TRAFFIC IMPACT ANALYSIS

7th AVENUE VILLAGE
HALLANDALE BEACH, FL

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8/29/13

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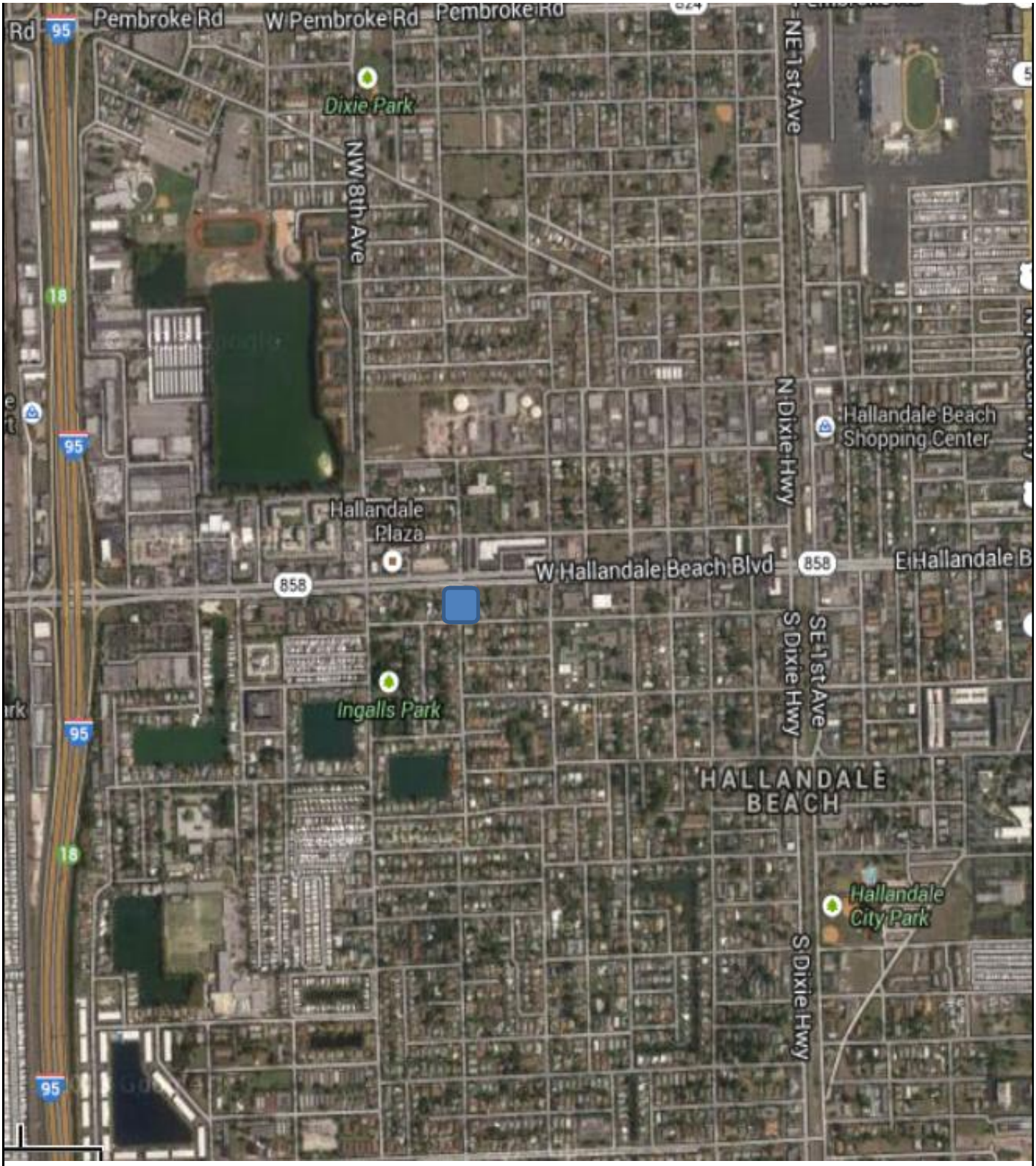
INTRODUCTION

A 24,769 square-foot shopping center is proposed to be developed south of Hallandale Beach Boulevard at SW 7th Avenue in Hallandale Beach, Florida. Figure 1 illustrates the location of the proposed shopping center.

Kimley-Horn and Associates, Inc. has prepared this traffic impact analysis for submittal to the City of Hallandale Beach. The purpose 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.

Consistent with the City of Hallandale Beach's Development Review Procedures – Impact Evaluation submission requirements (City Code Section 32-788(g)), traffic conditions were examined at vehicular access points to the site as well as major street intersections within a 1,000 foot radius of the site and roadways within one mile of the site.



NORTH

LEGEND

SITE

FIGURE 1
SITE LOCATION
HALLANDALE BEACH RETAIL

Kimley-Horn and Associates, Inc.

DATA COLLECTION

To determine traffic conditions on the surrounding network, intersection turning movement counts were performed at the intersection serving the site entrance plus major intersections within 1,000 feet along Hallandale Beach Boulevard. Data published by the Broward County MPO was utilized for analysis of the surrounding major roadway links.

Intersection Volume Data

Turning movement counts were collected for 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 8th Avenue
- Hallandale Beach Boulevard & NW 7th Avenue
- Hallandale Beach Boulevard & NW 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 currently contains 4 single-family homes, 1,703 square feet of high turnover sit-down restaurant uses, and 475 square feet of general retail uses. It is proposed to redevelop the site to contain 24,769 square feet of commercial uses on the site.

Trip Generation

The trip generation potential for amendment site was calculated using equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation, Ninth Edition*. Table 1 summarizes the trip generation potential in the weekday a.m. and p.m. peak hours.

TABLE 1
HALLANDALE BEACH BOULEVARD RETAIL
TRIP GENERATION

Land Use	Intensity		Daily Trips	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing Development									
Shopping Center	475	s.f.	210	6	4	2	17	8	9
High Turnover (Sit Down) Restaurant	1703	s.f.	217	18	10	8	17	10	7
Single-Family Detached Housing	4	DU	54	13	3	10	6	4	2
Subtotal			481	37	17	20	40	22	18
Pass-By									
Shopping Center	34%		71	2	1	1	6	3	3
High Turnover (Sit Down) Restaurant	43%		93	8	4	4	7	4	3
Subtotal			164	10	5	5	13	7	6
Net New External Trips			*317*	*27*	*12*	*15*	*27*	*15*	*12*
Proposed Development - Phase 2									
Shopping Center	24,769	s.f.	2741	67	42	25	235	113	122
Subtotal			2741	67	42	25	235	113	122
Pass-By Traffic									
Shopping Center	59%		1617	40	25	15	139	67	72
Net New External Trips			1124	27	17	10	96	46	50
Driveway Volumes			*2741*	*67*	*42*	*25*	*235*	*113*	*122*
Net Trip Differential			***807***	***0***	***5***	***-5***	***69***	***31***	***38***

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

Daily Traffic Generation

Shopping Center	[ITE 820]	=	Ln(T) = 0.65 Ln(X) + 5.83
High Turnover (Sit Down) Restaurant	[ITE 932]	=	127.15 trips/1000 square feet
Single-Family Detached Housing	[ITE 210]	=	Ln(T) = 0.92 Ln(X) + 2.72

AM Peak Hour Traffic Generation

Shopping Center	[ITE 820]	=	Ln(T) = 0.61 Ln(X)+2.24; (62% in, 38% out)
High Turnover (Sit Down) Restaurant	[ITE 932]	=	10.81 trips/ 1000 square feet; (55% in, 45% out)
Single-Family Detached Housing	[ITE 210]	=	T = 0.7(X)+9.74; (25% in, 75% out)

PM Peak Hour Traffic Generation

Shopping Center	[ITE 820]	=	Ln(T) = 0.67 Ln(X) + 3.31; (48% in, 52% out)
High Turnover (Sit Down) Restaurant	[ITE 932]	=	9.85 trips/1000 square feet (60% in, 40% out)
Single-Family Detached Housing	[ITE 210]	=	Ln(T) = 0.9 Ln(X) + .51; (63% in, 38% out)

Pass-by

Shopping Center	[ITE 820]	=	Ln(%) = 5.00 - 0.29 Ln(X); ITE average rate of 34% was used for existing scenario
High Turnover (Sit Down) Restaurant	[ITE 932]	=	43%

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Trip Distribution

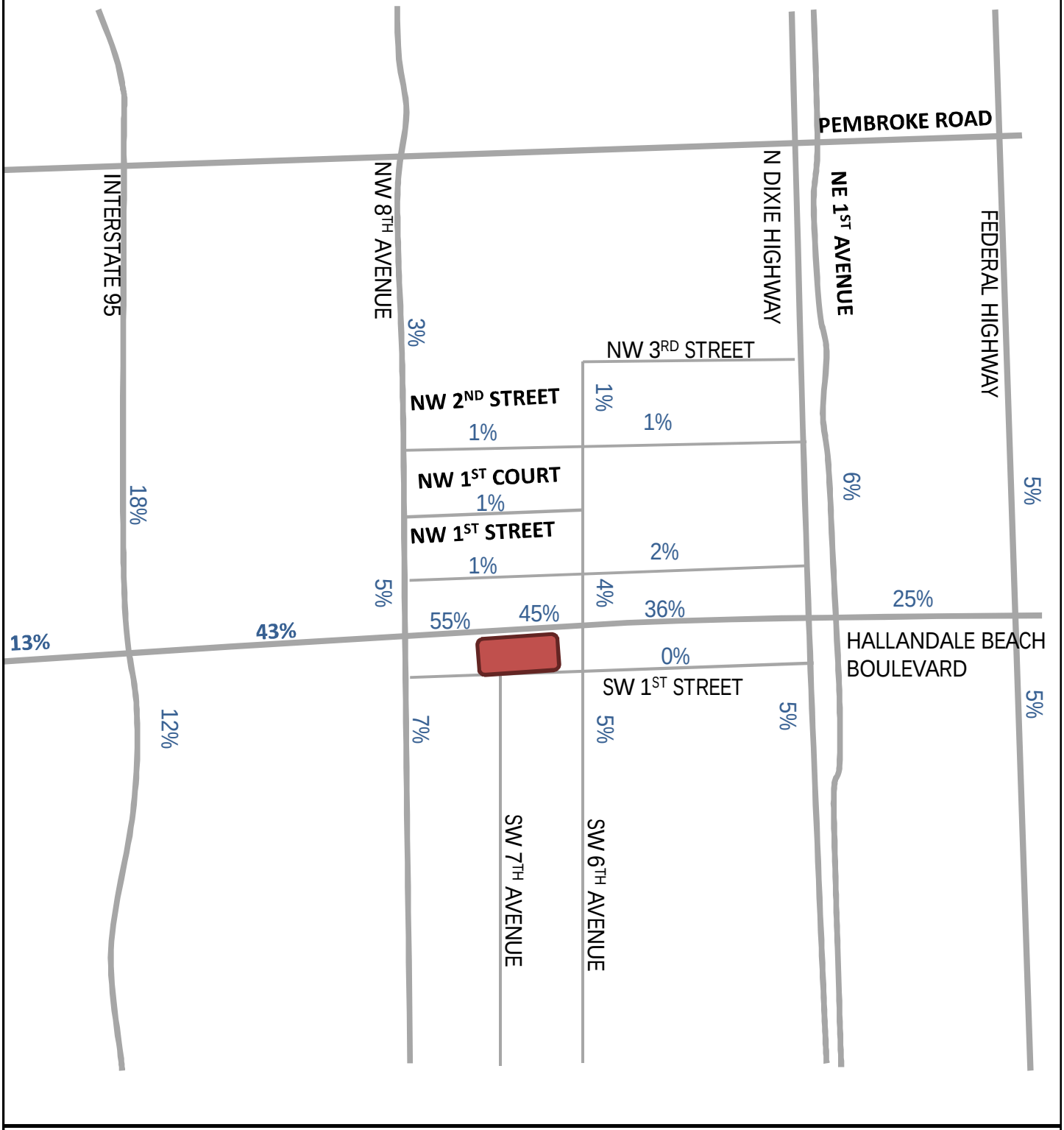
Project traffic was distributed to the external roadway network based on a review of the surrounding travel time characteristics and the location of various complementary land uses. The general distribution of the traffic traveling to and from the site was identified as:

- North – 15%
- East – 25%
- South – 17%
- West – 43%

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.



