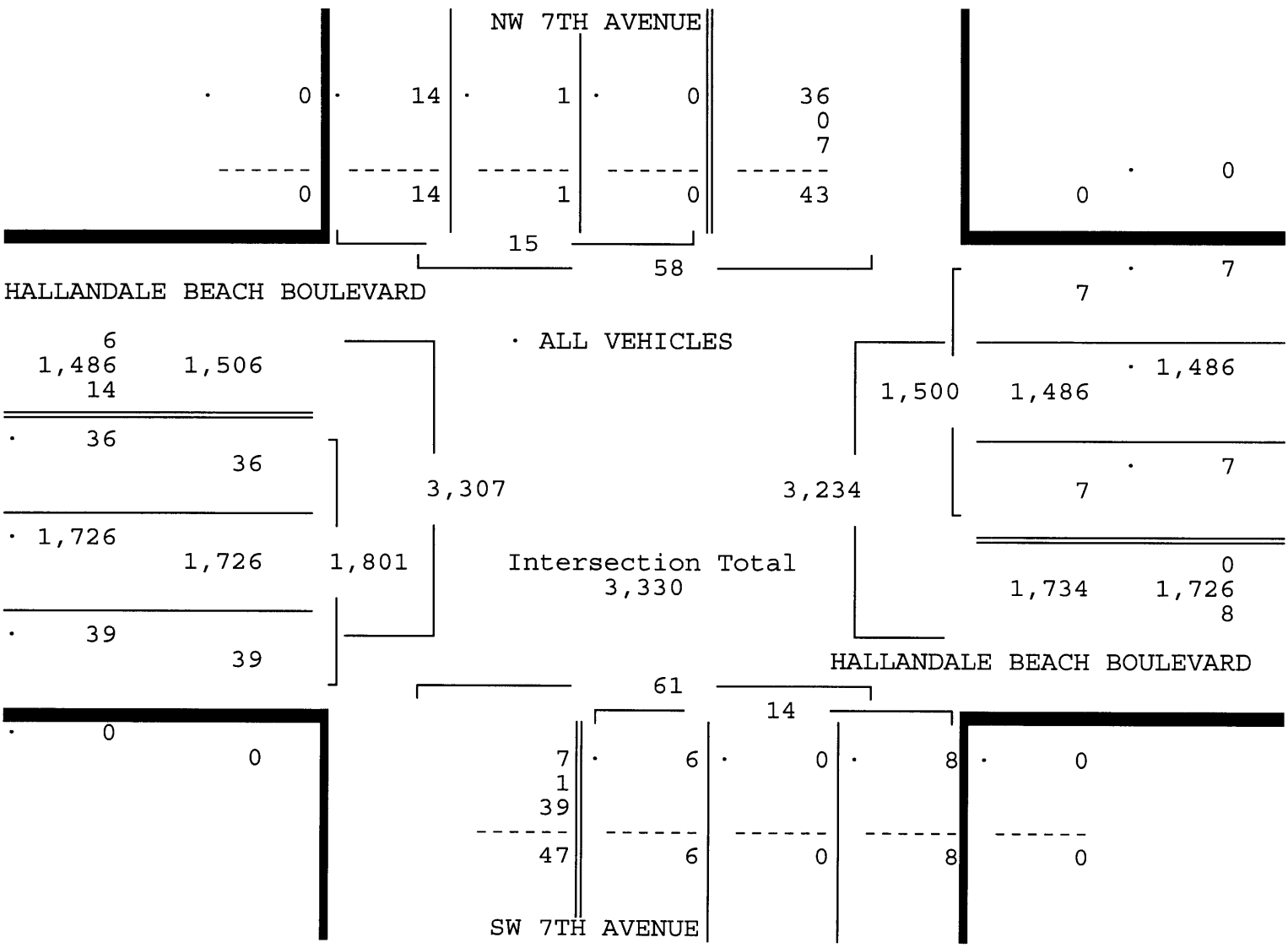
Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 7TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: TINA & AMBER PALOMINO
NOT SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA7AVE
Page : 2

ALL VEHICLES

	NW 7TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 7TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/23/13																	
Peak start 08:00					08:00				08:00				08:00				
Volume	0	0	1	14	0	7	1486	7	0	6	0	8	3	33	1726	39	
Percent	0%	0%	7%	93%	0%	0%	99%	0%	0%	43%	0%	57%	0%	2%	96%	2%	
Pk total	15				1500				14				1801				
Highest	08:15				08:15				08:30				08:45				
Volume	0	0	1	8	0	1	389	2	0	3	0	3	3	8	471	12	
Hi total	9				392				6				494				
PHF	.42				.96				.58				.91				



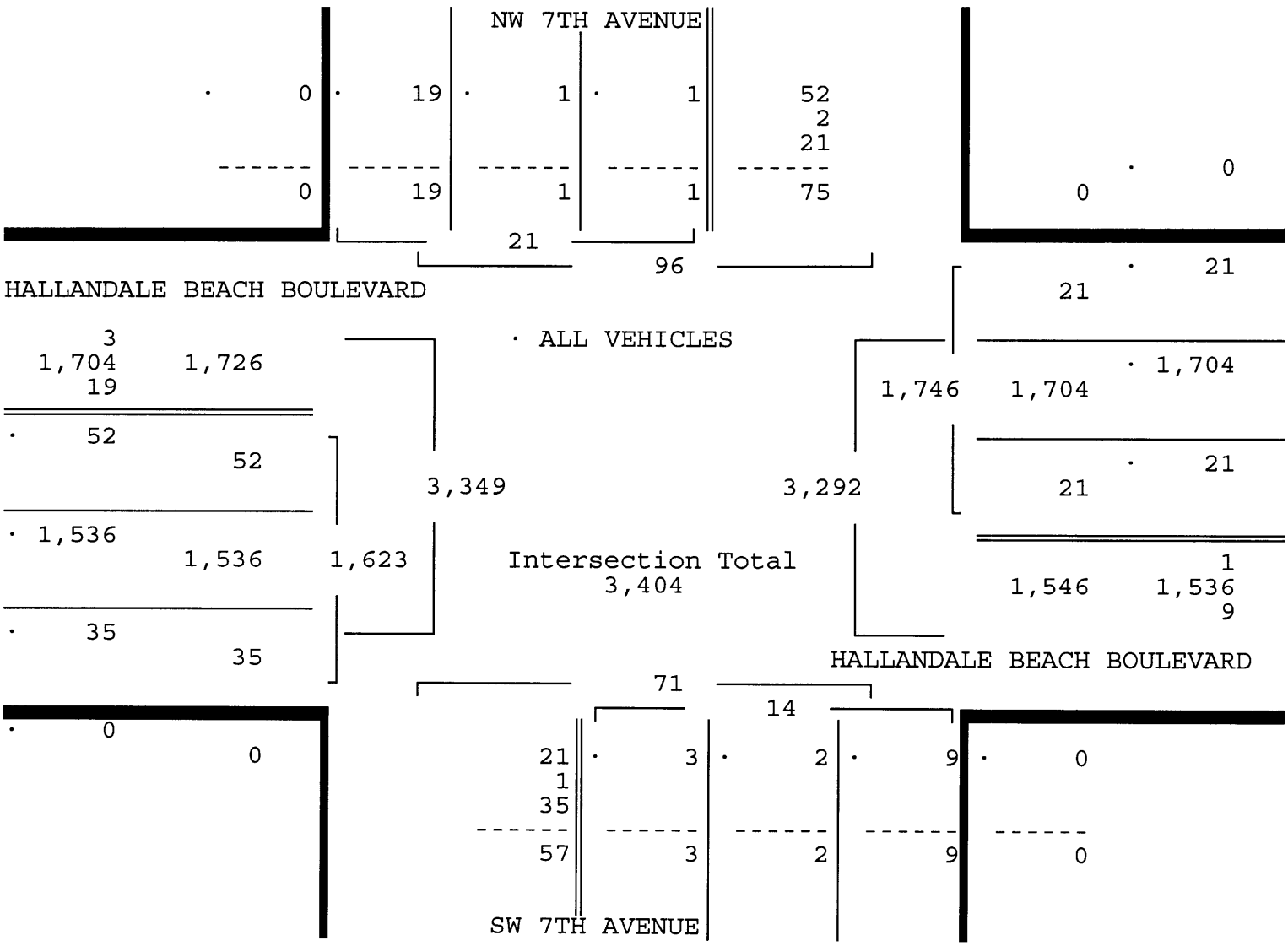
HALLANDALE BEACH BOULEVARD & NW/SW 7TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: TINA & AMBER PALOMINO
NOT SIGNALIZED

