

DRAFT

Date Prepared: 01/22/2016

Name of Project: Own Hotel

Address of Site: 8011, 8017, 8021, 8035 Harding Avenue

Building Permit #: Preliminary Concurrency Calculation

Activity #:

Concurrency Management Area: North Beach

Invoice Prepared by: Daniella

Proposed Project Program

	Residential (Units)	Hotel (Rooms)	Restaurant (Seats)	Retail (SF)	General Office (SF)	Medical Office (SF)	Storage Warehouse (SF)	Supermarket (SF)	Bar (SF)	Health/Fitness Club (SF)	Proposed Total
		44									
Peak Hour Trips Generated*	N/A	32.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32.56
Residential Demand	0.0	22.0								0.0	22.0

* Peak Hour Trips Calculated with ITE 9th Edition Trip Generation Manual Weekday PM Peak Hour factors

Capacity Credit (Existing Uses)

	Residential (Units)	Hotel (Rooms)	Restaurant (Seats)	Retail (SF)	General Office (SF)	Medical Office (SF)	Storage Warehouse (SF)	Supermarket (SF)	Bar (SF)	Health/Fitness Club (SF)	Existing Total
			0	0							
Peak Hour Trips Generated*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00
Residential Demand	0.0	0.0								0.0	0.0

* Peak Hour Trips Calculated with ITE 9th Edition Trip Generation Manual Weekday PM Peak Hour factors

Trip Generation Determination

New Trips Generated	Trip Allowances	Transit	15%	Net New Trips Generated
32.56 Trips		Pass-by	30%	17.91 Trips
	+	Total	45%	

Transportation Concurrency Mitigation Fee Calculation

17.91 Trips	x	\$1,841.00 /Trip	=	Transportation Concurrency Mitigation Fee:	\$32,968.63
-------------	---	------------------	---	--	-------------

Parks Concurrency Mitigation Fee Calculation

Net New Residential Demand: 22.0 People

Parks Facility Type	Concurrent	Cost of New Facility	Capacity of New Facility	Residential Demand	Fair-Share Percentage	Fair-Share Cost
Recreation and Open Space Acreage	YES	N/A	N/A	22.0	N/A	N/A
Recreational Facilities Acreage	YES	N/A	N/A	22.0	N/A	N/A
Swimming Pool	YES	N/A	N/A	22.0	N/A	N/A
Golf Course	YES	N/A	N/A	22.0	N/A	N/A
Basketball Court	YES	N/A	N/A	22.0	N/A	N/A
Tennis Court	YES	N/A	N/A	22.0	N/A	N/A
Multiple Use Courts	NO	\$50,000	4,000	22.0	0.55%	\$275.00
Designated Field Area	NO	\$950,000	10,000	22.0	0.22%	\$2,090.00
Tot Lots	YES	N/A	N/A	22.0	N/A	N/A
Vjta Course	YES	N/A	N/A	22.0	N/A	N/A
Boat Ramp	YES	N/A	N/A	22.0	N/A	N/A
Outdoor Amphitheater	YES	N/A	N/A	22.0	N/A	N/A
Activity Building for Multiple Uses	NO	\$600,000	10,000	22.0	0.22%	\$1,320.00

Park Concurrency Mitigation Fee: \$3,685.00

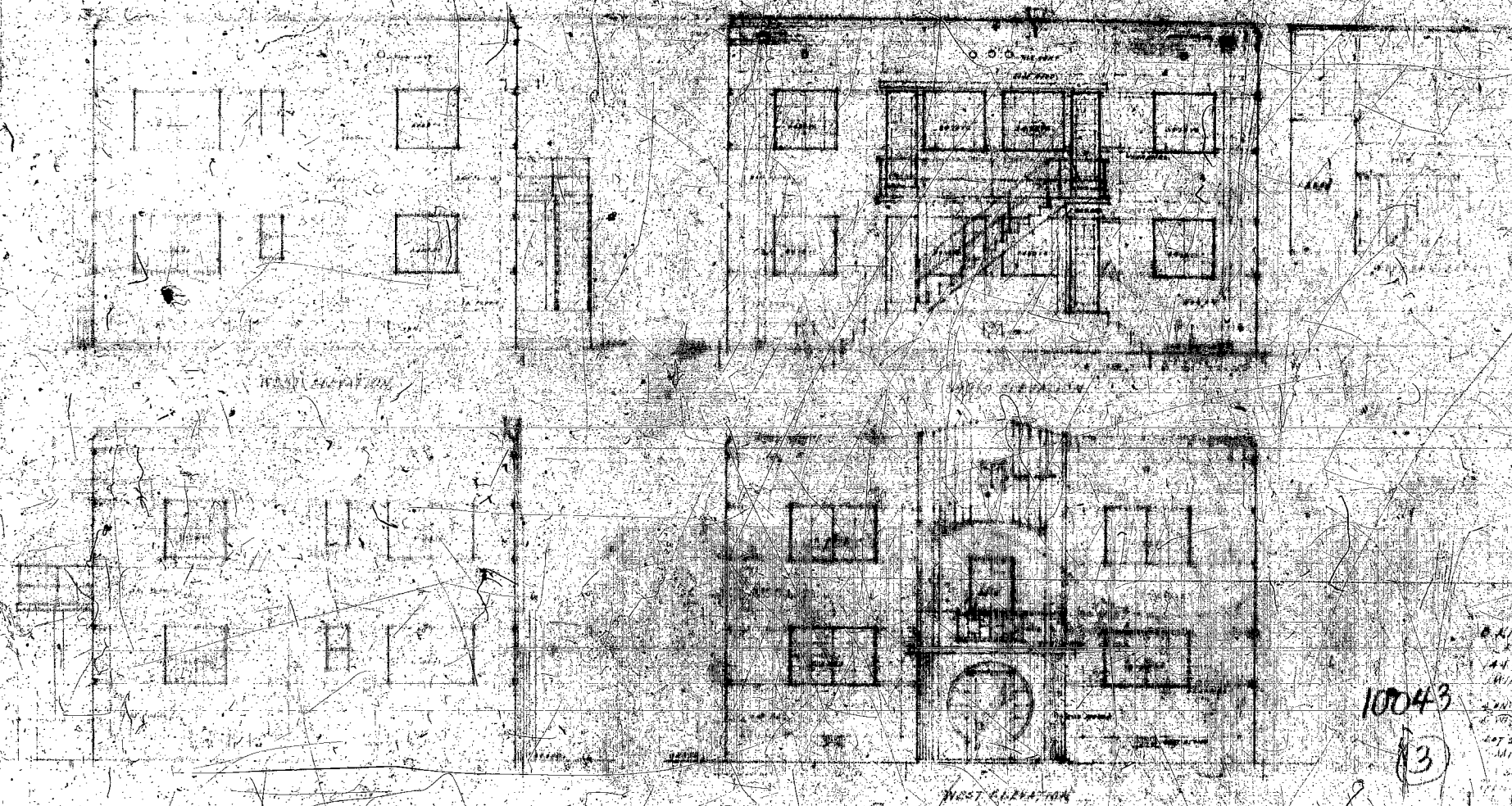
Administration Cost

Determination Fee:	\$125.00	+	Inquiry & Reservation Fee:	\$275.00	=	Administration Fee:	\$400.00
--------------------	----------	---	----------------------------	----------	---	---------------------	----------

Total Concurrency Mitigation Fees Due

Note: This is a draft invoice for reference only. These fees are subject to change. For an official invoice please see the City of Miami Beach Planning Department.

Total Fees Due: \$37,053.63



10043

13

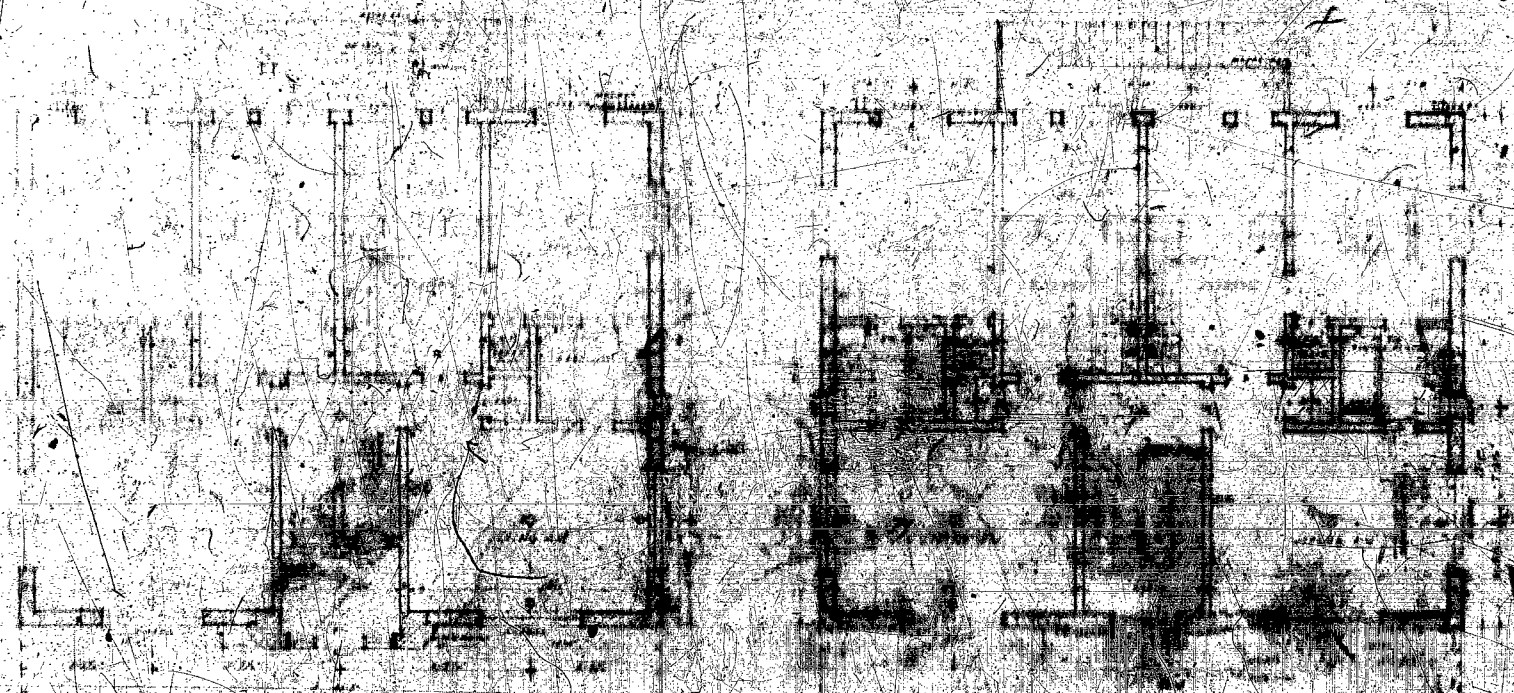
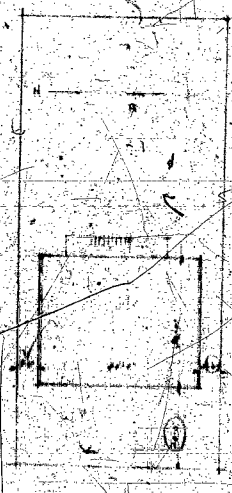
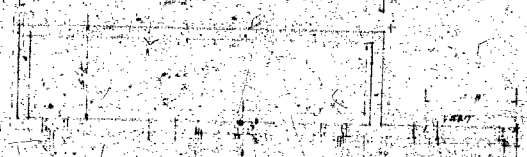


FIGURE 1002 PL. 1

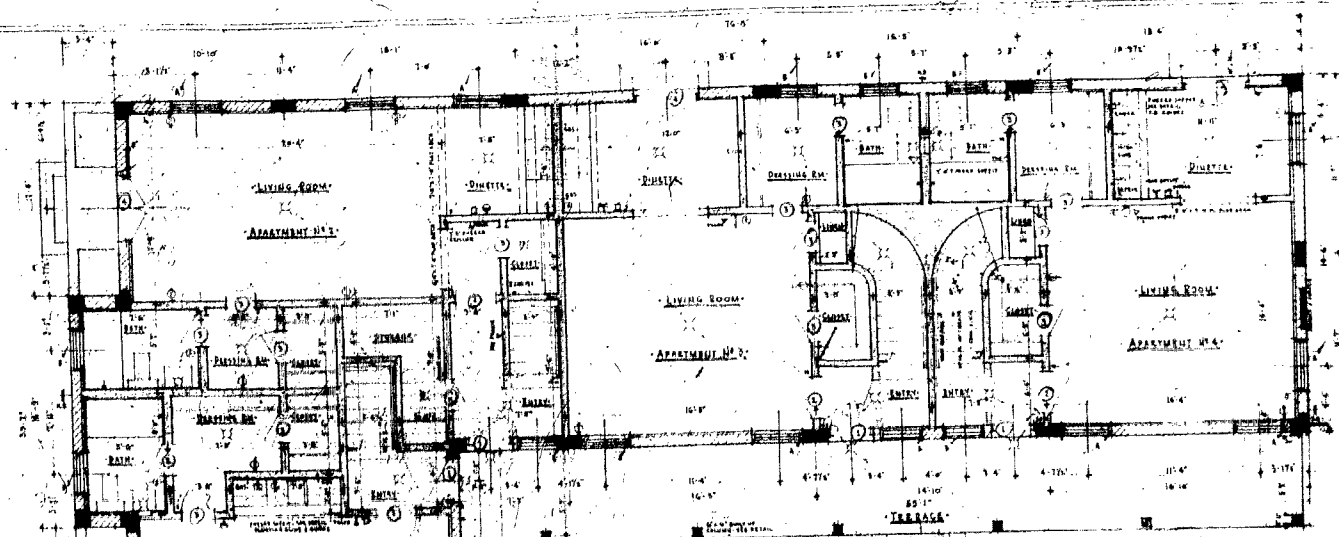
FIGURE 1003 PL. 1

20
ARCHITECTURAL
FLOOR PLAN
OF THE
BUILDING
AT
THE
SITE
OF
THE
RESEARCH
LABORATORY
AT
THE
UNIVERSITY
OF
CALIFORNIA
AT
BERKELEY
1950

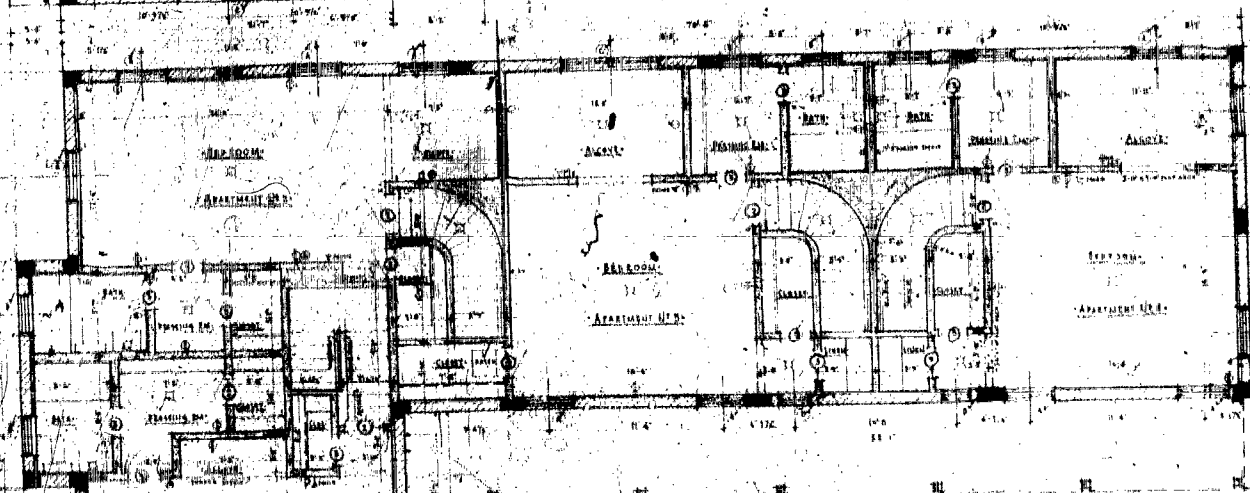


10043

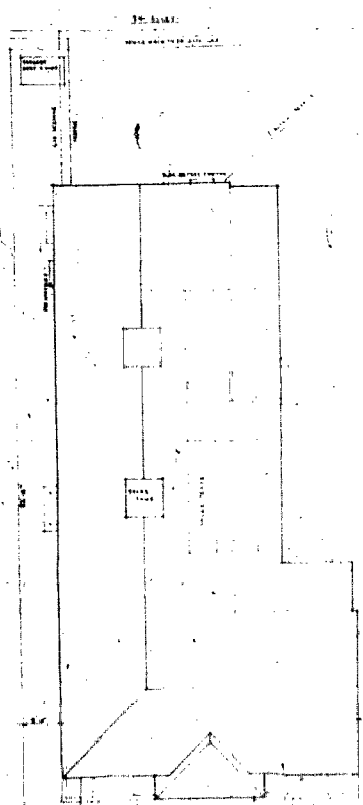
INTERNAL FOOTING DETAIL



FIRST FLOOR PLAN
SCALE 1/8" = 1'-0"

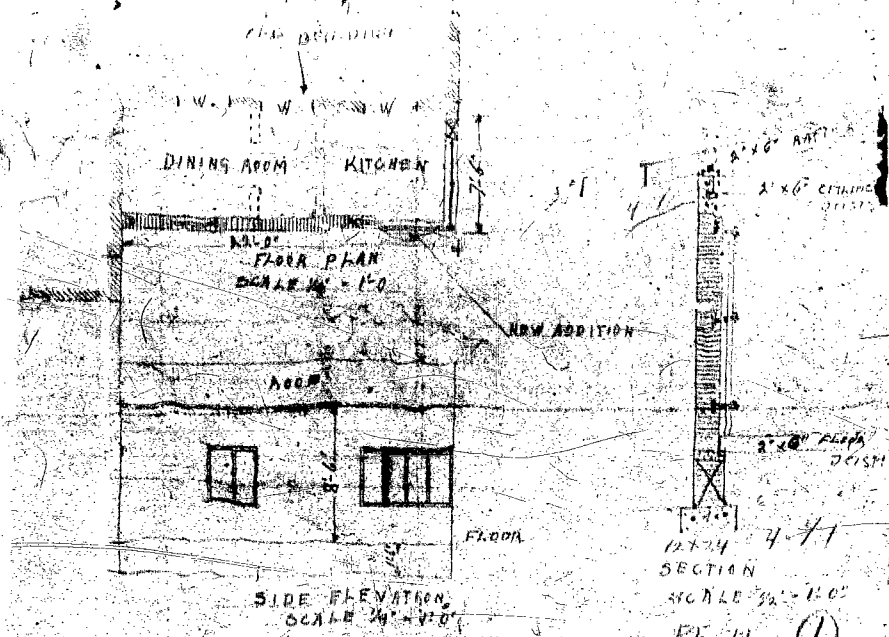


SECOND FLOOR PLAN
SCALE 1/8" = 1'-0"



SECTION
ELEVATION

1204

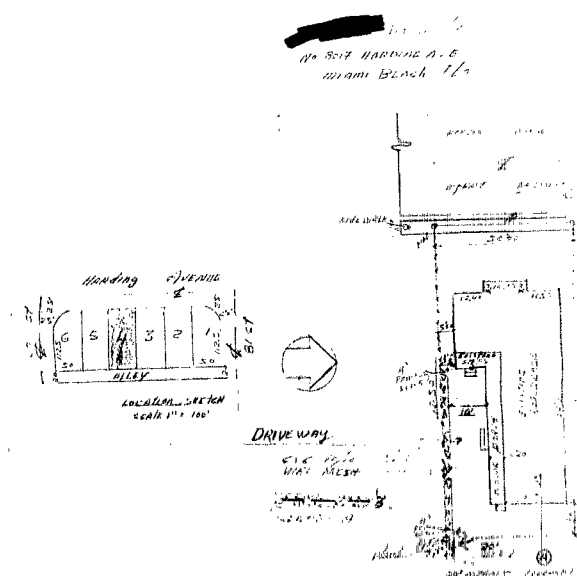


24478

ALTERATION
FOR MR. RICHARD D. MORALES
8021 HARDING AVE.
MIAMI BEACH, FLA.

28002

28002



OFFICE COPY
 CITY OF MIAMI BEACH
 APPROVED FOR PERMIT BY
 THE FOLLOWING:

BUILDING _____
 ZONING _____
 PLUMBING _____
 ELECTRICAL _____
 MECHANICAL _____
 FIRE INSPECTION _____
 CRIMINAL _____

RECEIVED

28002

Owner Mr. & Mrs. William Halper

Permit No. 50935

Cost \$ 32 000

Lot 5 Block 6 Subdivision Altos Del Mar #3

Address 8011 Harding Avenue

General Contractor Escot Construction Company

Bond No. 233-8057
6203

Architect Lester Avery

Engineer

Zoning Regulations: Use RE

Area 17

Lot Size 50' x 112+

Building Size: Front 39'

Depth 96'

Height 21'

Stories 2

Certificate of Occupancy No. 3164 October 24, 1956

Use Apartment House: Eight Apartment Units

Type of Construction #3 CBS

Foundation spread footing 12x27

Roof flat

Date July 9, 1956

PLUMBING Contractor #38231 Service Plumbing Company

Sewer Connection 1 - 4"

Date July 9, 1956

Temporary Water Closet 1

Water Closets 8

Swimming Pool Traps

Down Spouts

Lavatories 8

Steam or Hot Water Boilers

Wells

Bath Tubs 8

ROUGH APPROVAL OK, Cox 7/16/56

Showers

FINAL APPROVAL OK, Cox 10/24/57

Urinals

Sinks 8

GAS Contractor

Date

Dish Washing Machine

Gas Ranges 8

Gas Frylators

Laundry Trays

Gas Water Heaters

Gas Pressing Machine

Laundry Washing Machines

Gas Space Heaters

Gas Vents for Stove

Drinking Fountains

Gas Refrigerators

Floor Drains

Gas Steam Tables

Grease Traps

Gas Broilers

GAS Rough APPROVAL OK, Rothman 9/6/56

Safe Wastes

GAS FINAL APPROVAL OK, Cox 10/24/56

AIR CONDITIONING Contractor

SEPTIC TANK Contractor

OIL BURNER Contractor

SPRINKLER Contractor

ELECTRICAL Contractor #48004 Jonesey Electric

Date July 18, 1956

OUTLETS Switches 32 Ranges

Temporary Service

Lights 58 Irons 8

Neon Transformers

Receptacles 82 Refrigerators 8

Sign Outlets

Fans

Meter Change

Motors 16

Centers of Distributions 8

HEATERS Water 9

Appliances 1

Service 1

Space 8

Violations

FIXTURES 58

Electrical Contractor

Date

FINAL APPROVAL

By OK, Fidler

Date 10/22/1956

Alterations or Repairs—Over

spot survey ns

Owner Mr. & Mrs. William Halper

Permit No. 50935

Cost \$ 32 000

Lot 5 Block 6 Subdivision Altos Del Mar #3

Address 8011 Harding Avenue

General Contractor Escot Construction Company

Bond No. 6203

Architect Lester Avery

Engineer

Zoning Regulations: Use RE

Area 17

Lot Size 50' x 112+

Building Size: Front 39'

Depth 96'

Height 21'

Stories 2

Certificate of Occupancy No. 3164 October 24, 1956

Use Apartment House: Eight Apartment Units

Type of Construction #3 CBS

Foundation spread footing 12x27

Roof flat

Date July 9, 1956

PLUMBING Contractor #38231 Service Plumbing Company

Sewer Connection 1 - 4"

Date July 9, 1956

Temporary Water Closet 1

Water Closets 8

Swimming Pool Traps

Down Spouts

Lavatories 8

Steam or Hot Water Boilers

Wells

Bath Tubs 8

ROUGH APPROVAL OK, Cox 7/16/56

Showers

FINAL APPROVAL OK, Cox 10/24/57

Urinals

Sinks 8

GAS Contractor

Date

Dish Washing Machine

Gas Ranges 8

Gas Frylators

Laundry Trays

Gas Water Heaters

Gas Pressing Machine

Laundry Washing Machines

Gas Space Heaters

Gas Vents for Stove

Drinking Fountains

Gas Refrigerators

Floor Drains

Gas Steam Tables

Grease Traps

Gas Broilers

GAS Rough APPROVAL OK, Rothman 9/6/56

Safe Wastes

GAS FINAL APPROVAL OK, Cox 10/24/56

AIR CONDITIONING Contractor

SEPTIC TANK Contractor

OIL BURNER Contractor

SPRINKLER Contractor

ELECTRICAL Contractor #48004 Jonesey Electric

Date July 18, 1956

OUTLETS Switches 32

Ranges

Temporary Service

Lights 58

Irons 8

Neon Transformers

Receptacles 82

Refrigerators 8

Sign Outlets

Fans

Meter Change

Motors 16

Centers of Distributions 8

HEATERS Water 9

Appliances 1

Service 1

Space 8

Violations

FIXTURES 58

Electrical Contractor

Date

FINAL APPROVAL

By OK, Fidler

Date 10/22/1956

Alterations or Repairs—Over

ALTERATIONS & ADDITIONS

Building Permits:

#06417- G & L Roofing-Re-roof 20 sqs-\$1890-11-174

#06454- G & L Roofing- Remove oled roof 2nd story and apply new 4 ply gravel roof-16 sqs-\$2035-11-8-74

7/21/80 #18496 Sheppard Roofing 19 squares \$2845.

#29105 9/8/86 owner paint exterior bright white only all \$1,500.

Plumbing Permits:

Electrical Permits: #82433 - Miami Beach Electric - 8 Smoke Detectors - 10-2-87

COASTAL CONTROL ZONE

CUMULATIVE COST OF CONSTRUCTION OF PERMITS ISSUED

DATE	PROCESS	DESCRIPTION	WORK	CUMULATIVE	APPRAISED BLDG.			BUILDING
ISSUED	NO.	OF WORK	COST	WORK COST	VALUE BEFORE REMODEL	%	COMMENTS	PERMIT NO.
2-13-89		ReRoof 1900 sq ft. GRAVEL ROOF	\$3,300.00					SB890696
6-1-89		Paint - repair/c.e. CASE #32413, windows 10	\$2,100.00					SB891380

BUILDING PERMITS: #SB890696 - 2-13-89 - C.E. Sheppard Roofing - Reroof 1900 sq.ft. - \$3,300.00
#SB891380 - 6-1-89 - Owner - Paint-repair/C.E. Case #32413, windows 10 -
\$2,100.00

ELECTRICAL PERMITS: #BE891201 - Maynard Electric - New central a/c unit - 6-14-89

Owner W. FINLEY WRIGHT

Mailing Address

Permit No. 12842

Date Aug. 21-1939

Lot 4

Block 6

Subdivision Altos del Mar #3

Address 8017 Harding avenue

General Contractor Ray Del Valle

Address

Architect Donald G. Smith

Address

Front 39-7 Depth 80

Height 24½

Stories 2

Use Apartment house
4 units

Type of construction c-b-s-

Cost \$ 15,600.00

Foundation concrete pile

Roof Tile

Plumbing Contractor

Odom & Robertson # 12376

Address

Date Aug. 22-1939

8 water closets;

8 lavatories; 8 bath tubs; 8 sinks;

Plumbing Fixtures

Rough approved by

GAS -OK T J Bell- Oct. 4-1939

Date

Gas Stoves 16

Gas Heaters

Address

Date

Final approved by

Date

1 temp closet;

Sewer connection 1

Septic tank

Make

Date

Electrical Contractor

Rafel # 13266

Address

Date Aug. 30-1939

Switch 2080

Range

Motors

Fans

Temporary service

OUTLETS Light

HEATERS Water

Receptacles

Space

Centers of Distribution 10

Electrical Contractor

Rafel Electric # 14032

Address

Date Dec. 5-1939

No. fixtures set 45

Final approved by

8 refrigerators: 8 irons: 2 water heaters:

Lincoln Brown, jr.

Date

Date of service

December 5- 1939

VAN

Alterations or repairs

23698

Painting -

Levine & Wright, painters \$ 465.

Date Nov. 26, 1946

Dr. E.J. Wiley # 41726 "For Sale" sign as per Ord. #1024 Owner

\$2.00 June 3, 1953

Over

METRO ORD. #75-34
RECERTIFICATION DATE: 2-28-80

Building Permits:

#01469-Youngblood Co., Inc.-Re-Roof-\$2400-7-19-72

#26935 5/24/85 J. Valiente Painting - pressure clean and paint white \$2,500.

#28002 2/12/86 owner driveway as per plans \$2,000.

Plumbing Permits:

12-17-80/#59085/2 pipings/CJ Pitsch Plumbing Cont Inc/\$5.60

Electrical Permits:

#70647-M.Berkovitz- replacing distribution center-7-3-73

RON.

**CITY OF MIAMI BEACH
PLANNING DEPARTMENT
INTER-OFFICE MEMORANDUM**

TO: PHIL AZAN
Building Director

FROM: JORGE G. GOMEZ 
Planning & Zoning Director

VIA: RICHARD LORBER
Senior Planner

DATE: July 27, 1999

RE: Retention of Illegally Subdivided Units and Illegally Installed Kitchens
8017 Harding Avenue, Miami Beach, Florida

This memorandum serves to notify you formally that the Planning Department has completed the review of an application for the retention of illegally subdivided units and illegally installed kitchens at the subject property under our File # K1093. (These procedures and review have been completed pursuant to City Commission's Resolution #89-19664 and Section 118-399 of the Land Development Regulations of the Code of the City of Miami Beach, Florida).

Please instruct your staff to revise the building card of the subject property to reflect the following breakdown of the total number of units in the building:

**8 TOTAL UNITS = FOUR (4) 1 BEDROOM APTS
FOUR (4) EFFICIENCIES**

Time is of the essence. I would ask that you ensure that a note indicating today's date and the above mentioned change is typed on the front page of the building card immediately and forward a copy to Richard Lorber in the Planning Department. The above information will also be entered into the Permits Plus System by Richard Lorber.

Thank you for your cooperation.

JGG\RGL\rgl

F:\PLAN\PLB\MISC\KFILES\APPR1093.WPD

cc: A. Childress, Code Compliance
C. Phelps, Fire Department
B. Gonzales, Licensing Division
R. Lorber, Planning Department
T. Mooney, Planning Department
C. Ford, Planning Department

CUMULATIVE COST OF CONSTRUCTION OF PERMITS ISSUED

DATE	PROCESS	DESCRIPTION	WORK	CUMULATIVE	APPRAISED BLDG.		BUILDING
ISSUED	NO.	OF WORK	COST	WORK COST	VALUE BEFORE REMODEL	%	PERMIT NO.
8-18-89		REPLACING 12 SQ. FT. METER ROOM	\$250.00				BS891908

W. Patton * R.D. Morales
 Owner GARNETT & YOCOM Mailing Address [REDACTED] Permit No. 1711
 Lot 3 Block 6 Subdivision Altos del Mar No. 8021 Street Harding Ave Date Feb. 5- 1926
 General Contractor Owner Bond 351 Address 3202-07-028
 Architect Address
 Front 36-0 Depth 35-6 Height Stories Use Residence
 Type of construction blocks Cost \$ 5,000.00 Foundation Reinf. concrete Roof Comp

Plumbing Contractor Address Date
 No. fixtures Rough approved by Date
~~No. Receptacles~~ # 16557- Alex. Orr, Inc. 1 SEWER - 2/6/1942
 Plumbing Contractor Address Date
 No. fixtures set Final approved by Date
 Sewer connection Septic tank < Make Date

Electrical Contractor The Landis Co. Address Date May 3-1926
 Fixtures- 10
 No. outlets Heaters Stoves Motors Fans Temporary service
 Rough approved by Date
 Electrical Contractor Address Date
 No. fixtures set Final approved by Date
 Date of service

Alterations or repairs # 19612.. Painting - outside - day labor - \$ 50.00 Date Jan. 10, 1945
 Morales - BUILDING PERMIT # 24978 Enlarging kitchen and dining room: 7' x 22' x 10' - \$ 700... 7/18/47
 Owner builds.
 ELECTRICAL PERMIT #24711: 2 switch outlets, 2 light outlets, 2 receptacles, 2 fixtures, 1 appliance outlet..... Emanuel. August 25, 1947
 BUILDING PERMIT #38918 New bath room & new tile in old bath- new floor in bed room-Norman Robinson, contr. \$ 1,000.... July 15, 1952

#04956-Reynolds-Paint exterior-\$355-1-28-74

#11871-Youngblood Roofing-Re-roof 10 sqs-\$1100-8-4-77

#13555-Youngblood Roofing-Re-roof 4 sqs-\$500-8-3-78

#15096-Youngblood Roofing-Re-roof 5 sqs-\$1200-6-1-79

PLUMBING PERMIT # 33630 Markowitz Plumbing Service: 1 water closet, 1 lavatory, 1 bath tub-July 17, 1952
Rough L.R. 7-22-52 OKL. Rothman 9-4-52

ELECTRICAL PERMIT # 37285 Gray & Company: 5 switch outlets, 10 receptacles, 4 light outlets, 4 fixtures,
HOR 9-22-52 1 space heater, 2 centers of distribution, 1 service-equipment-Aug. 13, 1952

Owner STEINHARDT CONSTR. CO. Mailing Address

Permit No. 10043

Lot 2 Block 6 Subdivision Altos del Mar No. 8035 Street Harding ave. Date July 3-1937
No. 3General Contractor Irving Construction Co.
Bond 1646

Address

Architect B. Kingston Hall

Address

Front 40 Depth 32 Height

Stories 2

Use Apartment house
4 unitsType of construction c/b/s/ Cost \$ 12,000.00
Certificate of occupancy #106

Foundation reinf. concrete Roof built-up

Plumbing Contractor Fixzit (Wentz) #10188

Address

Date July 8-1937

No. fixtures 16

Rough approved by gas ok JJ Farrey- 7-27th-1937

Date

~~No. Receptacles~~ Gas stove 1

Gas heater 3

Plumbing Contractor

Address

Date

No. fixtures set

Final approved by

Date

Sewer connection 1**

Septic tank

Make

Date

Electrical Contractor Queen # 9088

Address

Date Aug. 4-1937

No. outlets 26
27 Heaters Stoves Motors
Receptacles 28 Refrigerators 4
Rough approved by Centers of distribution 10

Fans

Temporary service

Date

Electrical Contractor Queens- # 9626
8 extra light outlets-

Address

Date Oct. 20-1937

No. fixtures set 33

Final approved by H. C. Inman

Date

Date of service Dec. 20-1937

13045- Miller-

12 switch outlets; 8 light outlets;
8 fixtures; - 7/20/1939

Alterations or repairs

Date

Plumbing permit # 12226- Wm. Harper- 4 water closets - 1 sewer *- 4 lavatories- 4 showers-
1 gas- July 18-1939----

BUILDING PERMIT # 25843 Painting - Hilborn Painters - \$ 500.... Oct. 29, 1947

Probst - ELECTRICAL PERMIT #33023 Emanuel Electric: 5 Centers of distribution, 1 Service, Dec. 29, 1950
OK Rosser 12/29/50METRO ORD. #75-34
RECERTIFICATION DATE: 4-3-89

BUILDING PERMITS: #46166 The Carr Company...Wet sandblasting with covers and painting...\$ 600.00

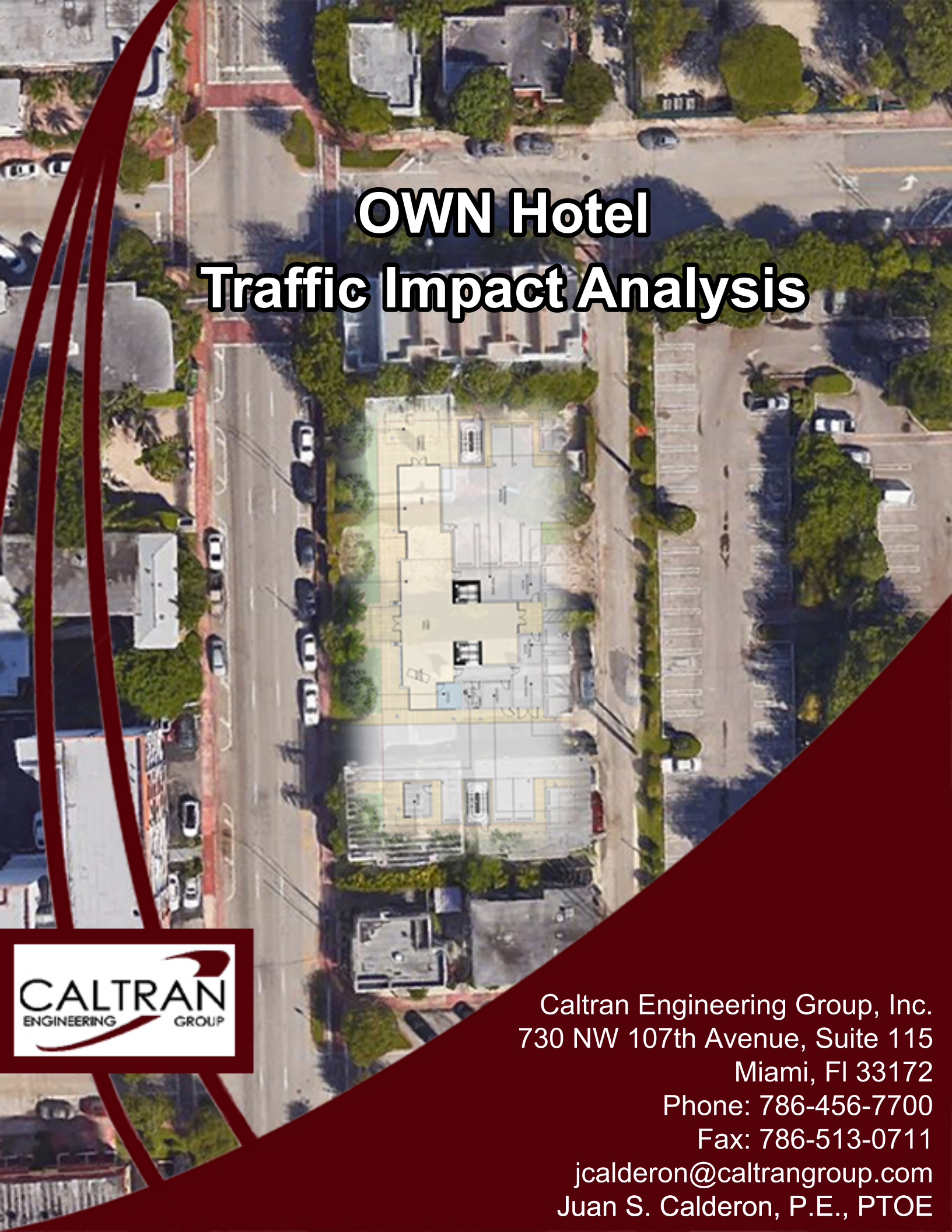
#69642 Appliance Consumer Service Co.: One 1-hp a.c. wall unit - \$300. - 6/27/63 OK A. Plagg 7/16/63
October 22, 1954

#17177-Owner-Concrete driveway and car pipe cover and fence gate-\$650-12-6-79

ELECTRICAL PERMITS: #59694 Lyon Elec: 8 motors 0-1 HP, 1 meter change-6/10/63

PLUMBING PERMITS: #44509 Robt. L. Estes: 1 solar water heater repair - 11/10/64

PERMIT #	COMP_TYPE	SUB_TYPE	APPLIED	APPROVED	EXPIRED	DATA_STATUS	DESCRIPTION	PARCEL_NO	REET_I	STREET_NAME
B9600986	BSBUILD	OTH	29-Jan-96	29-Jan-96	13-Aug-96	FINAL	REROOF FLAT TO BUILTUP MOD BITUMEN	32020070300	8011	HARDING AV
B9600998	BSBUILD	OTH	30-Jan-96	30-Jan-96	13-Nov-01	FINAL	EXTERIOR PAINTING	32020070300	8011	HARDING AV
BS911697	BSBUILD	OTH	17-Jun-91	17-Jun-91	14-Dec-91	CLOSED	TENT FUMIGATION	32020070300	8011	HARDING AV
BMS1501993	BMISC	DOC HIST	8-May-15			CLOSED	13 MF	32020070300	8011	HARDING AV
BE000766	BELEC		2-Feb-00	2-Feb-00	31-Jul-00	CLOSED	SECURITY ALARM SYSTEM (UNIT # 7)	32020070300	8011	HARDING AV
BR960016	BREC	OTH	7-Nov-95	5-Jan-96	4-Jan-06	CLOSED		32020070300	8011	HARDING AV
BE111459	BELEC	SRVCS	29-Mar-11	16-May-11	12-Nov-11	FINAL	BE102999... Replace 8 fuse panels for 8 breaker panels.	32020070300	8011	HARDING AV
BE111906	BELEC	ALTRMDL	16-May-11	17-May-11	13-Nov-11	FINAL	Replace 1 fuse panel (House service panel), one 60A pull out, and 8 existing light.	32020070300	8011	HARDING AV
BV11000433	BVIO	COMBO	1-Mar-11	1-Mar-11	3-Aug-11	CLOSED	New electrical panels installed in units, new electrical house panel installed without any permits. Also appears to be mold in ceiling of unit 4, leaking from unit 8 tub area. Licensed plumbing contractor must verify source of leak and make all ncessary repairs.	32020070300	8011	HARDING AV
BCU1200560	BCU	PRIMARY	27-Mar-12	19-Apr-12		APPROVED	APARTMENT BUIDING @ 8011 HARDING AVE; 8 UNITS	32020070300	8011	HARDING AV
B1004816	BSBUILD	PAINT	16-Sep-10	16-Sep-10	15-Mar-11	FINAL	Paint exterior	32020070300	8011	HARDING AV
B1004856	BSBUILD	PAVING	20-Sep-10	22-Sep-10	30-Mar-11	FINAL	WOOD DECK ACROSS HALL ON THE PATIO	32020070300	8011	HARDING AV
BR060217	BREC		23-Aug-06	25-Jan-07	25-Jan-17	APPROVED	Building Recertification.	32020070300	8011	HARDING AV
BMS92535	BMISC		11-Jun-99			VOID	BOND PERMIT B9903341 (ROOF)	32020070300	8011	HARDING AV
BE102999	BELEC	ALTRMDL	30-Sep-10	30-Sep-10	1-Jul-11	FINAL	REMOVE AND REPLACE OUTLET LAUNDRY 1 OUTLET WASHING MACHINE AND 1 OUTLET DRYER	32020070300	8011	HARDING AV
B9903341	BSBUILD		10-Jun-99	11-Jun-99	16-Jan-00	FINAL	REROOF FLAT TO FLAT 1800 SQ FT	32020070300	8011	HARDING AV
BCU1001082	BCU	PRIMARY	17-Sep-10	19-Nov-10		APPROVED	Apartment Building at 8011 Harding Ave with 8 apts Total # of Apts=8	32020070300	8011	HARDING AV
BMS0701215	BMISC	RESEARCH	13-Jan-07			CLOSED	RESEARCH	32020070300	8011	HARDING AV
BMS91707	MISC	OTH	21-Aug-89	21-Aug-89		CLOSED	ONE MICROFILM COPY	32020070290	8017	HARDING AV
BMS92550	BMISC		16-Jun-99			VOID	CITATION NO 222 A - OBTAIN DOORS PERMIT	32020070290	8017	HARDING AV
BR900077	BREC	OTH	19-May-98	19-May-98	18-May-08	CLOSED	BUILDING RECERTIFICATION 10YR	32020070290	8017	HARDING AV
BMS0604190	BMISC	ELEVATOR	13-Jul-06	13-Jul-06	9-Jan-07	CLOSED	1 SUPRA BOX	32020070290	8017	HARDING AV
BA902172	AUTOPROJ	OTH	15-Feb-90			CLOSED	BUILDING RECERTIFICATION 10YR	32020070290	8017	HARDING AV
BCU1201043	BCU	PRIMARY	14-Sep-12	25-Sep-12		APPROVED	8017 Harding Ave #7 - Homebased Business - Alterations	32020070290	8017	HARDING AV
B9903389	BSBUILD		15-Jun-99	16-Jun-99	13-Dec-99	CLOSED	CHANGE HALL WAY DOOR AND INSTALL 1 NEW CLOSET DOOR 2 OPNGS	32020070290	8017	HARDING AV
BR090068	BREC		18-Dec-08	23-Jan-09	23-Jan-19	APPROVED	RECERTIFICATION OF BUILDING 40 YEAR OLD - MIAMI DADE COUNTY CODE Ordinance Section 8-11(f).	32020070290	8017	HARDING AV
BS891908	SBUIL	OTH	18-Aug-89	18-Aug-89	14-Feb-90	CLOSED	REPLACING 12 SQ.FT. METER ROOM	32020070290	8017	HARDING AV
BE891486	ELEC	OTH	4-Aug-89	4-Aug-89	28-Mar-90	CLOSED	NEW SERVICE REPAIRS & FEERDERS TO APTS	32020070290	8017	HARDING AV
BA910808	AUTOPROJ	OTH	4-Aug-89			CLOSED	NEW SERVICE REPAIRS & FEERDERS TO APTS	32020070290	8017	HARDING AV
BA911070	AUTOPROJ	OTH	18-Aug-89			CLOSED	REPLACING 12 SQ.FT. METER ROOM	32020070290	8017	HARDING AV
BA911089	AUTOPROJ	OTH	21-Aug-89	21-Aug-89		CLOSED	ONE MICROFILM COPY	32020070290	8017	HARDING AV
BMS31517	BMISC	OTH	25-Jun-93	25-Jun-93		CLOSED	REINSPECTION FEE BLDG P #BS931982	32020070290	8017	HARDING AV
BS931982	BSBUILD	OTH	21-Apr-93	21-Apr-93	8-Jan-94	CLOSED	REROOF 2000 SQ FT CATEGORY 95/SEE COMM	32020070290	8017	HARDING AV
B0706731	BSBUILD	ADDTN	12-Sep-07	12-Sep-07	10-Mar-08	CLOSED	Rnw b0403291/New five unit condominium bldg. 4 floors (9 doors/16 wndw/ele/plum/mec)	32020070280	8021	HARDING AV
BMS01312	BMISC	OTH	16-Jul-90	16-Jul-90		CLOSED	ONE (1) MICROFILM COPY	32020070280	8021	HARDING AV
BE910625	BELEC	OTH	26-Feb-91	26-Feb-91	31-Aug-91	CLOSED	OUTLETS,APPLS,SERVICE	32020070280	8021	HARDING AV
BE072259	BELEC	SRVCS	5-Jun-07	5-Jun-07	10-Mar-08	CLOSED	TEMP FOR CONSTRUCTION.	32020070280	8021	HARDING AV
BP071301	BPLUM	DEMO	24-May-07	24-May-07	18-Feb-08	CLOSED	Water service for demo (1hose bib)	32020070280	8021	HARDING AV
BSL0900006	BSECLIEN		12-Dec-08		5-Aug-10	CLOSED	REPLACED 15 FEET OF FENCING TO SECURE PROPERTY	32020070280	8021	HARDING AV
BM920350	BMECH	NEW	6-Feb-92	6-Feb-92	4-Aug-92	CLOSED	INST 3T SYS ST HT DT WK	32020070280	8021	HARDING AV
B0403291	BUILD	ADDTN	4-May-04	9-Jan-07	8-Jul-07	VOID	New five unit condominium bldg. 4 floors (9 doors/16 wndw/ele/plum/mec)	32020070280	8021	HARDING AV
BV08000957	BVIO	STRUCT	15-Aug-08	21-Aug-08	6-Aug-10	CLOSED	N.O.V. ISSUED FOR FAILURE TO SECURE PROPERTY. NEED TO INSTALL AND MAINTAIN FENCE TO PREVENT ANY ACCESS TO PROPERTY. NEED TO OBTAIN PERMIT IN ORDER TO CORRECT THIS VIOLATION.	32020070280	8021	HARDING AV
BMS41025	BMISC	OTH	28-Apr-94	28-Apr-94		CLOSED	RESEARCH FEES ON BLDG VIOLATIONS	32020070280	8021	HARDING AV
BS910184	BSBUILD	OTH	26-Oct-90	26-Oct-90	24-Apr-91	CLOSED	REPL WOOD JOISTS/BEAMS-INT & EXT PAINTNG	32020070280	8021	HARDING AV
BC900577	BCOMPL	OTH	3-Jul-90	5-Jul-90	4-Aug-90	CLOSED	ELEC-PLBG-STRUCTURAL WORK W/O PERMITS	32020070280	8021	HARDING AV



OWN Hotel Traffic Impact Analysis



Caltran Engineering Group, Inc.
730 NW 107th Avenue, Suite 115
Miami, FL 33172
Phone: 786-456-7700
Fax: 786-513-0711
jcalderon@caltrangroup.com
Juan S. Calderon, P.E., PTOE

DATE: March 21, 2016
FROM: Juan S. Calderon, P.E., PTOE, Project Manager
TO: Gabriel Andjell
Espiritu Santo Plaza
1395 Brickell Avenue
Suite 800 Miami Florida 33131
SUBJECT: Traffic Impact Study- Hotel Miami Beach FL

Engineer's Certification

I, Juan S. Calderon, certify that I currently hold an active Professional Engineer's License in the State of Florida and I am competent through education and experience to provide engineering services in the civil and traffic engineering disciplines contained in this report. I further certify that this report was prepared by me, or under my responsible charge, as required by Chapter 61G15-18.001 F.A.C. and that all statements, conclusions and recommendations made herein are true and correct to the best of my knowledge and ability.



Juan S. Calderon, P.E. PTOE
State of Florida Board of Professional Engineers,
Professional Engineer License No. 58569
State of Florida Board of Professional Engineers
Certificate of Authorization No.29379

Table of Contents

1.0	Executive Summary	4
2.0	Analysis Methodology	4
3.0	Study Area	5
4.0	Existing Conditions	7
4.1	Roadways.....	7
4.2	Intersections	7
5.0	Traffic Data Collection.....	8
5.1	72-hour Machine Volume Counts	8
5.2	Turning Movement Counts	8
6.0	ITE Trip Generation	10
7.0	Trip Distribution.....	12
8.0	Growth Analysis.....	13
9.0	Level of Service Analysis	18
10.0	Transportation Demand Management Plan	21
10.1	Available Alternative Transportation Methods:	22
10.2	Alternative Transportation Incentive:	23
11.0	Code Requirements Evaluation	24
12.0	Final Analysis.....	25

List of Figures

Figure 1: Proposed Project Site	6
Figure 2: Scenario 1 – AM Existing Conditions	9
Figure 3: Scenario 1 – PM Existing Conditions	10
Figure 4: Scenario 2 – AM Cardinal Trip Distribution	13
Figure 5: Scenario 2 – PM Cardinal Trip Distribution	14
Figure 6: Scenario 2 – AM Existing with Trip Generation.....	15
Figure 7: Scenario 2 – PM Existing with Trip Generation.....	16
Figure 8: Scenario 3 – AM Future Conditions	18
Figure 9: Scenario 3 – PM Future Conditions	19
Figure 10: FDOT Driveway Radii Requirement.....	25
Figure 11: FDOT Driveway Width Requirement.....	25

List of Tables

Table 1: Volume Counts.....	8
Table 3: ITE Trip Generation Analysis	11
Table 4: Miami-Dade 2010 / 2040 Averaged Directional Distribution Summery	12
Table 4: Traffic Volumes	17
Table 5: Historical Growth Rates	17
Table 6: Level Of Service: Existing and Future Conditions	21

List of Appendix

Appendix A. Methodology Report
Appendix B. Architectural Plans
Appendix C. Traffic Data Collection
Appendix D. OTISS Reports-Trip Generation
Appendix E. Growth Analysis
Appendix F. Level of Services SYNCHRO Reports
Appendix G. Miami-Dade County Design Requirements

1.0 Executive Summary

CALTRAN Engineering Group, Inc. (CALTRAN) was retained by Gabriel Andjell from Spider Investments Group, Inc. to perform a traffic impact study with regards to the proposed site development of the OWN Hotel located at 8035 Harding Avenue Miami Beach, FL 33141. The Summary of the Traffic Impact Methodology meeting held on February 29th, 2016 with the City of Miami Beach officials can be found in **Appendix A** and the Architectural Plans of the proposed development are shown in **Appendix B**.