NORTH

LEGEND

SITE

FIGURE 2
TRIP ASSIGNMENT
HALLANDALE BEACH RETAIL

Kimley-Horn and Associates, Inc.

EXISTING TRAFFIC

Existing traffic conditions were determined based upon actual traffic volumes counted at the study intersections with an adjustment to peak season conditions based upon an adjustment factor published by FDOT.

FUTURE TRAFFIC

Future traffic conditions are defined as the expected traffic conditions in the year 2018 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 2018 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. Volume development worksheets for the study intersections are included in Appendix B.

In the case of the intersection of NW/SW 7th Avenue & Hallandale Beach Boulevard, the future traffic in the northbound direction is only project traffic. This is because NW 7th Avenue is proposed to become the main project driveway. The traffic currently using this intersection was diverted to NW/SW 8th Avenue & Hallandale Beach Boulevard and NW/SW 6th Avenue & Hallandale Beach Boulevard. The future year traffic volumes at NW/SW 8th Avenue & Hallandale Beach Boulevard and NW/SW 6th Avenue & Hallandale Beach Boulevard therefore also include traffic that is currently using the intersection of NW/SW 7th Avenue & Hallandale Beach Boulevard.

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 2018 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
HALLANDALE BEACH
PM TWO-WAY PEAK HOUR SIGNIFICANCE CALCULATIONS (2018)

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)	2018 Background Growth (from growth rate)	2018 Background Traffic	PM Peak Hour Project Traffic % Assignment	Trips	% Impact	Significant Impact ?	2018 Peak Hour Volume With Proposed Amendment	
PM TWO-WAY PEAK HOUR																	
							Volume	LOS								Volume	LOS
Federal Highway																	
Pembroke Road	Hallandale Beach Blvd	Class I	4LD	3580	4LD	3580	2840	C	1.90%	524	3,364	5%	3	0.08%	No	3,367	D
Hallandale Beach Blvd	South of Hallandale Beach Blvd	Class I	6LD	5390	6LD	5390	4550	C	1.90%	840	5,390	5%	3	0.06%	No	5,393	E
Dixie Highway																	
Hallandale Beach Blvd	Countyline Rd	Class II	3LO	2700	3LO	2700	410	C	3.40%	144	554	5%	3	0.11%	No	557	D
E 1st Ave																	
Pembroke Road	Hallandale Beach Blvd	Class II	2LO	1752	2LO	1752	370	C	3.10%	117	487	6%	4	0.23%	No	491	D
I-95																	
North of Hallandale Beach Blvd	Hallandale Beach Blvd	Uninterrupted	10LX	16,840	10LX	16840	20,070	F	0.50%	921	20,991	18%	12	0.07%	No	21,003	F
Hallandale Beach Blvd	South of Hallandale Beach Blvd	Uninterrupted	10LX	16,840	10LX	16840	19,720	F	0.50%	905	20,625	12%	8	0.05%	No	20,633	F
Park Lane																	
Pembroke Road	Hallandale Beach Blvd	Class II	2LU	1,330	2LU	1330	660	D	0.50%	30	690	1%	1	0.08%	No	691	D
NW 8th Avenue																	
Washington St	Pembroke Road	Class II	2LU	1,330	2LU	1330	620	D	0.50%	28	648	1%	1	0.08%	No	649	D
Pembroke Road	Hallandale Beach Blvd	Class II	2LU	1,330	2LU	1330	620	D	0.50%	28	648	5%	3	0.23%	No	651	D
Hallandale Beach Blvd	Countyline Road	Class II	2LU	1,330	2LU	1330	760	D	0.50%	35	795	7%	5	0.38%	No	800	D
Hallandale Beach Boulevard																	
SW 40th Ave	Park Ln	Class I	6LD	5,390	6LD	5390	2,520	C	0.70%	163	2,683	12%	8	0.15%	No	2,691	C
Park Ln	I-95	Class I	6LD	5,390	6LD	5390	3,830	C	0.70%	248	4,078	13%	9	0.17%	No	4,087	C
I-95	NW 8th Ave	Class I	6LD	5,390	6LD	5390	5,510	F	1.50%	790	6,300	43%	30	0.56%	No	6,330	F
NW 8th Ave	Project Driveway	Class I	6LD	5,390	6LD	5390	5,510	F	1.50%	790	6,300	55%	38	0.71%	No	6,338	F
Project Driveway	Dixie Highway	Class I	6LD	5,390	6LD	5390	5,510	F	1.50%	790	6,300	45%	31	0.58%	No	6,331	F
Dixie Highway	E 1st Ave	Class I	5L	3,580	5L	3580	3,740	F	1.50%	536	4,276	31%	21	0.59%	No	4,297	F
E 1st Ave	Federal Highway	Class I	6LD	3580	6LD	3580	3740	F	1.50%	536	4,276	25%	17	0.47%	No	4,293	F
Federal Highway	NE 14th Ave	Class I	4LD	3,580	4LD	3580	4,190	F	1.50%	601	4,791	15%	10	0.28%	No	4,801	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

CAPACITY ANALYSIS

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

Existing Traffic Conditions

Table 2 presents a summary of the existing conditions at the study intersections in both the a.m. and p.m. peak hours. As Table 3 indicates, all of the study intersections presently operate at an acceptable level of service (LOS D or better) during the AM and PM peak hours. Synchro worksheets for the study intersections are included in Appendix C.

TABLE 3
2013 Existing Traffic Conditions

Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			NB	SB	EB	WB
AM Peak Hour						
Hallandale Beach Boulevard & NW 8th Avenue	Signalized	26.8/C	D	C	C	B
Hallandale Beach Boulevard & NW 7th Avenue	Unsignalized	N/A	B	B		
Hallandale Beach Boulevard & NW 6th Avenue	Signalized	16.3/B	D	D	A	B
PM Peak Hour						
Hallandale Beach Boulevard & NW 8th Avenue	Signalized	34.9/C	D	C	C	C
Hallandale Beach Boulevard & NW 7th Avenue	Unsignalized	N/A	D	C		
Hallandale Beach Boulevard & NW 6th Avenue	Signalized	12.8/B	D	D	A	B

Future Total (2018) Traffic Conditions

A summary of the future total (2018) intersection analyses for both the a.m. and p.m. peak hours is shown in Table 4. Table 4 indicates that future LOS with the project, intersection LOS and delay changes relatively little. All of the intersections are anticipated to continue to operate at LOS D or better with the project traffic. Therefore, the project does not create any new adverse operational deficiencies at any of the study intersections.

TABLE 4
2018 Future Conditions With Project Traffic

Intersection	Traffic Control	Overall LOS/Delay	Approach LOS			
			NB	SB	EB	WB
AM Peak Hour						
Hallandale Beach Boulevard & NW 8th Avenue	Signalized	27.9/C	D	C	C	B
Hallandale Beach Boulevard & NW 7th Avenue	Unsignalized	N/A	B	B		
Hallandale Beach Boulevard & NW 6th Avenue	Signalized	17.0/B	D	D	A	B
PM Peak Hour						
Hallandale Beach Boulevard & NW 8th Avenue	Signalized	31.2/C	D	C	C	C
Hallandale Beach Boulevard & NW 7th Avenue	Unsignalized	N/A	D	C		
Hallandale Beach Boulevard & NW 6th Avenue	Signalized	19.5/B	C	C	C	B

PETITION TO VACATE SW 7TH AVENUE

The proposed site plan would require that SW 7th Avenue be vacated between Hallandale Beach Boulevard and SW 1st Street but an easement would be created that would still allow vehicular travel along a similar alignment between Hallandale Beach Boulevard and SW 1st Street. Section 25-103(b) of the Hallandale Beach Unified Land Development Code states that the following shall be considered when determining whether to grant or deny a petition for vacation:

1) **Whether any adjoining or abutting property owner will be denied convenient access or otherwise adversely affected by a proposed vacation;**

   The surrounding roadway network is designed as a compact grid network. Furthermore, a vehicular easement will be provided on site between SW 1st Street and Hallandale Beach Boulevard. Therefore, a path of vehicular travel will still be available for adjoining or abutting property owners.

2) **Whether the general public will be adversely affected by a proposed vacation;**

   As previously noted, vehicles will still be able to access Hallandale Beach Boulevard via the on-site easement. Additionally, should some of that existing traffic instead choose to use SW 8th Avenue and SW 6th Avenue, those intersections are both signalized and have capacity to handle additional traffic if any diversion occurs.

3) **Whether a present or reasonably foreseeable need exists or will exist for the street, right-of-way or easement sought to be vacated;**

   The peak hour turning movement counts collected at this intersection are summarized in Figure 3 below. As shown, the volume of traffic in the AM peak hour was 47 vehicles southbound and 14 vehicles northbound and the volume in the PM peak hour was 74 vehicles southbound and 14 vehicles northbound. It is also noted that the southbound volume was heavily influenced by a disproportionately high volume of eastbound right-turning traffic, which likely includes a significant number of cut-through drivers.

this unsignalized cut-through connection to SW 1st Street, which would represent an improved condition for residents on the SW 1st Street corridor who are currently subjected to this cut-through traffic.

3) Whether a present or reasonably foreseeable need exists or will exist for the street, right-of-way or easement sought to be vacated;

The peak hour turning movement counts collected at this intersection are summarized in Figure 3 below. As shown, the volume of traffic in the AM peak hour was 47 vehicles southbound and 14 vehicles northbound and the volume in the PM peak hour was 74 vehicles southbound and 14 vehicles northbound. It is also noted that the southbound volume was heavily influenced by a disproportionately high volume of eastbound right-turning traffic, which likely includes a significant number of cut-through drivers. These total volumes are still low (fewer than 100 total vehicles in either peak hour), and, given the built out condition of the single-family neighborhood to the south, it is unlikely that these volumes would increase substantially in the future if SW 7th Avenue were to remain in place. The future intersection capacity analyses that were undertaken demonstrate that the existing traffic on SW 7th Avenue can be diverted to SW 6th Avenue and SW 8th Avenue without creating an adverse level of service. Therefore, no future need for this street is anticipated.

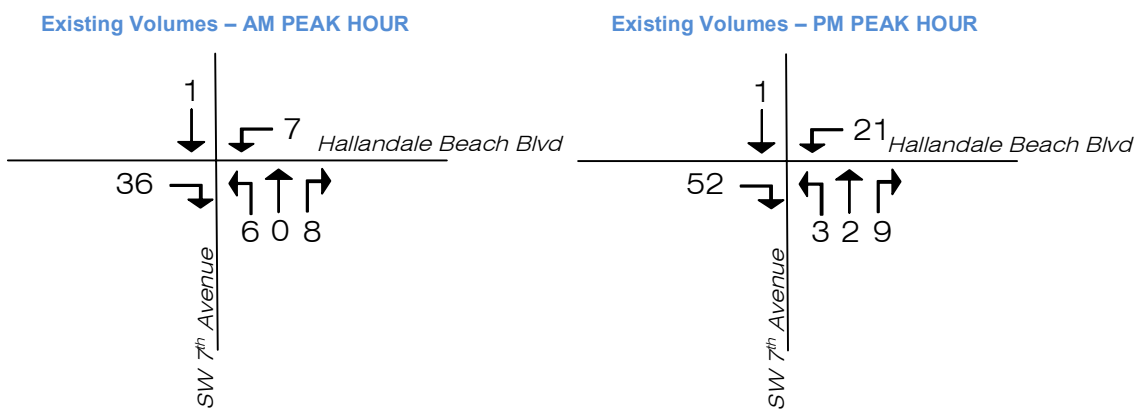


FIGURE 3 – Existing Volumes at SW/NW 7th Avenue & Hallandale Beach Boulevard

CONCLUSION

A 24,769 square-foot shopping center is proposed to be developed south of Hallandale Beach Boulevard at SW 7th Avenue in Hallandale Beach, Florida.