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA7AVE
Page : 3

ALL VEHICLES

	NW 7TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 7TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 07/23/13																	
Peak start 16:30					16:30				16:30				16:30				
Volume	0	1	1	19	3	18	1704	21	0	3	2	9	25	27	1536	35	
Percent	0%	5%	5%	90%	0%	1%	98%	1%	0%	21%	14%	64%	2%	2%	95%	2%	
Pk total	21				1746				14				1623				
Highest	16:30				17:15				16:30				17:15				
Volume	0	1	0	6	2	6	456	5	0	2	0	3	7	6	427	11	
Hi total	7				469				5				451				
PHF	.75				.93				.70				.90				



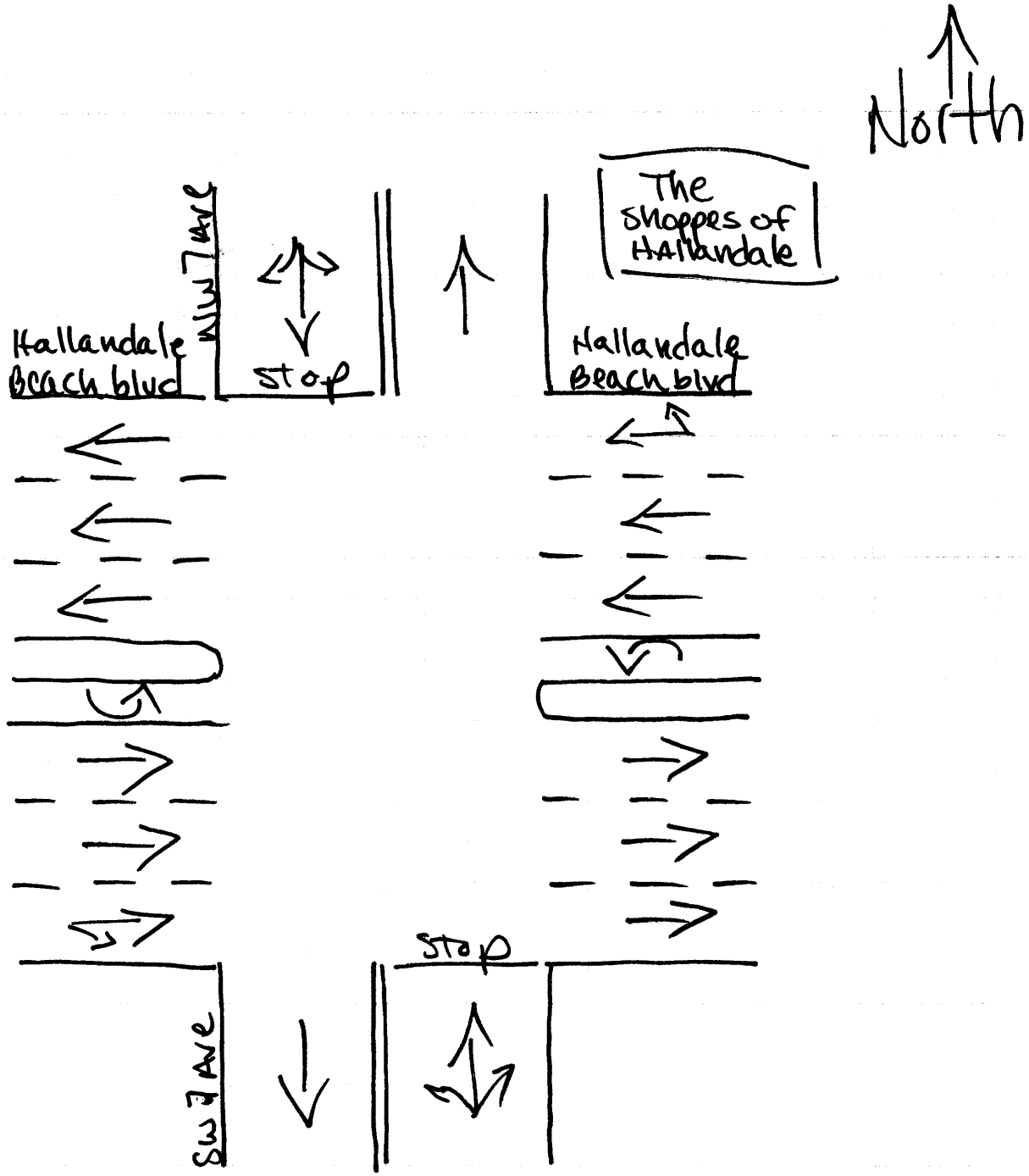
HALLANDALE BEACH BOULEVARD & NW/SW 7TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: TINA & AMBER PALOMINO
NOT SIGNALIZED

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA7AVE
Page : 1

PEDESTRIANS

	NW 7TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 7TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
Date 07/23/13																	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3
07:30	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hr Total	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	6
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
Hr Total	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3
* BREAK *																	
16:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	3
Hr Total	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	2	7
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Hr Total	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
TOTAL	0	0	0	12	0	0	0	0	0	0	0	3	0	0	0	3	18



Hallandale Beach, Florida

July 23, 2013

drawn by: Luis Palomino

not signalized

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA6AVE
Page : 1

ALL VEHICLES

	NW 6TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 6TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
07:00	0	0	1	6	1	2	194	0	0	3	3	1	0	2	161	8	382
07:15	0	1	9	8	0	1	219	1	0	5	6	1	0	7	224	9	491
07:30	0	2	4	4	0	1	279	1	0	13	6	0	0	0	313	7	630
07:45	0	0	9	10	0	2	275	0	0	17	7	2	0	3	301	17	643
Hr Total	0	3	23	28	1	6	967	2	0	38	22	4	0	12	999	41	2146
08:00	0	6	3	8	0	2	341	3	0	23	5	1	1	6	344	19	762
08:15	0	0	5	4	1	0	399	3	0	15	4	2	0	8	422	17	880
08:30	0	2	10	11	2	0	356	2	0	13	11	2	0	7	428	28	872
08:45	0	4	8	10	1	1	338	7	0	10	3	3	0	15	432	26	858
Hr Total	0	12	26	33	4	3	1434	15	0	61	23	8	1	36	1626	90	3372
* BREAK *																	
16:00	0	6	6	10	1	4	423	5	0	10	5	2	7	8	361	14	862
16:15	0	6	6	8	0	14	391	6	0	9	10	4	4	5	351	17	831
16:30	0	6	6	13	0	10	426	7	0	29	9	2	7	10	350	10	885
16:45	0	3	7	10	0	11	373	9	0	20	19	4	3	4	361	17	841
Hr Total	0	21	25	41	1	39	1613	27	0	68	43	12	21	27	1423	58	3419
17:00	0	2	10	9	0	13	423	3	0	25	18	7	6	10	345	13	884
17:15	0	3	16	14	0	16	447	10	0	22	24	8	2	6	398	17	983
17:30	2	6	10	12	1	9	363	9	0	22	21	4	2	13	354	23	851
17:45	0	4	12	11	0	11	358	6	0	23	15	3	5	12	379	13	852
Hr Total	2	15	48	46	1	49	1591	28	0	92	78	22	15	41	1476	66	3570
TOTAL	2	51	122	148	7	97	5605	72	0	259	166	46	37	116	5524	255	12507