This Traffic Impact Analysis evaluates the potential traffic impacts, identifies short-term roadway and circulation needs, determines potential mitigation measures and identifies any critical traffic issues that should be addressed upon planning process. The study primarily focused on evaluating traffic conditions at study intersections, which may be impacted by the proposed Project.

Based on the performed analysis, the following can be concluded:

- Based on the Trip Generation Analysis, trips generated by OWN Hotel will have a minimal impact the existing conditions at each critical intersection. The alley will see an increase in usage but still fall within reason during Peak Hours of operation.
- Contingent on the Level of Service analysis, traffic along Harding Avenue and Collins Avenue is projected to increase in the foreseeable future.
- All current ordinances imposed by the City of Miami Beach and the Florida Department of Transportation appear to be meeting the design standards for the driveway, parking and Miami-Dade Fire Rescue requirements.
- Implementation of the Transportation Demand Management Plan is expected and, if followed through effectively, should reduce parking demands generated by the staff and guest alike at the Hotel.

Overall the future OWN Hotel at Harding Avenue is expected to have a minimal impact on current traffic conditions occurring in the affected area.

2.0 Analysis Methodology

The traffic impact analysis was performed in accordance with the *City Of Miami Beach Guidelines for Traffic Impact Studies*; in addition, to the methodologies agreed upon at the analysis process meeting held on Monday, February 29th, 2016. Field observations, data collection, and traffic operations were analyzed using the capacity analysis methodology published in the 2010 Highway Capacity Manual (HCM).

As established in the Methodology Memorandum, three development scenarios were analyzed as part of the traffic impact analysis. The three scenarios are:

- *Scenario 1- Existing Conditions:* Current traffic evaluation for establishing a baseline condition pertaining to Harding Avenue, Collins Avenue, 79th Street, 80th Street and 81st Street including the Alley.
- *Scenario2- Build-out Conditions:* Evaluation and distribution of the net trips expected to be generated by the proposed Hotel Development based on the 9th Edition of The ITE Trip Generation Handbook, through the Online Traffic Impact Study Software (OTISS).
- *Scenario 3- Future Conditions:* Consistent with background traffic historical trends, a growth rate application was applied to the *existing traffic* analysis by use of Traffic Trends Analysis Tool - V2.0 and in order to analyze future impacts on the existing roadway network.

Each scenario incorporates Level of Service analysis performed using SYNCHRO software to model the existing roadway network and determine overall delays of each signalized/un-signalized intersection.

3.0 Study Area

The proposed Hotel is located at 8035 Harding Avenue Miami Beach, FL 33141. The roadway impact boundaries for this site development are 81st Street to the North, Collins Avenue to the East, 80th Street to the South and Harding Avenue to the West. The study area is also to include assessment of the intersections of 79th Street with Harding Avenue and Collins Avenue which are located further to the south, as well as, the alley way located at the rear / east side of the proposed development. **Figure 1** on the following page shows the location of the proposed project site relative to the surrounding roadway network.

The existing site currently contains 24 multi-family units with 8 units per building. Upon buildout, the proposed development will encompass 44 hotel rooms supplemented with a 740 Sqf. Rest Bar for Guest-Only located in the lobby. Inbound/outbound access to the proposed facility will be served along Harding Avenue and the alley located along the east side of the property.



Figure 1: Proposed Project Site

4.0 Existing Conditions

A detailed field review was conducted to determine the existing intersection geometry, traffic control devices, signal phasing and other factors, which may affect intersection or roadway segment capacity. The following is a detailed description of roadways in the study area:

4.1 Roadway Network

Harding Avenue is a one-way, south bound Urban Minor Arterial that runs along the west side of the proposed Hotel development. The roadway is maintained by the FDOT and operates under Active-On System as Section ID 87060001 with a 30 mph posted speed limit. The typical section consists of three lanes of 33 feet of pavement width along with 6 feet sidewalks on both sides. Metered on-street parking is available along both sides of the street.

Collins Avenue is a one-way, northbound Urban Minor Arterial that runs along the eastern side of the proposed Hotel development. The roadway is maintained by the FDOT and operates under Active-On System as Section ID 87060000 with a 30 mph posted speed limit. The typical section consists of three lanes of 33 feet of pavement width along with 6 feet sidewalks on both sides. Metered on-street parking is available along both sides of the street.

81st Street is an east-west collector that runs along the northern side of the proposed Hotel development under the City of Miami Beach's jurisdiction. The roadway typical section consists of two lanes with sidewalks on both sides. On-street parking is available along both sides of the street.

80th Street is a one-way, westbound collector that runs along the southern side of the proposed Hotel development block under the City of Miami Beach's jurisdiction. The roadway typical section consists of one lane with sidewalks on both sides. On-street parking is available along both sides of the street.

79th Street is a one-way, eastbound collector that runs along the south side of the adjacent block following the proposed Hotel development site under the City of Miami Beach's jurisdiction. The roadway typical section consists of one lane with sidewalks on both sides. On-street parking is available along both sides of the street.

Service Alley-Way running parallel between Harding Ave and Collins Ave is a one-way, southbound service road passing by the back/eastern side of the proposed development.

4.2 Intersections

Harding Avenue and 81st Street is a four-legged signalized intersection under the asset ID 2714 by the Miami-Dade Signal Division. This intersection allows major movements along the southbound direction, Harding Avenue, to take priority over the east-west movement. Southbound traffic can freely make a left or right turn when in phase.

Collins Avenue and 81st Street is a three-legged signalized intersection under the asset ID 2696 by the Miami-Dade Signal Division. This intersection serves priority to the northbound movement along Collins Avenue and permits left turns to occur freely into westbound 81st Street. The signal phase change for 81st street solely serves eastbound left turn movements into northbound Collins Avenue.

Harding Avenue and 80th Street is a four-legged intersection with free follow movement along southbound Harding Avenue. 80th Street upon one-way westbound approach is stop controlled. Southbound right, westbound left, and through movements are permitted.

Collins Avenue and 80th Street is a three-legged free flow intersection along the northbound direction. Only southbound through and southbound left movements are permitted.

Harding Avenue and 79th Street is a four-legged intersection serving free flow movement along Harding Avenue and stop control for the one-way eastbound traffic. Northbound left, eastbound right and through movements are permitted.

Collins Avenue and 79th Street is a four-legged intersection with free follow movement in the southbound direction. Eastbound and westbound approaches are stopped controlled. Eastbound left, eastbound through, westbound right and southbound right movements are permitted.

5.0 Traffic Data Collection

Consistent with the approved methodology for the Hotel development, traffic data was collected on typical weekdays and weekends. Data collection includes 72-hour machine counts along Harding Avenue and Collins Avenue collected on the days of Thursday, March 3rd, 2016 through Saturday, March 5th, 2016. Turning movement counts were also collected at each of the six concerned intersections on March 3rd, 2016 as the Thursday (weekday) presented the highest volumes within the adjacent roadway network. Raw reports can be found in **Appendix C**.

5.1 72-hour Machine Volume Counts

The 72-hour directional machine volume counts were collected on Harding Avenue and Collins Avenue. Raw traffic counts were adjusted to a peak seasonal and axle factor. For Harding Avenue, a seasonal factor of 0.97 and axle factor of 0.98 were applied. For Collins Avenue, only a seasonal factor of 0.97 was applied. Traffic volumes are summarized in **Table 1** as follows:

Table 1: Volume Counts

Location	Direction	Day	24 Hour Volume	AM Peak		PM Peak	
				Time	Volume	Time	Volume
Harding Avenue N of 80 th Street	SB	Thursday	26,853	7:15	2,210	16:00	1,813
		Friday	26,005	6:45	1,936	15:45	1,838
		Saturday	23,947	8:45	1,083	15:45	1,660
Collins Avenue N of 80 th Street	NB	Thursday	32,606	8:00	1,863	17:30	2,759
		Friday	31,921	8:00	1,728	17:45	2,486
		Saturday	28,184	8:45	1,120	17:30	1,979

5.2 Turning Movement Counts

Turning Movement Counts were collected in each of the defined intersections at 15-Minute intervals. The peak hour was determined for each peak period. A seasonal factor of 0.97 (for Harding Ave and Collins Ave) was applied accordingly to each intersection TMC including the Alley. The existing turning movement volumes based on lane groups, and intersection controls are illustrated in **Figure 2** and **Figure 3** for AM and PM Existing Conditions - Scenario 1.



Figure 2: Scenario 1 – AM Existing Conditions

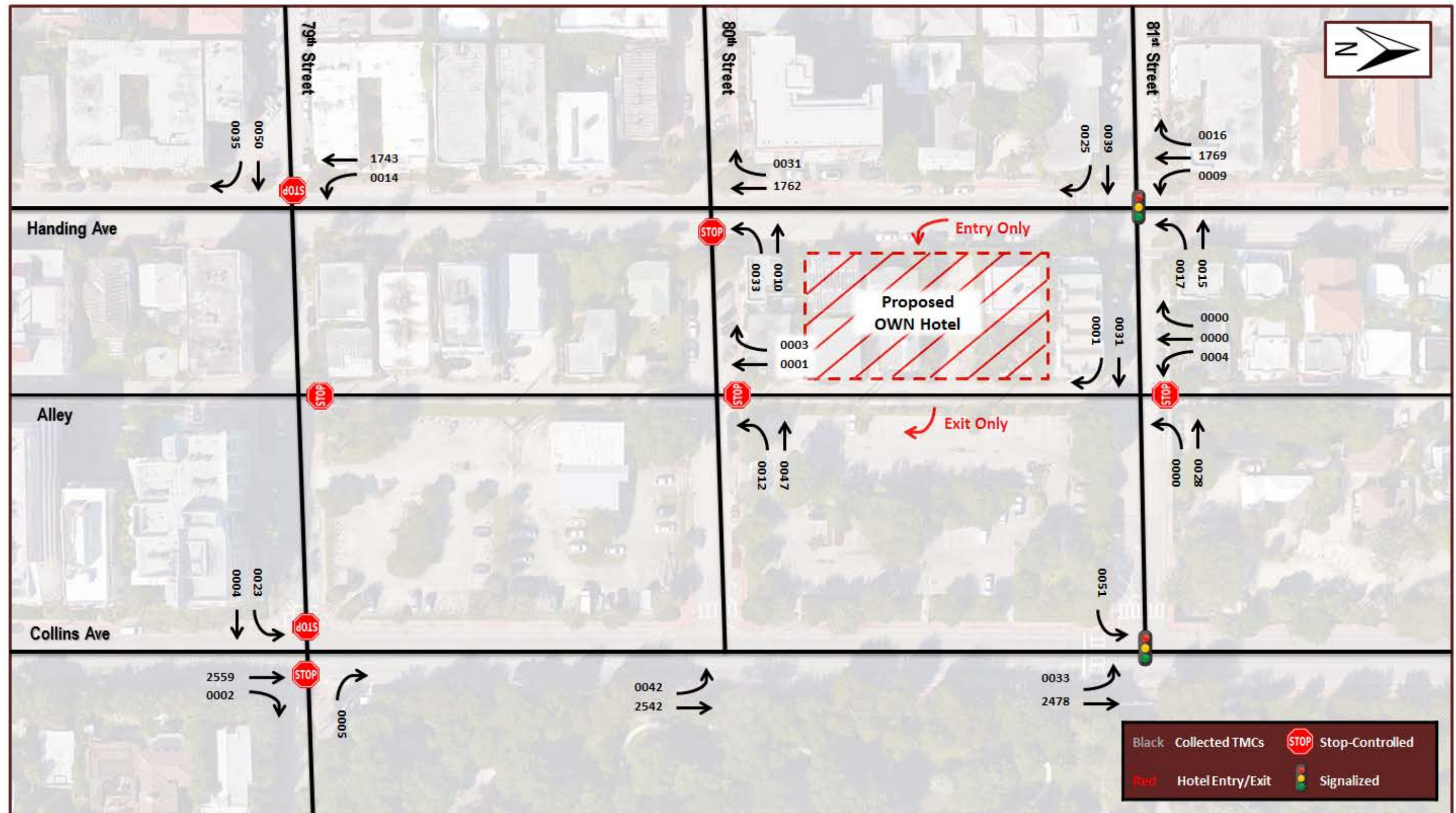


Figure 3: Scenario 1 – PM Existing Conditions

6.0 ITE Trip Generation

A trip generation analysis was performed using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition* through the OTISS (Online Traffic Study Software). Trip generation for the proposed development was based as per the Hotel development plans. **Table 5** below provides the trip generation of the previous and proposed land use. Upon buildout, the project is estimated to generate a maximum of 26 PM peak hour trips.

In addition, for the analyzed land uses, not all of the trips generated at the driveway represent new trips added to the roadway network. This is due to “pass-by” trips. Pass-by trips are made by traffic already using the adjacent roadway and enter the site as an intermediate stop on the way from another destination. A maximum 10% of the exiting adjacent road traffic can be applied as pass-by trips; nevertheless, in order to maintain a moderate approach, no reduction factor was applied to the trip generation. OTISS reports can be found on **Appendix D**.

Table 2: ITE Trip Generation Analysis

Data	Condition	ITE		Analysis		AM Peak Hour Trips, Weekday			PM Peak Hour Trips, Weekday		
		Code	Description	Value	Unit	In	Out	Total	In	Out	Total
ITE 9 th Ed.	Existing	221	Low Rise Residential	24	Occupied Dwellings	4	13	17	12	7	19
	Proposed	310	Hotel	44	Rooms	14	9	23	13	13	26
	Net Difference					10	(4)	6	1	6	7

Notes: LUC 310- Hotel: 44 rooms (units) feel outside the range of the ITE Trip Generation tables, thus values are based on linear averages. For Existing Low Rise Residential: LN curve was used as recommended by ITE as best fit to the data collection.

7.0 Trip Distribution

Trip distribution is a function of the origin and destination of the site users and the available roadway system. For the proposed Hotel development the trip distribution of the traffic generated by the proposed development was determined based on the average between the 2010 and 2040 Miami-Dade Long Range Transportation Plan traffic analysis zone (TAZ 603) patterns, as well as, knowledge of traffic flow patterns and the roadway system in the area, in addition to the location of area trip generation.

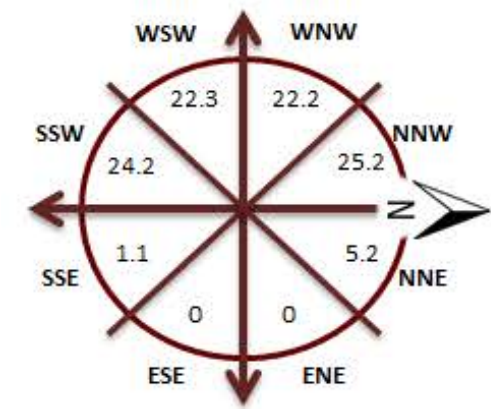
It is important to note that the overall traffic generated by the hotel was distributed without deductions or credits from the current uses in order to assess the most conservative demands and potential impacts.

Table 3: Miami-Dade 2010 / 2040 Averaged Directional Distribution Summary

Origin TAZ		Category	Cardinal Directions								Total
County TAZ	Regional TAZ		NNE	ENE	ESE	SSE	SSW	WSW	WNW	NNW	
603	3503	Trips	96	0	0	24.5	456.5	381	425.5	417.5	1801
		Percentage	5.15	0	0	1.1	24.15	22.25	22.15	25.2	100

1. 25.3% of the trips corresponding to the SSE and SSW cardinal directions were assigned to enter and exit the facility through the existing traffic flow patterns along Harding Avenue and the Alley.
2. 30.4% of the trips corresponding to the NNW and NNE cardinal directions were assigned to enter an exit the facility through the existing traffic flow patterns along Harding Avenue and the Alley.
3. 44.5% of the trips corresponding to the WSW and WNW cardinal directions were assigned to enter an exit the facility through the existing traffic flow patterns along Harding Avenue and the Alley.

Trip Distribution of the Proposed OWN Hotel development can be seen in **Figure 4** and **Figure 5** for the AM and PM Peak Hour respectively for *Scenario 2*. Future turning movement volumes with Trip assignment are illustrated in **Figure 4** and **Figure 5** for AM and PM -*Scenario 3* controls are illustrated in **Figure 2- Scenario 2**



Cardinal Distribution

Notes:

As per Miami-Dade County Cardinal Distribution, Estimated traffic was assigned as follows:

1. 25.3% of the trips correspond to SSE and SSW
2. 30.4% of the trips correspond to NNW and NNE
3. 44.5% of the trips correspond to WSW and WNW

Sample Trip Distribution (AM Entry) Calculations:

As per traffic operations given by ITE Trip Generation of Hotel:

- AM Peak Hour Trips Entering = 14
- AM Peak Hour Trips Exiting = 9

Entry Trips

1. Northbound Trips (Collins Ave):
• $14 \times 30.4\% = 4$
2. Southbound Trips (Harding Ave):
• $14 \times 25.3\% = 4$
3. Westbound Trips (79th and 81st St):
• $14 \times 44.5\% = 6$
• $6 \times 70\%$ from 81st = 4 trips
• $6 \times 30\%$ from 79th = 2 trips

Exit Trips

1. Northbound Trips (Collins Ave):
• $9 \times 30.4\% = 3$
2. Southbound Trips (Harding Ave):
• $9 \times 25.3\% = 2$
3. Westbound Trips (80th and Harding Ave. to Causeway):
• $9 \times 44.5\% = 4$
• $6 \times 40\%$ to 80th = 2 trips
• $6 \times 60\%$ to Harding Ave SB to Causeway WB = 2 trips

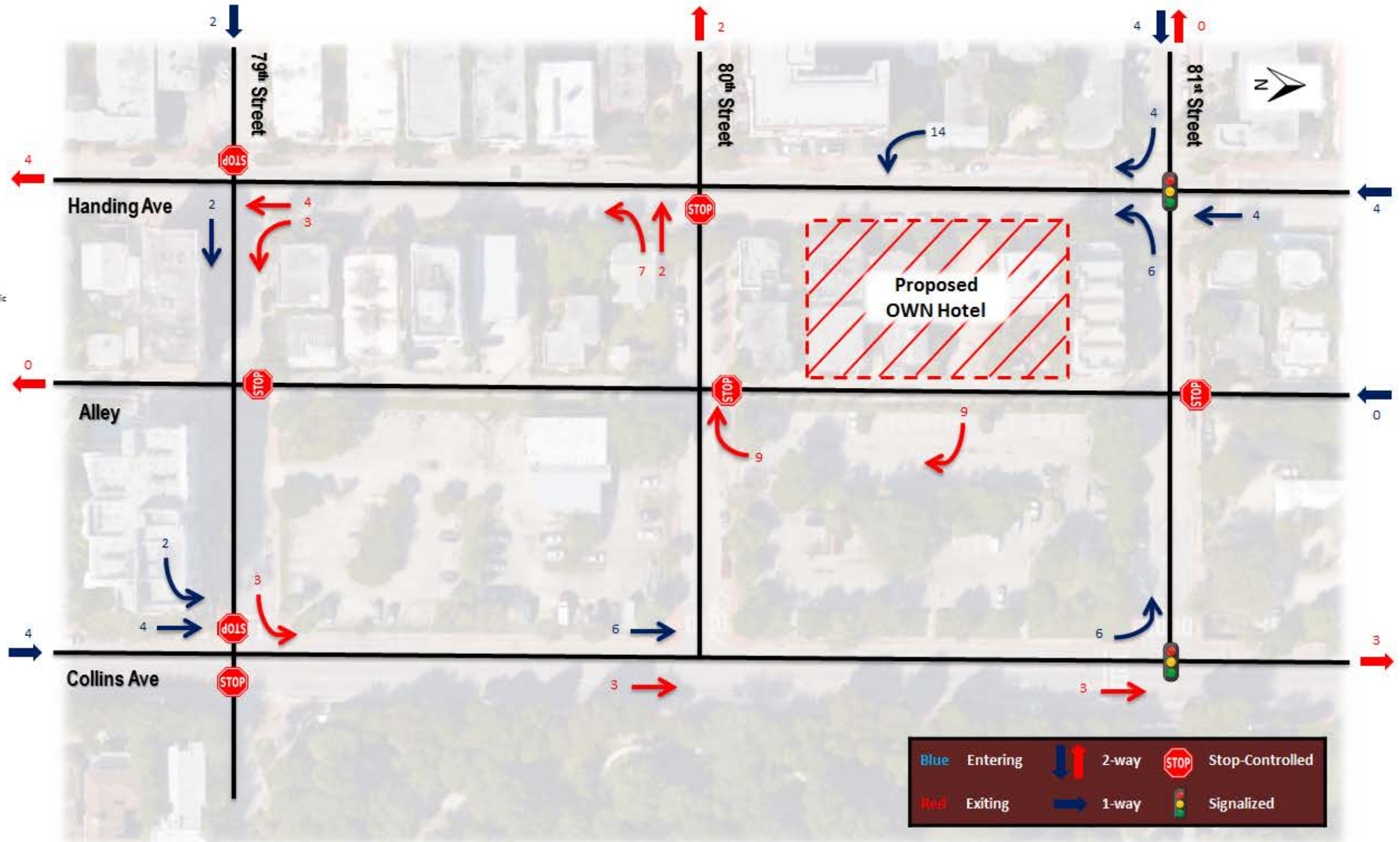
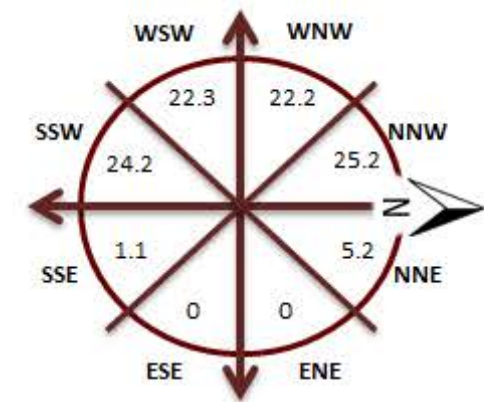


Figure 4: Scenario 2 – AM Cardinal Trip Distribution



Cardinal Distribution

Notes:

As per Miami-Dade County Cardinal Distribution, Estimated traffic was assigned as follows:

1. 25.3% of the trips correspond to SSE and SSW
2. 30.4% of the trips correspond to NNW and NNE
3. 44.5% of the trips correspond to WSW and WNW

Sample Trip Distribution (AM Entry) Calculations:

As per traffic operations given by ITE Trip Generation of Hotel:

- AM Peak Hour Trips Entering = 14
- AM Peak Hour Trips Exiting = 9

Entry Trips

1. Northbound Trips (Collins Ave):
• $13 \times 30.4\% = 4$
2. Southbound Trips (Harding Ave):
• $13 \times 25.3\% = 3$
3. Westbound Trips (79th and 81st St):
• $13 \times 44.5\% = 6$
• $6 \times 70\%$ from 81st = 4 trips
• $6 \times 30\%$ from 79th = 2 trips

Exit Trips

1. Northbound Trips (Collins Ave):
• $13 \times 30.4\% = 4$
2. Southbound Trips (Harding Ave):
• $13 \times 25.3\% = 3$
3. Westbound Trips (80th and Harding Ave to Causeway):
• $13 \times 44.5\% = 6$
• $6 \times 40\%$ to 80th = 2 trips
• $6 \times 60\%$ to Harding Ave SB to Causeway WB = 4 trips

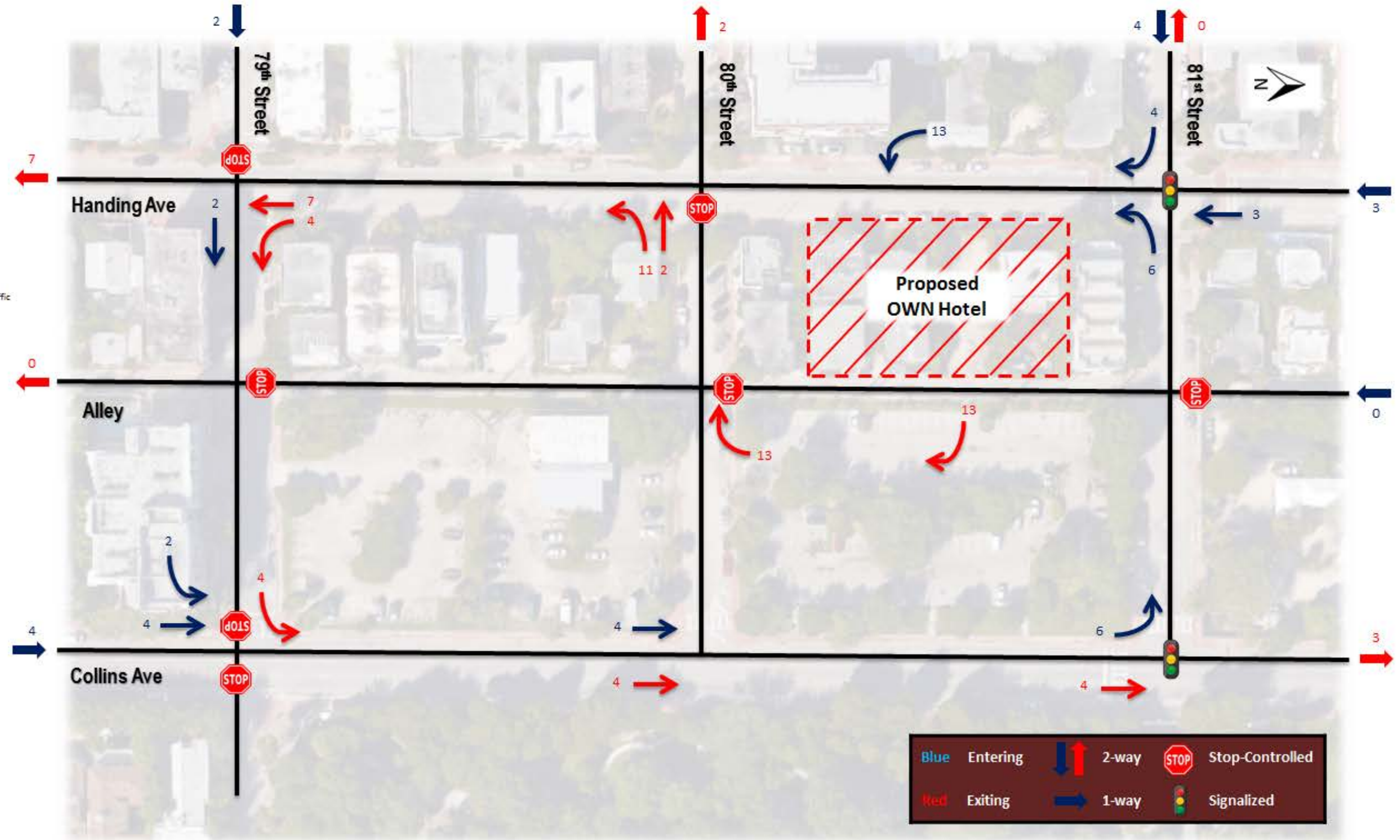


Figure 5: Scenario 2 – PM Cardinal Trip Distribution

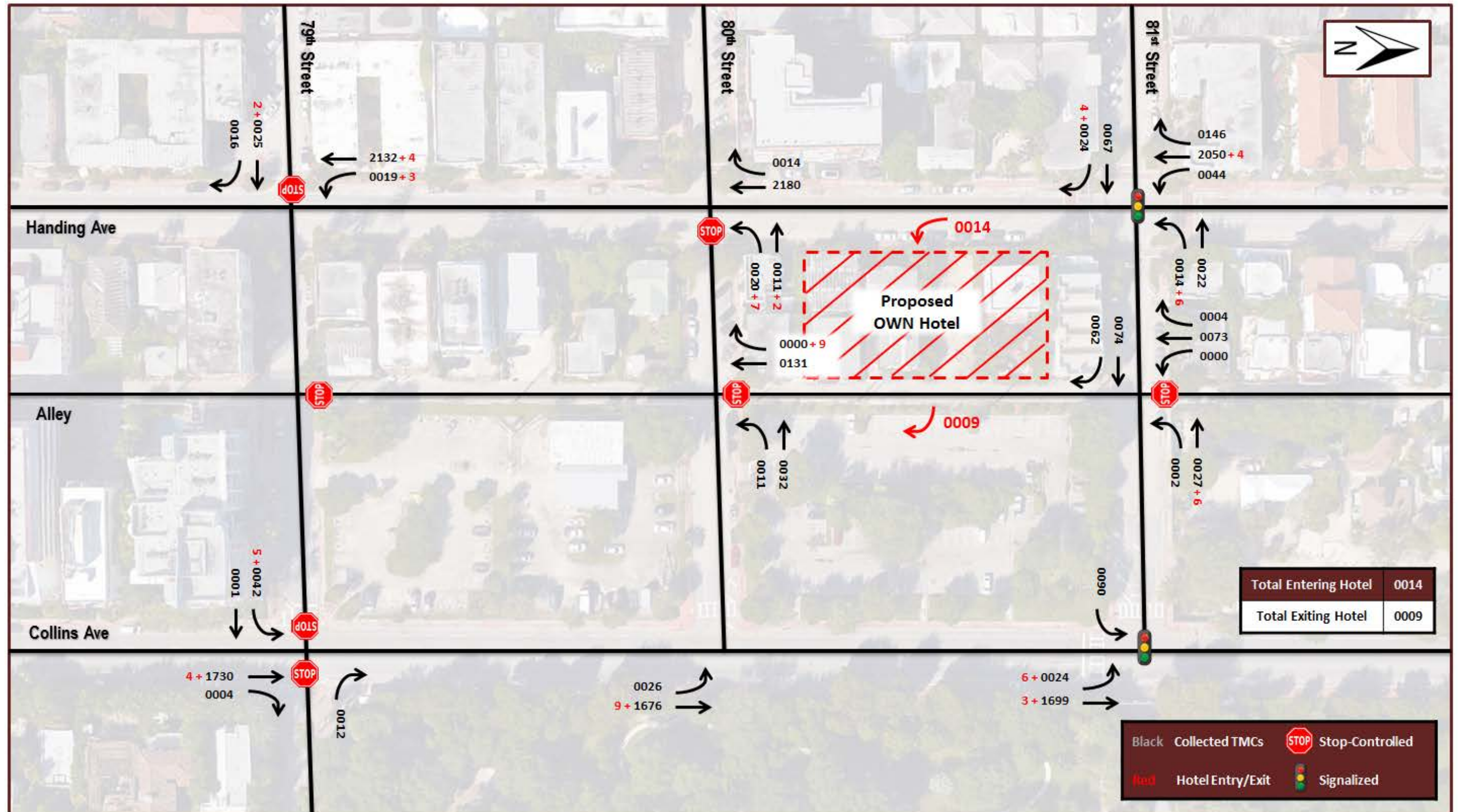


Figure 6: Scenario 2 – AM Existing with Trip Generation

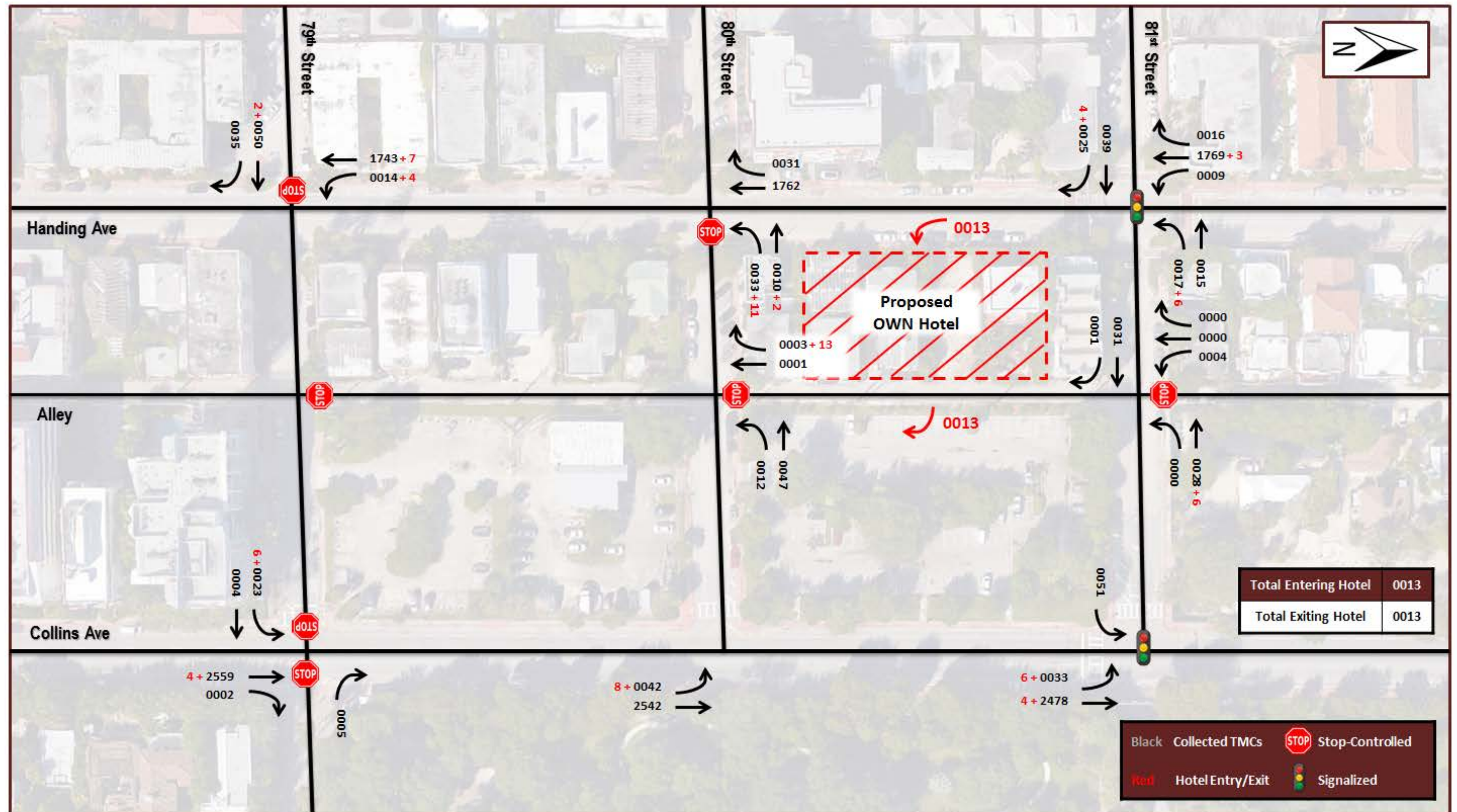


Figure 7: Scenario 2 – PM Existing with Trip Generation

8.0 Growth Analysis

Future traffic forecasts have been developed for the a 2-year growth coinciding with the opening year of the Hotel development planned for the year 2018.

Within the project vicinity, Harding Avenue and Collins Avenue are considered main arterials. As per the South Florida Regional Traffic Analysis Model (FSUTMS), the highest variation in traffic between 2010 and 2040 is noted along Harding Avenue and Collins Avenue. The forecasted and model volumes are summarized in **Table 5**.

Table 4: Traffic Volumes

Source	Segment	Year	AADT
FSUTMS Model Volume	Harding Avenue	2010	22,728
		2040	26,616
	Collins Avenue	2010	22,844
		2040	26,253

South Florida Regional Traffic Analysis Model and Florida Department of Transportation (FDOT) historical trend analysis results obtained through the *Model Growth Trend Calculation Tool* and the *FDOT Spreadsheet Traffic Trend Analysis Tool V.2.0* were analyzed considering an opening year (2018), mid-design year (2028) and design year (2038). Traffic data projections were evaluated for the same three statistical distributions; Linear, Exponential, and Decaying Exponential. **Table 6** presents historical growth rates obtained.

Table 5: Historical Growth Rates

Analysis Method	Location	Distribution	Model Growth Rate	Trend R-square
Model Trend Calculation	Harding Avenue	Linear	0.50%	100%
		Exponential	0.47%	100%
		Decaying	0.48%	100%
	Collins Avenue	Linear	0.58%	100%
		Exponential	0.54%	100%
		Decaying	0.55%	100%
Historical Trend Calculation	Harding Avenue	Linear	1.73%	43.88%
		Exponential	1.80%	44.24%
		Decaying	2.11%	63.51%
	Collins Avenue	Linear	-3.11%	8.79%
		Exponential	-3.01%	7.99%
		Decaying	-1.68%	2.28%

Notes: R- Squared is a statistical measure of how well a regression line approximates real data points. This percentage is a descriptive measure between zero and one, indicating how good one term is at predicting another. Since there are only two input values for the Model Trend Analysis (2010 and 2040), the R-Squared for the three statistical distributions is 100%.

A conservative growth rate of 2.11% was chosen for Harding Avenue and Collins Avenue for background traffic only. A summary of the Growth Trends Analysis is presented in **Appendix C**.

Future turning movement volumes for build out year (2018) are illustrated in **Figure 8** and **Figure 9 – Scenario 3**.

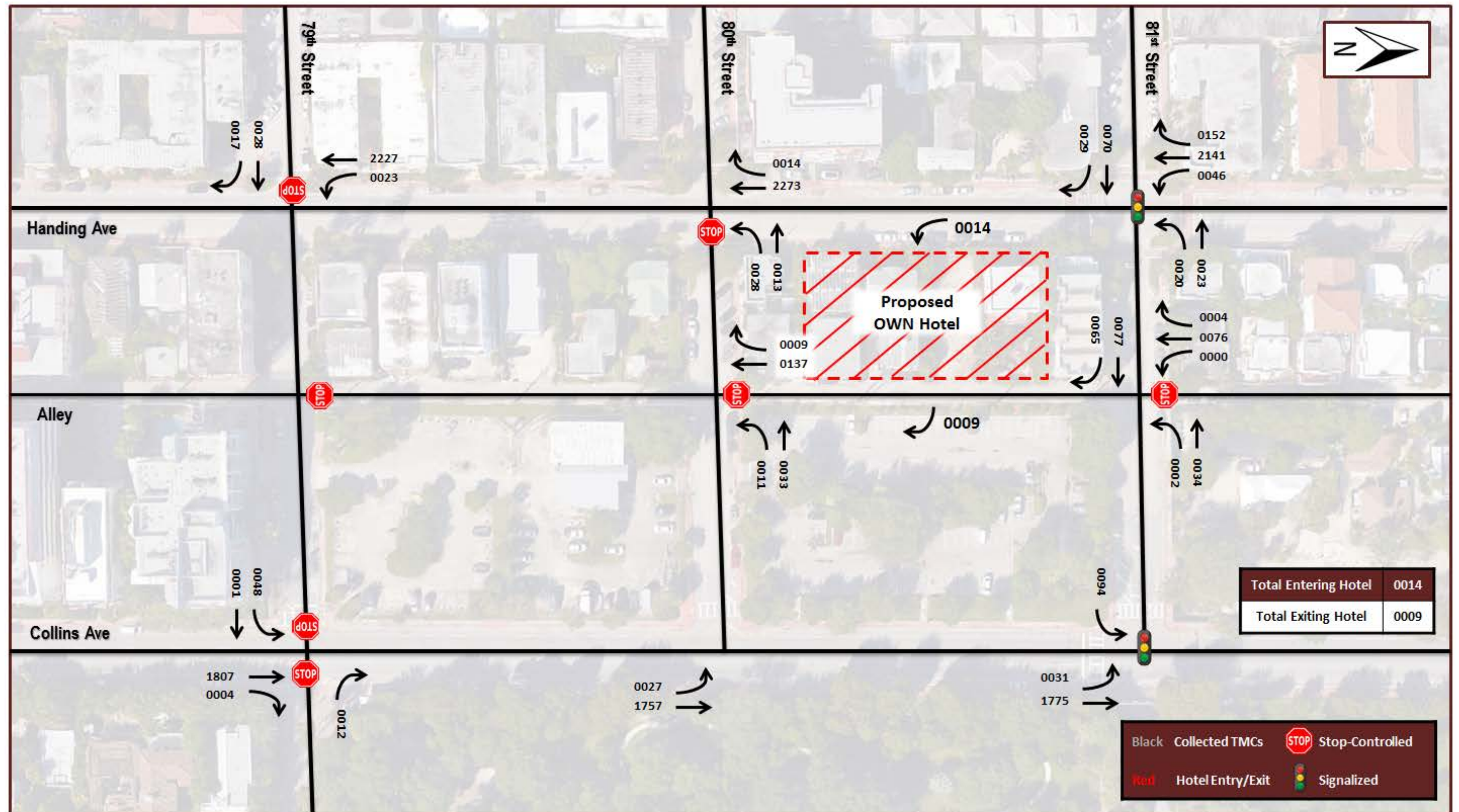


Figure 8: Scenario 3 – AM Future Conditions

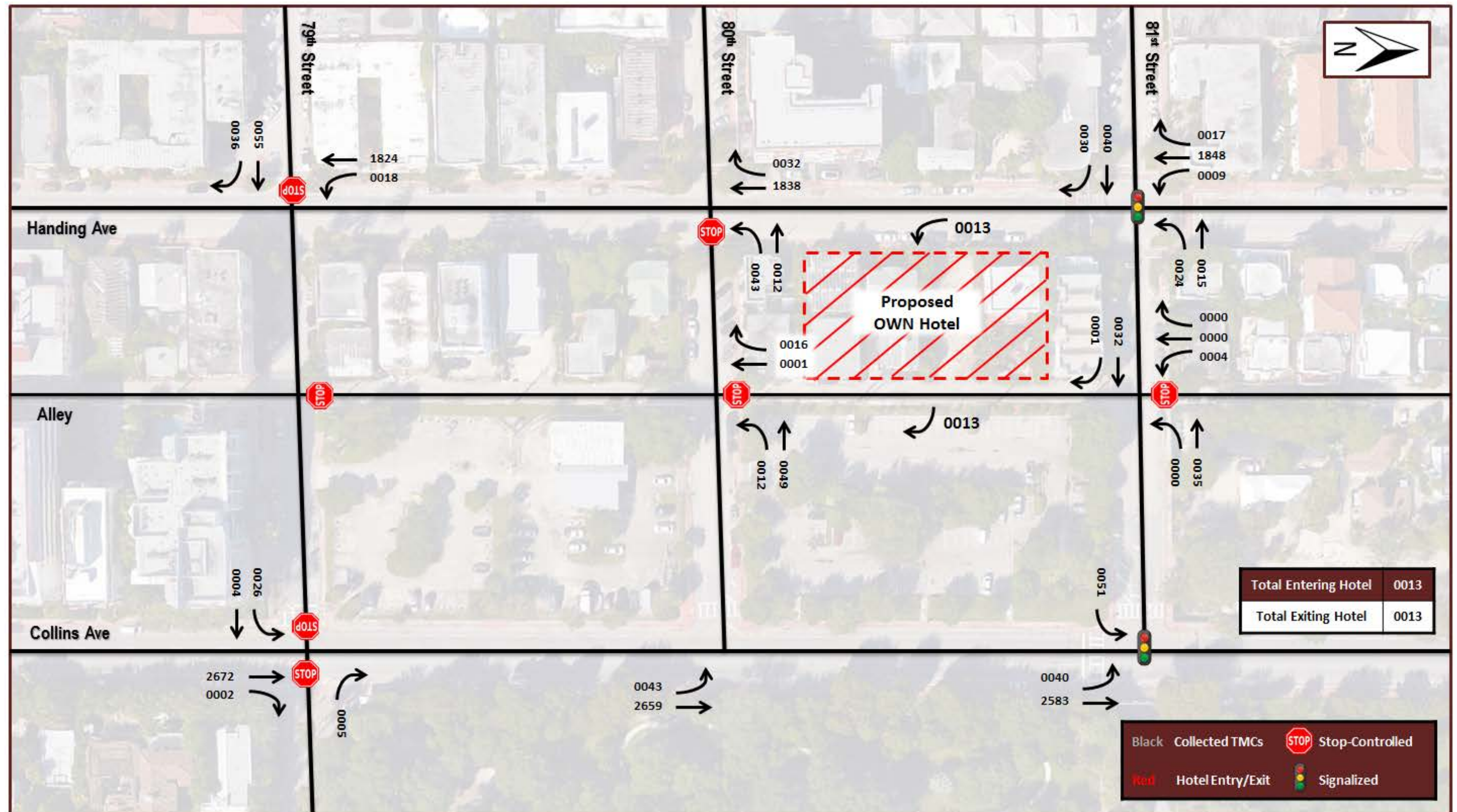


Figure 9: Scenario 3 – PM Future Conditions

9.0 Level of Service Analysis

The existing and proposed conditions were analyzed for *each of the critical intersections along Harding Avenue and Collins Avenue for 81st Street, 80th Street and 79th Street.*

- LOS analysis for *Existing Conditions* for the intersections at *Harding Avenue and Collins Avenue at 79th Street, 80th Street and 81st Street* for the AM and PM peak hour.
- LOS analysis of the *Future Conditions* (2018) based on projected growth rates and trips generated by the proposed Hotel development as per buildout conditions. Trip distribution information collected on the intersections of *Harding Avenue, Collins Avenue and 79th Street, 80th Street 81st Street* will be used in this portion of the analysis for AM and PM peak hour.

This traffic analysis utilizes SYNCHRO, which applies methodologies are outlined in the Highway Capacity Manual, 2010 Edition. LOS Analysis for signalized/unsignalized intersections are based on the amount of control delay which is a measurement in seconds per vehicle that act as an indicator of lost time, fuel consumption, frustration and driver's discomfort at the signalized intersections. The level of services for signalized intersections is a scale from "A" to "F" in accordance with control delay thresholds that range from less than 10 seconds to greater than 80 seconds of delay per vehicle.

In order to perform this analysis, cycle lengths and clearance intervals used in the analysis are consistent with the current Miami-Dade County signal control sections and signal operating plans for the study intersection in conjunction with physical and operational characteristics observed during peak hours (Asset 3647). **Table 8** on the following page shows the existing and future LOS and delay for the identified intersections per each scenario; details of the LOS results and Operational analysis (TOD Schedule) are documented in **Appendix E**.

The analysis concluded that although all intersections might present a slightly higher delay with most of the intersections' s approaches measured in decimals or less than 5 seconds which drivers will not be able to perceived nor affected its current LOS.

Table 6: Level Of Service: Existing and Future Conditions

Intersection		Period	Approach	EXISTING CONDITIONS		FUTURE CONDITIONS	
				Delay	LOS	Delay	LOS
HARDING AVENUE	81 ST STREET	AM	NB				
			SB	5.3	A	5.9	A
			EB	36.6	D	36.4	D
			WB	32.1	C	32.3	C
		PM	NB				
			SB	3.5	A	3.9	A
			EB	37.3	D	36.0	D
			WB	33.1	C	33.3	C
	*80 TH STREET	AM	NB				
			SB				
			EB				
			WB	36.7	E	38.9	E
		PM	NB				
			SB				
			EB				
			WB	28.9	C	43.3	E
	79 TH STREET	AM	NB				
			SB				
			EB	36.8	E	42.0	E
			WB				
		PM	NB				
			SB				
			EB	34	D	39.7	E
			WB				

Intersection		Period	Approach	EXISTING CONDITIONS		FUTURE CONDITIONS	
				Delay	LOS	Delay	LOS
COLLINS AVENUE	*81 ST STREET	AM	NB	4.3	A	4.5	A
			SB				
			EB	42.4	D	42.4	D
			WB				
		PM	NB	4.6	A	5.0	A
			SB				
			EB	44.6	D	45.2	D
			WB				
	79 TH STREET	AM	NB				
			SB				
			EB	19.1	C	20.3	C
			WB	14.7	B	15.2	C
		PM	NB				
			SB				
			EB	82.2	F	98.7	F
			WB	21.4	C	22.5	C

Intersection		Period	Approach	EXISTING CONDITIONS		FUTURE CONDITIONS	
				Delay	LOS	Delay	LOS
ALLEY	81 ST STREET	AM	NB				
			SB	8.9	A	9	A
			EB				
			WB				
		PM	NB				
			SB	9.1	A	9.2	A
			EB				
			WB				
	80 TH STREET	AM	NB				
			SB	10.4	B	10.5	B
			EB				
			WB				
		PM	NB				
			SB	8.6	A	8.7	A
			EB				
			WB				

10.0 Transportation Demand Management Plan

In the efforts to reduce the vehicle parking demands protuberant to the local area surrounding the Hotel, a Transportation Demand Management Plan is encouraged. This section attempts to offer possible vehicle parking mitigation methods through analyzing alternatives offered by the Hotel site, city of Miami Beach and Public transits.

10.1 Available Alternative Transportation Methods:

Several alternatives to using a motorized vehicle are feasible for employees who frequently commute to the Hotel. Some of these alternatives are, but not limited to:

1. Bicycling:

The use of personal bicycles as a means to commute to the Hotel is highly effective in saving parking spaces. Bicycling also promotes health, reduction of adjacent roadway congestion and environmental friendly. The Hotel will provide bike storage on-site for employees. Guest will also be encouraged to use bicycles as a means to transit the area.

2. Deco-Bike Program:

Also known as The Citi Bike program, this transit method promotes bike sharing and incorporates a rental system. The Citi Bike program intends to make available to visitors and locals an additional transportation option for getting around Miami Beach, Downtown and other parts of the greater Miami area. Bike sharing provides an efficient and convenient method to transverses the area while reducing congestion and parking demands. The solar-powered bike sharing system consists of a fleet of sturdy, very durable bikes that are locked into a network of docking stations sited at regular intervals around the area. Bikes are available at any time, all year round. The bike program can be utilized either through a Bike Share Membership or an Hourly Rental Rate paid for at each station. A DekoBike station (Station 316) is provided on the East side of 79th Street and Collins Ave, roughly 2 blocks away from the proposed Hotel site. Maps of existing stations can be found online at citibikemiami.com

3. Mass Transit – Public City Bus:

Should the above bike transportation methods be inconvenient for the employees or visitors, public bus transit will become the second alternative method. Public busses provided by Miami-Dade transit and South Beach Local offer a feasible and reliable means to transverses Miami Beach and the greater Miami area efficiently and cost effective. Employees and guest utilizing the public bus services will reduce parking demands and congestion for the Hotel development. A bus stop is conveniently located on the west side of Harding Avenue at the intersection of 81st Street, just in front of the proposed OWN Hotel site. Buses servicing this station are 108 and 119. Bus route maps can be obtained online at miamidade.gov/transit.

4. Shuttle Services:

Should demands for visitors and guest become high, a shuttle service may become an effective means of reducing vehicle parking demands. Shuttle services may vary in trips from Miami International Airport, Neighboring Hotels, specific locations along the City of Miami Beach, recreational locations and possibly local on-call pickup services. The shuttle should offer services to Hotel guest and employees as needed appropriately.

5. Carpooling – Off Street Parking:

Should none of the alternatives above become a convenient means for an employee or guest, and the use of a personal vehicle becomes the only feasible alternative, carpooling should be offered as an option. Carpooling will allow for the efficient use of a parking space per person carpooling. This method should not be encouraged if the vehicle and carpool occupants have a means to utilize any of the other alternatives mentioned above.

6. Off-Street Parking

Should all other alternatives fail to become feasible for the employee, Off-Street parking should be offered by the Hotel to ensure all employees and guests are accommodated accordingly.

10.2 *Alternative Transportation Incentive:*

The Hotel should arrange for adequate incentives on each of the proposed alternative listed, as well as any other vehicle parking reduction methods not mentioned. Incentives should include, but not be limited to: free bike slot usage for personal bike users, flat rate subsidy to DekoBike Program users, flat rate subsidy to Mass Transit - Public Bus users and reduced rates for shuttle and carpool users.