Trip generation calculations were prepared to evaluate the volume of trips anticipated to be generated during the weekday a.m. and p.m. peak period by the shopping center.

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 all intersections will operate at LOS D or better in the future. The analysis accounts for the proposed vacation of the SW 7th Avenue right-of-way between SW 1st Street & Hallandale Beach Boulevard. The future intersection analyses at NW/SW 6th Avenue & Hallandale Beach Boulevard and at NW/SW 8th Avenue & Hallandale Beach Boulevard include the traffic currently using SW 7th Avenue that would be now diverted to these intersections. 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.

It will be proposed to vacate SW 7th Avenue from Hallandale Beach Boulevard to SW 1st Street in order to build the proposed shopping center. This vacation will not adversely affect adjacent properties or the surrounding roadway network. Furthermore, this is expected to provide a benefit to residents in the immediate area by eliminating one route that currently provides cut-through traffic access to SW 1st Street. A petition to vacate SW 7th Avenue has been proposed and is contained in this report.

APPENDIX

APPENDIX A: 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

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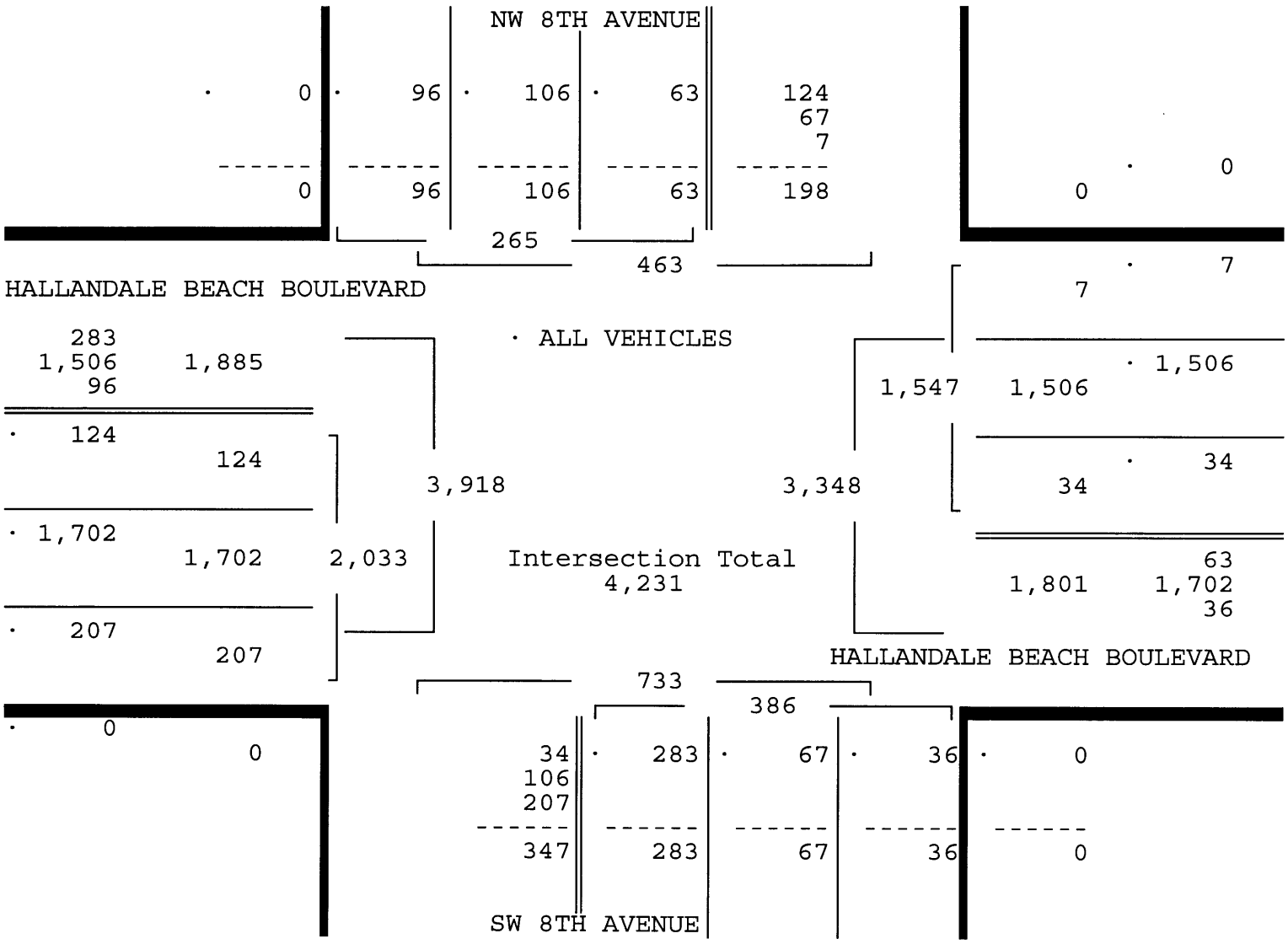
	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	UTurn	Left	Thru	Right	Total
Date 07/23/13																	
Peak Hour Analysis By Entire Intersection for the Period: 07:00 to 09:00 on 07/23/13																	
Peak start 08:00					08:00				08:00				08:00				
Volume	0	63	106	96	1	33	1506	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				



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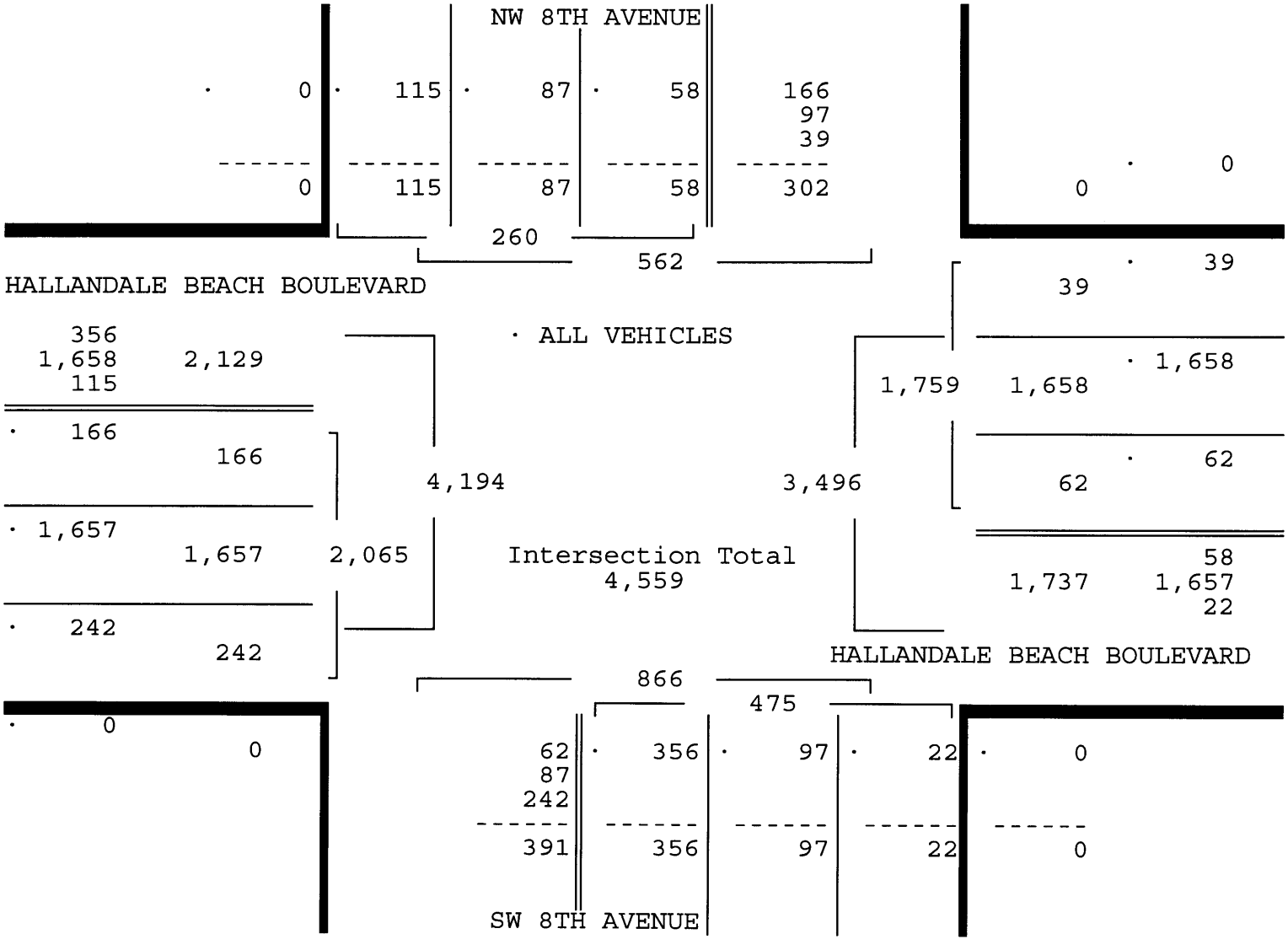
ALL VEHICLES