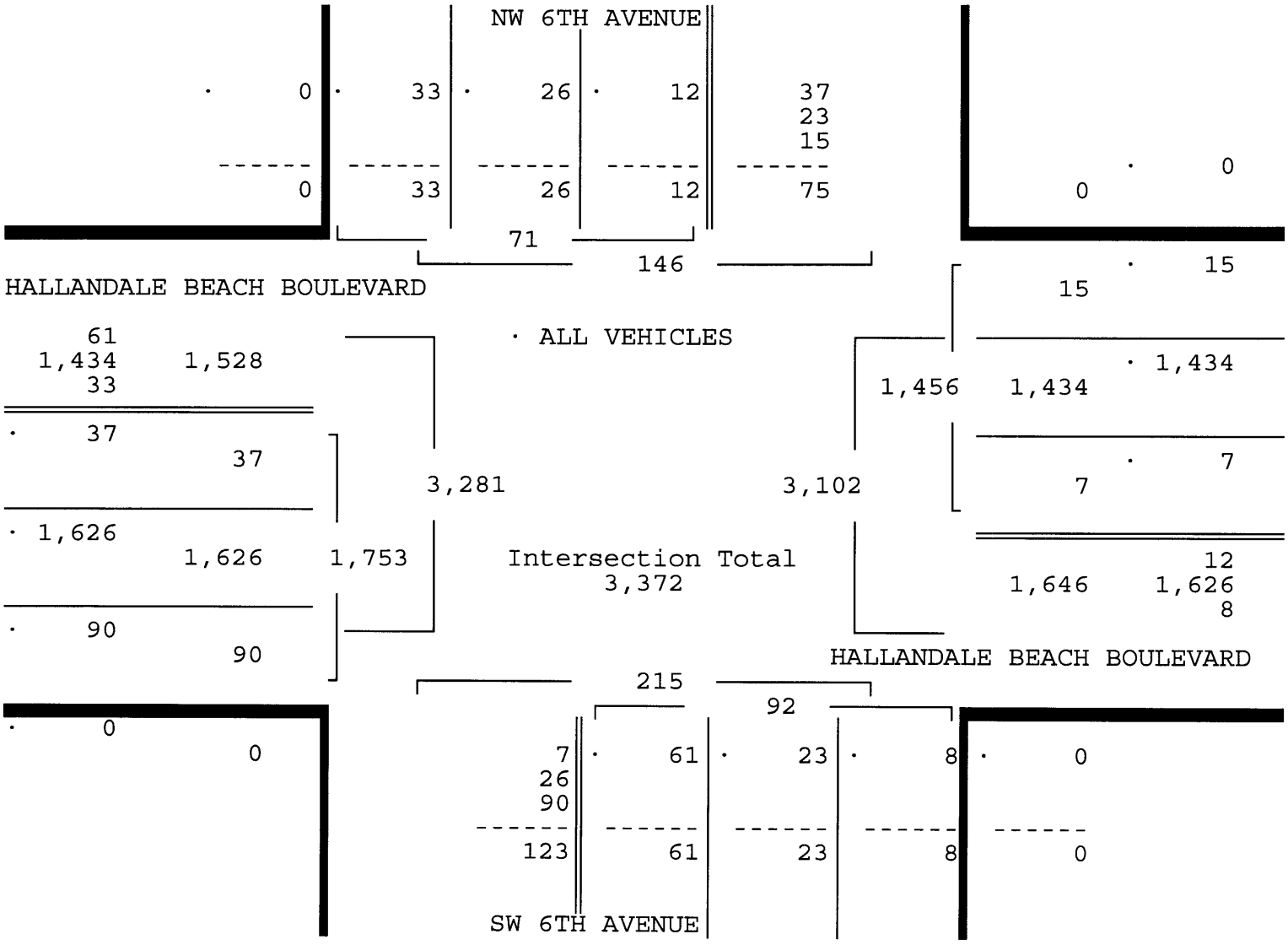
Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA6AVE
Page : 2

ALL VEHICLES

	NW 6TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 6TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/23/13																	
Peak start 08:00					08:00				08:00				08:00				
Volume	0	12	26	33	4	3	1434	15	0	61	23	8	1	36	1626	90	
Percent	0%	17%	37%	46%	0%	0%	98%	1%	0%	66%	25%	9%	0%	2%	93%	5%	
Pk total	71				1456				92				1753				
Highest	08:30				08:15				08:00				08:45				
Volume	0	2	10	11	1	0	399	3	0	23	5	1	0	15	432	26	
Hi total	23				403				29				473				
PHF	.77				.90				.79				.93				



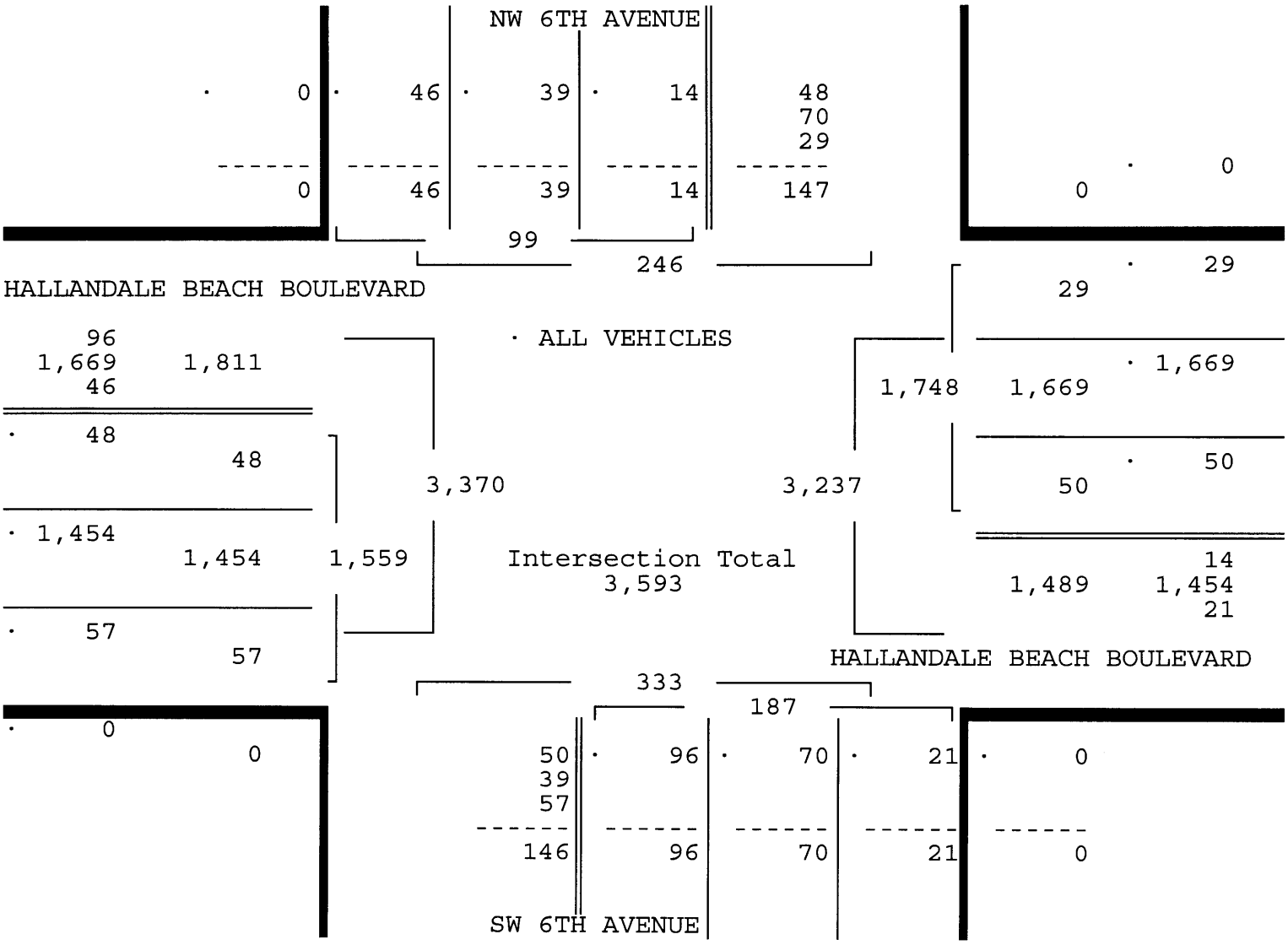
HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA6AVE
Page : 3