A designated staff of the Hotel should oversee the effectiveness of the Transportation Demand Management Plan to ensure that all employees are assessed on an individual bases in order to optimize the use of bike, DecoBike (City Bike Program), Mass transit, Shuttle Service or carpooling. The efficiency of the Transportation Plan, along with each employee's means of transportation, should be reviewed every six months after implementation depending on initial success and turnover of employees. New employees upon hire should be immediately assessed into the plan and ongoing staff with recent changes in residency should be re-assessed accordingly.

11.0 Code Requirements Evaluation

Pursuant to the Traffic Impact Analysis is the need to evaluate code requirements following Miami-Dade County and City of Miami Beach Ordinances.

11.1 Parking Requirements

The proposed OWN Hotel Development Plan incorporates 22 parking spaces distributed throughout the ground level floor. In addition to on-site parking, a public off-site parking lot is located conveniently at the rear (just across the alley) to the proposed development.

Following the Institute of Transportation Engineers guidelines provided in the 4th Edition *ITE Parking Generation*: for 85th percentile of Parking Demands, 1.08 parking spaces are required per occupied Hotel room. This would ensue the proposed development providing 44 Hotel rooms would need to provide approximately 48 parking spaces on-site.

In additions to the ITE Parking Generation, The following guidelines imposed by the City of Miami Beach can be followed as bases to meet parking demand requirements. The following guidelines can be found in *Miami Beach Ordinance – Section 130-32 (26) Off-Street Parking Requirements for Parking District No.1* which states the following:

New floor area for hotel rooms, associated with retaining, preserving and restoring a building or structure that is classified as "contributing" as of March 13, 2013, as defined below.	0.5 spaces per unit, up to a maximum of 100 units and 1 space per unit for all units in excess of 100 units.
Other (e.g., new construction or substantial demolition of contributing building).	1 space per unit.
In addition to the above, in order for any hotel to receive the reduced rate of 0.5 spaces per unit, a hotel guest shuttle service shall be provided and maintained, and a hotel employee parking plan is required, which shall be subject to the review and approval of the planning department. Such hotel employee parking plan shall include mandatory measures to address employee parking, including, but not limited to, provision of transit passes, carpool or vanpool programs, off-site parking when available, monthly city parking passes, and/or other measures intended to limit the impact of employee parking on surrounding neighborhoods.	

11.2 Driveway Design Standards Requirements

OWN Hotel presents a one-way entry along Harding Avenue on the east side of the development and a one-way exit into the alley along the west side. Because Harding Avenue falls under the FDOTs jurisdiction of control, driveway design standards provided by the department should be met in lieu of the design.

Figure 10: FDOT Driveway Radii Requirement

Figure 10 can be found in the *Florida Department of Transportation 2008 Driveway Information Guide*. As determined in this report, the peak entry trips per hour expected to occur at OWN Hotel falls under the 6-60 trips per Hour range along the Urban Section. Thus the minimum radius required by the driveway is 10 feet.

	<i>Trips/Day</i>	<i>1-20</i>	<i>21-600</i>	<i>601-4000</i>
	<i>or Trips/Hour</i>	<i>or 1-5</i>	<i>or 6-60</i>	<i>or 61-400</i>
RURAL SECTION Radius (feet)		15' min 25' std 50' max	25' min 50' std 75' max	25' min 50' std (or 3-centered curves)
URBAN SECTION Radius (feet)		N/A *	10'-35'	25' min 50' std 75' max

* Small radii may be used in lieu of flares as approved by the department

Figure 11: FDOT Driveway Width Requirement

	Radius or Flare (ft.)	Single Lane Width for Entry for Passenger Vehicles (ft.)
	Typical flared driveway	22 ft (Pavement striping should be used if entry is this wide)
	10 ft Radius	19 ft
	15 ft Radius	17 ft
	20 ft Radius	14 ft
	25 ft Radius	14 ft
	Over 25 ft Radius	12-14 ft

Source: adapted from *Access Management for Streets and Highways*, Flora and Keith, FHWA, 1982 p 63

Included into the driveway design standards is the need to meet minimum entry width. For the one-way entry along Harding Avenue the following table found in **Figure 11** is referenced to for any of the corresponding radii chosen by the development.

11.3 Auto-Turn Requirements

Required dimensions for auto-turn are required in order to provide proper access to the typical vehicles that will be using the facility:

- All pertinent dimensions such as drivable roadway width turn radii, cul-de-sacs, and T or Y turnarounds must be identified on a site plan. All sidewalks and green space shall be identified separate from roadway dimensions.
- The minimum dimensions for fire department access roads shall be 20 feet unobstructed width (two-way traffic) and not less than 13 feet 6 inches of unobstructed vertical clearance NFPA 1 18.2.2.5.1. The AHJ will accept one-way traffic lanes to be a minimum of 15 feet unobstructed width.

The auto-turn wheel paths are also presented in the ground floor plan in **Appendix B** for the main driveway considering standard two axle vehicles and for the loading area considering the standard garbage truck. In the case of Miami-Dade Fire Rescue Access Road Requirements are also provided in **Appendix G**

12.0 Conclusions

Based on the performed analysis, the following can be concluded:

- Based on the Trip Generation Analysis, trips generated by OWN Hotel will have a minimal impact the existing conditions at each critical intersection. The alley will see an increase in usage but still fall within reason during Peak Hours of operation.
- The level of Service analysis concluded that although all intersections might present a slightly higher delay with most of the intersections approaches impacts measured in decimals or less than 5 seconds which drivers will not be able to perceive.
- All current ordinances imposed by the City of Miami Beach and the Florida Department of Transportation appear to be meeting the design standards for the driveway, parking and Miami-Dade Fire Rescue requirements.
- Implementation of the Transportation Demand Management Plan is expected and, if followed through effectively, should reduce parking demands generated by the staff and guest alike at the Hotel.

Overall OWN Hotel is expected to have a minimal impact on current traffic conditions occurring in the affected area.

Appendix A

Methodology Report



TO:	Miami Beach Xavier R. Falconi, PE Transportation Planner Transportation Department 1700 Convention Center Drive Miami Beach, Florida 33139
FROM:	Juan S. Calderon, P.E., PTOE, Project Manager
C.C:	Gabriel Andjell
DATE:	March 4, 2016
SUBJECT:	Traffic Impact Study Methodology OWN Hotel Miami Beach FL at Harding Avenue and W 80th Street

CALTRAN Engineering Group, Inc. (CALTRAN) was retained by Gabriel Andjell from Spider Investments Group, Inc. to assess the traffic impact with regards to the proposed site development of the hotel located at 8035 Harding Avenue Miami Beach, FL 33141. The purpose of this memorandum is to summarize the traffic impact study methodology for the hotel as discussed in the meeting held on February 29th, 2016.

1.0 Study Area

The proposed Hotel is located at 8035 Harding Avenue Miami Beach, FL 33141. The roadway impact boundaries for this site development are 81st Street to the North, Collins Avenue to the East, 80th Street to the South and Harding Avenue to the West. The study area is also to include assessment of the intersections of 79th Street with Harding Avenue and Collins Avenue which are located further to the south, as well as, the alley way located at the rear / east side of the proposed development.

The existing site contains 24 multi-family units with 8 units per building. Upon buildout, the proposed development will encompass 40 hotel rooms supplemented with a 740 Sqf Rest Bar for Guest-Only located in the lobby. Inbound/outbound access to the proposed facility will be served along Harding Avenue and the alley located along the east side of the property.

2.0 Existing Conditions

A detailed field review is to be conducted along the project site to determine the existing intersection geometry, traffic control devices, signal phasing and other factors, which may affect intersection or roadway segment capacity. The following list shows all roadways within the study area that will be assessed:

- Harding Avenue
- Collins Avenue
- 79th Street
- 80th Street
- 81st Street
- Alley between Harding Avenue and Collins Avenue from 79th Street and 81st Street

3.0 Traffic Data Collection

Traffic data is to be collected on a Miami-Beach typical period of three-days and times from Thursday morning (12AM) through Saturday night (12AM). Data collection includes a 72-hour machine counts performed along Harding Avenue and Collins Avenue as well as 6-hour Turning Movement Counts (TMCs) to be conducted at the six intersections of concern along 79th Street, 80th Street and 81st Street during 2-hour periods for the AM, Mid-day and PM peak traffic based on the 24-hour demand. Counts are to also include the entry/exit points of the alley and pedestrian/bike counts.

4.0 ITE Trip Generation

A trip generation analysis is to be performed using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition* through the OTISS (Online Traffic Study Software) considering land use code (LUC) 310. Trip generation for the proposed development will be based as per the hotel site plans, existing development conditions and proposed buildout conditions.

5.0 Trip Distribution

Trip distribution will be performed on the intersections of Harding Avenue, Collins Avenue and 79th Street, 80th Street 81st Street. Trip distribution will be based on the collected TMC counts from each respective intersection within the study limits. In addition to the existing counts, the trip distribution will take into consideration the cardinal distribution from the Miami-Dade Long Range Transportation Plan Update, published by the MPO.

6.0 Growth Analysis

Future traffic forecasts will be developed for the years following expected buildout conditions for the Hotel development. Historical traffic trends within the area will be assessed as per due process to assist in forecasting future rates.

Within the project vicinity, Harding Avenue and Collins Avenue are considered main arterials. As per the South Florida Regional Traffic Analysis Model (FSUTMS), the highest variation in traffic will be determined and provided within the impact study.

7.0 Level of Service Analysis

The existing and proposed conditions are to be analyzed for all of the roadways encompassed within the defined study area. For this analysis, three different scenarios are to be expected as shown:

- *Scenario 1-* LOS analysis of the Existing Conditions pertaining to Harding Avenue, Collins Avenue and 79th Street, 80th Street, 81st Street. Existing conditions will be based on the most conservative values obtained from either the TMC counts or the ITE Trip Generation.
- *Scenario2-* LOS evaluation after a growth rate is applied to the intersections of Harding Avenue, Collins Avenue and 79th Street, 80th Street 81st Street.

- **Scenario 3-** LOS analysis of the Future Conditions based on trips generated by the proposed Hotel development as per buildout conditions. Trip distribution information collected on the intersections of Harding Avenue, Collins Avenue and 79th Street, 80th Street 81st Street will be used in this portion of the analysis.

This traffic analysis utilizes Synchro, which applies methodologies outlined in the Highway Capacity Manual, 2010 Edition. LOS Analysis for signalized/unsignalized intersections are based on the amount of control delay which is a measurement in seconds per vehicle that act as an indicator of lost time, fuel consumption, frustration and driver's discomfort at the signalized intersections.

The level of services for signalized intersections is a scale from "A" to "F" in accordance with control delay thresholds that range from less than 10 seconds to greater than 80 seconds of delay per vehicle.

At the same time, this analysis will include should include Pedestrian and Bikes information and a table summarizing the existing turn lane lengths and the projected queue lengths.

8.0 Transportation Demand Management Plan (TDM)

Transportation Demand Management (TDM) strategies will be developed to reduce the impact of project traffic on the surrounding roadway network and promote trip reduction. Typical measures are to promote bicycling and walking, encourage car/vanpooling and offer alternatives to the typical workday hours in particular for staff of the hotel. The report will include the name of person that will be in-charge of implementing the TDM Plan at the site. The City has the right to be in contact with that individual to determine how well the Plan is working and if any adjustments would be needed with time.

9.0 Code Requirements Evaluation

Pursuant to the Traffic Impact Analysis is the need to evaluate code requirements following Miami-Dade County and City of Miami Beach Ordinances. Evaluations include, but are not limited to:

- Parking demand requirements enforced by Miami Beach City Ordinances.
- Driveway design standards in accordance with the Florida Department of Transportation (FDOT) as well as turn-around templates for all driveway and loading zones
- Miami-Dade Fire Truck requirements.

10.0 Final Report

The final report will supply recommendations based on the findings and the City of Miami Beach code requirements. The report will also include information pertaining to all the site plan with required/ proposed signage, as well as a t incorporate elements such as re-configuration of driveway due to ingress only to passenger car only traffic and management of deliverables.

In addition, a note will be included that "It is understood that the City reserves the right to request additional analyses including but not limited to, additional traffic counts and level of service analysis for any intersection if City staff feels is necessary in order to complete the review process".

Appendix B

Architectural Plans

PROPOSED FOUR STORY HOTEL

OWN HOTEL

8011, 8017, 8021 & 8035 HARDING AVENUE
MIAMI BEACH, FLORIDA

FINAL SUBMITTAL
MAY 05, 2016

BEHAR • FONT

P A R T N E R S , P . A .
ARCHITECTURE • PLANNING • INTERIORS

4533 PONCE DE LEON BLVD. CORAL GABLES, FLORIDA 33146

Tel: 305.740.5442 Fax: 305.740.54.43

E-Mail: info@beharfont.com

938 CHAPEL ST. NEW HAVEN, CT 06510
TEL: 203.909.8788

21 SCOTT ST. AT. GEORGIA 30518
TEL: 678.765.2008

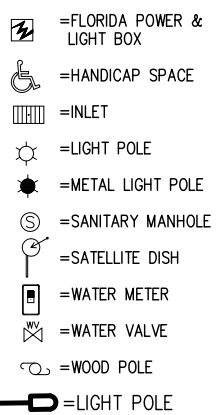
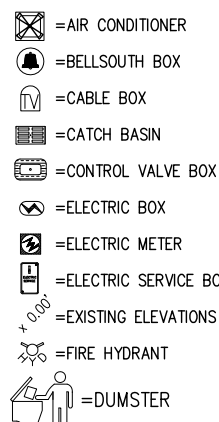


ABBREVIATIONS
AND LEGEND

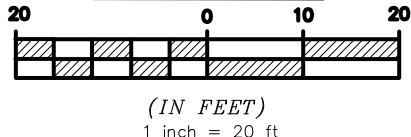
A	ARC
A/C	AIR CONDITIONER
BM	BENCHMARK
BRG	BEARING
(C)	CALCULATED
C.G.	CONCRETE GUTTER OR VALLEY GUTTER
C&G	CURB & GUTTER
CH	CHORD
CHBRG	CHORD BEARING
C.M.E.	CANAL MAINTENANCE EASEMENT
C.N.A.	CORNER NOT ACCESSIBLE
CONC.	CONCRETE
Δ	DELTA
D.E.	DRAINAGE EASEMENT
E.O.P.	EDGE OF PAVEMENT
F.C.	FENCE CORNER
F.D.H.	FOUND DRILL HOLE
F.E.	FENCE ENDS
F.F.E.	FINISHED FLOOR ELEVATION

F.I.P./F.I.R.	FOUND IRON PIPE/ROD
F.N.	FOUND NAIL AND DISC
F.P.K.N.	FOUND PARKER KALON NAIL
GAR.	GARAGE
I.D.	SURVEYOR'S IDENTIFICATION
L	LENGTH
L.A.E.	LIMITED ACCESS EASEMENT
L.M.E.	LAKE MAINTENANCE EASEMENT
(M)	MEASURED
O/S	OFFSET
(P)	PLATTED
P.C.	POINT OF CURVATURE
P.C.C.	POINT OF COMPOUND CURVATURE
P.O.B.	POINT OF BEGINNING
P.O.C.	POINT OF COMMENCEMENT
P.R.C.	POINT OF REVERSE CURVATURE
P.R.M.	PERMANENT REFERENCE MONUMENT
P.T.	POINT OF TANGENCY

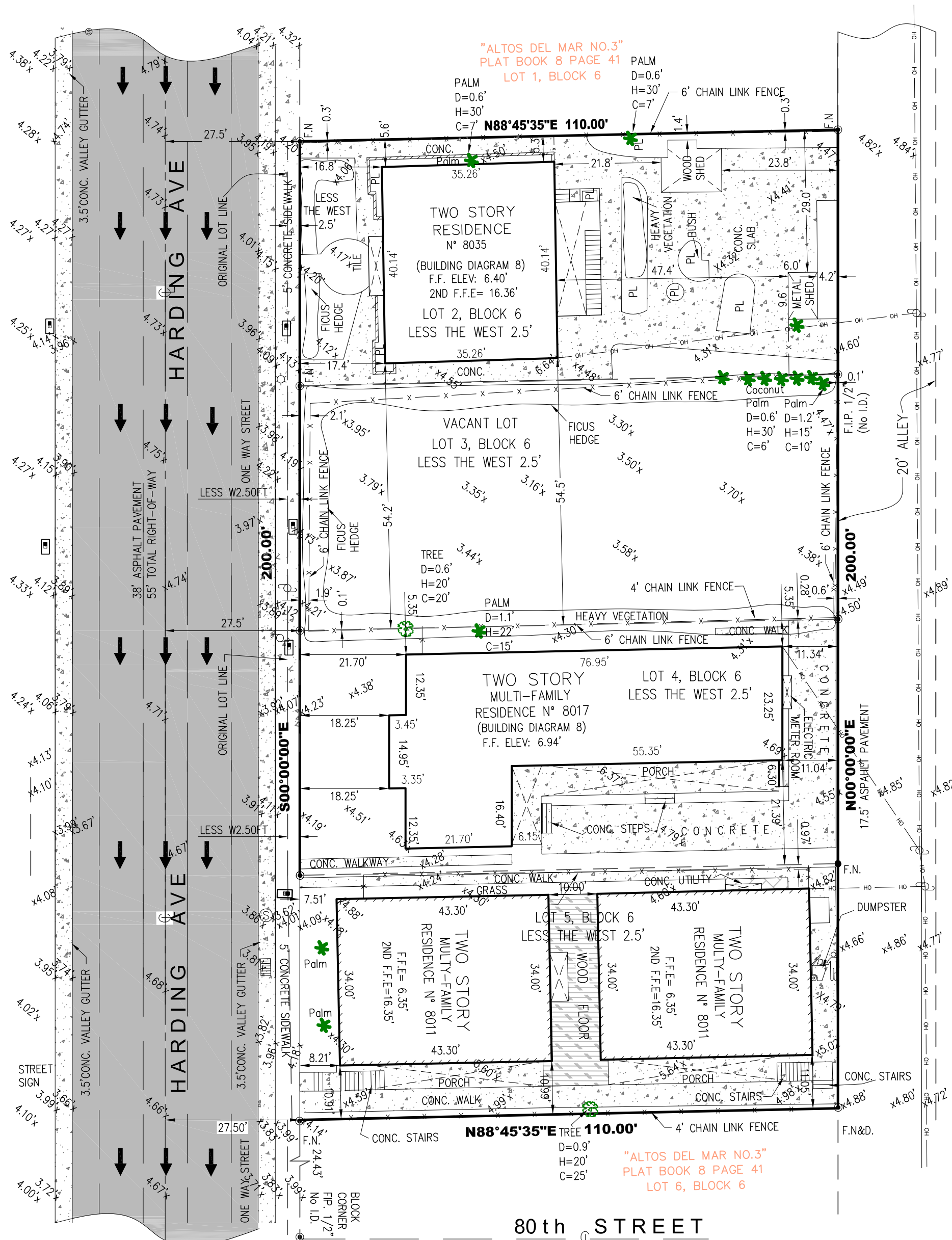
R	RADIUS
(R)	RECORD
R/W	RIGHT-OF-WAY
R.E.E.	ROOF ENCROACHMENT EASEMENT
S.I.P./S.I.P.	SET 1/2" IRON ROD/PIPE
S.N.D.	SET NAIL AND DISC
TAN	TANGENT
(TYP.)	TYPICAL
U.E.	UTILITY EASEMENT
W.E.	WATER'S EDGE
OH	OVERHEAD WIRE LINE
W	WOOD FENCE
X	CHAIN LINK FENCE
AL	IRON/ALUMINUM FENCE
M	MONUMENT LINE
C	CENTERLINE
P	PROPERTY LINE



GRAPHIC SCALE



BOUNDARY SURVEY



FOLIO NO:

02-3202-007-0270
02-3202-007-0280
02-3202-007-0290
02-3202-007-0300

FRONT VIEW



VICINITY MAP



CERTIFY TO:

- A) UNION HARDING, LLC
B) MIAMI TITLE GROUP, INC
C) FIRST AMERICAN TITLE INSURANCE CO.

LEGAL DESCRIPTION

Lots 2,3,4 AND 5 of Block 6 Less the Westerly two and half (2.5) feet thereof "ALTOS DEL MAR NO. 3" according to the map or plat thereof as recorded in Plat Book 8 Page 41, Public Records of Miami-Dade County, Florida.

FLOOD ELEVATION INFORMATION

This property appears to be located in Flood Zone AE Base Flood Elevation 8.00' as per Federal Emergency Management Agency (FEMA) Community-Panel Number :City of Miami Beach/120651, 12086 C Map No. 0326 Suffix L, Effective Date: September 11, 2009.

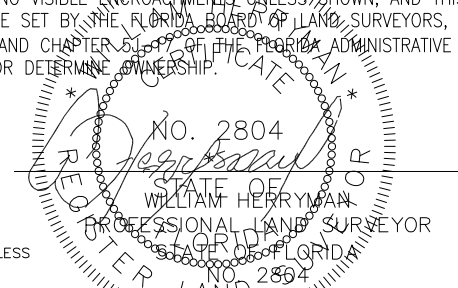
SURVEYOR'S NOTES:

- 1) The above captioned property was surveyed and based on the above legal description provided by the client.
- 2) Foundations and/or footings that may cross the boundary line of the parcel herein described are not shown. Underground utilities are not depicted hereon.
- 3) The lands shown hereon were not adstracted for easement or other recorded encumbrances not shown on the plat and the same if any may not be shown on this section
- 4) Wall ties are to face to the wall
- 5) Ownership subject to opinion of the Title.
- 6) Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.
- 7) Elevations shown hereon are based on a closed level loop using third order procedures and are relative to the National Geodetic Vertical Datum 1929.
- 8) Survey map and report copies thereof are not valid without the signature and raised seal of the Florida Licensed Surveyor.
- 9) The surveyor does not determine Ownership of fences or/and walls.
- 10) This survey has been prepared for the exclusive use of entities named hereon this Certification does not extend to any unnamed party or parties.
- 11) The purpose of this survey is for use in obtaining Title Insurance and Financing and should not be used for Construction.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THE ATTACHED BOUNDARY SURVEY OF THE ABOVE DESCRIBED PROPERTY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AS RECENTLY SURVEYED UNDER MY DIRECTION, ALSO THAT THERE ARE NO VISIBLE ENCROACHMENTS UNLESS SHOWN, AND THIS SURVEY MEETS THE STANDARDS OF PRACTICE SET BY THE FLORIDA BOARD OF LAND SURVEYORS, AS SET FORTH IN CHAPTER 472.027 (F.S) AND CHAPTER 61.47 OF THE FLORIDA ADMINISTRATIVE CODE. THIS SURVEY DOES NOT REFLECT OR DETERMINE OWNERSHIP.

NOTE: NOT VALID UNLESS
SIGNED AND SEALED



RECORD OF REVISION

UPDATE- TOPOGRAPHIC SURVEY

1

01/12/2016

SCALE: 1"= 20'

DATE: 01/12/2016

DRAWN BY: LCORDOVA

FILE NO: 17/1

PROJECT NO: 17/1

ASST. NO: 17/1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

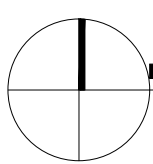
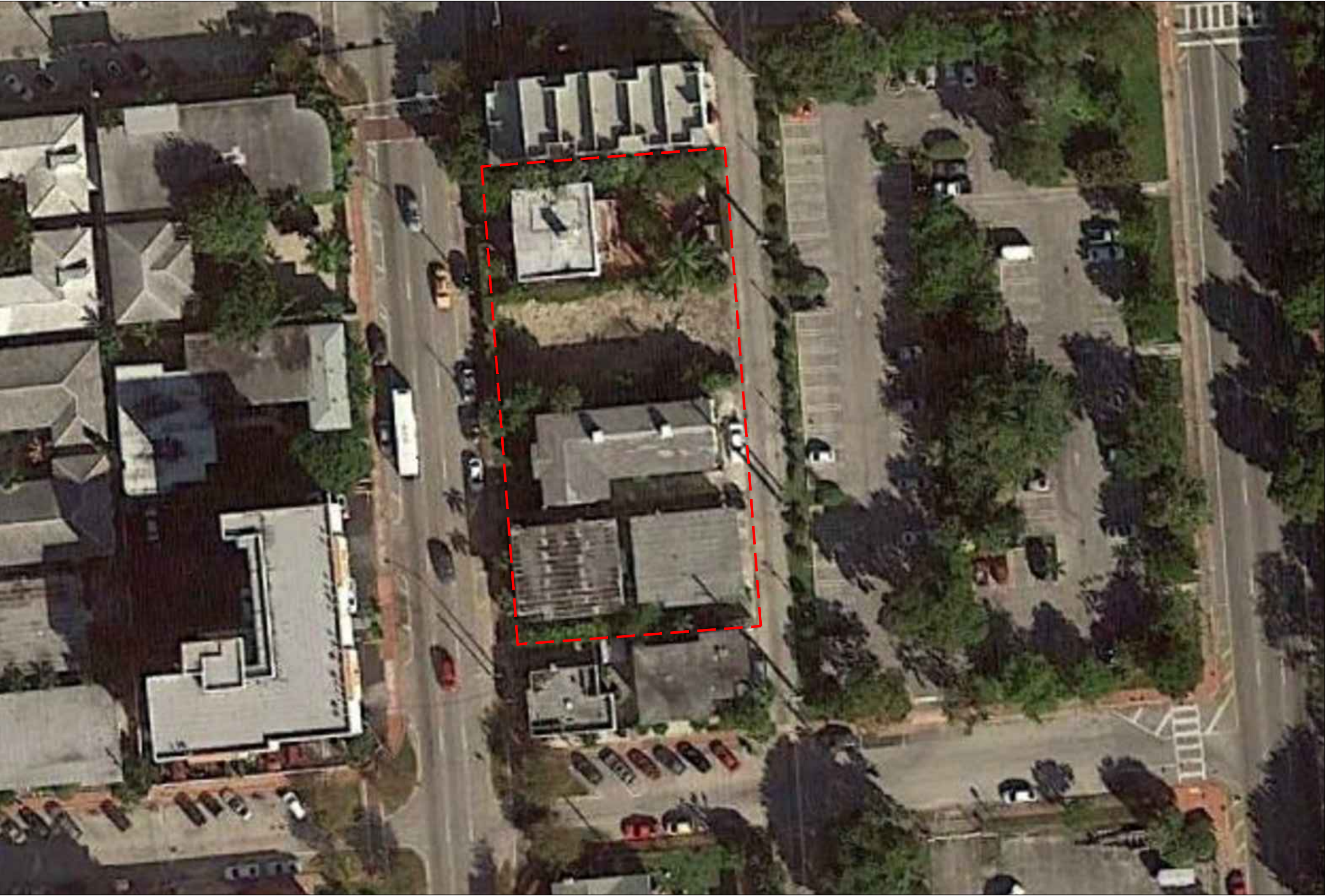
1

1

1



PARTIAL MIAMI BEACH ZONING MAP



SITE MAP
SCALE: NTS

ZONING INFORMATION			
Project name:	Harding Hotel		
Property Address:	8011,8017,8021 & 8035 HARDING AVE. Miami Beach, Florida		
Folio:	02-3202-007-0270, 02-3202-007-0280, 02-3202-007-0290, 02-3202-007-0300		
Lots:	Lots 2,3,4,5 Block 6		
Current zoning:	RM-1 - North Shore Historic District		
Lot area:	21,995	SQ.FT. (0.50 ACRES)	
Uses:	Hotel (Sec. 142-152)		
Maximum F.A.R.	RM-1	Allowed/Required	Provided
As per Sec.142-155.A City of Miami Beach Zoning Code			
1.25x21,995 SQ.FT.		27,494	27,366.00
F.A.R. Calculation (refer to sheet A-0.2)			Sq.ft.
Ground Floor Level			4,761.00
Second Floor			8,520.00
Third Floor			8,543.00
Fourth Floor (Recreational)			5,542.00
Total			27,366.00
Lot area, lot width, unit size and building height	RM-1	Allowed/Required	Provided
Minimum Lot Area (Square Feet)		5,600.00	21,995.00
Minimum Lot Width		50 ft.	200'-0"
		50 ft.	47'-8" ft. (Top of roof)
Maximum Building Height (Feet)			56'-4" (Top of roof projection)
Maximum Number of Stories		Historic district - 4	4
Minimum Unit Size (Square Feet)		Hotel units: 15%: 300 - 335	18% (300-335)
		85%: 335+	82% (335+)
Number of Units Provided	Number (300 -335 Sq.Ft.)	Number (335 + Sq.Ft.)	Total building (Hotel units)
Second Floor	2	16	44
Third Floor	2	16	
Fourth Floor	4	4	
Total	8	36	
Setback at-grade parking:	RM-1	Allowed/Required	Provided
At-grade parking			
Front (Harding Avenue)		20 ft.	48'-11"
Side Interior		5 ft., or 5% lot width (200'), whichever is greater = 10'-0"	16'-6"
Rear (Alley)		Non-oceanfront lots - 5 feet	5'-0"
Pedestal			
Front (Harding Avenue)		20 ft.	20'-0"
Side, facing a Street		Sum of the side yards shall equal 16% of lot width. Minimum - 7.5 feet or 8% of lot width (200'), whichever is greater =16'-0"	16'-0"
Rear (Alley)		Non-oceanfront lots - 10% of lot depth (110')=11'-0"	12'-6"
Parking:	RM-1	Allowed/Required	Provided
Parking placement			22 (19 Parking spaces + 3 lifts)
(As per Sec.130.32.26 City of Miami Beach Zoning Code)			
0.5 space per unit up to a max. of 100 units and			
1 space per unit for all units in excess of 100 units.			
(Includes (1) accessible parking spaces)		22.00	

BEHAR•FONT

PARTNERS, P.A.

ARCHITECTURE • PLANNING • INTERIORS

4533 PONCE DE LEON BLVD., CORAL GABLES, FLORIDA 33146

Tel: 305.462.5442 Fax: 305.740.0443

Email: info@beharfont.com

21 SCOTT STREET, BUFORD, GEORGIA 30518

Tel: 678.765.2008

SEAL:

ROBERT BEHAR AR No. 14339

OWN HOTEL

8011, 8017, 8021 & 8035 HARDING AVENUE

MIAMI BEACH, FLORIDA

© 2013 BEHAR FONT PARTNERS, P.A. THE DESIGN AND DRAWINGS FOR THIS PROJECT ARE PROPERTY OF THIS ARCHITECT AND ARE PROTECTED UNDER THE COPYRIGHT PROTECTION ACT.

DATE: 04-26-16

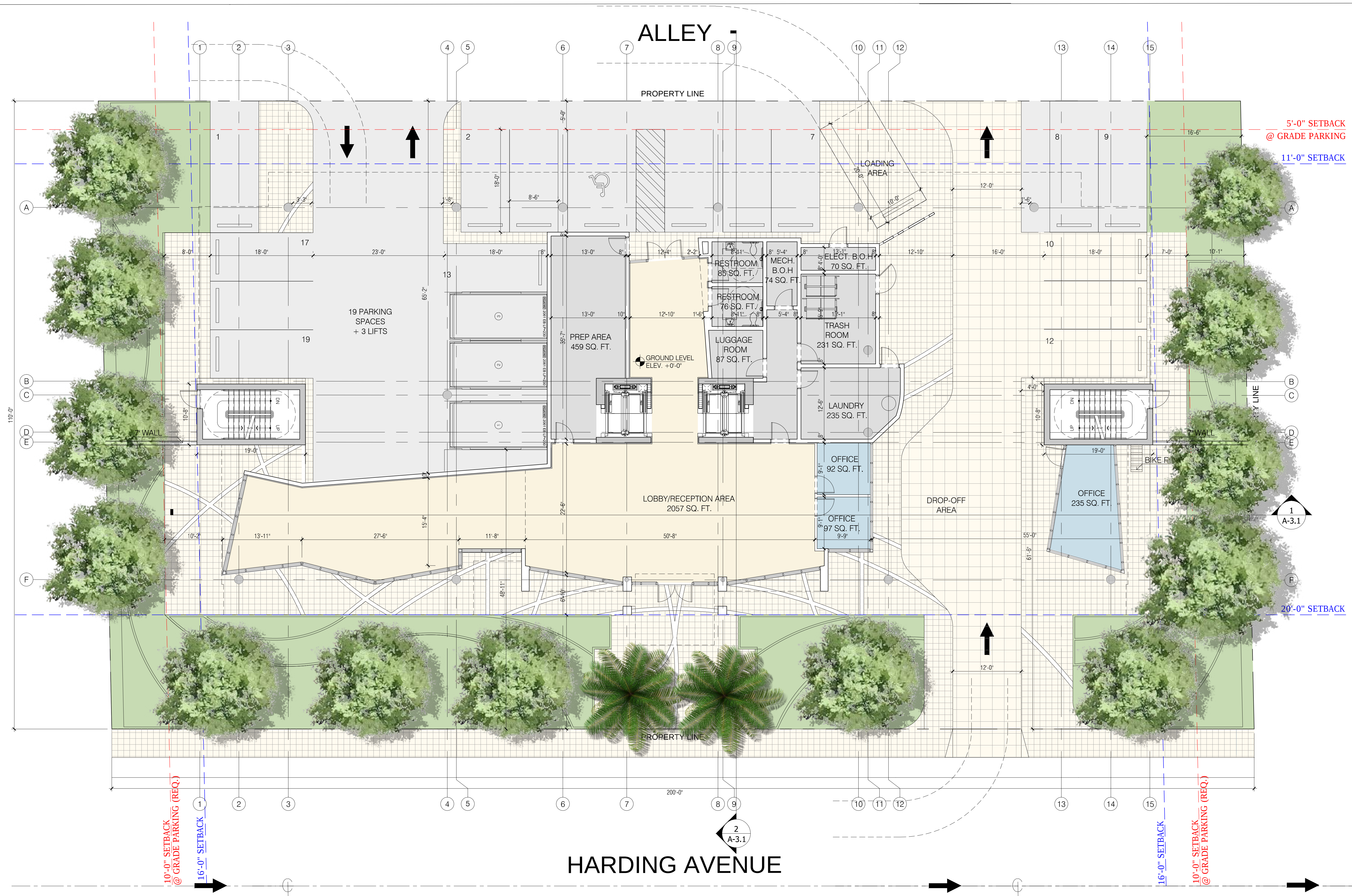
PROJECT NO: 15-073

DRAWING NAME:

SHEET NO:

CP-1.0

ZONING CHART
SCALE: NTS



GROUND FLOOR PLAN
19 PARKING SPACES + 3 LIFT

SCALE: 1/8"=1'-0"

Appendix C

Traffic Data Collection

County: 99
Station: 0024
Description: HARDING AVENUE N OF 80TH STREET
Start Date: 03/03/2016
Start Time: 0000

Direction: S

Time 1st 2nd 3rd 4th Total

0000 89 97 78 59 323
0100 61 50 31 35 177
0200 36 28 21 19 104
0300 26 27 22 24 99
0400 20 25 32 53 130
0500 38 51 87 92 268
0600 135 182 309 371 997
0700 515 521 556 570 2162
0800 563 515 435 200 1713
0900 302 352 407 424 1485
1000 411 372 370 400 1553
1100 386 378 379 384 1527
1200 388 348 369 374 1479
1300 380 358 353 411 1502
1400 376 408 372 387 1543
1500 400 426 428 411 1665
1600 475 445 465 428 1813
1700 427 386 460 467 1740
1800 423 420 381 423 1647
1900 369 339 318 305 1331
2000 295 270 289 255 1109
2100 262 266 257 226 1011
2200 220 200 222 196 838
2300 197 154 146 140 637

24-Hour Totals: 26853

Peak Volume Information

	Hour	Volume
A.M.	715	2210
P.M.	1600	1813
Daily	715	2210

County: 99
 Station: 0024
 Description: HARDING AVENUE N OF 80TH STREET
 Start Date: 03/04/2016
 Start Time: 0000

Direction: S					
Time	1st	2nd	3rd	4th	Total

0000	112	67	75	61	315
0100	67	51	43	41	202
0200	44	28	19	22	113
0300	25	19	21	32	97
0400	18	23	34	45	120
0500	48	68	66	92	274
0600	112	194	272	429	1007
0700	454	486	567	384	1891
0800	293	126	113	89	621
0900	182	371	395	340	1288
1000	323	355	344	375	1397
1100	295	360	357	375	1387
1200	372	402	392	371	1537
1300	352	378	356	415	1501
1400	367	425	423	405	1620
1500	452	388	407	463	1710
1600	457	450	468	436	1811
1700	448	443	415	422	1728
1800	463	453	464	385	1765
1900	397	384	356	303	1440
2000	282	321	283	312	1198
2100	277	319	315	283	1194
2200	266	265	265	273	1069
2300	190	213	180	137	720

24-Hour Totals:					26005
-----------------	--	--	--	--	-------

Peak Volume Information

	Hour	Volume
A.M.	645	1936
P.M.	1545	1838
Daily	645	1936

County: 99
 Station: 0024
 Description: HARDING AVENUE N OF 80TH STREET
 Start Date: 03/05/2016
 Start Time: 0000

Direction: S					
Time	1st	2nd	3rd	4th	Total
0000	159	146	133	115	553
0100	89	81	78	62	310
0200	63	68	53	48	232
0300	36	32	42	46	156
0400	50	36	46	46	178
0500	41	47	75	69	232
0600	81	83	166	167	497
0700	160	182	197	200	739
0800	218	227	248	280	973
0900	245	278	280	288	1091
1000	327	268	316	309	1220
1100	312	329	312	311	1264
1200	349	319	383	348	1399
1300	353	360	359	328	1400
1400	375	361	412	382	1530
1500	371	381	403	394	1549
1600	418	436	412	387	1653
1700	366	331	376	342	1415
1800	335	362	376	381	1454
1900	370	404	344	341	1459
2000	337	365	346	293	1341
2100	249	303	245	312	1109
2200	289	279	283	311	1162
2300	295	254	255	227	1031
24-Hour Totals:					23947

Peak Volume Information

	Hour	Volume
A.M.	845	1083
P.M.	1545	1660
Daily	1545	1660

County: 99
 Station: 0024
 Description: HARDING AVENUE N OF 80TH STREET
 Start Date: 03/06/2016
 Start Time: 0000

Direction: S					
Time	1st	2nd	3rd	4th	Total

0000	207	186	177	127	697
0100	121	148	122	87	478
0200	86	59	61	51	257
0300	61	53	46	53	213
0400	53	47	69	53	222
0500	72	68	66	65	271
0600	56	103	147	143	449
0700	128	136	159	163	586
0800	133	169	175	207	684
0900	204	206	275	237	922
1000	225	263	272	279	1039
1100	269	266	345	344	1224
1200	309	310	351	322	1292
1300	353	328	347	358	1386
1400	353	384	408	401	1546
1500	435	439	371	382	1627
1600	400	416	410	453	1679
1700	422	393	375	393	1583
1800	436	456	370	389	1651
1900	361	366	319	285	1331
2000	268	254	252	277	1051
2100	256	254	231	200	941
2200	175	199	164	179	717
2300	183	163	131	123	600

24-Hour Totals:					22446

Peak Volume Information

	Hour	Volume
A.M.	845	892
P.M.	1615	1701
Daily	1615	1701

County: 99
 Station: 0025
 Description: COLLINS AVENUE N OF 80TH STREET
 Start Date: 03/03/2016
 Start Time: 0000

Direction: N					
Time	1st	2nd	3rd	4th	Total

0000	160	138	111	89	498
0100	89	62	83	59	293
0200	51	38	44	44	177
0300	36	45	44	30	155
0400	27	24	40	36	127
0500	39	56	61	88	244
0600	112	181	243	294	830
0700	270	342	378	423	1413
0800	460	463	445	495	1863
0900	416	365	378	370	1529
1000	383	419	427	412	1641
1100	371	391	436	391	1589
1200	488	425	487	431	1831
1300	451	418	437	434	1740
1400	441	410	524	522	1897
1500	506	580	599	588	2273
1600	637	696	638	687	2658
1700	690	603	738	709	2740
1800	674	638	615	613	2540
1900	558	469	466	411	1904
2000	433	347	347	341	1468
2100	333	315	284	252	1184
2200	271	293	240	245	1049
2300	235	271	234	223	963

24-Hour Totals:					32606
-----------------	--	--	--	--	-------

Peak Volume Information

	Hour	Volume
A.M.	800	1863
P.M.	1730	2759
Daily	1730	2759

County: 99
Station: 0025
Description: COLLINS AVENUE N OF 80TH STREET
Start Date: 03/04/2016
Start Time: 0000

Direction: N

Time 1st 2nd 3rd 4th Total

0000 182 174 132 113 601
0100 128 92 101 73 394
0200 63 65 42 43 213
0300 43 64 29 27 163
0400 35 51 34 39 159
0500 58 50 65 91 264
0600 124 202 221 287 834
0700 256 339 365 376 1336
0800 414 455 402 457 1728
0900 406 360 407 393 1566
1000 377 333 372 417 1499
1100 397 434 495 419 1745
1200 396 446 450 404 1696
1300 428 401 442 457 1728
1400 470 502 486 555 2013
1500 521 529 503 546 2099
1600 571 624 538 627 2360
1700 594 651 609 571 2425
1800 595 675 645 549 2464
1900 492 427 428 397 1744
2000 425 362 317 315 1419
2100 309 298 328 297 1232
2200 315 278 280 278 1151
2300 269 319 257 243 1088

24-Hour Totals: 31921

Peak Volume Information

	Hour	Volume
A.M.	800	1728
P.M.	1745	2486
Daily	1745	2486

County: 99
 Station: 0025
 Description: COLLINS AVENUE N OF 80TH STREET
 Start Date: 03/05/2016
 Start Time: 0000

Direction: N					
Time	1st	2nd	3rd	4th	Total

0000	250	211	185	183	829
0100	139	175	133	111	558
0200	98	100	90	88	376
0300	67	66	71	59	263
0400	62	63	56	50	231
0500	68	70	71	78	287
0600	85	98	139	194	516
0700	171	197	221	227	816
0800	212	269	275	307	1063
0900	260	235	318	307	1120
1000	317	338	365	368	1388
1100	320	361	346	399	1426
1200	489	430	478	432	1829
1300	413	477	482	489	1861
1400	463	440	434	438	1775
1500	515	434	448	477	1874
1600	477	452	422	441	1792
1700	467	443	536	520	1966
1800	468	455	408	428	1759
1900	378	386	366	362	1492
2000	347	342	297	309	1295
2100	298	313	301	288	1200
2200	333	296	316	294	1239
2300	312	301	289	327	1229

24-Hour Totals:	28184
-----------------	-------

Peak Volume Information

	Hour	Volume
A.M.	845	1120
P.M.	1730	1979
Daily	1730	1979

County: 99
 Station: 0025
 Description: COLLINS AVENUE N OF 80TH STREET
 Start Date: 03/06/2016
 Start Time: 0000

Direction: N					
Time	1st	2nd	3rd	4th	Total

0000	302	268	227	212	1009
0100	200	147	162	164	673
0200	128	132	106	103	469
0300	94	103	82	75	354
0400	71	85	80	69	305
0500	50	67	80	69	266
0600	57	75	76	113	321
0700	115	107	135	128	485
0800	145	173	169	219	706
0900	198	239	266	261	964
1000	303	333	380	360	1376
1100	421	359	410	433	1623
1200	455	429	455	448	1787
1300	415	473	478	447	1813
1400	372	437	508	445	1762
1500	483	427	466	435	1811
1600	437	480	417	423	1757
1700	453	411	482	434	1780
1800	435	467	404	451	1757
1900	357	367	333	361	1418
2000	300	328	290	277	1195
2100	286	294	244	279	1103
2200	283	245	213	202	943
2300	194	226	188	180	788

24-Hour Totals:	26465
-----------------	-------

Peak Volume Information

	Hour	Volume
A.M.	845	922
P.M.	1415	1873
Daily	1415	1873

Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	0	516	0	4	520	0	0	0	0	0	0	0	0	0	0	0	5	5	5	15	535
07:15 AM	3	533	0	2	538	0	0	0	0	0	0	0	0	0	0	0	5	3	4	12	550
07:30 AM	2	585	0	8	595	0	0	0	0	0	0	0	0	0	0	0	4	6	5	15	610
07:45 AM	2	567	0	6	575	0	0	0	0	0	0	0	0	6	6	0	8	6	3	17	598
Total	7	2201	0	20	2228	0	0	0	0	0	0	0	0	6	6	0	22	20	17	59	2293
08:00 AM	13	513	0	5	531	0	0	0	0	0	0	0	0	0	0	0	9	2	3	14	545
08:15 AM	24	494	0	7	525	0	0	0	0	0	0	0	0	4	4	0	10	2	5	17	546
08:30 AM	8	423	0	5	436	0	0	0	0	0	0	0	0	10	10	0	11	3	3	17	463
08:45 AM	6	337	0	10	353	0	0	0	0	0	0	0	0	7	7	0	10	3	11	24	384
Total	51	1767	0	27	1845	0	0	0	0	0	0	0	0	21	21	0	40	10	22	72	1938

*** BREAK ***

[illegible]

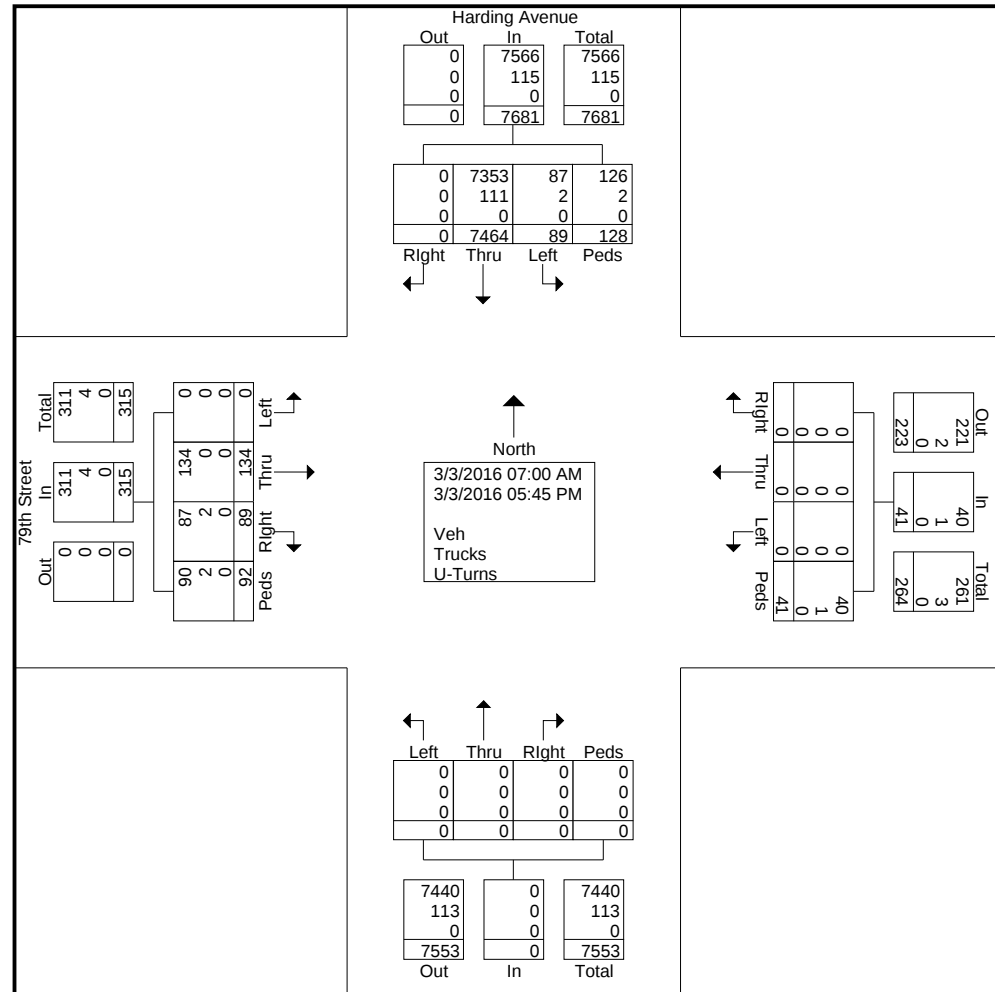
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	533	0	2	538	0	0	0	0	0	0	0	0	0	0	0	5	3	4	12	550
07:30 AM	2	585	0	8	595	0	0	0	0	0	0	0	0	0	0	0	4	6	5	15	610
07:45 AM	2	567	0	6	575	0	0	0	0	0	0	0	0	6	6	0	8	6	3	17	598
08:00 AM	13	513	0	5	531	0	0	0	0	0	0	0	0	0	0	0	9	2	3	14	545
Total Volume	20	2198	0	21	2239	0	0	0	0	0	0	0	0	6	6	0	26	17	15	58	2303
% App. Total	0.9	98.2	0	0.9		0	0	0	0		0	0	0	100		0	44.8	29.3	25.9		
PHF	.385	.939	.000	.656	.941	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.722	.708	.750	.853	.944

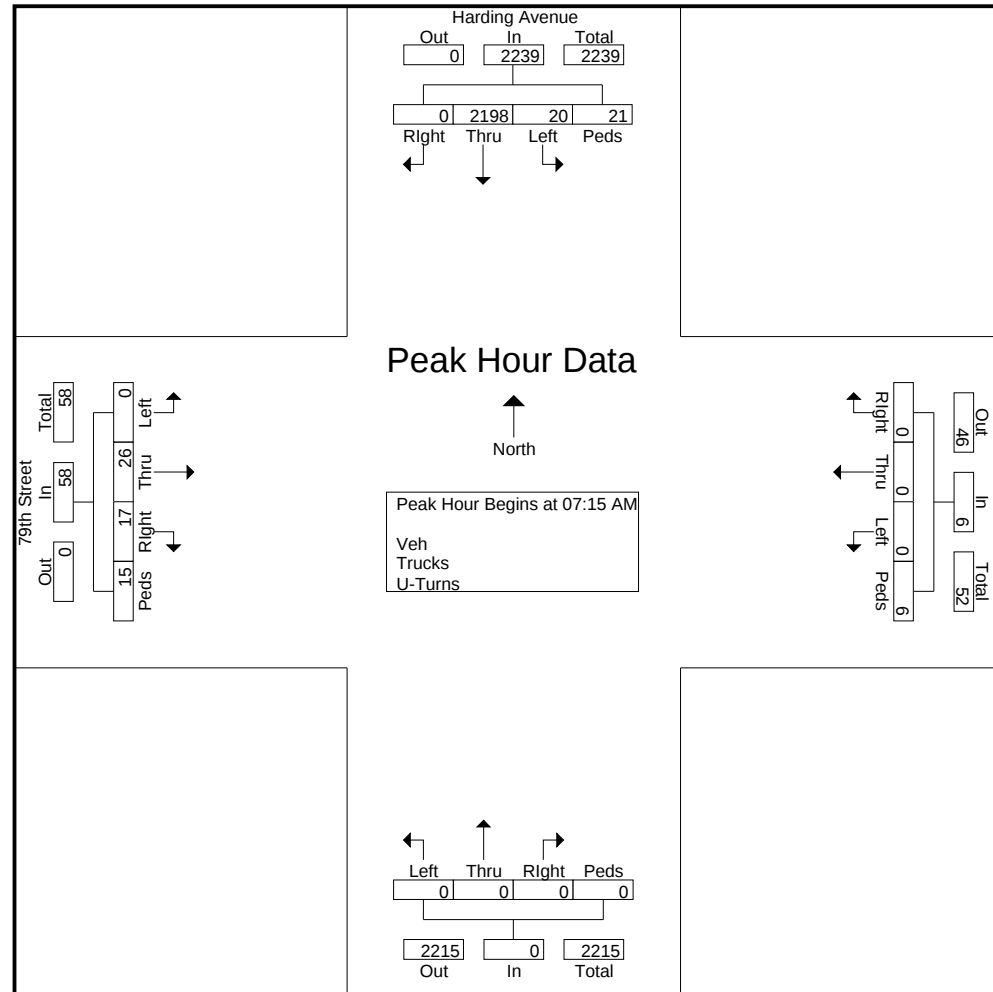
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	4	449	0	11	464	0	0	0	0	0	0	0	0	2	2	0	21	7	1	29	495
04:15 PM	5	439	0	17	461	0	0	0	0	0	0	0	0	0	0	0	10	8	9	27	488
04:30 PM	1	474	0	13	488	0	0	0	0	0	0	0	0	1	1	0	19	14	7	40	529
04:45 PM	4	435	0	2	441	0	0	0	0	0	0	0	0	0	0	0	2	7	7	16	457
Total Volume	14	1797	0	43	1854	0	0	0	0	0	0	0	0	3	3	0	52	36	24	112	1969
% App. Total	0.8	96.9	0	2.3		0	0	0	0		0	0	0	100		0	46.4	32.1	21.4		
PHF	.700	.948	.000	.632	.950	.000	.000	.000	.000	.000	.000	.000	.000	.375	.375	.000	.619	.643	.667	.700	.931