	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
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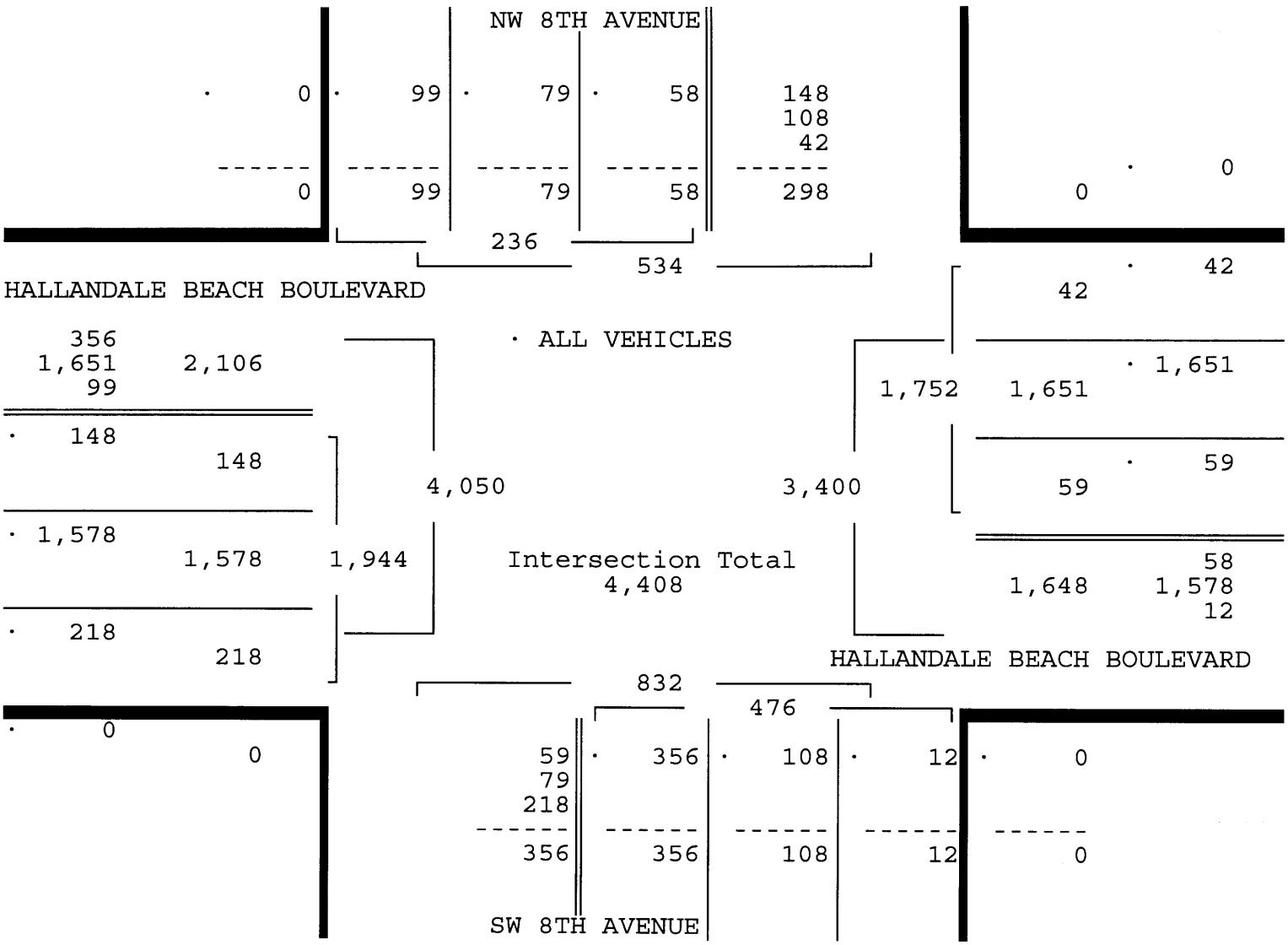
ALL VEHICLES

---------- * 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				



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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
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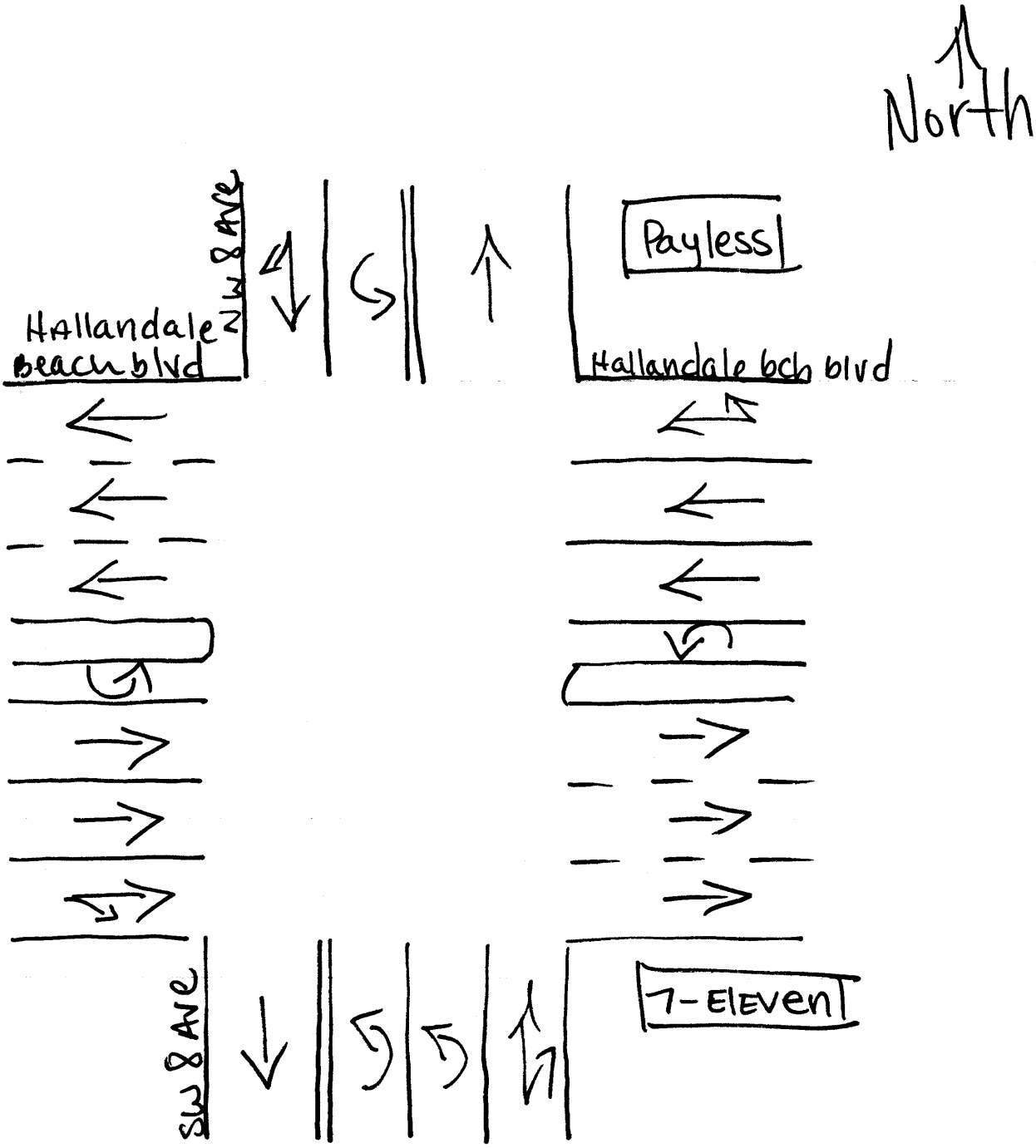
PEDESTRIANS

	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

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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
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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

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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
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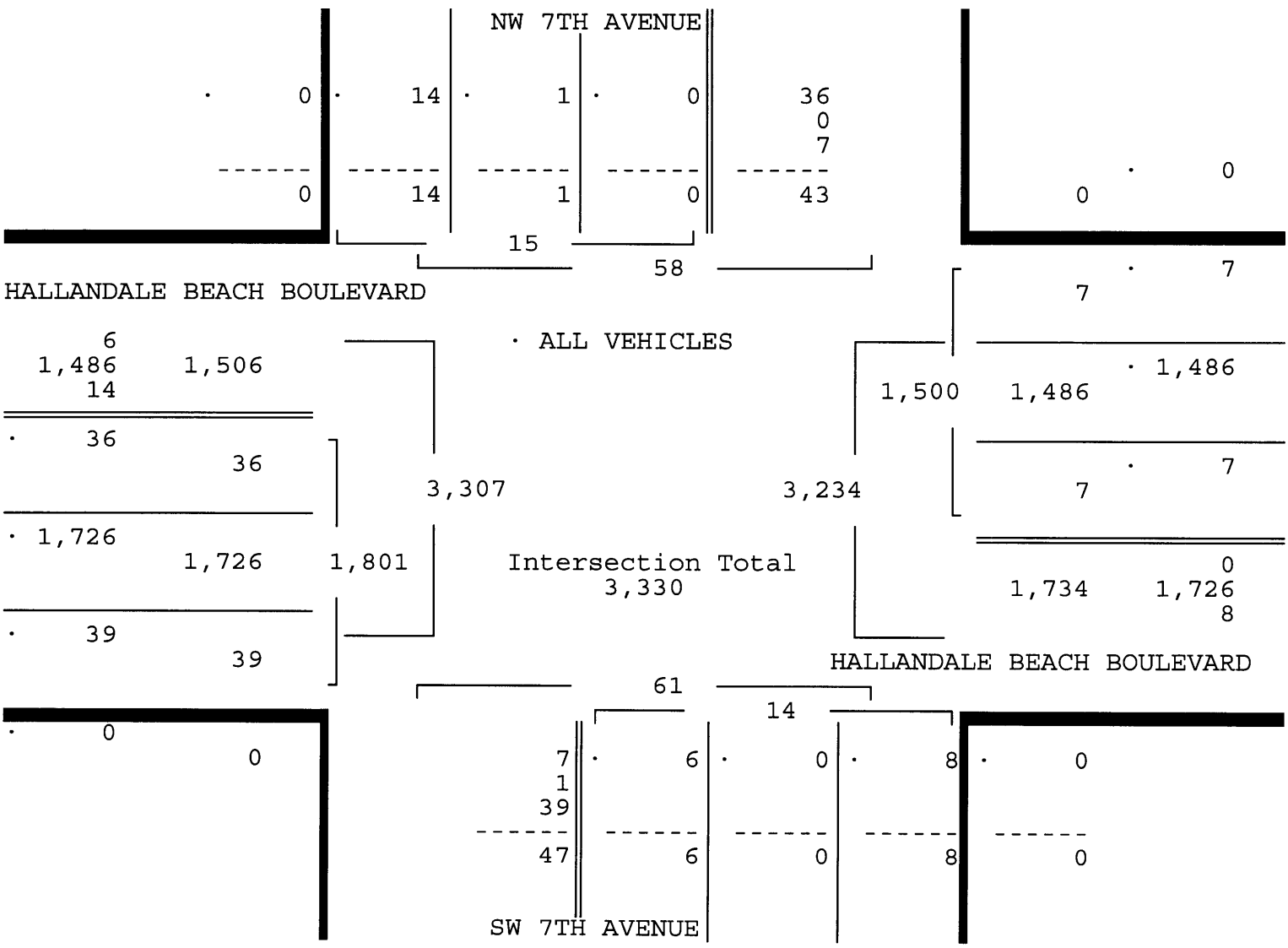
ALL VEHICLES

	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

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Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA7AVE
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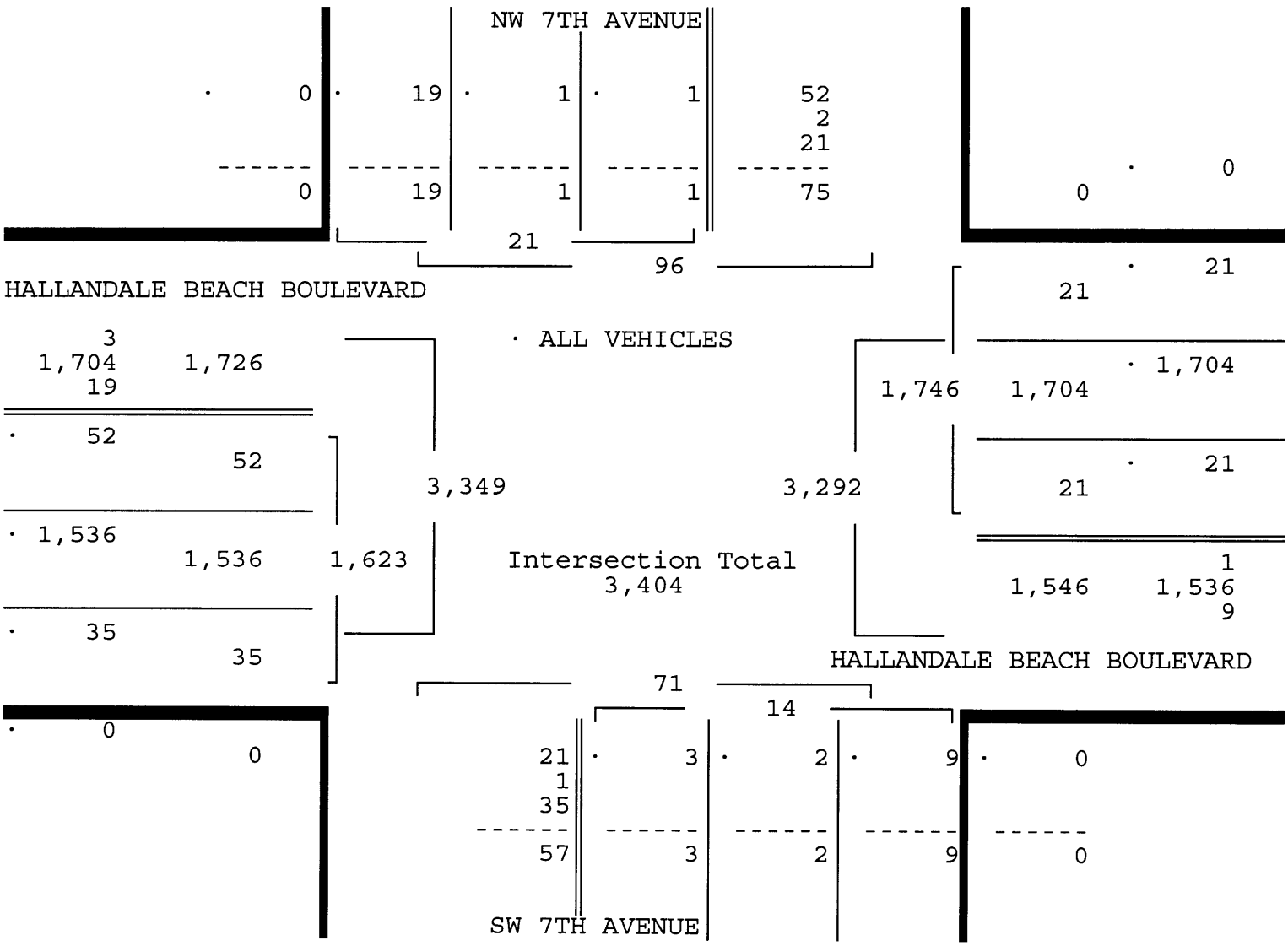
ALL VEHICLES