ALL VEHICLES

	NW 6TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 6TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 16:00 to 18:00 on 07/23/13																	
Peak start	16:30				16:30				16:30				16:30				
Volume	0	14	39	46	0	50	1669	29	0	96	70	21	18	30	1454	57	
Percent	0%	14%	39%	46%	0%	3%	95%	2%	0%	51%	37%	11%	1%	2%	93%	4%	
Pk total	99				1748				187				1559				
Highest	17:15				17:15				17:15				17:15				
Volume	0	3	16	14	0	16	447	10	0	22	24	8	2	6	398	17	
Hi total	33				473				54				423				
PHF	.75				.92				.87				.92				



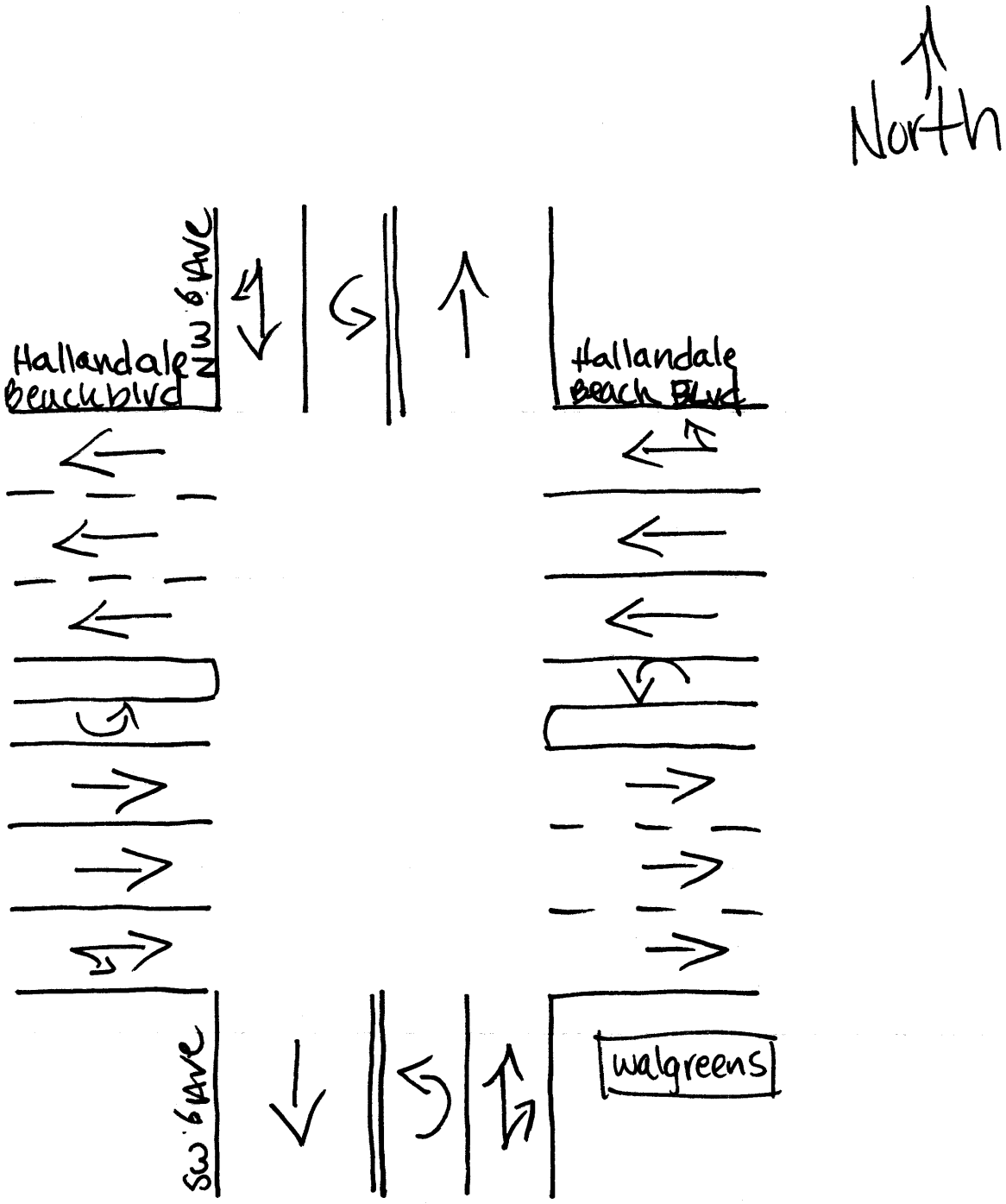
Traffic Survey Specialists, Inc.
624 Gardenia Terrace
Delray Beach, Florida 33444
Phone (561) 272-3255

HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA6AVE
Page : 1

PEDESTRIANS

	NW 6TH AVENUE From North				HALLANDALE BEACH BOULEVARD From East				SW 6TH AVENUE From South				HALLANDALE BEACH BOULEVARD From West				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Total
Date 07/23/13																	
07:00	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3
07:15	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
07:30	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
07:45	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	3
Hr Total	0	0	0	1	0	0	0	11	0	0	0	1	0	0	0	0	13
08:00	0	0	0	4	0	0	0	6	0	0	0	1	0	0	0	1	12
08:15	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
08:30	0	0	0	1	0	0	0	4	0	0	0	1	0	0	0	0	6
08:45	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
Hr Total	0	0	0	5	0	0	0	14	0	0	0	2	0	0	0	1	22
* BREAK *																	
16:00	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	2	5
16:45	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	3
Hr Total	0	0	0	5	0	0	0	0	0	0	0	4	0	0	0	2	11
17:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	4
17:15	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	2
17:30	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0	1	8
17:45	0	0	0	6	0	0	0	0	0	0	0	1	0	0	0	1	8
Hr Total	0	0	0	10	0	0	0	7	0	0	0	1	0	0	0	4	22
TOTAL	0	0	0	21	0	0	0	32	0	0	0	8	0	0	0	7	68



Hallandale Beach, Florida
JULY 23, 2013
drawn by: Luis Palomino
Signalized

2012 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
CATEGORY: 8601 CEN.-W OF US1 TO SR7

MOCF: 0.97

WEEK	DATES	SF	PSCF
1	01/01/2012 - 01/07/2012	0.99	1.02
2	01/08/2012 - 01/14/2012	0.99	1.02
3	01/15/2012 - 01/21/2012	1.00	1.03
* 4	01/22/2012 - 01/28/2012	0.99	1.02
* 5	01/29/2012 - 02/04/2012	0.98	1.01
* 6	02/05/2012 - 02/11/2012	0.97	1.00
* 7	02/12/2012 - 02/18/2012	0.96	0.99
* 8	02/19/2012 - 02/25/2012	0.95	0.98
* 9	02/26/2012 - 03/03/2012	0.95	0.98
*10	03/04/2012 - 03/10/2012	0.95	0.98
*11	03/11/2012 - 03/17/2012	0.95	0.98
*12	03/18/2012 - 03/24/2012	0.96	0.99
*13	03/25/2012 - 03/31/2012	0.97	1.00
*14	04/01/2012 - 04/07/2012	0.98	1.01
*15	04/08/2012 - 04/14/2012	0.99	1.02
*16	04/15/2012 - 04/21/2012	1.00	1.03
17	04/22/2012 - 04/28/2012	1.01	1.04
18	04/29/2012 - 05/05/2012	1.02	1.05
19	05/06/2012 - 05/12/2012	1.03	1.06
20	05/13/2012 - 05/19/2012	1.04	1.07
21	05/20/2012 - 05/26/2012	1.04	1.07
22	05/27/2012 - 06/02/2012	1.04	1.07
23	06/03/2012 - 06/09/2012	1.04	1.07
24	06/10/2012 - 06/16/2012	1.04	1.07
25	06/17/2012 - 06/23/2012	1.04	1.07
26	06/24/2012 - 06/30/2012	1.04	1.07
27	07/01/2012 - 07/07/2012	1.04	1.07
28	07/08/2012 - 07/14/2012	1.04	1.07
29	07/15/2012 - 07/21/2012	1.04	1.07
30	07/22/2012 - 07/28/2012	1.04	1.07
31	07/29/2012 - 08/04/2012	1.03	1.06
32	08/05/2012 - 08/11/2012	1.03	1.06
33	08/12/2012 - 08/18/2012	1.03	1.06
34	08/19/2012 - 08/25/2012	1.03	1.06
35	08/26/2012 - 09/01/2012	1.02	1.05
36	09/02/2012 - 09/08/2012	1.02	1.05
37	09/09/2012 - 09/15/2012	1.02	1.05
38	09/16/2012 - 09/22/2012	1.02	1.05
39	09/23/2012 - 09/29/2012	1.01	1.04
40	09/30/2012 - 10/06/2012	1.01	1.04
41	10/07/2012 - 10/13/2012	1.01	1.04
42	10/14/2012 - 10/20/2012	1.00	1.03
43	10/21/2012 - 10/27/2012	1.00	1.03
44	10/28/2012 - 11/03/2012	1.00	1.03
45	11/04/2012 - 11/10/2012	0.99	1.02
46	11/11/2012 - 11/17/2012	0.99	1.02
47	11/18/2012 - 11/24/2012	0.99	1.02
48	11/25/2012 - 12/01/2012	0.99	1.02
49	12/02/2012 - 12/08/2012	0.99	1.02
50	12/09/2012 - 12/15/2012	0.99	1.02
51	12/16/2012 - 12/22/2012	0.99	1.02
52	12/23/2012 - 12/29/2012	1.00	1.03
53	12/30/2012 - 12/31/2012	1.00	1.03