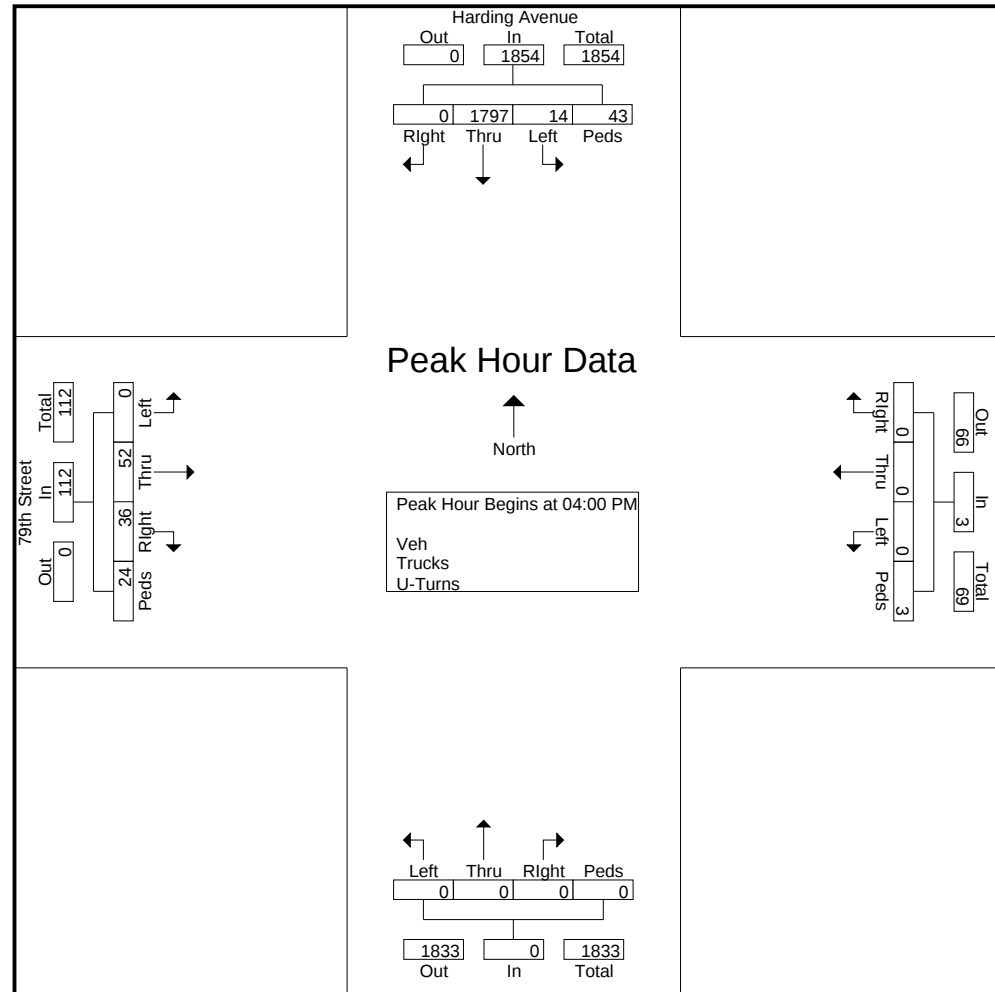
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
07:00 AM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
07:15 AM	1	10	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
07:30 AM	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	13
07:45 AM	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
Total	1	34	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	37
08:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
08:15 AM	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
08:30 AM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
08:45 AM	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	12
Total	0	37	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	38
*** BREAK ***																					
04:00 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:15 PM	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
04:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:45 PM	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	18	0	1	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
05:00 PM	0	6	0	1	7	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	9
05:15 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	1	22	0	1	24	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	26
Grand Total	2	111	0	2	115	0	0	0	0	0	0	0	0	1	1	0	0	2	2	4	120
Apprch %	1.7	96.5	0	1.7		0	0	0	0		0	0	0	100		0	0	50	50		
Total %	1.7	92.5	0	1.7	95.8	0	0	0	0	0	0	0	0	0.8	0.8	0	0	1.7	1.7	3.3	

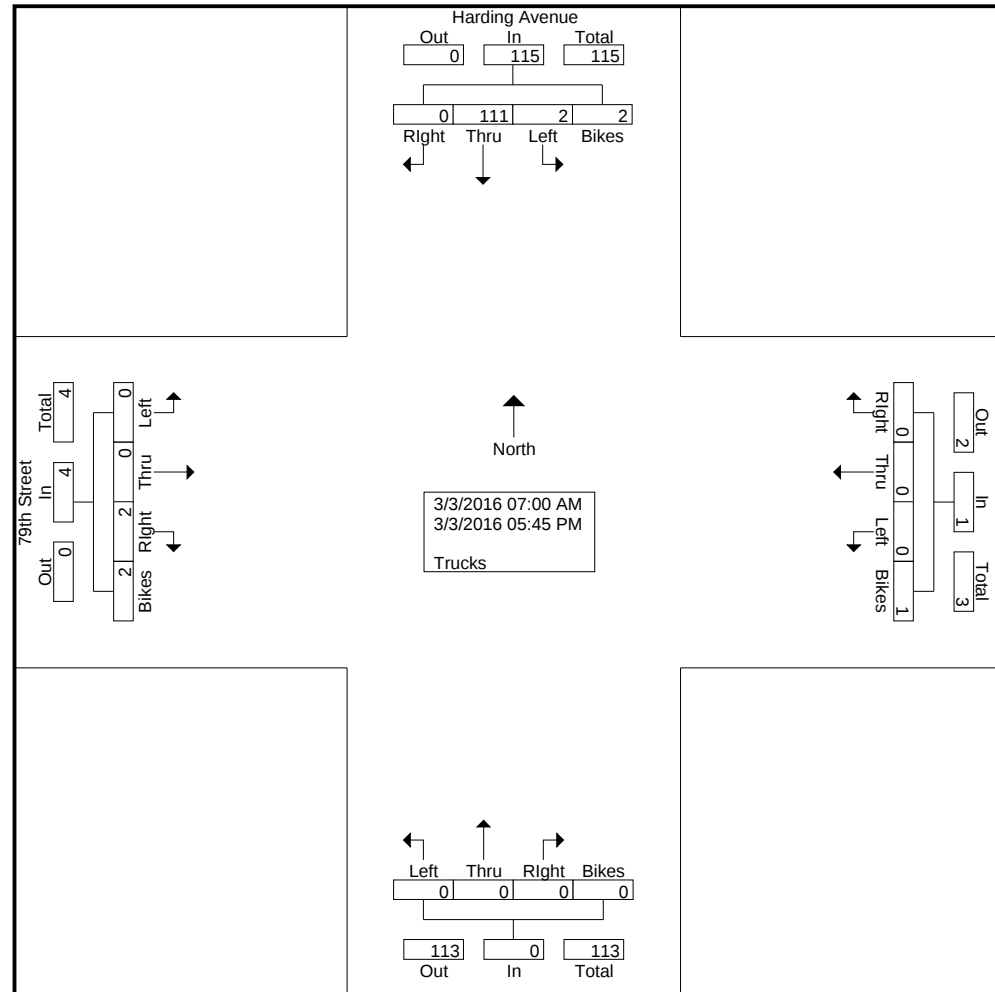
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	10	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
07:30 AM	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	13
07:45 AM	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
08:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Total Volume	1	35	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	38
% App. Total	2.8	97.2	0	0		0	0	0	0		0	0	0	0		0	0	100	0		
PHF	.250	.795	.000	.000	.818	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.731

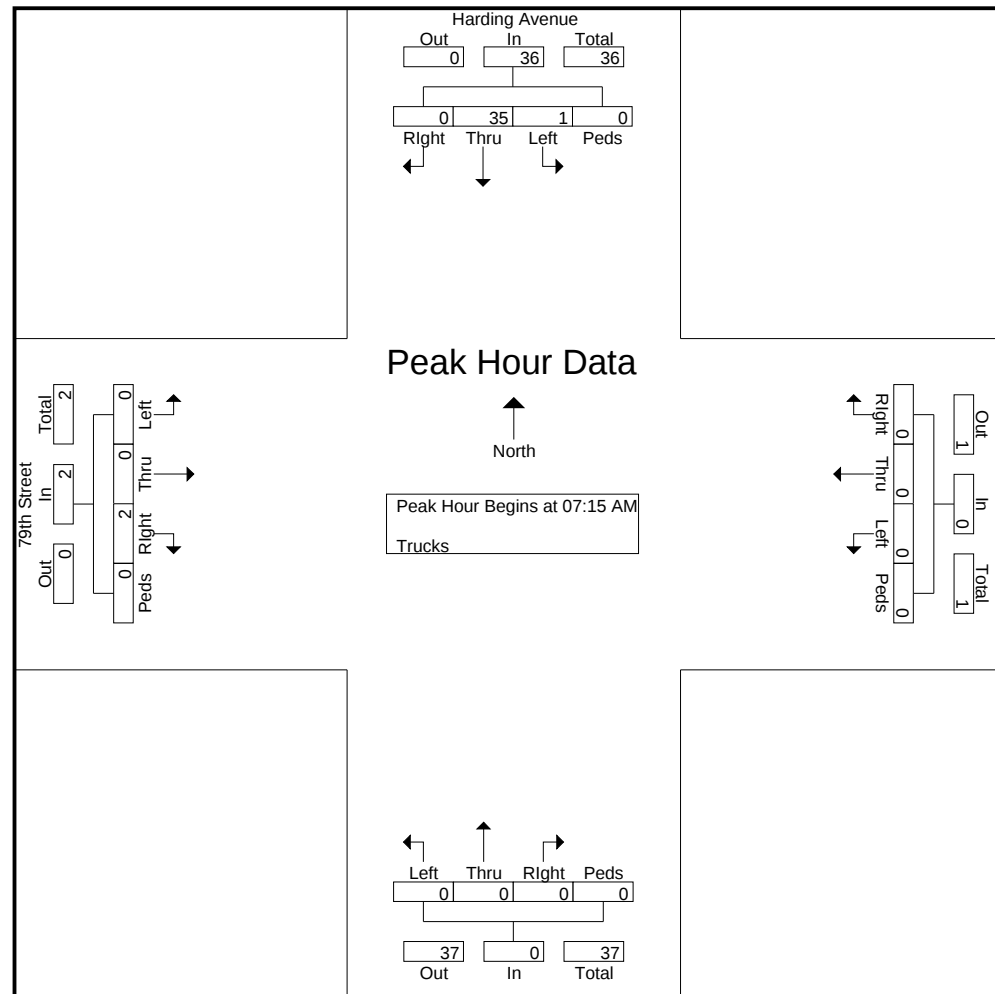
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Harding Avenue Southbound					Northbound					Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	6	0	1	7	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	9
05:15 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
05:30 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:45 PM	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total Volume	1	22	0	1	24	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	26
% App. Total	4.2	91.7	0	4.2		0	0	0	0		0	0	0	100		0	0	0	100		
PHF	.250	.786	.000	.250	.750	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.250	.250	.722

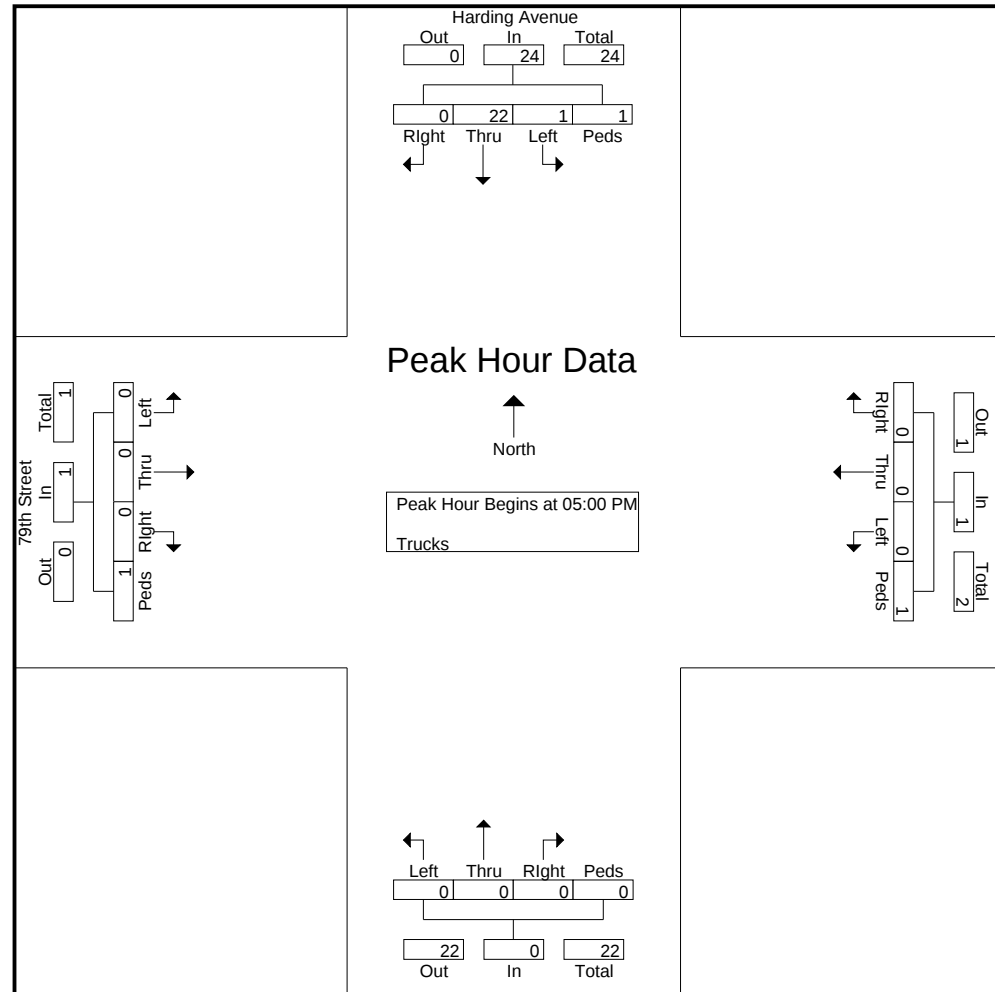
Harding Avenue & 79th Street

File Name : Harding Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	0	546	1	1	548	0	0	0	0	0	3	1	0	1	5	0	0	0	1	1	554
07:15 AM	0	556	1	2	559	0	0	0	1	1	3	2	0	0	5	0	0	0	1	1	566
07:30 AM	0	570	4	1	575	0	0	0	0	0	7	4	0	0	11	0	0	0	3	3	589
07:45 AM	0	559	2	0	561	0	0	0	0	0	4	2	0	2	8	0	0	0	0	0	569
Total	0	2231	8	4	2243	0	0	0	1	1	17	9	0	3	29	0	0	0	5	5	2278
08:00 AM	0	562	7	0	569	0	0	0	0	0	7	3	0	0	10	0	0	0	1	1	580
08:15 AM	0	508	24	2	534	0	0	0	2	2	3	0	0	2	5	0	0	0	2	2	543
08:30 AM	0	419	28	0	447	0	0	0	0	0	0	4	0	2	6	0	0	0	3	3	456
08:45 AM	0	324	21	1	346	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	352
Total	0	1813	80	3	1896	0	0	0	2	2	12	11	0	4	27	0	0	0	6	6	1931

*** BREAK ***

[illegible]

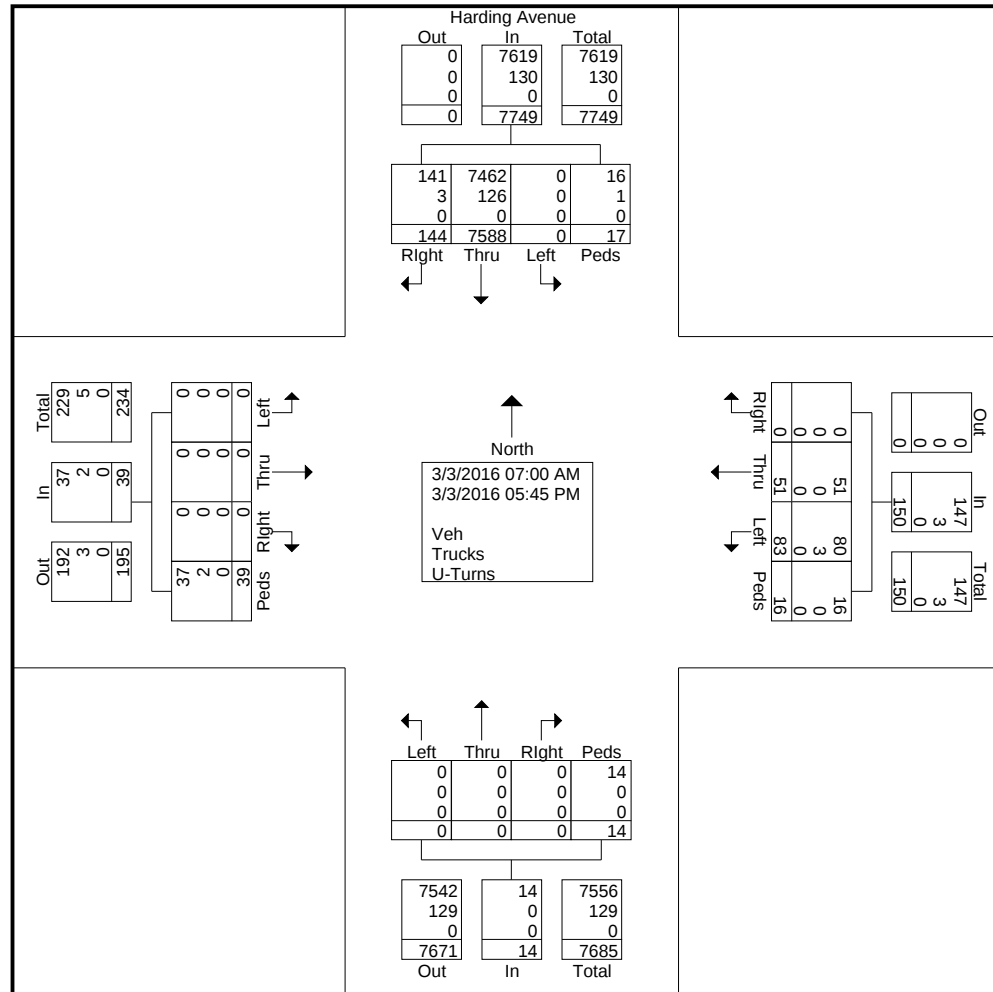
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	556	1	2	559	0	0	0	1	1	3	2	0	0	5	0	0	0	1	1	566
07:30 AM	0	570	4	1	575	0	0	0	0	0	7	4	0	0	11	0	0	0	3	3	589
07:45 AM	0	559	2	0	561	0	0	0	0	0	4	2	0	2	8	0	0	0	0	0	569
08:00 AM	0	562	7	0	569	0	0	0	0	0	7	3	0	0	10	0	0	0	1	1	580
Total Volume	0	2247	14	3	2264	0	0	0	1	1	21	11	0	2	34	0	0	0	5	5	2304
% App. Total	0	99.2	0.6	0.1		0	0	0	100		61.8	32.4	0	5.9		0	0	0	100		
PHF	.000	.986	.500	.375	.984	.000	.000	.000	.250	.250	.750	.688	.000	.250	.773	.000	.000	.000	.417	.417	.978

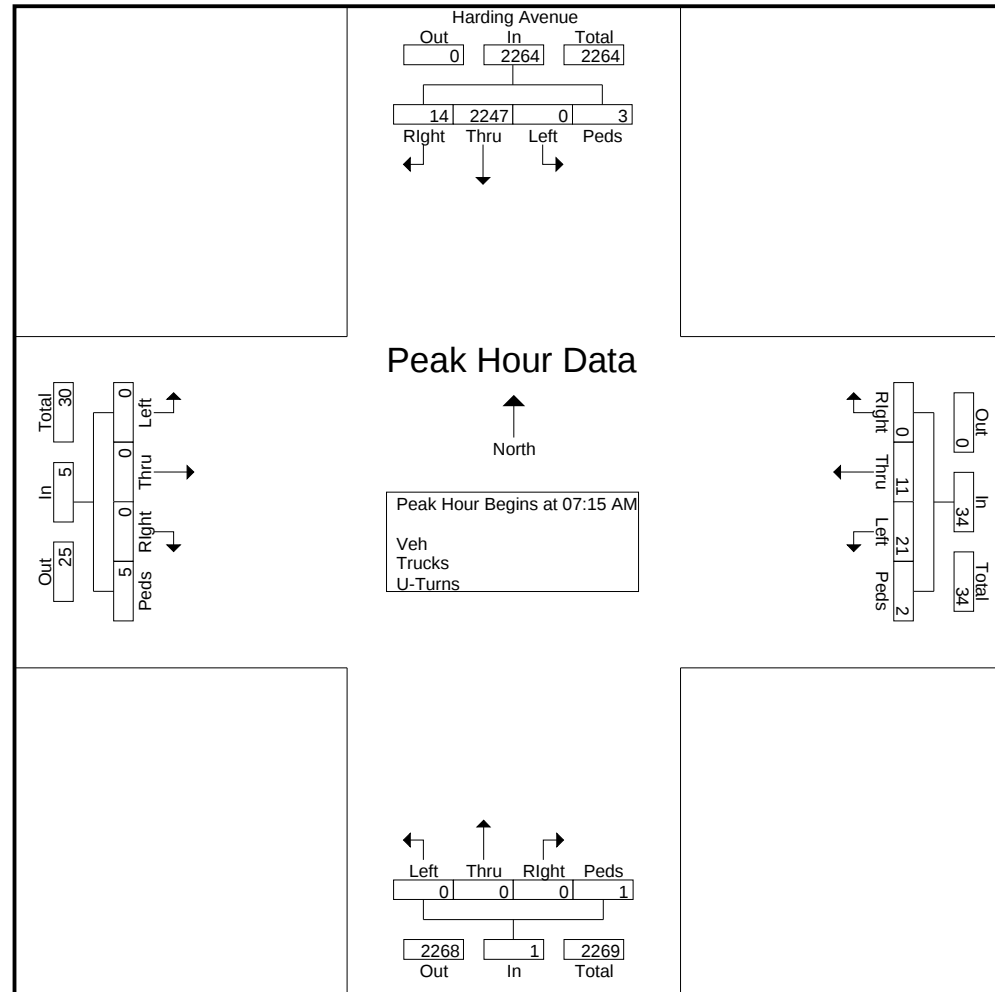
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	451	11	2	464	0	0	0	1	1	13	2	0	1	16	0	0	0	3	3	484
04:15 PM	0	465	10	1	476	0	0	0	0	0	13	1	0	1	15	0	0	0	4	4	495
04:30 PM	0	475	2	1	478	0	0	0	3	3	6	6	0	1	13	0	0	0	6	6	500
04:45 PM	0	426	9	0	435	0	0	0	1	1	2	1	0	2	5	0	0	0	1	1	442
Total Volume	0	1817	32	4	1853	0	0	0	5	5	34	10	0	5	49	0	0	0	14	14	1921
% App. Total	0	98.1	1.7	0.2		0	0	0	100		69.4	20.4	0	10.2		0	0	0	100		
PHF	.000	.956	.727	.500	.969	.000	.000	.000	.417	.417	.654	.417	.000	.625	.766	.000	.000	.000	.583	.583	.961

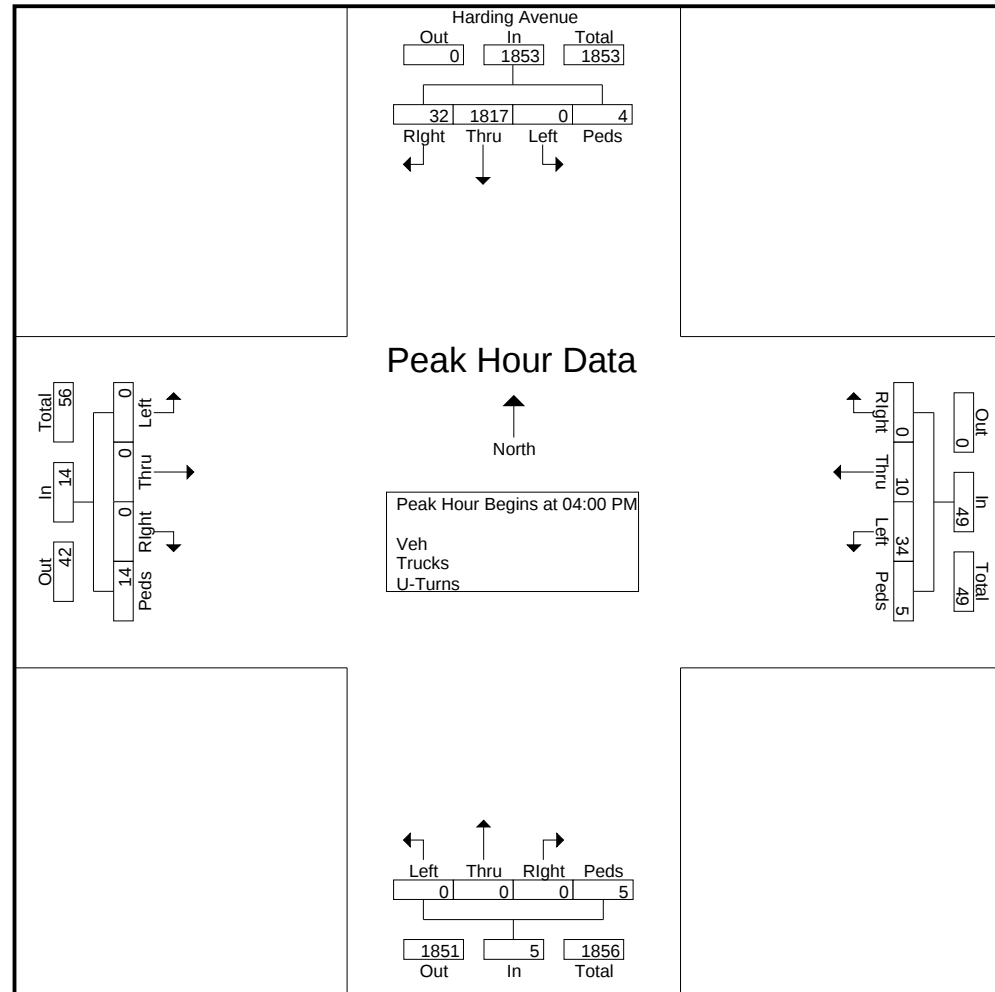
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
07:00 AM	0	6	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8
07:15 AM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
07:30 AM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
07:45 AM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	26	0	1	27	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	28
08:00 AM	0	9	0	0	9	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	10
08:15 AM	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
08:30 AM	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
08:45 AM	0	16	2	0	18	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	19
Total	0	46	2	0	48	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	50
*** BREAK ***																					
04:00 PM	0	8	0	0	8	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	9
04:15 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
04:30 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total	0	32	1	0	33	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	34
05:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
05:15 PM	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
05:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5
Total	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	23
Grand Total	0	126	3	1	130	0	0	0	0	0	3	0	0	0	3	0	0	0	2	2	135
Apprch %	0	96.9	2.3	0.8		0	0	0	0		100	0	0	0		0	0	0	100		
Total %	0	93.3	2.2	0.7	96.3	0	0	0	0	0	2.2	0	0	0	2.2	0	0	0	1.5	1.5	

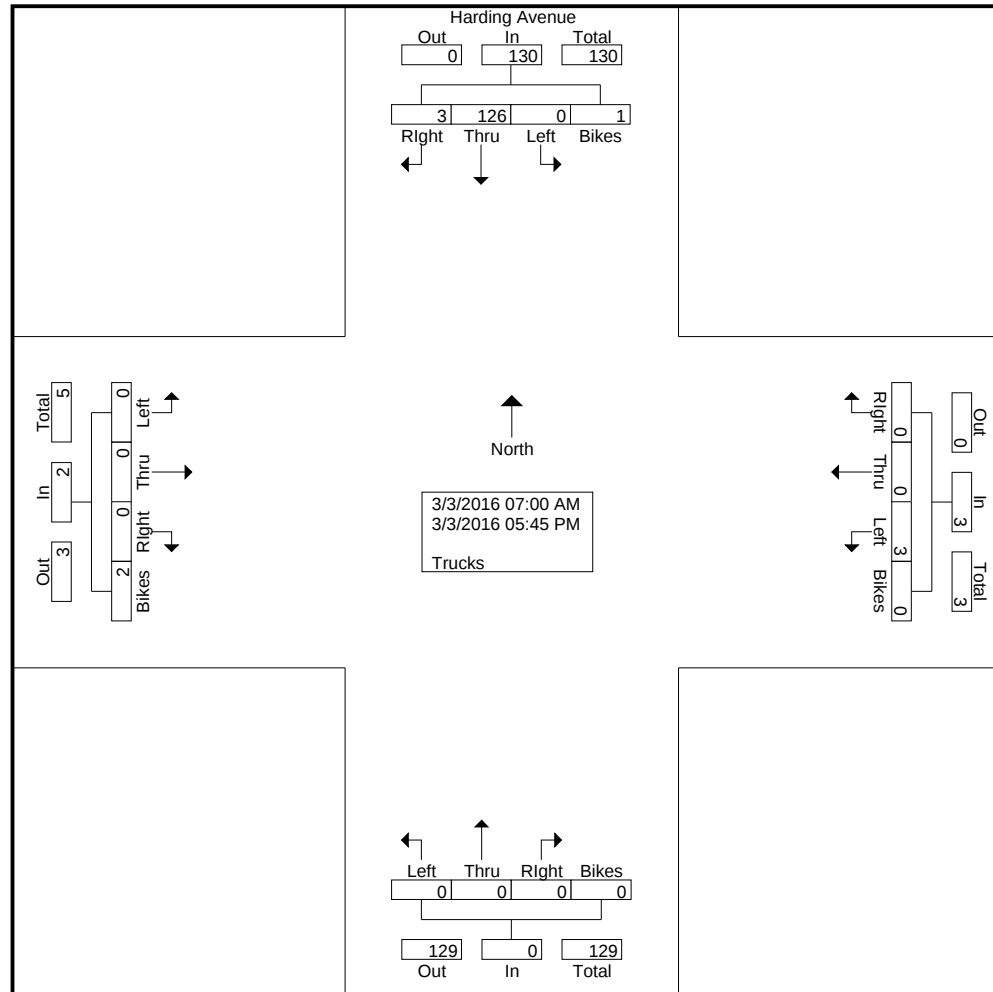
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	9	0	0	9	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	10
08:15 AM	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
08:30 AM	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
08:45 AM	0	16	2	0	18	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	19
Total Volume	0	46	2	0	48	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	50
% App. Total	0	95.8	4.2	0		0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.000	.719	.250	.000	.667	.000	.000	.000	.000	.000	.500	.000	.000	.000	.500	.000	.000	.000	.000	.000	.658

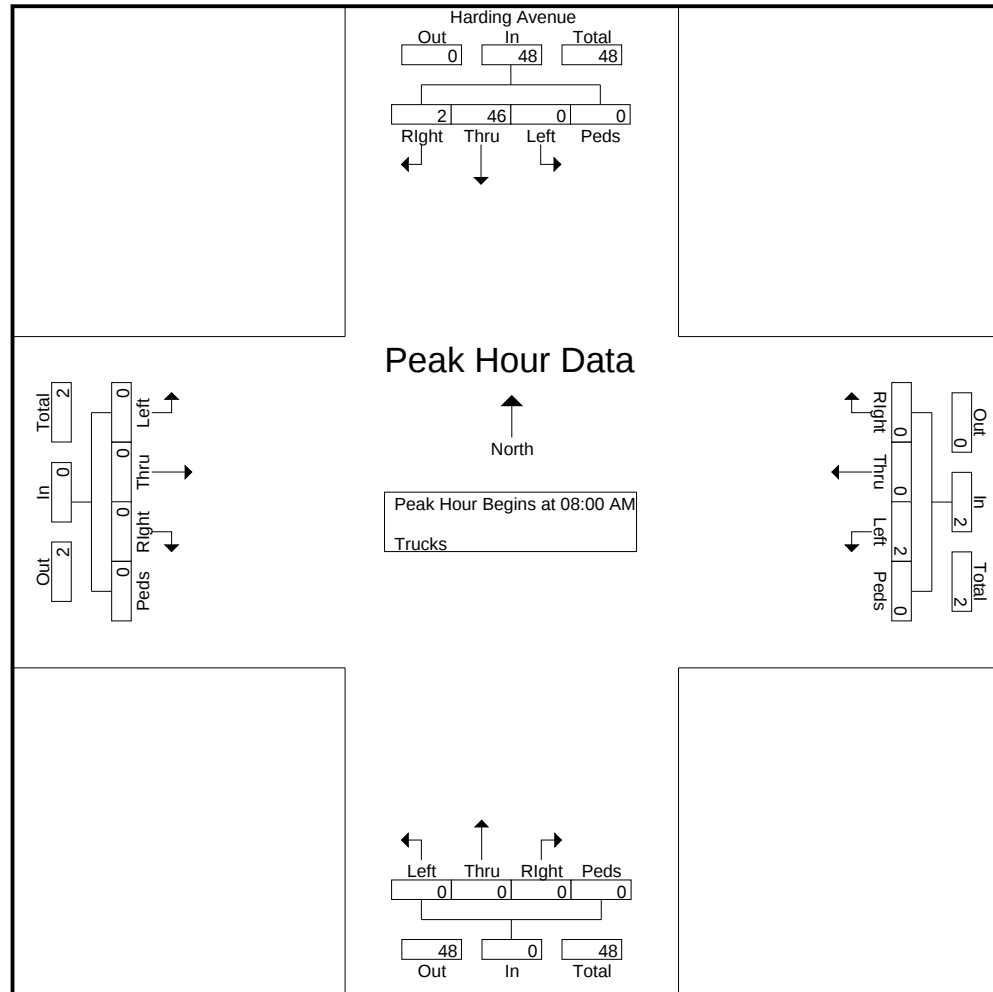
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Harding Avenue Southbound					Northbound					80th Street Westbound					Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	8	0	0	8	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	9
04:15 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
04:30 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	7	1	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Total Volume	0	32	1	0	33	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	34
% App. Total	0	97	3	0		0	0	0	0		100	0	0	0		0	0	0	0		
PHF	.000	.800	.250	.000	.825	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.850

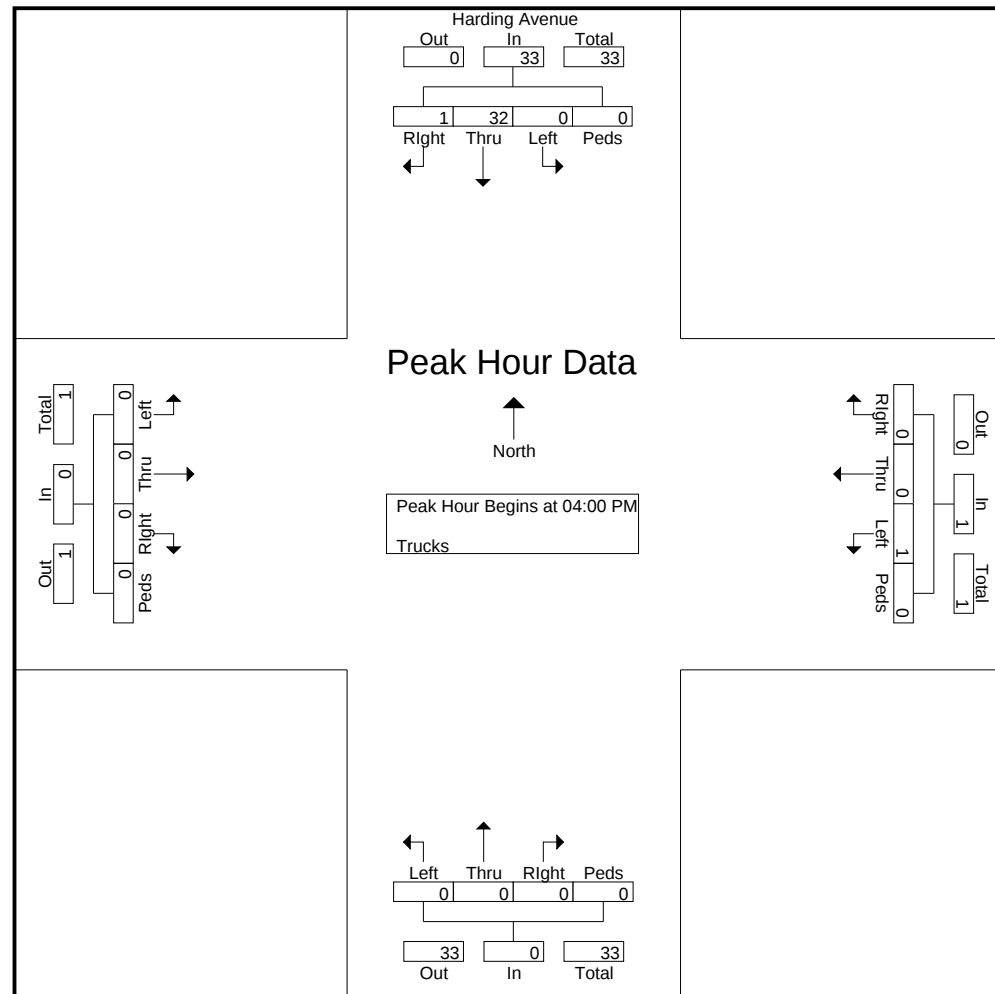
Harding Avenue & 80th Street

File Name : Harding Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Harding Avenue & 81st Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Harding Avenue Southbound					Northbound					81st Street Westbound					81st Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	1	524	2	1	528	0	0	0	3	3	7	2	0	0	9	0	0	7	1	8	548
07:15 AM	3	528	1	2	534	0	0	0	4	4	2	1	0	0	3	0	6	15	0	21	562
07:30 AM	0	568	3	1	572	0	0	0	3	3	1	1	0	0	2	0	4	9	3	16	593
07:45 AM	2	575	3	1	581	0	0	0	8	8	2	1	0	0	3	0	4	11	1	16	608
Total	6	2195	9	5	2215	0	0	0	18	18	12	5	0	0	17	0	14	42	5	61	2311
08:00 AM	2	571	11	0	584	0	0	0	2	2	7	8	0	0	15	0	16	7	2	25	626
08:15 AM	6	528	36	1	571	0	0	0	2	2	5	6	0	0	11	0	20	5	0	25	609
08:30 AM	35	439	100	1	575	0	0	0	8	8	0	8	0	0	8	0	29	2	2	33	624
08:45 AM	28	312	43	1	384	0	0	0	5	5	1	6	0	0	7	0	20	5	0	25	421
Total	71	1850	190	3	2114	0	0	0	17	17	13	28	0	0	41	0	85	19	4	108	2280

*** BREAK ***

[illegible]

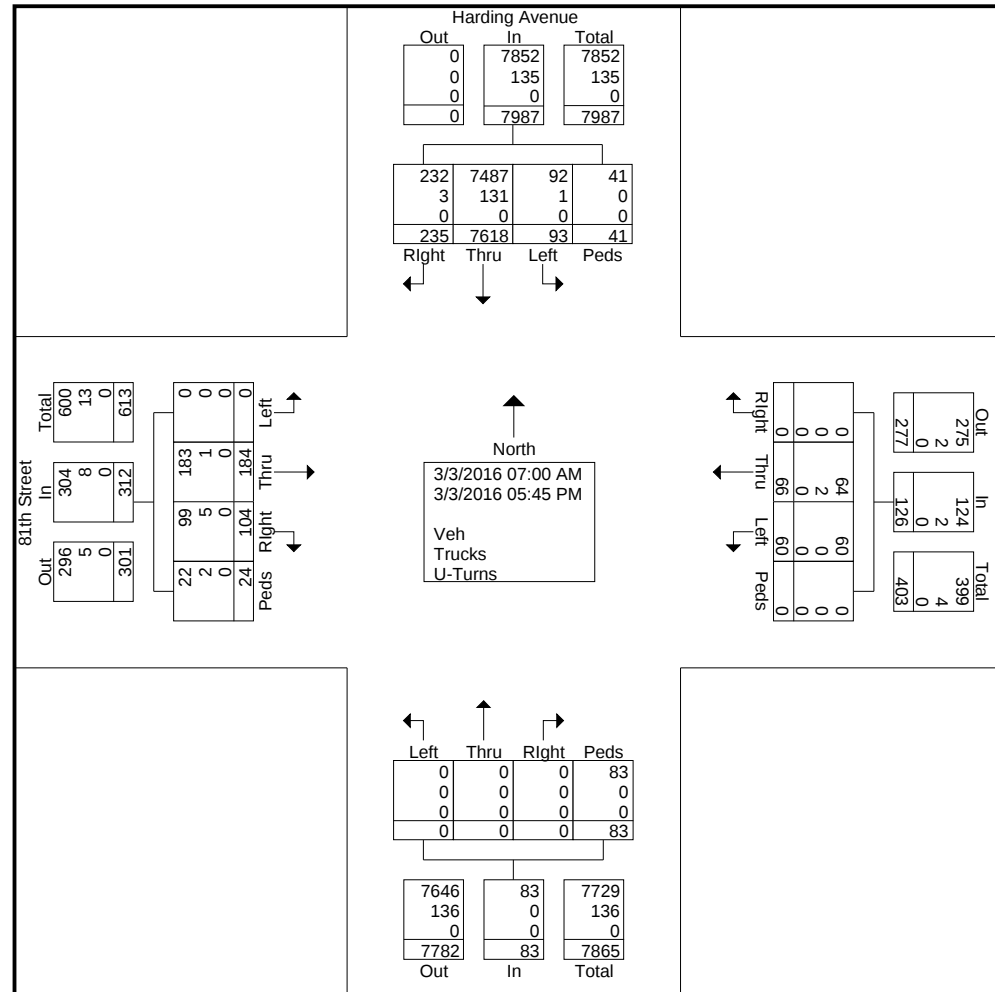
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	2	575	3	1	581	0	0	0	8	8	2	1	0	0	3	0	4	11	1	16	608
08:00 AM	2	571	11	0	584	0	0	0	2	2	7	8	0	0	15	0	16	7	2	25	626
08:15 AM	6	528	36	1	571	0	0	0	2	2	5	6	0	0	11	0	20	5	0	25	609
08:30 AM	35	439	100	1	575	0	0	0	8	8	0	8	0	0	8	0	29	2	2	33	624
Total Volume	45	2113	150	3	2311	0	0	0	20	20	14	23	0	0	37	0	69	25	5	99	2467
% App. Total	1.9	91.4	6.5	0.1		0	0	0	100		37.8	62.2	0	0		0	69.7	25.3	5.1		
PHF	.321	.919	.375	.750	.989	.000	.000	.000	.625	.625	.500	.719	.000	.000	.617	.000	.595	.568	.625	.750	.985

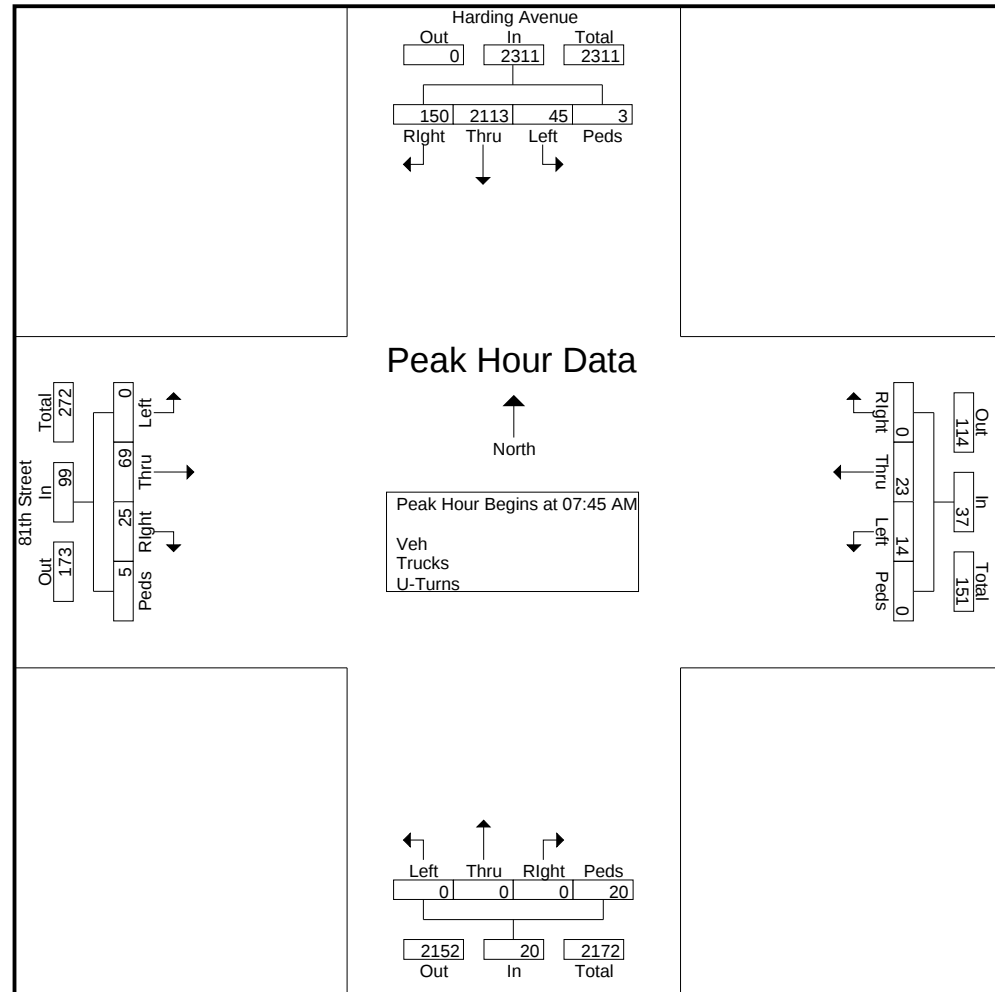
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Harding Avenue Southbound					Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	470	6	2	479	0	0	0	8	8	6	2	0	0	8	0	13	8	0	21	516
04:15 PM	2	439	2	9	452	0	0	0	6	6	5	4	0	0	9	0	14	12	1	27	494
04:30 PM	1	478	4	3	486	0	0	0	13	13	4	4	0	0	8	0	9	4	2	15	522
04:45 PM	5	437	5	0	447	0	0	0	1	1	3	5	0	0	8	0	4	2	0	6	462
Total Volume	9	1824	17	14	1864	0	0	0	28	28	18	15	0	0	33	0	40	26	3	69	1994
% App. Total	0.5	97.9	0.9	0.8		0	0	0	100		54.5	45.5	0	0		0	58	37.7	4.3		
PHF	.450	.954	.708	.389	.959	.000	.000	.000	.538	.538	.750	.750	.000	.000	.917	.000	.714	.542	.375	.639	.955

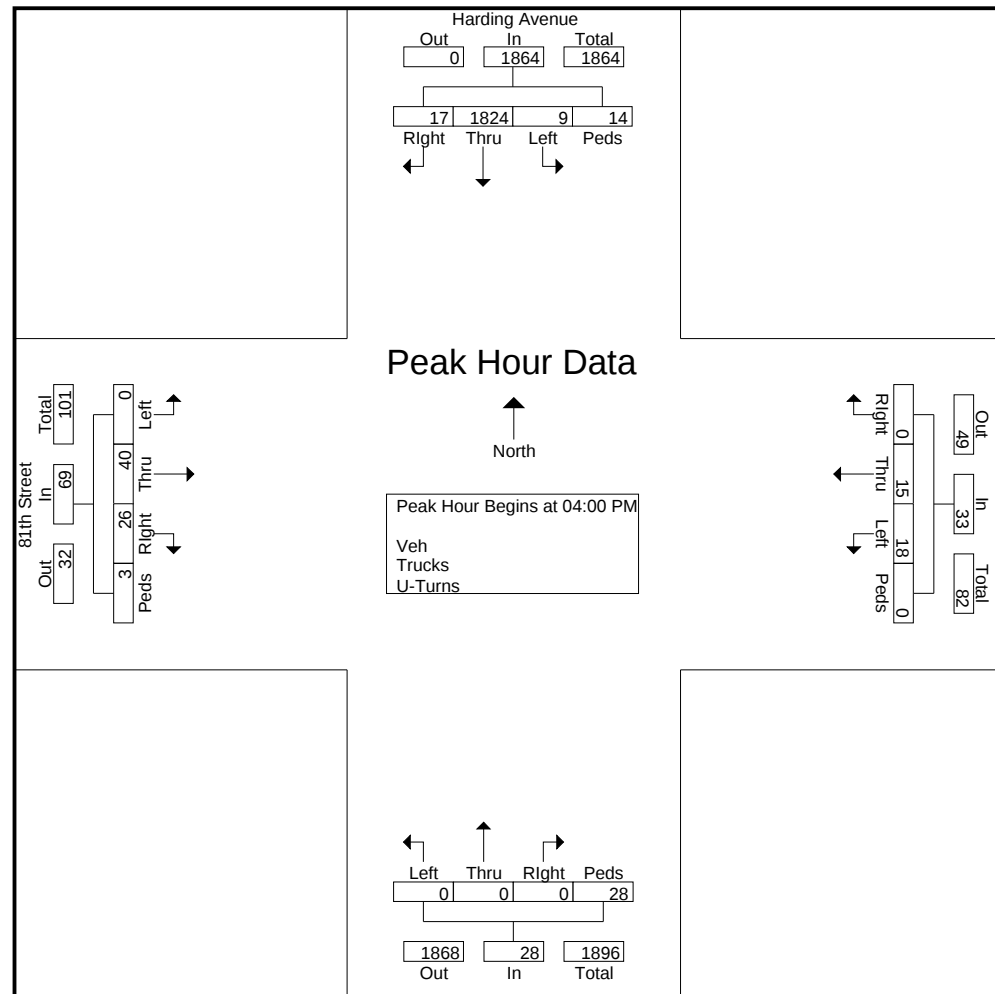
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Harding Avenue Southbound					Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
07:00 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	6
07:15 AM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
07:30 AM	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
07:45 AM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	25
08:00 AM	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9
08:15 AM	1	14	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	16
08:30 AM	0	8	3	0	11	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	12
08:45 AM	0	14	0	0	14	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	17
Total	1	44	3	0	48	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	54
*** BREAK ***																					
04:00 PM	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
04:15 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
04:30 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:45 PM	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
Total	0	37	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37
05:00 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	6
05:15 PM	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11
05:30 PM	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
05:45 PM	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Total	0	27	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	29
Grand Total	1	131	3	0	135	0	0	0	0	0	0	2	0	0	2	0	1	5	2	8	145
Apprch %	0.7	97	2.2	0		0	0	0	0		0	100	0	0		0	12.5	62.5	25		
Total %	0.7	90.3	2.1	0	93.1	0	0	0	0	0	0	1.4	0	0	1.4	0	0.7	3.4	1.4	5.5	