	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

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Site Code : 00130119
Start Date: 07/23/13
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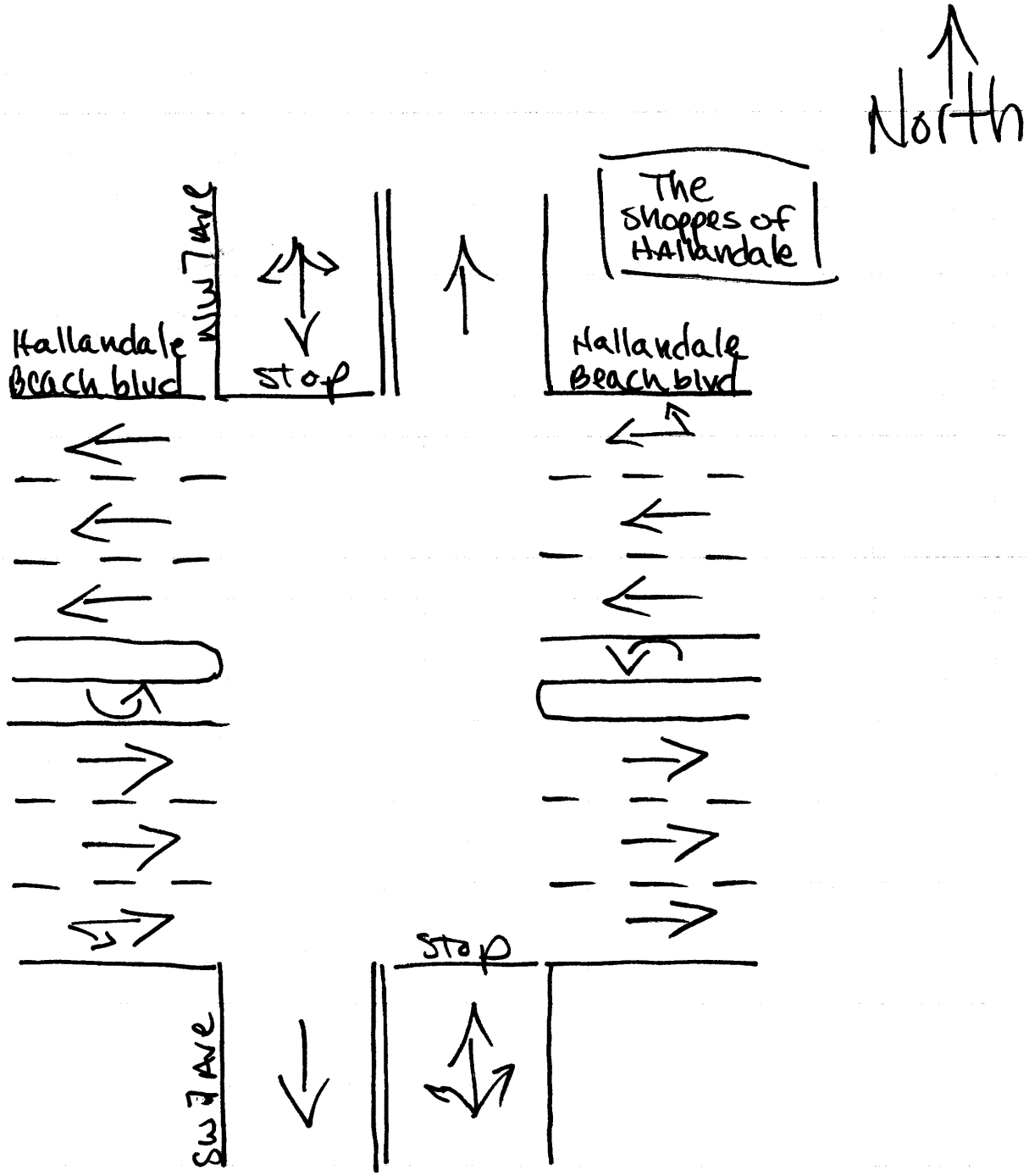
Page : 1

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

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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
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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

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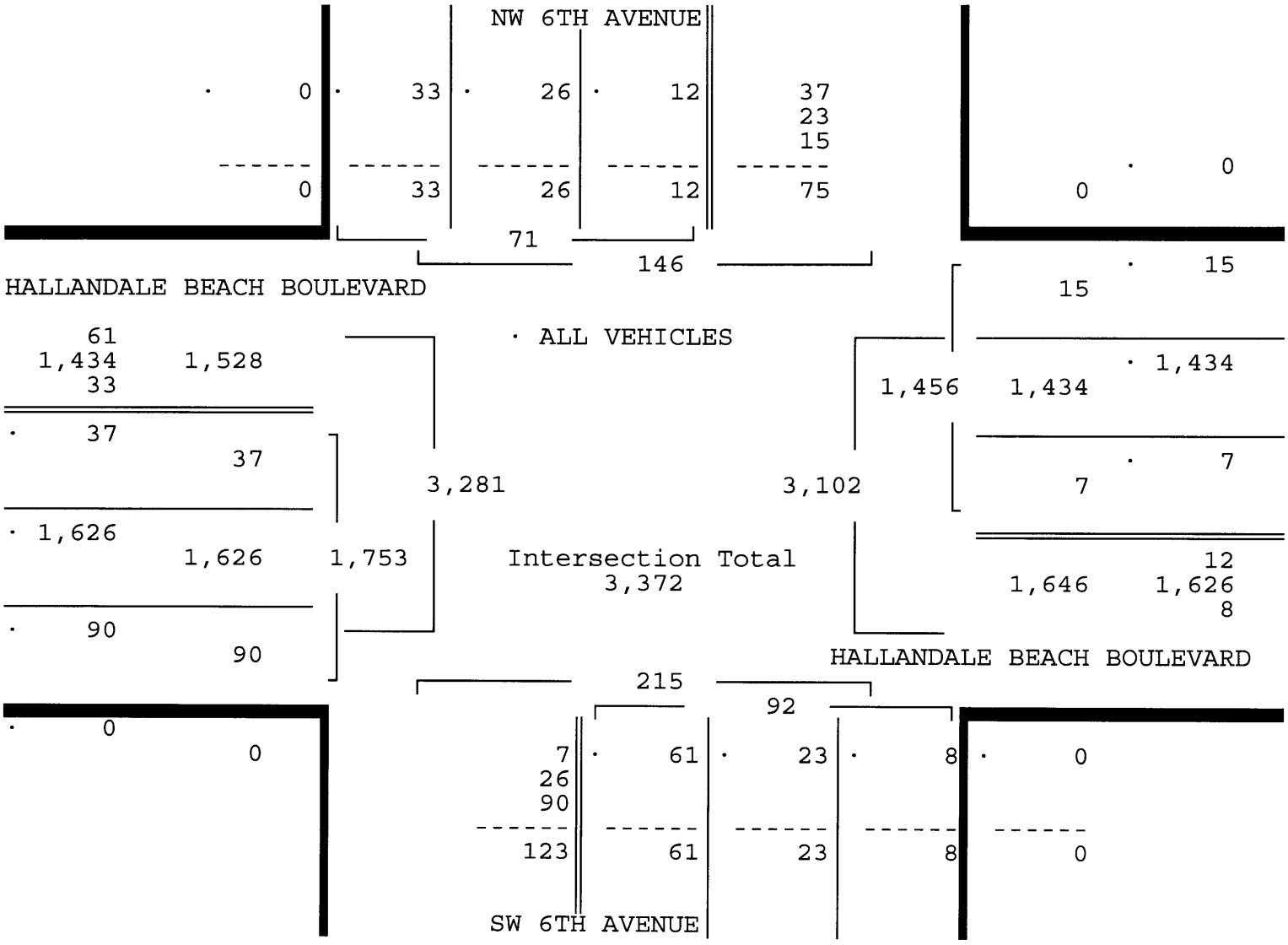
HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