* PEAK SEASON

Historical Growth Rates

Hallandale E of I-95		W of 95
2000	5178	3351
2001	5133	4122
2002	4956	4128
2003	4957	3569
2004	4838	3665
2005	4790	3440
2006	4960	3230
2007	6040	3830
2008	5690	3780
2009	5510	3830
	0.7%	1.5%

Dixie S of Hallandale		N
2000	304	
2001	359	360
2002	386	359
2003	405	446
2004	454	444
2005	470	530
2006	498	488
2007	440	560
2008	590	470
2009	410	460
	3.4%	3.1%

US1	
2000	3487
2001	4256
2002	3997
2003	4386
2004	4616
2005	4100
2006	4030
2007	4460
2008	4460
2009	4140
	1.9%

APPENDIX C: VOLUME DEVELOPMENT

VOLUME DEVELOPMENT SHEET
MD CLINICAL
HALLANDALE BEACH BLVD & W 8th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2016	2016
Years =	3	3

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	283	67	36	63	106	96	124	1,702	207	34	1,506	7
Peak Season Volume	303	72	39	67	113	103	133	1,821	221	36	1,611	7
Traffic Volume Growth	5	1	1	1	2	2	2	27	3	1	24	0
Committed Development	0	0	0	1	0	0	0	6	0	0	0	0
0.5% Traffic Volume Growth	5	1	1	1	2	2	2	27	3	1	24	0
Background Traffic Volumes	308	73	40	69	115	105	135	1,854	224	37	1,635	7
Project Traffic												
Inbound Traffic Assignment				5.0%				50.0%				
Inbound Traffic Volumes				1				12				
Outbound Traffic Assignment	8.0%										40.0%	5.0%
Outbound Traffic Volumes											2	
Project Traffic				1				12			2	
TOTAL TRAFFIC	308	73	40	70	115	105	135	1,866	224	37	1,637	7

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	356	97	22	58	87	115	166	1,657	242	62	1,658	39
Peak Season Volume	381	104	24	62	93	123	178	1,773	259	66	1,774	42
Traffic Volume Growth	6	2	0	1	1	2	3	27	4	1	27	1
Committed Development	0	0	0	1	0	0	0	6	0	0	20	2
0.5% Traffic Volume Growth	12	2	0	1	1	2	3	27	4	1	27	1
Background Traffic Volumes	393	106	24	64	94	125	181	1,806	263	67	1,821	45
Project Traffic												
Inbound Traffic Assignment				5.0%				50.0%				
Inbound Traffic Volumes				1				6				
Outbound Traffic Assignment	8.0%										40.0%	5.0%
Outbound Traffic Volumes	3										13	2
Project Traffic	3			1				6			13	2
TOTAL TRAFFIC	396	106	24	65	94	125	181	1,812	263	67	1,834	47

VOLUME DEVELOPMENT SHEET
MD CLINICAL
HALLANDALE BEACH BLVD & W 7th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2016	2016
Years =	3	3

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	6	0	8	0	1	14	36	1,726	39	7	1,486	7
Peak Season Volume	6	0	9	0	1	15	39	1,847	42	7	1,590	7
Traffic Volume Growth	0	0	0	0	0	0	1	28	1	0	24	0
Committed Development	12	0	10	0	0	0	0	0	20	16	0	0
0.5% Traffic Volume Growth	0	0	0	0	0	0	1	28	1	0	24	0
Background Traffic Volumes	18	0	19	0	1	15	40	1,875	63	23	1,614	7
Project Traffic												
Inbound Traffic Assignment								55.0%		39.0%		
Inbound Traffic Volumes								13		9		
Outbound Traffic Assignment											45.0%	
Outbound Traffic Volumes											3	
Project Traffic								13		9	3	
TOTAL TRAFFIC	18	0	19	0	1	15	40	1,888	63	32	1,617	7

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	3	2	9	1	1	19	52	1,536	35	21	1,704	21
Peak Season Volume	3	2	10	1	1	20	56	1,644	37	22	1,823	22
Traffic Volume Growth	0	0	0	0	0	0	1	25	1	0	27	0
Committed Development	22	0	18	0	0	0	0	0	17	14	0	0
0.5% Traffic Volume Growth	0	0	0	0	0	0	1	25	1	0	27	0
Background Traffic Volumes	25	2	28	1	1	20	57	1,669	55	36	1,850	22
Project Traffic												
Inbound Traffic Assignment								55.0%		39.0%		
Inbound Traffic Volumes								7		5		
Outbound Traffic Assignment											45.0%	
Outbound Traffic Volumes											14	
Project Traffic								7		5	14	
TOTAL TRAFFIC	25	2	28	1	1	20	57	1,676	55	41	1,864	22

VOLUME DEVELOPMENT SHEET
MD CLINICAL
HALLANDALE BEACH BLVD & W 6th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2016	2016
Years =	3	3

AM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	61	23	8	12	26	33	37	1,626	90	7	1,434	15
Peak Season Volume	65	25	9	13	28	35	40	1,740	96	7	1,534	16
Traffic Volume Growth	1	0	0	0	0	1	1	26	1	0	23	0
Committed Development	1	0	0	0	0	1	0	0	0	0	5	0
0.5% Traffic Volume Growth	1	0	0	0	0	1	1	26	1	0	23	0
Background Traffic Volumes	67	25	9	13	28	37	41	1,766	97	7	1,562	16
Project Traffic												
Inbound Traffic Assignment						4.0%				3.0%	35.0%	
Inbound Traffic Volumes						1				1	8	
Outbound Traffic Assignment	10.0%						39.0%	36.0%				
Outbound Traffic Volumes	1						2	2				
Project Traffic	1					1	2	2		1	8	
TOTAL TRAFFIC	68	25	9	13	28	38	43	1,768	97	8	1,570	16

PM Peak Hour

	Northbound			Southbound			Eastbound			Westbound		
	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT	LT	Thru	RT
Existing Volume on 07/23/2013	23	5	1	2	10	11	15	432	26	1	399	3
Peak Season Volume	25	5	1	2	11	12	16	462	28	1	427	3
Traffic Volume Growth	0	0	0	0	0	0	0	7	0	0	6	0
Committed Development	1	0	0	0	0	1	1	6	1	0	3	0
0.5% Traffic Volume Growth	1	0	0	0	0	0	0	7	0	0	6	0
Background Traffic Volumes	27	5	1	2	11	13	17	475	29	1	436	3
Project Traffic												
Inbound Traffic Assignment						4.0%				3.0%	35.0%	
Inbound Traffic Volumes											4	
Outbound Traffic Assignment	10.0%						39.0%	36.0%				
Outbound Traffic Volumes	3						12	12				
Project Traffic	3						12	12			4	
TOTAL TRAFFIC	30	5	1	2	11	13	29	487	29	1	440	3