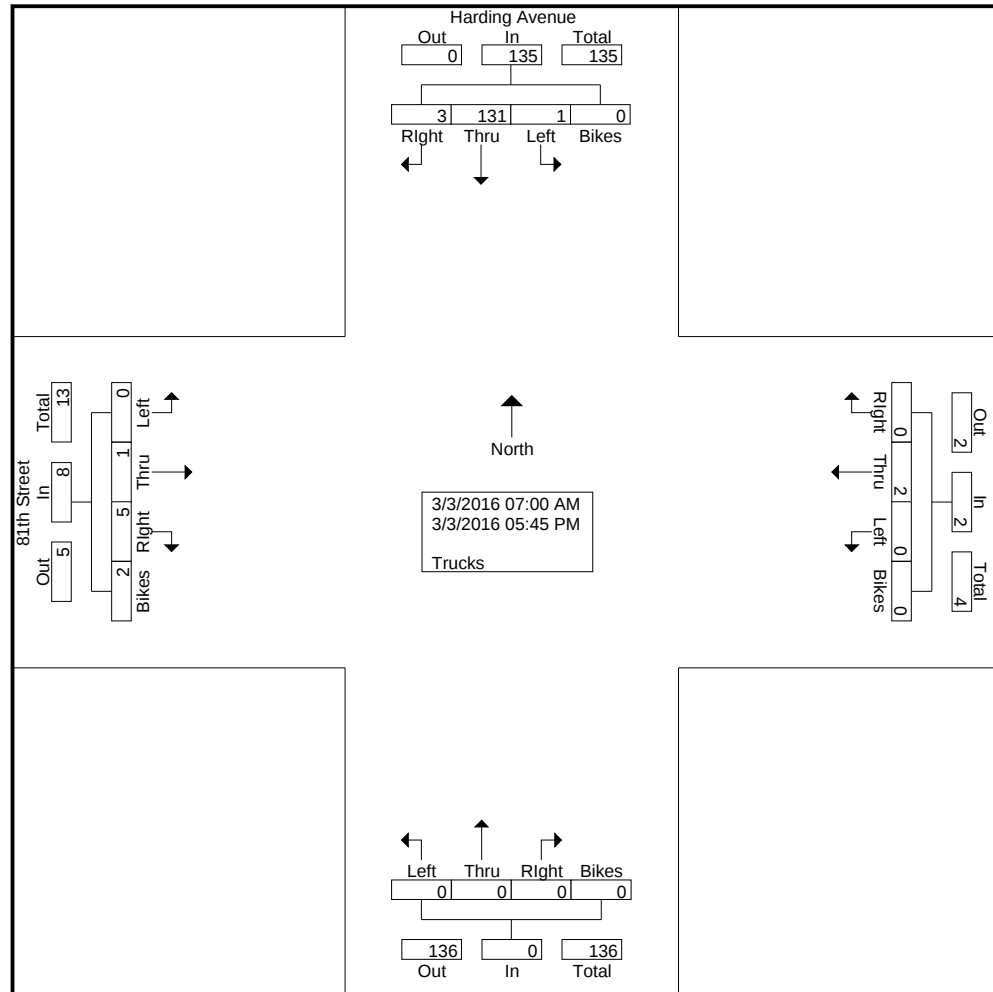
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Harding Avenue Southbound					Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9
08:15 AM	1	14	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	16
08:30 AM	0	8	3	0	11	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	12
08:45 AM	0	14	0	0	14	0	0	0	0	0	0	1	0	0	1	0	1	1	0	2	17
Total Volume	1	44	3	0	48	0	0	0	0	0	0	2	0	0	2	0	1	3	0	4	54
% App. Total	2.1	91.7	6.2	0		0	0	0	0		0	100	0	0		0	25	75	0		
PHF	.250	.786	.250	.000	.800	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.250	.750	.000	.500	.794

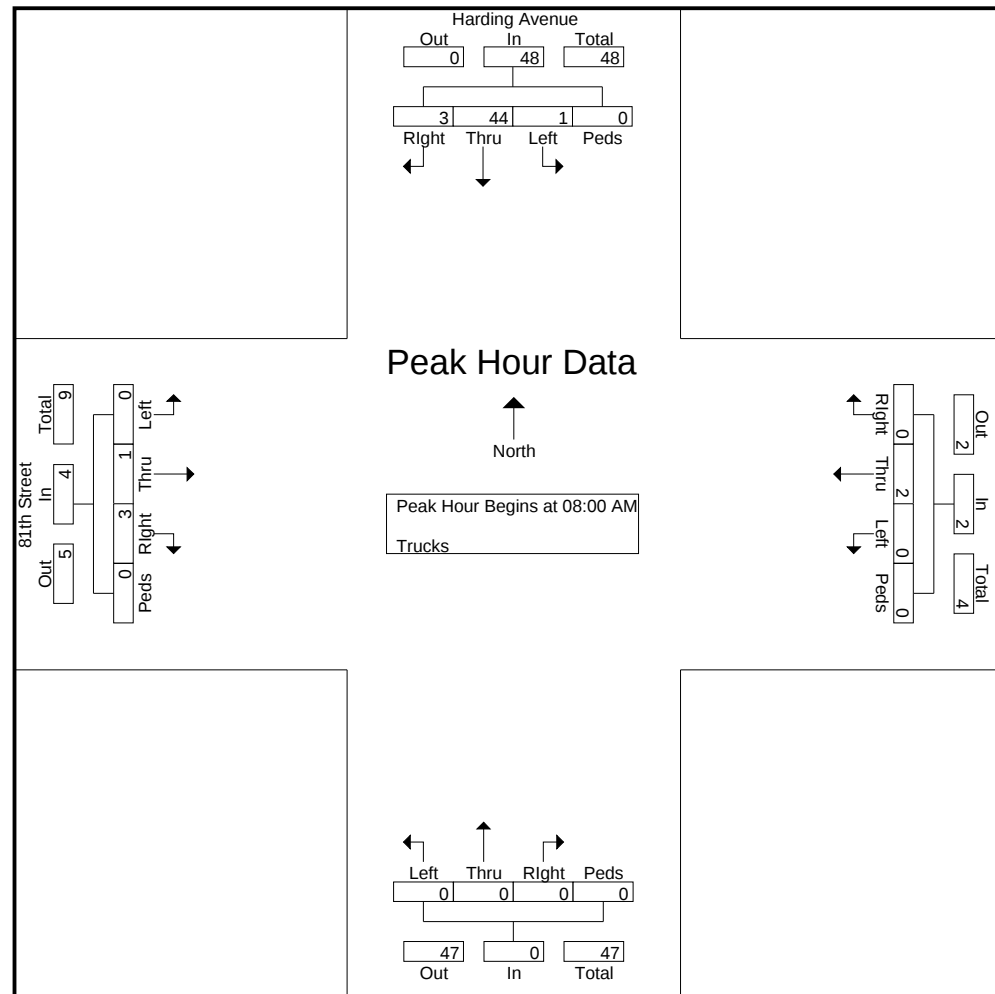
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Harding Avenue & 81st Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

[illegible]

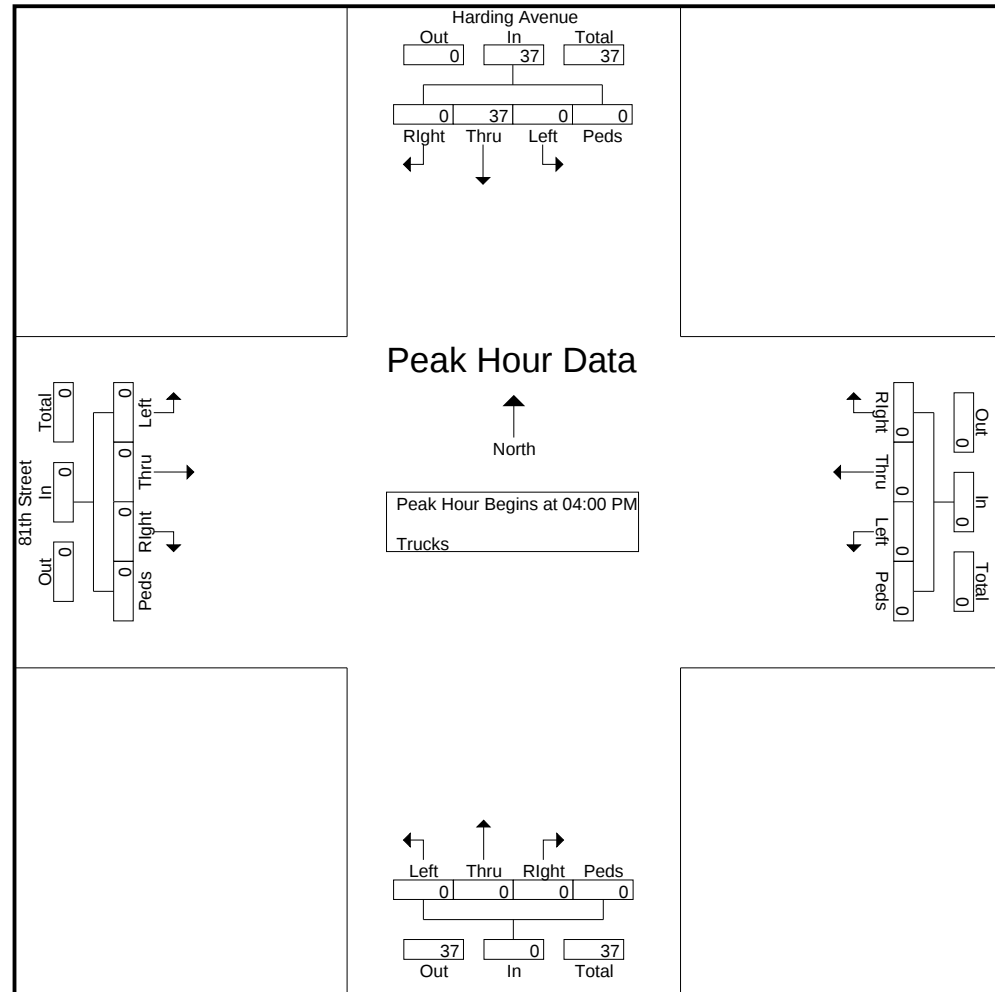
Harding Avenue & 81th Street

File Name : Harding Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	237	0	2	239	0	0	1	4	5	7	0	0	1	8	252
07:15 AM	0	0	0	0	0	0	303	1	1	305	0	0	2	2	4	8	1	0	0	9	318
07:30 AM	0	0	0	0	0	0	344	2	9	355	0	0	1	5	6	11	0	0	4	15	376
07:45 AM	0	0	0	0	0	0	421	2	12	435	0	0	1	1	2	12	0	0	1	13	450
Total	0	0	0	0	0	0	1305	5	24	1334	0	0	5	12	17	38	1	0	6	45	1396
08:00 AM	0	0	0	0	0	0	428	0	8	436	0	0	2	5	7	11	0	0	2	13	456
08:15 AM	0	0	0	0	0	0	457	0	9	466	0	0	3	2	5	10	0	0	4	14	485
08:30 AM	0	0	0	0	0	0	442	2	8	452	0	0	2	7	9	11	1	0	5	17	478
08:45 AM	0	0	0	0	0	0	456	2	7	465	0	0	5	0	5	11	0	0	4	15	485
Total	0	0	0	0	0	0	1783	4	32	1819	0	0	12	14	26	43	1	0	15	59	1904
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	580	0	20	600	0	0	0	1	1	26	1	0	3	30	631
04:15 PM	0	0	0	0	0	0	648	0	27	675	0	0	2	9	11	9	1	0	2	12	698
04:30 PM	0	0	0	0	0	0	648	0	24	672	0	0	1	5	6	20	0	0	5	25	703
04:45 PM	0	0	0	0	0	0	676	0	15	691	0	0	0	4	4	4	1	0	0	5	700
Total	0	0	0	0	0	0	2552	0	86	2638	0	0	3	19	22	59	3	0	10	72	2732
05:00 PM	0	0	0	0	0	0	655	0	11	666	0	0	3	0	3	5	2	0	4	11	680
05:15 PM	0	0	0	0	0	0	642	0	23	665	0	0	2	3	5	8	0	0	2	10	680
05:30 PM	0	0	0	0	0	0	677	2	12	691	0	0	0	11	11	6	1	0	13	20	722
05:45 PM	0	0	0	0	0	0	664	0	15	679	0	0	0	4	4	5	1	0	12	18	701
Total	0	0	0	0	0	0	2638	2	61	2701	0	0	5	18	23	24	4	0	31	59	2783
Grand Total	0	0	0	0	0	0	8278	11	203	8492	0	0	25	63	88	164	9	0	62	235	8815
Apprch %	0	0	0	0	0	0	97.5	0.1	2.4		0	0	28.4	71.6		69.8	3.8	0	26.4		
Total %	0	0	0	0	0	0	93.9	0.1	2.3	96.3	0	0	0.3	0.7	1	1.9	0.1	0	0.7	2.7	
Veh	0	0	0	0	0	0	8125	6	196	8327	0	0	24	58	82	160	9	0	59	228	8637
% Veh	0	0	0	0	0	0	98.2	54.5	96.6	98.1	0	0	96	92.1	93.2	97.6	100	0	95.2	97	98
Trucks	0	0	0	0	0	0	153	5	7	165	0	0	1	5	6	4	0	0	3	7	178
% Trucks	0	0	0	0	0	0	1.8	45.5	3.4	1.9	0	0	4	7.9	6.8	2.4	0	0	4.8	3	2
U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

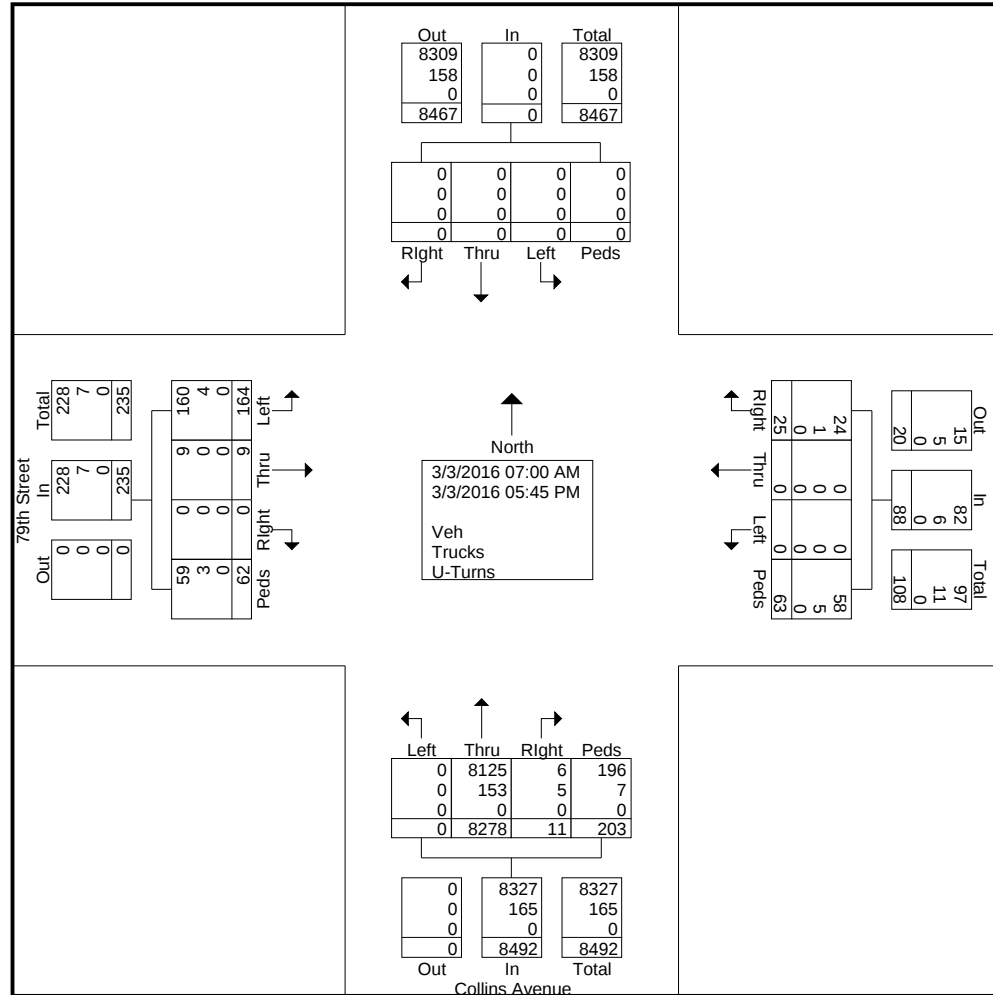
Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

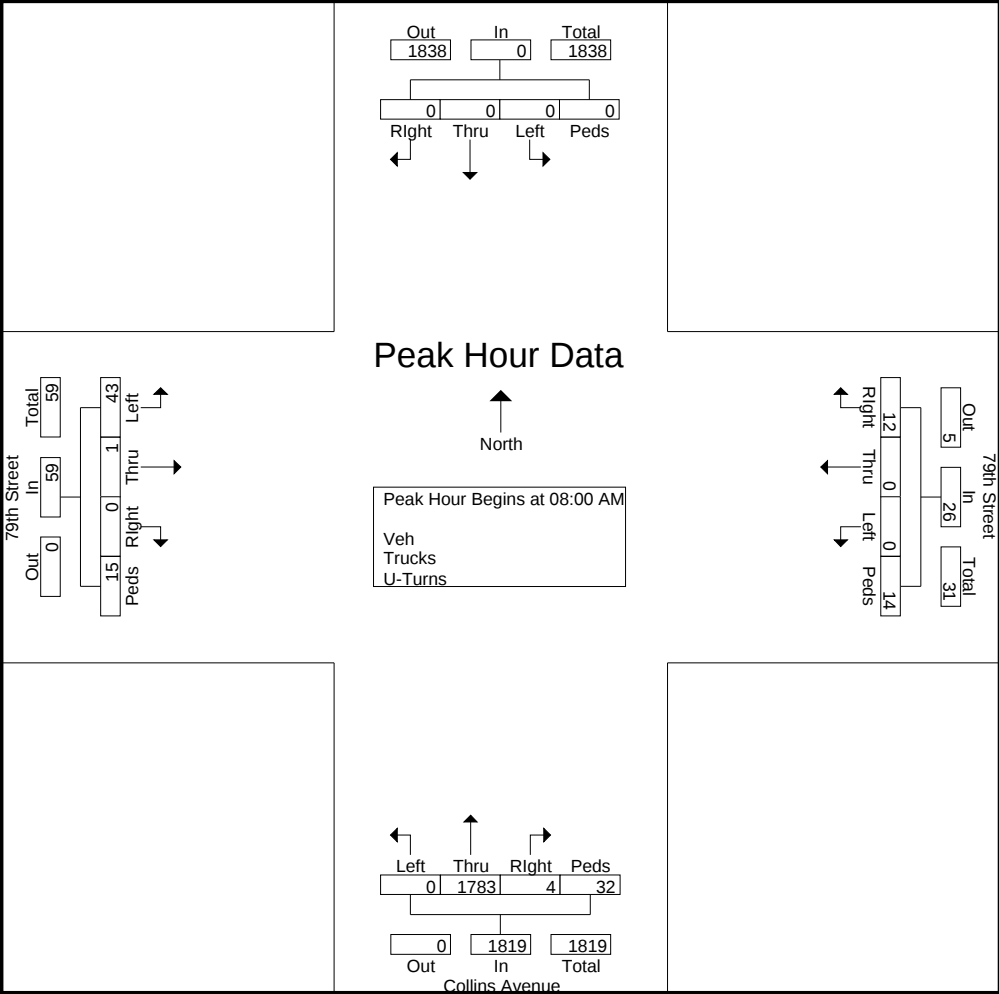
Start Date : 3/3/2016

Page No : 3

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	428	0	8	436	0	0	2	5	7	11	0	0	2	13	456
08:15 AM	0	0	0	0	0	0	457	0	9	466	0	0	3	2	5	10	0	0	4	14	485
08:30 AM	0	0	0	0	0	0	442	2	8	452	0	0	2	7	9	11	1	0	5	17	478
08:45 AM	0	0	0	0	0	0	456	2	7	465	0	0	5	0	5	11	0	0	4	15	485
Total Volume	0	0	0	0	0	0	1783	4	32	1819	0	0	12	14	26	43	1	0	15	59	1904
% App. Total	0	0	0	0	0	0	98	0.2	1.8		0	0	46.2	53.8		72.9	1.7	0	25.4		
PHF	.000	.000	.000	.000	.000	.000	.975	.500	.889	.976	.000	.000	.600	.500	.722	.977	.250	.000	.750	.868	.981

Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street
Site Code : 00000000
Start Date : 3/3/2016
Page No : 4



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	655	0	11	666	0	0	3	0	3	5	2	0	4	11	680
05:15 PM	0	0	0	0	0	0	642	0	23	665	0	0	2	3	5	8	0	0	2	10	680
05:30 PM	0	0	0	0	0	0	677	2	12	691	0	0	0	11	11	6	1	0	13	20	722
05:45 PM	0	0	0	0	0	0	664	0	15	679	0	0	0	4	4	5	1	0	12	18	701
Total Volume	0	0	0	0	0	0	2638	2	61	2701	0	0	5	18	23	24	4	0	31	59	2783
% App. Total	0	0	0	0		0	97.7	0.1	2.3		0	0	21.7	78.3		40.7	6.8	0	52.5		
PHF	.000	.000	.000	.000	.000	.000	.974	.250	.663	.977	.000	.000	.417	.409	.523	.750	.500	.000	.596	.738	.964

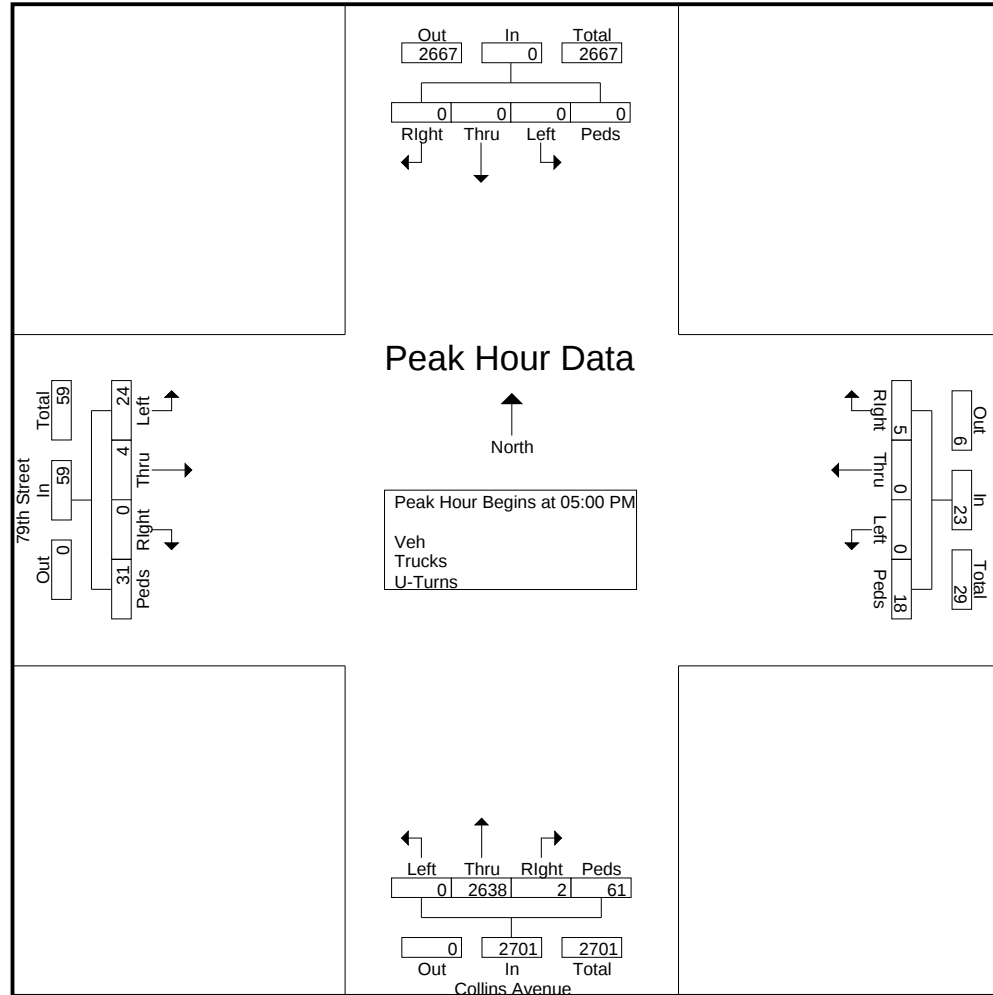
Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound						
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	9	
07:15 AM	0	0	0	0	0	0	9	1	0	10	0	0	1	0	1	2	0	0	0	0	2	13
07:30 AM	0	0	0	0	0	0	10	1	0	11	0	0	0	1	1	1	0	0	0	0	1	13
07:45 AM	0	0	0	0	0	0	8	2	0	10	0	0	0	0	0	0	0	0	0	0	0	10
Total	0	0	0	0	0	0	36	4	0	40	0	0	1	1	2	3	0	0	0	0	3	45
08:00 AM	0	0	0	0	0	0	13	0	3	16	0	0	0	0	0	0	0	0	0	0	0	16
08:15 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	0	13
08:30 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	1	1	0	0	0	0	0	0	12
08:45 AM	0	0	0	0	0	0	13	1	0	14	0	0	0	0	0	0	0	0	0	0	0	14
Total	0	0	0	0	0	0	50	1	3	54	0	0	0	1	1	0	0	0	0	0	0	55
*** BREAK ***																						
04:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	0	11
04:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	0	11
04:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	2	2	7	
04:45 PM	0	0	0	0	0	0	6	0	2	8	0	0	0	1	1	0	0	0	0	0	9	
Total	0	0	0	0	0	0	31	0	2	33	0	0	0	3	3	0	0	0	2	2	38	
05:00 PM	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	1	1	15	
05:15 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	9	
05:30 PM	0	0	0	0	0	0	4	0	1	5	0	0	0	0	0	0	0	0	0	0	5	
05:45 PM	0	0	0	0	0	0	9	0	1	10	0	0	0	0	0	1	0	0	0	1	11	
Total	0	0	0	0	0	0	36	0	2	38	0	0	0	0	0	1	0	0	1	2	40	
Grand Total	0	0	0	0	0	0	153	5	7	165	0	0	1	5	6	4	0	0	3	7	178	
Apprch %	0	0	0	0		0	92.7	3	4.2		0	0	16.7	83.3		57.1	0	0	42.9			
Total %	0	0	0	0	0	0	86	2.8	3.9	92.7	0	0	0.6	2.8	3.4	2.2	0	0	1.7	3.9		

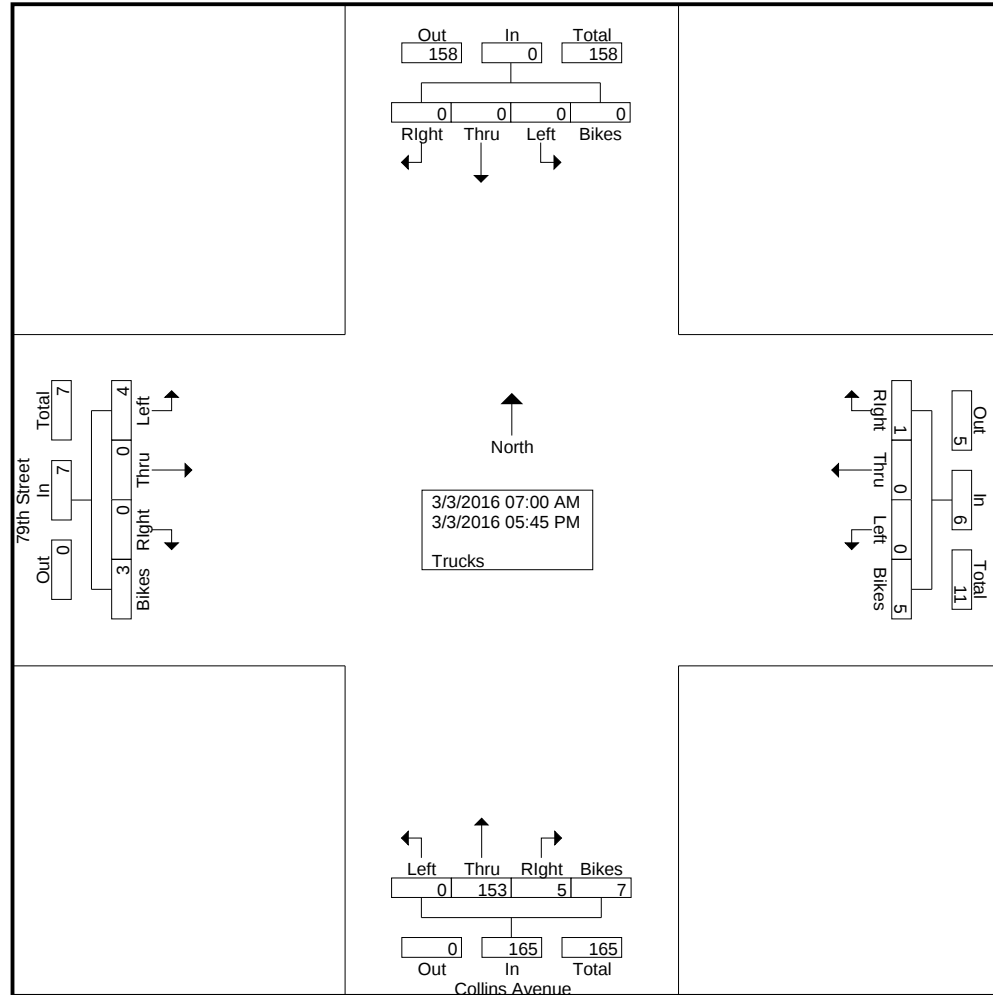
Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

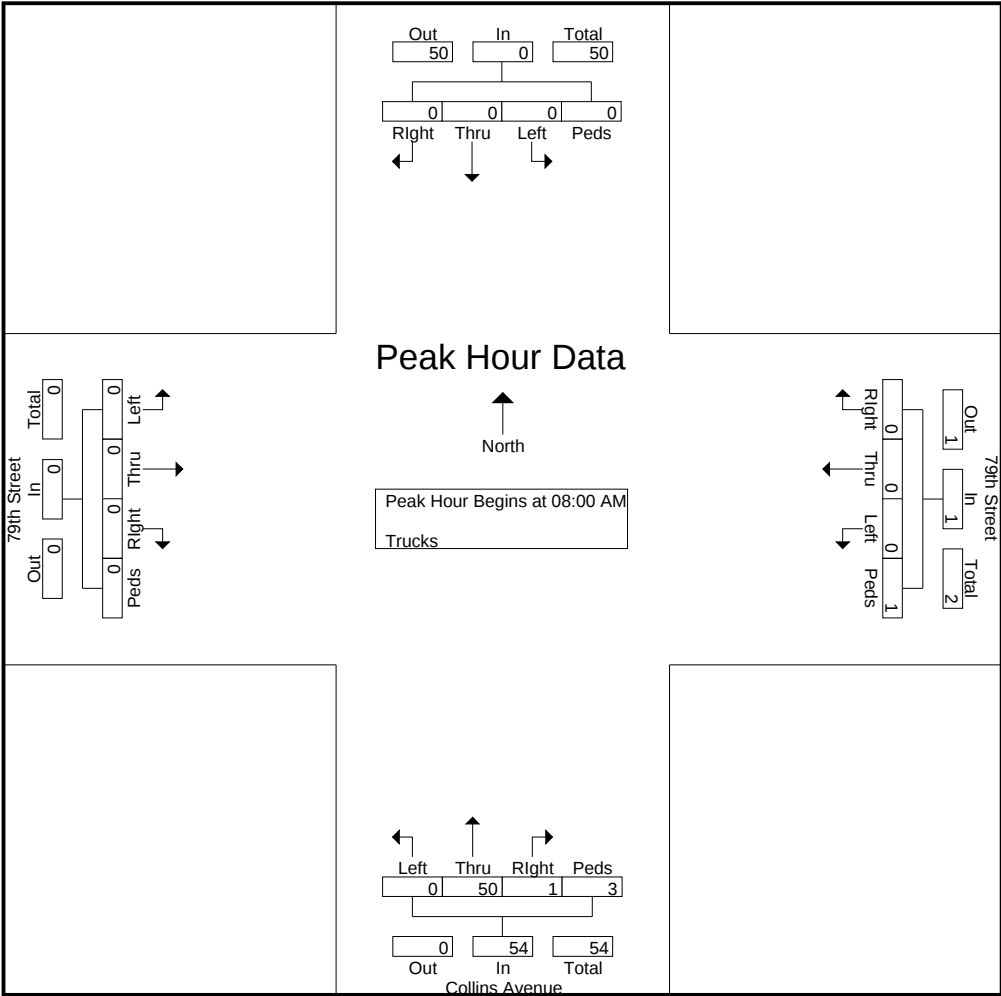
Start Date : 3/3/2016

Page No : 3

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	13	0	3	16	0	0	0	0	0	0	0	0	0	0	16
08:15 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	0	0	0	0	13
08:30 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	1	1	0	0	0	0	0	12
08:45 AM	0	0	0	0	0	0	13	1	0	14	0	0	0	0	0	0	0	0	0	0	14
Total Volume	0	0	0	0	0	0	50	1	3	54	0	0	0	1	1	0	0	0	0	0	55
% App. Total	0	0	0	0	0	0	92.6	1.9	5.6		0	0	0	100		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.962	.250	.250	.844	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.859

Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street
Site Code : 00000000
Start Date : 3/3/2016
Page No : 4



Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street

Site Code : 00000000

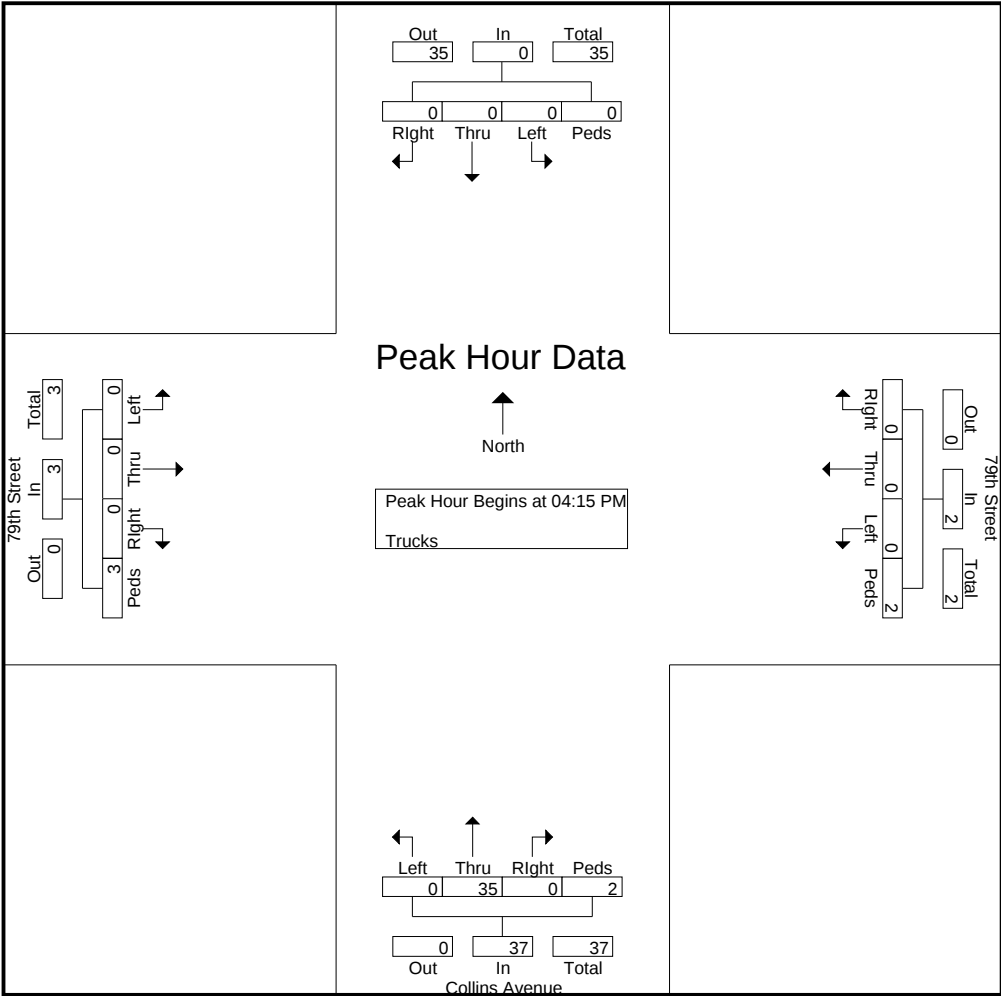
Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					79th Street Westbound					79th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	11
04:30 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	2	2	7
04:45 PM	0	0	0	0	0	0	6	0	2	8	0	0	0	1	1	0	0	0	0	0	9
05:00 PM	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	0	0	1	1	15
Total Volume	0	0	0	0	0	0	35	0	2	37	0	0	0	2	2	0	0	0	3	3	42
% App. Total	0	0	0	0		0	94.6	0	5.4		0	0	0	100		0	0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.625	.000	.250	.661	.000	.000	.000	.500	.500	.000	.000	.000	.375	.375	.700

Collins Avenue & 79th Street

File Name : Collins Avenue & 79th Street
Site Code : 00000000
Start Date : 3/3/2016
Page No : 6



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

[illegible]

*** BREAK ***

[illegible]

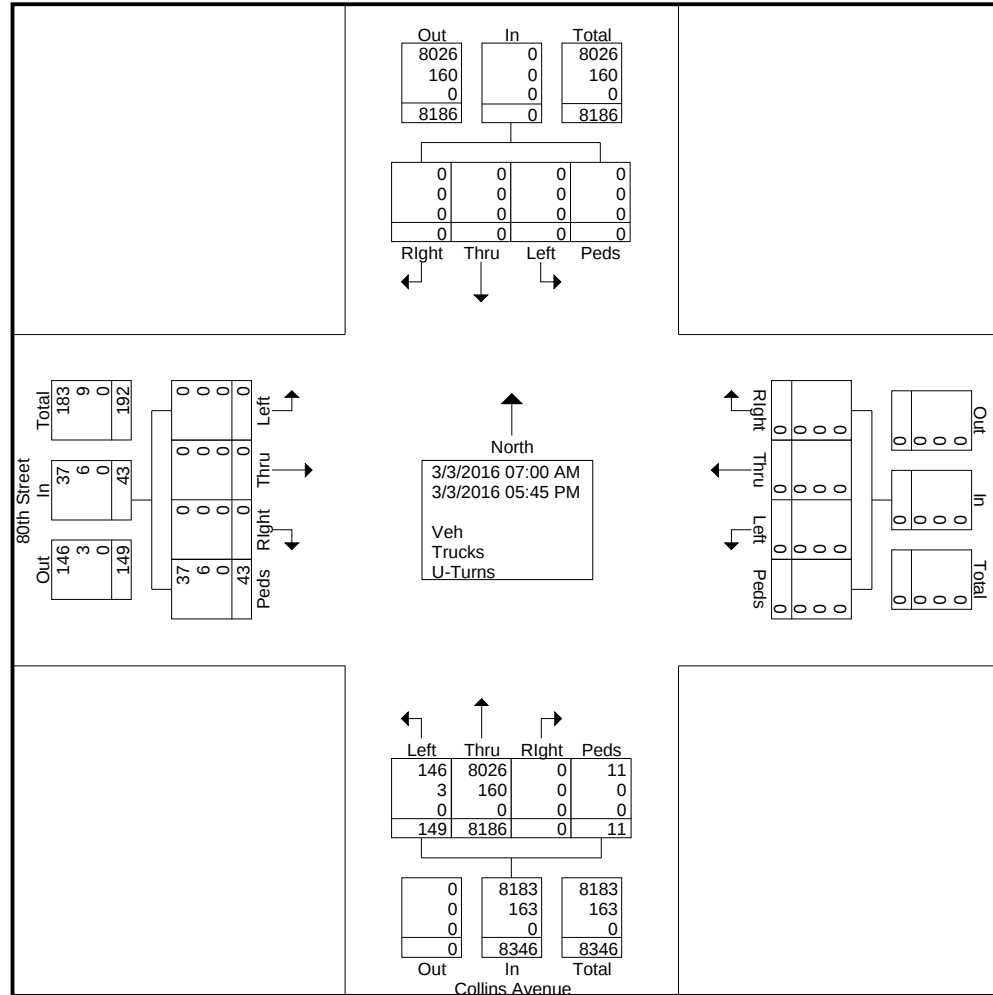
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Southbound					Collins Avenue Northbound					Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	10	420	0	0	430	0	0	0	0	0	0	0	0	3	3	433
08:15 AM	0	0	0	0	0	7	432	0	0	439	0	0	0	0	0	0	0	0	2	2	441
08:30 AM	0	0	0	0	0	3	415	0	1	419	0	0	0	0	0	0	0	0	2	2	421
08:45 AM	0	0	0	0	0	7	461	0	2	470	0	0	0	0	0	0	0	0	1	1	471
Total Volume	0	0	0	0	0	27	1728	0	3	1758	0	0	0	0	0	0	0	0	8	8	1766
% App. Total	0	0	0	0	0	1.5	98.3	0	0.2		0	0	0	0	0	0	0	0	100		
PHF	.000	.000	.000	.000	.000	.675	.937	.000	.375	.935	.000	.000	.000	.000	.000	.000	.000	.000	.667	.667	.937

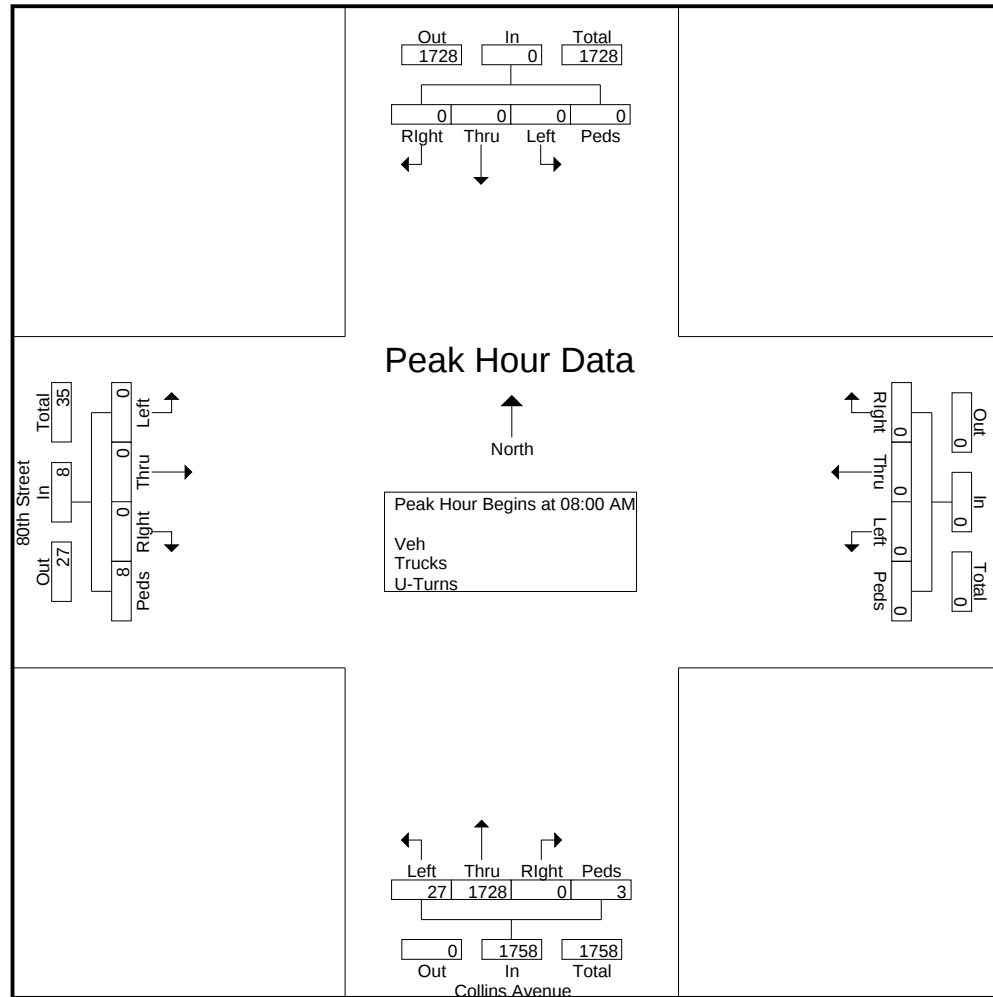
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	9	666	0	2	677	0	0	0	0	0	0	0	0	4	4	681
05:00 PM	0	0	0	0	0	17	636	0	1	654	0	0	0	0	0	0	0	0	5	5	659
05:15 PM	0	0	0	0	0	11	626	0	2	639	0	0	0	0	0	0	0	0	4	4	643
05:30 PM	0	0	0	0	0	6	693	0	2	701	0	0	0	0	0	0	0	0	3	3	704
Total Volume	0	0	0	0	0	43	2621	0	7	2671	0	0	0	0	0	0	0	0	16	16	2687
% App. Total	0	0	0	0	0	1.6	98.1	0	0.3		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.000	.000	.632	.946	.000	.875	.953	.000	.000	.000	.000	.000	.000	.000	.000	.800	.800	.954

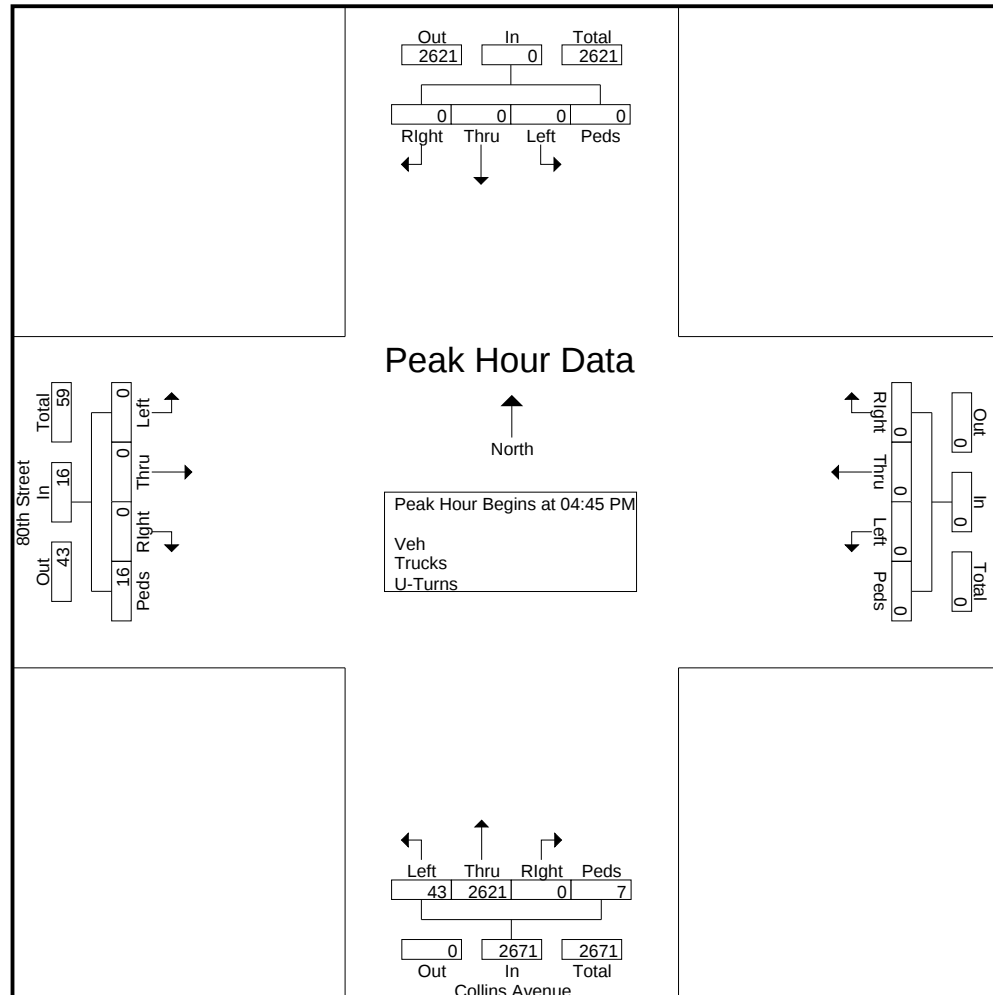
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Southbound					Collins Avenue Northbound					Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	10
07:15 AM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	7
07:30 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	10
07:45 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	12
Total	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	0	0	0	0	0	39
08:00 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	11
08:15 AM	0	0	0	0	0	1	15	0	0	16	0	0	0	0	0	0	0	0	0	0	16
08:30 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	11
08:45 AM	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	0	0	0	0	0	17
Total	0	0	0	0	0	2	53	0	0	55	0	0	0	0	0	0	0	0	0	0	55
*** BREAK ***																					
04:00 PM	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	0	0	0	0	10
04:15 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	1	1	8
04:30 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	9
04:45 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	1	1	11
Total	0	0	0	0	0	1	35	0	0	36	0	0	0	0	0	0	0	0	2	2	38
05:00 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	1	1	12
05:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	1	1	11
05:30 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	1	5
05:45 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	1	1	9
Total	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	0	0	4	4	37
Grand Total	0	0	0	0	0	3	160	0	0	163	0	0	0	0	0	0	0	0	6	6	169
Apprch %	0	0	0	0		1.8	98.2	0	0		0	0	0	0		0	0	0	100		
Total %	0	0	0	0		1.8	94.7	0	0	96.4	0	0	0	0		0	0	0	3.6	3.6	

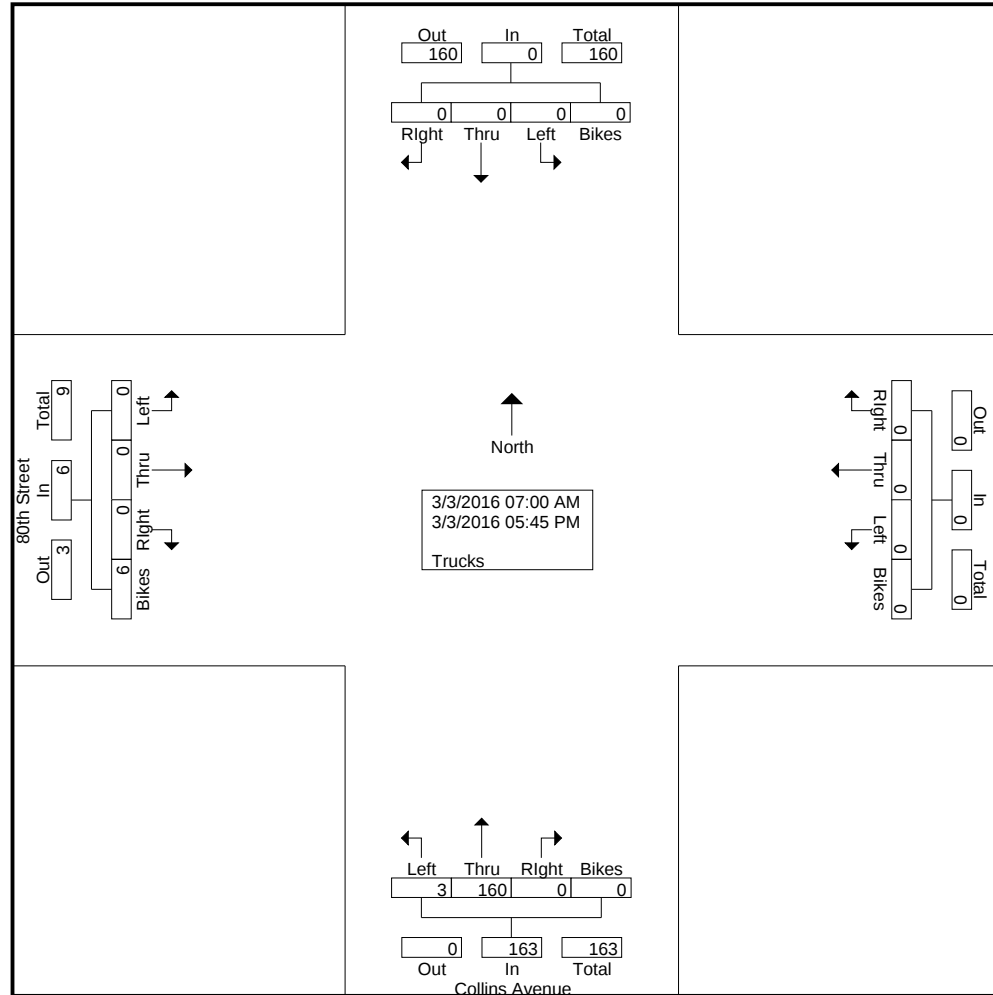
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

[illegible]

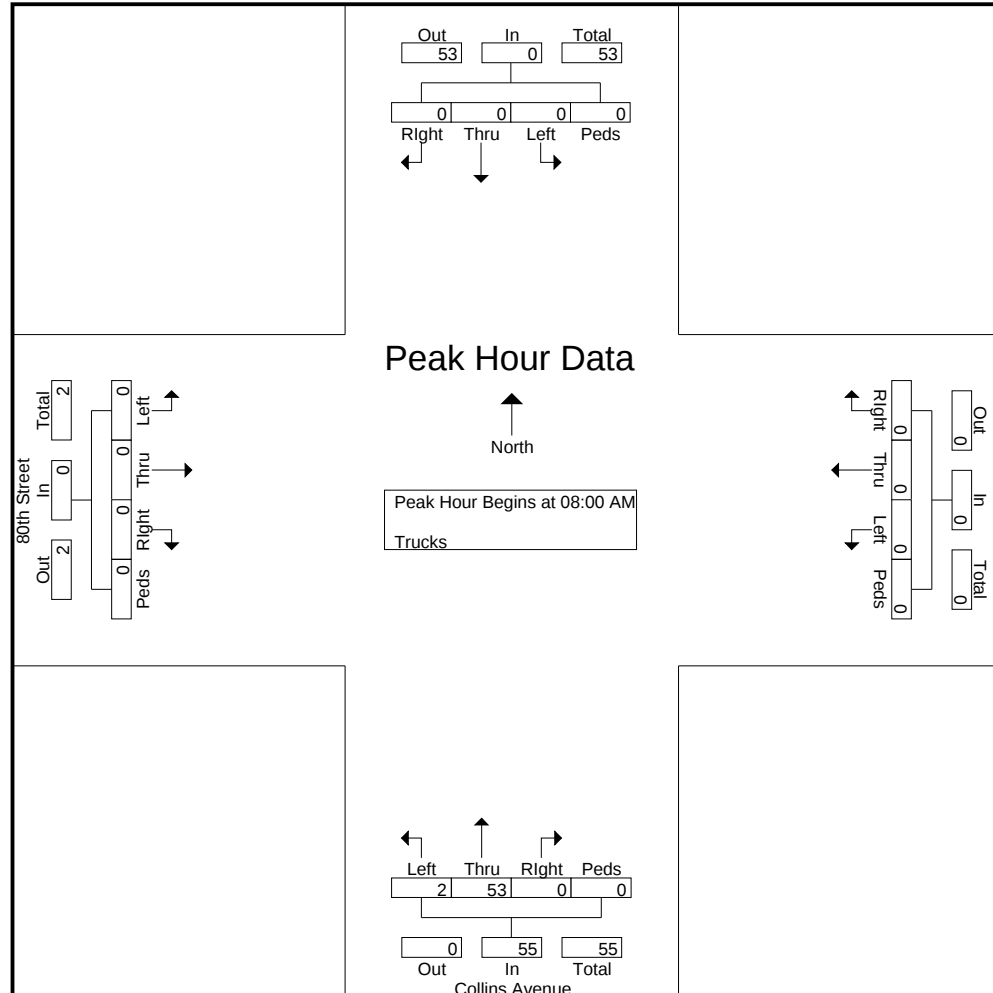
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	9
04:45 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	1	1	11
05:00 PM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	1	1	12
05:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	1	1	11
Total Volume	0	0	0	0	0	0	40	0	0	40	0	0	0	0	0	0	0	0	3	3	43
% App. Total	0	0	0	0		0	100	0	0		0	0	0	0		0	0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.909	.000	.000	.909	.000	.000	.000	.000	.000	.000	.000	.000	.750	.750	.896

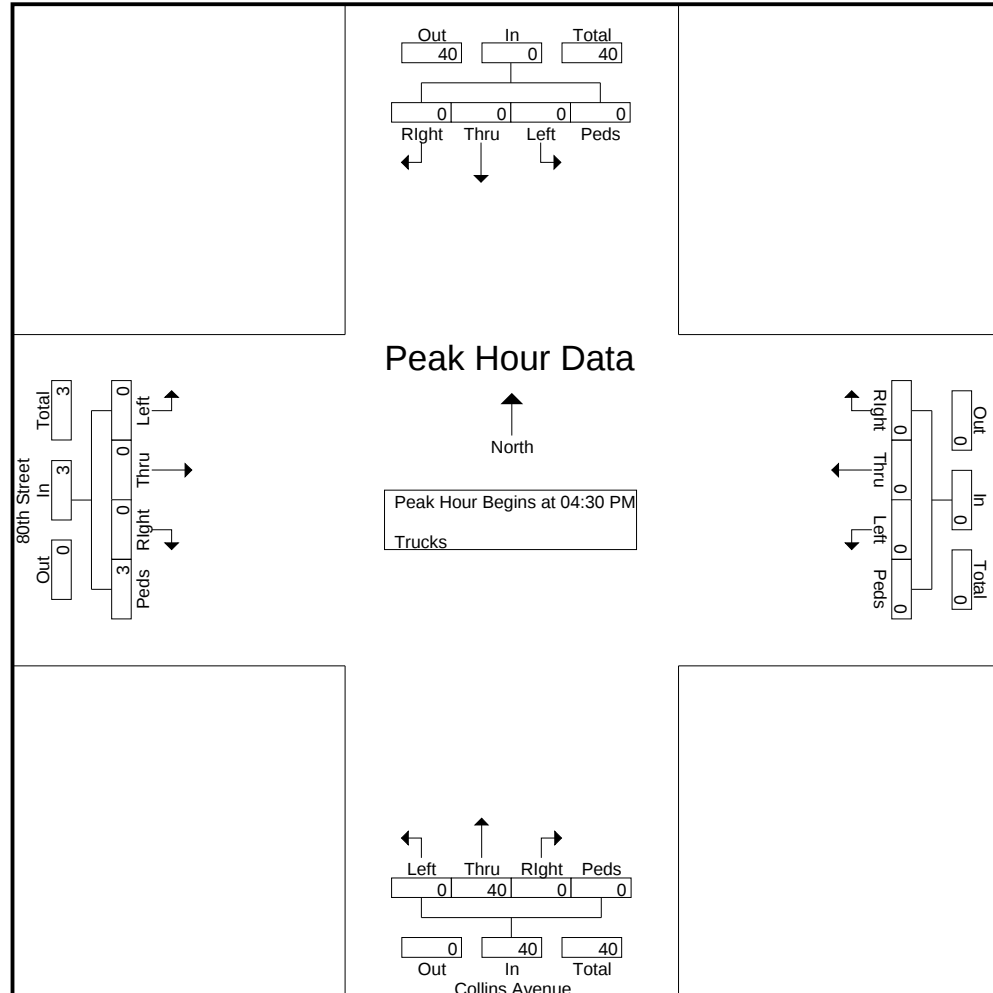
Collins Avenue & 80th Street

File Name : Collins Avenue & 80th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Southbound					Collins Avenue Northbound					81st Street Westbound					81st Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	0	0	0	0	0	2	239	0	3	244	0	0	0	3	3	1	0	0	1	2	249
07:15 AM	0	0	0	0	1	0	316	0	9	325	0	0	0	5	5	11	0	0	1	12	343
07:30 AM	0	0	0	1	1	4	330	0	2	336	0	0	0	9	9	4	0	0	0	4	350
07:45 AM	0	0	0	1	1	3	388	0	6	397	0	0	0	6	6	6	0	0	1	7	411
Total	0	0	0	3	3	9	1273	0	20	1302	0	0	0	23	23	22	0	0	3	25	1353
08:00 AM	0	0	0	0	0	7	420	0	10	437	0	0	0	2	2	21	0	0	1	22	461
08:15 AM	0	0	0	0	0	4	443	0	12	459	0	0	0	4	4	17	0	0	1	18	481
08:30 AM	0	0	0	0	0	6	426	0	7	439	0	0	0	4	4	24	0	0	1	25	468
08:45 AM	0	0	0	0	0	8	463	0	10	481	0	0	0	4	4	31	0	0	0	31	516
Total	0	0	0	0	0	25	1752	0	39	1816	0	0	0	14	14	93	0	0	3	96	1926

*** BREAK ***

[illegible]

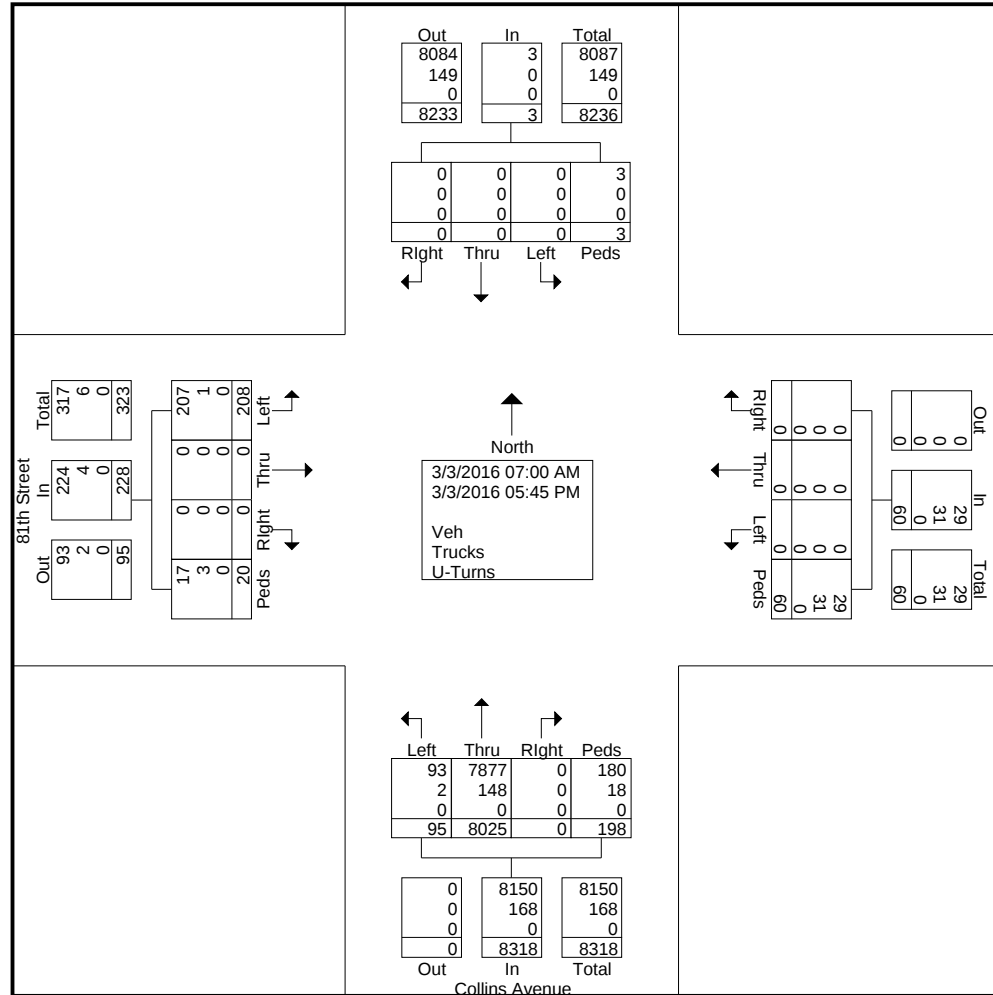
Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Southbound					Collins Avenue Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	7	420	0	10	437	0	0	0	2	2	21	0	0	1	22	461
08:15 AM	0	0	0	0	0	4	443	0	12	459	0	0	0	4	4	17	0	0	1	18	481
08:30 AM	0	0	0	0	0	6	426	0	7	439	0	0	0	4	4	24	0	0	1	25	468
08:45 AM	0	0	0	0	0	8	463	0	10	481	0	0	0	4	4	31	0	0	0	31	516
Total Volume	0	0	0	0	0	25	1752	0	39	1816	0	0	0	14	14	93	0	0	3	96	1926
% App. Total	0	0	0	0	0	1.4	96.5	0	2.1		0	0	0	100		96.9	0	0	3.1		
PHF	.000	.000	.000	.000	.000	.781	.946	.000	.813	.944	.000	.000	.000	.875	.875	.750	.000	.000	.750	.774	.933

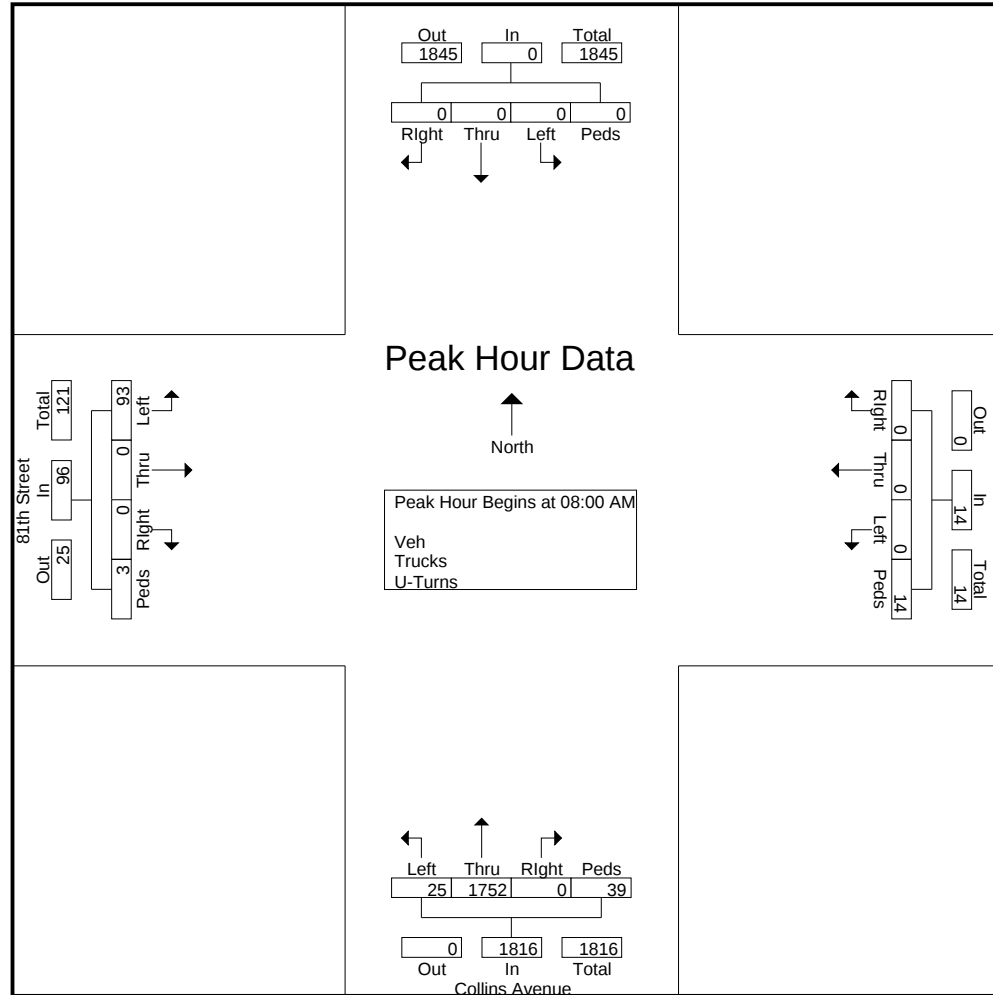
Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	10	664	0	3	677	0	0	0	11	11	11	0	0	2	13	701
05:00 PM	0	0	0	0	0	10	606	0	21	637	0	0	0	2	2	20	0	0	3	23	662
05:15 PM	0	0	0	0	0	7	607	0	18	632	0	0	0	6	6	12	0	0	1	13	651
05:30 PM	0	0	0	0	0	7	678	0	5	690	0	0	0	2	2	10	0	0	2	12	704
Total Volume	0	0	0	0	0	34	2555	0	47	2636	0	0	0	21	21	53	0	0	8	61	2718
% App. Total	0	0	0	0		1.3	96.9	0	1.8		0	0	0	100		86.9	0	0	13.1		
PHF	.000	.000	.000	.000	.000	.850	.942	.000	.560	.955	.000	.000	.000	.477	.477	.663	.000	.000	.667	.663	.965

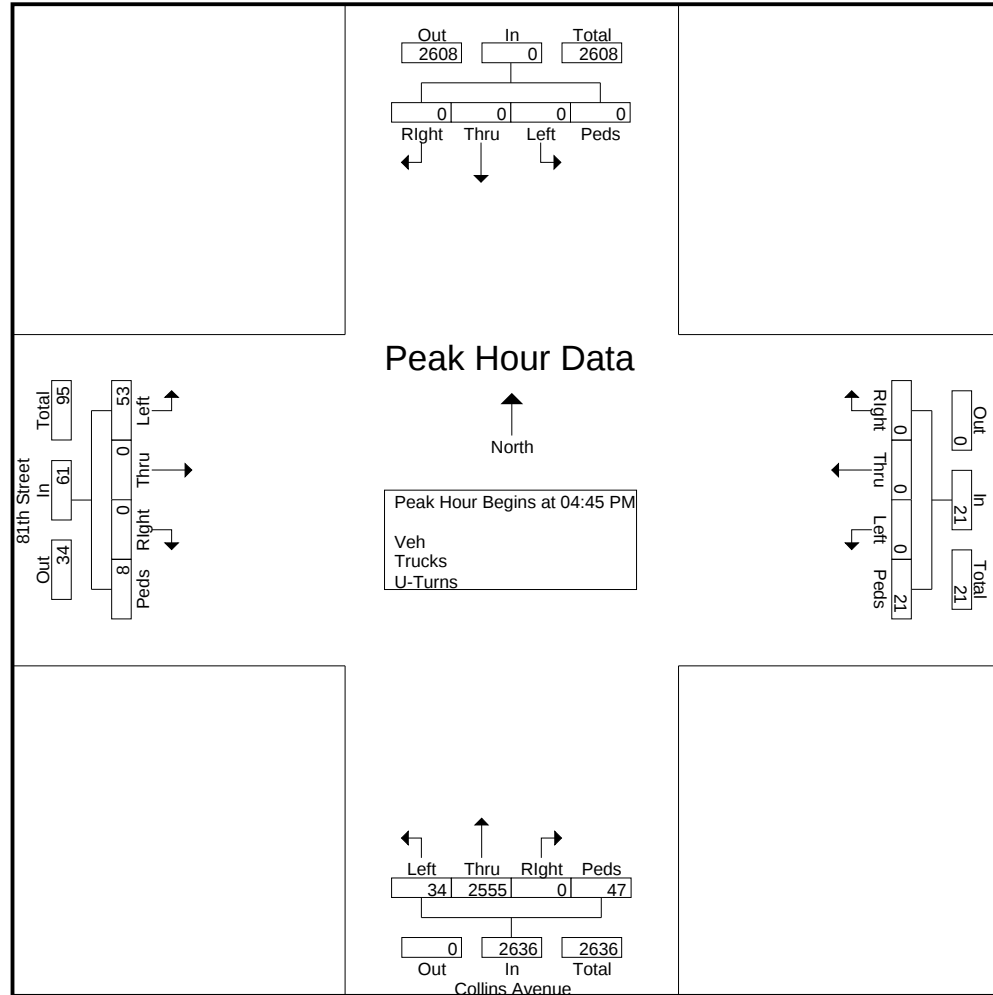
Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Southbound					Collins Avenue Northbound					81th Street Westbound					81th Street Eastbound						
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total	
07:00 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	0	11
07:15 AM	0	0	0	0	0	0	8	0	2	10	0	0	0	3	3	0	0	0	0	0	0	13
07:30 AM	0	0	0	0	0	0	10	0	0	10	0	0	0	6	6	0	0	0	0	0	0	16
07:45 AM	0	0	0	0	0	0	10	0	4	14	0	0	0	5	5	0	0	0	0	0	0	19
Total	0	0	0	0	0	0	38	0	6	44	0	0	0	15	15	0	0	0	0	0	0	59
08:00 AM	0	0	0	0	0	0	9	0	1	10	0	0	0	2	2	0	0	0	0	0	0	12
08:15 AM	0	0	0	0	0	0	11	0	2	13	0	0	0	1	1	0	0	0	0	0	0	14
08:30 AM	0	0	0	0	0	1	9	0	1	11	0	0	0	2	2	0	0	0	0	0	0	13
08:45 AM	0	0	0	0	0	1	17	0	1	19	0	0	0	3	3	1	0	0	0	0	1	23
Total	0	0	0	0	0	2	46	0	5	53	0	0	0	8	8	1	0	0	0	0	1	62
*** BREAK ***																						
04:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0	10
04:15 PM	0	0	0	0	0	0	5	0	1	6	0	0	0	0	0	0	0	0	0	0	0	6
04:30 PM	0	0	0	0	0	0	8	0	3	11	0	0	0	0	0	0	0	0	0	0	0	11
04:45 PM	0	0	0	0	0	0	10	0	1	11	0	0	0	4	4	0	0	0	0	0	0	15
Total	0	0	0	0	0	0	33	0	5	38	0	0	0	4	4	0	0	0	0	0	0	42
05:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	0	11
05:15 PM	0	0	0	0	0	0	9	0	1	10	0	0	0	1	1	0	0	0	0	0	0	11
05:30 PM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	2	5	
05:45 PM	0	0	0	0	0	0	9	0	1	10	0	0	0	2	2	0	0	0	1	1	13	
Total	0	0	0	0	0	0	31	0	2	33	0	0	0	4	4	0	0	0	3	3	40	
Grand Total	0	0	0	0	0	2	148	0	18	168	0	0	0	31	31	1	0	0	3	4	203	
Apprch %	0	0	0	0		1.2	88.1	0	10.7		0	0	0	100		25	0	0	75			
Total %	0	0	0	0	0	1	72.9	0	8.9	82.8	0	0	0	15.3	15.3	0.5	0	0	1.5	2		

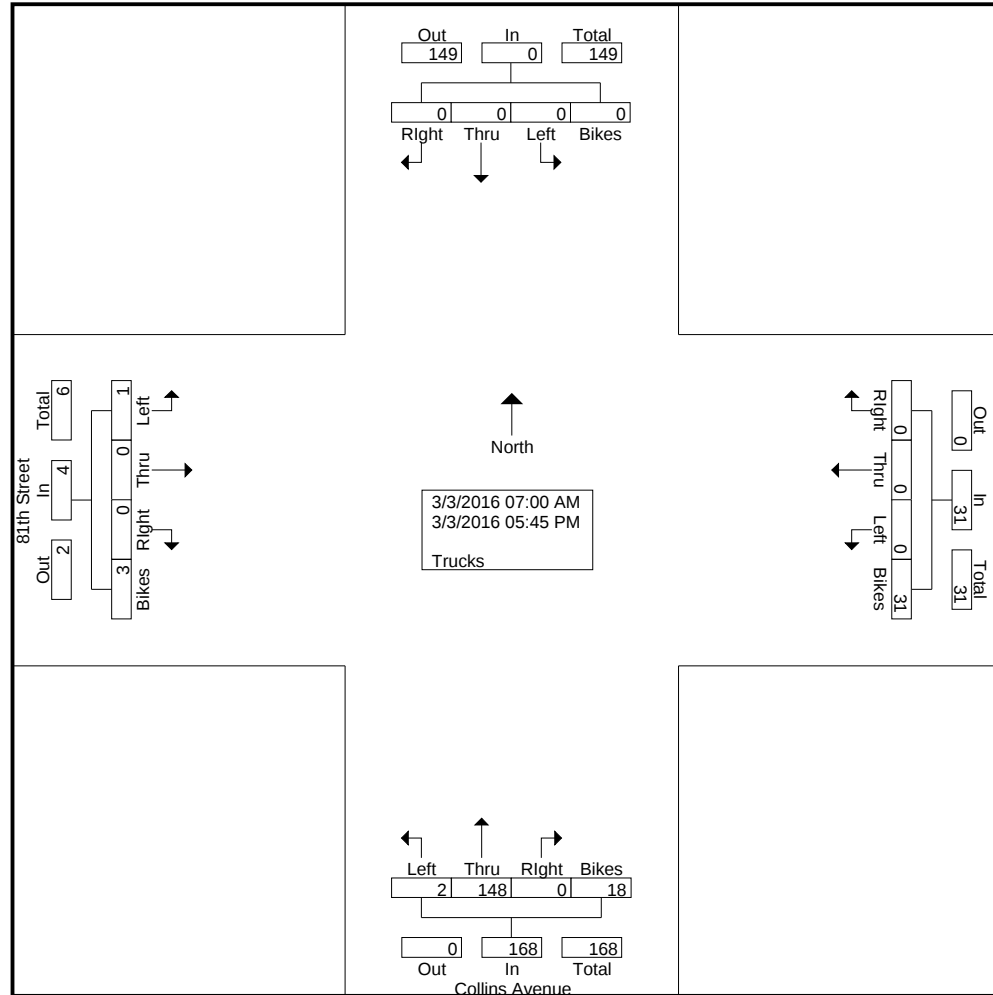
Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Southbound					Collins Avenue Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	9	0	1	10	0	0	0	2	2	0	0	0	0	0	12
08:15 AM	0	0	0	0	0	0	11	0	2	13	0	0	0	1	1	0	0	0	0	0	14
08:30 AM	0	0	0	0	0	1	9	0	1	11	0	0	0	2	2	0	0	0	0	0	13
08:45 AM	0	0	0	0	0	1	17	0	1	19	0	0	0	3	3	1	0	0	0	1	23
Total Volume	0	0	0	0	0	2	46	0	5	53	0	0	0	8	8	1	0	0	0	1	62
% App. Total	0	0	0	0		3.8	86.8	0	9.4		0	0	0	100		100	0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.676	.000	.625	.697	.000	.000	.000	.667	.667	.250	.000	.000	.000	.250	.674

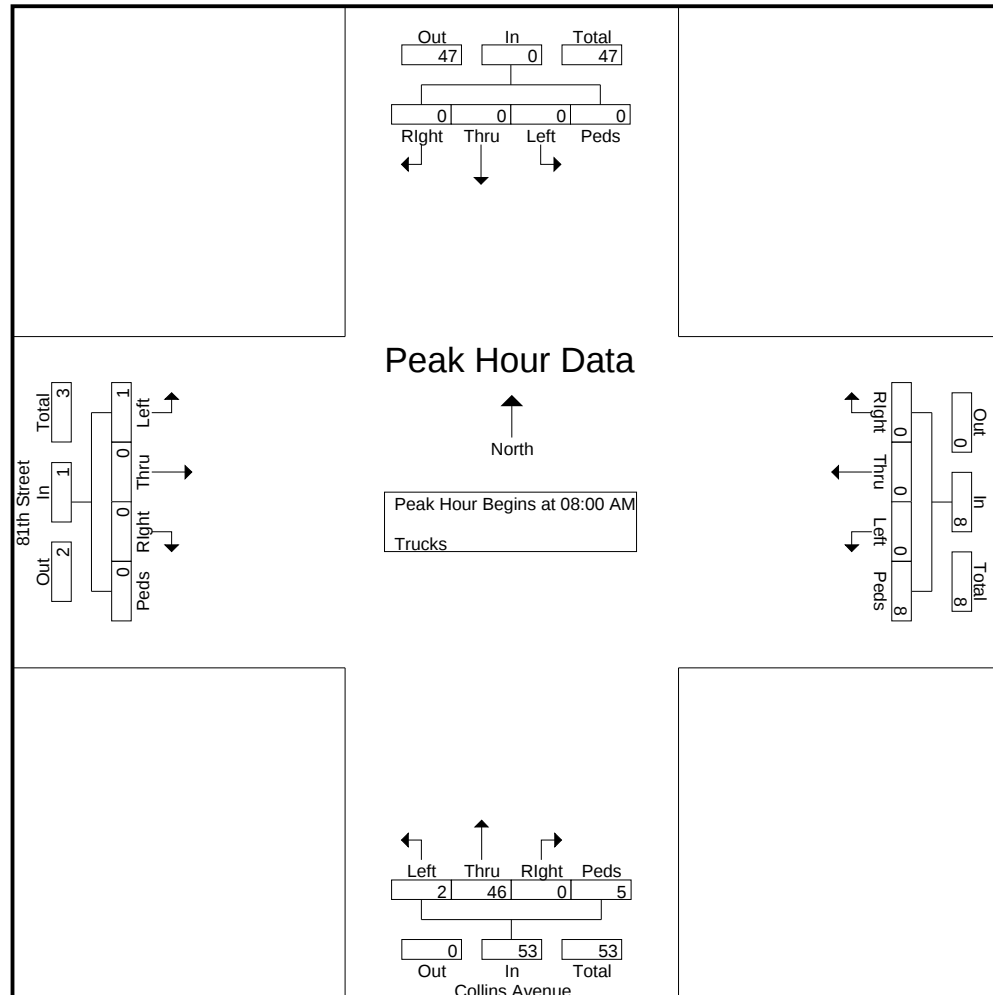
Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street

Site Code : 00000000

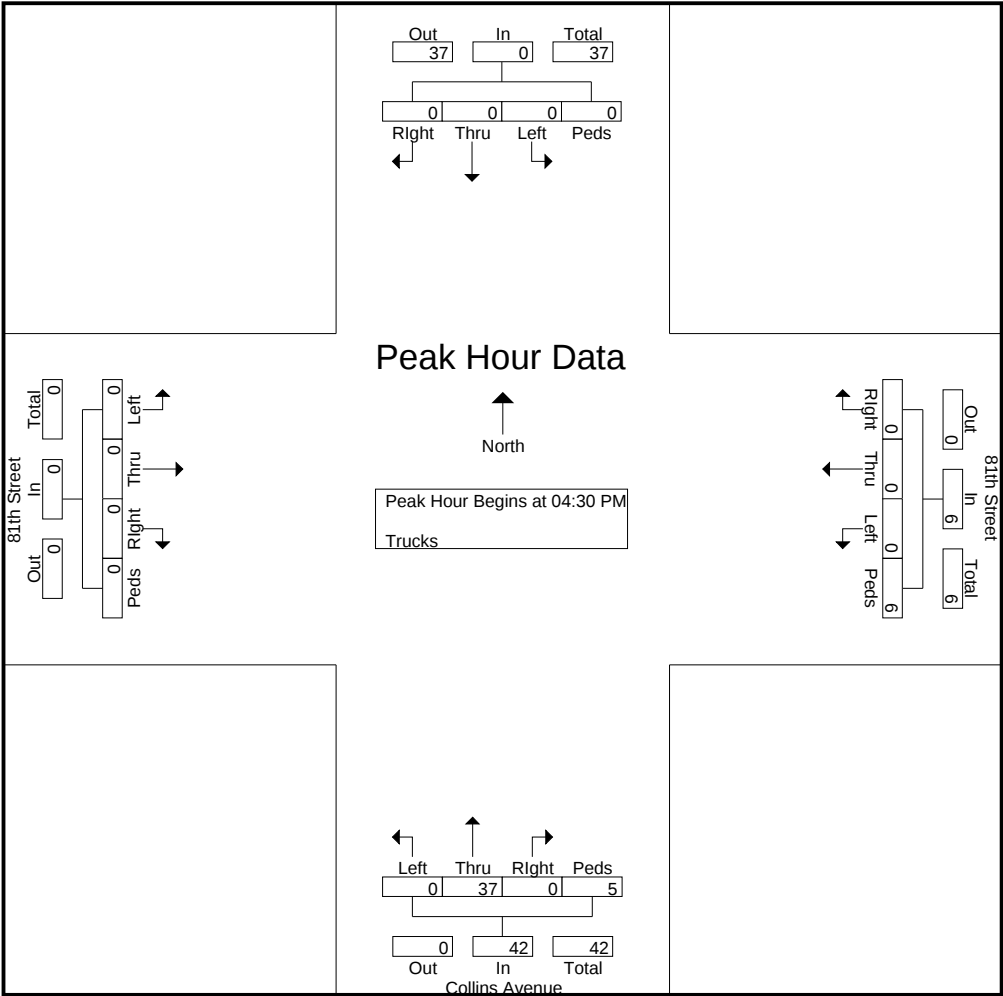
Start Date : 3/3/2016

Page No : 5

	Southbound					Collins Avenue Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	0	0	0	0	0	8	0	3	11	0	0	0	0	0	0	0	0	0	0	11
04:45 PM	0	0	0	0	0	0	10	0	1	11	0	0	0	4	4	0	0	0	0	0	15
05:00 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	1	1	0	0	0	0	0	11
05:15 PM	0	0	0	0	0	0	9	0	1	10	0	0	0	1	1	0	0	0	0	0	11
Total Volume	0	0	0	0	0	0	37	0	5	42	0	0	0	6	6	0	0	0	0	0	48
% App. Total	0	0	0	0		0	88.1	0	11.9		0	0	0	100		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.925	.000	.417	.955	.000	.000	.000	.375	.375	.000	.000	.000	.000	.000	.800

Collins Avenue & 81th Street

File Name : Collins Avenue & 81th Street
Site Code : 00000000
Start Date : 3/3/2016
Page No : 6



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
07:00 AM	0	0	0	2	2	1	0	0	1	2	1	5	0	4	10	0	0	0	0	0	14
07:15 AM	0	0	0	2	2	0	0	0	0	0	2	9	0	0	11	0	0	0	0	0	13
07:30 AM	0	2	0	2	4	0	0	0	0	0	3	11	0	2	16	0	0	0	0	0	20
07:45 AM	0	0	0	4	4	0	0	0	1	1	1	9	0	3	13	0	0	1	0	1	19
Total	0	2	0	10	12	1	0	0	2	3	7	34	0	9	50	0	0	1	0	1	66
08:00 AM	0	5	0	5	10	0	0	0	0	0	2	5	0	0	7	0	0	0	1	1	18
08:15 AM	0	17	0	5	22	0	0	0	0	0	2	11	0	2	15	0	0	2	0	2	39
08:30 AM	0	63	0	2	65	0	0	0	0	0	3	15	0	2	20	0	0	0	0	0	85
08:45 AM	0	50	0	4	54	0	0	0	0	0	4	2	0	3	9	0	1	0	3	4	67
Total	0	135	0	16	151	0	0	0	0	0	11	33	0	7	51	0	1	2	4	7	209

*** BREAK ***

[illegible]

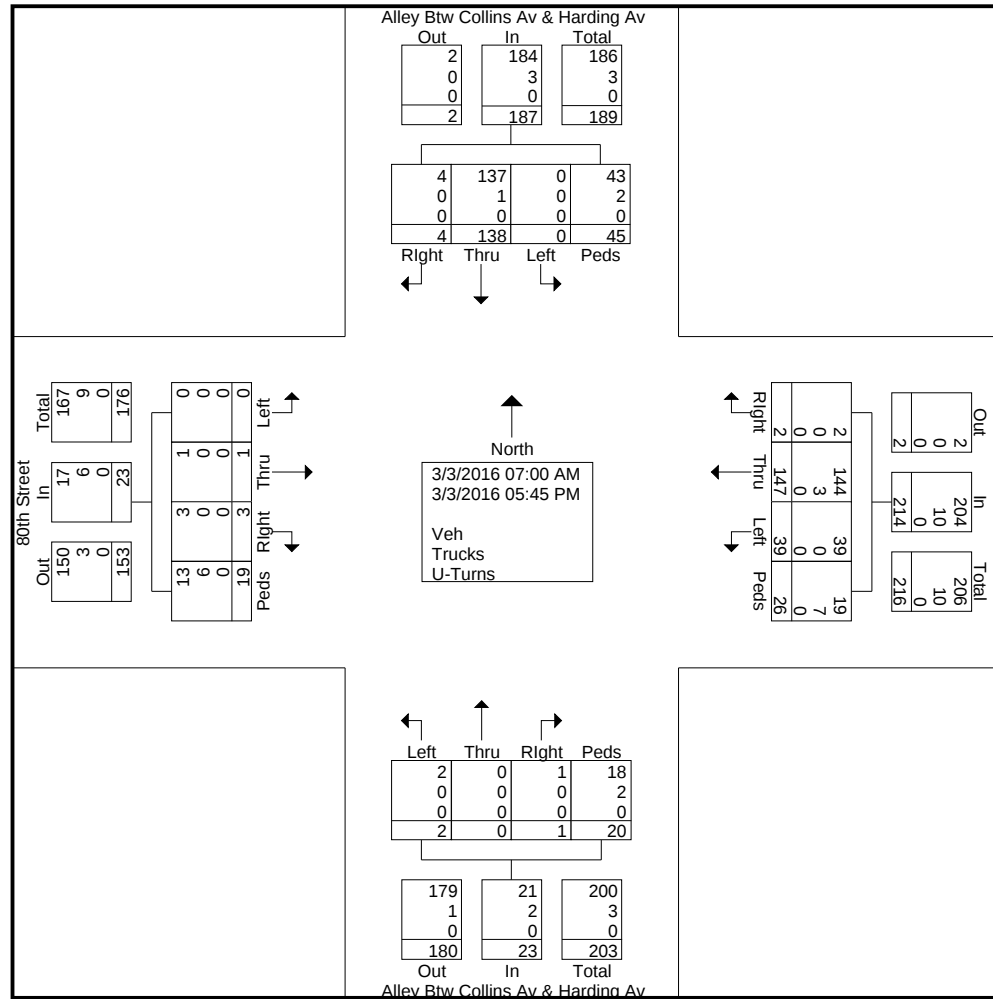
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	5	0	5	10	0	0	0	0	0	2	5	0	0	7	0	0	0	1	1	18
08:15 AM	0	17	0	5	22	0	0	0	0	0	2	11	0	2	15	0	0	2	0	2	39
08:30 AM	0	63	0	2	65	0	0	0	0	0	3	15	0	2	20	0	0	0	0	0	85
08:45 AM	0	50	0	4	54	0	0	0	0	0	4	2	0	3	9	0	1	0	3	4	67
Total Volume	0	135	0	16	151	0	0	0	0	0	11	33	0	7	51	0	1	2	4	7	209
% App. Total	0	89.4	0	10.6		0	0	0	0		21.6	64.7	0	13.7		0	14.3	28.6	57.1		
PHF	.000	.536	.000	.800	.581	.000	.000	.000	.000	.000	.688	.550	.000	.583	.638	.000	.250	.250	.333	.438	.615

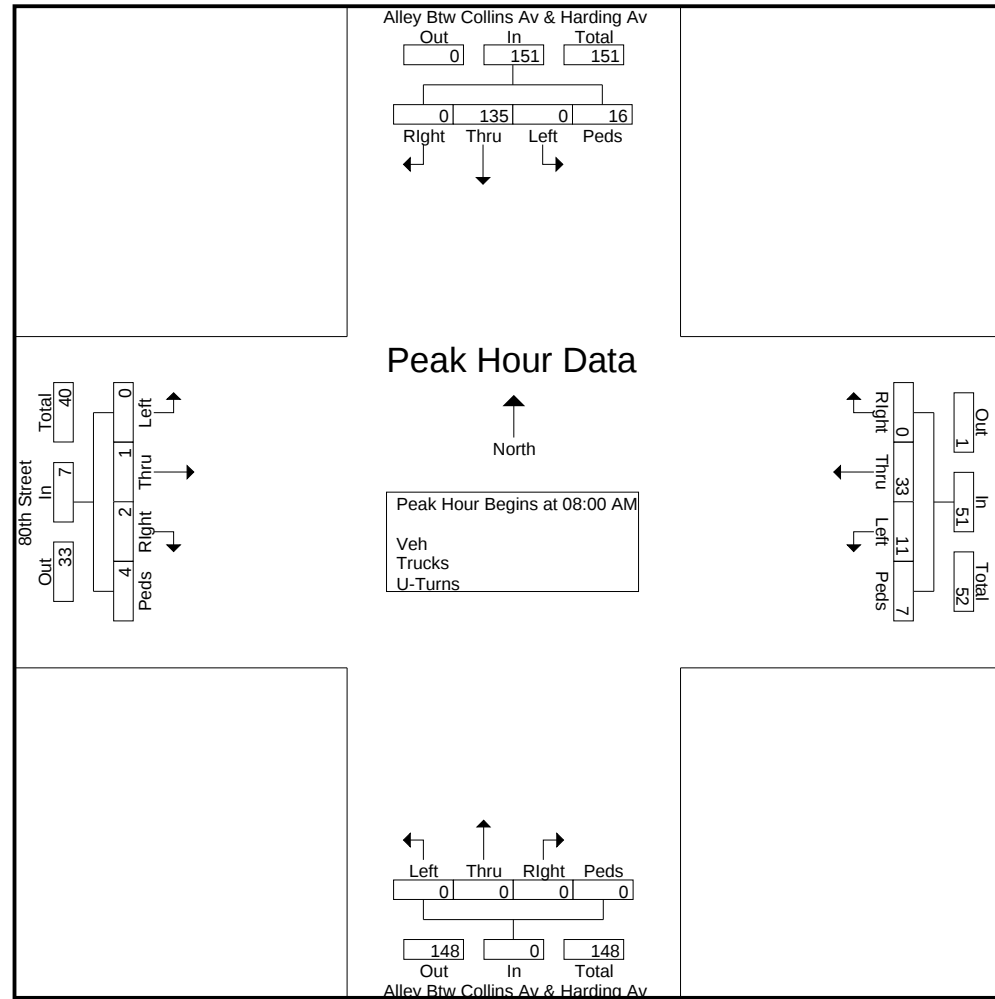
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	2	1	3	0	0	0	5	5	6	11	0	1	18	0	0	0	2	2	28
04:30 PM	0	0	0	2	2	0	0	0	2	2	4	9	1	0	14	0	0	0	2	2	20
04:45 PM	0	1	0	6	7	0	0	0	1	1	0	15	0	3	18	0	0	0	3	3	29
05:00 PM	0	0	1	0	1	0	0	0	2	2	2	13	0	1	16	0	0	0	4	4	23
Total Volume	0	1	3	9	13	0	0	0	10	10	12	48	1	5	66	0	0	0	11	11	100
% App. Total	0	7.7	23.1	69.2		0	0	0	100		18.2	72.7	1.5	7.6		0	0	0	100		
PHF	.000	.250	.375	.375	.464	.000	.000	.000	.500	.500	.500	.800	.250	.417	.917	.000	.000	.000	.688	.688	.862

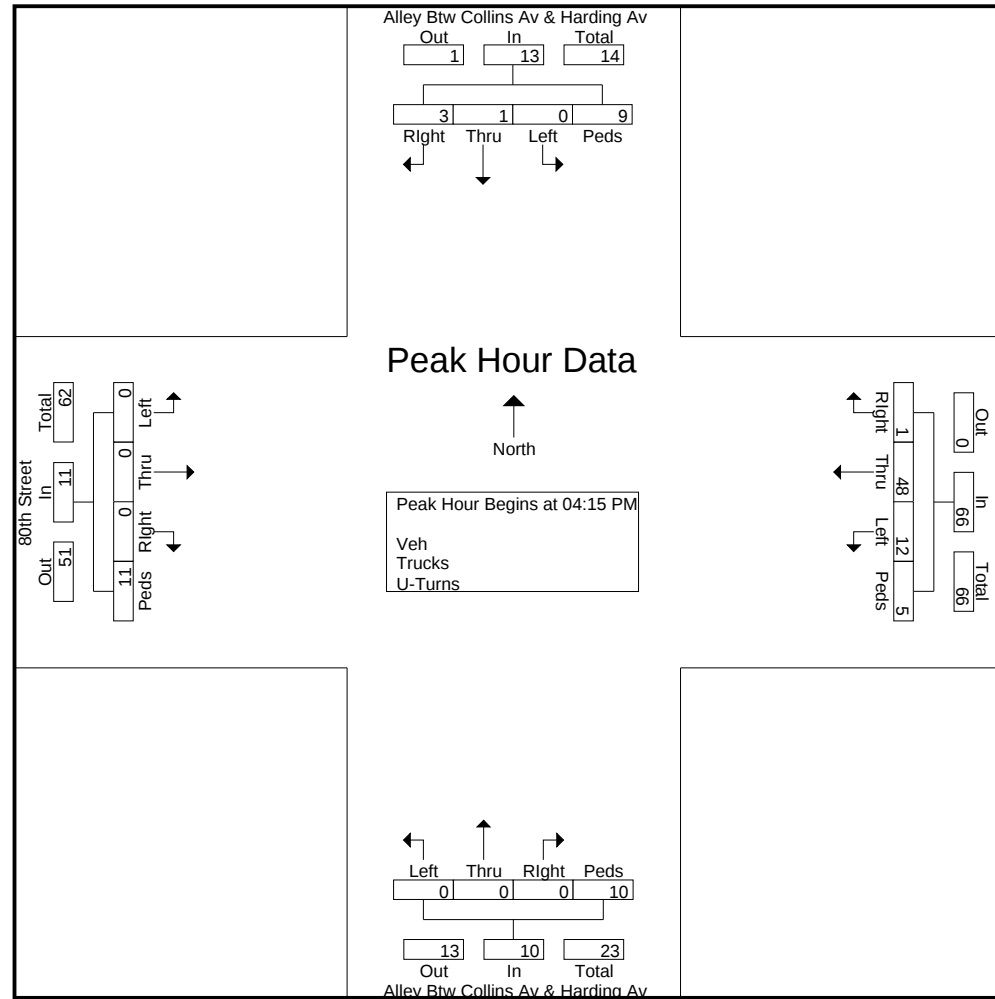
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound						
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total	
07:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***																						
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
*** BREAK ***																						
Total	0	1	0	1	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3
*** BREAK ***																						
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	1	3
*** BREAK ***																						
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	3
Total	0	0	0	1	1	0	0	0	2	2	0	0	0	2	2	0	0	0	1	1	1	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	3	3	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	1	3
*** BREAK ***																						
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	3	5	0	0	0	4	4	4	9
Grand Total	0	1	0	2	3	0	0	0	2	2	0	3	0	7	10	0	0	0	6	6	6	21
Apprch %	0	33.3	0	66.7		0	0	0	100		0	30	0	70		0	0	0	100			
Total %	0	4.8	0	9.5	14.3	0	0	0	9.5	9.5	0	14.3	0	33.3	47.6	0	0	0	28.6	28.6		

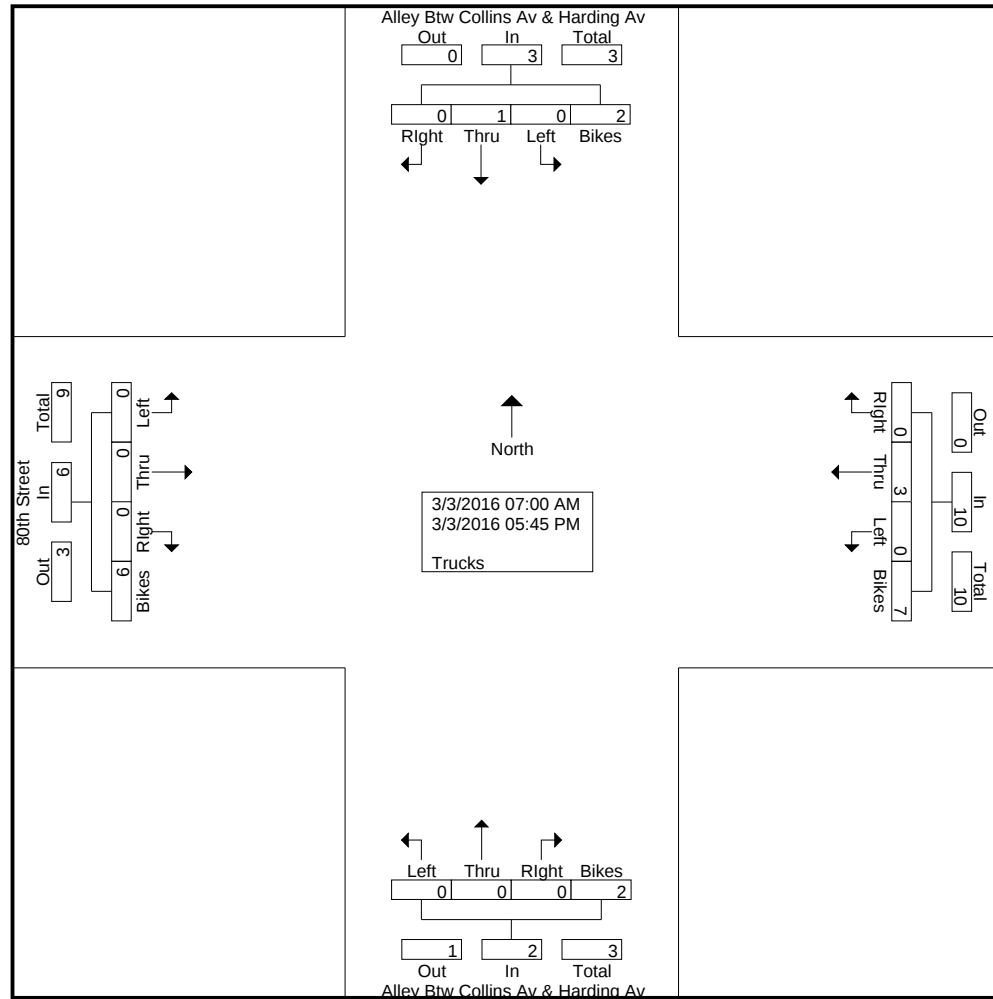
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% App. Total	0	50	0	50		0	0	0	0		0	100	0	0		0	0	0	0		
PHF	.000	.250	.000	.250	.500	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.000	.375

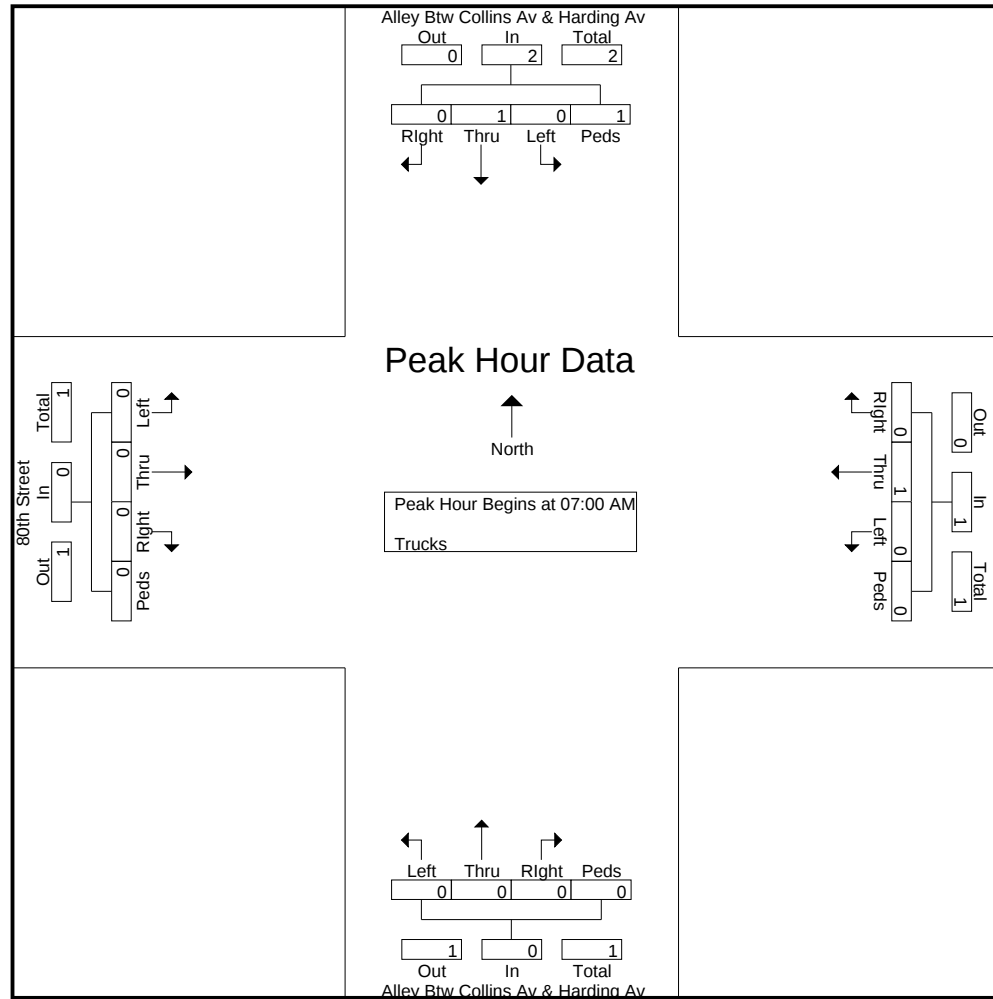
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					80th Street Westbound					80th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	3	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	3
Total Volume	0	0	0	1	1	0	0	0	0	0	0	2	0	4	6	0	0	0	5	5	12
% App. Total	0	0	0	100		0	0	0	0		0	33.3	0	66.7		0	0	0	100		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.500	.000	.500	.750	.000	.000	.000	.417	.417	.750

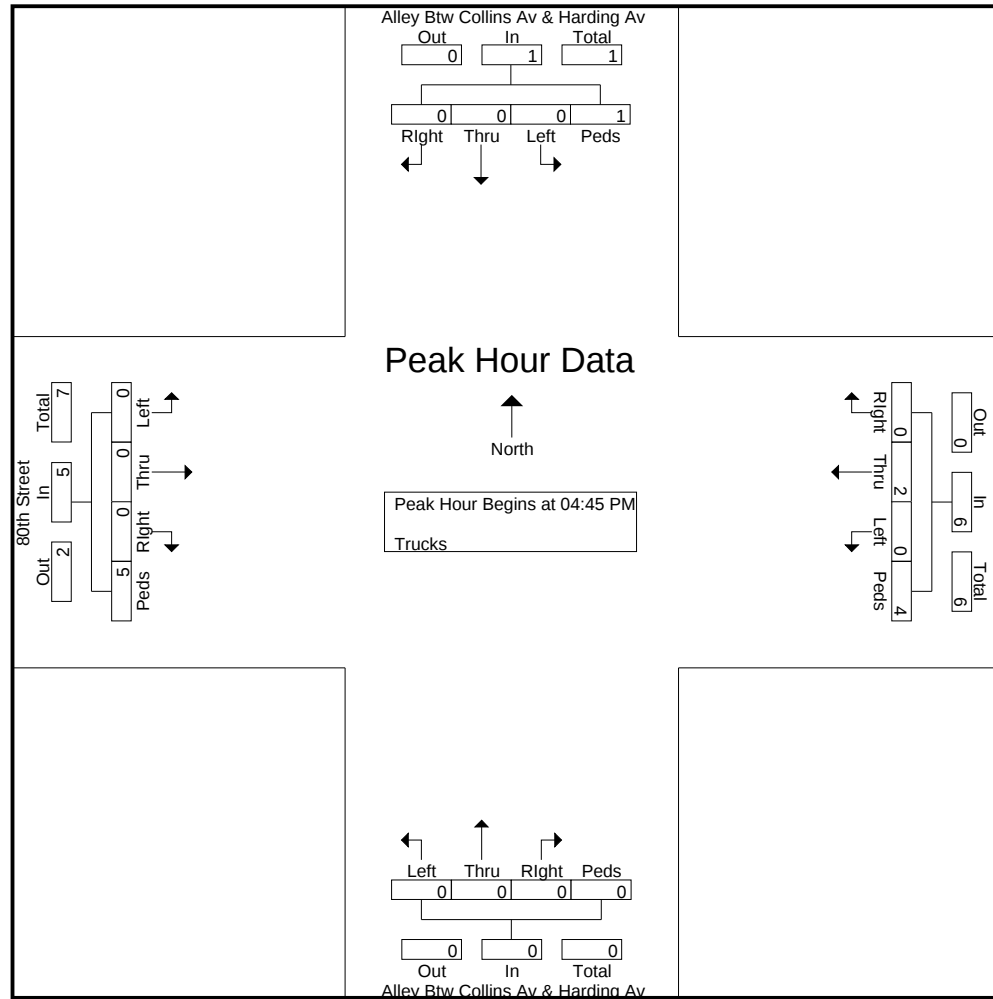
80th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 80th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Veh - Trucks - Turns

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					Int. Total
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	
07:00 AM	0	0	2	1	3	0	0	0	3	3	0	2	0	2	4	0	5	0	1	6	16
07:15 AM	0	0	1	1	2	0	0	0	0	0	0	7	0	0	7	0	6	0	0	6	15
07:30 AM	1	2	0	2	5	0	0	0	5	5	0	2	0	2	4	0	5	0	0	5	19
07:45 AM	0	0	1	0	1	1	0	0	7	8	0	5	0	0	5	0	6	0	1	7	21
Total	1	2	4	4	11	1	0	0	15	16	0	16	0	4	20	0	22	0	2	24	71
08:00 AM	0	2	0	4	6	0	0	0	8	8	0	6	0	0	6	0	15	4	0	19	39
08:15 AM	0	3	2	4	9	0	0	0	5	5	0	12	0	0	12	0	11	18	0	29	55
08:30 AM	0	46	1	6	53	0	0	0	3	3	1	7	0	1	9	0	30	17	0	47	112
08:45 AM	0	24	1	4	29	0	0	0	5	5	1	3	0	0	4	0	20	25	1	46	84
Total	0	75	4	18	97	0	0	0	21	21	2	28	0	1	31	0	76	64	1	141	290
*** BREAK ***																					
04:00 PM	1	0	0	0	1	0	0	0	9	9	0	7	0	0	7	0	17	0	1	18	35
04:15 PM	0	0	1	5	6	0	0	0	9	9	0	4	0	2	6	1	19	0	0	20	41
04:30 PM	0	0	0	4	4	0	0	0	5	5	0	11	0	0	11	0	7	0	0	7	27
04:45 PM	0	0	0	1	1	0	0	0	3	3	0	6	0	1	7	0	10	2	2	14	25
Total	1	0	1	10	12	0	0	0	26	26	0	28	0	3	31	1	53	2	3	59	128
05:00 PM	1	0	0	2	3	0	0	0	8	8	0	4	0	2	6	0	10	0	0	10	27
05:15 PM	0	0	0	7	7	0	0	0	20	20	0	9	0	1	10	1	6	0	0	7	44
05:30 PM	2	0	0	6	8	0	0	0	17	17	0	8	0	1	9	0	10	0	0	10	44
05:45 PM	1	0	0	9	10	0	0	0	13	13	0	8	0	2	10	0	6	1	0	7	40
Total	4	0	0	24	28	0	0	0	58	58	0	29	0	6	35	1	32	1	0	34	155
Grand Total	6	77	9	56	148	1	0	0	120	121	2	101	0	14	117	2	183	67	6	258	644
Apprch %	4.1	52	6.1	37.8		0.8	0	0	99.2		1.7	86.3	0	12		0.8	70.9	26	2.3		
Total %	0.9	12	1.4	8.7	23	0.2	0	0	18.6	18.8	0.3	15.7	0	2.2	18.2	0.3	28.4	10.4	0.9	40.1	
Veh	6	76	9	56	147	0	0	0	114	114	2	101	0	8	111	0	180	67	5	252	624
% Veh	100	98.7	100	100	99.3	0	0	0	95	94.2	100	100	0	57.1	94.9	0	98.4	100	83.3	97.7	96.9
Trucks	0	1	0	0	1	1	0	0	6	7	0	0	0	6	6	0	3	0	1	4	18
% Trucks	0	1.3	0	0	0.7	100	0	0	5	5.8	0	0	0	42.9	5.1	0	1.6	0	16.7	1.6	2.8
U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	2
% U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0.8	0.3

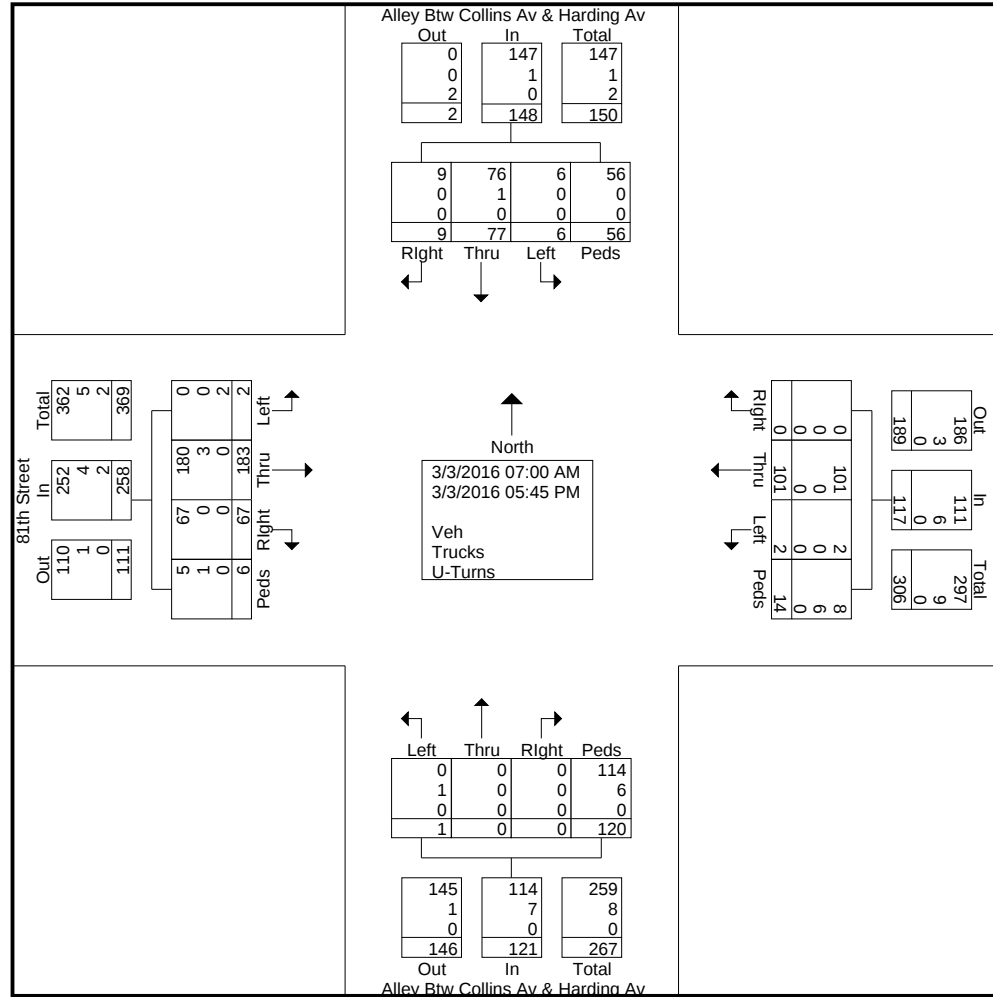
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	2	0	4	6	0	0	0	8	8	0	6	0	0	6	0	15	4	0	19	39
08:15 AM	0	3	2	4	9	0	0	0	5	5	0	12	0	0	12	0	11	18	0	29	55
08:30 AM	0	46	1	6	53	0	0	0	3	3	1	7	0	1	9	0	30	17	0	47	112
08:45 AM	0	24	1	4	29	0	0	0	5	5	1	3	0	0	4	0	20	25	1	46	84
Total Volume	0	75	4	18	97	0	0	0	21	21	2	28	0	1	31	0	76	64	1	141	290
% App. Total	0	77.3	4.1	18.6		0	0	0	100		6.5	90.3	0	3.2		0	53.9	45.4	0.7		
PHF	.000	.408	.500	.750	.458	.000	.000	.000	.656	.656	.500	.583	.000	.250	.646	.000	.633	.640	.250	.750	.647

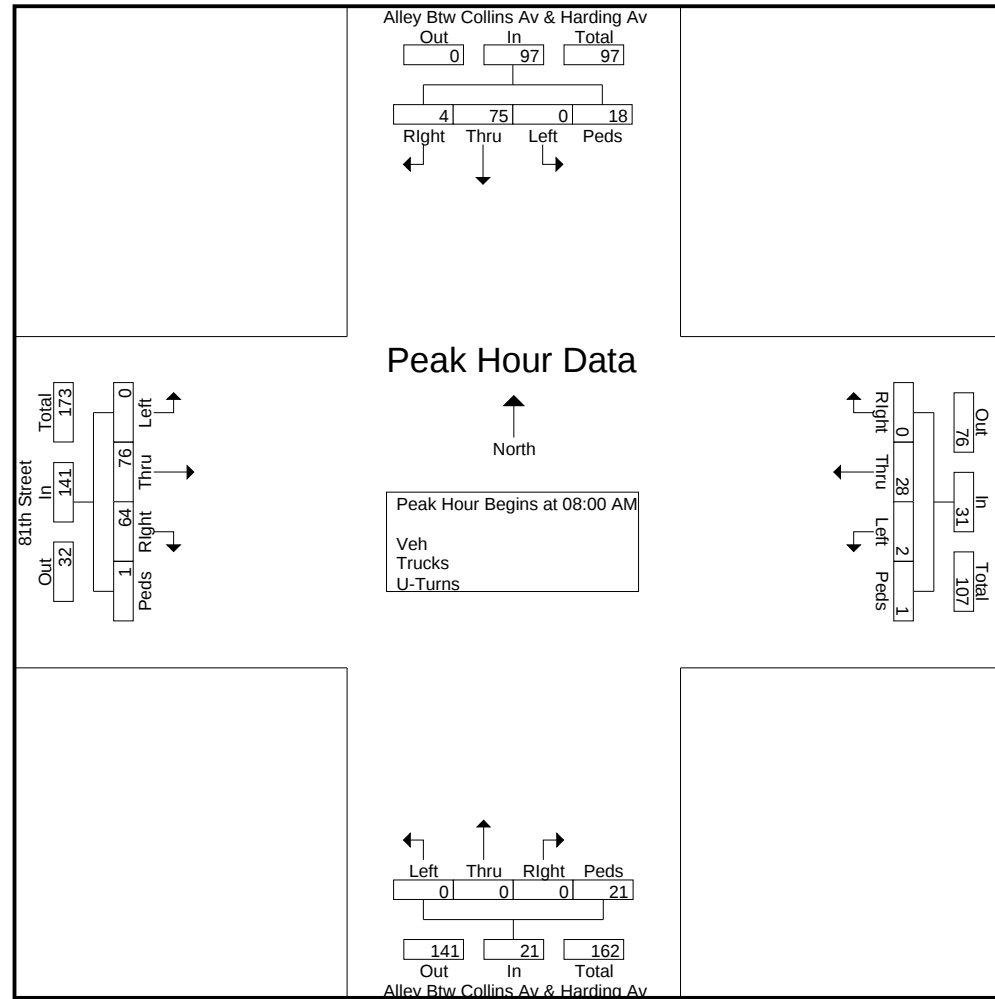
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av
 Site Code : 00000000
 Start Date : 3/3/2016
 Page No : 5

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Left	Thru	Right	Peds/Bike	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	0	0	2	3	0	0	0	8	8	0	4	0	2	6	0	10	0	0	10	27
05:15 PM	0	0	0	7	7	0	0	0	20	20	0	9	0	1	10	1	6	0	0	7	44
05:30 PM	2	0	0	6	8	0	0	0	17	17	0	8	0	1	9	0	10	0	0	10	44
05:45 PM	1	0	0	9	10	0	0	0	13	13	0	8	0	2	10	0	6	1	0	7	40
Total Volume	4	0	0	24	28	0	0	0	58	58	0	29	0	6	35	1	32	1	0	34	155
% App. Total	14.3	0	0	85.7		0	0	0	100		0	82.9	0	17.1		2.9	94.1	2.9	0		
PHF	.500	.000	.000	.667	.700	.000	.000	.000	.725	.725	.000	.806	.000	.750	.875	.250	.800	.250	.000	.850	.881

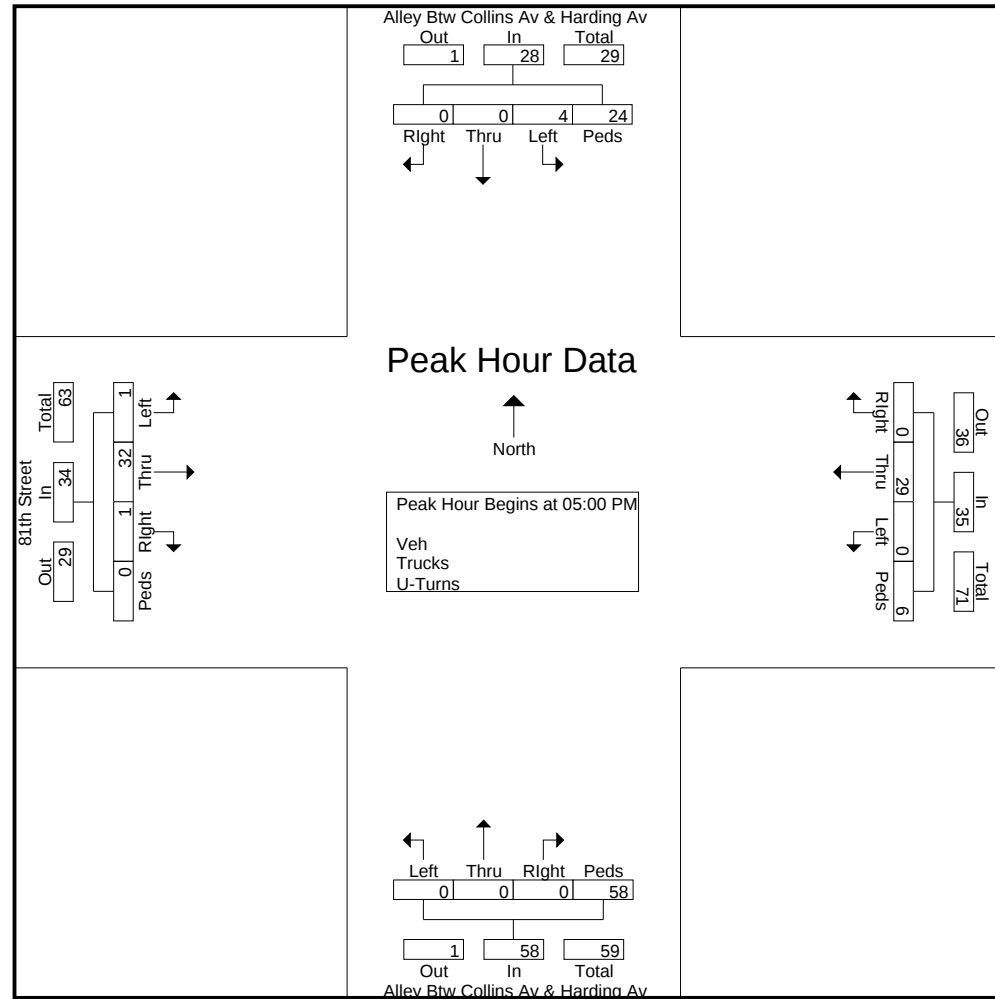
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 1

Groups Printed- Trucks

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
*** BREAK ***																					
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	2	4
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	2	0	0	2	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
*** BREAK ***																					
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	3	3	0	0	0	2	2	0	2	0	0	2	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	1	1	0	0	0	0	0	3
*** BREAK ***																					
05:45 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	3	3	0	0	0	4	4	0	0	0	0	0	7
Grand Total	0	1	0	0	1	1	0	0	6	7	0	0	0	6	6	0	3	0	1	4	18
Apprch %	0	100	0	0		14.3	0	0	85.7		0	0	0	100		0	75	0	25		
Total %	0	5.6	0	0	5.6	5.6	0	0	33.3	38.9	0	0	0	33.3	33.3	0	16.7	0	5.6	22.2	

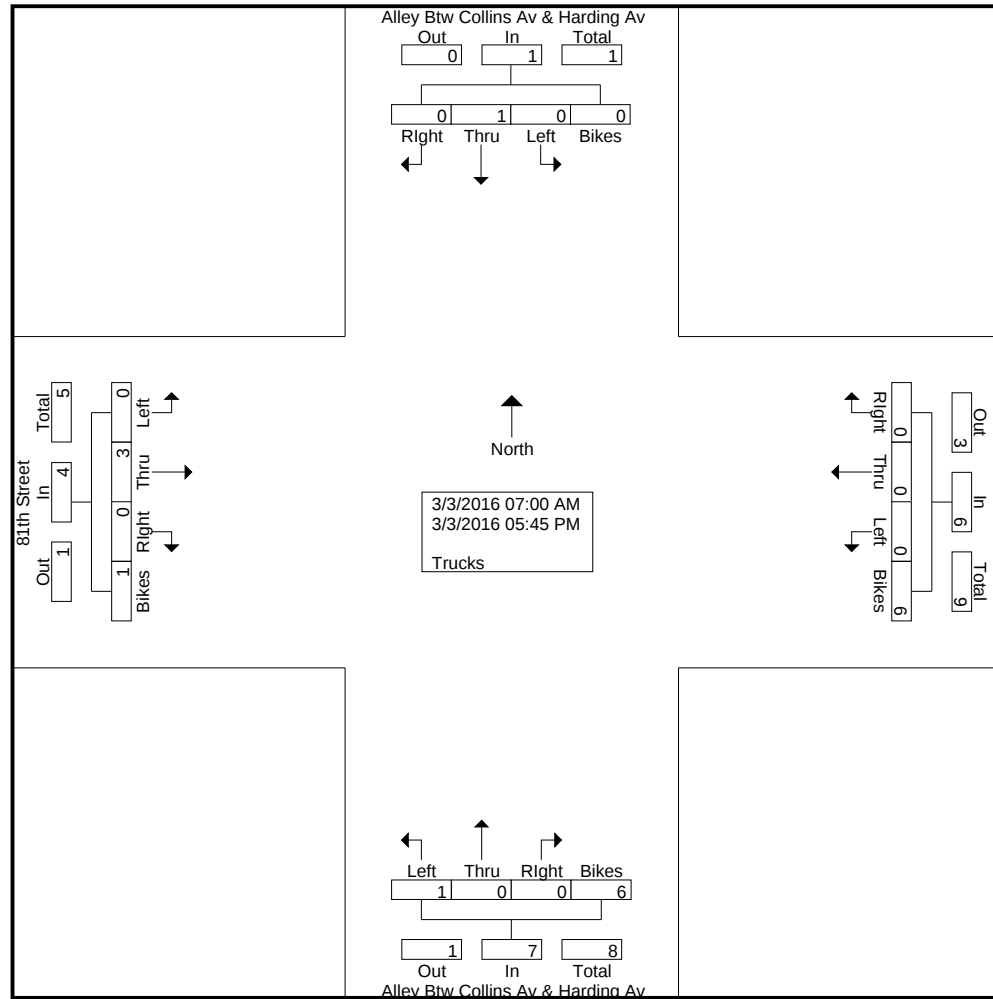
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 2



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 3

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
07:45 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	2	4
% App. Total	0	100	0	0		100	0	0	0		0	0	0	0		0	50	0	50		
PHF	.000	.250	.000	.000	.250	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.250	.000	.250	.500	.500

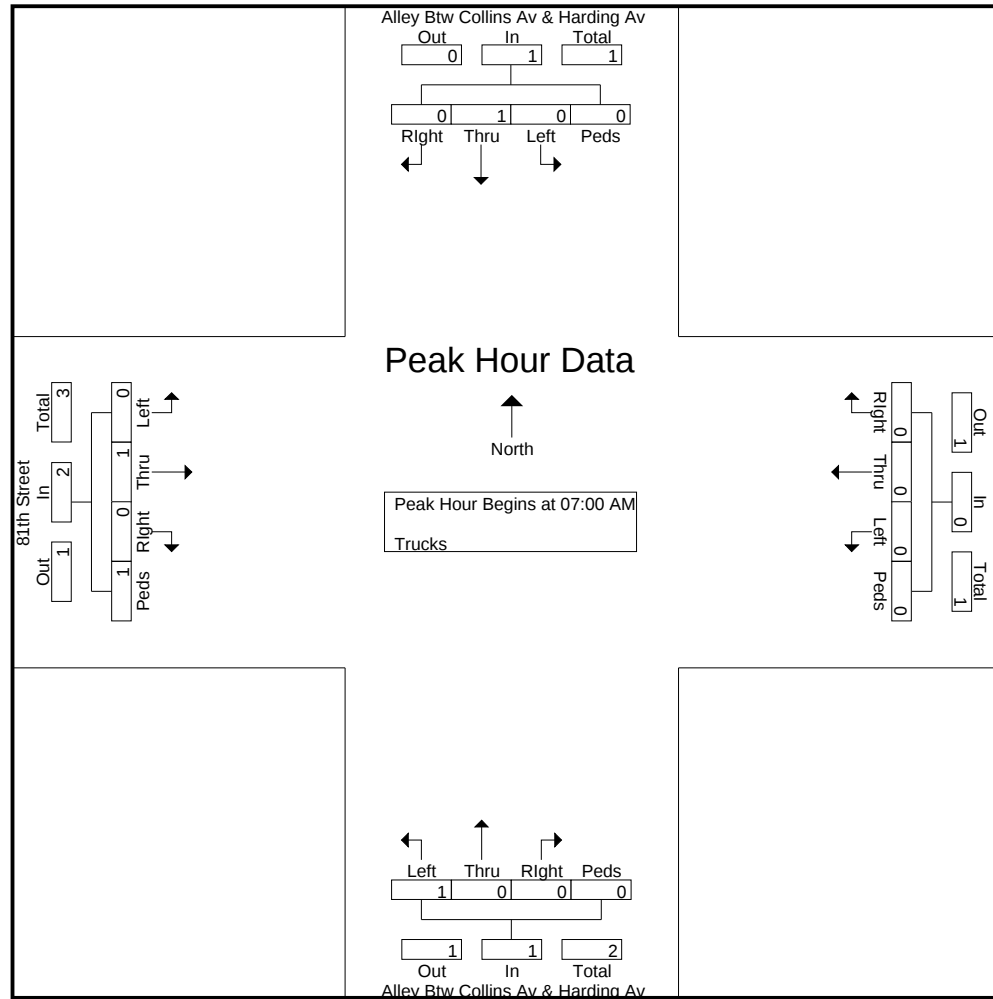
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 4



81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 5

	Alley Btw Collins Av & Harding Av Southbound					Alley Btw Collins Av & Harding Av Northbound					81th Street Westbound					81th Street Eastbound					
Start Time	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Left	Thru	Right	Bikes	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	2	0	0	2	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	3	3	0	0	0	2	2	0	2	0	0	2	7
% App. Total	0	0	0	0		0	0	0	100		0	0	0	100		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.500	.500	.000	.250	.000	.000	.250	.350

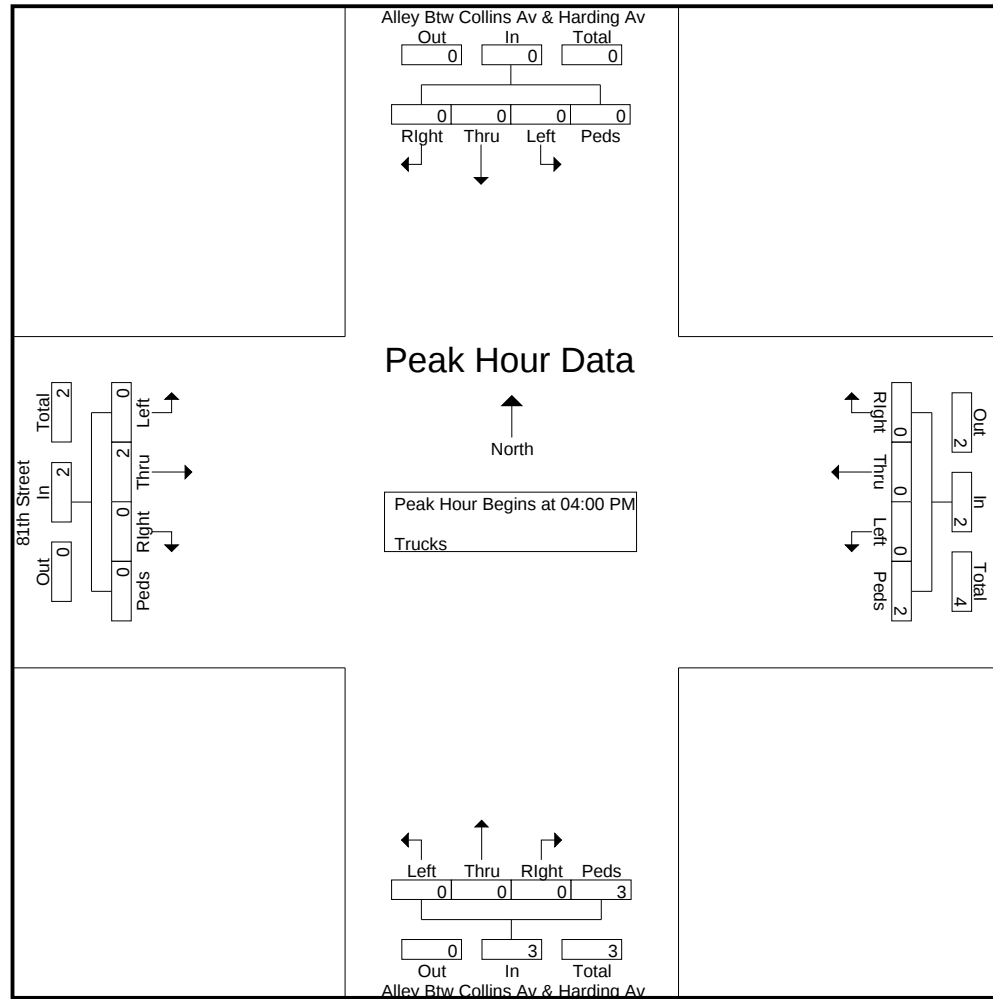
81th Street (Alley) Btw Collins Avenue & Harding Avenue

File Name : 81th St (Alley) Btw Collins Av & Harding Av

Site Code : 00000000

Start Date : 3/3/2016

Page No : 6



Appendix D

OTISS Trip Generation

Project Information	
Project Name:	Hotel - Espiritu Santo: Existing
No:	20160501
Date:	12/3/2014
City:	Miami
State/Province:	Florida
Zip/Postal Code:	
Country:	United States
Client Name:	Gabriel Andell
Analyst's Name:	Traffic Impact Study
Edition:	ITE-TGM 9th Edition

Land Use	Size	AM Peak		PM Peak	
		Entry	Exit	Entry	Exit
221 - Low-Rise Apartment	24 Occupied Dwelling Units	4	13	12	7
Reduction		0	0	0	0
Internal		0	0	0	0
Pass-by		0	0	0	0
Non-pass-by		4	13	12	7
Total		4	13	12	7
Total Reduction		0	0	0	0
Total Internal		0	0	0	0
Total Pass-by		0	0	0	0
Total Non-pass-by		4	13	12	7

Project Information	
Project Name:	Hotel - Espiritu Santo: Proposed
No:	20160501
Date:	12/3/2014
City:	Miami
State/Province:	Florida
Zip/Postal Code:	
Country:	United States
Client Name:	Gabriel Andell
Analyst's Name:	Traffic Impact Study
Edition:	ITE-TGM 9th Edition

Land Use	Size	AM Peak		PM Peak	
		Entry	Exit	Entry	Exit
310 - Hotel	44 Rooms	14	9	13	13
Reduction		0	0	0	0
Internal		0	0	0	0
Pass-by		0	0	0	0
Non-pass-by		14	9	13	13
Total		14	9	13	13
Total Reduction		0	0	0	0
Total Internal		0	0	0	0
Total Pass-by		0	0	0	0
Total Non-pass-by		14	9	13	13

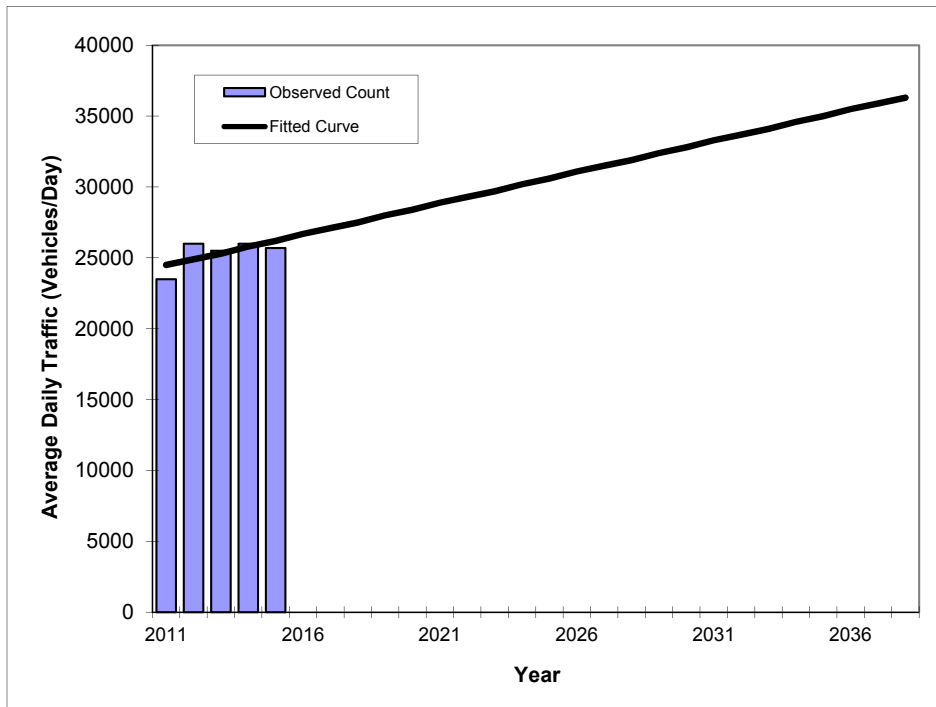
Appendix E

Growth Analysis

Harding Avenue --

FIN#	20161201
Location	1

County:	Miami (87)
Station #:	0520
Highway:	Harding Avenue



** Annual Trend Increase:	440
Trend R-squared:	43.88%
Trend Annual Historic Growth Rate:	1.73%
Trend Growth Rate (2015 to Design Year):	1.68%
Printed:	11-Mar-16
Straight Line Growth Option	

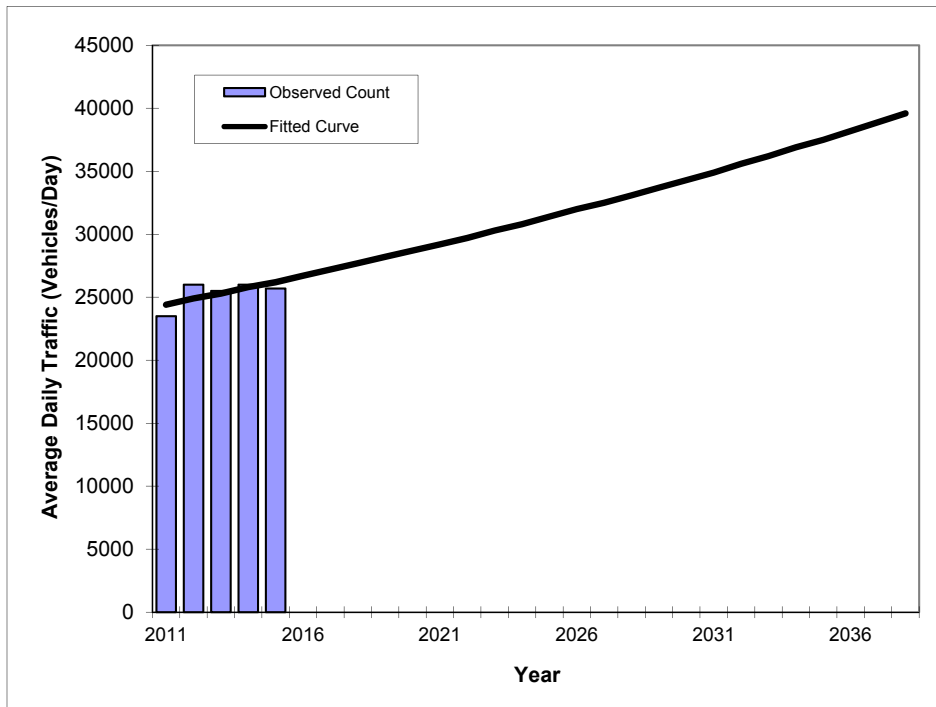
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	23500	24500
2012	26000	24900
2013	25500	25300
2014	26000	25800
2015	25700	26200
2018 Opening Year Trend		
2018	N/A	27500
2028 Mid-Year Trend		
2028	N/A	31900
2038 Design Year Trend		
2038	N/A	36300
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

Harding Avenue --

FIN#	20161201
Location	1

County:	Miami (87)
Station #:	0520
Highway:	Harding Avenue



Trend R-squared:	44.24%
Compounded Annual Historic Growth Rate:	1.80%
Compounded Growth Rate (2015 to Design Year):	1.81%
Printed:	11-Mar-16
Exponential Growth Option	

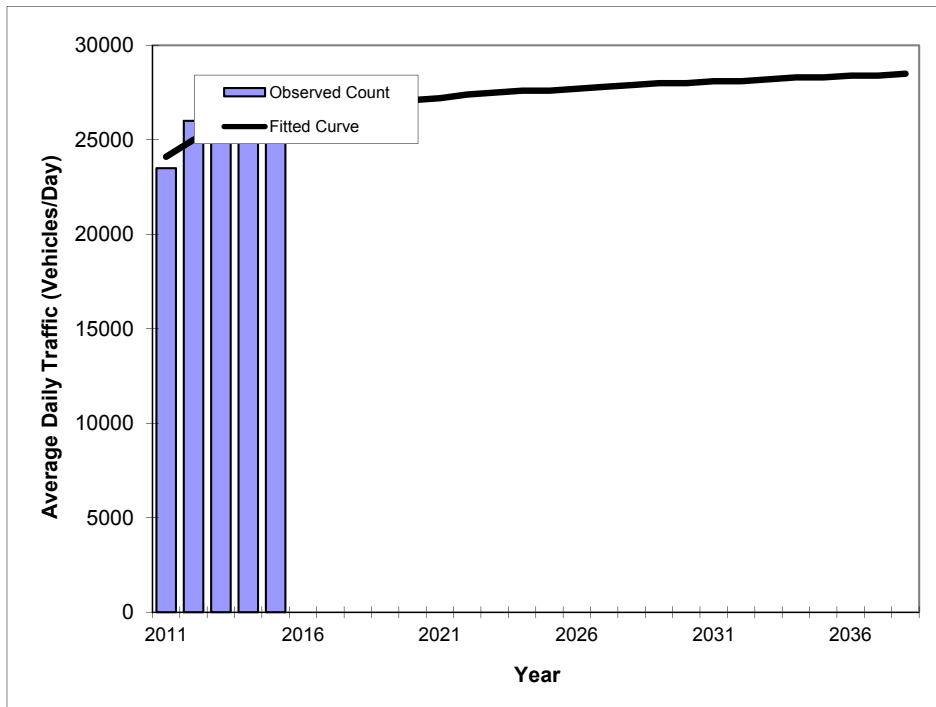
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	23500	24400
2012	26000	24900
2013	25500	25300
2014	26000	25800
2015	25700	26200
2018 Opening Year Trend		
2018	N/A	27700
2028 Mid-Year Trend		
2028	N/A	33100
2038 Design Year Trend		
2038	N/A	39600
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

Harding Avenue --

FIN#	20161201
Location	1

County:	Miami (87)
Station #:	0520
Highway:	Harding Avenue



Trend R-squared:	63.51%
Compounded Annual Historic Growth Rate:	2.11%
Compounded Growth Rate (2015 to Design Year):	0.37%
Printed:	11-Mar-16
Decaying Exponential Growth Option	

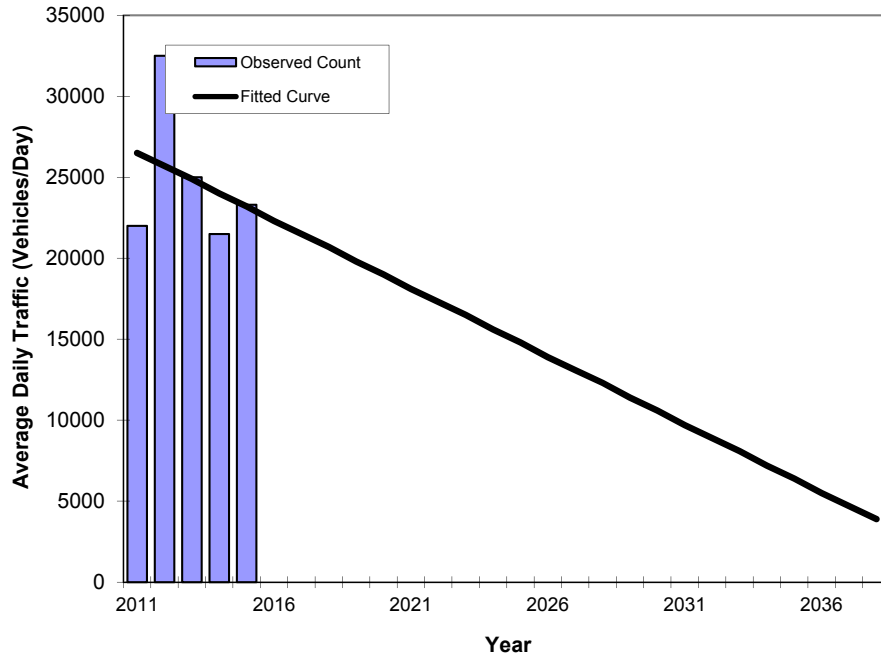
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	23500	24100
2012	26000	25000
2013	25500	25500
2014	26000	25900
2015	25700	26200
2018 Opening Year Trend		
2018	N/A	26800
2028 Mid-Year Trend		
2028	N/A	27900
2038 Design Year Trend		
2038	N/A	28500
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

Collins Avenue --

FIN#	20161201
Location	1

County:	Miami (87)
Station #:	0525
Highway:	Collins Avenue



Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	22000	26500
2012	32500	25700
2013	25000	24900
2014	21500	24000
2015	23300	23200
2018 Opening Year Trend		
2018	N/A	20700
2028 Mid-Year Trend		
2028	N/A	12300
2038 Design Year Trend		
2038	N/A	3900
TRANPLAN Forecasts/Trends		

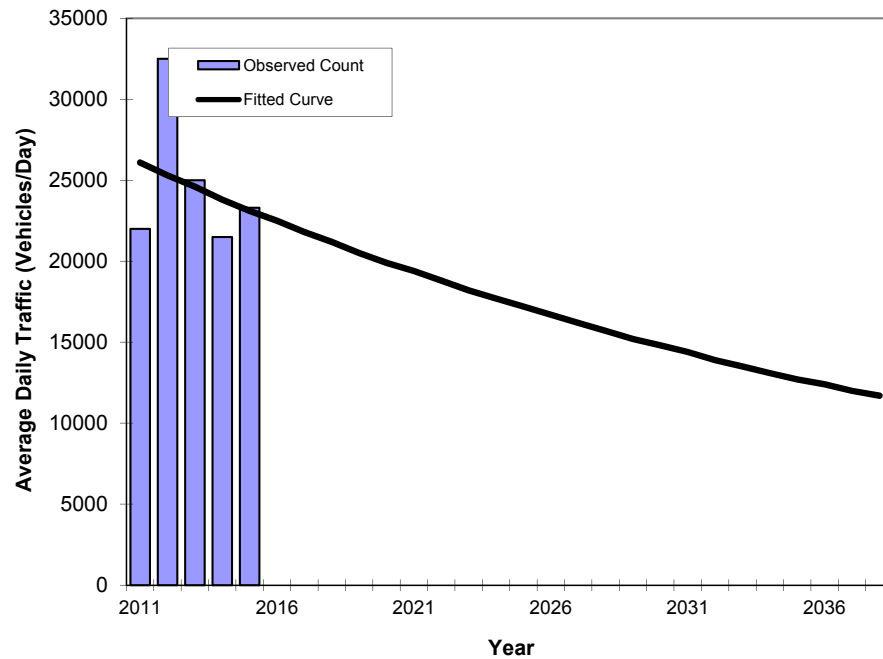
** Annual Trend Increase:	-840
Trend R-squared:	8.79%
Trend Annual Historic Growth Rate:	-3.11%
Trend Growth Rate (2015 to Design Year):	-3.62%
Printed:	11-Mar-16
Straight Line Growth Option	

*Axle-Adjusted

Collins Avenue --

FIN#	20161201
Location	1

County:	Miami (87)
Station #:	0525
Highway:	Collins Avenue



Trend R-squared:	7.99%
Compounded Annual Historic Growth Rate:	-3.01%
Compounded Growth Rate (2015 to Design Year):	-2.91%
Printed:	11-Mar-16
Exponential Growth Option	

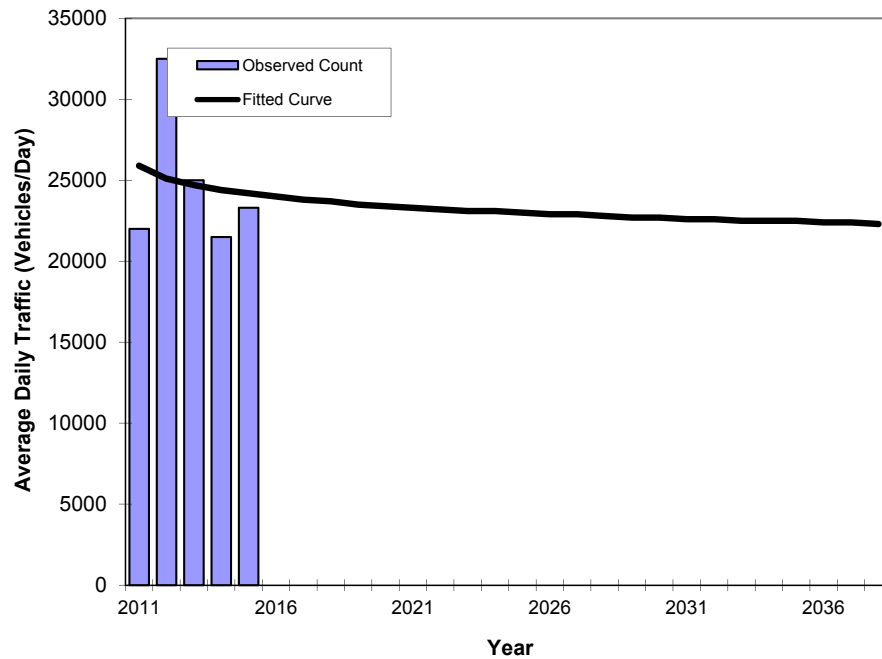
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	22000	26100
2012	32500	25300
2013	25000	24600
2014	21500	23800
2015	23300	23100
2018 Opening Year Trend		
2018	N/A	21200
2028 Mid-Year Trend		
2028	N/A	15700
2038 Design Year Trend		
2038	N/A	11700
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

Collins Avenue --

FIN#	20161201
Location	1

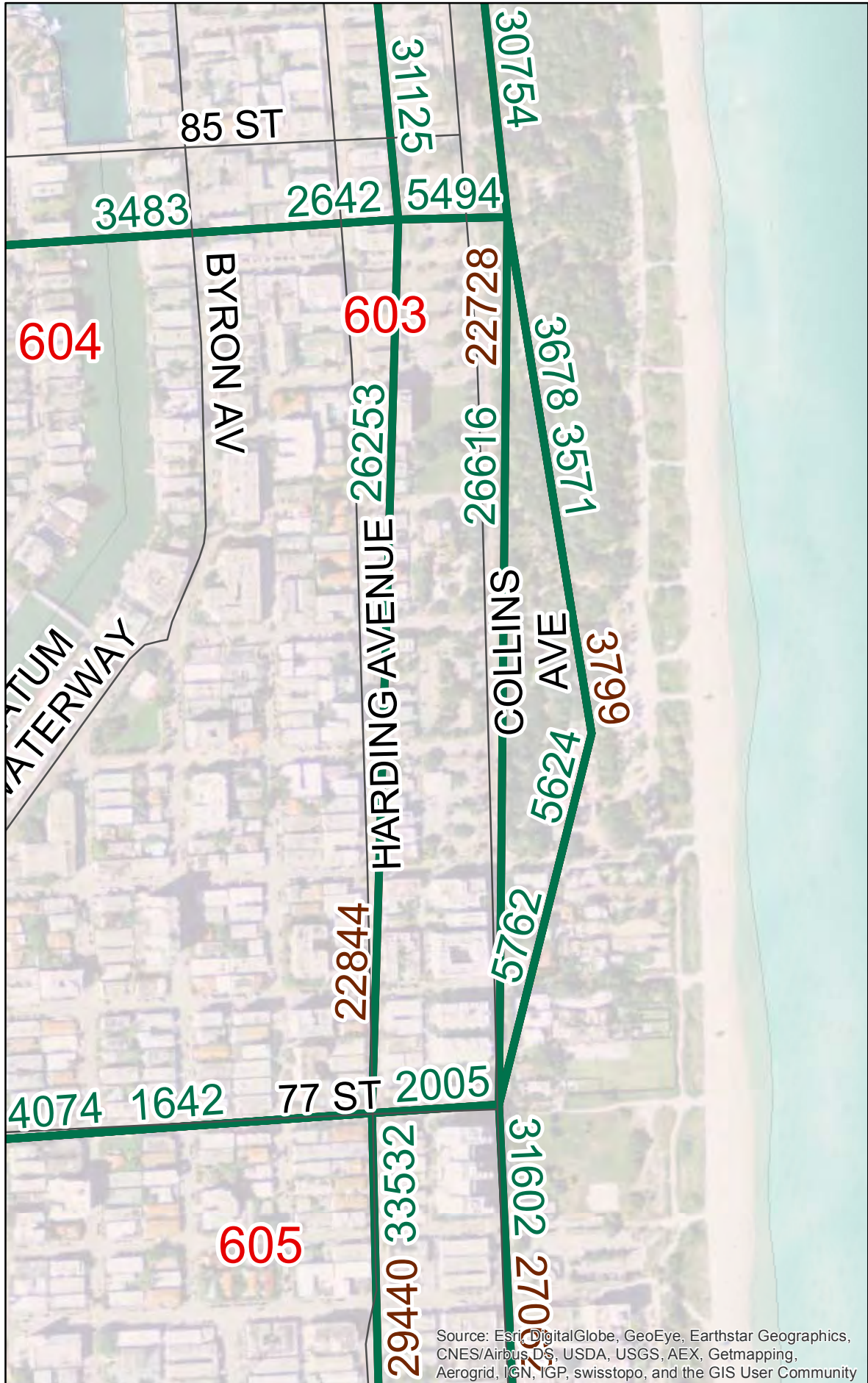
County:	Miami (87)
Station #:	0525
Highway:	Collins Avenue



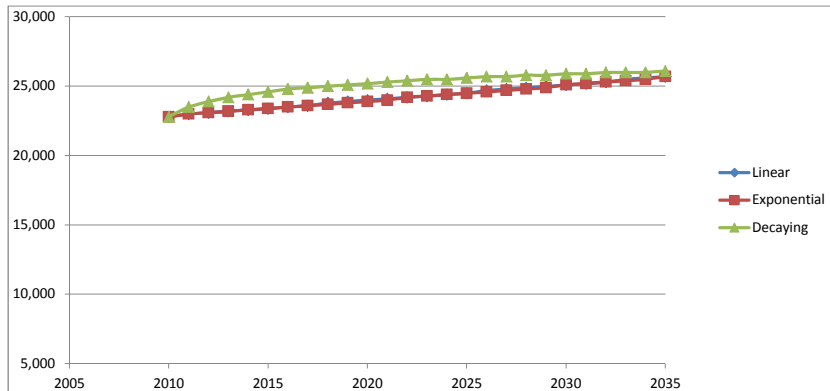
Year	Traffic (ADT/AADT)	
	Count*	Trend**
2011	22000	25900
2012	32500	25100
2013	25000	24700
2014	21500	24400
2015	23300	24200
2018 Opening Year Trend		
2018	N/A	23700
2028 Mid-Year Trend		
2028	N/A	22800
2038 Design Year Trend		
2038	N/A	22300
TRANPLAN Forecasts/Trends		

Trend R-squared:	2.28%
Compounded Annual Historic Growth Rate:	-1.68%
Compounded Growth Rate (2015 to Design Year):	-0.35%
Printed:	11-Mar-16
Decaying Exponential Growth Option	

*Axle-Adjusted

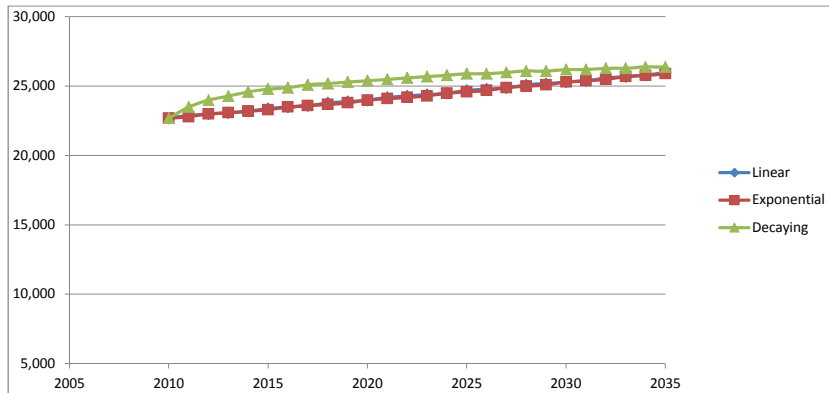


Model Growth Trend Calculation - Harding Avenue												
	Base Year	Future Year	Linear	Exponential	Decay Exponential	Year	27 Slope	Intercept		48,100	49,200	50,000
Year	2010	2040	0.50%	0.47%	0.48%	Year	ln(year)	992.7236	22844	52,400	55,700	57,700
2010	22,844	26,253	22,800	22,800	22,800	1	0.0000	Exponential	difference	4,300	6,500	7,700
2011			23,000	23,000	23,500	2	0.6931	0.46%		8.94%	13.21%	15.40%
2012			23,100	23,100	23,900	3	1.0986	Linear	acerge	50,300	52,500	53,900
2013			23,200	23,200	24,200	4	1.3863	0.50%				
2014			23,300	23,300	24,400	5	1.6094					
2015			23,400	23,400	24,600	6	1.7918					
2016			23,500	23,500	24,800	7	1.9459					
2017			23,600	23,600	24,900	8	2.0794					
2018	Opening Year		23,800	23,700	25,000	9	2.1972					
2019			23,900	23,800	25,100	10	2.3026					
2020			24,000	23,900	25,200	11	2.3979					
2021			24,100	24,000	25,300	12	2.4849					
2022			24,200	24,200	25,400	13	2.5649					
2023			24,300	24,300	25,500	14	2.6391					
2024			24,400	24,400	25,500	15	2.7081					
2025			24,500	24,500	25,600	16	2.7726					
2026			24,700	24,600	25,700	17	2.8332					
2027			24,800	24,700	25,700	18	2.8904					
2028	Mid-Design Year		24,900	24,800	25,800	19	2.9444					
2029			25,000	24,900	25,800	20	2.9957					
2030			25,100	25,100	25,900	21	3.0445					
2031			25,200	25,200	25,900	22	3.0910					
2032			25,300	25,300	26,000	23	3.1355					
2033			25,500	25,400	26,000	24	3.1781					
2034			25,600	25,500	26,000	25	3.2189					
2035			25,700	25,700	26,100	26	3.2581					
2036			25,800	25,800	26,100	27	3.2958					
2037			25,900	25,900	26,200	28	3.3322					
2038	Design Year		26,000	26,000	26,200	29	3.3673					
2039			26,100	26,100	26,200	30	3.4012					
2040	26,253		26,300	26,300	26,300	31	3.4340					



	Base Year	Future Year	Linear	Exponential	Decay Exponential
Year	2010	2040	0.58%	0.54%	0.55%
2010	22,728	26,616	22,700	22,700	22,700
2011			22,900	22,800	23,500
2012			23,000	23,000	24,000
2013			23,100	23,100	24,300
2014			23,200	23,200	24,600
2015			23,400	23,300	24,800
2016			23,500	23,500	24,900
2017			23,600	23,600	25,100
2018	Opening Year		23,800	23,700	25,200
2019			23,900	23,800	25,300
2020			24,000	24,000	25,400
2021			24,200	24,100	25,500
2022			24,300	24,200	25,600
2023			24,400	24,300	25,700
2024			24,500	24,500	25,800
2025			24,700	24,600	25,900
2026			24,800	24,700	25,900
2027			24,900	24,900	26,000
2028	Mid-Design Year		25,100	25,000	26,100
2029			25,200	25,100	26,100
2030			25,300	25,300	26,200
2031			25,400	25,400	26,200
2032			25,600	25,500	26,300
2033			25,700	25,700	26,300
2034			25,800	25,800	26,400
2035			26,000	25,900	26,400
2036			26,100	26,100	26,500
2037			26,200	26,200	26,500
2038	Design Year		26,400	26,300	26,500
2039			26,500	26,500	26,600
2040	26,616		26,600	26,600	26,600

Year	ln(year)	Slope	Intercept	48,100	49,200	50,000
1	0.0000	Exponential	22728	52,400	55,700	57,700
2	0.6931	0.53%	difference	4,300	6,500	7,700
3	1.0986	Linear	average	50,300	52,500	53,900
4	1.3863	0.57%				
5	1.6094					
6	1.7918					
7	1.9459					
8	2.0794					
9	2.1972					
10	2.3026					
11	2.3979					
12	2.4849					
13	2.5649					
14	2.6391					
15	2.7081					
16	2.7726					
17	2.8332					
18	2.8904					
19	2.9444					
20	2.9957					
21	3.0445					
22	3.0910					
23	3.1355					
24	3.1781					
25	3.2189					
26	3.2581					
27	3.2958					
28	3.3322					
29	3.3673					
30	3.4012					
31	3.4340					



Appendix F

Level of Service

SYNCHRO Reports

Existing Conditions AM and PM Reports

HCM 2010 TWSC
15: 79th Street & Harding Avenue

3/18/2016

AM- Existing

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	25	16	0	0	0	0	0	0	19	2132	0
Conflicting Peds, #/hr	0	0	15	0	0	6	0	0	0	0	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	27	17	0	0	0	0	0	0	21	2317	0

Major/Minor	Minor2			Major2		
Conflicting Flow All	2374	2374	1173	0	0	0
Stage 1	2374	2374	-	-	-	-
Stage 2	0	0	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	-	-	-
Critical Hdwy Stg 1	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	-	-	-
Pot Cap-1 Maneuver	37	34	159	-	-	-
Stage 1	20	66	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	36	0	157	-	-	-
Mov Cap-2 Maneuver	36	0	-	-	-	-
Stage 1	20	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	36.8	
HCM LOS	E	

Minor Lane/Major Mvmt	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	157	-	-	-
HCM Lane V/C Ratio	0.284	-	-	-
HCM Control Delay (s)	36.8	-	-	-
HCM Lane LOS	E	-	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-

HCM Unsignalized Intersection Capacity Analysis

7: 79th Street & Collins Avenue

3/18/2016

AM- Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↕↕↕			↕	
Volume (veh/h)	42	1	0	0	0	12	0	1730	4	0	0	0
Sign Control		Stop			Stop			Free			Free	
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)	46	1	0	0	0	13	0	1880	4	0	0	0
Pedestrians					31			15			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					3			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	654	1916	15	1929	1914	674	0			1916		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	654	1916	15	1929	1914	674	0			1916		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	86	98	100	100	100	97	100			100		
cM capacity (veh/h)	329	65	1047	37	65	382	1622			297		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1						
Volume Total	47	13	752	752	380	0						
Volume Left	46	0	0	0	0	0						
Volume Right	0	13	0	0	4	0						
cSH	301	382	1700	1700	1700	1700						
Volume to Capacity	0.16	0.03	0.44	0.44	0.22	0.00						
Queue Length 95th (ft)	14	3	0	0	0	0						
Control Delay (s)	19.1	14.7	0.0	0.0	0.0	0.0						
Lane LOS	C	B										
Approach Delay (s)	19.1	14.7	0.0			0.0						
Approach LOS	C	B										
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization			57.9%			ICU Level of Service			B			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Harding Avenue & 80th Street

3/18/2016

AM-Existing												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (veh/h)	0	0	0	20	11	0	0	0	0	0	2180	14
Sign Control		Stop			Stop			Free			Free	
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)	0	0	0	22	12	0	0	0	0	0	2370	15
Pedestrians		3			1			5			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											696	
pX, platoon unblocked	0.79	0.79	0.79	0.79	0.79		0.79					
vC, conflicting volume	2388	2381	805	796	2389	3	2388			1		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1840	1831	0	0	1841	3	1839			1		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	97	80	100	100			100		
cM capacity (veh/h)	31	60	855	806	59	1077	259			1619		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2	SB 3						
Volume Total	0	34	0	948	948	489						
Volume Left	0	22	0	0	0	0						
Volume Right	0	0	0	0	0	15						
cSH	1700	147	1700	1700	1700	1700						
Volume to Capacity	0.00	0.23	0.00	0.56	0.56	0.29						
Queue Length 95th (ft)	0	21	0	0	0	0						
Control Delay (s)	0.0	36.7	0.0	0.0	0.0	0.0						
Lane LOS	A	E										
Approach Delay (s)	0.0	36.7	0.0	0.0								
Approach LOS	A	E										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			54.0%	ICU Level of Service					A			
Analysis Period (min)			15									

AM-Existing

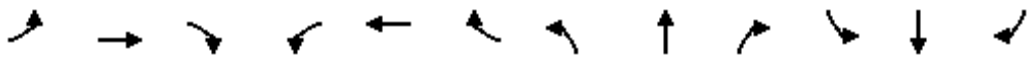
Intersection												
Int Delay, s/veh	7.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	11	32	0	0	0	0	0	131	0
Conflicting Peds, #/hr	0	0	4	0	0	7	0	0	0	0	0	16
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	35	0	0	0	0	0	142	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	0	0	0	146	75	7	75	75	55
Stage 1	-	-	-	-	-	-	0	0	-	75	75	-
Stage 2	-	-	-	-	-	-	146	75	-	0	0	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	-	-	-	823	815	1075	915	815	1012
Stage 1	-	-	-	-	-	-	-	-	-	934	833	-
Stage 2	-	-	-	-	-	-	857	833	-	-	-	-
Platoon blocked, %			-	-		-						
Mov Cap-1 Maneuver	1550	-	-	-	-	-	709	804	1069	898	804	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	709	804	-	898	804	-
Stage 1	-	-	-	-	-	-	-	-	-	922	822	-
Stage 2	-	-	-	-	-	-	706	822	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0						0			10.4		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1550	-	-	-	-	-	804				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.177				
HCM Control Delay (s)	0	0	-	-	-	-	-	10.4				
HCM Lane LOS	A	A	-	-	-	-	-	B				
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	0.6				

HCM 2010 Signalized Intersection Summary

17: Harding Avenue & 81 Street

3/18/2016

AM-Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	67	24	14	22	0	0	0	0	44	2050	146
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		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
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	73	26	15	24	0				48	2228	159
Adj No. of Lanes	0	1	0	0	1	0				0	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	118	42	89	98	0				77	3796	278
Arrive On Green	0.00	0.09	0.09	0.09	0.09	0.00				0.78	0.78	0.78
Sat Flow, veh/h	0	1306	465	247	1078	0				100	4894	358
Grp Volume(v), veh/h	0	0	99	39	0	0				894	742	799
Grp Sat Flow(s),veh/h/ln	0	0	1771	1325	0	0				1858	1695	1799
Q Serve(g_s), s	0.0	0.0	4.0	0.0	0.0	0.0				15.6	13.0	13.4
Cycle Q Clear(g_c), s	0.0	0.0	4.0	4.1	0.0	0.0				15.6	13.0	13.4
Prop In Lane	0.00		0.26	0.38		0.00				0.05		0.20
Lane Grp Cap(c), veh/h	0	0	160	187	0	0				1441	1315	1395
V/C Ratio(X)	0.00	0.00	0.62	0.21	0.00	0.00				0.62	0.56	0.57
Avail Cap(c_a), veh/h	0	0	521	509	0	0				1441	1315	1395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	32.8	31.6	0.0	0.0				3.6	3.3	3.4
Incr Delay (d2), s/veh	0.0	0.0	3.8	0.5	0.0	0.0				2.0	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.1	0.8	0.0	0.0				8.5	6.6	7.1
LnGrp Delay(d),s/veh	0.0	0.0	36.6	32.1	0.0	0.0				5.6	5.1	5.1
LnGrp LOS			D	C						A	A	A
Approach Vol, veh/h		99			39						2435	
Approach Delay, s/veh		36.6			32.1						5.3	
Approach LOS		D			C						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				11.8		63.0		11.8				
Change Period (Y+Rc), s				5.0		5.0		5.0				
Max Green Setting (Gmax), s				22.0		58.0		22.0				
Max Q Clear Time (g_c+l1), s				6.0		17.6		6.1				
Green Ext Time (p_c), s				0.6		28.8		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			6.9									
HCM 2010 LOS			A									

AM-Existing

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	74	62	2	27	0	0	0	0	0	73	4
Conflicting Peds, #/hr	0	0	1	0	0	1	0	0	20	0	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	80	67	2	29	0	0	0	0	0	79	4
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	46	0	0	148	0	0	165	199	47			
Stage 1	-	-	-	-	-	-	51	51	-			
Stage 2	-	-	-	-	-	-	114	148	-			
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1562	-	-	1434	-	-	826	697	1022			
Stage 1	-	-	-	-	-	-	971	852	-			
Stage 2	-	-	-	-	-	-	911	775	-			
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1561	-	-	1433	-	-	802	0	1007			
Mov Cap-2 Maneuver	-	-	-	-	-	-	802	0	-			
Stage 1	-	-	-	-	-	-	956	0	-			
Stage 2	-	-	-	-	-	-	898	0	-			
Approach	EB			WB			SB					
HCM Control Delay, s	0			0.5			8.9					
HCM LOS							A					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1561	-	-	1433	-	-	1007					
HCM Lane V/C Ratio	-	-	-	0.002	-	-	0.083					
HCM Control Delay (s)	0	-	-	7.5	0	-	8.9					
HCM Lane LOS	A	-	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.3					

HCM Signalized Intersection Capacity Analysis

9: Collins Avenue & 81st Street

3/18/2016

AM-Existing



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←		←	↑↑↑	↓	↙
Volume (vph)	90	0	24	1699	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0		
Lane Util. Factor	1.00			0.91		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	0.95			1.00		
Satd. Flow (prot)	1770			5074		
Flt Permitted	0.95			1.00		
Satd. Flow (perm)	1770			5074		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	0	26	1847	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	98	0	0	1873	0	0
Confl. Peds. (#/hr)		17	38			
Turn Type	Prot		Perm	NA		
Protected Phases	4			2		
Permitted Phases			2			
Actuated Green, G (s)	8.7			68.0		
Effective Green, g (s)	8.7			68.0		
Actuated g/C Ratio	0.10			0.77		
Clearance Time (s)	6.0			6.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	173			3889		
v/s Ratio Prot	c0.06					
v/s Ratio Perm				0.37		
v/c Ratio	0.57			0.48		
Uniform Delay, d1	38.2			3.8		
Progression Factor	1.00			1.00		
Incremental Delay, d2	4.2			0.4		
Delay (s)	42.4			4.3		
Level of Service	D			A		
Approach Delay (s)	42.4			4.3	0.0	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
15: 79th Street & Harding Avenue

3/18/2016

PM-Existing

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	50	35	0	0	0	0	0	0	14	1743	0
Conflicting Peds, #/hr	0	0	23	0	0	3	0	0	0	42	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	54	38	0	0	0	0	0	0	15	1895	0
Major/Minor	Minor2						Major2					
Conflicting Flow All	1948	1948	969							0	0	0
Stage 1	1948	1948	-							-	-	-
Stage 2	0	0	-							-	-	-
Critical Hdwy	6.44	6.54	7.14							-	-	-
Critical Hdwy Stg 1	7.34	5.54	-							-	-	-
Critical Hdwy Stg 2	-	-	-							-	-	-
Follow-up Hdwy	3.82	4.02	3.92							-	-	-
Pot Cap-1 Maneuver	68	64	218							-	-	-
Stage 1	42	110	-							-	-	-
Stage 2	-	-	-							-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	65	0	214							-	-	-
Mov Cap-2 Maneuver	65	0	-							-	-	-
Stage 1	41	0	-							-	-	-
Stage 2	-	0	-							-	-	-
Approach	EB						SB					
HCM Control Delay, s	34											
HCM LOS	D											
Minor Lane/Major Mvmt	EBLn1	SBL	SBT	SBR								
Capacity (veh/h)	214	-	-	-								
HCM Lane V/C Ratio	0.432	-	-	-								
HCM Control Delay (s)	34	-	-	-								
HCM Lane LOS	D	-	-	-								
HCM 95th %tile Q(veh)	2	-	-	-								

HCM Unsignalized Intersection Capacity Analysis

7: 79th Street & Collins Avenue

3/18/2016

PM-Existing												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (veh/h)	23	4	0	0	0	5	0	2559	2	0	0	0
Sign Control		Stop			Stop			Free			Free	
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)	25	4	0	0	0	5	0	2782	2	0	0	0
Pedestrians					59			30			17	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					5			3			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	950	2843	30	2874	2842	1004	0			2843		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	950	2843	30	2874	2842	1004	0			2843		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	73	100	100	100	98	100			100		
cM capacity (veh/h)	199	16	1012	5	16	225	1622			124		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1						
Volume Total	29	5	1113	1113	558	0						
Volume Left	25	0	0	0	0	0						
Volume Right	0	5	0	0	2	0						
cSH	74	225	1700	1700	1700	1700						
Volume to Capacity	0.40	0.02	0.65	0.65	0.33	0.00						
Queue Length 95th (ft)	38	2	0	0	0	0						
Control Delay (s)	82.2	21.4	0.0	0.0	0.0	0.0						
Lane LOS	F	C										
Approach Delay (s)	82.2	21.4	0.0			0.0						
Approach LOS	F	C										
Intersection Summary												
Average Delay			0.9									
Intersection Capacity Utilization			76.8%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Harding Avenue & 80th Street

3/18/2016

PM-Existing												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (veh/h)	0	0	0	33	10	0	0	0	0	0	1762	31
Sign Control		Stop			Stop			Free			Free	
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)	0	0	0	36	11	0	0	0	0	0	1915	34
Pedestrians		4			5			14			5	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											696	
pX, platoon unblocked	0.88	0.88	0.88	0.88	0.88		0.88					
vC, conflicting volume	1946	1941	673	657	1958	10	1953			5		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1598	1592	151	133	1611	10	1606			5		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	88	100	100			100		
cM capacity (veh/h)	56	93	752	710	90	1060	354			1608		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2	SB 3						
Volume Total	0	47	0	766	766	417						
Volume Left	0	36	0	0	0	0						
Volume Right	0	0	0	0	0	34						
cSH	1700	274	1700	1700	1700	1700						
Volume to Capacity	0.00	0.17	0.00	0.45	0.45	0.25						
Queue Length 95th (ft)	0	15	0	0	0	0						
Control Delay (s)	0.0	20.9	0.0	0.0	0.0	0.0						
Lane LOS	A	C										
Approach Delay (s)	0.0	20.9	0.0	0.0								
Approach LOS	A	C										
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			48.5%		ICU Level of Service		A					
Analysis Period (min)			15									

PM-Existing

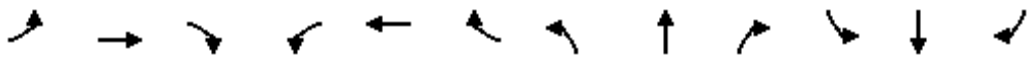
Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	12	47	0	0	0	0	0	1	3
Conflicting Peds, #/hr	0	0	11	0	0	5	0	0	10	0	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	51	0	0	0	0	0	1	3
Major/Minor				Major2				Minor2				
Conflicting Flow All				0	0	0		86	86	60		
Stage 1				-	-	-		86	86	-		
Stage 2				-	-	-		0	0	-		
Critical Hdwy				-	-	-		7.12	6.52	6.22		
Critical Hdwy Stg 1				-	-	-		6.12	5.52	-		
Critical Hdwy Stg 2				-	-	-		-	-	-		
Follow-up Hdwy				-	-	-		3.518	4.018	3.318		
Pot Cap-1 Maneuver				-	-	-		900	804	1005		
Stage 1				-	-	-		922	824	-		
Stage 2				-	-	-		-	-	-		
Platoon blocked, %				-	-	-						
Mov Cap-1 Maneuver				-	-	-		887	0	997		
Mov Cap-2 Maneuver				-	-	-		887	0	-		
Stage 1				-	-	-		915	0	-		
Stage 2				-	-	-		-	0	-		
Approach				WB				SB				
HCM Control Delay, s								8.6				
HCM LOS								A				
Minor Lane/Major Mvmt	WBL	WBT	WBR	SBLn1								
Capacity (veh/h)	-	-	-	997								
HCM Lane V/C Ratio	-	-	-	0.004								
HCM Control Delay (s)	-	-	-	8.6								
HCM Lane LOS	-	-	-	A								
HCM 95th %tile Q(veh)	-	-	-	0								

HCM 2010 Signalized Intersection Summary

17: Harding Avenue & 81 Street

3/18/2016

PM-Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↱						↰↱↲	
Volume (veh/h)	0	39	25	17	15	0	0	0	0	9	1769	16
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	42	27	18	16	0				10	1923	17
Adj No. of Lanes	0	1	0	0	1	0				0	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	73	47	100	52	0				21	4237	39
Arrive On Green	0.00	0.07	0.07	0.07	0.07	0.00				0.79	0.79	0.79
Sat Flow, veh/h	0	1055	678	356	758	0				26	5335	49
Grp Volume(v), veh/h	0	0	69	34	0	0				713	591	646
Grp Sat Flow(s),veh/h/ln	0	0	1733	1114	0	0				1861	1695	1854
Q Serve(g_s), s	0.0	0.0	2.8	0.1	0.0	0.0				9.3	8.0	8.1
Cycle Q Clear(g_c), s	0.0	0.0	2.8	2.9	0.0	0.0				9.3	8.0	8.1
Prop In Lane	0.00		0.39	0.53		0.00				0.01		0.03
Lane Grp Cap(c), veh/h	0	0	120	152	0	0				1478	1346	1472
V/C Ratio(X)	0.00	0.00	0.58	0.22	0.00	0.00				0.48	0.44	0.44
Avail Cap(c_a), veh/h	0	0	522	507	0	0				1478	1346	1472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	33.0	32.3	0.0	0.0				2.5	2.4	2.4
Incr Delay (d2), s/veh	0.0	0.0	4.3	0.7	0.0	0.0				1.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	0.7	0.0	0.0				5.0	4.0	4.3
LnGrp Delay(d),s/veh	0.0	0.0	37.3	33.1	0.0	0.0				3.6	3.4	3.3
LnGrp LOS			D	C						A	A	A
Approach Vol, veh/h		69			34						1950	
Approach Delay, s/veh		37.3			33.1						3.5	
Approach LOS		D			C						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				10.0		63.0		10.0				
Change Period (Y+Rc), s				5.0		5.0		5.0				
Max Green Setting (Gmax), s				22.0		58.0		22.0				
Max Q Clear Time (g_c+l1), s				4.8		11.3		4.9				
Green Ext Time (p_c), s				0.4		22.1		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			5.1									
HCM 2010 LOS			A									

HCM 2010 TWSC
12: Alley & 81 Street/81st Street

3/18/2016

PM-Existing

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	31	1	0	28	0	0	0	0	4	0	0
Conflicting Peds, #/hr	0	0	1	0	0	6	0	0	0	0	0	23
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	34	1	0	30	0	0	0	0	4	0	0
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	53	0	0	35	0	0	87	88	54			
Stage 1	-	-	-	-	-	-	53	53	-			
Stage 2	-	-	-	-	-	-	34	35	-			
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1553	-	-	1576	-	-	914	802	1013			
Stage 1	-	-	-	-	-	-	970	851	-			
Stage 2	-	-	-	-	-	-	988	866	-			
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1552	-	-	1568	-	-	879	0	993			
Mov Cap-2 Maneuver	-	-	-	-	-	-	879	0	-			
Stage 1	-	-	-	-	-	-	951	0	-			
Stage 2	-	-	-	-	-	-	969	0	-			
Approach	EB			WB			SB					
HCM Control Delay, s	0			0			9.1					
HCM LOS							A					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1552	-	-	1568	-	-	879					
HCM Lane V/C Ratio	-	-	-	-	-	-	0.005					
HCM Control Delay (s)	0	-	-	0	-	-	9.1					
HCM Lane LOS	A	-	-	A	-	-	A					
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0					

HCM Signalized Intersection Capacity Analysis

9: Collins Avenue & 81st Street

3/18/2016

PM-Exisiting



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	51	0	33	2478	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0		
Lane Util. Factor	1.00			0.91		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	0.95			1.00		
Satd. Flow (prot)	1770			5073		
Flt Permitted	0.95			1.00		
Satd. Flow (perm)	1770			5073		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	0	36	2693	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	55	0	0	2729	0	0
Confl. Peds. (#/hr)		28	46			
Turn Type	Prot		Perm	NA		
Protected Phases	4			2		
Permitted Phases			2			
Actuated Green, G (s)	5.4			71.5		
Effective Green, g (s)	5.4			71.5		
Actuated g/C Ratio	0.06			0.80		
Clearance Time (s)	6.0			6.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	107			4080		
v/s Ratio Prot	c0.03					
v/s Ratio Perm				0.54		
v/c Ratio	0.51			0.67		
Uniform Delay, d1	40.5			3.7		
Progression Factor	1.00			1.00		
Incremental Delay, d2	4.1			0.9		
Delay (s)	44.6			4.6		
Level of Service	D			A		
Approach Delay (s)	44.6			4.6	0.0	
Approach LOS	D			A	A	
Intersection Summary						
HCM 2000 Control Delay		5.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		88.9		Sum of lost time (s)		12.0
Intersection Capacity Utilization		67.9%		ICU Level of Service		C
Analysis Period (min)		15				

c Critical Lane Group

Future Conditions AM and PM Reports

HCM 2010 TWSC
15: 79th Street & Harding Avenue

3/18/2016

AM-Future

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	28	17	0	0	0	0	0	0	23	2227	0
Conflicting Peds, #/hr	0	0	15	0	0	6	0	0	0	0	0	20
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	30	18	0	0	0	0	0	0	25	2421	0

Major/Minor	Minor2			Major2		
Conflicting Flow All	2486	2486	1224	0	0	0
Stage 1	2486	2486	-	-	-	-
Stage 2	0	0	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	-	-	-
Critical Hdwy Stg 1	7.34	5.54	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	-	-	-
Pot Cap-1 Maneuver	31	~ 29	147	-	-	-
Stage 1	17	58	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	30	0	145	-	-	-
Mov Cap-2 Maneuver	30	0	-	-	-	-
Stage 1	17	0	-	-	-	-
Stage 2	-	0	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	42	
HCM LOS	E	

Minor Lane/Major Mvmt	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	145	-	-	-
HCM Lane V/C Ratio	0.337	-	-	-
HCM Control Delay (s)	42	-	-	-
HCM Lane LOS	E	-	-	-
HCM 95th %tile Q(veh)	1.4	-	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

7: 79th Street & Collins Avenue

3/18/2016

AM-Future



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↕		↕↕↕			↕	
Volume (veh/h)	48	1	0	0	0	12	0	1807	4	0	0	0
Sign Control		Stop			Stop			Free			Free	
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)	52	1	0	0	0	13	0	1964	4	0	0	0
Pedestrians					31			15			14	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					3			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	682	1999	15	2013	1997	702	0			1999		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	682	1999	15	2013	1997	702	0			1999		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	83	98	100	100	100	96	100			100		
cM capacity (veh/h)	314	58	1047	32	58	366	1622			276		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1						
Volume Total	53	13	786	786	397	0						
Volume Left	52	0	0	0	0	0						
Volume Right	0	13	0	0	4	0						
cSH	288	366	1700	1700	1700	1700						
Volume to Capacity	0.19	0.04	0.46	0.46	0.23	0.00						
Queue Length 95th (ft)	17	3	0	0	0	0						
Control Delay (s)	20.3	15.2	0.0	0.0	0.0	0.0						
Lane LOS	C	C										
Approach Delay (s)	20.3	15.2	0.0			0.0						
Approach LOS	C	C										
Intersection Summary												
Average Delay			0.6									
Intersection Capacity Utilization			59.3%		ICU Level of Service					B		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

16: Harding Avenue & 80th Street

3/18/2016

AM-Future



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰			↰			↑			↑↑↑	
Volume (veh/h)	0	0	0	28	13	0	0	0	0	0	2273	14
Sign Control		Stop			Stop			Free			Free	
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)	0	0	0	30	14	0	0	0	0	0	2471	15
Pedestrians		3			1			5			2	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		0			0			0			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											696	
pX, platoon unblocked	0.76	0.76	0.76	0.76	0.76		0.76					
vC, conflicting volume	2490	2482	839	830	2490	3	2489			1		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1864	1854	0	0	1864	3	1862			1		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	96	74	100	100			100		
cM capacity (veh/h)	27	56	821	774	55	1077	244			1619		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2	SB 3
Volume Total	0	45	0	988	988	509
Volume Left	0	30	0	0	0	0
Volume Right	0	0	0	0	0	15
cSH	1700	150	1700	1700	1700	1700
Volume to Capacity	0.00	0.30	0.00	0.58	0.58	0.30
Queue Length 95th (ft)	0	29	0	0	0	0
Control Delay (s)	0.0	38.9	0.0	0.0	0.0	0.0
Lane LOS	A	E				
Approach Delay (s)	0.0	38.9	0.0	0.0		
Approach LOS	A	E				

Intersection Summary

Average Delay	0.7
Intersection Capacity Utilization	55.8%
Analysis Period (min)	15
ICU Level of Service	B

AM-Future

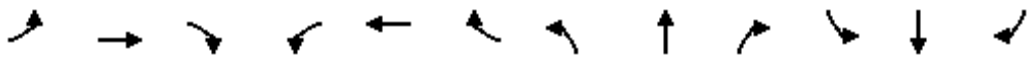
Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	11	33	0	0	0	0	0	137	9
Conflicting Peds, #/hr	0	0	4	0	0	7	0	0	0	0	0	16
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	12	36	0	0	0	0	0	149	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	52	0	0	0	0	0	155	76	7	76	76	56
Stage 1	-	-	-	-	-	-	0	0	-	76	76	-
Stage 2	-	-	-	-	-	-	155	76	-	0	0	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1554	-	-	-	-	-	812	814	1075	914	814	1011
Stage 1	-	-	-	-	-	-	-	-	-	933	832	-
Stage 2	-	-	-	-	-	-	847	832	-	-	-	-
Platoon blocked, %			-	-		-						
Mov Cap-1 Maneuver	1549	-	-	-	-	-	687	803	1069	897	803	994
Mov Cap-2 Maneuver	-	-	-	-	-	-	687	803	-	897	803	-
Stage 1	-	-	-	-	-	-	-	-	-	921	821	-
Stage 2	-	-	-	-	-	-	684	821	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0						0			10.5		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	1549	-	-	-	-	-	813				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.195				
HCM Control Delay (s)	0	0	-	-	-	-	-	10.5				
HCM Lane LOS	A	A	-	-	-	-	-	B				
HCM 95th %tile Q(veh)	-	0	-	-	-	-	-	0.7				

HCM 2010 Signalized Intersection Summary

17: Harding Avenue & 81 Street

3/18/2016

AM-Future

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	70	29	20	23	0	0	0	0	46	2141	152
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		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
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	76	32	22	25	0				50	2327	165
Adj No. of Lanes	0	1	0	0	1	0				0	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	121	51	98	82	0				77	3768	273
Arrive On Green	0.00	0.10	0.10	0.10	0.10	0.00				0.77	0.77	0.77
Sat Flow, veh/h	0	1239	522	285	841	0				100	4898	355
Grp Volume(v), veh/h	0	0	108	47	0	0				933	773	836
Grp Sat Flow(s),veh/h/ln	0	0	1761	1126	0	0				1858	1695	1799
Q Serve(g_s), s	0.0	0.0	4.4	0.1	0.0	0.0				17.5	14.6	15.1
Cycle Q Clear(g_c), s	0.0	0.0	4.4	4.5	0.0	0.0				17.5	14.6	15.1
Prop In Lane	0.00		0.30	0.47		0.00				0.05		0.20
Lane Grp Cap(c), veh/h	0	0	173	180	0	0				1429	1304	1384
V/C Ratio(X)	0.00	0.00	0.63	0.26	0.00	0.00				0.65	0.59	0.60
Avail Cap(c_a), veh/h	0	0	514	477	0	0				1429	1304	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	32.7	31.5	0.0	0.0				4.0	3.7	3.7
Incr Delay (d2), s/veh	0.0	0.0	3.7	0.8	0.0	0.0				2.3	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	2.3	0.9	0.0	0.0				9.5	7.4	8.0
LnGrp Delay(d),s/veh	0.0	0.0	36.4	32.3	0.0	0.0				6.4	5.7	5.7
LnGrp LOS			D	C						A	A	A
Approach Vol, veh/h		108			47						2542	
Approach Delay, s/veh		36.4			32.3						5.9	
Approach LOS		D			C						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				12.4		63.0		12.4				
Change Period (Y+Rc), s				5.0		5.0		5.0				
Max Green Setting (Gmax), s				22.0		58.0		22.0				
Max Q Clear Time (g_c+l1), s				6.4		19.5		6.5				
Green Ext Time (p_c), s				0.7		29.2		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									

AM-Future

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	77	65	2	34	0	0	0	0	0	76	4
Conflicting Peds, #/hr	0	0	1	0	0	1	0	0	20	0	0	17
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	84	71	2	37	0	0	0	0	0	83	4
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	54	0	0	154	0	0				177	212	55
Stage 1	-	-	-	-	-	-				58	58	-
Stage 2	-	-	-	-	-	-				119	154	-
Critical Hdwy	4.12	-	-	4.12	-	-				6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-				5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-				3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1426	-	-				813	685	1012
Stage 1	-	-	-	-	-	-				965	847	-
Stage 2	-	-	-	-	-	-				906	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1550	-	-	1425	-	-				789	0	997
Mov Cap-2 Maneuver	-	-	-	-	-	-				789	0	-
Stage 1	-	-	-	-	-	-				950	0	-
Stage 2	-	-	-	-	-	-				893	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			0.4			9					
HCM LOS							A					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1550	-	-	1425	-	-	997					
HCM Lane V/C Ratio	-	-	-	0.002	-	-	0.087					
HCM Control Delay (s)	0	-	-	7.5	0	-	9					
HCM Lane LOS	A	-	-	A	A	-	A					
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0.3					

HCM Signalized Intersection Capacity Analysis

9: Collins Avenue & 81st Street

3/18/2016

AM-Future



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	94	0	31	1775	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0		
Lane Util. Factor	1.00			0.91		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	0.95			1.00		
Satd. Flow (prot)	1770			5072		
Flt Permitted	0.95			1.00		
Satd. Flow (perm)	1770			5072		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	102	0	34	1929	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	102	0	0	1963	0	0
Confl. Peds. (#/hr)		17	38			
Turn Type	Prot		Perm	NA		
Protected Phases	4			2		
Permitted Phases			2			
Actuated Green, G (s)	8.9			67.6		
Effective Green, g (s)	8.9			67.6		
Actuated g/C Ratio	0.10			0.76		
Clearance Time (s)	6.0			6.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	178			3874		
v/s Ratio Prot	c0.06					
v/s Ratio Perm				0.39		
v/c Ratio	0.57			0.51		
Uniform Delay, d1	38.0			4.0		
Progression Factor	1.00			1.00		
Incremental Delay, d2	4.4			0.5		
Delay (s)	42.4			4.5		
Level of Service	D			A		
Approach Delay (s)	42.4			4.5	0.0	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM 2010 TWSC
15: 79th Street & Harding Avenue

3/18/2016

PM-Future

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	55	36	0	0	0	0	0	0	18	1824	0
Conflicting Peds, #/hr	0	0	23	0	0	3	0	0	0	42	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	60	39	0	0	0	0	0	0	20	1983	0

Major/Minor	Minor2			Major2		
Conflicting Flow All	2045	2045	1013		0	0
Stage 1	2045	2045	-		-	-
Stage 2	0	0	-		-	-
Critical Hdwy	6.44	6.54	7.14		-	-
Critical Hdwy Stg 1	7.34	5.54	-		-	-
Critical Hdwy Stg 2	-	-	-		-	-
Follow-up Hdwy	3.82	4.02	3.92		-	-
Pot Cap-1 Maneuver	60	~ 55	203		-	-
Stage 1	36	98	-		-	-
Stage 2	-	-	-		-	-
Platoon blocked, %					-	-
Mov Cap-1 Maneuver	58	0	199		-	-
Mov Cap-2 Maneuver	58	0	-		-	-
Stage 1	35	0	-		-	-
Stage 2	-	0	-		-	-

Approach	EB	SB
HCM Control Delay, s	39.7	
HCM LOS	E	

Minor Lane/Major Mvmt	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	199	-	-	-
HCM Lane V/C Ratio	0.497	-	-	-
HCM Control Delay (s)	39.7	-	-	-
HCM Lane LOS	E	-	-	-
HCM 95th %tile Q(veh)	2.5	-	-	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis

7: 79th Street & Collins Avenue

3/18/2016

PM-Future



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↕↕↕			↕	
Volume (veh/h)	26	4	0	0	0	5	0	2672	2	0	0	0
Sign Control		Stop			Stop			Free			Free	
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)	28	4	0	0	0	5	0	2904	2	0	0	0
Pedestrians					59			30			17	
Lane Width (ft)					12.0			12.0			12.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					5			3			1	
Right turn flare (veh)												
Median type								None			None	
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	991	2966	30	2997	2964	1045	0			2966		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	991	2966	30	2997	2964	1045	0			2966		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	85	68	100	100	100	97	100			100		
cM capacity (veh/h)	185	13	1012	4	13	211	1622			111		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1						
Volume Total	33	5	1162	1162	583	0						
Volume Left	28	0	0	0	0	0						
Volume Right	0	5	0	0	2	0						
cSH	68	211	1700	1700	1700	1700						
Volume to Capacity	0.48	0.03	0.68	0.68	0.34	0.00						
Queue Length 95th (ft)	48	2	0	0	0	0						
Control Delay (s)	98.7	22.5	0.0	0.0	0.0	0.0						
Lane LOS	F	C										
Approach Delay (s)	98.7	22.5	0.0			0.0						
Approach LOS	F	C										
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			79.0%		ICU Level of Service					D		
Analysis Period (min)			15									

HCM 2010 TWSC
16: Harding Avenue & 80th Street

3/18/2016

PM-Future

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	43	12	0	0	0	0	0	1838	32
Conflicting Peds, #/hr	0	0	14	0	0	5	0	0	5	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	47	13	0	0	0	0	0	1998	35
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2041	2034	1035	818	2052	9	2047	0	0	5	0	0
Stage 1	2029	2029	-	5	5	-	-	-	-	-	-	-
Stage 2	12	5	-	813	2047	-	-	-	-	-	-	-
Critical Hdwy	6.78	6.53	7.13	6.78	6.53	6.23	5.34	-	-	4.12	-	-
Critical Hdwy Stg 1	7.33	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.73	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.669	4.019	3.919	3.669	4.019	3.319	3.12	-	-	2.218	-	-
Pot Cap-1 Maneuver	50	57	197	310	55	1072	118	-	-	1616	-	-
Stage 1	37	100	-	975	891	-	-	-	-	-	-	-
Stage 2	967	891	-	316	98	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	40	56	194	307	54	1064	118	-	-	1611	-	-
Mov Cap-2 Maneuver	40	56	-	307	54	-	-	-	-	-	-	-
Stage 1	37	99	-	971	887	-	-	-	-	-	-	-
Stage 2	950	887	-	315	97	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			43.3			0			0		
HCM LOS	A			E								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	118	-	-	-	152	1611	-	-				
HCM Lane V/C Ratio	-	-	-	-	0.393	-	-	-				
HCM Control Delay (s)	0	-	-	0	43.3	0	-	-				
HCM Lane LOS	A	-	-	A	E	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0	-	-				

PM-Future

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	12	49	0	0	0	0	0	1	16
Conflicting Peds, #/hr	0	0	11	0	0	5	0	0	10	0	0	9
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	13	53	0	0	0	0	0	1	17
Major/Minor	Major2						Minor2					
Conflicting Flow All	0						88					
Stage 1	-						88					
Stage 2	-						0					
Critical Hdwy	-						7.12					
Critical Hdwy Stg 1	-						6.12					
Critical Hdwy Stg 2	-						-					
Follow-up Hdwy	-						3.518					
Pot Cap-1 Maneuver	-						897					
Stage 1	-						920					
Stage 2	-						-					
Platoon blocked, %	-						-					
Mov Cap-1 Maneuver	-						884					
Mov Cap-2 Maneuver	-						884					
Stage 1	-						913					
Stage 2	-						-					
Approach	WB						SB					
HCM Control Delay, s							8.7					
HCM LOS							A					
Minor Lane/Major Mvmt	WBL	WBT	WBR	SBLn1								
Capacity (veh/h)	-	-	-	995								
HCM Lane V/C Ratio	-	-	-	0.019								
HCM Control Delay (s)	-	-	-	8.7								
HCM Lane LOS	-	-	-	A								
HCM 95th %tile Q(veh)	-	-	-	0.1								

HCM 2010 Signalized Intersection Summary

17: Harding Avenue & 81 Street

3/18/2016

PM-Future

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (veh/h)	0	40	30	24	15	0	0	0	0	9	1848	17
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		1.00				1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1900	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	43	33	26	16	0				10	2009	18
Adj No. of Lanes	0	1	0	0	1	0				0	3	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	79	60	114	51	0				20	4183	39
Arrive On Green	0.00	0.08	0.08	0.08	0.08	0.00				0.78	0.78	0.78
Sat Flow, veh/h	0	974	747	433	629	0				25	5336	49
Grp Volume(v), veh/h	0	0	76	42	0	0				745	617	675
Grp Sat Flow(s),veh/h/ln	0	0	1721	1062	0	0				1861	1695	1854
Q Serve(g_s), s	0.0	0.0	3.1	0.6	0.0	0.0				10.7	9.1	9.2
Cycle Q Clear(g_c), s	0.0	0.0	3.1	3.7	0.0	0.0				10.7	9.1	9.2
Prop In Lane	0.00		0.43	0.62		0.00				0.01		0.03
Lane Grp Cap(c), veh/h	0	0	139	165	0	0				1459	1329	1453
V/C Ratio(X)	0.00	0.00	0.55	0.26	0.00	0.00				0.51	0.46	0.46
Avail Cap(c_a), veh/h	0	0	512	484	0	0				1459	1329	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	32.7	32.5	0.0	0.0				2.9	2.7	2.7
Incr Delay (d2), s/veh	0.0	0.0	3.3	0.8	0.0	0.0				1.3	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.6	0.9	0.0	0.0				5.9	4.5	4.9
LnGrp Delay(d),s/veh	0.0	0.0	36.0	33.3	0.0	0.0				4.2	3.9	3.8
LnGrp LOS			D	C						A	A	A
Approach Vol, veh/h		76			42						2037	
Approach Delay, s/veh		36.0			33.3						3.9	
Approach LOS		D			C						A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				11.0		63.0		11.0				
Change Period (Y+Rc), s				5.0		5.0		5.0				
Max Green Setting (Gmax), s				22.0		58.0		22.0				
Max Q Clear Time (g_c+l1), s				5.1		12.7		5.7				
Green Ext Time (p_c), s				0.5		23.5		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			5.7									
HCM 2010 LOS			A									

PM-Future

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	32	1	0	35	0	0	0	0	4	0	0
Conflicting Peds, #/hr	0	0	1	0	0	6	0	0	0	0	0	23
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	35	1	0	38	0	0	0	0	4	0	0
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	61	0	0	36	0	0	96	97	62			
Stage 1	-	-	-	-	-	-	61	61	-			
Stage 2	-	-	-	-	-	-	35	36	-			
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	1542	-	-	1575	-	-	903	793	1003			
Stage 1	-	-	-	-	-	-	962	844	-			
Stage 2	-	-	-	-	-	-	987	865	-			
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1541	-	-	1567	-	-	869	0	983			
Mov Cap-2 Maneuver	-	-	-	-	-	-	869	0	-			
Stage 1	-	-	-	-	-	-	944	0	-			
Stage 2	-	-	-	-	-	-	968	0	-			
Approach	EB			WB			SB					
HCM Control Delay, s	0			0			9.2					
HCM LOS							A					
Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	1541	-	-	1567	-	-	869					
HCM Lane V/C Ratio	-	-	-	-	-	-	0.005					
HCM Control Delay (s)	0	-	-	0	-	-	9.2					
HCM Lane LOS	A	-	-	A	-	-	A					
HCM 95th %tile Q(veh)	0	-	-	0	-	-	0					

HCM Signalized Intersection Capacity Analysis

9: Collins Avenue & 81st Street

3/18/2016

PM-Future



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	54	0	40	2588	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0		
Lane Util. Factor	1.00			0.91		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	0.95			1.00		
Satd. Flow (prot)	1770			5072		
Flt Permitted	0.95			1.00		
Satd. Flow (perm)	1770			5072		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	0	43	2813	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	59	0	0	2856	0	0
Confl. Peds. (#/hr)		28	46			
Turn Type	Prot		Perm	NA		
Protected Phases	4			2		
Permitted Phases			2			
Actuated Green, G (s)	5.6			71.3		
Effective Green, g (s)	5.6			71.3		
Actuated g/C Ratio	0.06			0.80		
Clearance Time (s)	6.0			6.0		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	111			4067		
v/s Ratio Prot	c0.03					
v/s Ratio Perm				0.56		
v/c Ratio	0.53			0.70		
Uniform Delay, d1	40.4			4.0		
Progression Factor	1.00			1.00		
Incremental Delay, d2	4.8			1.0		
Delay (s)	45.2			5.0		
Level of Service	D			A		
Approach Delay (s)	45.2			5.0	0.0	
Approach LOS	D			A	A	

Intersection Summary

HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	88.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix G

Miami-Dade County

Design Requirements



Miami-Dade Fire Rescue

Access Road Requirements

The requirements identified in this document are minimum standards. The Authority Having Jurisdiction (AHJ), based on specific fire fighting/and or Emergency Medical Service (EMS) needs, may require necessary modifications to these minimum standards on a case-by-case basis.

Fire department access roads must be provided for every community, facility, building, or portion of a building. Set-up sites, fire lanes, and slopes in a project must be able to accommodate a truck with dimensions as follows.

Overall length: 46 feet, 10 inches
Bumper to bump: 32 feet
Wheelbase length: 256 inches

Requirements for changes of elevation on Fire Department access roads

- Angle of approach: 11 degrees max = (1: 5.14 ratio) =(19.4%)
- Brake-over angle: 7 degrees max = (1: 8.14 ratio) =(12.3%)
- Angle of departure: 8 degrees max = (1: 7.12 ratio) =(14%)
- Driving inclines 11 degrees max = (1: 5.14 ratio) =(19.4%)

Required dimensions for fire department access roads

- All pertinent dimensions of fire department access roads such as drivable roadway width, turn radii, cul-de-sacs, and T or Y turn-arounds must be identified on a site plan. All sidewalks and green space shall be identified separate from roadway dimensions.
- The minimum dimensions for fire department access roads shall be 20 feet unobstructed width (two-way traffic) and not less than 13 feet 6 inches of unobstructed vertical clearance NFPA 1 18.2.2.5.1. The AHJ

will accept one-way traffic lanes to be a minimum of 15 feet unobstructed width.

- Dead end fire department access roads exceeding 150 feet shall be provided with approved provisions for the turning around of fire apparatus NFPA 1 18.2.2.5.4. An approved turn-around shall be by means described below.
 - A minimum 50 feet centerline radius cul-de-sac of which must be a suitable surface as described in *Emergency vehicle support capability* and approved by the AHJ.
 - A T-Turn or Y-Turn with an extension of the “T or Y” to be a minimum of 46 feet from the edge of each side of the roadway (not the center of the roadway) which must be a suitable surface as described below and approved by the AHJ.

Building access

- A fire department access road shall extend to within 50 feet of a single exterior door providing access to the interior of any and all buildings NFPA 1 18.2.2.2
- Fire department access roads shall be provided such that any portion of the facility or any portion of an exterior wall of the first story of the building is located not more than 150 feet (450 feet if fully sprinklered) from a fire department access road as measured by an approved route around the exterior of the building or facility NFPA 1 18.2.2.3.1

Gated communities or properties

- Gates to communities or properties shall be a minimum 15 feet clear width if the approach to and/or departure from the gate is not within a turn radius.
- Gates that are within a turn radius shall be a minimum 20 feet clear width
- Fire Department access to gated communities shall be by Knox Key Switch model 3502 ONLY or Knox padlock model 3753 on manual gates where permitted

Emergency vehicle support capability

- Fire department access roads shall be designed and maintained to support a minimum of 32 tons and shall be provided with a surface suitable for all-weather driving capabilities NFPA 1 (18 2.2.5.2)

Non-Paved Fire Department Access Roads

- Fire Department access roads permitted to traverse through non-paved areas via “grass pavers” or other approved means that will allow grass, foliage, or other landscaping material to grow shall be clearly delineated with signs complying with NFPA 1 Florida Edition (18.2.2.5.8). The edges of non-paved Fire Department access roads shall also be delineated in a manner that will make the access road apparent under all conditions.

Arial apparatus set-up sites

- Sites shall be provided at the corner of each building over three stories in height and at the approximate center of buildings in excess of 125 feet in length for fire fighting operations.
- Sites shall be no closer than 10 feet and no further than 30 feet from any building. Each site shall be a minimum 21 feet wide and 36 feet long with a cross slope no greater than 5 percent.
- Sites shall comply with the requirements of the emergency vehicle support capabilities above and also capable of withstanding any point forces resulting from outriggers

Fire hydrants, sprinkler systems, and other fire related devices

- Clearance from landscaping, parking, or other obstructions around fire hydrants and fire department connections to sprinkler systems shall be a minimum of seven and one-half feet in front of and to the sides of each appliance NFPA 1 18.3.4.1, 18, 3.4.2
- Any required fire sprinkler post indicator valve and/or fire department connection shall be located not less than 40 feet from the protected building
- The fire department connection shall be within 150 feet of the closest fire hydrant.

Should you desire to review your plans with the Miami Dade Fire Rescue Department prior to submittal of an application, please

- ✍ **Contact Fire Water Engineering at 786-315-2773 to set up a consultation meeting.**
- ✍ **Consultation meeting has a fee of \$190.00 (1st) hour or portion thereof and \$65.00 each additional hour or portion thereof.**