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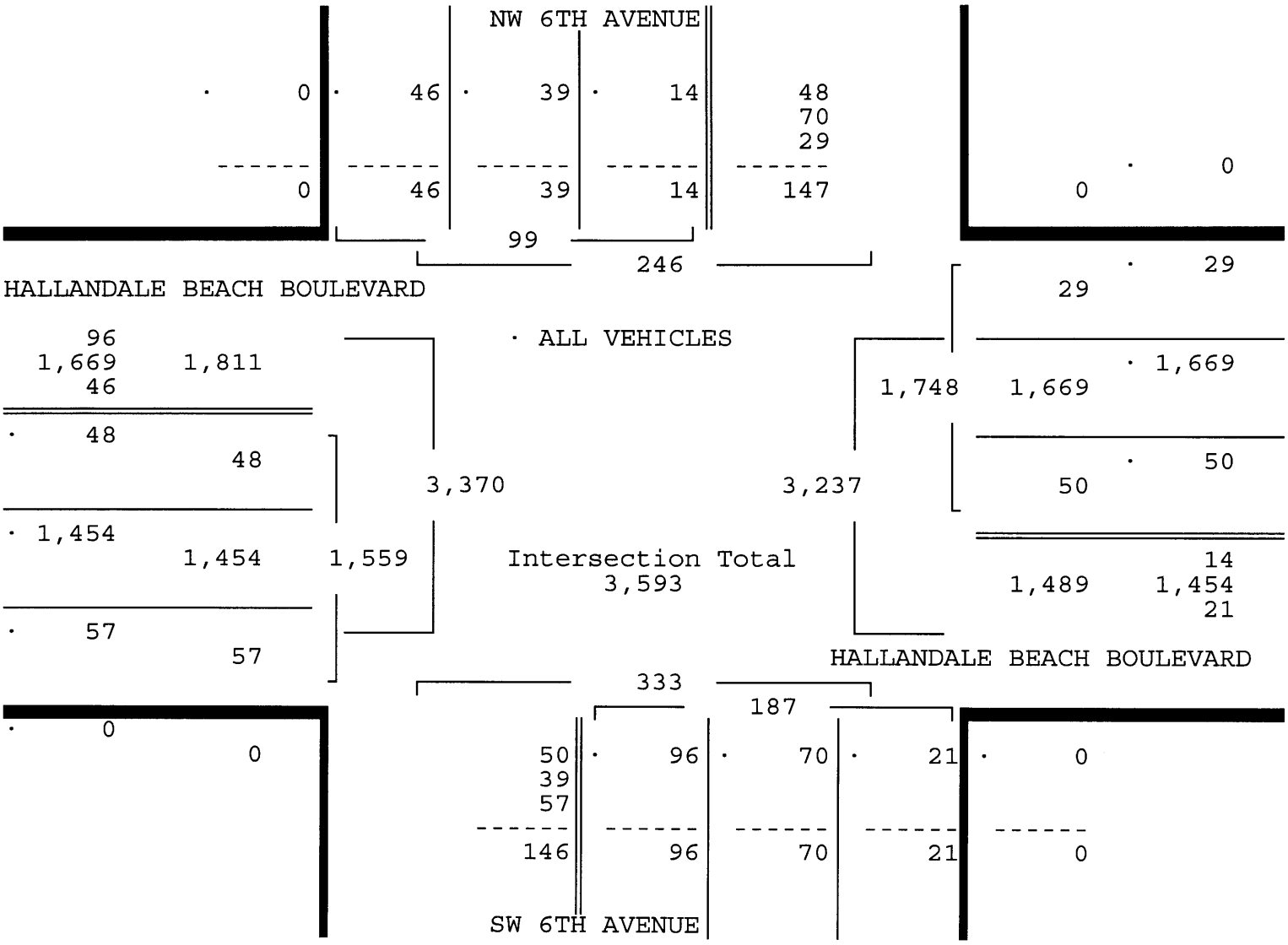
Site Code : 00130119
Start Date: 07/23/13
File I.D. : HALA6AVE
Page : 3

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				



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Delray Beach, Florida 33444
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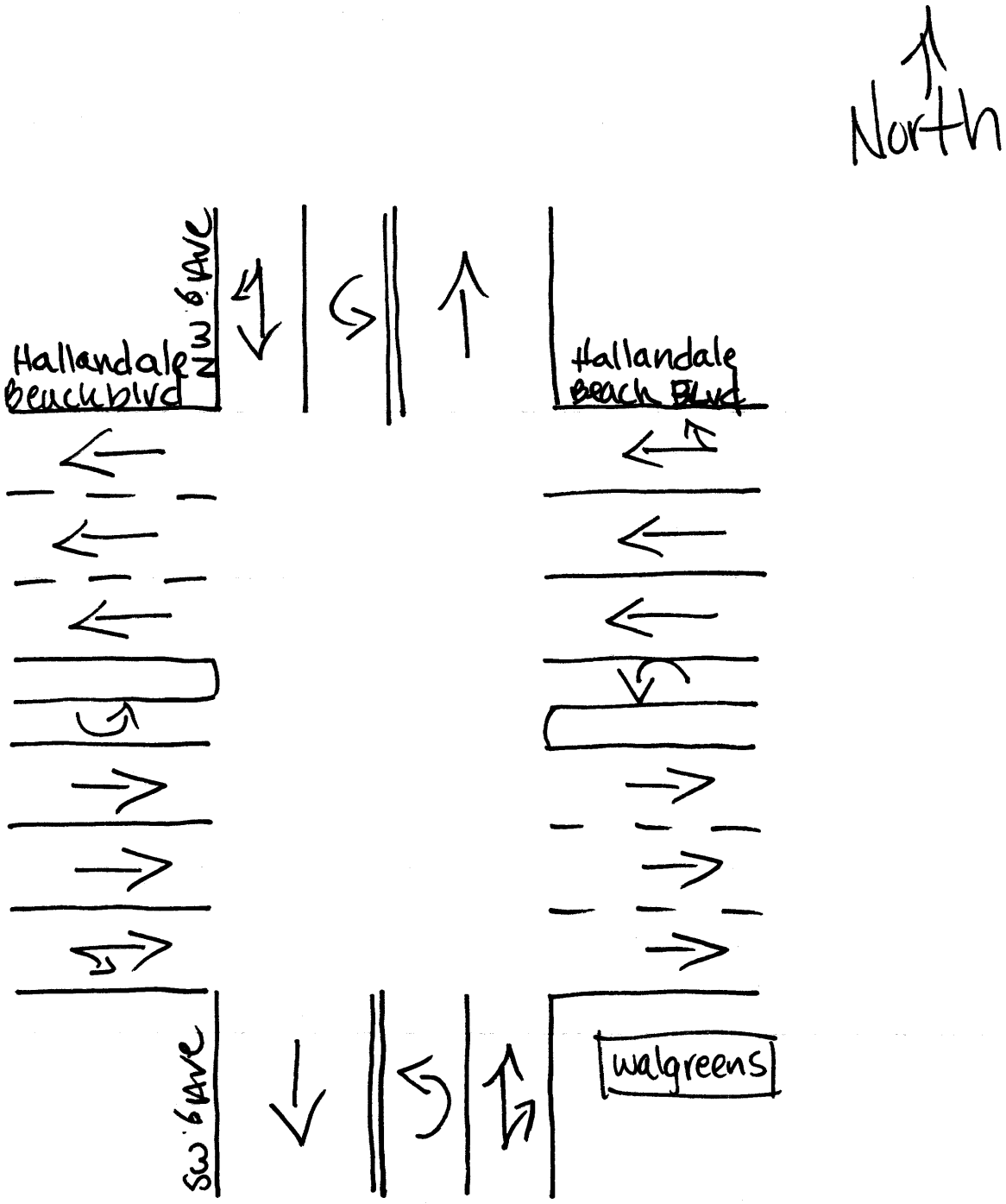
HALLANDALE BEACH BOULEVARD & NW/SW 6TH AVENUE, HALLANDALE BEACH, FLORIDA
COUNTED BY: R MENDEZ & A QUINONES
SIGNALIZED

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 B: VOLUME DEVELOPMENT WORKSHEETS

VOLUME DEVELOPMENT SHEET
HALLANDALE BEACH RETAIL
HALLANDALE BEACH BLVD & W 8th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2018	2018
Years =	5	5

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	8	2	1	2	3	3	3	46	6	1	41	0
Committed Development												
0.5% Traffic Volume Growth	8	2	1	2	3	3	3	46	6	1	41	0
Diverted Traffic Volumes	3		5						22	3		
Background Traffic Volumes	314	74	45	69	116	106	136	1,867	249	40	1,652	7
Project Traffic												
Inbound Traffic Assignment			7.0%	5.0%				43.0%				
Inbound Traffic Volumes								2				
Outbound Traffic Assignment										7.0%	43.0%	5.0%
Outbound Traffic Volumes											-3	
Project Traffic								2			-3	
Total Traffic w/o RTOR	314	74	45	69	116	106	136	1,869	249	40	1,649	7
RTOR Reduction												
TOTAL TRAFFIC	314	74	45	69	116	106	136	1,869	249	40	1,649	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	10	3	1	2	2	3	4	45	7	2	45	1
Committed Development												
0.5% Traffic Volume Growth	19	3	1	2	2	3	4	45	7	2	45	1
Diverted Traffic Volumes	2		6						19	12		
Background Traffic Volumes	402	107	31	64	95	126	182	1,818	285	80	1,819	43
Project Traffic												
Inbound Traffic Assignment			7.0%	5.0%				43.0%				
Inbound Traffic Volumes			2	2				13				
Outbound Traffic Assignment										7.0%	43.0%	5.0%
Outbound Traffic Volumes										3	16	2
Project Traffic			2	2				13		3	16	2
Total Traffic w/o RTOR	402	107	33	66	95	126	182	1,831	285	83	1,835	45
RTOR Reduction												
TOTAL TRAFFIC	402	107	33	66	95	126	182	1,831	285	83	1,835	45

VOLUME DEVELOPMENT SHEET
HALLANDALE BEACH RETAIL
HALLANDALE BEACH BLVD & W 7th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2018	2018
Years =	5	5

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	47	1	0	40	0
Committed Development												
0.5% Traffic Volume Growth	0	0	0	0	0	0	1	47	1	0	40	0
Diverted Traffic Volumes	-6		-9						-43	-7		
Background Traffic Volumes	0	0	0	0	1	15	40	1,894	0	0	1,630	7
Project Traffic												
Inbound Traffic Assignment									55.0%	45.0%		
Inbound Traffic Volumes									23	19		
Outbound Traffic Assignment	55.0%		45.0%									
Outbound Traffic Volumes	14		11									
Project Traffic	14		11						23	19		
Total Traffic w/o RTOR	14	0	11	0	1	15	40	1,894	23	19	1,630	7
RTOR Reduction												
TOTAL TRAFFIC	14	0	11	0	1	15	40	1,894	23	19	1,630	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	1	1	42	1	1	46	1
Committed Development												
0.5% Traffic Volume Growth	0	0	0	0	0	1	1	42	1	1	46	1
Diverted Traffic Volumes	-3	-2	-10						-38	-23		
Background Traffic Volumes	0	0	0	1	1	21	57	1,686	0	0	1,869	23
Project Traffic												
Inbound Traffic Assignment									55.0%	45.0%		
Inbound Traffic Volumes									62	51		
Outbound Traffic Assignment	55.0%		45.0%									
Outbound Traffic Volumes	67		55									
Project Traffic	67		55						62	51		
Total Traffic w/o RTOR	67	0	55	1	1	21	57	1,686	62	51	1,869	23
RTOR Reduction												
TOTAL TRAFFIC	67	0	55	1	1	21	57	1,686	62	51	1,869	23

VOLUME DEVELOPMENT SHEET
HALLANDALE BEACH RETAIL
HALLANDALE BEACH BLVD & W 6th AVE

Growth Rate =	0.50%	
Peak Season =	1.07	1.07
Buildout Year =	2018	2018
Years =	5	5

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	2	1	0	0	1	1	1	44	2	0	39	0
Committed Development												
0.5% Traffic Volume Growth	2	1	0	0	1	1	1	44	2	0	39	0
Diverted Traffic Volumes	3		4						21	4		
Background Traffic Volumes	70	26	13	13	29	36	41	1,784	119	11	1,573	16
Project Traffic												
Inbound Traffic Assignment	5.0%					4.0%					36.0%	
Inbound Traffic Volumes											2	
Outbound Traffic Assignment							4.0%	36.0%	5.0%			
Outbound Traffic Volumes								-2				
Project Traffic								-2			2	
Total Traffic w/o RTOR	70	26	13	13	29	36	41	1,782	119	11	1,575	16
RTOR Reduction												
TOTAL TRAFFIC	70	26	13	13	29	36	41	1,782	119	11	1,575	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	1	0	0	0	0	0	0	12	1	0	11	0
Committed Development												
0.5% Traffic Volume Growth	1	0	0	0	0	0	0	12	1	0	11	0
Diverted Traffic Volumes	2		5						19	11		
Background Traffic Volumes	28	5	6	2	11	12	16	474	48	12	438	3
Project Traffic												
Inbound Traffic Assignment						15.0%					15.0%	
Inbound Traffic Volumes						5					5	
Outbound Traffic Assignment							15.0%	15.0%				
Outbound Traffic Volumes							6	6				
Project Traffic						5	6	6			5	
Total Traffic w/o RTOR	28	5	6	2	11	17	22	480	48	12	443	3
RTOR Reduction												
TOTAL TRAFFIC	28	5	6	2	11	17	22	480	48	12	443	3