APPENDIX D: SYNCHRO WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	1821	221	36	1611	7	303	72	39	67	113	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5003		1770	5082		3433	1765		1770	1730	
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00		0.65	1.00	
Satd. Flow (perm)	1770	5003		1770	5082		1750	1765		1208	1730	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	1979	240	39	1751	8	329	78	42	73	123	112
RTOR Reduction (vph)	0	13	0	0	1	0	0	16	0	0	27	0
Lane Group Flow (vph)	145	2206	0	39	1758	0	329	104	0	73	208	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.14	0.53		0.04	0.43		0.32	0.32		0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	250	2668		73	2202		568	573		392	562	
v/s Ratio Prot	c0.08	c0.44		0.02	0.35			0.06			0.12	
v/s Ratio Perm							c0.19			0.06		
v/c Ratio	0.58	0.83		0.53	0.80		0.58	0.18		0.19	0.37	
Uniform Delay, d1	48.2	23.4		56.4	29.5		33.7	29.0		29.1	31.1	
Progression Factor	1.00	1.00		1.05	0.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.5	3.1		22.4	2.8		4.3	0.7		1.0	1.9	
Delay (s)	57.6	26.5		81.4	20.7		37.9	29.7		30.1	32.9	
Level of Service	E	C		F	C		D	C		C	C	
Approach Delay (s)		28.4			22.1			35.8			32.3	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	1847	42	7	1590	7	6	0	9	0	1	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	42	2008	46	8	1728	8	7	0	10	0	1	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.81			0.64			0.74	0.74	0.64	0.74	0.74	0.81
vC, conflicting volume	1736			2053			2723	3866	692	2511	3885	580
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1089			705			366	1912	0	79	1938	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			99			98	100	99	100	97	98
cM capacity (veh/h)	516			573			373	45	699	609	43	879

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	42	803	803	447	8	691	691	353	16	17
Volume Left	42	0	0	0	8	0	0	0	7	0
Volume Right	0	0	0	46	0	0	0	8	10	16
cSH	516	1700	1700	1700	573	1700	1700	1700	518	399
Volume to Capacity	0.08	0.47	0.47	0.26	0.01	0.41	0.41	0.21	0.03	0.04
Queue Length 95th (ft)	7	0	0	0	1	0	0	0	2	3
Control Delay (s)	12.6	0.0	0.0	0.0	11.4	0.0	0.0	0.0	12.2	14.4
Lane LOS	B				B				B	B
Approach Delay (s)	0.3				0.0				12.2	14.4
Approach LOS									B	B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	1740	96	7	1534	16	65	25	9	13	28	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.96		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5078		1770	1787		1770	1707	
Flt Permitted	0.95	1.00		0.95	1.00		0.71	1.00		0.73	1.00	
Satd. Flow (perm)	1770	5046		1770	5078		1328	1787		1365	1707	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	1891	104	8	1667	17	71	27	10	14	30	38
RTOR Reduction (vph)	0	5	0	0	1	0	0	8	0	0	31	0
Lane Group Flow (vph)	43	1990	0	8	1683	0	71	29	0	14	37	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.10	0.66		0.05	0.61		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	177	3321		88	3089		254	342		261	327	
v/s Ratio Prot	c0.02	c0.39		0.00	0.33			0.02			0.02	
v/s Ratio Perm							c0.05			0.01		
v/c Ratio	0.24	0.60		0.09	0.54		0.28	0.08		0.05	0.11	
Uniform Delay, d1	49.8	11.6		54.4	13.8		41.4	39.8		39.6	40.1	
Progression Factor	0.72	1.29		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	0.5		2.0	0.7		2.7	0.5		0.4	0.7	
Delay (s)	37.9	15.4		56.4	14.5		44.1	40.3		40.0	40.8	
Level of Service	D	B		E	B		D	D		D	D	
Approach Delay (s)		15.8			14.7			42.8			40.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	178	1773	259	66	1774	42	381	104	24	62	93	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4988		1770	5068		3433	1810		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00		0.62	1.00	
Satd. Flow (perm)	1770	4988		1770	5068		1750	1810		1156	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	193	1927	282	72	1928	46	414	113	26	67	101	134
RTOR Reduction (vph)	0	16	0	0	2	0	0	7	0	0	40	0
Lane Group Flow (vph)	193	2193	0	72	1972	0	414	132	0	67	195	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.14	0.53		0.04	0.43		0.32	0.32		0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	250	2660		73	2196		568	588		375	553	
v/s Ratio Prot	c0.11	0.44		0.04	c0.39			0.07			0.11	
v/s Ratio Perm							c0.24			0.06		
v/c Ratio	0.77	0.82		0.99	0.90		0.73	0.22		0.18	0.35	
Uniform Delay, d1	49.6	23.3		57.5	31.5		35.8	29.5		29.0	30.9	
Progression Factor	1.00	1.00		1.03	0.94		1.00	1.00		1.00	1.00	
Incremental Delay, d2	20.3	3.1		101.6	6.3		8.0	0.9		1.0	1.8	
Delay (s)	70.0	26.4		161.0	35.9		43.8	30.4		30.1	32.6	
Level of Service	E	C		F	D		D	C		C	C	
Approach Delay (s)		29.9			40.3			40.4			32.1	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	56	1644	37	22	1823	22	3	2	10	1	1	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	61	1787	40	24	1982	24	3	2	11	1	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.99			0.66			0.67	0.67	0.66	0.67	0.67	0.99
vC, conflicting volume	2005			1827			2659	3982	616	2771	3990	672
vC1, stage 1 conf vol							1929	1929		2041	2041	
vC2, stage 2 conf vol							731	2053		729	1949	
vCu, unblocked vol	1988			476			1674	3656	0	1841	3668	646
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	79			97			98	93	98	98	99	95
cM capacity (veh/h)	284			719			176	33	720	56	83	411

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	61	715	715	398	24	793	793	420	16	24
Volume Left	61	0	0	0	24	0	0	0	3	1
Volume Right	0	0	0	40	0	0	0	24	11	22
cSH	284	1700	1700	1700	719	1700	1700	1700	163	280
Volume to Capacity	0.21	0.42	0.42	0.23	0.03	0.47	0.47	0.25	0.10	0.09
Queue Length 95th (ft)	20	0	0	0	3	0	0	0	8	7
Control Delay (s)	21.1	0.0	0.0	0.0	10.2	0.0	0.0	0.0	29.5	19.1
Lane LOS	C				B				D	C
Approach Delay (s)	0.7				0.1				29.5	19.1
Approach LOS									D	C

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	16	462	28	1	427	3	25	5	1	2	11	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5042		1770	5080		1770	1816		1770	1717	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	5042		1770	5080		1380	1816		1404	1717	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	502	30	1	464	3	27	5	1	2	12	13
RTOR Reduction (vph)	0	5	0	0	0	0	0	1	0	0	11	0
Lane Group Flow (vph)	17	527	0	1	467	0	27	5	0	2	14	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.10	0.66		0.05	0.61		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	177	3319		88	3090		264	348		269	329	
v/s Ratio Prot	c0.01	c0.10		0.00	0.09			0.00			0.01	
v/s Ratio Perm							c0.02			0.00		
v/c Ratio	0.10	0.16		0.01	0.15		0.10	0.01		0.01	0.04	
Uniform Delay, d1	49.1	7.8		54.2	10.1		40.0	39.3		39.3	39.5	
Progression Factor	0.72	1.53		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.1		0.2	0.1		0.8	0.1		0.1	0.3	
Delay (s)	36.0	12.0		54.4	10.2		40.8	39.4		39.3	39.8	
Level of Service	D	B		D	B		D	D		D	D	
Approach Delay (s)		12.8			10.3			40.5			39.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	1854	224	37	1635	7	308	73	40	69	115	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5003		1770	5082		3433	1764		1770	1729	
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00		0.65	1.00	
Satd. Flow (perm)	1770	5003		1770	5082		1730	1764		1203	1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	147	2015	243	40	1777	8	335	79	43	75	125	114
RTOR Reduction (vph)	0	13	0	0	1	0	0	16	0	0	28	0
Lane Group Flow (vph)	147	2245	0	40	1784	0	335	106	0	75	211	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.14	0.53		0.04	0.43		0.32	0.32		0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	250	2668		73	2202		562	573		390	561	
v/s Ratio Prot	c0.08	c0.45		0.02	0.35			0.06			0.12	
v/s Ratio Perm							c0.19			0.06		
v/c Ratio	0.59	0.84		0.55	0.81		0.60	0.18		0.19	0.38	
Uniform Delay, d1	48.2	23.7		56.4	29.7		33.9	29.1		29.2	31.2	
Progression Factor	1.00	1.00		1.04	0.61		1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.8	3.4		23.3	2.9		4.6	0.7		1.1	1.9	
Delay (s)	58.0	27.1		82.2	21.0		38.5	29.8		30.3	33.1	
Level of Service	E	C		F	C		D	C		C	C	
Approach Delay (s)		29.0			22.4			36.2			32.4	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	1875	63	23	1614	7	18	0	19	0	1	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	43	2038	68	25	1754	8	20	0	21	0	1	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.81			0.63			0.73	0.73	0.63	0.73	0.73	0.81
vC, conflicting volume	1762			2107			2811	3971	714	2595	4002	589
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1099			711			379	1971	0	83	2012	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			96			94	100	97	100	97	98
cM capacity (veh/h)	508			559			350	39	685	571	37	873

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	43	815	815	476	25	702	702	358	40	17
Volume Left	43	0	0	0	25	0	0	0	20	0
Volume Right	0	0	0	68	0	0	0	8	21	16
cSH	508	1700	1700	1700	559	1700	1700	1700	467	362
Volume to Capacity	0.09	0.48	0.48	0.28	0.04	0.41	0.41	0.21	0.09	0.05
Queue Length 95th (ft)	7	0	0	0	4	0	0	0	7	4
Control Delay (s)	12.8	0.0	0.0	0.0	11.7	0.0	0.0	0.0	13.4	15.4
Lane LOS	B				B				B	C
Approach Delay (s)	0.3				0.2				13.4	15.4
Approach LOS									B	C

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	41	1766	97	7	1562	16	67	25	9	13	28	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.96		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5046		1770	5078		1770	1787		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.71	1.00		0.73	1.00	
Satd. Flow (perm)	1770	5046		1770	5078		1325	1787		1365	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	1920	105	8	1698	17	73	27	10	14	30	40
RTOR Reduction (vph)	0	5	0	0	1	0	0	8	0	0	32	0
Lane Group Flow (vph)	45	2020	0	8	1714	0	73	29	0	14	38	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.10	0.66		0.05	0.61		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	177	3321		88	3089		253	342		261	326	
v/s Ratio Prot	c0.03	c0.40		0.00	0.34			0.02			0.02	
v/s Ratio Perm							c0.06			0.01		
v/c Ratio	0.25	0.61		0.09	0.55		0.29	0.08		0.05	0.12	
Uniform Delay, d1	49.9	11.7		54.4	13.9		41.5	39.8		39.6	40.1	
Progression Factor	0.72	1.31		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.5		2.0	0.7		2.9	0.5		0.4	0.7	
Delay (s)	38.0	15.8		56.4	14.6		44.4	40.3		40.0	40.8	
Level of Service	D	B		E	B		D	D		D	D	
Approach Delay (s)		16.3			14.8			43.0			40.7	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	181	1806	263	67	1821	45	393	106	24	64	94	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4988		1770	5067		3433	1811		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00		0.62	1.00	
Satd. Flow (perm)	1770	4988		1770	5067		1735	1811		1151	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	1963	286	73	1979	49	427	115	26	70	102	136
RTOR Reduction (vph)	0	16	0	0	2	0	0	7	0	0	40	0
Lane Group Flow (vph)	197	2233	0	73	2026	0	427	134	0	70	198	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Effective Green, g (s)	17.0	64.0		5.0	52.0		39.0	39.0		39.0	39.0	
Actuated g/C Ratio	0.14	0.53		0.04	0.43		0.32	0.32		0.32	0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	250	2660		73	2195		563	588		374	553	
v/s Ratio Prot	c0.11	0.45		0.04	c0.40			0.07			0.12	
v/s Ratio Perm							c0.25			0.06		
v/c Ratio	0.79	0.84		1.00	0.92		0.76	0.23		0.19	0.36	
Uniform Delay, d1	49.8	23.7		57.5	32.1		36.3	29.5		29.1	30.9	
Progression Factor	1.00	1.00		1.04	0.94		1.00	1.00		1.00	1.00	
Incremental Delay, d2	21.8	3.4		105.3	8.0		9.3	0.9		1.1	1.8	
Delay (s)	71.5	27.0		164.9	38.1		45.5	30.4		30.2	32.7	
Level of Service	E	C		F	D		D	C		C	C	
Approach Delay (s)		30.6			42.5			41.8			32.2	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	1669	55	36	1850	22	25	2	28	1	1	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	1814	60	39	2011	24	27	2	30	1	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.99			0.65			0.65	0.65	0.65	0.65	0.65	0.99
vC, conflicting volume	2035			1874			2739	4081	635	2861	4099	682
vC1, stage 1 conf vol							1968	1968		2101	2101	
vC2, stage 2 conf vol							771	2113		760	1998	
vCu, unblocked vol	2016			460			1728	3780	0	1915	3808	653
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			95			84	91	96	98	99	95
cM capacity (veh/h)	277			713			168	24	705	50	76	407

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	62	726	726	423	39	804	804	426	60	24
Volume Left	62	0	0	0	39	0	0	0	27	1
Volume Right	0	0	0	60	0	0	0	24	30	22
cSH	277	1700	1700	1700	713	1700	1700	1700	202	267
Volume to Capacity	0.22	0.43	0.43	0.25	0.05	0.47	0.47	0.25	0.30	0.09
Queue Length 95th (ft)	21	0	0	0	4	0	0	0	30	7
Control Delay (s)	21.7	0.0	0.0	0.0	10.3	0.0	0.0	0.0	30.1	19.8
Lane LOS	C				B				D	C
Approach Delay (s)	0.7				0.2				30.1	19.8
Approach LOS									D	C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	17	475	29	1	436	3	27	5	1	2	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5041		1770	5080		1770	1816		1770	1712	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	5041		1770	5080		1379	1816		1404	1712	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	516	32	1	474	3	29	5	1	2	12	14
RTOR Reduction (vph)	0	6	0	0	0	0	0	1	0	0	11	0
Lane Group Flow (vph)	18	542	0	1	477	0	29	5	0	2	15	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Effective Green, g (s)	12.0	79.0		6.0	73.0		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.10	0.66		0.05	0.61		0.19	0.19		0.19	0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	177	3318		88	3090		264	348		269	328	
v/s Ratio Prot	c0.01	c0.11		0.00	0.09			0.00			0.01	
v/s Ratio Perm							c0.02			0.00		
v/c Ratio	0.10	0.16		0.01	0.15		0.11	0.01		0.01	0.04	
Uniform Delay, d1	49.1	7.8		54.2	10.2		40.0	39.3		39.3	39.5	
Progression Factor	0.72	1.56		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.1		0.2	0.1		0.8	0.1		0.1	0.3	
Delay (s)	35.9	12.3		54.4	10.3		40.9	39.4		39.3	39.8	
Level of Service	D	B		D	B		D	D		D	D	
Approach Delay (s)		13.0			10.4			40.6			39.8	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.15		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	181	1812	263	67	1834	47	396	106	24	65	94	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4989		1770	5066		3433	1811		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00		0.65	1.00	
Satd. Flow (perm)	1770	4989		1770	5066		1762	1811		1208	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	1970	286	73	1993	51	430	115	26	71	102	136
RTOR Reduction (vph)	0	25	0	0	3	0	0	11	0	0	64	0
Lane Group Flow (vph)	197	2231	0	73	2041	0	430	130	0	71	174	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	10.0	37.0		5.0	32.0		21.0	21.0		21.0	21.0	
Effective Green, g (s)	10.0	37.0		5.0	32.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.13	0.49		0.07	0.43		0.28	0.28		0.28	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	236	2461		118	2161		493	507		338	477	
v/s Ratio Prot	c0.11	c0.45		0.04	0.40			0.07			0.10	
v/s Ratio Perm							c0.24			0.06		
v/c Ratio	0.83	0.91		0.62	0.94		0.87	0.26		0.21	0.36	
Uniform Delay, d1	31.7	17.4		34.1	20.6		25.7	20.9		20.7	21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.0	6.2		21.9	10.1		18.8	1.2		1.4	2.1	
Delay (s)	59.7	23.6		56.0	30.7		44.5	22.2		22.1	23.8	
Level of Service	E	C		E	C		D	C		C	C	
Approach Delay (s)		26.5			31.6			39.0			23.4	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	1676	55	41	1864	22	25	2	28	1	1	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	1822	60	45	2026	24	27	2	30	1	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.97			0.63			0.65	0.65	0.63	0.65	0.65	0.97
vC, conflicting volume	2050			1882			2762	4115	637	2890	4133	687
vC1, stage 1 conf vol							1976	1976		2127	2127	
vC2, stage 2 conf vol							787	2139		763	2005	
vCu, unblocked vol	1966			373			1486	3563	0	1682	3591	556
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			94			86	91	96	98	99	95
cM capacity (veh/h)	282			750			190	25	688	51	77	459

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	62	729	729	424	45	810	810	429	60	24
Volume Left	62	0	0	0	45	0	0	0	27	1
Volume Right	0	0	0	60	0	0	0	24	30	22
cSH	282	1700	1700	1700	750	1700	1700	1700	218	289
Volume to Capacity	0.22	0.43	0.43	0.25	0.06	0.48	0.48	0.25	0.27	0.08
Queue Length 95th (ft)	20	0	0	0	5	0	0	0	27	7
Control Delay (s)	21.3	0.0	0.0	0.0	10.1	0.0	0.0	0.0	27.7	18.6
Lane LOS	C				B				D	C
Approach Delay (s)	0.7				0.2				27.7	18.6
Approach LOS									D	C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	487	29	1	440	3	30	5	1	2	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5042		1770	5081		1770	1816		1770	1712	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	5042		1770	5081		1379	1816		1404	1712	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	529	32	1	478	3	33	5	1	2	12	14
RTOR Reduction (vph)	0	5	0	0	1	0	0	1	0	0	10	0
Lane Group Flow (vph)	32	556	0	1	480	0	33	5	0	2	16	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	23.0	61.0		15.0	53.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	23.0	61.0		15.0	53.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.19	0.51		0.12	0.44		0.27	0.27		0.27	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	339	2563		221	2244		368	484		374	457	
v/s Ratio Prot	c0.02	c0.11		0.00	0.09			0.00			0.01	
v/s Ratio Perm							c0.02			0.00		
v/c Ratio	0.09	0.22		0.00	0.21		0.09	0.01		0.01	0.03	
Uniform Delay, d1	39.9	16.3		46.0	20.7		33.1	32.4		32.3	32.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.0	0.2		0.5	0.0		0.0	0.1	
Delay (s)	40.5	16.5		46.0	20.9		33.5	32.4		32.3	32.7	
Level of Service	D	B		D	C		C	C		C	C	
Approach Delay (s)		17.8			20.9			33.4			32.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	181	1812	263	67	1834	47	396	106	24	65	94	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		0.97	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.97		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	4989		1770	5066		3433	1811		1770	1703	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00		0.65	1.00	
Satd. Flow (perm)	1770	4989		1770	5066		1762	1811		1208	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	197	1970	286	73	1993	51	430	115	26	71	102	136
RTOR Reduction (vph)	0	25	0	0	3	0	0	11	0	0	64	0
Lane Group Flow (vph)	197	2231	0	73	2041	0	430	130	0	71	174	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	10.0	37.0		5.0	32.0		21.0	21.0		21.0	21.0	
Effective Green, g (s)	10.0	37.0		5.0	32.0		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.13	0.49		0.07	0.43		0.28	0.28		0.28	0.28	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	236	2461		118	2161		493	507		338	477	
v/s Ratio Prot	c0.11	c0.45		0.04	0.40			0.07			0.10	
v/s Ratio Perm							c0.24			0.06		
v/c Ratio	0.83	0.91		0.62	0.94		0.87	0.26		0.21	0.36	
Uniform Delay, d1	31.7	17.4		34.1	20.6		25.7	20.9		20.7	21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	28.0	6.2		21.9	10.1		18.8	1.2		1.4	2.1	
Delay (s)	59.7	23.6		56.0	30.7		44.5	22.2		22.1	23.8	
Level of Service	E	C		E	C		D	C		C	C	
Approach Delay (s)		26.5			31.6			39.0			23.4	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM Average Control Delay	29.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	1676	55	41	1864	22	25	2	28	1	1	20
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	62	1822	60	45	2026	24	27	2	30	1	1	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		732			710							
pX, platoon unblocked	0.97			0.63			0.65	0.65	0.63	0.65	0.65	0.97
vC, conflicting volume	2050			1882			2762	4115	637	2890	4133	687
vC1, stage 1 conf vol							1976	1976		2127	2127	
vC2, stage 2 conf vol							787	2139		763	2005	
vCu, unblocked vol	1966			373			1486	3563	0	1682	3591	556
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			94			86	91	96	98	99	95
cM capacity (veh/h)	282			750			190	25	688	51	77	459

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	SB 1
Volume Total	62	729	729	424	45	810	810	429	60	24
Volume Left	62	0	0	0	45	0	0	0	27	1
Volume Right	0	0	0	60	0	0	0	24	30	22
cSH	282	1700	1700	1700	750	1700	1700	1700	218	289
Volume to Capacity	0.22	0.43	0.43	0.25	0.06	0.48	0.48	0.25	0.27	0.08
Queue Length 95th (ft)	20	0	0	0	5	0	0	0	27	7
Control Delay (s)	21.3	0.0	0.0	0.0	10.1	0.0	0.0	0.0	27.7	18.6
Lane LOS	C				B				D	C
Approach Delay (s)	0.7				0.2				27.7	18.6
Approach LOS									D	C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	29	487	29	1	440	3	30	5	1	2	11	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00		1.00	0.97		1.00	0.92	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	5042		1770	5081		1770	1816		1770	1712	
Flt Permitted	0.95	1.00		0.95	1.00		0.74	1.00		0.75	1.00	
Satd. Flow (perm)	1770	5042		1770	5081		1379	1816		1404	1712	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	32	529	32	1	478	3	33	5	1	2	12	14
RTOR Reduction (vph)	0	5	0	0	1	0	0	1	0	0	10	0
Lane Group Flow (vph)	32	556	0	1	480	0	33	5	0	2	16	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)	23.0	61.0		15.0	53.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	23.0	61.0		15.0	53.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.19	0.51		0.12	0.44		0.27	0.27		0.27	0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	339	2563		221	2244		368	484		374	457	
v/s Ratio Prot	c0.02	c0.11		0.00	0.09			0.00			0.01	
v/s Ratio Perm							c0.02			0.00		
v/c Ratio	0.09	0.22		0.00	0.21		0.09	0.01		0.01	0.03	
Uniform Delay, d1	39.9	16.3		46.0	20.7		33.1	32.4		32.3	32.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.0	0.2		0.5	0.0		0.0	0.1	
Delay (s)	40.5	16.5		46.0	20.9		33.5	32.4		32.3	32.7	
Level of Service	D	B		D	C		C	C		C	C	
Approach Delay (s)		17.8			20.9			33.4			32.7	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group