APPENDIX C: SYNCHRO WORKSHEETS

HCM 2010 Signalized Intersection Summary
9: 8/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	1740	96	7	1534	16	65	25	9	13	28	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Cap, veh/h	177	3248	178	89	3158	32	270	249	92	298	143	182
Arrive On Green	0.13	0.88	0.88	0.05	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	4934	271	1774	5191	53	1328	1297	481	1365	748	948
Grp Volume(v), veh/h	43	1298	697	8	1089	595	71	0	37	14	0	68
Grp Sat Flow(s),veh/h/ln	1774	1695	1815	1774	1695	1853	1328	0	1778	1365	0	1696
Q Serve(g_s), s	2.6	11.6	11.7	0.5	22.2	22.2	5.7	0.0	2.1	1.0	0.0	4.1
Cycle Q Clear(g_c), s	2.6	11.6	11.7	0.5	22.2	22.2	9.8	0.0	2.1	3.1	0.0	4.1
Prop In Lane	1.00		0.15	1.00		0.03	1.00		0.27	1.00		0.56
Lane Grp Cap(c), veh/h	177	2232	1195	89	2062	1127	270	0	341	298	0	325
V/C Ratio(X)	0.24	0.58	0.58	0.09	0.53	0.53	0.26	0.00	0.11	0.05	0.00	0.21
Avail Cap(c_a), veh/h	177	2232	1195	89	2062	1127	270	0	341	298	0	325
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.9	3.3	3.3	54.4	13.6	13.6	45.0	0.0	40.0	41.3	0.0	40.8
Incr Delay (d2), s/veh	3.2	1.1	2.1	2.0	1.0	1.8	2.4	0.0	0.6	0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.3	2.9	3.4	0.3	9.0	10.1	2.1	0.0	1.0	0.4	0.0	1.9
Lane Grp Delay (d), s/veh	51.2	4.4	5.4	56.4	14.5	15.3	47.3	0.0	40.7	41.6	0.0	42.3
Lane Grp LOS	D	A	A	E	B	B	D		D	D		D
Approach Vol, veh/h		2038			1692			108			82	
Approach Delay, s/veh		5.7			15.0			45.0			42.2	
Approach LOS		A			B			D			D	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	16.0	83.0		10.0	77.0			27.0			27.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	12.0	79.0		6.0	73.0			23.0			23.0	
Max Q Clear Time (g_c+I1), s	4.6	13.7		2.5	24.2			11.8			6.1	
Green Ext Time (p_c), s	0.0	57.1		0.0	44.0			0.6			0.7	

Intersection Summary												
HCM 2010 Ctrl Delay			11.6									
HCM 2010 LOS			B									

Notes

HCM Unsignalized Intersection Capacity Analysis
6: 8/22/2013

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 (veh/h)	133	1821	221	36	1611	7	303	72	39	67	113	103
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	2	1	0	1	1	0
Cap, veh/h	251	2455	295	74	2264	10	603	371	200	409	292	266
Arrive On Green	0.14	0.53	0.53	0.08	0.87	0.87	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	4603	552	1774	5225	24	2213	1140	614	1266	899	819
Grp Volume(v), veh/h	145	1452	767	39	1136	623	329	0	120	73	0	235
Grp Sat Flow(s),veh/h/ln	1774	1695	1765	1774	1695	1859	1106	0	1754	1266	0	1718
Q Serve(g_s), s	9.2	42.0	43.0	2.5	16.3	16.3	16.4	0.0	5.9	5.3	0.0	12.8
Cycle Q Clear(g_c), s	9.2	42.0	43.0	2.5	16.3	16.3	29.2	0.0	5.9	11.3	0.0	12.8
Prop In Lane	1.00		0.31	1.00		0.01	1.00		0.35	1.00		0.48
Lane Grp Cap(c), veh/h	251	1808	941	74	1469	805	603	0	570	409	0	558
V/C Ratio(X)	0.58	0.80	0.81	0.53	0.77	0.77	0.55	0.00	0.21	0.18	0.00	0.42
Avail Cap(c_a), veh/h	251	1808	941	74	1469	805	603	0	570	409	0	558
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	22.9	23.1	53.9	5.6	5.6	43.1	0.0	29.3	33.4	0.0	31.7
Incr Delay (d2), s/veh	9.3	3.9	7.7	24.4	4.0	7.1	3.5	0.0	0.8	1.0	0.0	2.3
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 Back of Q (50%), veh/ln	4.8	18.1	20.3	1.6	3.3	4.3	5.0	0.0	2.8	1.8	0.0	5.9
Lane Grp Delay (d), s/veh	57.5	26.7	30.8	78.3	9.6	12.7	46.6	0.0	30.2	34.4	0.0	34.0
Lane Grp LOS	E	C	C	E	A	B	D		C	C		C
Approach Vol, veh/h		2364			1798			449			308	
Approach Delay, s/veh		29.9			12.2			42.2			34.1	
Approach LOS		C			B			D			C	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	21.0	68.0		9.0	56.0			43.0			43.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	17.0	64.0		5.0	52.0			39.0			39.0	
Max Q Clear Time (g_c+I1), s	11.2	45.0		4.5	18.3			31.2			14.8	
Green Ext Time (p_c), s	0.2	18.5		0.0	32.2			2.3			3.7	

Intersection Summary												
HCM 2010 Ctrl Delay			24.8									
HCM 2010 LOS			C									

Notes

HCM 2010 Signalized Intersection Summary
9: 8/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	16	462	28	1	427	3	25	5	1	2	11	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Cap, veh/h	177	3233	192	89	3171	20	308	289	58	325	157	170
Arrive On Green	0.20	1.00	1.00	0.05	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	4910	291	1774	5213	34	1380	1508	302	1404	819	887
Grp Volume(v), veh/h	17	345	187	1	302	165	27	0	6	2	0	25
Grp Sat Flow(s),veh/h/ln	1774	1695	1811	1774	1695	1857	1380	0	1810	1404	0	1706
Q Serve(g_s), s	0.9	0.0	0.0	0.1	4.6	4.6	2.0	0.0	0.3	0.1	0.0	1.4
Cycle Q Clear(g_c), s	0.9	0.0	0.0	0.1	4.6	4.6	3.4	0.0	0.3	0.5	0.0	1.4
Prop In Lane	1.00		0.16	1.00		0.02	1.00		0.17	1.00		0.52
Lane Grp Cap(c), veh/h	177	2232	1192	89	2062	1130	308	0	347	325	0	327
V/C Ratio(X)	0.10	0.15	0.16	0.01	0.15	0.15	0.09	0.00	0.02	0.01	0.00	0.08
Avail Cap(c_a), veh/h	177	2232	1192	89	2062	1130	308	0	347	325	0	327
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	0.0	0.0	54.2	10.1	10.1	41.2	0.0	39.3	39.5	0.0	39.8
Incr Delay (d2), s/veh	1.1	0.1	0.3	0.2	0.1	0.3	0.6	0.0	0.1	0.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	0.5	0.0	0.1	0.0	1.8	2.1	0.7	0.0	0.2	0.1	0.0	0.7
Lane Grp Delay (d), s/veh	44.6	0.1	0.3	54.4	10.3	10.4	41.7	0.0	39.4	39.6	0.0	40.2
Lane Grp LOS	D	A	A	D	B	B	D		D	D		D
Approach Vol, veh/h		549			468			33			27	
Approach Delay, s/veh		1.6			10.4			41.3			40.2	
Approach LOS		A			B			D			D	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	16.0	83.0		10.0	77.0			27.0			27.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	12.0	79.0		6.0	73.0			23.0			23.0	
Max Q Clear Time (g_c+I1), s	2.9	2.0		2.1	6.6			5.4			3.4	
Green Ext Time (p_c), s	0.0	8.1		0.0	8.1			0.1			0.2	

Intersection Summary												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									

Notes

HCM Unsignalized Intersection Capacity Analysis
6: 8/22/2013

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		

HCM 2010 Signalized Intersection Summary
3: 8/22/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	178	1773	259	66	1774	42	381	104	24	62	93	123
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	2	1	0	1	1	0
Cap, veh/h	251	2394	346	74	2214	53	598	476	110	394	236	314
Arrive On Green	0.14	0.53	0.53	0.08	0.87	0.87	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	4489	649	1774	5110	122	2213	1466	337	1245	727	965
Grp Volume(v), veh/h	193	1449	760	72	1279	695	414	0	139	67	0	235
Grp Sat Flow(s),veh/h/ln	1774	1695	1748	1774	1695	1841	1106	0	1803	1245	0	1692
Q Serve(g_s), s	12.6	41.8	43.0	4.9	24.6	24.7	21.6	0.0	6.8	5.0	0.0	13.1
Cycle Q Clear(g_c), s	12.6	41.8	43.0	4.9	24.6	24.7	34.7	0.0	6.8	11.8	0.0	13.1
Prop In Lane	1.00		0.37	1.00		0.07	1.00		0.19	1.00		0.57
Lane Grp Cap(c), veh/h	251	1808	932	74	1469	798	598	0	586	394	0	550
V/C Ratio(X)	0.77	0.80	0.81	0.97	0.87	0.87	0.69	0.00	0.24	0.17	0.00	0.43
Avail Cap(c_a), veh/h	251	1808	932	74	1469	798	598	0	586	394	0	550
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.6	22.8	23.1	54.9	6.2	6.2	45.3	0.0	29.6	33.9	0.0	31.7
Incr Delay (d2), s/veh	19.9	3.9	7.8	97.6	7.3	12.6	6.5	0.0	1.0	0.9	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	7.1	18.1	20.2	4.1	4.2	5.8	6.7	0.0	3.2	1.7	0.0	5.9
Lane Grp Delay (d), s/veh	69.5	26.7	30.9	152.6	13.5	18.8	51.8	0.0	30.6	34.9	0.0	34.2
Lane Grp LOS	E	C	C	F	B	B	D		C	C		C
Approach Vol, veh/h		2402			2046			553			302	
Approach Delay, s/veh		31.4			20.2			46.5			34.3	
Approach LOS		C			C			D			C	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	21.0	68.0		9.0	56.0			43.0			43.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	17.0	64.0		5.0	52.0			39.0			39.0	
Max Q Clear Time (g_c+I1), s	14.6	45.0		6.9	26.7			36.7			15.1	
Green Ext Time (p_c), s	0.1	18.6		0.0	24.6			1.0			4.2	

Intersection Summary												
HCM 2010 Ctrl Delay			28.8									
HCM 2010 LOS			C									

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	41	1782	119	11	1575	16	70	26	13	13	29	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Cap, veh/h	177	3208	213	89	3159	31	267	225	112	294	147	179
Arrive On Green	0.13	0.88	0.88	0.05	0.61	0.61	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	4873	323	1774	5192	52	1324	1173	586	1359	765	933
Grp Volume(v), veh/h	45	1346	720	12	1118	611	76	0	42	14	0	71
Grp Sat Flow(s),veh/h/ln	1774	1695	1806	1774	1695	1854	1324	0	1759	1359	0	1698
Q Serve(g_s), s	2.7	12.6	12.7	0.8	23.1	23.1	6.2	0.0	2.4	1.0	0.0	4.2
Cycle Q Clear(g_c), s	2.7	12.6	12.7	0.8	23.1	23.1	10.4	0.0	2.4	3.4	0.0	4.2
Prop In Lane	1.00		0.18	1.00		0.03	1.00		0.33	1.00		0.55
Lane Grp Cap(c), veh/h	177	2232	1189	89	2062	1128	267	0	337	294	0	325
V/C Ratio(X)	0.25	0.60	0.61	0.14	0.54	0.54	0.28	0.00	0.12	0.05	0.00	0.22
Avail Cap(c_a), veh/h	177	2232	1189	89	2062	1128	267	0	337	294	0	325
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.0	3.3	3.3	54.5	13.7	13.7	45.3	0.0	40.2	41.6	0.0	40.9
Incr Delay (d2), s/veh	3.4	1.2	2.3	3.1	1.0	1.9	2.7	0.0	0.8	0.3	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	1.4	3.0	3.6	0.4	9.5	10.6	2.3	0.0	1.1	0.4	0.0	2.0
Lane Grp Delay (d), s/veh	51.4	4.5	5.6	57.7	14.8	15.6	48.0	0.0	40.9	41.9	0.0	42.5
Lane Grp LOS	D	A	A	E	B	B	D		D	D		D
Approach Vol, veh/h		2111			1741			118			85	
Approach Delay, s/veh		5.9			15.4			45.5			42.4	
Approach LOS		A			B			D			D	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	16.0	83.0		10.0	77.0			27.0			27.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	12.0	79.0		6.0	73.0			23.0			23.0	
Max Q Clear Time (g_c+I1), s	4.7	14.7		2.8	25.1			12.4			6.2	
Green Ext Time (p_c), s	0.0	57.5		0.0	44.0			0.6			0.7	

Intersection Summary												
HCM 2010 Ctrl Delay			11.9									
HCM 2010 LOS			B									

Notes

HCM Unsignalized Intersection Capacity Analysis
6: 8/28/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	40	1894	23	19	1630	7	14	0	11	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	2059	25	21	1772	8	15	0	12	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	0.80			0.62			0.72	0.72	0.62	0.72	0.72	0.80
vC, conflicting volume	1779			2084			2807	3979	699	2602	3988	594
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1108			614			298	1923	0	13	1935	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			97			96	100	98	100	97	98
cM capacity (veh/h)	502			598			399	42	674	645	41	870

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	823	823	437	21	709	709	362	27	17
Volume Left	43	0	0	0	21	0	0	0	15	0
Volume Right	0	0	0	25	0	0	0	8	12	16
cSH	502	1700	1700	1700	598	1700	1700	1700	486	386
Volume to Capacity	0.09	0.48	0.48	0.26	0.03	0.42	0.42	0.21	0.06	0.05
Queue Length 95th (ft)	7	0	0	0	3	0	0	0	4	4
Control Delay (s)	12.8	0.0	0.0	0.0	11.2	0.0	0.0	0.0	12.8	14.8
Lane LOS	B				B				B	B
Approach Delay (s)	0.3				0.1				12.8	14.8
Approach LOS									B	B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

HCM 2010 Signalized Intersection Summary
3: 8/28/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	136	1869	249	40	1649	7	314	74	45	69	116	106
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	2	1	0	1	1	0
Cap, veh/h	251	2426	319	74	2264	10	593	352	216	401	292	266
Arrive On Green	0.14	0.53	0.53	0.08	0.87	0.87	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1774	4549	598	1774	5225	23	2201	1083	663	1256	898	820
Grp Volume(v), veh/h	148	1507	796	43	1163	637	341	0	129	75	0	241
Grp Sat Flow(s),veh/h/ln	1774	1695	1757	1774	1695	1859	1100	0	1746	1256	0	1718
Q Serve(g_s), s	9.4	44.8	46.4	2.8	17.5	17.5	17.3	0.0	6.5	5.6	0.0	13.2
Cycle Q Clear(g_c), s	9.4	44.8	46.4	2.8	17.5	17.5	30.5	0.0	6.5	12.0	0.0	13.2
Prop In Lane	1.00		0.34	1.00		0.01	1.00		0.38	1.00		0.48
Lane Grp Cap(c), veh/h	251	1808	937	74	1469	805	593	0	567	401	0	558
V/C Ratio(X)	0.59	0.83	0.85	0.58	0.79	0.79	0.58	0.00	0.23	0.19	0.00	0.43
Avail Cap(c_a), veh/h	251	1808	937	74	1469	805	593	0	567	401	0	558
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.2	23.5	23.9	54.0	5.7	5.7	43.8	0.0	29.5	33.9	0.0	31.8
Incr Delay (d2), s/veh	9.7	4.7	9.5	29.3	4.4	7.8	4.0	0.0	0.9	1.0	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q (50%), veh/ln	5.0	19.6	22.2	1.9	3.4	4.5	5.3	0.0	3.0	1.9	0.0	6.1
Lane Grp Delay (d), s/veh	58.0	28.2	33.4	83.3	10.1	13.5	47.8	0.0	30.5	34.9	0.0	34.2
Lane Grp LOS	E	C	C	F	B	B	D		C	C		C
Approach Vol, veh/h		2451			1843			470			316	
Approach Delay, s/veh		31.7			13.0			43.0			34.4	
Approach LOS		C			B			D			C	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	21.0	68.0		9.0	56.0			43.0			43.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	17.0	64.0		5.0	52.0			39.0			39.0	
Max Q Clear Time (g_c+I1), s	11.4	48.4		4.8	19.5			32.5			15.2	
Green Ext Time (p_c), s	0.2	15.3		0.0	31.4			2.1			3.9	

Intersection Summary	
HCM 2010 Ctrl Delay	26.1
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
9: 8/28/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	22	480	48	12	443	3	28	5	6	2	11	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Cap, veh/h	340	2393	236	222	2303	14	408	188	263	425	180	270
Arrive On Green	0.19	0.51	0.51	0.13	0.44	0.44	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1774	4708	464	1774	5215	32	1374	704	985	1397	674	1011
Grp Volume(v), veh/h	24	374	200	13	313	172	30	0	12	2	0	30
Grp Sat Flow(s),veh/h/ln	1774	1695	1781	1774	1695	1857	1374	0	1689	1397	0	1684
Q Serve(g_s), s	1.3	7.3	7.5	0.8	6.8	6.8	2.0	0.0	0.6	0.1	0.0	1.6
Cycle Q Clear(g_c), s	1.3	7.3	7.5	0.8	6.8	6.8	3.6	0.0	0.6	0.8	0.0	1.6
Prop In Lane	1.00		0.26	1.00		0.02	1.00		0.58	1.00		0.60
Lane Grp Cap(c), veh/h	340	1723	905	222	1497	820	408	0	450	425	0	449
V/C Ratio(X)	0.07	0.22	0.22	0.06	0.21	0.21	0.07	0.00	0.03	0.00	0.00	0.07
Avail Cap(c_a), veh/h	340	1723	905	222	1497	820	408	0	450	425	0	449
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	16.3	16.3	46.3	20.6	20.6	34.2	0.0	32.5	32.8	0.0	32.9
Incr Delay (d2), s/veh	0.4	0.3	0.6	0.5	0.3	0.6	0.3	0.0	0.1	0.0	0.0	0.3
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 Back of Q (50%), veh/ln	0.6	3.1	3.4	0.4	2.9	3.3	0.7	0.0	0.3	0.0	0.0	0.7
Lane Grp Delay (d), s/veh	40.1	16.6	16.9	46.8	20.9	21.2	34.5	0.0	32.6	32.8	0.0	33.1
Lane Grp LOS	D	B	B	D	C	C	C		C	C		C
Approach Vol, veh/h		598			498			42			32	
Approach Delay, s/veh		17.6			21.7			34.0			33.1	
Approach LOS		B			C			C			C	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	27.0	65.0		19.0	57.0			36.0			36.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	23.0	61.0		15.0	53.0			32.0			32.0	
Max Q Clear Time (g_c+I1), s	3.3	9.5		2.8	8.8			5.6			3.6	
Green Ext Time (p_c), s	0.0	8.7		0.0	8.5			0.3			0.3	

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Notes

HCM Unsignalized Intersection Capacity Analysis
6: 8/28/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	57	1686	62	51	1869	23	67	0	55	1	1	21
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	1833	67	55	2032	25	73	0	60	1	1	23
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			0.62			0.64	0.64	0.62	0.64	0.64	0.97
vC, conflicting volume	2057			1900			2802	4158	645	2949	4179	690
vC1, stage 1 conf vol							1990	1990		2155	2155	
vC2, stage 2 conf vol							811	2167		795	2024	
vCu, unblocked vol	1972			329			1493	3612	0	1724	3645	558
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			93			61	100	91	98	99	95
cM capacity (veh/h)	281			765			189	21	676	48	74	458

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	733	733	434	55	813	813	431	133	25
Volume Left	62	0	0	0	55	0	0	0	73	1
Volume Right	0	0	0	67	0	0	0	25	60	23
cSH	281	1700	1700	1700	765	1700	1700	1700	280	287
Volume to Capacity	0.22	0.43	0.43	0.26	0.07	0.48	0.48	0.25	0.47	0.09
Queue Length 95th (ft)	21	0	0	0	6	0	0	0	60	7
Control Delay (s)	21.4	0.0	0.0	0.0	10.1	0.0	0.0	0.0	28.9	18.7
Lane LOS	C				B				D	C
Approach Delay (s)	0.7				0.3				28.9	18.7
Approach LOS									D	C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		

HCM 2010 Signalized Intersection Summary
3: 8/28/2013

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	182	1831	285	83	1835	45	402	107	33	66	95	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow veh/h/ln	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3	186.3
Lanes	1	3	0	1	3	0	2	1	0	1	1	0
Cap, veh/h	237	2196	336	118	2178	53	547	382	119	358	203	270
Arrive On Green	0.13	0.49	0.49	0.07	0.43	0.43	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1774	4451	682	1774	5106	125	2203	1365	423	1230	726	966
Grp Volume(v), veh/h	198	1508	792	90	1324	720	437	0	152	72	0	240
Grp Sat Flow(s),veh/h/ln	1774	1695	1742	1774	1695	1841	1101	0	1788	1230	0	1692
Q Serve(g_s), s	8.2	30.4	31.7	3.7	27.5	27.6	12.1	0.0	5.0	3.7	0.0	8.9
Cycle Q Clear(g_c), s	8.2	30.4	31.7	3.7	27.5	27.6	21.0	0.0	5.0	8.7	0.0	8.9
Prop In Lane	1.00		0.39	1.00		0.07	1.00		0.24	1.00		0.57
Lane Grp Cap(c), veh/h	237	1672	860	118	1446	785	547	0	501	358	0	474
V/C Ratio(X)	0.84	0.90	0.92	0.76	0.92	0.92	0.80	0.00	0.30	0.20	0.00	0.51
Avail Cap(c_a), veh/h	237	1672	860	118	1446	785	547	0	501	358	0	474
HCM Platoon Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.7	17.3	17.6	34.4	20.2	20.2	32.6	0.0	21.2	24.7	0.0	22.7
Incr Delay (d2), s/veh	28.2	8.3	16.7	36.2	10.5	17.3	11.6	0.0	1.6	1.3	0.0	3.8
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 Back of Q (50%), veh/ln	5.4	13.4	16.3	2.8	13.0	15.6	4.9	0.0	2.4	1.2	0.0	4.1
Lane Grp Delay (d), s/veh	59.9	25.6	34.3	70.7	30.8	37.6	44.2	0.0	22.8	25.9	0.0	26.5
Lane Grp LOS	E	C	C	E	C	D	D		C	C		C
Approach Vol, veh/h		2498			2134			589			312	
Approach Delay, s/veh		31.1			34.7			38.7			26.4	
Approach LOS		C			C			D			C	

Timer												
Assigned Phs	7	4		3	8			2			6	
Phs Duration (G+Y+Rc), s	14.0	41.0		9.0	36.0			25.0			25.0	
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0			4.0			4.0	
Max Green Setting (Gmax), s	10.0	37.0		5.0	32.0			21.0			21.0	
Max Q Clear Time (g_c+I1), s	10.2	33.7		5.7	29.6			23.0			10.9	
Green Ext Time (p_c), s	0.0	3.3		0.0	2.4			0.0			3.2	

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes