



# Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion

ATEC PM: Richard Mitinger, P.E

Client :Bal Harbour Village

Town of Surfside





## TECHNICAL MEMORANDUM

**Date:** August 28, 2014

**To:** Chief David Allen, Surfside Police Department  
Chief Mark Overton, Bal Harbour Police Department

**From:** Rick Mitinger, P.E., Senior Traffic Engineer, ATEC

**CC:** Sunil Doddapaneni, P.E., P.T.O.E., Senior Project Manager, ATEC  
Carlos Lores, P.E., Signal Systems Engineer, ATEC  
Megan Mecham, E.I., Transportation Engineering Analyst, ATEC

**Subject:** Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion – Recommendations

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### 1.0 Introduction

The Village of Bal Harbour, located in north Miami-Dade County (MDC), is one of Miami Beach's most prominent destinations for tourism and residential living. Similarly, the Village attracts residents and visitors alike to the Bal Harbour Shops, a mall offering numerous fashionable shopping options. During the weekend and tourism season, roads near the Shops experience heavy traffic congestion. This results in unfavorable delays at intersections accessing the mall.

The Bal Harbour Police Department has retained Advanced Transportation Engineering Consultants, Inc. (ATEC) to perform a qualitative assessment of the signalized intersections near the Shops and develop a traffic mitigation plan to improve signalized operations. This memorandum describes the project background and location, the data collection effort, the traffic analysis effort, and presents the traffic mitigation plan.

### 1.1 Background

The Bal Harbour Shops are located near the intersection of two Florida state roads: SR-922/96<sup>th</sup> Street and SR-A1A/Collins Avenue. The Shops are a large traffic generator within Bal Harbour Village, with approximately 450,000 square feet of retail space and approximately 95 luxury retailers and restaurants.

Recently, the Police Department has received complaints regarding the traffic signal operations and overall traffic operations at and near the Bal Harbour Shops entrances. The complaints suggest that updating the signal timing will help alleviate some of the traffic congestion associated with the mall.

### 1.2 Project Location

The purpose of this project is to reduce delay at intersections near the Bal Harbour Shops. However, adjustments to adjacent signals will require additional adjustments to other signals in the area. Figure 1-1 shows the study area, which extends into the Town of Surfside to the south. The study area includes the following road segments and intersections.

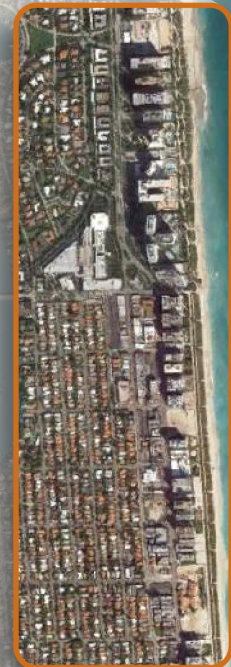


Figure 1-1

### Road Segments

- Collins Avenue from Harbour Way to 90<sup>th</sup> Street
- Harding Avenue from Collins Avenue to 91<sup>st</sup> Street
- 96<sup>th</sup> Street from the southwest exit of the Bal Harbour Shops (500 Block) to Collins Avenue

### Intersections

- Collins Avenue& Harbour Way (MDC Asset Number 3629)
- Collins Avenue& 9700 Block (MDC Asset Number 3548)
- Collins Avenue& Harding Avenue (MDC Asset Number 3006)
- Collins Avenue& 96<sup>th</sup>Street (MDC Asset Number 3005)
- Harding Avenue& 96<sup>th</sup>Street (MDC Asset Number 2919)
- Collins Avenue& 95<sup>th</sup>Street (MDC Asset Number 3319)
- Harding Avenue& 95<sup>th</sup>Street (MDC Asset Number 2918)
- Collins Avenue& 94<sup>th</sup>Street (MDC Asset Number 2912)
- Harding Avenue& 94<sup>th</sup>Street (MDC Asset Number 2917)
- Collins Avenue& 93<sup>rd</sup>Street (MDC Asset Number 2911)
- Harding Avenue& 93<sup>rd</sup>Street (MDC Asset Number 3185)
- Harding Avenue& 91<sup>st</sup>Street (MDC Asset Number 2916)
- Collins Avenue& 90<sup>th</sup>Street (MDC Asset Number 4231)
- 96<sup>th</sup>Street& 500 Block (MDC Asset Number 4344)
- 96<sup>th</sup>Street& Byron Avenue (MDC Asset Number 3648)

## **2.0 Data Collection**

Data collection efforts included 72-hour continuous approach counts, 4-hour turning movement counts (TMCs), and signal timing information. Volume and turning movement count locations were selected during a meeting with the Bal Harbour Police Department. Data collection focused on the main ingress and egress routes to the Bal Harbour Shops. Figure 2-1 shows the data collection locations.

The 72-hour volume counts were used to determine two 2-hour peak periods during the weekday – one in the morning (AM) and one in the evening (PM) – and one 4-hour peak period during the weekend. The weekday AM peak period was 7:00 AM to 9:00 AM; the PM peak period was 4:00 PM to 6:00 PM; and the weekend peak period was 3:00 PM to 7:00 PM. TMCs were collected during each of these peak periods. The TMCs were used to determine 1-hour AM, PM, and weekend peak hours to be modeled. The AM peak hour was 8:00 AM to 9:00 AM; the PM peak hour was 5:00 PM to 6:00 PM; and the weekend peak hour was also 5:00 PM to 6:00 PM. Please see Appendix A for the 72-hour volume and 4-hour turning movement counts. Vehicle travel times were also collected in order to calibrate the traffic models. These data will also be used to compare travel times before and after the signal timing changes are implemented.

Existing signal timing parameters were obtained from Miami-Dade County. Please see Appendix B for the signal timing plans.



Figure 2-1 A

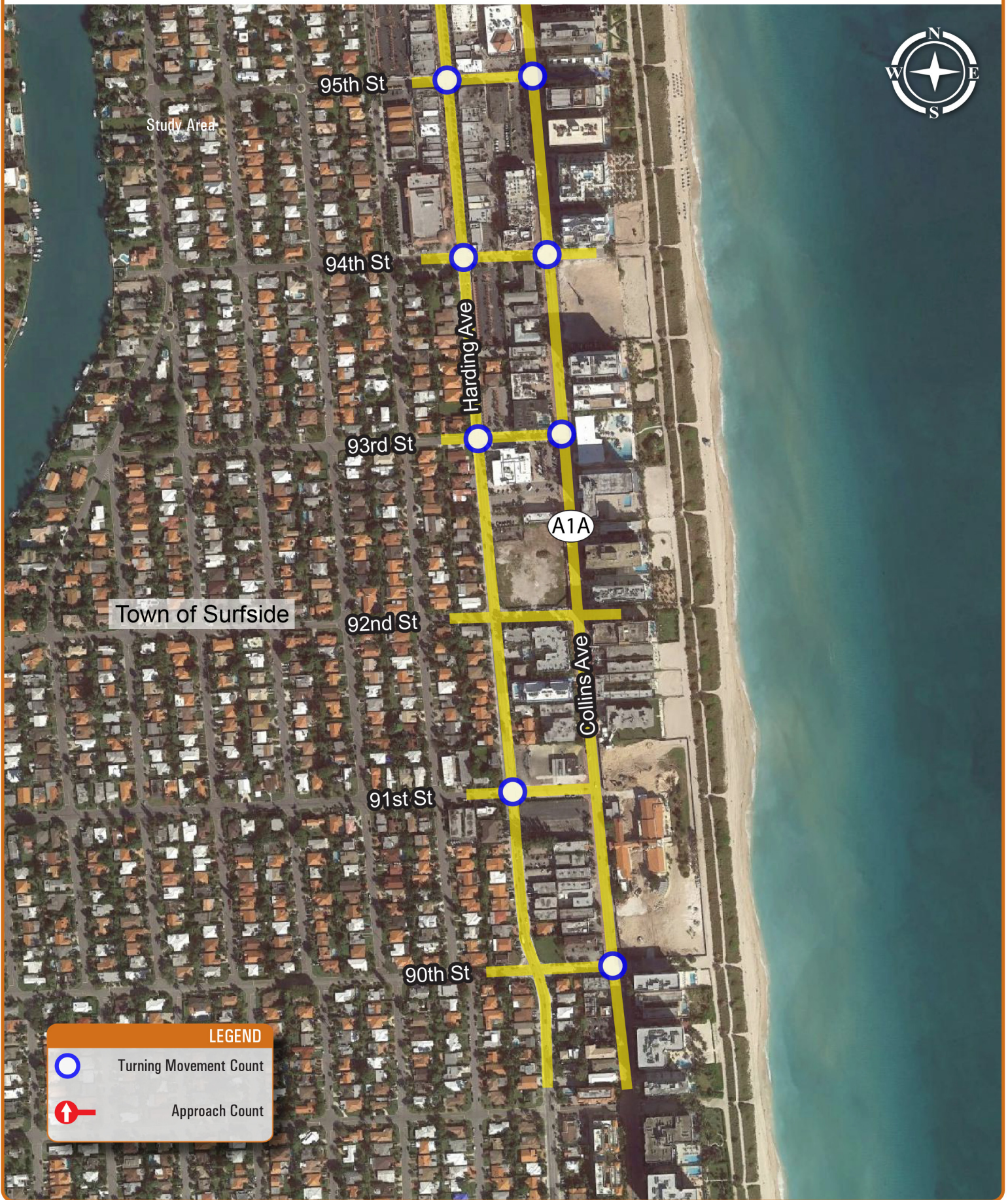


Figure 2-1 B

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### 3.0 Traffic Analysis

The network of roads near the Bal Harbour Shops was modeled using Synchro 8, a macroscopic traffic modeling software. Roadway geometric characteristics, existing traffic signal timing parameters, and TMCs were input into the model. The existing Levels of Service (LOS) at each signalized intersection within the study area and along the Collins Avenue, Harding Avenue, and 96<sup>th</sup> Street corridors were estimated. Based on the review of existing traffic conditions from field reviews as well as the existing traffic analysis, new signal timing parameters were developed to improve traffic operations along the study corridors. The new signal timing parameters were also evaluated using a Synchro model. The two scenarios were compared in order to ensure that the new timing parameters will improve traffic flow. A third Synchro model was developed to demonstrate the benefits of implementing vehicle and pedestrian detection at some study intersections in Bal Harbour and Surfside that currently lack detection.

#### 3.1 Existing Conditions

The study area consists of three road segments and 15 signalized intersections. Of the 15 intersections, five are pre-timed signals, nine are semi-actuated, and one is pedestrian actuation only. The intersection of Collins Avenue & Harding Avenue has only pedestrian actuation since the two one-way streets join to become a two-way street at this intersection and there are no conflicting vehicular movements. Intersections along Collins Avenue, Harding Avenue, and 96<sup>th</sup> Street are coordinated within the following corridors.

- Collins Avenue - from the 9700 Block to 93<sup>rd</sup> Street
- Harding Avenue - from 96<sup>th</sup> Street to 91<sup>st</sup> Street
- 96<sup>th</sup> Street - from the 500 Block to Collins Avenue.

The intersections of Collins Avenue & Harbour Way and Collins Avenue & 90<sup>th</sup> Street are isolated from the rest of the signals and are therefore not coordinated with them.

Five intersections currently operate without vehicle detection. These intersections operate under pre-timed conditions and do not have pedestrian detection (push buttons). With pre-timed conditions, vehicles on the major street may be stopped even if there are no vehicles or pedestrians on the minor street. This increases vehicle delay, travel time, and fuel consumption/emissions. Without pedestrian detection, every time a vehicular movement has a green indication, it is assumed that a pedestrian is crossing in the adjacent crosswalk and the green time must be sufficient to allow the pedestrian to cross safely. This further increases the required green time for the side street and thus the delay, travel time, and fuel consumption/emissions of vehicles on the main street. The five intersections without detection are:

- Harding Avenue & 96<sup>th</sup> Street
- Harding Avenue & 95<sup>th</sup> Street
- Collins Avenue & 95<sup>th</sup> Street
- Harding Avenue & 94<sup>th</sup> Street
- Harding Avenue & 93<sup>rd</sup> Street

The remaining intersections have detection on the minor streets and the left-turn lanes of the major street, if applicable.

The majority of the intersections within the study area operate with a cycle length of 160 seconds in the AM period and 150 seconds in both the PM period and during the weekend. There are three intersections, however, that operate with “half cycles” of 80 seconds in the AM period and 75 seconds in the PM period/during the weekend. Half cycles are used at intersections within a coordinated system that have lower side street volumes than the other intersections. They allow the side streets to be serviced more frequently while preserving progression along the major street. The three intersections that currently operate with a half cycle are located along Collins Avenue at 93<sup>rd</sup> Street, 94<sup>th</sup> Street, and 95<sup>th</sup> Street.

Table 3-1 shows the average travel time through the study area along Collins Avenue, Harding Avenue, and 96<sup>th</sup> Street as estimated by Synchro along with the travel times measured in the field. Table 3-2 summarizes the average delay and corresponding levels of service at each of the intersections for the AM, PM, and weekend peak periods. Detailed Synchro output sheets showing travel time between segments and delay for each approach and movement are included in Appendix C.

**Table 3-1: Travel Times under Existing Conditions**

Road Segment		Dist. (mi)	Field Measured			Synchro					
			Average Travel Time (m:ss)			Average Travel Time (m:ss)			LOS		
			AM	PM	WKND	AM	PM	WKND	AM	PM	WKND
Collins Ave Northbound	90 <sup>th</sup> St to Harbour Way	1.34	3:45	4:41	4:21	3:41	3:52	3:44	C	C	C
Collins Ave & Harding Ave Southbound	Harbour Way to 91 <sup>st</sup> St	1.20	3:01	3:27	3:14	3:45	3:31	3:22	C	C	C
96 <sup>th</sup> St Eastbound	500 Blk to Collins Ave	0.22	1:39	2:00	1:55	2:40	2:26	2:39	F	F	F
96 <sup>th</sup> St Westbound	Collins Ave to 500 Blk	0.22	1:30	1:44	2:10	1:21	1:38	1:43	E	E	E

The travel times measured in the field were compared to the travel times estimated by Synchro in order to validate the model. The model’s travel times are within a suitable range compared to the field measured travel times. Therefore, no changes were made to the model.



**Table 3-2: Intersection Delays under Existing Conditions**

Intersection	MDC Asset No.	Signal Delay (s)			LOS		
		AM	PM	WKND	AM	PM	WKND
Collins Ave & Harbour Way	3629	10.2	14.6	7.0	B	B	B
Collins Ave & 9700 Blk	3548	10.5	16.7	16.6	B	B	B
Collins Ave & Harding Ave	3006	1.1	0.7	0.6	A	A	A
Collins Ave & 96 <sup>th</sup> St	3005	24.2	14.0	19.4	C	B	B
Harding Ave & 96 <sup>th</sup> St	2919	55.7	31.9	23.9	E	C	C
Collins Ave & 95 <sup>th</sup> St	3319	4.7	10.8	8.9	A	B	A
Harding Ave & 95 <sup>th</sup> St	2918	6.9	14.1	13.4	A	B	B
Collins Ave & 94 <sup>th</sup> St	2912	7.0	2.9	7.6	A	A	A
Harding Ave & 94 <sup>th</sup> St	2917	9.8	9.3	10.3	A	A	B
Collins Ave & 93 <sup>rd</sup> St	2911	5.2	9.2	5.8	A	A	A
Harding Ave & 93 <sup>rd</sup> St	3185	4.7	4.8	3.9	A	A	A
Harding Ave & 91 <sup>st</sup> St	2916	2.6	2.6	2.4	A	A	A
Collins Ave & 90 <sup>th</sup> St	4231	6.8	5.9	5.1	A	A	A
96 <sup>th</sup> St & 500 Blk	4344	5.2	11.1	8.4	A	B	A
96 <sup>th</sup> St & Byron Ave	3648	12.6	8.3	7.2	B	A	A

As shown in Table 3-2, a majority of the intersections operate at an overall LOS of A or B with the exception of Harding Avenue & 96<sup>th</sup> Street and Collins Avenue & 96<sup>th</sup> Street.

### 3.2 Alternative 1: New Signal Timing Parameters

New traffic signal timing parameters were developed in order to mitigate the delay near the Bal Harbour shops. Changes to the timing parameters included increasing the green time for major movements at each intersection (north/south movements along Harding Avenue and Collins Avenue and east/west movements along 96<sup>th</sup> Street), converting two additional signals to half cycles, and increasing the cycle length during the PM peak period to 160 seconds. Offsets at each intersection were also adjusted in order to account for the other changes. The two signals that were converted to half cycles are located along Harding Avenue at 94<sup>th</sup> Street and 95<sup>th</sup> Street. Offsets at each intersection were also adjusted in order to accommodate the new signal timing parameters. Because the intersections of Collins Avenue & Harbour Way and Collins Avenue & 90<sup>th</sup> Street are isolated and not coordinated with the other signals, no changes were made to their timing parameters. Appendix D presents the new signal timing parameters.

Table 3-3 shows the average travel time through the study area along Collins Avenue, Harding Avenue, and 96<sup>th</sup> Street with the new timing parameters. **Error! Reference source not found.** summarizes the average delay at each of the intersections for the AM and PM peak periods with the new timing parameters. Detailed Synchro output sheets showing travel time between segments and delay for each approach and movement are included in Appendix C.

**Table 3-3: Alternative 1 Travel Times**

Road Segment		Dist. (mi)	Average Travel Time (m:ss)			LOS		
			AM	PM	WKND	AM	PM	WKND
Collins Ave Northbound	90 <sup>th</sup> St to Harbour Way	1.34	3:35	3:48	3:34	C	C	C
Collins Ave & Harding Ave Southbound	Harbour Way to 91 <sup>st</sup> St	1.20	3:40	3:23	3:18	C	C	C
96 <sup>th</sup> St Eastbound	500 Blk to Collins Ave	0.22	2:20	2:12	2:30	F	F	F
96 <sup>th</sup> St Westbound	Collins Ave to 500 Blk	0.22	1:19	1:32	1:20	E	E	E

As shown in the previous tables, the overall travel time along each arterial in the study area decreases with the new signal timing parameters. Overall intersection delays also decrease at a majority of the intersections. At intersections where the overall intersection delay increases, it does so by less than one second. Also, the LOS for many approaches/movements that are operating at an LOS of E or F under existing conditions improve to an LOS of C or D with the proposed signal timing parameters under Alternative 1.

At four of the five intersections without vehicle or pedestrian detection, the green time for the side streets was reduced—the exception being the intersection of Harding Avenue & 96<sup>th</sup> Street. The reduction in green time at these locations ranged from three to nine seconds. This also reduced the pedestrian crossing times. These new times were verified to ensure that they give adequate crossing time to pedestrians. The total green time at all of these intersections is adequate; however, the “Steady Walk” time was reduced from seven seconds to four seconds at these locations in order to provide adequate pedestrian clearance (Flashing Don’t Walk) time. These changes are highlighted in Appendix D.

**Table 3-4: Alternative 1 Intersection Delays**

Intersection	MDC Asset No.	Signal Delay (s)			LOS		
		AM	PM	WKND	AM	PM	WKND
Collins Ave & Harbour Way	3629	10.2	14.6	7.0	B	B	B
Collins Ave & 9700 Blk	3548	10.5	16.5	15.8	B	B	B
Collins Ave & Harding Ave	3006	0.6	0.9	0.5	A	A	A
Collins Ave & 96 <sup>th</sup> St	3005	19.4	11.9	16.0	B	B	B
Harding Ave & 96 <sup>th</sup> St	2919	55.6	27.7	18.7	E	C	B
Collins Ave & 95 <sup>th</sup> St	3319	2.7	7.7	6.6	A	A	A
Harding Ave & 95 <sup>th</sup> St	2918	5.4	8.1	7.0	A	A	A
Collins Ave & 94 <sup>th</sup> St	2912	4.9	3.6	5.2	A	A	A
Harding Ave & 94 <sup>th</sup> St	2917	4.4	5.1	6.2	A	A	A
Collins Ave & 93 <sup>rd</sup> St	2911	4.4	6.5	4.8	A	A	A
Harding Ave & 93 <sup>rd</sup> St	3185	3.0	4.6	3.9	A	A	A
Harding Ave & 91 <sup>st</sup> St	2916	2.5	2.7	2.2	A	A	A
Collins Ave & 90 <sup>th</sup> St	4231	6.8	5.9	5.1	A	A	A
96 <sup>th</sup> St & 500 Blk	4344	5.0	9.1	7.2	A	A	A
96 <sup>th</sup> St & Byron Ave	3648	12.2	7.4	7.0	B	A	A

### 3.3 Alternative 2: New Signal Timing Parameters and Vehicle Detection

Adjusting signal timing parameters is a short-term solution for reducing congestion in Bal Harbour and Surfside. The installation of vehicle and pedestrian detection will further reduce delay along Harding Avenue and Collins Avenue. Under pre-timed signals, vehicles on the major street are stopped even when there are no vehicles on the minor street. Furthermore, with pre-timed signals, it must be assumed that a pedestrian is crossing the street during every phase and adequate crossing time must be provided. With detection, the minor street is only given green time when vehicles or pedestrians are present and allows shorter green times if a pedestrian is not present. To show the benefit of adding vehicle detection at all intersections along this corridor, a third model was developed with vehicle detection on the minor streets at the following intersections:

- Harding Avenue & 96<sup>th</sup> Street
- Harding Avenue & 95<sup>th</sup> Street
- Collins Avenue & 95<sup>th</sup> Street
- Harding Avenue & 94<sup>th</sup> Street
- Harding Avenue & 93<sup>rd</sup> Street

Timing parameters from Alternative 1 were used, but offsets were adjusted to optimize vehicle progression. The vehicle extension time for each of these approaches was set to 2.5 seconds in order to be consistent with existing signals. Table 3-5 shows the average travel time through the study area along Collins Avenue, Harding Avenue, and 96<sup>th</sup> Street with vehicle detection. Table 3-6 summarizes the average delay at each of the intersections for the AM and PM peak periods. Detailed Synchro output sheets showing travel time between segments and delay for each approach and movement are included in Appendix C.

**Table 3-5: Alternative 2 Travel Times**

Road Segment		Dist. (mi)	Average Travel Time (m:ss)			LOS		
			AM	PM	WKND	AM	PM	WKND
Collins Ave Northbound	90 <sup>th</sup> St to Harbour Way	1.34	3:34	3:42	3:30	C	C	C
Collins Ave & Harding Ave Southbound	Harbour Way to 91 <sup>st</sup> St	1.20	3:27	3:15	3:08	C	C	C
96 <sup>th</sup> St Eastbound	500 Blk to Collins Ave	0.22	2:30	2:18	2:41	F	F	F
96 <sup>th</sup> St Westbound	Collins Ave to 500 Blk	0.22	1:23	1:33	1:32	E	E	E

**Table 3-6: Alternative 2 Intersection Delays**

Intersection	MDC Asset No.	Signal Delay (s)			LOS		
		AM	PM	WKND	AM	PM	WKND
Collins Ave & Harbour Way	3629	10.2	14.6	7.0	B	B	B
Collins Ave & 9700 Blk	3548	10.5	15.1	15.5	B	B	B
Collins Ave & Harding Ave	3006	0.6	0.7	0.6	A	A	A
Collins Ave & 96 <sup>th</sup> St	3005	17.2	12.6	14.2	B	B	B
Harding Ave & 96 <sup>th</sup> St	2919	45.0	29.9	22.9	D	C	C
Collins Ave & 95 <sup>th</sup> St	3319	3.2	3.8	3.8	A	A	A
Harding Ave & 95 <sup>th</sup> St	2918	5.7	8.6	7.8	A	A	A
Collins Ave & 94 <sup>th</sup> St	2912	4.5	3.6	4.7	A	A	A
Harding Ave & 94 <sup>th</sup> St	2917	4.4	5.1	5.1	A	A	A
Collins Ave & 93 <sup>rd</sup> St	2911	4.3	6.4	4.9	A	A	A
Harding Ave & 93 <sup>rd</sup> St	3185	2.6	2.8	2.8	A	A	A
Harding Ave & 91 <sup>st</sup> St	2916	2.7	2.8	2.3	A	A	A
Collins Ave & 90 <sup>th</sup> St	4231	6.8	5.9	5.1	A	A	A
96 <sup>th</sup> St & 500 Blk	4344	2.8	9.0	7.3	A	A	A
96 <sup>th</sup> St & Byron Ave	3648	12.9	7.6	6.4	B	A	A

The largest improvement with vehicle detection can be seen at the intersection of Harding Avenue & 96<sup>th</sup> Street during the AM peak period. The overall intersection delay decreases by 10.6 seconds and the LOS improves from E to D. The overall delay increases at this intersection during the PM peak period under Alternative 2. However, it should be noted that the southbound approach delay decreases by 3.4 seconds per vehicle and the intersection delay is lower than the delay under existing conditions. Delay at all intersections is reduced during the Weekend peak period.

#### 4.0 Conclusions and Recommendations

**As seen in Section 3.0, adjusting signal timing parameters will reduce the travel time and intersection delay throughout the study area and the installation of vehicle detection will further improve travel times along the study corridors. Table 4-1 shows the change in travel time for each alternative when compared to the existing conditions.**

Table 4-2 shows the change in the overall intersection delay for each alternative when compared to the existing conditions.

It is recommended that, upon approval from Miami-Dade County’s Traffic Signals and Signs Division (TS&S), the new signal timing changes developed in Alternative 1 and summarized in Appendix D be implemented. The new signal timing parameters may need to be fine-tuned in response to real world traffic patterns after initial implementation. Although Synchro can model traffic patterns and estimate the outcome of signal timing changes, the real-world outcomes may be different.

As a long-term solution, it is recommended that vehicle and pedestrian detection be installed at intersections that do not already have it, in order to further improve traffic in this area. Vehicle detection will especially improve operations at the intersection of Harding Avenue & 96<sup>th</sup> Street in the AM period.

**Table 4-1: Change in Travel Times for Each Alternative**

Road Segment		AM		PM		Weekend	
		Alt. 1 vs. Existing	Alt. 2 vs. Existing	Alt. 1 vs. Existing	Alt. 2 vs. Existing	Alt. 1 vs. Existing	Alt. 2 vs. Existing
Collins Ave Northbound	90 <sup>th</sup> St to Harbour Way	-6 sec.	-7 sec	-4 sec	-10 sec	-10 sec	-14 sec
Collins Ave & Harding Ave Southbound	Harbour Way to 91 <sup>st</sup> St	-5 sec	-18 sec	-8 sec	-16 sec	-4 sec	-14 sec
96 <sup>th</sup> St Eastbound	500 Blk to Collins Ave	-20 sec	-10 sec	-14 sec	-8 sec	-9 sec	+2 sec
96 <sup>th</sup> St Westbound	Collins Ave to 500 Blk	-2 sec	+2 sec	-6 sec	-5 sec	-23 sec	-11 sec

**Table 4-2: Change in Intersection Delay for Each Alternative**

Intersection	MDC Asset No.	AM		PM		Weekend	
		Alt. 1 vs. Existing	Alt. 2 vs. Existing	Alt. 1 vs. Existing	Alt. 2 vs. Existing	Alt. 1 vs. Existing	Alt. 2 vs. Existing
Collins Ave & Harbour Way	3629	0	0	0	0	0	0
Collins Ave & 9700 Blk	3548	0	0	-0.2	-1.6	-0.8	-1.1
Collins Ave & Harding Ave	3006	-0.5	-0.5	0.2	0	-0.1	0
Collins Ave & 96 <sup>th</sup> St	3005	-4.8	-7	-2.1	-1.4	-3.4	-5.2
Harding Ave & 96 <sup>th</sup> St	2919	-0.1	-10.7	-4.2	-2	-5.2	-1.0
Collins Ave & 95 <sup>th</sup> St	3319	-2	-1.5	-3.1	-7	-2.3	-5.1
Harding Ave & 95 <sup>th</sup> St	2918	-1.5	-1.2	-6	-5.5	-6.4	-5.6
Collins Ave & 94 <sup>th</sup> St	2912	-2.1	-2.5	0.7	0.7	-2.4	-2.9
Harding Ave & 94 <sup>th</sup> St	2917	-5.4	-5.4	-4.2	-4.2	-4.1	-5.2
Collins Ave & 93 <sup>rd</sup> St	2911	-0.8	-0.9	-2.7	-2.8	-1.0	-0.9
Harding Ave & 93 <sup>rd</sup> St	3185	-1.7	-2.1	-0.2	-2	0	-1.1
Harding Ave & 91 <sup>st</sup> St	2916	-0.1	0.1	0.1	0.2	-0.2	-0.1
Collins Ave & 90 <sup>th</sup> St	4231	0	0	0	0	0	0
96 <sup>th</sup> St & 500 Blk	4344	-0.2	-2.4	-2	-2.1	-1.2	-1.1
96 <sup>th</sup> St & Byron Ave	3648	-0.4	0.3	-0.9	-0.7	-0.2	-0.8
<b>Avg. change in intersection delay*</b>		<b>-1.3</b>	<b>-2.3</b>	<b>-1.6</b>	<b>-1.9</b>	<b>-2.1</b>	<b>-2.3</b>

\*Does not include the two intersections where changes were not made

The background of the page is a light gray map of a city street grid. A prominent river, likely the Sacramento River, flows from the top right towards the bottom left, crossing several major streets. The street grid is composed of thin, light gray lines, with some thicker lines representing major thoroughfares.

# Appendix: A

## Traffic Counts



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix A: Traffic Counts**

### **72-Hour Volume Counts**

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Collins Ave and 9700 Blk  
 (Southbound)  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	110	343	129	316	146	315	128	325
12:15	90	330	112	300	160	280	121	303
12:30	68	381	98	316	143	301	103	333
12:45	59	351	88	324	128	326	92	334
01:00	55	348	78	328	95	324	76	333
01:15	48	320	66	296	106	362	73	326
01:30	37	373	59	358	112	384	69	372
01:45	23	334	50	288	69	348	47	323
02:00	28	368	33	296	64	344	42	336
02:15	31	354	35	336	44	318	37	336
02:30	13	427	32	346	54	386	33	386
02:45	22	362	24	320	43	346	30	343
03:00	17	390	30	352	46	418	31	387
03:15	18	378	15	366	28	376	20	373
03:30	26	352	25	346	31	389	27	362
03:45	14	320	26	312	28	342	23	325
04:00	17	398	19	378	22	407	19	394
04:15	20	373	27	362	33	367	27	367
04:30	28	422	27	406	28	376	28	401
04:45	52	371	43	356	32	364	42	364
05:00	34	388	32	361	40	336	35	362
05:15	41	394	32	392	31	365	35	384
05:30	50	394	47	371	32	349	43	371
05:45	77	382	56	370	64	330	66	361
06:00	90	385	58	372	56	316	68	358
06:15	122	395	74	349	63	368	86	371
06:30	208	362	94	410	104	334	135	369
06:45	261	379	120	408	123	368	168	385
07:00	274	374	134	376	102	343	170	364
07:15	314	364	120	404	85	328	173	365
07:30	386	372	184	410	218	312	263	365
07:45	448	328	188	388	118	278	251	331
08:00	456	326	162	340	116	282	245	316
08:15	424	275	203	296	132	296	253	289
08:30	398	269	225	316	175	278	266	288
08:45	440	263	239	322	140	262	273	282
09:00	395	234	232	358	152	274	260	289
09:15	396	250	224	294	147	248	256	264
09:30	330	244	294	287	189	208	271	246
09:45	360	204	262	296	183	210	268	237
10:00	324	226	222	294	256	200	267	240
10:15	299	215	235	284	244	182	259	227
10:30	302	200	224	253	268	180	265	211
10:45	359	206	275	279	322	146	319	210
11:00	336	212	330	228	296	122	321	187
11:15	322	181	280	222	340	146	314	183
11:30	332	196	297	190	309	113	313	166
11:45	348	147	270	200	324	116	314	154
Total	8902	15460	6129	15772	6041	14363	7025	15198
Combined Total	24362		21901		20404		22223	
Peak	07:45	04:30	10:45	06:30	11:00	02:45	10:45	04:00
Vol.	1726	1575	1182	1598	1269	1529	1267	1526
P.H.F.	0.946	0.933	0.895	0.974	0.933	0.914	0.987	0.951
ADT	ADT 22,222		AADT 22,222					



Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Collins ave and 9700 Blk  
 Eastbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	10-Apr-14		11-Apr-14		12-Apr-14		Daily Average	
	Thu A.M.	P.M.	Fri A.M.	P.M.	Sat A.M.	P.M.	A.M.	P.M.
12:00	33	18	30	20	33	12	32	17
12:15	25	15	16	24	27	14	23	18
12:30	8	12	15	15	8	16	10	14
12:45	2	12	4	22	2	18	3	17
01:00	0	24	8	16	4	16	4	19
01:15	4	26	4	25	1	25	3	25
01:30	2	14	5	20	2	18	3	17
01:45	0	24	1	34	0	22	0	27
02:00	0	28	4	20	0	21	1	23
02:15	3	32	2	30	0	30	2	31
02:30	1	30	0	36	2	30	1	32
02:45	0	39	0	32	2	26	1	32
03:00	0	40	0	28	0	26	0	31
03:15	0	36	0	38	0	28	0	34
03:30	0	36	0	35	0	30	0	34
03:45	0	36	0	36	0	30	0	34
04:00	1	44	0	40	2	36	1	40
04:15	2	38	1	36	0	28	1	34
04:30	0	31	0	38	0	48	0	39
04:45	1	31	0	46	2	34	1	37
05:00	0	44	0	37	0	42	0	41
05:15	0	40	2	39	2	42	1	40
05:30	0	50	1	46	0	40	0	45
05:45	4	53	4	45	4	38	4	45
06:00	0	57	2	50	0	49	1	52
06:15	2	54	0	48	0	44	1	49
06:30	1	54	3	44	3	48	2	49
06:45	5	39	8	44	2	33	5	39
07:00	8	55	7	44	0	50	5	50
07:15	0	29	3	32	1	46	1	36
07:30	4	36	4	30	2	39	3	35
07:45	3	32	7	34	2	29	4	32
08:00	0	32	4	40	5	26	3	33
08:15	1	30	8	28	2	41	4	33
08:30	4	36	1	28	2	34	2	33
08:45	5	41	7	36	5	44	6	40
09:00	0	64	4	54	4	61	3	60
09:15	0	94	6	84	2	54	3	77
09:30	6	44	10	50	6	58	7	51
09:45	12	35	10	36	6	36	9	36
10:00	8	30	2	24	10	22	7	25
10:15	14	39	12	30	8	32	11	34
10:30	6	32	13	16	5	21	8	23
10:45	20	20	10	30	12	24	14	25
11:00	14	28	30	26	10	32	18	29
11:15	12	24	18	20	4	24	11	23
11:30	8	21	15	28	12	32	12	27
11:45	17	28	22	28	15	27	18	28
Total	236	1707	303	1642	209	1576	249	1645
Combined Total	1943		1945		1785		1894	
Peak	12:00	08:45	11:00	08:45	12:00	08:45	12:00	08:45
Vol.	68	243	85	224	70	217	68	228
P.H.F.	0.515	0.646	0.708	0.667	0.530	0.889	0.531	0.740
ADT	ADT 1,891		AADT 1,891					

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Collins Ave and 9600 Blk  
 Northbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	104	353	124	389	148	366	125	369
12:15	86	342	118	334	162	356	122	344
12:30	70	356	66	371	118	354	85	360
12:45	77	341	78	352	142	348	99	347
01:00	76	354	53	385	111	332	80	357
01:15	40	354	65	390	78	318	61	354
01:30	30	328	64	376	75	347	56	350
01:45	30	371	43	349	66	296	46	339
02:00	36	337	48	394	59	338	48	356
02:15	19	349	31	346	52	355	34	350
02:30	19	404	30	396	51	332	33	377
02:45	20	372	30	416	57	363	36	384
03:00	26	369	24	412	34	350	28	377
03:15	15	440	34	475	46	370	32	428
03:30	24	414	32	462	32	339	29	405
03:45	19	460	30	408	44	337	31	402
04:00	25	460	38	462	32	347	32	423
04:15	34	452	35	494	51	330	40	425
04:30	28	455	22	448	40	350	30	418
04:45	32	460	35	<b>482</b>	52	344	40	429
05:00	32	<b>498</b>	34	<b>488</b>	40	<b>360</b>	35	<b>449</b>
05:15	27	<b>556</b>	40	<b>472</b>	48	<b>356</b>	38	<b>461</b>
05:30	44	<b>452</b>	52	<b>518</b>	50	<b>385</b>	49	<b>452</b>
05:45	65	<b>466</b>	70	478	82	<b>368</b>	72	<b>437</b>
06:00	76	479	74	444	50	335	67	419
06:15	116	466	97	409	76	313	96	396
06:30	152	429	119	436	98	344	123	403
06:45	163	404	150	336	100	330	138	357
07:00	178	371	194	396	124	344	165	370
07:15	198	335	188	333	126	339	171	336
07:30	239	334	262	315	158	320	220	323
07:45	251	282	233	310	186	289	223	294
08:00	304	277	244	279	142	296	230	284
08:15	345	296	<b>361</b>	255	181	285	296	279
08:30	378	246	<b>372</b>	261	214	270	321	259
08:45	374	205	<b>366</b>	242	205	310	315	252
09:00	320	258	<b>324</b>	213	216	278	287	250
09:15	334	228	292	211	200	265	275	235
09:30	307	210	329	222	224	286	287	239
09:45	324	176	345	201	220	202	296	193
10:00	346	194	292	218	328	251	322	221
10:15	338	202	358	218	286	251	327	224
10:30	321	182	325	212	300	238	315	211
10:45	<b>365</b>	193	349	206	300	228	338	209
11:00	<b>353</b>	191	358	195	<b>294</b>	275	<b>335</b>	220
11:15	<b>336</b>	154	340	202	<b>300</b>	243	<b>325</b>	200
11:30	<b>364</b>	145	335	150	<b>341</b>	226	<b>347</b>	174
11:45	333	126	380	175	<b>358</b>	222	<b>357</b>	174
Total	7793	16126	7883	16536	6697	15081	7457	15915
Combined Total	23919		24419		21778		23372	
Peak	10:45	05:00	08:15	04:45	11:00	05:00	11:00	05:00
Vol.	1418	1972	1423	1960	1293	1469	1364	1799
P.H.F.	0.938	0.887	0.956	0.946	0.903	0.954	0.955	0.976
ADT	ADT 23,372		AADT 23,372					

Collins Ave and 9600 Blk  
 Southbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	89	296	110	305	124	279	108	293
12:15	88	312	92	305	124	250	101	289
12:30	54	342	70	338	95	289	73	323
12:45	48	267	58	314	98	284	68	288
01:00	49	341	61	330	80	284	63	318
01:15	34	330	46	320	63	289	48	313
01:30	38	324	42	364	62	326	47	338
01:45	38	288	26	313	55	256	40	286
02:00	18	363	30	348	32	282	27	331
02:15	17	290	32	342	34	318	28	317
02:30	23	348	12	428	34	346	23	374
02:45	18	348	21	344	21	292	20	328
03:00	26	356	15	384	27	308	23	349
03:15	14	289	16	341	19	374	16	335
03:30	9	298	26	360	26	318	20	325
03:45	9	326	14	310	26	318	16	318
04:00	14	352	19	359	18	342	17	351
04:15	18	354	17	390	26	348	20	364
04:30	30	<b>400</b>	28	398	25	368	28	<b>389</b>
04:45	32	<b>392</b>	51	370	40	361	41	<b>374</b>
05:00	31	<b>366</b>	36	380	36	349	34	<b>365</b>
05:15	36	<b>418</b>	38	<b>384</b>	31	352	35	<b>385</b>
05:30	50	390	52	<b>392</b>	48	386	50	389
05:45	58	380	68	<b>384</b>	54	322	60	362
06:00	78	327	82	<b>402</b>	54	372	71	367
06:15	130	374	115	369	75	322	107	355
06:30	183	311	192	378	92	392	156	360
06:45	282	332	254	393	107	376	214	367
07:00	308	330	278	379	124	<b>386</b>	237	365
07:15	320	308	328	366	126	<b>384</b>	258	353
07:30	<b>460</b>	332	394	358	179	<b>380</b>	344	357
07:45	<b>474</b>	250	<b>461</b>	326	176	<b>393</b>	<b>370</b>	323
08:00	<b>459</b>	306	<b>450</b>	298	138	316	<b>349</b>	307
08:15	<b>444</b>	271	<b>420</b>	266	194	270	<b>353</b>	269
08:30	450	297	<b>398</b>	250	202	313	<b>350</b>	287
08:45	382	277	400	244	202	319	328	280
09:00	376	281	394	235	174	336	315	284
09:15	382	273	358	237	183	278	308	263
09:30	360	236	314	236	266	284	313	252
09:45	317	214	303	216	238	291	286	240
10:00	314	185	335	219	220	279	290	228
10:15	316	193	268	222	222	282	269	232
10:30	300	196	283	187	217	223	267	202
10:45	290	180	322	204	220	290	277	225
11:00	335	178	310	222	<b>322</b>	244	322	215
11:15	308	178	322	192	<b>264</b>	230	298	200
11:30	294	151	290	194	<b>270</b>	192	285	179
11:45	298	131	320	142	<b>233</b>	197	284	157
Total	8701	14281	8571	15038	5696	14990	7657	14771
Combined Total	22982		23609		20686		22428	
Peak	07:30	04:30	07:45	05:15	11:00	07:00	07:45	04:30
Vol.	1837	1576	1729	1562	1089	1543	1422	1513
P.H.F.	0.969	0.943	0.938	0.971	0.845	0.982	0.961	0.972
ADT	ADT 22,426		AADT 22,426					

Collins Ave and 9600 Blk  
 Eastbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu	10-Apr-14	Fri	11-Apr-14	Sat	12-Apr-14	Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	19	0	20	1	6	0	15
12:15	0	14	0	15	0	7	0	12
12:30	0	19	0	14	0	12	0	15
12:45	0	17	0	18	0	21	0	19
01:00	0	20	0	22	0	13	0	18
01:15	0	24	0	26	0	15	0	22
01:30	0	11	0	9	0	24	0	15
01:45	0	20	0	26	0	26	0	24
02:00	0	16	0	20	0	14	0	17
02:15	1	<b>33</b>	0	24	0	25	0	27
02:30	0	<b>27</b>	0	29	0	20	0	25
02:45	0	<b>35</b>	0	20	1	20	0	25
03:00	0	<b>35</b>	1	24	0	18	0	26
03:15	0	12	0	38	0	30	0	27
03:30	0	22	0	27	0	28	0	26
03:45	0	31	0	26	0	18	0	25
04:00	0	26	0	22	0	27	0	25
04:15	0	22	0	<b>31</b>	0	<b>40</b>	0	<b>31</b>
04:30	0	15	0	<b>26</b>	0	<b>35</b>	0	<b>25</b>
04:45	0	35	0	<b>26</b>	0	<b>44</b>	0	<b>35</b>
05:00	0	26	0	<b>38</b>	0	<b>33</b>	0	<b>32</b>
05:15	0	28	0	22	0	30	0	27
05:30	0	18	0	34	0	24	0	25
05:45	0	18	0	16	0	28	0	21
06:00	0	38	0	18	0	27	0	28
06:15	0	24	0	28	0	36	0	29
06:30	0	24	0	13	0	42	0	26
06:45	0	13	0	18	0	10	0	14
07:00	0	22	0	30	0	20	0	24
07:15	0	20	0	26	0	28	0	25
07:30	0	20	0	28	0	18	0	22
07:45	0	16	2	22	0	24	1	21
08:00	0	26	2	26	0	18	1	23
08:15	0	14	0	24	2	14	1	17
08:30	0	18	2	20	0	13	1	17
08:45	6	31	2	18	0	18	3	22
09:00	6	24	2	28	0	39	3	30
09:15	0	22	7	26	2	26	3	25
09:30	3	21	4	27	4	28	4	25
09:45	8	13	6	22	2	21	5	19
10:00	6	28	5	17	10	36	7	27
10:15	10	16	9	23	5	21	8	20
10:30	6	17	8	13	4	18	6	16
10:45	10	18	14	14	8	18	11	17
11:00	<b>12</b>	24	<b>16</b>	23	<b>6</b>	21	<b>11</b>	23
11:15	<b>14</b>	23	<b>13</b>	28	<b>16</b>	18	<b>14</b>	23
11:30	<b>18</b>	24	<b>6</b>	22	<b>12</b>	13	<b>12</b>	20
11:45	<b>18</b>	12	<b>28</b>	14	<b>16</b>	12	<b>21</b>	13
Total	118	1051	127	1101	89	1097	112	1085
Combined Total	1169		1228		1186		1197	
Peak	11:00	02:15	11:00	04:15	11:00	04:15	11:00	04:15
Vol.	62	130	63	121	50	152	58	123
P.H.F.	0.861	0.929	0.563	0.796	0.781	0.864	0.690	0.879
ADT	ADT 1,194		AADT 1,194					

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Collins Ave and 9600 Blk  
 Westbound (Left U-Turn)  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	13	26	6	42	15	22	11	30
12:15	4	42	6	43	9	30	6	38
12:30	10	24	6	39	4	25	7	29
12:45	2	52	2	34	9	26	4	37
01:00	3	34	3	44	8	38	5	39
01:15	2	38	4	41	2	25	3	35
01:30	0	52	0	50	3	18	1	40
01:45	2	44	5	37	6	12	4	31
02:00	0	24	2	30	2	29	1	28
02:15	0	21	2	30	4	36	2	29
02:30	1	38	0	31	0	24	0	31
02:45	4	28	2	48	6	28	4	35
03:00	2	44	2	49	0	32	1	42
03:15	0	32	2	38	0	36	1	35
03:30	0	46	4	58	0	44	1	49
03:45	0	42	0	27	0	30	0	33
04:00	0	36	2	68	0	33	1	46
04:15	2	40	2	36	2	32	2	36
04:30	3	48	0	46	4	18	2	37
04:45	2	52	2	28	0	27	1	36
05:00	2	50	1	48	6	35	3	44
05:15	0	36	2	35	5	34	2	35
05:30	0	34	1	38	5	42	2	38
05:45	2	34	4	39	2	37	3	37
06:00	6	36	3	34	4	28	4	33
06:15	9	36	4	19	4	10	6	22
06:30	6	24	10	42	18	22	11	29
06:45	9	44	8	33	3	45	7	41
07:00	14	20	10	31	15	18	13	23
07:15	10	43	10	24	4	30	8	32
07:30	10	17	14	22	6	15	10	18
07:45	25	24	18	16	18	22	20	21
08:00	22	22	18	24	8	26	16	24
08:15	19	29	26	16	12	28	19	24
08:30	20	17	27	19	10	24	19	20
08:45	31	4	39	21	22	15	31	13
09:00	44	24	26	10	8	15	26	16
09:15	31	12	24	22	8	15	21	16
09:30	34	14	22	18	27	22	28	18
09:45	26	16	22	10	22	20	23	15
10:00	34	10	32	12	20	14	29	12
10:15	42	6	38	12	18	16	33	11
10:30	28	9	44	6	13	16	28	10
10:45	40	14	32	10	30	5	34	10
11:00	38	16	38	25	24	14	33	18
11:15	52	6	38	7	30	22	40	12
11:30	20	9	35	16	33	10	29	12
11:45	42	8	50	17	33	19	42	15
Total	666	1377	648	1445	482	1184	597	1335
Combined Total	2043		2093		1666		1932	
Peak	10:30	04:15	11:00	02:45	11:00	05:00	11:00	03:30
Vol.	158	190	161	193	120	148	144	164
P.H.F.	0.760	0.913	0.805	0.832	0.909	0.841	0.857	0.837
ADT	ADT 1,934		AADT 1,934					

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Harding Ave and 96th St  
 (Southbound)  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	98	327	116	340	140	298	118	322
12:15	100	364	98	353	126	278	108	332
12:30	62	361	76	368	102	310	80	346
12:45	54	323	59	361	106	319	73	334
01:00	50	380	61	377	86	315	66	357
01:15	36	382	52	348	70	316	53	349
01:30	39	384	40	399	60	348	46	377
01:45	40	332	29	358	57	292	42	327
02:00	18	400	32	384	36	316	29	367
02:15	20	344	34	384	38	351	31	360
02:30	24	411	12	478	34	376	23	422
02:45	21	404	22	394	26	327	23	375
03:00	29	417	15	438	27	360	24	405
03:15	13	329	18	406	19	420	17	385
03:30	9	370	31	413	26	366	22	383
03:45	9	388	15	352	26	355	17	365
04:00	16	424	20	437	18	391	18	417
04:15	21	416	22	<b>448</b>	28	405	24	423
04:30	32	441	28	<b>480</b>	27	406	29	<b>442</b>
04:45	34	<b>463</b>	55	<b>412</b>	38	414	42	<b>430</b>
05:00	33	<b>430</b>	38	<b>458</b>	40	400	37	<b>429</b>
05:15	48	<b>478</b>	40	431	33	404	40	<b>438</b>
05:30	54	<b>442</b>	56	446	58	439	56	442
05:45	67	435	78	418	56	375	67	409
06:00	84	386	86	438	60	408	77	411
06:15	146	414	128	408	79	366	118	396
06:30	192	368	202	415	107	<b>443</b>	167	409
06:45	300	367	268	430	108	<b>421</b>	225	406
07:00	332	374	284	437	137	<b>420</b>	251	410
07:15	336	362	330	419	128	<b>426</b>	265	402
07:30	<b>482</b>	380	414	412	186	418	361	403
07:45	<b>515</b>	292	<b>476</b>	363	188	420	<b>393</b>	358
08:00	<b>498</b>	352	<b>487</b>	346	146	352	<b>377</b>	350
08:15	<b>448</b>	318	<b>434</b>	296	210	296	<b>364</b>	303
08:30	475	358	<b>428</b>	276	216	338	<b>373</b>	324
08:45	427	296	431	276	210	350	356	307
09:00	414	338	420	274	189	398	341	337
09:15	417	288	381	264	200	312	333	288
09:30	388	286	330	274	298	321	339	294
09:45	345	243	324	251	246	319	305	271
10:00	346	229	377	242	241	326	321	266
10:15	348	216	306	254	244	307	299	259
10:30	325	234	309	214	236	254	290	234
10:45	320	220	349	224	252	312	307	252
11:00	396	208	354	248	<b>350</b>	258	367	238
11:15	339	216	354	225	<b>284</b>	258	326	233
11:30	324	173	310	230	<b>300</b>	209	311	204
11:45	350	156	380	168	<b>269</b>	232	333	185
Total	9474	16519	9209	17067	6161	16745	8284	16776
Combined Total	25993		26276		22906		25060	
Peak	07:30	04:45	07:45	04:15	11:00	06:30	07:45	04:30
Vol.	1943	1813	1825	1798	1203	1710	1507	1739
P.H.F.	0.943	0.948	0.937	0.936	0.859	0.965	0.959	0.984
ADT	ADT 25,058		AADT 25,058					

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

Harding Ave and 96th st  
 Eastbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	36	182	26	203	34	196	32	194
12:15	32	204	23	228	35	174	30	202
12:30	15	180	19	206	34	168	23	185
12:45	17	164	22	200	42	178	27	181
01:00	13	192	27	208	40	188	27	196
01:15	7	186	9	224	20	176	12	195
01:30	10	182	12	196	23	183	15	187
01:45	8	206	10	194	14	160	11	187
02:00	14	194	10	216	8	176	11	195
02:15	9	196	9	222	15	184	11	201
02:30	4	212	3	224	12	203	6	213
02:45	6	199	9	216	10	176	8	197
03:00	11	230	9	226	8	180	9	212
03:15	6	<b>242</b>	7	250	4	184	6	<b>225</b>
03:30	4	<b>250</b>	6	241	4	173	5	<b>221</b>
03:45	9	<b>217</b>	3	248	6	<b>196</b>	6	<b>220</b>
04:00	10	<b>260</b>	6	218	6	<b>188</b>	7	<b>222</b>
04:15	12	228	8	252	10	<b>173</b>	10	218
04:30	8	236	14	228	8	<b>190</b>	10	218
04:45	14	188	17	198	18	170	16	185
05:00	15	262	13	<b>256</b>	21	166	16	228
05:15	12	238	13	<b>238</b>	16	145	14	207
05:30	32	214	30	<b>260</b>	28	184	30	219
05:45	38	211	35	<b>218</b>	44	176	39	202
06:00	45	217	40	228	30	183	38	209
06:15	67	210	65	210	34	147	55	189
06:30	117	198	91	174	46	184	85	185
06:45	132	168	112	180	61	158	102	169
07:00	128	200	126	176	60	144	105	173
07:15	138	184	138	158	70	159	115	167
07:30	179	174	164	166	92	156	145	165
07:45	190	144	215	130	102	140	169	138
08:00	<b>284</b>	147	<b>256</b>	154	83	129	<b>208</b>	143
08:15	<b>286</b>	160	<b>256</b>	130	98	128	<b>213</b>	139
08:30	<b>259</b>	134	<b>281</b>	131	100	150	<b>213</b>	138
08:45	<b>256</b>	152	<b>240</b>	129	126	138	<b>207</b>	140
09:00	182	169	194	166	118	171	165	169
09:15	214	174	186	159	134	152	178	162
09:30	192	124	180	133	133	148	168	135
09:45	174	110	189	106	140	114	168	110
10:00	206	100	184	119	135	114	175	111
10:15	172	100	185	126	146	105	168	110
10:30	198	82	210	94	145	115	184	97
10:45	194	75	170	81	148	106	171	87
11:00	192	80	193	62	<b>173</b>	104	186	82
11:15	182	46	194	62	<b>139</b>	88	172	65
11:30	191	48	184	52	<b>184</b>	72	186	57
11:45	192	40	218	49	<b>187</b>	66	199	52
Total	4712	8309	4611	8545	3144	7458	4156	8102
Combined Total	13021		13156		10602		12258	
Peak Vol.	08:00 1085	03:15 969	08:00 1033	05:00 972	11:00 683	03:45 747	08:00 841	03:15 888
P.H.F.	0.948	0.932	0.919	0.935	0.913	0.920	0.987	0.987
ADT	ADT 12,260		AADT 12,260					

Harding Ave and 96th St  
 Westbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	29	98	26	103	40	88	32	96
12:15	25	102	20	105	38	80	28	96
12:30	14	100	17	118	24	58	18	92
12:45	22	109	18	98	32	94	24	100
01:00	7	80	16	110	20	82	14	91
01:15	11	96	14	109	20	82	15	96
01:30	12	92	13	98	19	82	15	91
01:45	9	78	6	100	24	76	13	85
02:00	12	96	7	104	14	73	11	91
02:15	11	105	9	88	11	72	10	88
02:30	6	99	4	102	10	74	7	92
02:45	5	98	4	106	12	77	7	94
03:00	4	96	6	100	9	74	6	90
03:15	4	97	6	96	6	85	5	93
03:30	2	94	6	108	11	68	6	90
03:45	2	106	4	96	11	83	6	95
04:00	4	114	4	99	10	74	6	96
04:15	3	117	3	108	3	71	3	99
04:30	3	103	7	102	7	95	6	100
04:45	3	110	5	101	10	90	6	100
05:00	9	108	4	98	7	62	7	89
05:15	6	108	14	122	13	94	11	108
05:30	10	119	7	106	13	77	10	101
05:45	12	121	15	102	21	92	16	105
06:00	16	104	13	110	11	72	13	95
06:15	19	100	14	97	20	69	18	89
06:30	17	82	12	94	14	79	14	85
06:45	36	86	30	86	18	73	28	82
07:00	46	90	43	88	24	68	38	82
07:15	60	80	62	76	19	66	47	74
07:30	62	72	55	83	27	70	48	75
07:45	72	94	86	82	30	64	63	80
08:00	106	66	103	67	34	65	81	66
08:15	108	83	109	66	48	68	88	72
08:30	83	60	82	61	63	68	76	63
08:45	108	66	100	68	66	61	91	65
09:00	98	54	104	54	44	72	82	60
09:15	101	47	88	42	62	49	84	46
09:30	86	54	98	54	65	50	83	53
09:45	74	44	92	40	49	37	72	40
10:00	90	51	81	52	80	59	84	54
10:15	88	45	96	39	77	44	87	43
10:30	80	40	88	46	84	46	84	44
10:45	77	43	86	42	78	41	80	42
11:00	112	32	105	45	70	52	96	43
11:15	82	31	86	40	86	44	85	38
11:30	82	30	58	47	80	47	73	41
11:45	82	41	103	39	69	42	85	41
Total	2010	3941	2029	3997	1603	3309	1882	3751
Combined Total	5951		6026		4912		5633	
Peak Vol.	08:00 405	05:00 456	08:15 395	05:15 440	10:00 319	04:30 341	10:15 347	05:15 409
P.H.F.	0.938	0.942	0.906	0.902	0.949	0.897	0.904	0.947
ADT	ADT 5,630		AADT 5,630					



Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

96th St and 500 Blk  
 (Southbound)  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	0	20	0	20	0	16	0	19
12:15	0	25	0	24	0	16	0	22
12:30	0	34	0	24	0	30	0	29
12:45	0	27	0	28	0	24	0	26
01:00	0	27	0	16	0	18	0	20
01:15	0	24	0	20	0	22	0	22
01:30	0	32	0	29	0	18	0	26
01:45	0	33	0	23	0	20	0	25
02:00	0	42	0	44	0	22	0	36
02:15	0	42	0	42	0	25	0	36
02:30	0	35	0	36	0	29	0	33
02:45	0	46	0	37	0	18	0	34
03:00	0	40	0	58	0	37	0	45
03:15	0	42	0	36	0	30	0	36
03:30	0	30	0	52	0	30	0	37
03:45	0	26	0	40	0	40	0	35
04:00	0	42	0	48	0	44	0	45
04:15	0	28	0	32	0	44	0	35
04:30	0	38	0	26	0	26	0	30
04:45	0	18	0	30	0	35	0	28
05:00	0	38	0	46	0	25	0	36
05:15	0	34	0	41	0	36	0	37
05:30	0	52	0	37	0	34	0	41
05:45	0	50	0	43	0	40	0	44
06:00	2	42	0	64	0	55	1	54
06:15	0	44	0	35	0	64	0	48
06:30	0	31	0	44	0	36	0	37
06:45	0	18	4	18	1	36	2	24
07:00	7	31	4	32	6	38	6	34
07:15	4	26	4	22	0	27	3	25
07:30	2	35	5	23	0	18	2	25
07:45	5	16	1	24	0	22	2	21
08:00	2	22	0	40	2	32	1	31
08:15	2	22	6	28	2	15	3	22
08:30	9	20	10	10	2	26	7	19
08:45	15	21	12	22	5	18	11	20
09:00	14	70	8	94	2	82	8	82
09:15	8	82	14	87	15	94	12	88
09:30	8	34	6	33	14	50	9	39
09:45	10	16	4	10	6	10	7	12
10:00	16	0	12	0	8	0	12	0
10:15	8	0	21	0	14	0	14	0
10:30	26	0	20	0	8	0	18	0
10:45	20	0	12	0	16	0	16	0
11:00	15	1	28	0	12	3	18	1
11:15	24	0	18	0	12	*	18	0
11:30	22	0	16	0	17	*	18	0
11:45	20	0	10	0	28	*	19	0
Total	239	1356	215	1418	170	1305	207	1359
Combined Total	1595		1633		1475		1566	
Peak	10:30	08:45	10:15	08:45	11:00	08:45	11:00	08:45
Vol.	85	207	81	236	69	244	73	229
P.H.F.	0.817	0.631	0.723	0.628	0.616	0.649	0.961	0.651
ADT	ADT 1,568		AADT 1,568					

Advanced Transportation Engineering Consultants, Inc (ATEC)  
 13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

96th St and 500 Blk  
 Eastbound  
 Date Start: 17-Apr-14  
 Date End: 18-Apr-14

Start Time	Thu 17-Apr-14		Fri 18-Apr-14		Sat 19-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	26	236	40	237	*	*	33	<b>236</b>
12:15	20	197	36	230	*	*	28	<b>214</b>
12:30	18	242	26	<b>243</b>	*	*	22	<b>242</b>
12:45	22	218	27	<b>223</b>	*	*	24	<b>220</b>
01:00	22	202	20	<b>248</b>	*	*	21	225
01:15	14	194	24	<b>239</b>	*	*	19	216
01:30	8	204	18	216	*	*	13	210
01:45	8	234	12	217	*	*	10	226
02:00	12	230	6	226	*	*	9	228
02:15	8	185	16	248	*	*	12	216
02:30	9	203	12	216	*	*	10	210
02:45	8	204	14	218	*	*	11	211
03:00	7	234	8	130	*	*	8	182
03:15	7	242	4	0	*	*	6	121
03:30	2	248	6	0	*	*	4	124
03:45	8	216	5	0	*	*	6	108
04:00	5	244	6	0	*	*	6	122
04:15	3	<b>220</b>	13	0	*	*	8	110
04:30	13	<b>246</b>	10	0	*	*	12	123
04:45	7	<b>233</b>	11	0	*	*	9	116
05:00	20	<b>253</b>	12	0	*	*	16	126
05:15	16	202	22	0	*	*	19	101
05:30	31	226	23	0	*	*	27	113
05:45	33	240	32	0	*	*	32	120
06:00	42	218	38	0	*	*	40	109
06:15	70	240	58	0	*	*	64	120
06:30	94	216	84	0	*	*	89	108
06:45	140	210	91	0	*	*	116	105
07:00	125	230	99	0	*	*	112	115
07:15	133	213	109	0	*	*	121	106
07:30	173	204	156	0	*	*	164	102
07:45	<b>236</b>	155	143	0	*	*	190	78
08:00	<b>246</b>	168	156	0	*	*	201	84
08:15	<b>304</b>	156	180	0	*	*	<b>242</b>	78
08:30	<b>330</b>	163	208	0	*	*	<b>269</b>	82
08:45	233	118	206	0	*	*	<b>220</b>	59
09:00	219	158	206	0	*	*	<b>212</b>	79
09:15	199	120	188	0	*	*	194	60
09:30	206	132	214	0	*	*	210	66
09:45	204	119	206	0	*	*	205	60
10:00	211	107	183	0	*	*	197	54
10:15	188	100	194	0	*	*	191	50
10:30	178	92	199	0	*	*	188	46
10:45	184	60	220	0	*	*	202	30
11:00	199	67	<b>192</b>	0	*	*	196	34
11:15	228	79	<b>240</b>	0	*	*	234	40
11:30	190	52	<b>226</b>	0	*	*	208	26
11:45	202	56	<b>266</b>	0	*	*	234	28
Total	4861	8786	4465	2891	0	0	4664	5839
Combined Total	13647		7356		0		10503	
Peak	07:45	04:15	11:00	00:30			08:15	12:00
Vol.	1116	952	924	953			943	912
P.H.F.	0.845	0.941	0.868	0.961			0.876	0.942
ADT	ADT 7,001		AADT 7,001					

96th St and 500 Blk  
 Westbound  
 Date Start: 10-Apr-14  
 Date End: 12-Apr-14

Start Time	Thu 10-Apr-14		Fri 11-Apr-14		Sat 12-Apr-14		Daily Average	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	53	208	46	228	76	204	58	213
12:15	53	216	36	224	66	172	52	204
12:30	33	231	34	224	48	172	38	209
12:45	32	234	32	262	58	190	41	229
01:00	22	220	30	218	43	177	32	205
01:15	16	232	22	249	34	184	24	222
01:30	22	214	22	258	30	182	25	218
01:45	24	217	12	222	26	164	21	201
02:00	14	204	12	242	25	166	17	204
02:15	13	274	12	212	18	139	14	208
02:30	9	278	6	268	16	192	10	246
02:45	8	293	8	283	16	191	11	256
03:00	8	264	9	270	13	151	10	228
03:15	6	233	7	273	10	202	8	236
03:30	3	216	8	228	14	198	8	214
03:45	4	260	7	240	14	182	8	227
04:00	9	296	5	257	9	212	8	255
04:15	14	268	7	276	9	183	10	242
04:30	10	282	10	233	8	210	9	242
04:45	6	280	11	271	17	224	11	258
05:00	14	264	9	258	10	170	11	231
05:15	10	288	18	277	14	204	14	256
05:30	17	261	13	242	17	199	16	234
05:45	20	254	24	244	22	194	22	231
06:00	25	242	22	256	14	190	20	229
06:15	34	228	30	198	34	174	33	200
06:30	38	198	36	247	23	198	32	214
06:45	106	211	58	194	32	210	65	205
07:00	98	186	96	206	32	182	75	191
07:15	137	185	120	188	50	172	102	182
07:30	164	169	155	176	66	189	128	178
07:45	234	191	227	170	66	168	176	176
08:00	320	154	314	162	73	145	236	154
08:15	276	162	284	138	88	152	216	151
08:30	213	148	187	118	111	153	170	140
08:45	252	144	256	146	116	146	208	145
09:00	236	140	234	126	123	147	198	138
09:15	231	118	236	116	106	126	191	120
09:30	204	105	221	100	160	100	195	102
09:45	216	112	197	92	113	100	175	101
10:00	180	92	184	120	159	116	174	109
10:15	190	104	220	98	173	104	194	102
10:30	202	85	208	87	149	98	186	90
10:45	214	78	202	70	189	82	202	77
11:00	222	68	226	100	170	107	206	92
11:15	178	70	198	86	184	99	187	85
11:30	203	56	174	99	180	89	186	81
11:45	174	71	229	64	168	81	190	72
Total	4767	9304	4714	9316	3192	7790	4223	8803
Combined Total	14071		14030		10982		13026	
Peak	08:00	04:00	08:00	02:30	10:45	04:00	08:00	04:00
Vol.	1061	1126	1041	1094	723	829	830	997
P.H.F.	0.829	0.951	0.829	0.966	0.956	0.925	0.879	0.966
ADT	ADT 13,028		AADT 13,028					



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix A: Traffic Counts**

### **4-Hour Turning Movement Counts Weekday**



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : SR A1A -Collins Ave and Harbour Way N  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	12	248	3	0	263	0	0	0	0	0	2	159	0	0	161	0	0	0	1	1	425
07:15 AM	15	244	3	0	262	0	0	0	0	0	1	143	0	0	144	0	0	0	0	0	406
07:30 AM	27	348	1	1	377	0	0	0	0	0	3	169	0	1	173	0	0	0	0	0	550
07:45 AM	24	299	3	0	326	0	0	0	0	0	5	203	0	0	208	0	0	0	1	1	535
Total	78	1139	10	1	1228	0	0	0	0	0	11	674	0	1	686	0	0	0	2	2	1916
08:00 AM	18	322	2	0	342	0	0	0	0	0	6	173	0	1	180	0	0	0	4	4	526
08:15 AM	30	345	11	0	386	0	0	0	0	0	8	225	0	2	235	0	0	0	6	6	627
08:30 AM	36	341	11	2	390	0	0	0	0	0	7	268	0	3	278	0	0	0	4	4	672
08:45 AM	24	327	8	0	359	0	0	0	0	0	7	271	0	1	279	0	0	0	2	2	640
Total	108	1335	32	2	1477	0	0	0	0	0	28	937	0	7	972	0	0	0	16	16	2465
*** BREAK ***																					
04:00 PM	28	409	6	0	443	0	0	0	0	0	16	524	0	1	541	0	0	2	1	3	987
04:15 PM	33	347	6	0	386	0	0	0	0	0	5	521	0	3	529	0	0	0	5	5	920
04:30 PM	35	376	9	0	420	0	0	0	0	0	12	478	0	0	490	0	0	0	3	3	913
04:45 PM	44	397	3	0	444	0	0	0	0	0	8	461	0	4	473	0	0	0	4	4	921
Total	140	1529	24	0	1693	0	0	0	0	0	41	1984	0	8	2033	0	0	2	13	15	3741
05:00 PM	35	399	10	0	444	0	0	0	0	0	4	492	0	2	498	0	0	1	6	7	949
05:15 PM	40	373	11	0	424	0	0	0	0	0	13	512	0	5	530	0	0	0	5	5	959
05:30 PM	24	391	12	0	427	0	0	0	0	0	9	534	0	4	547	0	0	0	8	8	982
05:45 PM	35	385	10	0	430	0	0	0	0	0	3	493	0	5	501	0	0	0	2	2	933
Total	134	1548	43	0	1725	0	0	0	0	0	29	2031	0	16	2076	0	0	1	21	22	3823
Grand Total	460	5551	109	3	6123	0	0	0	0	0	109	5626	0	32	5767	0	0	3	52	55	11945
Apprch %	7.5	90.7	1.8	0		0	0	0	0		1.9	97.6	0	0.6		0	0	5.5	94.5		
Total %	3.9	46.5	0.9	0	51.3	0	0	0	0	0	0.9	47.1	0	0.3	48.3	0	0	0	0.4	0.5	
Passenger Cars	455	5423	105	3	5986	0	0	0	0	0	101	5507	0	32	5640	0	0	3	52	55	11681
% Passenger Cars	98.9	97.7	96.3	100	97.8	0	0	0	0	0	92.7	97.9	0	100	97.8	0	0	100	100	100	97.8
Trucks	5	128	4	0	137	0	0	0	0	0	8	119	0	0	127	0	0	0	0	0	264
% Trucks	1.1	2.3	3.7	0	2.2	0	0	0	0	0	7.3	2.1	0	0	2.2	0	0	0	0	0	2.2



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : SR A1A -Collins Ave and 9700 Blk  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	3	275	0	3	281	3	0	5	3	11	4	153	1	4	162	1	1	1	2	5	459
07:15 AM	2	317	1	3	323	4	1	4	7	16	1	179	2	2	184	3	0	1	0	4	527
07:30 AM	1	377	0	4	382	6	0	1	13	20	0	241	3	7	251	2	0	4	3	9	662
07:45 AM	6	402	0	4	412	5	0	0	14	19	0	195	4	6	205	3	0	1	8	12	648
Total	12	1371	1	14	1398	18	1	10	37	66	5	768	10	19	802	9	1	7	13	30	2296
08:00 AM	1	479	0	0	480	5	0	4	15	24	1	238	4	13	256	3	0	0	3	6	766
08:15 AM	6	383	14	0	403	4	0	1	12	17	7	276	11	4	298	5	0	0	8	13	731
08:30 AM	7	328	24	9	368	4	0	2	18	24	8	339	8	10	365	2	0	0	8	10	767
08:45 AM	3	395	39	2	439	3	0	1	23	27	13	338	10	13	374	2	0	0	4	6	846
Total	17	1585	77	11	1690	16	0	8	68	92	29	1191	33	40	1293	12	0	0	23	35	3110
*** BREAK ***																					
04:00 PM	7	337	33	0	377	16	0	15	13	44	14	422	8	25	469	34	2	3	6	45	935
04:15 PM	1	364	21	3	389	5	0	6	12	23	21	478	8	18	525	30	1	3	2	36	973
04:30 PM	4	377	25	0	406	13	0	7	24	44	19	403	8	28	458	30	2	6	4	42	950
04:45 PM	3	359	31	0	393	8	0	6	15	29	15	474	9	21	519	40	1	0	5	46	987
Total	15	1437	110	3	1565	42	0	34	64	140	69	1777	33	92	1971	134	6	12	17	169	3845
05:00 PM	2	383	34	2	421	9	1	8	23	41	16	465	5	24	510	29	5	1	6	41	1013
05:15 PM	4	382	26	0	412	3	1	6	20	30	18	478	7	34	537	39	1	2	2	44	1023
05:30 PM	9	357	28	1	395	12	2	13	7	34	16	501	9	12	538	51	3	0	2	56	1023
05:45 PM	3	369	20	0	392	12	1	4	15	32	22	458	6	24	510	37	3	1	4	45	979
Total	18	1491	108	3	1620	36	5	31	65	137	72	1902	27	94	2095	156	12	4	14	186	4038
Grand Total	62	5884	296	31	6273	112	6	83	234	435	175	5638	103	245	6161	311	19	23	67	420	13289
Apprch %	1	93.8	4.7	0.5		25.7	1.4	19.1	53.8		2.8	91.5	1.7	4		74	4.5	5.5	16		
Total %	0.5	44.3	2.2	0.2	47.2	0.8	0	0.6	1.8	3.3	1.3	42.4	0.8	1.8	46.4	2.3	0.1	0.2	0.5	3.2	
Passenger Cars	61	5754	296	31	6142	111	6	82	234	433	172	5480	102	245	5999	309	19	23	67	418	12992
% Passenger Cars	98.4	97.8	100	100	97.9	99.1	100	98.8	100	99.5	98.3	97.2	99	100	97.4	99.4	100	100	100	99.5	97.8
Trucks	1	130	0	0	131	1	0	1	0	2	3	158	1	0	162	2	0	0	0	2	297
% Trucks	1.6	2.2	0	0	2.1	0.9	0	1.2	0	0.5	1.7	2.8	1	0	2.6	0.6	0	0	0	0.5	2.2



13940 SW 136th Street, Suite 107  
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 (305) 480-9938

File Name : Harding Ave and 9600 Blk  
 Site Code :  
 Start Date : 4/11/2014  
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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	279	0	1	280	3	0	0	1	4	0	0	0	0	0	0	0	0	8	8	292
07:15 AM	0	321	1	1	323	6	0	0	0	6	0	0	0	1	1	0	0	1	16	17	347
07:30 AM	0	386	0	1	387	9	0	0	0	9	0	0	0	0	0	0	0	1	24	25	421
07:45 AM	0	407	1	0	408	8	0	0	1	9	0	0	0	2	2	0	0	2	20	22	441
Total	0	1393	2	3	1398	26	0	0	2	28	0	0	0	3	3	0	0	4	68	72	1501
08:00 AM	0	483	1	3	487	9	0	0	0	9	0	0	0	0	0	0	0	1	18	19	515
08:15 AM	0	387	0	3	390	14	0	0	0	14	0	0	0	0	0	0	0	0	16	16	420
08:30 AM	0	332	0	7	339	15	0	0	0	15	0	0	0	0	0	0	0	1	30	31	385
08:45 AM	0	398	0	6	404	23	0	0	0	23	0	0	0	1	1	0	0	1	21	22	450
Total	0	1600	1	19	1620	61	0	0	0	61	0	0	0	1	1	0	0	3	85	88	1770
*** BREAK ***																					
04:00 PM	0	355	1	5	361	37	0	0	0	37	0	0	0	0	0	0	0	14	36	50	448
04:15 PM	0	367	5	1	373	21	0	0	0	21	0	0	0	1	1	0	0	20	18	38	433
04:30 PM	0	392	3	5	400	28	0	0	0	28	0	0	0	0	0	0	0	17	31	48	476
04:45 PM	0	365	2	5	372	12	0	0	0	12	0	0	0	0	0	0	0	18	22	40	424
Total	0	1479	11	16	1506	98	0	0	0	98	0	0	0	1	1	0	0	69	107	176	1781
05:00 PM	0	389	4	7	400	29	0	0	0	29	0	0	0	1	1	0	0	24	24	48	478
05:15 PM	0	384	3	8	395	20	0	0	0	20	0	0	0	0	0	0	0	16	35	51	466
05:30 PM	0	367	2	0	369	20	0	0	0	20	0	0	0	0	0	0	0	22	25	47	436
05:45 PM	0	374	9	10	393	18	0	0	0	18	0	0	0	0	0	0	0	12	30	42	453
Total	0	1514	18	25	1557	87	0	0	0	87	0	0	0	1	1	0	0	74	114	188	1833
Grand Total	0	5986	32	63	6081	272	0	0	2	274	0	0	0	6	6	0	0	150	374	524	6885
Apprch %	0	98.4	0.5	1		99.3	0	0	0.7		0	0	0	100		0	0	28.6	71.4		
Total %	0	86.9	0.5	0.9	88.3	4	0	0	0	4	0	0	0	0.1	0.1	0	0	2.2	5.4	7.6	
Passenger Cars	0	5856	32	63	5951	262	0	0	2	264	0	0	0	6	6	0	0	150	374	524	6745
% Passenger Cars	0	97.8	100	100	97.9	96.3	0	0	100	96.4	0	0	0	100	100	0	0	100	100	100	98
Trucks	0	130	0	0	130	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	140
% Trucks	0	2.2	0	0	2.1	3.7	0	0	0	3.6	0	0	0	0	0	0	0	0	0	0	2



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	2	2	0	2	0	2	4	43	145	1	8	197	38	2	0	1	41	244
07:15 AM	0	0	0	2	2	0	1	1	2	4	57	149	0	14	220	46	1	0	1	48	274
07:30 AM	0	0	0	2	2	0	0	1	1	2	51	208	2	4	265	68	0	0	1	69	338
07:45 AM	0	0	0	3	3	0	0	0	8	8	90	161	2	17	270	68	4	0	4	76	357
Total	0	0	0	9	9	0	3	2	13	18	241	663	5	43	952	220	7	0	7	234	1213
08:00 AM	0	0	0	10	10	0	0	4	3	7	119	208	2	9	338	67	4	0	2	73	428
08:15 AM	0	0	0	1	1	0	3	2	8	13	102	263	5	18	388	92	2	0	2	96	498
08:30 AM	0	0	0	3	3	0	0	1	8	9	71	243	1	24	339	125	5	0	4	134	485
08:45 AM	0	0	0	4	4	0	0	0	12	12	110	306	2	24	442	82	10	0	6	98	556
Total	0	0	0	18	18	0	3	7	31	41	402	1020	10	75	1507	366	21	0	14	401	1967
*** BREAK ***																					
04:00 PM	0	0	0	3	3	0	1	2	5	8	106	381	6	17	510	109	3	1	0	113	634
04:15 PM	0	0	0	1	1	0	3	3	5	11	102	408	4	12	526	117	3	0	2	122	660
04:30 PM	0	0	0	7	7	0	2	6	8	16	103	363	4	15	485	89	4	0	7	100	608
04:45 PM	0	0	0	2	2	0	2	4	6	12	104	424	4	10	542	88	4	0	3	95	651
Total	0	0	0	13	13	0	8	15	24	47	415	1576	18	54	2063	403	14	1	12	430	2553
05:00 PM	0	0	0	0	0	0	0	3	13	16	102	413	2	11	528	101	3	0	1	105	649
05:15 PM	0	0	0	7	7	0	3	0	4	7	122	424	0	18	564	85	6	0	4	95	673
05:30 PM	0	0	0	3	3	0	0	2	6	8	107	455	2	14	578	112	2	0	1	115	704
05:45 PM	0	0	0	4	4	0	1	1	9	11	99	435	2	23	559	81	4	0	1	86	660
Total	0	0	0	14	14	0	4	6	32	42	430	1727	6	66	2229	379	15	0	7	401	2686
Grand Total	0	0	0	54	54	0	18	30	100	148	1488	4986	39	238	6751	1368	57	1	40	1466	8419
Apprch %	0	0	0	100		0	12.2	20.3	67.6		22	73.9	0.6	3.5		93.3	3.9	0.1	2.7		
Total %	0	0	0	0.6	0.6	0	0.2	0.4	1.2	1.8	17.7	59.2	0.5	2.8	80.2	16.2	0.7	0	0.5	17.4	
Passenger Cars	0	0	0	54	54	0	18	27	100	145	1445	4844	36	238	6563	1332	57	1	40	1430	8192
% Passenger Cars	0	0	0	100	100	0	100	90	100	98	97.1	97.2	92.3	100	97.2	97.4	100	100	100	97.5	97.3
Trucks	0	0	0	0	0	0	0	3	0	3	43	142	3	0	188	36	0	0	0	36	227
% Trucks	0	0	0	0	0	0	0	10	0	2	2.9	2.8	7.7	0	2.8	2.6	0	0	0	2.5	2.7





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File Name : Harding Ave and 96th St  
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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	10	233	38	6	287	0	47	0	2	49	0	0	0	3	3	0	34	79	0	113	452
07:15 AM	9	299	37	7	352	0	61	0	1	62	0	0	0	1	1	0	39	109	0	148	563
07:30 AM	8	351	56	2	417	0	64	0	3	67	0	0	0	4	4	0	67	121	0	188	676
07:45 AM	13	397	75	5	490	0	102	0	4	106	0	0	0	0	0	0	71	153	0	224	820
Total	40	1280	206	20	1546	0	274	0	10	284	0	0	0	8	8	0	211	462	0	673	2511
08:00 AM	11	422	92	5	530	0	97	0	1	98	0	0	0	0	0	0	60	167	4	231	859
08:15 AM	11	371	69	0	451	0	103	0	2	105	0	0	0	0	0	0	86	178	0	264	820
08:30 AM	15	333	63	8	419	0	91	0	2	93	0	0	0	0	0	0	114	178	3	295	807
08:45 AM	14	343	87	7	451	0	93	1	6	100	0	0	0	0	0	0	91	118	4	213	764
Total	51	1469	311	20	1851	0	384	1	11	396	0	0	0	0	0	0	351	641	11	1003	3250
*** BREAK ***																					
04:00 PM	9	315	73	7	404	0	83	0	10	93	0	0	0	2	2	0	105	109	3	217	716
04:15 PM	7	319	72	0	398	0	123	0	6	129	0	0	0	1	1	0	114	131	0	245	773
04:30 PM	6	380	62	3	451	0	111	0	10	121	0	0	0	0	0	0	93	140	3	236	808
04:45 PM	11	284	79	4	378	0	110	0	8	118	0	0	0	1	1	0	93	103	4	200	697
Total	33	1298	286	14	1631	0	427	0	34	461	0	0	0	4	4	0	405	483	10	898	2994
05:00 PM	2	356	69	0	427	0	87	0	7	94	0	0	0	0	0	0	108	138	10	256	777
05:15 PM	0	331	59	0	390	0	122	0	5	127	0	0	0	0	0	0	90	160	8	258	775
05:30 PM	11	371	63	4	449	0	115	0	4	119	0	0	0	0	0	0	113	151	5	269	837
05:45 PM	7	331	69	0	407	0	107	0	2	109	0	0	0	0	0	0	82	148	2	232	748
Total	20	1389	260	4	1673	0	431	0	18	449	0	0	0	0	0	0	393	597	25	1015	3137
Grand Total	144	5436	1063	58	6701	0	1516	1	73	1590	0	0	0	12	12	0	1360	2183	46	3589	11892
Apprch %	2.1	81.1	15.9	0.9		0	95.3	0.1	4.6		0	0	0	100		0	37.9	60.8	1.3		
Total %	1.2	45.7	8.9	0.5	56.3	0	12.7	0	0.6	13.4	0	0	0	0.1	0.1	0	11.4	18.4	0.4	30.2	
Passenger Cars	138	5331	1033	58	6560	0	1483	1	73	1557	0	0	0	12	12	0	1336	2149	46	3531	11660
% Passenger Cars	95.8	98.1	97.2	100	97.9	0	97.8	100	100	97.9	0	0	0	100	100	0	98.2	98.4	100	98.4	98
Trucks	6	105	30	0	141	0	33	0	0	33	0	0	0	0	0	0	24	34	0	58	232
% Trucks	4.2	1.9	2.8	0	2.1	0	2.2	0	0	2.1	0	0	0	0	0	0	1.8	1.6	0	1.6	2



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	3	3	0	0	0	0	0	13	183	1	1	198	4	0	0	0	4	205
07:15 AM	0	0	0	1	1	0	0	0	0	0	11	190	4	0	205	7	0	0	0	7	213
07:30 AM	0	0	0	4	4	0	0	0	0	0	9	244	0	1	254	9	1	0	0	10	268
07:45 AM	0	0	0	2	2	0	0	0	0	0	17	261	1	0	279	12	3	0	0	15	296
Total	0	0	0	10	10	0	0	0	0	0	50	878	6	2	936	32	4	0	0	36	982
08:00 AM	0	0	0	1	1	0	1	1	0	2	10	275	0	6	291	9	2	0	0	11	305
08:15 AM	0	0	0	3	3	0	1	1	0	2	22	371	0	8	401	19	0	0	0	19	425
08:30 AM	0	0	0	0	0	0	5	1	0	6	26	341	2	3	372	13	1	0	0	14	392
08:45 AM	0	0	0	4	4	0	2	2	0	4	19	364	5	7	395	27	2	0	0	29	432
Total	0	0	0	8	8	0	9	5	0	14	77	1351	7	24	1459	68	5	0	0	73	1554
*** BREAK ***																					
04:00 PM	0	0	0	2	2	0	2	0	0	2	23	408	3	15	449	31	4	0	0	35	488
04:15 PM	0	0	0	0	0	0	3	2	0	5	23	436	3	0	462	34	0	0	0	34	501
04:30 PM	0	0	0	5	5	0	0	0	0	0	23	418	2	7	450	27	3	0	0	30	485
04:45 PM	0	0	0	2	2	0	3	1	0	4	21	421	2	4	448	27	0	0	0	27	481
Total	0	0	0	9	9	0	8	3	0	11	90	1683	10	26	1809	119	7	0	0	126	1955
05:00 PM	0	0	0	1	1	0	2	0	0	2	28	504	2	19	553	24	1	0	0	25	581
05:15 PM	0	0	0	2	2	0	0	0	0	0	27	531	3	5	566	21	3	0	0	24	592
05:30 PM	0	0	0	1	1	0	2	2	0	4	21	544	2	5	572	25	0	0	0	25	602
05:45 PM	0	0	0	2	2	0	3	2	0	5	24	522	6	7	559	31	4	0	0	35	601
Total	0	0	0	6	6	0	7	4	0	11	100	2101	13	36	2250	101	8	0	0	109	2376
Grand Total	0	0	0	33	33	0	24	12	0	36	317	6013	36	88	6454	320	24	0	0	344	6867
Apprch %	0	0	0	100		0	66.7	33.3	0		4.9	93.2	0.6	1.4		93	7	0	0		
Total %	0	0	0	0.5	0.5	0	0.3	0.2	0	0.5	4.6	87.6	0.5	1.3	94	4.7	0.3	0	0	5	
Passenger Cars	0	0	0	33	33	0	24	12	0	36	312	5861	36	88	6297	309	23	0	0	332	6698
% Passenger Cars	0	0	0	100	100	0	100	100	0	100	98.4	97.5	100	100	97.6	96.6	95.8	0	0	96.5	97.5
Trucks	0	0	0	0	0	0	0	0	0	0	5	152	0	0	157	11	1	0	0	12	169
% Trucks	0	0	0	0	0	0	0	0	0	0	1.6	2.5	0	0	2.4	3.4	4.2	0	0	3.5	2.5



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	6	313	4	2	325	6	4	0	1	11	0	0	0	2	2	0	2	6	0	8	346
07:15 AM	8	376	5	4	393	6	5	0	2	13	0	0	0	2	2	0	1	4	0	5	413
07:30 AM	12	431	2	9	454	3	4	0	5	12	0	0	0	5	5	0	1	9	0	10	481
07:45 AM	19	479	10	3	511	6	7	0	8	21	0	0	0	6	6	0	5	3	0	8	546
Total	45	1599	21	18	1683	21	20	0	16	57	0	0	0	15	15	0	9	22	0	31	1786
08:00 AM	9	554	13	7	583	5	6	0	12	23	0	0	0	5	5	0	1	5	0	6	617
08:15 AM	18	499	6	7	530	6	9	0	11	26	0	0	0	6	6	0	8	11	4	23	585
08:30 AM	20	482	9	5	516	16	16	0	13	45	0	0	0	8	8	0	7	18	2	27	596
08:45 AM	22	433	11	4	470	10	15	1	26	52	0	0	0	14	14	0	9	8	4	21	557
Total	69	1968	39	23	2099	37	46	1	62	146	0	0	0	33	33	0	25	42	10	77	2355
*** BREAK ***																					
04:00 PM	16	429	13	20	478	20	15	0	37	72	0	0	0	17	17	0	18	19	5	42	609
04:15 PM	29	422	13	19	483	22	17	0	26	65	0	0	0	15	15	0	13	25	0	38	601
04:30 PM	27	470	15	11	523	21	15	2	21	59	0	0	0	6	6	0	8	28	1	37	625
04:45 PM	22	379	20	19	440	20	8	0	30	58	0	0	0	18	18	0	8	17	3	28	544
Total	94	1700	61	69	1924	83	55	2	114	254	0	0	0	56	56	0	47	89	9	145	2379
05:00 PM	18	484	18	16	536	19	17	0	31	67	0	0	0	14	14	0	15	19	1	35	652
05:15 PM	17	472	18	10	517	18	13	0	22	53	0	0	0	14	14	0	10	16	3	29	613
05:30 PM	16	477	13	22	528	15	11	0	20	46	0	0	0	12	12	0	10	15	5	30	616
05:45 PM	25	464	15	14	518	20	18	0	21	59	0	0	0	13	13	0	16	23	2	41	631
Total	76	1897	64	62	2099	72	59	0	94	225	0	0	0	53	53	0	51	73	11	135	2512
Grand Total	284	7164	185	172	7805	213	180	3	286	682	0	0	0	157	157	0	132	226	30	388	9032
Apprch %	3.6	91.8	2.4	2.2		31.2	26.4	0.4	41.9		0	0	0	100		0	34	58.2	7.7		
Total %	3.1	79.3	2	1.9	86.4	2.4	2	0	3.2	7.6	0	0	0	1.7	1.7	0	1.5	2.5	0.3	4.3	
Passenger Cars	279	7010	181	172	7642	209	178	3	286	676	0	0	0	157	157	0	125	223	30	378	8853
% Passenger Cars	98.2	97.9	97.8	100	97.9	98.1	98.9	100	100	99.1	0	0	0	100	100	0	94.7	98.7	100	97.4	98
Trucks	5	154	4	0	163	4	2	0	0	6	0	0	0	0	0	0	7	3	0	10	179
% Trucks	1.8	2.1	2.2	0	2.1	1.9	1.1	0	0	0.9	0	0	0	0	0	0	5.3	1.3	0	2.6	2



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File Name : SR A1A - Collins Ave and 94th St  
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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	1	1	0	1	2	3	6	7	190	0	14	211	3	2	0	1	6	224
07:15 AM	0	0	0	0	0	0	0	0	6	6	10	197	3	7	217	5	5	0	1	11	234
07:30 AM	0	0	0	0	0	0	1	1	17	19	11	248	0	8	267	12	0	0	0	12	298
07:45 AM	0	0	0	0	0	0	2	0	6	8	20	304	0	9	333	6	1	0	0	7	348
Total	0	0	0	1	1	0	4	3	32	39	48	939	3	38	1028	26	8	0	2	36	1104
08:00 AM	0	0	0	2	2	0	1	0	4	5	13	297	2	11	323	10	0	0	3	13	343
08:15 AM	0	0	0	0	0	0	2	0	0	2	22	365	1	8	396	17	0	0	0	17	415
08:30 AM	0	0	0	1	1	0	4	0	8	12	28	333	3	12	376	17	1	0	0	18	407
08:45 AM	0	0	0	0	0	0	2	0	6	8	24	407	5	12	448	13	1	0	1	15	471
Total	0	0	0	3	3	0	9	0	18	27	87	1402	11	43	1543	57	2	0	4	63	1636
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	2	3	9	14	12	455	1	15	483	24	1	0	0	25	522
04:15 PM	0	0	0	0	0	0	4	1	1	6	28	481	0	19	528	26	1	0	0	27	561
04:30 PM	0	0	0	0	0	0	3	0	0	3	21	455	0	7	483	30	1	0	1	32	518
04:45 PM	0	0	0	1	1	0	0	1	6	7	24	438	2	15	479	29	0	0	0	29	516
Total	0	0	0	1	1	0	9	5	16	30	85	1829	3	56	1973	109	3	0	1	113	2117
05:00 PM	0	0	0	0	0	0	1	1	0	2	22	496	0	21	539	31	0	0	0	31	572
05:15 PM	0	0	0	0	0	0	0	0	0	0	21	517	0	6	544	18	0	0	1	19	563
05:30 PM	0	0	0	0	0	0	0	0	0	0	22	532	1	6	561	14	0	0	1	15	576
05:45 PM	0	0	0	0	0	0	1	0	0	1	20	536	1	15	572	22	0	0	0	22	595
Total	0	0	0	0	0	0	2	1	0	3	85	2081	2	48	2216	85	0	0	2	87	2306
Grand Total	0	0	0	5	5	0	24	9	66	99	305	6251	19	185	6760	277	13	0	9	299	7163
Apprch %	0	0	0	100		0	24.2	9.1	66.7		4.5	92.5	0.3	2.7		92.6	4.3	0	3		
Total %	0	0	0	0.1	0.1	0	0.3	0.1	0.9	1.4	4.3	87.3	0.3	2.6	94.4	3.9	0.2	0	0.1	4.2	
Passenger Cars	0	0	0	5	5	0	24	9	66	99	302	6112	12	185	6611	265	12	0	9	286	7001
% Passenger Cars	0	0	0	100	100	0	100	100	100	100	99	97.8	63.2	100	97.8	95.7	92.3	0	100	95.7	97.7
Trucks	0	0	0	0	0	0	0	0	0	0	3	139	7	0	149	12	1	0	0	13	162
% Trucks	0	0	0	0	0	0	0	0	0	0	1	2.2	36.8	0	2.2	4.3	7.7	0	0	4.3	2.3



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	13	379	12	18	422	4	6	0	0	10	0	0	0	2	2	0	0	7	4	11	445
07:15 AM	13	429	10	13	465	6	6	0	2	14	0	0	0	2	2	0	3	6	2	11	492
07:30 AM	12	494	15	8	529	11	8	0	0	19	0	0	0	4	4	0	0	5	3	8	560
07:45 AM	8	564	18	5	595	5	6	0	2	13	0	0	0	6	6	0	2	5	2	9	623
Total	46	1866	55	44	2011	26	26	0	4	56	0	0	0	14	14	0	5	23	11	39	2120
08:00 AM	20	492	28	3	543	7	21	0	1	29	0	0	0	1	1	0	7	14	8	29	602
08:15 AM	14	422	18	17	471	11	15	0	11	37	0	0	0	1	1	0	4	9	11	24	533
08:30 AM	16	397	19	3	435	15	11	0	4	30	0	0	0	0	0	0	2	10	12	24	489
08:45 AM	18	366	18	16	418	11	10	0	6	27	0	0	0	0	0	0	3	14	6	23	468
Total	68	1677	83	39	1867	44	57	0	22	123	0	0	0	2	2	0	16	47	37	100	2092
*** BREAK ***																					
04:00 PM	28	422	38	19	507	14	19	0	9	42	0	0	0	9	9	0	13	15	7	35	593
04:15 PM	20	368	31	26	445	16	18	0	14	48	0	0	0	9	9	0	8	22	18	48	550
04:30 PM	22	464	31	23	540	19	20	0	15	54	0	0	0	7	7	0	8	20	6	34	635
04:45 PM	16	493	27	20	556	13	16	0	11	40	0	0	0	7	7	0	6	28	17	51	654
Total	86	1747	127	88	2048	62	73	0	49	184	0	0	0	32	32	0	35	85	48	168	2432
05:00 PM	11	447	33	14	505	14	16	0	5	35	0	0	0	7	7	0	4	23	16	43	590
05:15 PM	12	479	27	26	544	19	16	0	6	41	0	0	0	3	3	0	5	15	15	35	623
05:30 PM	13	478	30	18	539	13	16	0	11	40	0	0	0	5	5	0	3	15	10	28	612
05:45 PM	4	481	44	33	562	10	22	0	18	50	0	0	0	4	4	0	8	20	13	41	657
Total	40	1885	134	91	2150	56	70	0	40	166	0	0	0	19	19	0	20	73	54	147	2482
Grand Total	240	7175	399	262	8076	188	226	0	115	529	0	0	0	67	67	0	76	228	150	454	9126
Apprch %	3	88.8	4.9	3.2		35.5	42.7	0	21.7		0	0	0	100		0	16.7	50.2	33		
Total %	2.6	78.6	4.4	2.9	88.5	2.1	2.5	0	1.3	5.8	0	0	0	0.7	0.7	0	0.8	2.5	1.6	5	
Passenger Cars	233	7042	389	262	7926	182	220	0	115	517	0	0	0	67	67	0	73	227	150	450	8960
% Passenger Cars	97.1	98.1	97.5	100	98.1	96.8	97.3	0	100	97.7	0	0	0	100	100	0	96.1	99.6	100	99.1	98.2
Trucks	7	133	10	0	150	6	6	0	0	12	0	0	0	0	0	0	3	1	0	4	166
% Trucks	2.9	1.9	2.5	0	1.9	3.2	2.7	0	0	2.3	0	0	0	0	0	0	3.9	0.4	0	0.9	1.8



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound				Northbound				Eastbound				Int. Total
	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	
07:00 AM	0	0	0	0	8	187	1	196	3	0	3	6	202
07:15 AM	0	0	4	4	10	210	0	220	2	0	1	3	227
07:30 AM	0	0	2	2	5	268	2	275	3	0	1	4	281
07:45 AM	0	0	1	1	5	299	0	304	6	0	8	14	319
Total	0	0	7	7	28	964	3	995	14	0	13	27	1029
08:00 AM	0	0	0	0	2	303	4	309	6	0	4	10	319
08:15 AM	0	0	1	1	4	386	6	396	3	0	3	6	403
08:30 AM	0	0	2	2	8	372	4	384	10	0	5	15	401
08:45 AM	0	0	2	2	6	401	9	416	6	0	3	9	427
Total	0	0	5	5	20	1462	23	1505	25	0	15	40	1550
*** BREAK ***													
04:00 PM	0	0	0	0	10	419	3	432	5	0	6	11	443
04:15 PM	0	0	1	1	6	508	5	519	7	0	6	13	533
04:30 PM	0	0	1	1	11	485	9	505	14	0	1	15	521
04:45 PM	0	0	0	0	9	428	14	451	7	0	4	11	462
Total	0	0	2	2	36	1840	31	1907	33	0	17	50	1959
05:00 PM	0	0	0	0	9	549	7	565	10	0	4	14	579
05:15 PM	0	0	1	1	4	552	8	564	9	0	2	11	576
05:30 PM	0	0	0	0	11	523	18	552	8	0	4	12	564
05:45 PM	0	0	4	4	5	532	2	539	8	0	8	16	559
Total	0	0	5	5	29	2156	35	2220	35	0	18	53	2278
Grand Total	0	0	19	19	113	6422	92	6627	107	0	63	170	6816
Apprch %	0	0	100		1.7	96.9	1.4		62.9	0	37.1		
Total %	0	0	0.3	0.3	1.7	94.2	1.3	97.2	1.6	0	0.9	2.5	
Passenger Cars	0	0	19	19	111	6252	92	6455	94	0	63	157	6631
% Passenger Cars	0	0	100	100	98.2	97.4	100	97.4	87.9	0	100	92.4	97.3
Trucks	0	0	0	0	2	170	0	172	13	0	0	13	185
% Trucks	0	0	0	0	1.8	2.6	0	2.6	12.1	0	0	7.6	2.7



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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	4	308	0	0	312	4	4	0	0	8	0	0	0	1	1	0	1	1	0	2	323
07:15 AM	0	375	0	0	375	6	2	0	0	8	0	0	0	0	0	0	0	5	1	6	389
07:30 AM	2	409	3	0	414	8	3	0	0	11	0	0	0	1	1	0	0	2	0	2	428
07:45 AM	6	475	3	0	484	4	3	0	0	7	0	0	0	0	0	0	3	1	0	4	495
Total	12	1567	6	0	1585	22	12	0	0	34	0	0	0	2	2	0	4	9	1	14	1635
08:00 AM	7	545	4	0	556	3	1	0	0	4	0	0	0	1	1	0	1	3	0	4	565
08:15 AM	13	462	3	0	478	4	2	0	0	6	0	0	0	0	0	0	3	1	0	4	488
08:30 AM	8	492	3	0	503	7	2	0	0	9	0	0	0	1	1	0	5	0	0	5	518
08:45 AM	11	423	2	0	436	4	4	0	1	9	0	0	0	0	0	0	2	1	0	3	448
Total	39	1922	12	0	1973	18	9	0	1	28	0	0	0	2	2	0	11	5	0	16	2019
*** BREAK ***																					
04:00 PM	3	435	4	0	442	4	9	0	0	13	0	0	0	0	0	0	1	4	0	5	460
04:15 PM	5	464	4	1	474	0	6	0	2	8	0	0	0	2	2	0	6	2	0	8	492
04:30 PM	7	478	4	0	489	7	3	0	0	10	0	0	0	1	1	0	2	1	0	3	503
04:45 PM	5	403	8	0	416	4	7	0	3	14	0	0	0	0	0	0	2	2	3	7	437
Total	20	1780	20	1	1821	15	25	0	5	45	0	0	0	3	3	0	11	9	3	23	1892
05:00 PM	6	507	5	4	522	5	7	0	0	12	0	0	0	0	0	0	3	2	0	5	539
05:15 PM	10	511	6	2	529	2	2	0	0	4	0	0	0	5	5	0	2	5	0	7	545
05:30 PM	6	497	9	1	513	3	11	0	1	15	0	0	0	4	4	0	3	1	0	4	536
05:45 PM	4	509	6	2	521	1	4	0	0	5	0	0	0	0	0	0	4	1	0	5	531
Total	26	2024	26	9	2085	11	24	0	1	36	0	0	0	9	9	0	12	9	0	21	2151
Grand Total	97	7293	64	10	7464	66	70	0	7	143	0	0	0	16	16	0	38	32	4	74	7697
Apprch %	1.3	97.7	0.9	0.1		46.2	49	0	4.9		0	0	0	100		0	51.4	43.2	5.4		
Total %	1.3	94.8	0.8	0.1	97	0.9	0.9	0	0.1	1.9	0	0	0	0.2	0.2	0	0.5	0.4	0.1	1	
Passenger Cars	86	7171	64	10	7331	66	69	0	7	142	0	0	0	16	16	0	38	30	4	72	7561
% Passenger Cars	88.7	98.3	100	100	98.2	100	98.6	0	100	99.3	0	0	0	100	100	0	100	93.8	100	97.3	98.2
Trucks	11	122	0	0	133	0	1	0	0	1	0	0	0	0	0	0	0	2	0	2	136
% Trucks	11.3	1.7	0	0	1.8	0	1.4	0	0	0.7	0	0	0	0	0	0	0	6.2	0	2.7	1.8



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Harding Ave and 91st St  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	5	308	4	0	317	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	320
07:15 AM	3	393	5	0	401	1	5	0	0	6	0	0	0	0	0	0	2	8	0	10	417
07:30 AM	5	444	4	0	453	3	1	0	0	4	0	0	0	0	0	0	0	2	0	2	459
07:45 AM	4	520	4	0	528	3	10	0	1	14	0	0	0	0	0	0	2	7	0	9	551
Total	17	1665	17	0	1699	7	18	0	1	26	0	0	0	0	0	0	4	18	0	22	1747
08:00 AM	6	519	13	0	538	3	5	0	0	8	0	0	0	1	1	0	2	4	0	6	553
08:15 AM	8	515	10	0	533	4	8	0	0	12	0	0	0	0	0	0	1	7	0	8	553
08:30 AM	9	506	4	0	519	3	11	0	0	14	0	0	0	0	0	0	1	3	0	4	537
08:45 AM	5	416	5	0	426	2	11	0	1	14	0	0	0	0	0	0	1	4	1	6	446
Total	28	1956	32	0	2016	12	35	0	1	48	0	0	0	1	1	0	5	18	1	24	2089
*** BREAK ***																					
04:00 PM	3	431	4	0	438	5	8	0	0	13	0	0	0	0	0	0	5	9	0	14	465
04:15 PM	10	447	8	0	465	3	10	0	4	17	0	0	0	0	0	0	8	7	0	15	497
04:30 PM	4	497	5	0	506	8	8	0	0	16	0	0	0	0	0	0	2	6	0	8	530
04:45 PM	3	401	3	1	408	12	7	0	1	20	0	0	0	0	0	0	5	9	2	16	444
Total	20	1776	20	1	1817	28	33	0	5	66	0	0	0	0	0	0	20	31	2	53	1936
05:00 PM	8	512	12	0	532	5	8	0	3	16	0	0	0	0	0	0	1	8	0	9	557
05:15 PM	4	507	7	0	518	5	6	0	0	11	0	0	0	0	0	0	4	2	0	6	535
05:30 PM	5	488	4	0	497	8	4	0	0	12	0	0	0	0	0	0	0	7	0	7	516
05:45 PM	3	499	4	0	506	5	6	0	0	11	0	0	0	0	0	0	1	1	0	2	519
Total	20	2006	27	0	2053	23	24	0	3	50	0	0	0	0	0	0	6	18	0	24	2127
Grand Total	85	7403	96	1	7585	70	110	0	10	190	0	0	0	1	1	0	35	85	3	123	7899
Apprch %	1.1	97.6	1.3	0		36.8	57.9	0	5.3		0	0	0	100		0	28.5	69.1	2.4		
Total %	1.1	93.7	1.2	0	96	0.9	1.4	0	0.1	2.4	0	0	0	0	0	0	0.4	1.1	0	1.6	
Passenger Cars	82	7268	91	1	7442	63	105	0	10	178	0	0	0	1	1	0	32	82	3	117	7738
% Passenger Cars	96.5	98.2	94.8	100	98.1	90	95.5	0	100	93.7	0	0	0	100	100	0	91.4	96.5	100	95.1	98
Trucks	3	135	5	0	143	7	5	0	0	12	0	0	0	0	0	0	3	3	0	6	161
% Trucks	3.5	1.8	5.2	0	1.9	10	4.5	0	0	6.3	0	0	0	0	0	0	8.6	3.5	0	4.9	2





13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : SR A1A -Collins Ave and 90th St  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
07:00 AM	0	0	0	0	0	0	0	0	4	4	6	168	0	6	180	11	0	0	4	15	15	199
07:15 AM	0	0	0	1	1	0	0	0	1	1	5	171	0	7	183	15	0	0	2	17	17	202
07:30 AM	0	0	0	3	3	0	0	0	9	9	7	218	1	1	227	12	0	0	3	15	15	254
07:45 AM	0	0	0	2	2	0	0	0	2	2	6	262	0	3	271	7	4	0	4	15	15	290
Total	0	0	0	6	6	0	0	0	16	16	24	819	1	17	861	45	4	0	13	62	62	945
08:00 AM	0	0	0	2	2	0	1	3	12	16	4	262	4	4	274	11	3	0	1	15	15	307
08:15 AM	0	0	0	0	0	0	0	2	1	3	8	316	0	2	326	9	3	0	3	15	15	344
08:30 AM	0	0	0	5	5	0	2	1	1	4	10	339	0	10	359	13	2	0	0	15	15	383
08:45 AM	0	0	0	1	1	0	0	3	0	3	8	404	0	6	418	21	5	0	1	27	27	449
Total	0	0	0	8	8	0	3	9	14	26	30	1321	4	22	1377	54	13	0	5	72	72	1483
*** BREAK ***																						
04:00 PM	0	0	0	2	2	0	1	3	3	7	9	483	2	5	499	11	0	0	2	13	13	521
04:15 PM	0	0	0	2	2	0	1	1	1	3	12	491	2	3	508	14	1	0	1	16	16	529
04:30 PM	0	0	0	8	8	0	1	1	0	2	8	493	0	7	508	10	0	0	4	14	14	532
04:45 PM	0	0	0	5	5	0	0	1	3	4	1	475	1	1	478	9	1	0	1	11	11	498
Total	0	0	0	17	17	0	3	6	7	16	30	1942	5	16	1993	44	2	0	8	54	54	2080
05:00 PM	0	0	0	0	0	0	1	0	2	3	9	471	0	5	485	16	0	0	2	18	18	506
05:15 PM	0	0	0	2	2	0	0	2	1	3	8	472	3	9	492	12	0	0	4	16	16	513
05:30 PM	0	0	0	1	1	0	1	2	0	3	34	482	2	1	519	5	0	0	3	8	8	531
05:45 PM	0	0	0	2	2	0	3	1	0	4	22	498	2	5	527	9	0	0	4	13	13	546
Total	0	0	0	5	5	0	5	5	3	13	73	1923	7	20	2023	42	0	0	13	55	55	2096
Grand Total	0	0	0	36	36	0	11	20	40	71	157	6005	17	75	6254	185	19	0	39	243	243	6604
Apprch %	0	0	0	100		0	15.5	28.2	56.3		2.5	96	0.3	1.2		76.1	7.8	0	16			
Total %	0	0	0	0.5	0.5	0	0.2	0.3	0.6	1.1	2.4	90.9	0.3	1.1	94.7	2.8	0.3	0	0.6	3.7		
Passenger Cars	0	0	0	36	36	0	5	14	40	59	154	5865	8	75	6102	169	11	0	39	219	219	6416
% Passenger Cars	0	0	0	100	100	0	45.5	70	100	83.1	98.1	97.7	47.1	100	97.6	91.4	57.9	0	100	90.1	90.1	97.2
Trucks	0	0	0	0	0	0	6	6	0	12	3	140	9	0	152	16	8	0	0	24	24	188
% Trucks	0	0	0	0	0	0	54.5	30	0	16.9	1.9	2.3	52.9	0	2.4	8.6	42.1	0	0	9.9	9.9	2.8



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : 96th St and 500 Blk  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	2	10	12	3	82	17	1	103	0	0	0	0	0	1	119	0	0	120	235
07:15 AM	0	0	2	15	17	0	108	14	0	122	0	0	0	0	0	1	144	0	0	145	284
07:30 AM	2	0	1	14	17	2	134	15	0	151	0	0	0	0	0	3	191	0	0	194	362
07:45 AM	0	0	1	20	21	1	208	23	0	232	0	0	0	0	0	6	218	0	0	224	477
Total	2	0	6	59	67	6	532	69	1	608	0	0	0	0	0	11	672	0	0	683	1358
08:00 AM	0	0	2	20	22	0	285	23	1	309	0	0	0	0	0	3	289	0	0	292	623
08:15 AM	4	0	3	13	20	0	239	16	1	256	0	0	0	0	0	6	307	0	0	313	589
08:30 AM	7	0	2	18	27	4	169	18	0	191	0	0	0	0	0	14	313	0	0	327	545
08:45 AM	8	0	3	12	23	0	193	23	1	217	0	0	0	0	0	25	202	0	0	227	467
Total	19	0	10	63	92	4	886	80	3	973	0	0	0	0	0	48	1111	0	0	1159	2224
*** BREAK ***																					
04:00 PM	26	0	20	15	61	1	226	7	0	234	0	0	0	0	0	12	245	0	0	257	552
04:15 PM	27	0	10	9	46	4	244	8	1	257	0	0	0	0	0	12	246	0	0	258	561
04:30 PM	17	0	10	23	50	3	212	8	0	223	0	0	0	0	0	12	236	0	0	248	521
04:45 PM	21	0	12	8	41	3	237	6	2	248	0	0	0	0	0	17	197	0	0	214	503
Total	91	0	52	55	198	11	919	29	3	962	0	0	0	0	0	53	924	0	0	977	2137
05:00 PM	29	0	16	17	62	1	234	11	0	246	0	0	0	0	0	13	243	0	0	256	564
05:15 PM	21	0	23	15	59	1	244	10	0	255	0	0	0	0	0	13	259	0	0	272	586
05:30 PM	22	0	22	21	65	1	235	9	0	245	0	0	0	0	0	10	265	0	0	275	585
05:45 PM	25	0	18	21	64	2	206	12	1	221	0	0	0	0	0	12	215	0	0	227	512
Total	97	0	79	74	250	5	919	42	1	967	0	0	0	0	0	48	982	0	0	1030	2247
Grand Total	209	0	147	251	607	26	3256	220	8	3510	0	0	0	0	0	160	3689	0	0	3849	7966
Apprch %	34.4	0	24.2	41.4		0.7	92.8	6.3	0.2		0	0	0	0		4.2	95.8	0	0		
Total %	2.6	0	1.8	3.2	7.6	0.3	40.9	2.8	0.1	44.1	0	0	0	0	0	2	46.3	0	0	48.3	
Passenger Cars	197	0	141	251	589	26	3199	200	8	3433	0	0	0	0	0	156	3632	0	0	3788	7810
% Passenger Cars	94.3	0	95.9	100	97	100	98.2	90.9	100	97.8	0	0	0	0	0	97.5	98.5	0	0	98.4	98
Trucks	12	0	6	0	18	0	57	20	0	77	0	0	0	0	0	4	57	0	0	61	156
% Trucks	5.7	0	4.1	0	3	0	1.8	9.1	0	2.2	0	0	0	0	0	2.5	1.5	0	0	1.6	2



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Byron Ave and 96th St  
 Site Code :  
 Start Date : 4/11/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	0	82	0	0	82	15	0	5	0	20	0	119	0	0	119	221
07:15 AM	0	0	0	0	0	0	97	0	0	97	25	0	2	0	27	1	143	0	0	144	268
07:30 AM	0	0	0	0	0	0	118	0	3	121	34	0	7	5	46	1	197	0	0	198	365
07:45 AM	0	0	0	0	0	0	183	0	1	184	59	0	2	0	61	0	227	0	0	227	472
Total	0	0	0	0	0	0	480	0	4	484	133	0	16	5	154	2	686	0	0	688	1326
08:00 AM	0	0	0	0	0	0	191	0	1	192	72	0	2	0	74	0	286	0	0	286	552
08:15 AM	0	0	0	0	0	0	193	0	2	195	70	0	5	0	75	1	301	0	0	302	572
08:30 AM	0	0	0	0	0	0	162	0	1	163	33	0	5	4	42	0	350	0	0	350	555
08:45 AM	0	0	0	0	0	0	176	0	5	181	72	0	11	3	86	0	216	0	1	217	484
Total	0	0	0	0	0	0	722	0	9	731	247	0	23	7	277	1	1153	0	1	1155	2163
*** BREAK ***																					
04:00 PM	0	0	0	0	0	0	183	0	0	183	66	0	8	0	74	1	268	1	0	270	527
04:15 PM	0	0	0	0	0	0	200	0	1	201	63	0	8	0	71	0	295	0	0	295	567
04:30 PM	0	0	0	0	0	0	188	0	0	188	46	0	7	4	57	1	268	0	0	269	514
04:45 PM	0	0	0	0	0	0	194	0	0	194	56	0	3	5	64	0	226	0	0	226	484
Total	0	0	0	0	0	0	765	0	1	766	231	0	26	9	266	2	1057	1	0	1060	2092
05:00 PM	0	0	0	0	0	0	176	0	2	178	70	0	6	6	82	1	296	0	0	297	557
05:15 PM	0	0	0	0	0	0	188	0	0	188	73	0	4	8	85	0	288	0	0	288	561
05:30 PM	0	0	0	0	0	0	182	0	0	182	64	0	6	6	76	0	302	0	0	302	560
05:45 PM	0	0	0	0	0	0	188	0	0	188	51	0	2	10	63	1	243	0	0	244	495
Total	0	0	0	0	0	0	734	0	2	736	258	0	18	30	306	2	1129	0	0	1131	2173
Grand Total	0	0	0	0	0	0	2701	0	16	2717	869	0	83	51	1003	7	4025	1	1	4034	7754
Apprch %	0	0	0	0		0	99.4	0	0.6		86.6	0	8.3	5.1		0.2	99.8	0	0		
Total %	0	0	0	0	0	0	34.8	0	0.2	35	11.2	0	1.1	0.7	12.9	0.1	51.9	0	0	52	
Passenger Cars	0	0	0	0	0	0	2648	0	16	2664	860	0	82	51	993	7	3960	1	1	3969	7626
% Passenger Cars	0	0	0	0	0	0	98	0	100	98	99	0	98.8	100	99	100	98.4	100	100	98.4	98.3
Trucks	0	0	0	0	0	0	53	0	0	53	9	0	1	0	10	0	65	0	0	65	128
% Trucks	0	0	0	0	0	0	2	0	0	2	1	0	1.2	0	1	0	1.6	0	0	1.6	1.7



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix A: Traffic Counts**

### **4-Hour Turning Movement Counts Weekend**



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and Bal Harbour Way N  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	53	375	5	0	433	0	0	0	0	0	6	332	0	1	339	0	0	0	0	0	772
03:15 PM	43	338	3	7	391	0	0	0	0	0	3	386	0	6	395	0	0	0	0	0	786
03:30 PM	45	350	7	3	405	0	0	0	0	0	6	383	0	4	393	0	0	0	0	0	798
03:45 PM	37	396	6	0	439	0	0	0	0	0	4	327	0	3	334	0	0	0	0	0	773
Total	178	1459	21	10	1668	0	0	0	0	0	19	1428	0	14	1461	0	0	0	0	0	3129
04:00 PM	41	357	2	0	400	0	0	0	0	0	3	348	0	3	354	0	0	0	0	0	754
04:15 PM	23	352	1	4	380	0	0	0	0	0	3	393	0	3	399	0	0	0	0	0	779
04:30 PM	43	363	8	8	422	0	0	0	0	0	4	379	0	6	389	0	0	0	0	0	811
04:45 PM	38	344	8	3	393	0	0	0	0	0	3	321	0	1	325	0	0	0	0	0	718
Total	145	1416	19	15	1595	0	0	0	0	0	13	1441	0	13	1467	0	0	0	0	0	3062
05:00 PM	36	373	5	0	414	0	0	0	0	0	4	388	0	2	394	0	0	0	0	0	808
05:15 PM	31	366	6	7	410	0	0	0	2	2	3	332	0	5	340	0	0	0	0	0	752
05:30 PM	39	437	4	2	482	0	0	0	0	0	3	424	0	2	429	0	0	0	0	0	911
05:45 PM	29	397	3	2	431	0	0	0	1	1	2	362	0	2	366	0	0	0	0	0	798
Total	135	1573	18	11	1737	0	0	0	3	3	12	1506	0	11	1529	0	0	0	0	0	3269
06:00 PM	35	384	3	0	422	0	0	0	1	1	8	418	0	6	432	0	0	0	11	11	866
06:15 PM	42	394	3	0	439	0	0	0	2	2	3	396	0	3	402	0	0	0	4	4	847
06:30 PM	44	405	1	0	450	0	0	0	0	0	3	383	0	1	387	0	0	0	13	13	850
06:45 PM	18	312	9	0	339	0	0	0	1	1	7	214	0	2	223	0	0	0	5	5	568
Total	139	1495	16	0	1650	0	0	0	4	4	21	1411	0	12	1444	0	0	0	33	33	3131
Grand Total	597	5943	74	36	6650	0	0	0	7	7	65	5786	0	50	5901	0	0	0	33	33	12591
Apprch %	9	89.4	1.1	0.5		0	0	0	100		1.1	98.1	0	0.8		0	0	0	100		
Total %	4.7	47.2	0.6	0.3	52.8	0	0	0	0.1	0.1	0.5	46	0	0.4	46.9	0	0	0	0.3	0.3	
Passenger Cars	595	5885	72	36	6588	0	0	0	7	7	64	5725	0	50	5839	0	0	0	33	33	12467
% Passenger Cars	99.7	99	97.3	100	99.1	0	0	0	100	100	98.5	98.9	0	100	98.9	0	0	0	100	100	99
Trucks	2	58	2	0	62	0	0	0	0	0	1	61	0	0	62	0	0	0	0	0	124
% Trucks	0.3	1	2.7	0	0.9	0	0	0	0	0	1.5	1.1	0	0	1.1	0	0	0	0	0	1



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and 9700 Blk  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	6	345	43	0	394	6	0	7	3	16	23	342	0	29	394	28	0	0	17	45	849
03:15 PM	4	379	39	0	422	8	1	1	11	21	25	345	1	14	385	23	0	4	16	43	871
03:30 PM	3	306	35	0	344	6	0	10	22	38	27	299	2	36	364	31	1	2	20	54	800
03:45 PM	20	305	24	0	349	5	0	3	20	28	9	350	11	24	394	25	0	3	15	43	814
Total	33	1335	141	0	1509	25	1	21	56	103	84	1336	14	103	1537	107	1	9	68	185	3334
04:00 PM	2	355	32	0	389	11	1	5	28	45	12	348	8	34	402	35	1	1	10	47	883
04:15 PM	5	357	41	0	403	6	1	9	13	29	19	315	8	17	359	32	0	1	10	43	834
04:30 PM	12	347	38	0	397	14	2	6	21	43	29	339	8	24	400	39	2	2	15	58	898
04:45 PM	6	194	9	0	209	5	0	3	13	21	12	165	6	16	199	18	0	3	11	32	461
Total	25	1253	120	0	1398	36	4	23	75	138	72	1167	30	91	1360	124	3	7	46	180	3076
05:00 PM	10	377	42	0	429	7	2	9	22	40	24	368	10	25	427	36	5	3	10	54	950
05:15 PM	6	355	41	1	403	8	3	4	32	47	23	345	5	30	403	34	5	3	13	55	908
05:30 PM	6	379	33	0	418	13	1	6	27	47	28	343	7	27	405	52	1	0	15	68	938
05:45 PM	5	342	35	0	382	6	1	5	29	41	17	349	17	23	406	38	1	2	15	56	885
Total	27	1453	151	1	1632	34	7	24	110	175	92	1405	39	105	1641	160	12	8	53	233	3681
06:00 PM	5	374	34	0	413	12	2	10	21	45	9	328	12	26	375	49	1	1	12	63	896
06:15 PM	12	348	42	1	403	7	1	7	34	49	13	297	13	33	356	58	2	1	9	70	878
06:30 PM	6	422	36	0	464	13	0	7	50	70	20	344	8	38	410	38	1	1	15	55	999
06:45 PM	4	243	24	0	271	4	0	2	20	26	14	177	4	26	221	16	0	2	8	26	544
Total	27	1387	136	1	1551	36	3	26	125	190	56	1146	37	123	1362	161	4	5	44	214	3317
Grand Total	112	5428	548	2	6090	131	15	94	366	606	304	5054	120	422	5900	552	20	29	211	812	13408
Apprch %	1.8	89.1	9	0		21.6	2.5	15.5	60.4		5.2	85.7	2	7.2		68	2.5	3.6	26		
Total %	0.8	40.5	4.1	0	45.4	1	0.1	0.7	2.7	4.5	2.3	37.7	0.9	3.1	44	4.1	0.1	0.2	1.6	6.1	
Passenger Cars	108	5369	546	2	6025	129	15	94	366	604	273	4978	120	422	5793	552	20	29	211	812	13234
% Passenger Cars	96.4	98.9	99.6	100	98.9	98.5	100	100	100	99.7	89.8	98.5	100	100	98.2	100	100	100	100	100	98.7
Trucks	4	59	2	0	65	2	0	0	0	2	31	76	0	0	107	0	0	0	0	0	174
% Trucks	3.6	1.1	0.4	0	1.1	1.5	0	0	0	0.3	10.2	1.5	0	0	1.8	0	0	0	0	0	1.3





13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and 96th St  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	2	2	0	5	3	3	11	56	300	3	25	384	64	6	0	3	73	470
03:15 PM	0	0	0	1	1	0	4	0	3	7	64	308	4	17	393	63	4	0	0	67	468
03:30 PM	0	0	0	6	6	0	1	0	0	1	68	306	2	26	402	74	3	0	0	77	486
03:45 PM	0	0	0	1	1	0	0	1	0	1	74	309	1	17	401	82	2	0	8	92	495
Total	0	0	0	10	10	0	10	4	6	20	262	1223	10	85	1580	283	15	0	11	309	1919
04:00 PM	0	0	0	2	2	0	4	2	0	6	78	324	5	40	447	70	1	0	0	71	526
04:15 PM	0	0	0	2	2	0	1	2	3	6	85	328	2	33	448	73	1	0	0	74	530
04:30 PM	0	0	0	1	1	0	2	2	1	5	74	299	2	21	396	78	5	0	3	86	488
04:45 PM	0	0	0	0	0	0	2	2	0	4	58	292	2	3	355	64	3	0	0	67	426
Total	0	0	0	5	5	0	9	8	4	21	295	1243	11	97	1646	285	10	0	3	298	1970
05:00 PM	0	0	0	4	4	0	4	2	3	9	71	290	1	24	386	74	6	0	0	80	479
05:15 PM	0	0	0	1	1	0	2	2	7	11	61	266	3	11	341	77	4	0	0	81	434
05:30 PM	0	0	0	4	4	0	3	1	4	8	86	331	1	24	442	69	1	0	6	76	530
05:45 PM	0	0	0	0	0	0	1	2	5	8	66	253	1	23	343	67	2	0	2	71	422
Total	0	0	0	9	9	0	10	7	19	36	284	1140	6	82	1512	287	13	0	8	308	1865
06:00 PM	0	0	0	10	10	0	1	2	1	4	64	331	5	25	425	72	3	0	8	83	522
06:15 PM	0	0	0	3	3	0	1	3	1	5	67	314	4	18	403	76	3	0	0	79	490
06:30 PM	0	0	0	7	7	0	1	2	0	3	58	332	2	24	416	73	3	0	8	84	510
06:45 PM	0	0	0	6	6	0	1	3	10	14	52	272	1	18	343	73	8	0	2	83	446
Total	0	0	0	26	26	0	4	10	12	26	241	1249	12	85	1587	294	17	0	18	329	1968
Grand Total	0	0	0	50	50	0	33	29	41	103	1082	4855	39	349	6325	1149	55	0	40	1244	7722
Apprch %	0	0	0	100		0	32	28.2	39.8		17.1	76.8	0.6	5.5		92.4	4.4	0	3.2		
Total %	0	0	0	0.6	0.6	0	0.4	0.4	0.5	1.3	14	62.9	0.5	4.5	81.9	14.9	0.7	0	0.5	16.1	
Passenger Cars	0	0	0	50	50	0	33	29	41	103	1071	4804	39	349	6263	1136	54	0	40	1230	7646
% Passenger Cars	0	0	0	100	100	0	100	100	100	100	99	98.9	100	100	99	98.9	98.2	0	100	98.9	99
Trucks	0	0	0	0	0	0	0	0	0	0	11	51	0	0	62	13	1	0	0	14	76
% Trucks	0	0	0	0	0	0	0	0	0	0	1	1.1	0	0	1	1.1	1.8	0	0	1.1	1





13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Harding Ave and 96th St  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	13	277	46	41	377	0	71	0	21	92	0	0	0	8	8	0	80	101	32	213	690
03:15 PM	10	348	79	25	462	0	89	0	11	100	0	0	0	10	10	0	80	101	28	209	781
03:30 PM	9	288	70	12	379	0	69	0	10	79	0	0	0	5	5	0	68	94	22	184	647
03:45 PM	5	284	74	37	400	0	83	0	14	97	0	0	0	4	4	0	75	127	30	232	733
Total	37	1197	269	115	1618	0	312	0	56	368	0	0	0	27	27	0	303	423	112	838	2851
04:00 PM	13	300	75	31	419	0	79	0	12	91	0	0	0	6	6	0	70	125	36	231	747
04:15 PM	8	323	64	39	434	0	74	0	22	96	0	0	0	9	9	0	79	108	32	219	758
04:30 PM	10	322	68	30	430	0	97	0	18	115	0	0	0	10	10	0	71	100	29	200	755
04:45 PM	14	324	74	23	435	0	90	0	7	97	0	0	0	6	6	0	70	100	44	214	752
Total	45	1269	281	123	1718	0	340	0	59	399	0	0	0	31	31	0	290	433	141	864	3012
05:00 PM	9	317	73	24	423	0	61	0	9	70	0	0	0	6	6	0	84	93	45	222	721
05:15 PM	8	336	67	42	453	0	100	0	21	121	0	0	0	3	3	0	57	109	43	209	786
05:30 PM	10	333	86	17	446	0	81	0	8	89	0	0	0	7	7	0	85	100	35	220	762
05:45 PM	15	288	63	18	384	0	93	0	8	101	0	0	0	9	9	0	77	118	39	234	728
Total	42	1274	289	101	1706	0	335	0	46	381	0	0	0	25	25	0	303	420	162	885	2997
06:00 PM	7	331	67	26	431	0	78	0	4	82	0	0	0	2	2	0	81	100	46	227	742
06:15 PM	7	303	62	27	399	0	72	0	21	93	0	0	0	8	8	0	72	98	34	204	704
06:30 PM	9	329	81	42	461	0	84	0	22	106	0	0	0	7	7	0	64	113	43	220	794
06:45 PM	7	339	72	12	430	0	73	0	5	78	0	0	0	7	7	0	61	101	30	192	707
Total	30	1302	282	107	1721	0	307	0	52	359	0	0	0	24	24	0	278	412	153	843	2947
Grand Total	154	5042	1121	446	6763	0	1294	0	213	1507	0	0	0	107	107	0	1174	1688	568	3430	11807
Apprch %	2.3	74.6	16.6	6.6		0	85.9	0	14.1		0	0	0	100		0	34.2	49.2	16.6		
Total %	1.3	42.7	9.5	3.8	57.3	0	11	0	1.8	12.8	0	0	0	0.9	0.9	0	9.9	14.3	4.8	29.1	
Passenger Cars	148	5000	1111	446	6705	0	1286	0	213	1499	0	0	0	107	107	0	1161	1673	568	3402	11713
% Passenger Cars	96.1	99.2	99.1	100	99.1	0	99.4	0	100	99.5	0	0	0	100	100	0	98.9	99.1	100	99.2	99.2
Trucks	6	42	10	0	58	0	8	0	0	8	0	0	0	0	0	0	13	15	0	28	94
% Trucks	3.9	0.8	0.9	0	0.9	0	0.6	0	0	0.5	0	0	0	0	0	0	1.1	0.9	0	0.8	0.8



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and 95th St  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	17	17	0	0	0	4	4	16	330	1	22	369	16	1	0	1	18	408
03:15 PM	0	0	0	15	15	0	3	0	6	9	17	373	3	19	412	18	1	0	1	20	456
03:30 PM	0	0	0	3	3	0	1	0	2	3	20	307	3	36	366	18	1	0	1	20	392
03:45 PM	0	0	0	27	27	0	4	3	1	8	28	349	2	25	404	10	1	0	2	13	452
Total	0	0	0	62	62	0	8	3	13	24	81	1359	9	102	1551	62	4	0	5	71	1708
04:00 PM	0	0	0	10	10	0	3	0	4	7	23	327	1	36	387	17	1	0	6	24	428
04:15 PM	0	0	0	12	12	0	3	0	3	6	15	363	0	9	387	21	3	0	2	26	431
04:30 PM	0	0	0	14	14	0	1	1	11	13	15	329	1	30	375	13	1	0	2	16	418
04:45 PM	0	0	0	8	8	0	1	0	6	7	21	342	0	24	387	22	0	0	7	29	431
Total	0	0	0	44	44	0	8	1	24	33	74	1361	2	99	1536	73	5	0	17	95	1708
05:00 PM	0	0	0	9	9	0	0	2	0	2	21	336	1	26	384	26	1	0	7	34	429
05:15 PM	0	0	0	9	9	0	2	3	6	11	21	398	1	26	446	16	2	0	2	20	486
05:30 PM	0	0	0	13	13	0	1	1	4	6	25	376	3	19	423	20	1	0	8	29	471
05:45 PM	0	0	0	20	20	0	6	0	6	12	27	350	3	14	394	18	4	0	0	22	448
Total	0	0	0	51	51	0	9	6	16	31	94	1460	8	85	1647	80	8	0	17	105	1834
06:00 PM	0	0	0	19	19	0	2	2	4	8	16	308	3	35	362	12	0	0	8	20	409
06:15 PM	0	0	0	16	16	0	0	2	0	2	27	310	2	19	358	20	0	0	3	23	399
06:30 PM	0	0	0	14	14	0	2	1	5	8	24	356	2	27	409	13	0	0	4	17	448
06:45 PM	0	0	0	12	12	0	1	2	7	10	20	326	1	21	368	20	1	0	2	23	413
Total	0	0	0	61	61	0	5	7	16	28	87	1300	8	102	1497	65	1	0	17	83	1669
Grand Total	0	0	0	218	218	0	30	17	69	116	336	5480	27	388	6231	280	18	0	56	354	6919
Apprch %	0	0	0	100		0	25.9	14.7	59.5		5.4	87.9	0.4	6.2		79.1	5.1	0	15.8		
Total %	0	0	0	3.2	3.2	0	0.4	0.2	1	1.7	4.9	79.2	0.4	5.6	90.1	4	0.3	0	0.8	5.1	
Passenger Cars	0	0	0	218	218	0	30	17	69	116	334	5421	27	388	6170	279	18	0	56	353	6857
% Passenger Cars	0	0	0	100	100	0	100	100	100	100	99.4	98.9	100	100	99	99.6	100	0	100	99.7	99.1
Trucks	0	0	0	0	0	0	0	0	0	0	2	59	0	0	61	1	0	0	0	1	62
% Trucks	0	0	0	0	0	0	0	0	0	0	0.6	1.1	0	0	1	0.4	0	0	0	0.3	0.9





13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and 94th St  
 Site Code :  
 Start Date : 4/12/2014  
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Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	3	3	0	0	1	12	13	14	329	0	28	371	14	0	0	1	15	402
03:15 PM	0	0	0	0	0	0	1	4	8	13	12	359	0	34	405	19	0	0	1	20	438
03:30 PM	0	0	0	0	0	0	1	1	7	9	13	329	2	20	364	17	0	0	0	17	390
03:45 PM	0	0	0	1	1	0	0	0	4	4	25	347	0	22	394	15	1	0	5	21	420
Total	0	0	0	4	4	0	2	6	31	39	64	1364	2	104	1534	65	1	0	7	73	1650
04:00 PM	0	0	0	6	6	0	0	2	4	6	4	330	0	24	358	15	1	0	0	16	386
04:15 PM	0	0	0	4	4	0	1	0	2	3	16	332	0	37	385	17	1	0	0	18	410
04:30 PM	0	0	0	0	0	0	1	3	6	10	13	328	3	34	378	15	0	0	0	15	403
04:45 PM	0	0	0	3	3	0	0	0	6	6	26	322	0	16	364	18	0	0	0	18	391
Total	0	0	0	13	13	0	2	5	18	25	59	1312	3	111	1485	65	2	0	0	67	1590
05:00 PM	0	0	0	6	6	0	2	1	5	8	10	323	1	31	365	22	0	0	0	22	401
05:15 PM	0	0	0	7	7	0	1	1	12	14	18	394	1	38	451	13	2	0	0	15	487
05:30 PM	0	0	0	0	0	0	1	0	16	17	16	377	0	40	433	17	0	0	3	20	470
05:45 PM	0	0	0	0	0	0	0	1	2	3	14	339	1	26	380	29	0	0	0	29	412
Total	0	0	0	13	13	0	4	3	35	42	58	1433	3	135	1629	81	2	0	3	86	1770
06:00 PM	0	0	0	0	0	0	0	2	15	17	16	299	2	35	352	14	1	0	0	15	384
06:15 PM	0	0	0	0	0	0	2	1	2	5	21	295	1	52	369	17	0	0	2	19	393
06:30 PM	0	0	0	0	0	0	2	1	10	13	20	351	0	38	409	20	1	0	0	21	443
06:45 PM	0	0	0	8	8	0	2	4	11	17	18	293	2	20	333	19	1	0	2	22	380
Total	0	0	0	8	8	0	6	8	38	52	75	1238	5	145	1463	70	3	0	4	77	1600
Grand Total	0	0	0	38	38	0	14	22	122	158	256	5347	13	495	6111	281	8	0	14	303	6610
Apprch %	0	0	0	100		0	8.9	13.9	77.2		4.2	87.5	0.2	8.1		92.7	2.6	0	4.6		
Total %	0	0	0	0.6	0.6	0	0.2	0.3	1.8	2.4	3.9	80.9	0.2	7.5	92.5	4.3	0.1	0	0.2	4.6	
Passenger Cars	0	0	0	38	38	0	14	22	122	158	256	5285	13	495	6049	279	8	0	14	301	6546
% Passenger Cars	0	0	0	100	100	0	100	100	100	100	100	98.8	100	100	99	99.3	100	0	100	99.3	99
Trucks	0	0	0	0	0	0	0	0	0	0	0	62	0	0	62	2	0	0	0	2	64
% Trucks	0	0	0	0	0	0	0	0	0	0	0	1.2	0	0	1	0.7	0	0	0	0.7	1



13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : Collins Ave and 93rd St  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	0	0	0	0	0	0	0	13	340	1	19	373	3	0	0	0	3	376
03:15 PM	0	0	0	0	0	0	0	0	0	0	9	332	0	24	365	7	0	0	0	7	372
03:30 PM	0	0	0	0	0	0	0	0	0	0	11	334	0	21	366	12	0	0	9	21	387
03:45 PM	0	0	0	0	0	0	0	0	0	0	5	324	0	21	350	4	0	0	4	8	358
Total	0	0	0	0	0	0	0	0	0	0	38	1330	1	85	1454	26	0	0	13	39	1493
04:00 PM	0	0	0	0	0	0	0	0	0	0	8	336	0	32	376	1	0	0	1	2	378
04:15 PM	0	0	0	0	0	0	0	0	0	0	8	345	0	25	378	6	0	0	4	10	388
04:30 PM	0	0	0	0	0	0	0	0	0	0	9	347	0	25	381	6	0	0	5	11	392
04:45 PM	0	0	0	0	0	0	0	0	0	0	10	319	0	23	352	6	0	0	7	13	365
Total	0	0	0	0	0	0	0	0	0	0	35	1347	0	105	1487	19	0	0	17	36	1523
05:00 PM	0	0	0	0	0	0	0	0	0	0	8	343	0	2	353	5	0	0	2	7	360
05:15 PM	0	0	0	0	0	0	0	0	0	0	4	403	0	13	420	8	0	0	1	9	429
05:30 PM	0	0	0	0	0	0	0	0	0	0	4	374	0	16	394	4	0	0	9	13	407
05:45 PM	0	0	0	0	0	0	0	0	0	0	7	332	0	18	357	7	0	0	2	9	366
Total	0	0	0	0	0	0	0	0	0	0	23	1452	0	49	1524	24	0	0	14	38	1562
06:00 PM	0	0	0	0	0	0	0	0	0	0	9	296	0	7	312	7	0	0	6	13	325
06:15 PM	0	0	0	0	0	0	0	0	0	0	5	304	0	3	312	7	0	0	6	13	325
06:30 PM	0	0	0	0	0	0	0	0	0	0	6	378	0	15	399	3	0	0	4	7	406
06:45 PM	0	0	0	0	0	0	0	0	0	0	7	305	0	24	336	7	0	0	9	16	352
Total	0	0	0	0	0	0	0	0	0	0	27	1283	0	49	1359	24	0	0	25	49	1408
Grand Total	0	0	0	0	0	0	0	0	0	0	123	5412	1	288	5824	93	0	0	69	162	5986
Apprch %	0	0	0	0	0	0	0	0	0	0	2.1	92.9	0	4.9		57.4	0	0	42.6		
Total %	0	0	0	0	0	0	0	0	0	0	2.1	90.4	0	4.8	97.3	1.6	0	0	1.2	2.7	
Passenger Cars	0	0	0	0	0	0	0	0	0	0	122	5356	1	288	5767	86	0	0	69	155	5922
% Passenger Cars	0	0	0	0	0	0	0	0	0	0	99.2	99	100	100	99	92.5	0	0	100	95.7	98.9
Trucks	0	0	0	0	0	0	0	0	0	0	1	56	0	0	57	7	0	0	0	7	64
% Trucks	0	0	0	0	0	0	0	0	0	0	0.8	1	0	0	1	7.5	0	0	0	4.3	1.1







13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : 96th St and 500 Blk  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	29	0	16	7	52	0	136	9	0	145	0	0	0	0	0	17	165	0	0	182	379
03:15 PM	15	0	15	4	34	0	184	10	0	194	0	0	0	0	0	25	188	0	0	213	441
03:30 PM	14	0	20	7	41	4	176	10	0	190	0	0	0	0	0	16	164	0	0	180	411
03:45 PM	19	0	19	16	54	0	182	8	0	190	0	0	0	0	0	12	218	0	6	236	480
Total	77	0	70	34	181	4	678	37	0	719	0	0	0	0	0	70	735	0	6	811	1711
04:00 PM	22	0	18	3	43	1	184	12	0	197	0	0	0	0	0	17	183	0	1	201	441
04:15 PM	21	0	20	7	48	3	176	6	0	185	0	0	0	0	0	13	206	0	0	219	452
04:30 PM	15	0	12	14	41	3	196	4	0	203	0	0	0	0	0	17	167	0	5	189	433
04:45 PM	25	0	13	10	48	2	198	10	0	210	0	0	0	0	0	9	187	0	5	201	459
Total	83	0	63	34	180	9	754	32	0	795	0	0	0	0	0	56	743	0	11	810	1785
05:00 PM	9	0	15	0	24	1	158	9	0	168	0	0	0	0	0	5	182	0	0	187	379
05:15 PM	20	0	17	6	43	2	198	9	0	209	0	0	0	0	0	15	157	0	7	179	431
05:30 PM	29	0	16	6	51	4	186	7	0	197	0	0	0	0	0	3	148	0	1	152	400
05:45 PM	26	0	16	2	44	4	185	5	0	194	0	0	0	0	0	11	182	0	5	198	436
Total	84	0	64	14	162	11	727	30	0	768	0	0	0	0	0	34	669	0	13	716	1646
06:00 PM	37	0	25	32	94	3	175	3	2	183	0	0	0	0	0	13	168	0	8	189	466
06:15 PM	36	0	31	4	71	3	157	7	0	167	0	0	0	0	0	10	152	0	0	162	400
06:30 PM	23	0	21	24	68	6	186	11	0	203	0	0	0	0	0	11	162	0	4	177	448
06:45 PM	27	0	13	9	49	7	191	5	0	203	0	0	0	0	0	12	141	0	0	153	405
Total	123	0	90	69	282	19	709	26	2	756	0	0	0	0	0	46	623	0	12	681	1719
Grand Total	367	0	287	151	805	43	2868	125	2	3038	0	0	0	0	0	206	2770	0	42	3018	6861
Apprch %	45.6	0	35.7	18.8		1.4	94.4	4.1	0.1		0	0	0	0		6.8	91.8	0	1.4		
Total %	5.3	0	4.2	2.2	11.7	0.6	41.8	1.8	0	44.3	0	0	0	0	0	3	40.4	0	0.6	44	
Passenger Cars	365	0	287	151	803	43	2846	124	2	3015	0	0	0	0	0	206	2745	0	42	2993	6811
% Passenger Cars	99.5	0	100	100	99.8	100	99.2	99.2	100	99.2	0	0	0	0	0	100	99.1	0	100	99.2	99.3
Trucks	2	0	0	0	2	0	22	1	0	23	0	0	0	0	0	0	25	0	0	25	50
% Trucks	0.5	0	0	0	0.2	0	0.8	0.8	0	0.8	0	0	0	0	0	0	0.9	0	0	0.8	0.7





13940 SW 136th Street, Suite 107  
 Miami, Florida, 33186  
 (305) 480-9938

File Name : 96th St and Byron Ave  
 Site Code :  
 Start Date : 4/12/2014  
 Page No : 1

Groups Printed- Passenger Cars - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
03:00 PM	0	0	0	0	0	1	124	0	5	130	28	0	6	9	43	0	202	0	0	202	375
03:15 PM	0	0	0	0	0	0	178	0	1	179	41	0	3	13	57	0	221	0	0	221	457
03:30 PM	0	0	0	0	0	0	155	0	3	158	42	0	4	6	52	0	203	0	1	204	414
03:45 PM	0	0	0	0	0	0	158	0	4	162	38	0	5	25	68	0	243	0	3	246	476
Total	0	0	0	0	0	1	615	0	13	629	149	0	18	53	220	0	869	0	4	873	1722
04:00 PM	0	0	0	0	0	0	153	0	3	156	54	0	5	24	83	0	200	0	0	200	439
04:15 PM	0	0	0	0	0	0	164	0	2	166	40	0	3	15	58	0	241	0	1	242	466
04:30 PM	0	0	0	0	0	0	165	0	5	170	52	0	7	11	70	0	198	0	0	198	438
04:45 PM	0	0	0	0	0	0	111	0	1	112	21	0	4	5	30	0	144	0	0	144	286
Total	0	0	0	0	0	0	593	0	11	604	167	0	19	55	241	0	783	0	1	784	1629
05:00 PM	0	0	0	0	0	0	138	0	11	149	37	0	7	19	63	0	204	0	0	204	416
05:15 PM	0	0	0	0	0	0	172	0	11	183	45	0	5	15	65	0	191	0	1	192	440
05:30 PM	0	0	0	0	0	0	188	0	10	198	40	0	8	12	60	0	204	0	0	204	462
05:45 PM	0	0	0	0	0	0	169	0	8	177	28	0	3	16	47	0	233	0	0	233	457
Total	0	0	0	0	0	0	667	0	40	707	150	0	23	62	235	0	832	0	1	833	1775
06:00 PM	0	0	0	0	0	0	138	0	5	143	41	0	2	15	58	0	201	0	0	201	402
06:15 PM	0	0	0	0	0	0	163	0	8	171	34	0	4	10	48	0	199	0	3	202	421
06:30 PM	0	0	0	0	0	0	167	0	5	172	48	0	5	14	67	0	177	0	1	178	417
06:45 PM	0	0	0	0	0	0	100	0	6	106	24	0	2	8	34	0	125	0	0	125	265
Total	0	0	0	0	0	0	568	0	24	592	147	0	13	47	207	0	702	0	4	706	1505
Grand Total	0	0	0	0	0	1	2443	0	88	2532	613	0	73	217	903	0	3186	0	10	3196	6631
Apprch %	0	0	0	0	0	0	96.5	0	3.5		67.9	0	8.1	24		0	99.7	0	0.3		
Total %	0	0	0	0	0	0	36.8	0	1.3	38.2	9.2	0	1.1	3.3	13.6	0	48	0	0.2	48.2	
Passenger Cars	0	0	0	0	0	1	2419	0	88	2508	612	0	73	217	902	0	3162	0	10	3172	6582
% Passenger Cars	0	0	0	0	0	100	99	0	100	99.1	99.8	0	100	100	99.9	0	99.2	0	100	99.2	99.3
Trucks	0	0	0	0	0	0	24	0	0	24	1	0	0	0	1	0	24	0	0	24	49
% Trucks	0	0	0	0	0	0	1	0	0	0.9	0.2	0	0	0	0.1	0	0.8	0	0	0.8	0.7



# Appendix: B

## Existing Signal Timing Parameters

## TOD Schedule Report







for 3629: Collins Av&Harbor Way EB

Print Date:  
2/8/2014

Print Time:  
8:07 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3629	Collins Av&Harbor Way EB	DOW-7		N/A	0	0	N/A	0	Max 0

### Splits

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

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
			<u>Phase Bank</u>													
			1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2.5 - 2 - 2	8 - 10 - 7	8 - 8 - 8	3.7	2								
2 SBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	1 - 1 - 1	80 - 91 - 61	100 - 100 - 10	4	2.6								
3 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0								
4 WBT	4 - 4 - 4	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	8 - 10 - 12	8 - 7 - 12	4	3								
5 SBL	0 - 0 - 0	0 - 0 - 0	5 - 5 - 5	2 - 2 - 2	6 - 15 - 20	12 - 12 - 14	3.7	2								
6 NBT	0 - 0 - 0	0 - 0 - 0	7 - 7 - 7	1 - 1 - 1	80 - 91 - 61	100 - 100 - 10	4	2.6								
7 -	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0 - 0 - 0	0	0								
8 EBT	4 - 4 - 4	20 - 20 - 20	7 - 7 - 7	2.5 - 2.5 - 2.5	8 - 10 - 12	8 - 7 - 12	4	3								

Last In Service Date: unknown

<u>Permitted Phases</u>	
	<b><u>12345678</u></b>
Default	12-456-8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u>	<u>TOD Schedule</u>	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
				1 NBL	2 SBT	3 -	4 WBT	5 SBL	6 NBT	7 -	8 EBT		
	16		75	0	68	0	0	0	68	0	0	0	0
	17		80	0	73	0	0	0	73	0	0	0	0

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S

Current Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0800	TOD OUTPUTS	----3--	Su S
1000	TOD OUTPUTS	-----2-	Su S
2200	TOD OUTPUTS	-----	Su S

Local Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----2-	M T W ThF
0745	TOD OUTPUTS	----3--	M T W ThF
0800	TOD OUTPUTS	----3--	Su S
0845	TOD OUTPUTS	-----2-	M T W ThF
1000	TOD OUTPUTS	-----2-	Su S
1500	TOD OUTPUTS	----4--	M T W ThF
2100	TOD OUTPUTS	-----	M T W ThF
2200	TOD OUTPUTS	-----	Su S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

## TOD Schedule Report







for 3548: Collins Av@9701 Blk

Print Date:  
1/30/2014

Print Time:  
8:06 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3548	Collins Av@9701 Blk	DOW-5		N/A	0	0	N/A	0	Max 0

### Splits

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

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 NBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	5	12	12	12	3.7	2.5
2 SBT	5	5	5	24	24	24	7	7	7	1	1	1	35	35	35	0	35	35	4	2.5
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 SBL	0	0	0	0	0	0	5	5	5	2	2	2	5	5	5	7	7	7	3.7	2.5
6 NBT	5	5	5	24	24	24	7	7	7	1	1	1	35	35	35	0	35	35	4	2.5
7 WBT	0	0	0	0	0	0	7	7	7	2.5	2.5	2.5	7	7	7	18	20	16	4	2.8
8 EBT	4	4	4	29	29	29	7	7	7	2.5	2.5	2.5	16	10	7	16	20	15	4	2.8

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	12--5678
External Permit 0	-----
External Permit 1	-2---678
External Permit 2	-2---678

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1 NBL	2 SBT	3 -	4 -	5 SBL	6 NBT	7 WBT	8 EBT		
5		110	8	30	0	0	5	33	12	33	0	4
13		140	5	58	0	0	5	58	17	33	0	18
14		150	10	64	0	0	5	69	15	34	0	29
16		150	5	68	0	0	5	68	17	33	0	54
17		160	5	78	0	0	5	78	17	33	0	51
18		150	5	66	0	0	5	66	17	35	0	75
19		130	5	48	0	0	5	48	17	33	0	25
20		110	5	32	0	0	5	32	13	33	0	79

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S
0200	Flash	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	Free	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	Free	M T W Th F
2200	Free	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	----4--	Su M T W Th F S
0100	TOD OUTPUTS	-----1	M T W Th F
0200	TOD OUTPUTS	----3--	M T W Th F
0600	TOD OUTPUTS	-----1	M T W Th F
0900	TOD OUTPUTS	-----2-	M T W Th F
1500	TOD OUTPUTS	-----	M T W Th F
1800	TOD OUTPUTS	-----2-	M T W Th F
2100	TOD OUTPUTS	----4--	M T W Th F

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	----4--	Su M T W Th F S
0100	TOD OUTPUTS	-----1	M T W Th F
0200	TOD OUTPUTS	----3--	M T W Th F
0600	TOD OUTPUTS	-----1	M T W Th F
0600	TOD OUTPUTS	-----1	Su
0900	TOD OUTPUTS	-----2-	M T W Th F
1000	TOD OUTPUTS	----4--	Su S
1500	TOD OUTPUTS	-----	M T W Th F
1800	TOD OUTPUTS	-----2-	M T W Th F
2100	TOD OUTPUTS	----4--	M T W Th F
2200	TOD OUTPUTS	----3--	Su S
2300	TOD OUTPUTS	-----1	Su

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 3006: Harding Av-96 St-97 St

Print Date:  
1/30/2014

Print Time:  
8:05 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3006	Harding Av-96 St-97 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
-	NS	-	PED	-	NBL	-	-
0	0	0	0	0	0	0	0



N/A



Active Phase Bank: Phase Bank 1

Phase	Walk			Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 NS	0	0	0	0	0	0	15	15	15	1	1	1	40	40	40	0	0	0	4	1
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 PED	7	7	7	20	20	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBL	0	0	0	0	0	0	15	15	15	1	1	1	40	40	40	0	0	0	4	1
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

Permitted Phases	
	<b><u>12345678</u></b>
Default	-2-4-6--
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	NS	-	PED	-	NBL	-	-		
	2	80	0	48	0	27	0	48	0	0	0	25
	3	120	0	88	0	27	0	88	0	0	0	45
	4	120	0	88	0	27	0	88	0	0	0	6
	7	130	0	98	0	27	0	98	0	0	0	48
	9	70	0	38	0	27	0	38	0	0	0	49
	10	120	0	88	0	27	0	88	0	0	0	45
	11	70	0	38	0	27	0	38	0	0	0	67
	12	120	0	88	0	27	0	88	0	0	0	45
	13	140	0	108	0	27	0	108	0	0	0	58
	14	150	0	118	0	27	0	118	0	0	0	66
	18	150	0	118	0	27	0	118	0	0	0	100
	19	130	0	98	0	27	0	98	0	0	0	69
	20	110	0	78	0	27	0	78	0	0	0	26

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	Flash	Su M T W Th F S
0800	11	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***







**TOD Schedule Report**  
for 3005: Collins Av&96 St

Print Date:  
1/31/2014

Print Time:  
8:06 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3005	Collins Av&96 St	DOW-6		N/A	0	0	N/A	0	Max 0

**Splits**

<u>PH 1</u>	<u>PH 2</u>	<u>PH 3</u>	<u>PH 4</u>	<u>PH 5</u>	<u>PH 6</u>	<u>PH 7</u>	<u>PH 8</u>
NBL	-	EBT	WBT	PED	NBT	-	-
0	0	0	0	0	0	0	0
			N/A				

Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>													
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3															
1 NBL	0	-	0	0	-	0	4	-	4	-	4	2	-	2	-	2	0	-	30	-	30	0	-	0	-	0	4		2.9				
2 -	0	-	0	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0		0				
3 EBT	4	-	4	-	4	14	-	14	-	14	4	-	4	-	4	1	-	1	-	1	18	-	25	-	25	77	-	0	-	0	4		2.2
4 WBT	0	-	0	-	0	0	-	0	-	0	7	-	7	-	7	2.5	-	2.5	-	2.5	7	-	10	-	10	7	-	0	-	0	4		2.2
5 PED	4	-	4	-	4	13	-	13	-	13	4	-	4	-	4	2	-	0	-	0	30	-	0	-	0	30	-	0	-	0	0		1
6 NBT	4	-	4	-	4	12	-	12	-	12	4	-	4	-	4	1	-	1	-	1	30	-	30	-	30	30	-	0	-	0	4		2.9
7 -	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0		0
8 -	0	-	0	-	0	0	-	4	-	0	0	-	2	-	0	0	-	30	-	0	0	-	0	-	0	0	-	0	-	0	0		0

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	1-3456--
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1 NBL	2 -	3 EBT	4 WBT	5 PED	6 NBT	7 -	8 -		
5		110	39	0	25	8	18	39	0	0	0	49
13		140	51	0	44	8	17	51	0	0	0	61
14		150	58	0	51	4	17	58	0	0	0	51
16		150	49	0	56	8	17	49	0	0	0	69
17		160	42	0	73	8	17	42	0	0	0	43
18		150	47	0	58	8	17	47	0	0	0	113
19		130	40	0	45	8	17	40	0	0	0	61
20		110	40	0	25	8	17	40	0	0	0	59

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S
0200	Free	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	Free	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	Free	M T W Th F
2200	Free	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 2919: Harding Av&96 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2919	Harding Av&96 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>																							
									<u>Phase Bank</u>																						
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																
1 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0															
2 SBT	7	-	7	-	7	-	7	-	7	1	-	1	-	1	54	-	58	-	54	4	2.3										
3 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0										
4 WBT	7	-	7	-	7	-	7	-	7	1	-	1	-	1	19	-	26	-	22	91	-	24	-	91	4	2					
5 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	0									
6 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	54	-	0	0	-	58	-	0	0	0					
7 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	0									
8 EBT	0	-	0	-	0	-	0	-	0	7	-	7	-	7	1	-	1	-	1	19	-	26	-	22	91	-	24	-	91	4	2.3

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4---8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	SBT	-	WBT	-	-	-	EBT		
1		130	0	64	0	54	0	0	0	54	0	81
3		140	0	71	0	57	0	0	0	57	0	42
4		150	0	86	0	52	0	0	0	52	0	69
5		110	0	70	0	28	0	0	0	28	0	40
7		130	0	59	0	59	0	0	0	59	0	54
8		150	0	65	0	73	0	0	0	73	0	57
10		120	0	52	0	56	0	0	0	56	0	48
12		120	0	52	0	56	0	0	0	56	0	48
13		140	0	81	0	47	0	0	0	47	0	50
14		150	0	78	0	60	0	0	0	60	0	43
16		150	0	71	0	67	0	0	0	67	0	61
17		160	0	69	0	79	0	0	0	79	0	39
18		150	0	75	0	63	0	0	0	63	0	98
19		130	0	71	0	47	0	0	0	47	0	53
20		110	0	70	0	28	0	0	0	28	0	24

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	Free	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	Free	Su S
0900	3	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	Free	M T W Th F
2200	Free	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	----3--	Su M T W Th F S
0200	TOD OUTPUTS	-----1	Su M T W Th F S
0600	TOD OUTPUTS	-----	M T W Th F
2100	TOD OUTPUTS	-----2-	M T W Th F

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	----3--	Su M T W Th F S
0200	TOD OUTPUTS	-----1	Su M T W Th F S
0600	TOD OUTPUTS	-----	M T W Th F
0800	TOD OUTPUTS	-----2-	Su S
1000	TOD OUTPUTS	-----	Su S
2100	TOD OUTPUTS	-----2-	M T W Th F
2200	TOD OUTPUTS	-----2-	Su S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 3319: Collins Av&95 St

Print Date:  
1/30/2014

Print Time:  
8:05 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3319	Collins Av&95 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	4	4	4	17	17	17	4	4	4	1	1	1	22	22	22	27	27	27	4	0.8
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBT	7	7	7	12	12	12	7	7	7	1	1	1	40	40	40	0	0	0	4	0.5
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	4	4	4	17	17	17	4	4	4	1	1	1	22	22	22	27	27	27	4	0.8

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	---4-6-8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	-	-	WBT	-	NBT	-	EBT		
1		130	0	0	0	21	0	99	0	21	0	108
2		80	0	0	0	21	0	49	0	21	0	60
3		120	0	0	0	21	0	89	0	21	0	71
4		120	0	0	0	21	0	89	0	21	0	18
5		110	0	0	0	21	0	79	0	21	0	71
7		130	0	0	0	21	0	99	0	21	0	90
9		70	0	0	0	21	0	39	0	21	0	14
10		120	0	0	0	21	0	89	0	21	0	71
11		70	0	0	0	21	0	39	0	21	0	2
12		120	0	0	0	21	0	89	0	21	0	76
13		70	0	0	0	21	0	39	0	21	0	34
14		75	0	0	0	21	0	44	0	21	0	26
16		75	0	0	0	21	0	44	0	21	0	40
17		80	0	0	0	21	0	49	0	21	0	22
18		75	0	0	0	21	0	44	0	21	0	27
19		65	0	0	0	21	0	34	0	21	0	40
20		65	0	0	0	21	0	34	0	21	0	16

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	Flash	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su M T W Th F S
0900	13	M T W Th F
1000	14	Su M T W Th F S
1400	14	M T W Th F
1500	18	M W
1530	18	T Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su M T W Th F S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 2918: Harding Av&95 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2918	Harding Av&95 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>																							
									<u>Phase Bank</u>																						
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																
1 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0												
2 SBT	7	-	7	-	7	-	13	-	13	-	13	-	7	-	7	-	7	1	1	40	-	40	-	40	0	-	0	-	0	4	1
3 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0
4 WBT	7	-	7	-	7	-	15	-	15	-	15	-	7	-	7	-	7	1	1	20	-	20	-	20	30	-	0	-	0	4	1
5 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0
6 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0
7 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0
8 EBT	7	-	7	-	7	-	15	-	15	-	15	-	7	-	7	-	7	1	1	20	-	20	-	20	30	-	0	-	0	4	1

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4---8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	SBT	-	WBT	-	-	-	EBT		
1		130	0	98	0	22	0	0	0	22	0	98
2		80	0	48	0	22	0	0	0	22	0	8
3		120	0	88	0	22	0	0	0	22	0	81
4		120	0	88	0	22	0	0	0	22	0	79
5		110	0	78	0	22	0	0	0	22	0	58
7		130	0	98	0	22	0	0	0	22	0	90
8		70	0	38	0	22	0	0	0	22	0	15
9		70	0	38	0	22	0	0	0	22	0	46
10		120	0	88	0	22	0	0	0	22	0	81
11		70	0	38	0	22	0	0	0	22	0	24
12		120	0	88	0	22	0	0	0	22	0	81
13		140	0	108	0	22	0	0	0	22	0	57
14		150	0	118	0	22	0	0	0	22	0	69
16		150	0	118	0	22	0	0	0	22	0	75
17		160	0	128	0	22	0	0	0	22	0	98
18		150	0	118	0	22	0	0	0	22	0	123
19		130	0	98	0	22	0	0	0	22	0	67
20		110	0	78	0	22	0	0	0	22	0	29

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	8	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***



**TOD Schedule Report**  
for 2912: Collins Av&94 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2912	Collins Av&94 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 WBT	0	0	0	0	0	0	7	7	7	2.5	-2.5	-2.5	12	21	21	22	0	0	4	1.4
5 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 NBT	7	7	7	11	11	11	7	7	7	1	1	1	40	40	40	0	0	0	4	1.4
7 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 EBT	4	4	4	14	14	14	4	7	4	2.5	-2.5	-2.5	12	21	21	22	0	0	4	1.4

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	---4-6-8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	-	-	WBT	-	NBT	-	EBT		
1		130	0	0	0	23	0	97	0	23	0	96
2		80	0	0	0	23	0	47	0	23	0	49
3		120	0	0	0	23	0	87	0	23	0	36
4		120	0	0	0	23	0	87	0	23	0	115
5		110	0	0	0	23	0	77	0	23	0	57
7		130	0	0	0	23	0	97	0	23	0	84
8		70	0	0	0	23	0	37	0	23	0	56
9		70	0	0	0	23	0	37	0	23	0	67
10		120	0	0	0	23	0	87	0	23	0	36
11		70	0	0	0	23	0	37	0	23	0	56
12		120	0	0	0	23	0	87	0	23	0	36
13		70	0	0	0	23	0	37	0	23	0	17
14		75	0	0	0	23	0	42	0	23	0	8
16		75	0	0	0	23	0	42	0	23	0	23
17		80	0	0	0	23	0	47	0	23	0	17
18		75	0	0	0	23	0	42	0	23	0	10
19		65	0	0	0	23	0	32	0	23	0	25
20		65	0	0	0	23	0	32	0	23	0	1

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	8	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M W
1530	18	T Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
1745	PED RECALL	8-----	Th
2359	PED RECALL	-----	Th

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	PED RECALL	8-----	F
1745	PED RECALL	8-----	Th
1859	PED RECALL	-----	F
2359	PED RECALL	-----	Th

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 2917: Harding Av&94 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2917	Harding Av&94 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>																							
									<u>Phase Bank</u>																						
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																
1 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0												
2 SBT	7	-	7	-	7	-	13	-	13	-	13	-	7	-	7	-	7	1	40	-	40	-	40	0	-	40	-	40	4	1	
3 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	-	0	-	0	-	0	-	0	-	0	0	0
4 WBT	7	-	7	-	7	-	15	-	15	-	15	-	7	-	7	-	7	1	22	-	22	-	22	25	-	25	-	25	4	1	
5 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	-	0	-	0	-	0	-	0	-	0	0	0
6 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	-	0	-	0	-	0	-	0	-	0	0	0
7 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0	0	-	0	-	0	-	0	-	0	-	0	0	0
8 EBT	7	-	7	-	7	-	15	-	15	-	15	-	7	-	7	-	7	1	22	-	22	-	22	25	-	25	-	25	4	1	

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4---8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	SBT	-	WBT	-	-	-	EBT		
1		130	0	98	0	22	0	0	0	22	0	111
2		80	0	48	0	22	0	0	0	22	0	23
3		120	0	88	0	22	0	0	0	22	0	88
4		120	0	88	0	22	0	0	0	22	0	106
5		110	0	78	0	22	0	0	0	22	0	68
7		130	0	98	0	22	0	0	0	22	0	97
9		70	0	38	0	22	0	0	0	22	0	64
10		120	0	88	0	22	0	0	0	22	0	88
11		70	0	38	0	22	0	0	0	22	0	37
12		120	0	88	0	22	0	0	0	22	0	88
13		140	0	108	0	22	0	0	0	22	0	72
14		150	0	118	0	22	0	0	0	22	0	87
16		150	0	118	0	22	0	0	0	22	0	90
17		160	0	128	0	22	0	0	0	22	0	91
18		150	0	118	0	22	0	0	0	22	0	138
19		130	0	98	0	22	0	0	0	22	0	82
20		110	0	78	0	22	0	0	0	22	0	44

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	Flash	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su M T W Th F S
0900	13	M T W Th F
1000	14	Su M T W Th F S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su M T W Th F S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 2911: Collins Av&93 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2911	Collins Av&93 St	DOW-5		N/A	0	0	N/A	0	Max 0

Splits

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>			<u>Don't Walk</u>			<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
2 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
3 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
4 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
5 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
6 NBT	7	-	7	10	-	10	7	-	7	1	-	1	25	-	40	0	-	0	4	2
7 -	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0
8 EBT	7	-	7	16	-	16	7	-	7	2.5	-	2.5	14	-	17	23	-	30	4	2

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-----6-8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	-	-	-	-	NBT	-	EBT		
1		130	0	0	0	0	0	95	0	23	0	84
2		80	0	0	0	0	0	45	0	23	0	38
3		120	0	0	0	0	0	85	0	23	0	50
4		120	0	0	0	0	0	85	0	23	0	112
5		110	0	0	0	0	0	75	0	23	0	43
6		70	0	0	0	0	0	35	0	23	0	39
7		130	0	0	0	0	0	95	0	23	0	78
9		70	0	0	0	0	0	35	0	23	0	58
10		120	0	0	0	0	0	85	0	23	0	50
11		70	0	0	0	0	0	35	0	23	0	39
12		120	0	0	0	0	0	85	0	23	0	50
13		70	0	0	0	0	0	35	0	23	0	1
14		75	0	0	0	0	0	40	0	23	0	62
15		60	0	0	0	0	0	25	0	23	0	10
16		75	0	0	0	0	0	40	0	23	0	8
17		80	0	0	0	0	0	45	0	23	0	69
18		75	0	0	0	0	0	40	0	23	0	67
19		65	0	0	0	0	0	30	0	23	0	7
20		65	0	0	0	0	0	30	0	23	0	54

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	Flash	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	6	Su S
0900	13	M T W Th F
1000	15	Su S
1400	14	M T W Th F
1500	18	M W
1530	18	T Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	6	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	PED RECALL	8-----	S
1745	PED RECALL	8-----	F
1859	PED RECALL	-----	S
2359	PED RECALL	-----	F

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 3185: Harding Av&93 St

Print Date:  
1/30/2014

Print Time:  
8:05 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3185	Harding Av&93 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>	<u>Veh Ext</u>	<u>Max Limit</u>	<u>Max 2</u>	<u>Yellow</u>	<u>Red</u>								
									<u>Phase Bank</u>							
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
1 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0
2 SBT	7	-	7	-	7	-	13	-	13	-	7	-	7	-	7	1
3 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0
4 WBT	7	-	7	-	7	-	17	-	17	-	7	-	7	-	7	1
5 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0
6 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0
7 -	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	0
8 EBT	7	-	7	-	7	-	17	-	17	-	2.5	-	2.5	-	2.5	4

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4---8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1	2	3	4	5	6	7	8		
			-	SBT	-	WBT	-	-	-	EBT		
1		130	0	96	0	24	0	0	0	24	0	129
2		80	0	46	0	24	0	0	0	24	0	43
3		120	0	86	0	24	0	0	0	24	0	100
4		120	0	86	0	24	0	0	0	24	0	105
5		110	0	76	0	24	0	0	0	24	0	83
7		130	0	96	0	24	0	0	0	24	0	110
9		70	0	36	0	24	0	0	0	24	0	16
10		120	0	86	0	24	0	0	0	24	0	100
11		70	0	36	0	24	0	0	0	24	0	55
12		120	0	86	0	24	0	0	0	24	0	100
13		140	0	106	0	24	0	0	0	24	0	85
14		150	0	116	0	24	0	0	0	24	0	97
16		150	0	116	0	24	0	0	0	24	0	106
17		160	0	126	0	24	0	0	0	24	0	110
18		150	0	116	0	24	0	0	0	24	0	149
19		130	0	96	0	24	0	0	0	24	0	99
20		110	0	76	0	24	0	0	0	24	0	64

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	Flash	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su M T W Th F S
0900	13	M T W Th F
1000	14	Su M T W Th F S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su M T W Th F S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***



**TOD Schedule Report**  
for 2916: Harding Av&91 St

Print Date:  
1/30/2014

Print Time:  
8:04 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
2916	Harding Av&91 St	DOW-5		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

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

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4---8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1 -	2 SBT	3 -	4 WBT	5 -	6 -	7 -	8 EBT		
1		130	0	95	0	25	0	0	0	25	0	26
2		80	0	45	0	25	0	0	0	25	0	62
3		120	0	85	0	25	0	0	0	25	0	119
4		120	0	85	0	25	0	0	0	25	0	5
5		110	0	75	0	25	0	0	0	25	0	2
7		130	0	95	0	25	0	0	0	25	0	0
8		70	0	35	0	25	0	0	0	25	0	4
9		70	0	35	0	25	0	0	0	25	0	41
10		120	0	85	0	25	0	0	0	25	0	119
11		70	0	35	0	25	0	0	0	25	0	11
12		120	0	85	0	25	0	0	0	25	0	119
13		140	0	105	0	25	0	0	0	25	0	123
14		150	0	115	0	25	0	0	0	25	0	130
16		150	0	115	0	25	0	0	0	25	0	135
17		160	0	125	0	25	0	0	0	25	0	144
18		150	0	115	0	25	0	0	0	25	0	28
19		130	0	95	0	25	0	0	0	25	0	127
20		110	0	75	0	25	0	0	0	25	0	84

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	11	Su M T W Th F S
0200	8	Su M T W Th F S
0600	5	M T W Th F
0630	19	M T W Th F
0700	16	M T W Th F
0745	17	M T W Th F
0800	11	Su S
0900	13	M T W Th F
1000	14	Su S
1400	14	M T W Th F
1500	18	M T W Th F
1830	19	M T W Th F
2100	11	M T W Th F
2200	11	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 4231: Collins Av&90 St

Print Date:  
1/13/2014

Print Time:  
8:12 AM

Asset	Intersection	TOD Schedule	Op Mode	Plan #	Cycle	Offset	TOD Setting	Active PhaseBank	Active Maximum
4231	Collins Av&90 St	DOW-2		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

Phase	Walk									Don't Walk			Min Initial			Veh Ext			Max Limit			Max 2			Yellow	Red							
	Phase Bank																																
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3									
1	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	0	0							
2	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	0	0							
3	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	0	0							
4	WBT	5	-	5	-	5	18	-	18	-	18	7	-	7	-	7	2.5	-	2.5	-	2.5	22	-	22	-	25	25	-	0	-	0	4	2.4
5	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	0	0	0						
6	NBT	7	-	7	-	7	9	-	9	-	9	7	-	7	-	7	1	-	1	-	1	55	-	38	-	40	0	-	0	-	0	4	2.3
7	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	0	0	0						
8	EBT	5	-	5	-	5	18	-	18	-	18	7	-	7	-	7	2.5	-	2.5	-	2.5	22	-	22	-	25	25	-	0	-	0	4	2.4

Last In Service Date: unknown

Permitted Phases	
	<b>12345678</b>
Default	---4-6-8
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

Current TOD Schedule	Plan	Cycle	Green Time								Ring Offset	Offset
			1	2	3	4	5	6	7	8		
			-	-	-	WBT	-	NBT	-	EBT		
	1	70	0	0	0	24	0	34	0	24	0	34
	4	90	0	0	0	24	0	54	0	24	0	1
	5	90	0	0	0	24	0	54	0	24	0	66
	12	70	0	0	0	24	0	34	0	24	0	51
	13	70	0	0	0	24	0	34	0	24	0	48
	14	90	0	0	0	24	0	54	0	24	0	60

Local TOD Schedule			
Time	Plan	DOW	
0000	13	Su	S
0000	1	M T W Th F	
0600	5	M T W Th F	
1000	14	Su	S
1000	1	M T W Th F	
1600	4	M T W Th F	
1900	12	Su M T W Th F S	

Current Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S

Local Time of Day Function			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	SuM T W ThF S
0600	TOD OUTPUTS	-----1	Su
0800	TOD OUTPUTS	-----1	S
1000	TOD OUTPUTS	-----	Su S
1830	TOD OUTPUTS	-----1	Su S
2100	TOD OUTPUTS	-----	Su S

* Settings
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 4344: 96 St@500 Blk

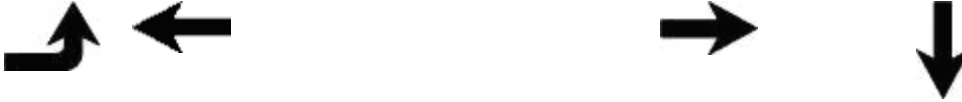
Print Date:  
3/5/2014

Print Time:  
8:26 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
4344	96 St@500 Blk	DOW-4		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

Phase	Walk	Don't Walk	Min Initial	Veh Ext	Max Limit	Max 2	Yellow	Red																											
									Phase Bank																										
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3																				
1 EBL	0	-	0	-	0	-	0	-	0	5	-	5	-	5	2	-	2	-	2	12	-	10	-	5	12	-	10	-	5	3.7	0				
2 WBT	0	-	0	-	0	-	0	-	0	15	-	15	-	15	1	-	1	-	1	40	-	40	-	40	0	-	0	-	40	4	2				
3 -	0	-	0	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	0				
4 -	0	-	0	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	0				
5 -	0	-	0	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	0				
6 EBT	0	-	0	-	0	-	0	-	0	15	-	15	-	15	1	-	1	-	1	40	-	40	-	40	0	-	0	-	40	4	2				
7 -	0	-	0	-	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	-	0	-	0	0	0				
8 SBT	4	-	4	-	4	-	29	-	29	-	29	-	29	7	-	7	-	7	2.5	-	2.5	-	2.5	12	-	12	-	7	35	-	12	-	7	4	2

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	12---6-8
External Permit 0	-----
External Permit 1	-2---6-8
External Permit 2	-2---6-8

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1 EBL	2 WBT	3 -	4 -	5 -	6 EBT	7 -	8 SBT		
1		90	4	38	0	0	0	46	0	32	0	9
2		65	4	13	0	0	0	21	0	32	0	64
3		90	4	38	0	0	0	46	0	32	0	10
4		90	4	38	0	0	0	46	0	32	0	10
5		55	0	11	0	0	0	11	0	32	0	53
6		120	4	68	0	0	0	76	0	32	0	117
7		90	4	38	0	0	0	46	0	32	0	6
8		90	4	38	0	0	0	46	0	32	0	19
9		150	4	98	0	0	0	106	0	32	0	149
10		70	0	26	0	0	0	26	0	32	0	31
11		70	0	26	0	0	0	26	0	32	0	60
12		75	4	23	0	0	0	31	0	32	0	62
13		75	0	31	0	0	0	31	0	32	0	65
14		70	4	18	0	0	0	26	0	32	0	15
15		75	4	23	0	0	0	31	0	32	0	68
16		150	0	106	0	0	0	106	0	32	0	16
17		75	4	23	0	0	0	31	0	32	0	0
18		120	4	68	0	0	0	76	0	32	0	78
19		120	4	68	0	0	0	76	0	32	0	63
20		160	0	116	0	0	0	116	0	32	0	153
21		70	4	18	0	0	0	26	0	32	0	60

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	10	Su M T W Th F S
0030	Flash	M T W Th F
0100	Flash	Su S
0600	5	M T W Th F
0630	13	M T W Th F
0700	16	M T W Th F
0745	20	M T W Th F
0800	11	Su S
0900	14	M T W Th F
0900	14	Su S
1400	12	M T W Th F
1530	9	M T W Th F
1830	2	M T W Th F
2100	21	M T W Th F
2200	21	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	---4---	SuM T W ThF S
0000	TOD OUTPUTS	---5---	SuM T W ThF S
0900	TOD OUTPUTS	-----	SuM T W ThF S
0900	TOD OUTPUTS	-----2-	SuM T W ThF S
1030	TOD OUTPUTS	-----	SuM T W ThF S
1330	TOD OUTPUTS	-----2-	SuM T W ThF S
2100	TOD OUTPUTS	-----2-	SuM T W ThF S
2200	TOD OUTPUTS	---5---	SuM T W ThF S
2330	TOD OUTPUTS	---4---	SuM T W ThF S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	---4---	SuM T W ThF S
0000	TOD OUTPUTS	---5---	SuM T W ThF S
0900	TOD OUTPUTS	-----	SuM T W ThF S
0900	TOD OUTPUTS	-----2-	SuM T W ThF S
1030	TOD OUTPUTS	-----	SuM T W ThF S
1330	TOD OUTPUTS	-----2-	SuM T W ThF S
2100	TOD OUTPUTS	-----2-	SuM T W ThF S
2200	TOD OUTPUTS	---5---	SuM T W ThF S
2330	TOD OUTPUTS	---4---	SuM T W ThF S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***

**TOD Schedule Report**  
for 3648: Byron Av&96 St

Print Date:  
3/12/2014

Print Time:  
8:05 AM

<u>Asset</u>	<u>Intersection</u>	<u>TOD Schedule</u>	<u>Op Mode</u>	<u>Plan #</u>	<u>Cycle</u>	<u>Offset</u>	<u>TOD Setting</u>	<u>Active PhaseBank</u>	<u>Active Maximum</u>
3648	Byron Av&96 St	DOW-4		N/A	0	0	N/A	0	Max 0

**Splits**

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



Active Phase Bank: Phase Bank 1

<u>Phase</u>	<u>Walk</u>	<u>Don't Walk</u>	<u>Min Initial</u>			<u>Veh Ext</u>			<u>Max Limit</u>			<u>Max 2</u>			<u>Yellow</u>	<u>Red</u>
			1	2	3	1	2	3	1	2	3	1	2	3		
1 -	0 - 0 - 0	0 - 0 - 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2 WBT	7 - 7 - 7	12 - 12 - 12	15	15	15	1	1	1	40	40	40	0	0	0	4	2.5
3 -	0 - 0 - 0	0 - 0 - 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 NBT	4 - 4 - 4	24 - 24 - 24	7	7	7	2.5	2.5	2.5	12	7	12	29	10	14	4	2
5 -	0 - 0 - 0	0 - 0 - 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 EBT	7 - 7 - 7	12 - 12 - 12	15	15	15	1	1	1	40	40	40	0	0	0	4	2.5
7 -	0 - 0 - 0	0 - 0 - 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 -	0 - 0 - 0	0 - 0 - 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Last In Service Date: unknown

<b>Permitted Phases</b>	
	<b><u>12345678</u></b>
Default	-2-4-6--
External Permit 0	-----
External Permit 1	-----
External Permit 2	-----

<u>Current</u> TOD Schedule	<u>Plan</u>	<u>Cycle</u>	<u>Green Time</u>								<u>Ring Offset</u>	<u>Offset</u>
			1 -	2 WBT	3 -	4 NBT	5 -	6 EBT	7 -	8 -		
1		90	0	49	0	29	0	49	0	0	0	12
2		65	0	24	0	29	0	24	0	0	0	0
3		90	0	49	0	29	0	49	0	0	0	12
4		90	0	49	0	29	0	49	0	0	0	12
5		110	0	69	0	29	0	69	0	0	0	10
6		120	0	79	0	29	0	79	0	0	0	1
7		90	0	49	0	29	0	49	0	0	0	1
8		90	0	49	0	29	0	49	0	0	0	15
9		75	0	34	0	29	0	34	0	0	0	6
10		70	0	29	0	29	0	29	0	0	0	30
11		70	0	29	0	29	0	29	0	0	0	0
12		75	0	34	0	29	0	34	0	0	0	72
13		75	0	34	0	29	0	34	0	0	0	0
14		70	0	29	0	29	0	29	0	0	0	22
15		75	0	34	0	29	0	34	0	0	0	2
16		150	0	109	0	29	0	109	0	0	0	146
17		75	0	34	0	29	0	34	0	0	0	10
18		120	0	79	0	29	0	79	0	0	0	83
19		120	0	79	0	29	0	79	0	0	0	71
20		160	0	119	0	29	0	119	0	0	0	136

<u>Local TOD Schedule</u>		
<u>Time</u>	<u>Plan</u>	<u>DOW</u>
0000	10	Su M T W Th F S
0030	Flash	M T W Th F
0100	Flash	Su S
0600	5	M T W Th F
0630	13	M T W Th F
0700	16	M T W Th F
0745	20	M T W Th F
0800	11	Su S
0900	14	M T W Th F
1000	14	Su S
1400	12	M T W Th F
1530	9	M T W Th F
1830	2	M T W Th F
2100	11	M T W Th F
2200	11	Su S

<u>Current Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>Local Time of Day Function</u>			
<u>Time</u>	<u>Function</u>	<u>Settings *</u>	<u>Day of Week</u>
0000	TOD OUTPUTS	-----	Su M T W Th F S

<u>* Settings</u>
Blank - FREE - Phase Bank 1, Max 1
Blank - Plan - Phase Bank 1, Max 2
1 - Phase Bank 2, Max 1
2 - Phase Bank 2, Max 2
3 - Phase Bank 3, Max 1
4 - Phase Bank 3, Max 2
5 - EXTERNAL PERMIT 1
6 - EXTERNAL PERMIT 2
7 - X-PED OMIT
8 - TBA

***No Calendar Defined/Enabled***





# Appendix: C

## Detailed Synchro Summaries



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Intersection Delay**

## Intersection Delay

### Existing Conditions-AM Peak Period

Intersection:		Collins Avenue & Harbour Way									
MDC Asset No:		3629									
Intersection Signal Delay (s):		10.2				Intersection LOS:				B	
	Eastbound	Westbound	Northbound			Southbound					
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right				
Control Delay (s/veh)	No	No	No	73.0	1.6	7.9	51.7	4.8	0.8		
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.1	0.0	0.0	0.0	0.0		
Total Delay (s/veh)				73.0	1.7	7.9	51.7	4.8	0.8		
LOS				E	A	A	D	A	A		
Approach Delay (s/veh)					3.7	7.9	0.0	8.2	0.8		
Approach LOS					A	A	0.0	A	A		

Intersection:		Harding Avenue & 96th Street						
MDC Asset No:		2919						
Intersection Signal Delay (s):		55.7			Intersection LOS:		E	
	Eastbound		Westbound	Southbound				
	Thru	Right	Thru	Thru/Left	Right			
Control Delay (s/veh)	28.3	27.5	27.4	40.6	9.8			
Queue Delay (s/veh)	0.5	0.5	2.6	48.6	1.6			
Total Delay (s/veh)	28.8	28.0	30.0	89.1	11.3			
LOS	C	C	C	F	B			
Approach Delay (s/veh)	28.4		30.0	75.9				
Approach LOS	C		C	E				

Intersection:		Collins Avenue & 96th Street						
MDC Asset No:		3005						
Intersection Signal Delay (s):		24.2			Intersection LOS:		C	
	Eastbound		Westbound	Northbound				
	Left	Thru	Thru/Right	Left	Thru/Right			
Control Delay (s/veh)	85.0	83.5	46.8	8.8	7.3			
Queue Delay (s/veh)	0.1	0.1	0.0	0.3	0.0			
Total Delay (s/veh)	85.1	83.6	46.8	9.0	7.3			
LOS	F	F	D	A	A			
Approach Delay (s/veh)	84.3		46.8	7.8				
Approach LOS	F		D	A				

Intersection:		Collins Avenue & Harding Avenue			
MDC Asset No:		3006			
Intersection Signal Delay (s):		1.1		Intersection LOS:	A
	Southbound		Northbound		
	Thru	Left	Thru		
Control Delay (s/veh)	1.6	0.5	0.3		
Queue Delay (s/veh)	0.0	0.1	0.0		
Total Delay (s/veh)	1.6	0.5	0.3		
LOS	A	A	A		
Approach Delay (s/veh)	1.6	0.4			
Approach LOS	A	A			

Intersection:		96th Street & Byron Avenue			
MDC Asset No:		3648			
Intersection Signal Delay (s):		12.6		Intersection LOS:	B
	Eastbound	Westbound	Northbound		
	Thru	Thru	Left	Right	
Control Delay (s/veh)	4.2	3.9	75.8	20.3	
Queue Delay (s/veh)	0.1	0.1	0.0	0.0	
Total Delay (s/veh)	4.3	4.0	75.8	20.3	
LOS	A	A	E	C	
Approach Delay (s/veh)	4.3	4.0	71.1		
Approach LOS	A	A	E		

## Intersection Delay

### Existing Conditions-AM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 5.2			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	4.0	3.5	5.5	62.5	28.1
Queue Delay (s/veh)	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	4.0	3.5	5.7	62.5	28.1
LOS	A	A	A	E	C
Approach Delay (s/veh)	3.5		5.7	51.8	
Approach LOS	A		A	D	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 6.9			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	67.0		70.5	2.1	
Queue Delay (s/veh)	0.0		0.0	0.3	
Total Delay (s/veh)	67.0		70.5	2.4	
LOS	E		E	A	
Approach Delay (s/veh)	67.0		70.5	2.4	
Approach LOS	E		E	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 4.7			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	16.5		18.5	4.0	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	16.5		18.5	4.0	
LOS	B		B	A	
Approach Delay (s/veh)	16.5		18.5	4.0	
Approach LOS	B		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 9.8			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	67.0		82.6	3.6	
Queue Delay (s/veh)	0.0		4.9	0.0	
Total Delay (s/veh)	67.0		87.5	3.6	
LOS	E		F	A	
Approach Delay (s/veh)	67.0		87.5	3.6	
Approach LOS	E		F	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 7.0			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	30.5		25.8	6.0	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	30.5		25.8	6.0	
LOS	C		C	A	
Approach Delay (s/veh)	30.5		25.8	6.0	
Approach LOS	C		C	A	

## Intersection Delay

### Existing Conditions-AM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 4.7		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	59.3	56.4	3.5
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	59.3	56.4	3.6
LOS	E	E	A
Approach Delay (s/veh)	59.3	56.4	3.6
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 5.2		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	28.8	4.8	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	28.8	4.8	
LOS	C	A	
Approach Delay (s/veh)	28.8	4.8	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.6		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	31.3	77.7	0.5
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	31.3	77.7	0.5
LOS	C	E	A
Approach Delay (s/veh)	31.3	77.7	0.5
Approach LOS	C	E	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 6.8		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	40.5	18.3	5.0
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	40.5	18.3	5.0
LOS	D	B	A
Approach Delay (s/veh)	40.5	18.3	5.0
Approach LOS	D	B	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 10.5				Intersection LOS: B				
	Eastbound Left	Westbound			Northbound		Southbound	
		Left	Thru	Right	Left	Thru/Right	Left	Thru/Right
Control Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	8.7	5.9	10.5
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	9.2	5.9	10.5
LOS	E	E	E	A	A	A	A	B
Approach Delay (s/veh)		50.5			9.1		10.5	
Approach LOS		D			A		B	

## Intersection Delay

### Existing Conditions-PM Peak Period

Intersection:		Collins Avenue & Harbour Way								
MDC Asset No:		3629								
Intersection Signal Delay (s):		14.6				Intersection LOS:				B
	Eastbound	Westbound	Northbound			Southbound				
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right			
Control Delay (s/veh)	No	No	No	109.7	1.7	11.3	92.1	6.4	1.0	
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.1	
Total Delay (s/veh)				109.7	1.7	11.3	92.1	6.4	1.1	
LOS				F	A	B	F	A	A	
Approach Delay (s/veh)					3.2	11.3	0.0	13.1	1.1	
Approach LOS					A	B	0.0	B	A	

Intersection:		Harding Avenue & 96th Street					
MDC Asset No:		2919					
Intersection Signal Delay (s):		31.9			Intersection LOS:		E
	Eastbound		Westbound	Southbound			
	Thru	Right	Thru	Thru/Left	Right		
Control Delay (s/veh)	35.2	35.1	40.4	20.2	5.9		
Queue Delay (s/veh)	0.3	0.2	33.9	0.8	0.5		
Total Delay (s/veh)	35.6	35.3	74.3	21.0	6.4		
LOS	D	D	E	C	A		
Approach Delay (s/veh)	35.4		74.3	18.8			
Approach LOS	D		E	B			

Intersection:		Collins Avenue & 96th Street					
MDC Asset No:		3005					
Intersection Signal Delay (s):		14			Intersection LOS:		B
	Eastbound		Westbound	Northbound			
	Left	Thru	Thru/Right	Left	Thru/Right		
Control Delay (s/veh)	61.9	61.0	49.0	4.6	4.9		
Queue Delay (s/veh)	0.1	0.1	0.0	0.5	0.3		
Total Delay (s/veh)	62.0	61.1	49.0	5.2	5.1		
LOS	E	E	D	A	A		
Approach Delay (s/veh)	61.6		49.0	5.1			
Approach LOS	E		D	A			

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.7			Intersection LOS:		A
	Southbound		Northbound				
	Thru	Thru	Left	Thru			
Control Delay (s/veh)	0.2		0.7	0.9			
Queue Delay (s/veh)	0.0		0.2	0.2			
Total Delay (s/veh)	0.2		0.9	1.1			
LOS	A		A	A			
Approach Delay (s/veh)	0.2		1.1				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		8.3			Intersection LOS:		A
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	6.2	4.3	28.1	9.2			
Queue Delay (s/veh)	0.1	0.0	0.0	0.0			
Total Delay (s/veh)	6.4	4.3	28.1	9.2			
LOS	A	A	C	A			
Approach Delay (s/veh)	6.4	4.3	26.8				
Approach LOS	A	A	C				

## Intersection Delay

### Existing Conditions-PM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 11.1			Intersection LOS: B		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	6.8	8.5	9.4	43.0	12.5
Queue Delay (s/veh)	0.0	0.0	0.4	0.0	0.0
Total Delay (s/veh)	6.8	8.5	9.8	43.0	12.5
LOS	A	A	A	D	B
Approach Delay (s/veh)	8.4		9.8	33.5	
Approach LOS	A		A	C	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 14.1			Intersection LOS: B		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	68.4		103.8	5.0	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	68.4		103.8	5.0	
LOS	E		F	A	
Approach Delay (s/veh)	68.4		103.8	5.0	
Approach LOS	E		F	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 10.8			Intersection LOS: B		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	32.5		16.0	9.7	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	32.5		16.0	9.7	
LOS	C		B	A	
Approach Delay (s/veh)	32.5		16.0	9.7	
Approach LOS	C		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 9.3			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	63.9		69.5	3.0	
Queue Delay (s/veh)	0.0		3.5	0.0	
Total Delay (s/veh)	63.9		73.0	3.0	
LOS	E		E	A	
Approach Delay (s/veh)	63.9		73.0	3.0	
Approach LOS	E		E	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 2.9			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	28.7		20.0	1.8	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	28.7		20.0	1.8	
LOS	C		B	A	
Approach Delay (s/veh)	28.7		20.0	1.8	
Approach LOS	C		B	A	

## Intersection Delay

### Existing Conditions-PM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 4.8		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	54.6	61.9	3.3
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	54.6	61.9	3.3
LOS	D	E	A
Approach Delay (s/veh)	54.6	61.9	3.3
Approach LOS	D	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 9.2		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	23.7	9.0	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	23.7	9.0	
LOS	C	A	
Approach Delay (s/veh)	23.7	9.0	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.6		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	33.9	83.1	0.3
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	33.9	83.1	0.3
LOS	C	F	A
Approach Delay (s/veh)	33.9	83.1	0.3
Approach LOS	C	F	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.9		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	37.2	23.6	5.2
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	37.2	23.6	5.2
LOS	D	C	A
Approach Delay (s/veh)	37.2	23.6	5.2
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 16.7			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	65.4	75.1	75.3	1.9	10.6	12.2	8.8	15.8
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	65.4	75.1	75.3	1.9	10.6	12.4	8.8	15.8
LOS	E	E	E	A	B	B	A	B
Approach Delay (s/veh)	43.9			12.4		15.7		
Approach LOS	D			B		B		



## Intersection Delay

### Existing Conditions-Weekend Peak Period

Intersection:		Collins Avenue & Harbour Way							
MDC Asset No:		3629							
Intersection Signal Delay (s):		7.0			Intersection LOS:		A		
	Eastbound	Westbound	Northbound			Southbound			
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right		
Control Delay (s/veh)	No	No	No	78.8	1.3	4.8	68.5	1.3	0.5
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)				78.8	1.3	4.8	68.5	1.3	0.5
LOS				E	A	A	E	A	A
Approach Delay (s/veh)					1.9	4.8	0.0	6.5	0.5
Approach LOS					A	A	0.0	A	A

Intersection:		Harding Avenue & 96th Street					
MDC Asset No:		2919					
Intersection Signal Delay (s):		23.9		Intersection LOS:		C	
	Eastbound		Westbound	Southbound			
	Thru	Right	Thru	Thru/Left	Right		
Control Delay (s/veh)	38.0	37.8	43.6	12.3	5.4		
Queue Delay (s/veh)	2.2	1.2	4.7	0.7	0.6		
Total Delay (s/veh)	40.2	39.0	48.4	13.0	6.0		
LOS	D	D	D	B	A		
Approach Delay (s/veh)	39.6		48.4	11.7			
Approach LOS	D		D	B			

Intersection:		Collins Avenue & 96th Street					
MDC Asset No:		3005					
Intersection Signal Delay (s):		19.4		Intersection LOS:		B	
	Eastbound		Westbound	Northbound			
	Left	Thru	Thru/Right	Left	Thru/Right		
Control Delay (s/veh)	72.1	72.9	54.8	7.7	7.9		
Queue Delay (s/veh)	0.1	0.1	0.0	0.0	0.1		
Total Delay (s/veh)	72.1	73.0	54.8	7.7	7.9		
LOS	E	E	D	A	A		
Approach Delay (s/veh)	72.5		54.8	7.9			
Approach LOS	E		D	A			

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.6		Intersection LOS:		A	
	Southbound		Northbound				
	Thru		Left	Thru			
Control Delay (s/veh)	0.2		1.0	1.0			
Queue Delay (s/veh)	0.0		0.1	0.0			
Total Delay (s/veh)	0.2		1.1	1.1			
LOS	A		A	A			
Approach Delay (s/veh)	0.2		1.1				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		7.2		Intersection LOS:		A	
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	3.7	7.3	24.6	8.1			
Queue Delay (s/veh)	0.1	0.0	0.0	0.0			
Total Delay (s/veh)	3.9	7.3	24.6	8.1			
LOS	A	A	C	A			
Approach Delay (s/veh)	3.9	7.3	22.4				
Approach LOS	A	A	C				

## Intersection Delay

### Existing Conditions-Weekend Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 8.4			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	7.6	7.3	8.0	18.7	6.7
Queue Delay (s/veh)	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	7.6	7.3	8.2	18.7	6.7
LOS	A	A	A	B	A
Approach Delay (s/veh)	7.3		8.2	15.0	
Approach LOS	A		A	B	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 13.4			Intersection LOS: B		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	67.6		88.0	4.3	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	67.6		88.0	4.4	
LOS	E		F	A	
Approach Delay (s/veh)	67.6		88.0	4.4	
Approach LOS	E		F	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 8.9			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	20.6		15.6	8.1	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	20.6		15.6	8.1	
LOS	C		B	A	
Approach Delay (s/veh)	20.6		15.6	8.1	
Approach LOS	C		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 10.3			Intersection LOS: B		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	64.5		73.9	3.4	
Queue Delay (s/veh)	0.0		2.1	0.0	
Total Delay (s/veh)	64.5		76.0	3.4	
LOS	E		E	A	
Approach Delay (s/veh)	64.5		76.0	3.4	
Approach LOS	E		E	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 7.6			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	31.9		18.3	6.3	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	31.9		18.3	6.3	
LOS	C		B	A	
Approach Delay (s/veh)	31.9		18.3	6.3	
Approach LOS	C		B	A	

## Intersection Delay

### Existing Conditions-Weekend Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 3.9		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	54.1	55.4	2.5
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	54.1	55.4	2.5
LOS	D	E	A
Approach Delay (s/veh)	54.1	55.4	2.5
Approach LOS	D	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 5.8		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	18.6	5.5	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	18.6	5.5	
LOS	B	A	
Approach Delay (s/veh)	18.6	5.5	
Approach LOS	B	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.4		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	40.0	66.9	0.8
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	40.0	66.9	0.8
LOS	D	E	A
Approach Delay (s/veh)	40.0	66.9	0.8
Approach LOS	D	E	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.1		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	36.7	22.4	4.1
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	36.7	22.4	4.1
LOS	D	C	A
Approach Delay (s/veh)	36.7	22.4	4.1
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 16.6			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	67.3	75.0	75.1	1.4	17.1	9.3	8.0	16.0
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	67.3	75.0	75.1	1.4	17.1	9.6	8.0	16.0
LOS	E	E	E	A	B	A	A	B
Approach Delay (s/veh)		48.0			10.0		15.9	
Approach LOS		D			B		B	

## Intersection Delay Option 1-AM Peak Period

Intersection:		Collins Avenue & Harbour Way									
MDC Asset No:		3629									
Intersection Signal Delay (s):		10.2				Intersection LOS:				B	
	Eastbound	Westbound	Northbound			Southbound					
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right				
Control Delay (s/veh)	No	No	No	73.0	1.6	7.9	51.7	4.8	0.8		
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.1	0.0	0.0	0.0	0.0		
Total Delay (s/veh)				73.0	1.7	7.9	51.7	4.8	0.8		
LOS				E	A	A	D	A	A		
Approach Delay (s/veh)					3.7	7.9	0.0	8.2	0.8		
Approach LOS					A	A	0.0	A	A		

Intersection:		Harding Avenue & 96th Street							
MDC Asset No:		2919							
Intersection Signal Delay (s):		55.6			Intersection LOS:			E	
	Eastbound		Westbound	Southbound					
	Thru	Right	Thru	Thru/Left	Right				
Control Delay (s/veh)	31.0	30.3	26.8	38.6	8.9				
Queue Delay (s/veh)	2.1	0.5	1.3	48.6	1.5				
Total Delay (s/veh)	33.1	30.8	28.1	87.2	10.4				
LOS	C	C	C	F	B				
Approach Delay (s/veh)		32.0	28.1	74.1					
Approach LOS		C	C	E					

Intersection:		Collins Avenue & 96th Street							
MDC Asset No:		3005							
Intersection Signal Delay (s):		19.4			Intersection LOS:			B	
	Eastbound		Westbound	Northbound					
	Left	Thru	Thru/Right	Left	Thru/Right				
Control Delay (s/veh)	62.6	61.1	46.8	8.6	7.3				
Queue Delay (s/veh)	0.1	0.1	0.0	0.4	0.0				
Total Delay (s/veh)	62.7	61.2	46.8	9.0	7.3				
LOS	E	E	D	A	A				
Approach Delay (s/veh)		61.9	46.8	7.7					
Approach LOS		E	D	A					

Intersection:		Collins Avenue & Harding Avenue							
MDC Asset No:		3006							
Intersection Signal Delay (s):		0.6			Intersection LOS:			A	
	Southbound		Northbound						
	Thru		Left	Thru					
Control Delay (s/veh)	0.8		0.5	0.3					
Queue Delay (s/veh)	0.0		0.1	0.0					
Total Delay (s/veh)	0.8		0.5	0.3					
LOS	A		A	A					
Approach Delay (s/veh)	0.8		0.4						
Approach LOS	A		A						

Intersection:		96th Street & Byron Avenue							
MDC Asset No:		3648							
Intersection Signal Delay (s):		12.2			Intersection LOS:			B	
	Eastbound	Westbound		Northbound					
	Thru	Thru		Left	Right				
Control Delay (s/veh)	3.7	1.9		80.0	21.8				
Queue Delay (s/veh)	0.1	0.2		0.0	0.0				
Total Delay (s/veh)	3.8	2.1		80.0	21.8				
LOS	A	A		E	C				
Approach Delay (s/veh)	3.8	2.1		75.1					
Approach LOS	A	A		E					

## Intersection Delay Option 1-AM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 5			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	3.1	2.7	6.0	65.6	30.8
Queue Delay (s/veh)	0.0	0.0	0.3	0.0	0.0
Total Delay (s/veh)	3.1	2.7	6.3	65.6	30.8
LOS	A	A	A	E	C
Approach Delay (s/veh)	2.7		6.3	54.7	
Approach LOS	A		A	D	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 5.4			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	32.6		32.5	3.4	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	32.6		32.5	3.4	
LOS	C		C	A	
Approach Delay (s/veh)	32.6		32.5	3.4	
Approach LOS	C		C	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 2.7			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	24.8		21.8	1.4	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	24.8		21.8	1.4	
LOS	C		C	A	
Approach Delay (s/veh)	24.8		21.8	1.4	
Approach LOS	C		C	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 4.4			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	30.2		30.8	2.1	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	30.2		30.8	2.1	
LOS	C		C	A	
Approach Delay (s/veh)	30.2		30.8	2.1	
Approach LOS	C		C	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 4.9			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	31.2		28.7	3.7	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	31.2		28.7	3.7	
LOS	C		C	A	
Approach Delay (s/veh)	31.2		28.7	3.7	
Approach LOS	C		C	A	

## Intersection Delay Option 1-AM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 3		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	64.1	62.6	1.5
Queue Delay (s/veh)	0.0	0.0	0.2
Total Delay (s/veh)	64.1	62.6	1.6
LOS	E	E	A
Approach Delay (s/veh)	64.1	62.6	1.6
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 4.4		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	36.8	3.8	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	36.8	3.8	
LOS	D	A	
Approach Delay (s/veh)	36.8	3.8	
Approach LOS	D	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.5		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	33.0	81.9	0.3
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	33.0	81.9	0.3
LOS	C	F	A
Approach Delay (s/veh)	33.0	81.9	0.3
Approach LOS	C	F	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 6.8		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	40.5	18.3	5.0
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	40.5	18.3	5.0
LOS	D	B	A
Approach Delay (s/veh)	40.5	18.3	5.0
Approach LOS	D	B	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 10.5			Intersection LOS: B					
	Eastbound Left	Westbound			Northbound		Southbound	
		Left	Thru	Right	Left	Thru/Right	Left	Thru/Right
Control Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	8.7	5.9	10.5
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	9.2	5.9	10.5
LOS	E	E	E	A	A	A	A	B
Approach Delay (s/veh)		50.5			9.1		10.5	
Approach LOS		D			A		B	

## Intersection Delay Option 1-PM Peak Period

Intersection:		Collins Avenue & Harbour Way									
MDC Asset No:		3629									
Intersection Signal Delay (s):		14.6				Intersection LOS:				B	
	Eastbound	Westbound	Northbound			Southbound					
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right				
Control Delay (s/veh)	No	No	No	109.7	1.7	11.3	92.1	6.4	1.0		
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.1		
Total Delay (s/veh)				109.7	1.7	11.3	92.1	6.4	1.1		
LOS				F	A	B	F	A	A		
Approach Delay (s/veh)					3.2	11.3	0.0	13.1	1.1		
Approach LOS					A	B	0.0	B	A		

Intersection:		Harding Avenue & 96th Street							
MDC Asset No:		2919							
Intersection Signal Delay (s):		27.7			Intersection LOS:			C	
	Eastbound		Westbound	Southbound					
	Thru	Right	Thru	Thru/Left	Right				
Control Delay (s/veh)	41.9	41.4	40.9	14.9	2.3				
Queue Delay (s/veh)	1.8	0.5	6.1	0.7	0.6				
Total Delay (s/veh)	43.7	41.9	47.0	15.7	2.9				
LOS	D	D	D	B	A				
Approach Delay (s/veh)		42.9	47.0		13.7				
Approach LOS		D	D		B				

Intersection:		Collins Avenue & 96th Street					
MDC Asset No:		3005					
Intersection Signal Delay (s):		11.9		Intersection LOS:		B	
	Eastbound		Westbound	Northbound			
	Left	Thru	Thru/Right	Left	Thru/Right		
Control Delay (s/veh)	41.9	41.0	52.3	5.6	6.2		
Queue Delay (s/veh)	0.2	0.2	0.0	0.5	0.2		
Total Delay (s/veh)	42.1	41.2	52.3	6.1	6.4		
LOS	D	D	D	A	A		
Approach Delay (s/veh)		41.6	52.3		6.4		
Approach LOS		D	D		A		

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.9		Intersection LOS:		A	
	Southbound		Northbound				
	Thru	Thru	Left	Thru			
Control Delay (s/veh)	0.6	0.7	1.1				
Queue Delay (s/veh)	0.0	0.3	0.2				
Total Delay (s/veh)	0.6	1.0	1.3				
LOS	A	A	A				
Approach Delay (s/veh)	0.6		1.2				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		7.4		Intersection LOS:		A	
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	4.7	1.8	33.8	11.9			
Queue Delay (s/veh)	0.2	0.0	0.0	0.0			
Total Delay (s/veh)	5.0	1.8	33.8	11.9			
LOS	A	A	C	B			
Approach Delay (s/veh)	5.0	1.8		32.4			
Approach LOS	A	A		C			

## Intersection Delay Option 1-PM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 9.1			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	6.3	8.0	4.9	47.9	13.3
Queue Delay (s/veh)	0.0	0.0	0.4	0.0	0.0
Total Delay (s/veh)	6.3	8.0	5.3	47.9	13.3
LOS	A	A	A	D	B
Approach Delay (s/veh)	7.9		5.3	37.1	
Approach LOS	A		A	D	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 8.1			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	30.7		35.8	4.9	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	30.7		35.8	4.9	
LOS	C		D	A	
Approach Delay (s/veh)	30.7		35.8	4.9	
Approach LOS	C		D	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 7.7			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	28.4		19.9	6.6	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	28.4		19.9	6.6	
LOS	C		B	A	
Approach Delay (s/veh)	28.4		19.9	6.6	
Approach LOS	C		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 5.1			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	29.2		27.1	2.6	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	29.2		27.1	2.6	
LOS	C		C	A	
Approach Delay (s/veh)	29.2		27.1	2.6	
Approach LOS	C		C	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 3.6			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	39.4		25.7	2.2	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	39.4		25.7	2.2	
LOS	D		C	A	
Approach Delay (s/veh)	39.4		25.7	2.2	
Approach LOS	D		C	A	



## Intersection Delay Option 1-PM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 4.6		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	65.4	60.7	2.9
Queue Delay (s/veh)	0.0	0.0	0.2
Total Delay (s/veh)	65.4	60.7	3.1
LOS	E	E	A
Approach Delay (s/veh)	65.4	60.7	3.1
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 6.5		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	29.9	6.1	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	29.9	6.1	
LOS	C	A	
Approach Delay (s/veh)	29.9	6.1	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.7		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	35.5	89.5	0.3
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	35.5	89.5	0.3
LOS	D	F	A
Approach Delay (s/veh)	35.5	89.5	0.3
Approach LOS	D	F	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.9		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	37.2	23.6	5.2
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	37.2	23.6	5.2
LOS	D	C	A
Approach Delay (s/veh)	37.2	23.6	5.2
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 16.5			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	70.9	80.8	81.1	2.2	11.1	12.4	8.3	14.3
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	70.9	80.8	81.1	2.2	11.1	12.5	8.3	14.3
LOS	E	F	F	A	B	B	A	B
Approach Delay (s/veh)				47.3	12.5		14.2	
Approach LOS				D	B		B	

## Intersection Delay Option 1-Weekend Peak Period

Intersection:		Collins Avenue & Harbour Way								
MDC Asset No:		3629								
Intersection Signal Delay (s):		7.0				Intersection LOS:				A
	Eastbound	Westbound	Northbound			Southbound				
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right			
Control Delay (s/veh)	No	No	No	78.8	1.3	4.8	68.5	1.3	0.5	
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)				78.8	1.3	4.8	68.5	1.3	0.5	
LOS				E	A	A	E	A	A	
Approach Delay (s/veh)					1.9	4.8	0.0	6.5	0.5	
Approach LOS					A	A	0.0	A	A	

Intersection:		Harding Avenue & 96th Street							
MDC Asset No:		2919							
Intersection Signal Delay (s):		18.7			Intersection LOS:			B	
	Eastbound		Westbound	Southbound					
	Thru	Right	Thru	Thru/Left	Right				
Control Delay (s/veh)	36.0	35.7	24.8	9.9	3.4				
Queue Delay (s/veh)	0.4	0.3	0.9	0.6	0.6				
Total Delay (s/veh)	36.4	36.0	25.7	10.4	4.0				
LOS	D	D	C	B	A				
Approach Delay (s/veh)	36.2		25.7	9.3					
Approach LOS	D		C	A					

Intersection:		Collins Avenue & 96th Street							
MDC Asset No:		3005							
Intersection Signal Delay (s):		16			Intersection LOS:			B	
	Eastbound		Westbound	Northbound					
	Left	Thru	Thru/Right	Left	Thru/Right				
Control Delay (s/veh)	64.5	65.3	54.8	5.2	5.1				
Queue Delay (s/veh)	0.1	0.1	0.0	0.0	0.1				
Total Delay (s/veh)	64.7	65.5	54.8	5.2	5.3				
LOS	E	E	D	A	A				
Approach Delay (s/veh)	65.1		54.8	5.2					
Approach LOS	E		D	A					

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.5		Intersection LOS:		A	
	Southbound		Northbound				
	Thru	Thru	Left	Thru			
Control Delay (s/veh)	0.2		0.9	0.8			
Queue Delay (s/veh)	0.0		0.0	0.0			
Total Delay (s/veh)	0.2		0.9	0.8			
LOS	A		A	A			
Approach Delay (s/veh)	0.2		0.9				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		7.0		Intersection LOS:		A	
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	4.6	5.3	27.1	9.1			
Queue Delay (s/veh)	0.2	0.0	0.0	0.0			
Total Delay (s/veh)	4.7	5.3	27.1	9.1			
LOS	A	A	C	A			
Approach Delay (s/veh)	4.7	5.3	24.8				
Approach LOS	A	A	C				

## Intersection Delay

### Option 1-Weekend Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 7.2			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	7.0	6.8	5.6	20.7	7.5
Queue Delay (s/veh)	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	7.0	6.8	5.7	20.7	7.5
LOS	A	A	A	C	A
Approach Delay (s/veh)	6.8		5.7	16.5	
Approach LOS	A		A	B	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 7.0			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	28.4		23.8	4.3	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	28.4		23.8	4.3	
LOS	C		C	A	
Approach Delay (s/veh)	28.4		23.8	4.3	
Approach LOS	C		C	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 6.6			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	18.2		15.0	5.9	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	18.2		15.0	5.9	
LOS	B		B	A	
Approach Delay (s/veh)	18.2		15.0	5.9	
Approach LOS	B		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 6.2			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	30.1		33.8	3.3	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	30.1		33.8	3.3	
LOS	C		C	A	
Approach Delay (s/veh)	30.1		33.8	3.3	
Approach LOS	C		C	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 5.2			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	28.8		18.3	3.8	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	28.8		18.3	3.8	
LOS	C		B	A	
Approach Delay (s/veh)	28.8		18.3	3.8	
Approach LOS	C		B	A	

## Intersection Delay Option 1-Weekend Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 3.9		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	56.9	57.0	2.4
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	56.9	57.0	2.5
LOS	E	E	A
Approach Delay (s/veh)	56.9	57.0	2.5
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 4.8		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	30.5	4.4	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	30.5	4.4	
LOS	C	A	
Approach Delay (s/veh)	30.5	4.4	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.6		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	41.3	68.7	0.5
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	41.3	68.7	0.5
LOS	D	E	A
Approach Delay (s/veh)	41.3	68.7	0.5
Approach LOS	D	E	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.1		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	36.7	22.4	4.1
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	36.7	22.4	4.1
LOS	D	C	A
Approach Delay (s/veh)	36.7	22.4	4.1
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 15.8			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	67.3	75.0	75.1	1.4	16.3	8.0	7.9	15.6
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	67.3	75.0	75.1	1.4	16.3	8.3	7.9	15.6
LOS	E	E	E	A	B	A	A	B
Approach Delay (s/veh)		48.0			8.7		15.5	
Approach LOS		D			A		B	

## Intersection Delay Option 2-AM Peak Period

Intersection:		Collins Avenue & Harbour Way									
MDC Asset No:		3629									
Intersection Signal Delay (s):		10.2				Intersection LOS:				B	
	Eastbound	Westbound	Northbound			Southbound					
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right				
Control Delay (s/veh)	No	No	No	73.0	1.6	7.9	51.7	4.8	0.8		
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.1	0.0	0.0	0.0	0.0		
Total Delay (s/veh)				73.0	1.7	7.9	51.7	4.8	0.8		
LOS				E	A	A	D	A	A		
Approach Delay (s/veh)					3.7	7.9	0.0	8.2	0.8		
Approach LOS					A	A	0.0	A	A		

Intersection:		Harding Avenue & 96th Street									
MDC Asset No:		2919									
Intersection Signal Delay (s):		45				Intersection LOS:				D	
	Eastbound		Westbound	Southbound							
	Thru	Right	Thru	Thru/Left	Right						
Control Delay (s/veh)	50.0	48.6	36.2	27.2	7.2						
Queue Delay (s/veh)	0.8	0.3	0.6	24.3	1.2						
Total Delay (s/veh)	50.8	48.9	36.9	51.5	8.3						
LOS	D	D	D	D	A						
Approach Delay (s/veh)	49.9		36.9	44.1							
Approach LOS	D		D	D							

Intersection:		Collins Avenue & 96th Street									
MDC Asset No:		3005									
Intersection Signal Delay (s):		17.2				Intersection LOS:				B	
	Eastbound		Westbound	Northbound							
	Left	Thru	Thru/Right	Left	Thru/Right						
Control Delay (s/veh)	52.2	50.7	46.8	8.6	7.3						
Queue Delay (s/veh)	0.1	0.1	0.0	0.4	0.0						
Total Delay (s/veh)	52.3	50.7	46.8	9.0	7.3						
LOS	D	D	D	A	A						
Approach Delay (s/veh)	51.5		46.8	7.8							
Approach LOS	D		D	A							

Intersection:		Collins Avenue & Harding Avenue									
MDC Asset No:		3006									
Intersection Signal Delay (s):		0.6				Intersection LOS:				A	
	Southbound		Northbound								
	Thru	Thru	Left	Thru							
Control Delay (s/veh)	0.8		0.5	0.3							
Queue Delay (s/veh)	0.0		0.1	0.0							
Total Delay (s/veh)	0.8		0.5	0.3							
LOS	A		A	A							
Approach Delay (s/veh)	0.8		0.4								
Approach LOS	A		A								

Intersection:		96th Street & Byron Avenue									
MDC Asset No:		3648									
Intersection Signal Delay (s):		12.9				Intersection LOS:				B	
	Eastbound	Westbound		Northbound							
	Thru	Thru	Thru	Left	Right						
Control Delay (s/veh)	4.8	1.9		80.0	21.8						
Queue Delay (s/veh)	0.3	0.2		0.0	0.0						
Total Delay (s/veh)	5.1	2.0		80.0	21.8						
LOS	A	A		E	C						
Approach Delay (s/veh)	5.1	2.0		75.1							
Approach LOS	A	A		E							

## Intersection Delay Option 2-AM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 2.8			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	3.1	2.7	1.0	65.6	30.8
Queue Delay (s/veh)	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	3.1	2.7	1.3	65.6	30.8
LOS	A	A	A	E	C
Approach Delay (s/veh)	2.7		1.3	54.7	
Approach LOS	A		A	D	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 5.7			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	37.0		44.7	3.1	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	37.0		44.7	3.1	
LOS	D		D	A	
Approach Delay (s/veh)	37.0		44.7	3.1	
Approach LOS	D		D	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 3.2			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	44.0		23.7	0.9	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	44.0		23.7	0.9	
LOS	D		C	A	
Approach Delay (s/veh)	44.0		23.7	0.9	
Approach LOS	D		C	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 4.4			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	34.1		37.5	1.5	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	34.1		37.5	1.5	
LOS	C		D	A	
Approach Delay (s/veh)	34.1		37.5	1.5	
Approach LOS	C		D	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 4.5			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	31.9		28.7	3.3	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	31.9		28.7	3.3	
LOS	C		C	A	
Approach Delay (s/veh)	31.9		28.7	3.3	
Approach LOS	C		C	A	

## Intersection Delay Option 2-AM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 2.6		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	71.6	75.5	1.0
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	71.6	75.5	1.0
LOS	E	E	A
Approach Delay (s/veh)	71.6	75.5	1.0
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 4.3		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	35.0	3.8	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	35.0	3.8	
LOS	C	A	
Approach Delay (s/veh)	35.0	3.8	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.7		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	33.0	81.9	0.5
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	33.0	81.9	0.5
LOS	C	F	A
Approach Delay (s/veh)	33.0	81.9	0.5
Approach LOS	C	F	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 6.8		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	40.5	18.3	5.0
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	40.5	18.3	5.0
LOS	D	B	A
Approach Delay (s/veh)	40.5	18.3	5.0
Approach LOS	D	B	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 10.5				Intersection LOS: B				
	Eastbound Left	Westbound			Northbound		Southbound	
		Left	Thru	Right	Left	Thru/Right	Left	Thru/Right
Control Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	8.7	5.9	10.5
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Total Delay (s/veh)	65.8	76.7	77.1	0.6	7.2	9.2	5.9	10.5
LOS	E	E	E	A	A	A	A	B
Approach Delay (s/veh)		50.5			9.1		10.5	
Approach LOS		D			A		B	

## Intersection Delay Option 2-PM Peak Period

Intersection:		Collins Avenue & Harbour Way									
MDC Asset No:		3629									
Intersection Signal Delay (s):		14.6				Intersection LOS:				B	
	Eastbound	Westbound	Northbound			Southbound					
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right				
Control Delay (s/veh)	No	No	No	109.7	1.7	11.3	92.1	6.4	1.0		
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.1		
Total Delay (s/veh)				109.7	1.7	11.3	92.1	6.4	1.1		
LOS				F	A	B	F	A	A		
Approach Delay (s/veh)					3.2	11.3	0.0	13.1	1.1		
Approach LOS					A	B	0.0	B	A		

Intersection:		Harding Avenue & 96th Street					
MDC Asset No:		2919					
Intersection Signal Delay (s):		29.9		Intersection LOS:		C	
	Eastbound		Westbound	Southbound			
	Thru	Right	Thru	Thru/Left	Right		
Control Delay (s/veh)	55.8	54.9	42.2	11.3	1.8		
Queue Delay (s/veh)	1.4	0.4	2.6	0.5	0.5		
Total Delay (s/veh)	57.2	55.3	44.8	11.8	2.3		
LOS	E	E	D	B	A		
Approach Delay (s/veh)	56.3		44.8	10.3			
Approach LOS	E		D	B			

Intersection:		Collins Avenue & 96th Street					
MDC Asset No:		3005					
Intersection Signal Delay (s):		12.6		Intersection LOS:		B	
	Eastbound		Westbound	Northbound			
	Left	Thru	Thru/Right	Left	Thru/Right		
Control Delay (s/veh)	34.0	33.3	52.3	7.6	8.4		
Queue Delay (s/veh)	0.2	0.2	0.0	0.5	0.2		
Total Delay (s/veh)	34.2	33.5	52.3	8.1	8.6		
LOS	C	C	D	A	A		
Approach Delay (s/veh)	33.8		52.3	8.5			
Approach LOS	C		D	A			

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.7		Intersection LOS:		A	
	Southbound		Northbound				
	Thru	Thru	Left	Thru			
Control Delay (s/veh)	0.2		0.7	1.2			
Queue Delay (s/veh)	0.0		0.2	0.1			
Total Delay (s/veh)	0.2		0.9	1.3			
LOS	A		A	A			
Approach Delay (s/veh)	0.2		1.2				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		7.6		Intersection LOS:		A	
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	4.9	2.0	33.8	11.9			
Queue Delay (s/veh)	0.2	0.0	0.0	0.0			
Total Delay (s/veh)	5.1	2.0	33.8	11.9			
LOS	A	A	C	B			
Approach Delay (s/veh)	5.1	2.0	32.4				
Approach LOS	A	A	C				



## Intersection Delay Option 2-PM Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 9			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	6.3	8.0	4.6	47.9	13.3
Queue Delay (s/veh)	0.0	0.0	0.4	0.0	0.0
Total Delay (s/veh)	6.3	8.0	5.0	47.9	13.3
LOS	A	A	A	D	B
Approach Delay (s/veh)	7.9		5.0	37.1	
Approach LOS	A		A	D	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 8.6			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	37.5		54.5	3.9	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	37.5		54.5	3.9	
LOS	D		D	A	
Approach Delay (s/veh)	37.5		54.5	3.9	
Approach LOS	D		D	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 3.8			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	42.2		20.6	1.8	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	42.2		20.6	1.8	
LOS	D		C	A	
Approach Delay (s/veh)	42.2		20.6	1.8	
Approach LOS	D		C	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 5.1			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	35.3		39.3	1.6	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	35.3		39.3	1.6	
LOS	D		D	A	
Approach Delay (s/veh)	35.3		39.3	1.6	
Approach LOS	D		D	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 3.6			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	39.4		25.7	2.1	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	39.4		25.7	2.1	
LOS	D		C	A	
Approach Delay (s/veh)	39.4		25.7	2.1	
Approach LOS	D		C	A	

## Intersection Delay Option 2-PM Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 2.8		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	73.2	73.1	0.8
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	73.2	73.1	0.9
LOS	E	E	A
Approach Delay (s/veh)	73.2	73.1	0.9
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 6.4		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	26.8	6.1	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	26.8	6.1	
LOS	C	A	
Approach Delay (s/veh)	26.8	6.1	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.8		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	35.5	89.5	0.4
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	35.5	89.5	0.4
LOS	D	F	A
Approach Delay (s/veh)	35.5	89.5	0.4
Approach LOS	D	F	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.9		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	37.2	23.6	5.2
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	37.2	23.6	5.2
LOS	D	C	A
Approach Delay (s/veh)	37.2	23.6	5.2
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 15.1			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	70.9	80.8	81.1	2.2	9.6	9.7	8.3	14.3
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	70.9	80.8	81.1	2.2	9.6	9.9	8.3	14.3
LOS	E	F	F	A	A	A	A	B
Approach Delay (s/veh)		47.3			9.9		14.2	
Approach LOS		D			A		B	

## Intersection Delay Option 2-Weekend Peak Period

Intersection:		Collins Avenue & Harbour Way								
MDC Asset No:		3629								
Intersection Signal Delay (s):		7.0				Intersection LOS:				A
	Eastbound	Westbound	Northbound			Southbound				
	All	All	U-Turn	Left	Thru/Right	U-Turn	Thru/Right			
Control Delay (s/veh)	No	No	No	78.8	1.3	4.8	68.5	1.3	0.5	
Queue Delay (s/veh)	Volume	Volume	Volume	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)				78.8	1.3	4.8	68.5	1.3	0.5	
LOS				E	A	A	E	A	A	
Approach Delay (s/veh)					1.9	4.8	0.0	6.5	0.5	
Approach LOS					A	A	0.0	A	A	

Intersection:		Harding Avenue & 96th Street						
MDC Asset No:		2919						
Intersection Signal Delay (s):		22.9			Intersection LOS:			C
	Eastbound		Westbound	Southbound				
	Thru	Right	Thru	Thru/Left	Right			
Control Delay (s/veh)	58.2	59.8	38.8	3.2	1.5			
Queue Delay (s/veh)	0.3	0.0	0.4	0.3	0.5			
Total Delay (s/veh)	58.5	59.8	39.2	3.5	2.0			
LOS	E	E	D	A	A			
Approach Delay (s/veh)	59.1		39.2	3.2				
Approach LOS	E		D	A				

Intersection:		Collins Avenue & 96th Street					
MDC Asset No:		3005					
Intersection Signal Delay (s):		14.2			Intersection LOS:		B
	Eastbound		Westbound	Northbound			
	Left	Thru	Thru/Right	Left	Thru/Right		
Control Delay (s/veh)	53.3	54.2	54.8	5.2	5.3		
Queue Delay (s/veh)	0.1	0.1	0.0	0.0	0.1		
Total Delay (s/veh)	53.4	54.3	54.8	5.2	5.4		
LOS	D	D	D	A	A		
Approach Delay (s/veh)	53.9		54.8	5.3			
Approach LOS	D		D	A			

Intersection:		Collins Avenue & Harding Avenue					
MDC Asset No:		3006					
Intersection Signal Delay (s):		0.6			Intersection LOS:		A
	Southbound		Northbound				
	Thru	Thru	Left	Thru			
Control Delay (s/veh)	0.2		0.9	0.9			
Queue Delay (s/veh)	0.0		0.0	0.0			
Total Delay (s/veh)	0.2		1.0	0.9			
LOS	A		A	A			
Approach Delay (s/veh)	0.2		1.0				
Approach LOS	A		A				

Intersection:		96th Street & Byron Avenue					
MDC Asset No:		3648					
Intersection Signal Delay (s):		6.4			Intersection LOS:		A
	Eastbound	Westbound	Northbound				
	Thru	Thru	Left	Right			
Control Delay (s/veh)	4.6	3.7	27.1	9.1			
Queue Delay (s/veh)	0.2	0.0	0.0	0.0			
Total Delay (s/veh)	4.7	3.7	27.1	9.1			
LOS	A	A	C	A			
Approach Delay (s/veh)	4.7	3.7	24.8				
Approach LOS	A	A	C				

## Intersection Delay

### Option 2-Weekend Peak Period

Intersection: 96th Street & 500 Block					
MDC Asset No: 4344					
Intersection Signal Delay (s): 7.3			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Left	Thru	Thru/Right	Left	Right
Control Delay (s/veh)	7.0	6.8	5.9	20.7	7.5
Queue Delay (s/veh)	0.0	0.0	0.1	0.0	0.0
Total Delay (s/veh)	7.0	6.8	6.0	20.7	7.5
LOS	A	A	A	C	A
Approach Delay (s/veh)	6.8		6.0	16.5	
Approach LOS	A		A	B	

Intersection: Harding Avenue & 95th Street					
MDC Asset No: 2918					
Intersection Signal Delay (s): 7.8			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	34.1		38.5	3.8	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	34.1		38.5	3.8	
LOS	C		D	A	
Approach Delay (s/veh)	34.1		38.5	3.8	
Approach LOS	C		D	A	

Intersection: Collins Avenue & 95th Street					
MDC Asset No: 3319					
Intersection Signal Delay (s): 3.8			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	31.1		16.2	2.2	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	31.1		16.2	2.2	
LOS	C		B	A	
Approach Delay (s/veh)	31.1		16.2	2.2	
Approach LOS	C		B	A	

Intersection: Harding Avenue & 94th Street					
MDC Asset No: 2917					
Intersection Signal Delay (s): 5.1			Intersection LOS: A		
	Eastbound		Westbound	Southbound	
	Thru/Right		Thru/Left	Thru	
Control Delay (s/veh)	34.8		39.4	1.5	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	34.8		39.4	1.5	
LOS	C		D	A	
Approach Delay (s/veh)	34.8		39.4	1.5	
Approach LOS	C		D	A	

Intersection: Collins Avenue & 94th Street					
MDC Asset No: 2912					
Intersection Signal Delay (s): 4.7			Intersection LOS: A		
	Eastbound		Westbound	Northbound	
	Thru/Left		Thru/Right	Thru	
Control Delay (s/veh)	30.3		18.3	3.2	
Queue Delay (s/veh)	0.0		0.0	0.0	
Total Delay (s/veh)	30.3		18.3	3.2	
LOS	C		B	A	
Approach Delay (s/veh)	30.3		18.3	3.2	
Approach LOS	C		B	A	

## Intersection Delay Option 2-Weekend Peak Period

Intersection: Harding Avenue & 93rd Street			
MDC Asset No: 3185			
Intersection Signal Delay (s): 2.8		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	64.6	69.0	1.0
Queue Delay (s/veh)	0.0	0.0	0.1
Total Delay (s/veh)	64.6	69.0	1.1
LOS	E	E	A
Approach Delay (s/veh)	64.6	69.0	1.1
Approach LOS	E	E	A

Intersection: Collins Avenue & 93rd Street			
MDC Asset No: 2911			
Intersection Signal Delay (s): 4.9		Intersection LOS: A	
	Eastbound Left	Northbound Thru	
Control Delay (s/veh)	35.0	4.4	
Queue Delay (s/veh)	0.0	0.0	
Total Delay (s/veh)	35.0	4.4	
LOS	C	A	
Approach Delay (s/veh)	35.0	4.4	
Approach LOS	C	A	

Intersection: Harding Avenue & 91st Street			
MDC Asset No: 2916			
Intersection Signal Delay (s): 2.3		Intersection LOS: A	
	Eastbound Thru/Right	Westbound Thru/Left	Southbound Thru
Control Delay (s/veh)	41.3	68.7	0.6
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	41.3	68.7	0.6
LOS	D	E	A
Approach Delay (s/veh)	41.3	68.7	0.6
Approach LOS	D	E	A

Intersection: Collins Avenue & 90th Street			
MDC Asset No: 4231			
Intersection Signal Delay (s): 5.1		Intersection LOS: A	
	Eastbound Thru/Left	Westbound Thru/Right	Northbound Thru
Control Delay (s/veh)	36.7	22.4	4.1
Queue Delay (s/veh)	0.0	0.0	0.0
Total Delay (s/veh)	36.7	22.4	4.1
LOS	D	C	A
Approach Delay (s/veh)	36.7	22.4	4.1
Approach LOS	D	C	A

Intersection: Collins Avenue & 9700 Block								
MDC Asset No: 3548								
Intersection Signal Delay (s): 15.5			Intersection LOS: B					
	Eastbound Left	Westbound Left Thru Right			Northbound Left Thru/Right		Southbound Left Thru/Right	
Control Delay (s/veh)	67.3	75.0	75.1	1.4	15.2	7.4	7.9	15.6
Queue Delay (s/veh)	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	67.3	75.0	75.1	1.4	15.2	7.6	7.9	15.6
LOS	E	E	E	A	B	A	A	B
Approach Delay (s/veh)	48.0			8.1		15.5		
Approach LOS	D			A		B		



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Segment Travel Times**

AM PEAK PERIOD

PM PEAK PERIOD

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	53.3	25.8	B
	93rd St	94th St	23.2	18.9	C
	94th St	95th St	21.2	21.8	C
	95th St	96th St	24.7	18.0	C
	96th St	Harding Ave	13.4	24.9	B
	Harding Ave	9700 Blk	16.9	11.2	E
	9700 Blk	Harbour Way EB	60.3	24.6	B
	Harbour Way EB	Harbour Way WB	7.6	18.2	C
<b>Total</b>			<b>220.6</b>	<b>22.1</b>	<b>C</b>

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	57.5	23.9	C
	93rd St	94th St	19.0	23.1	C
	94th St	95th St	26.9	17.2	D
	95th St	96th St	22.3	20.0	C
	96th St	Harding Ave	14.0	23.8	C
	Harding Ave	9700 Blk	20.4	9.3	F
	9700 Blk	Harbour Way EB	63.7	23.3	C
	Harbour Way EB	Harbour Way WB	7.7	18.0	D
<b>Total</b>			<b>231.5</b>	<b>21.0</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.8	20.4	C
	Harbour Way EB	9700 Blk	62.9	23.6	C
	9700 Blk	Collins Ave	9.8	19.3	C
Harding Ave	Collins Ave	96th St	52.2	5.2	F
	96th St	95th St	19.0	23.9	C
	95th St	94th St	20.9	22.2	C
	94th St	93rd St	20.9	21.2	C
	93rd St	91st St	32.4	27.9	B
<b>Total</b>			<b>224.9</b>	<b>19.3</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	7.0	19.8	C
	Harbour Way EB	9700 Blk	68.2	21.8	C
	9700 Blk	Collins Ave	8.4	22.6	C
Harding Ave	Collins Ave	96th St	31.8	8.5	F
	96th St	95th St	21.9	20.7	C
	95th St	94th St	20.3	22.8	C
	94th St	93rd St	20.7	21.4	C
	93rd St	91st St	32.2	28.1	B
<b>Total</b>			<b>210.5</b>	<b>20.7</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	16.4	11.8	D
	Byron Ave	Harding Ave	47.5	8.1	E
	Harding Ave	Collins Ave	96.1	2.1	F
<b>Total</b>			<b>160.0</b>	<b>4.9</b>	<b>F</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	18.4	10.5	D
	Byron Ave	Harding Ave	54.4	7.1	E
	Harding Ave	Collins Ave	73.6	2.7	F
<b>Total</b>			<b>146.4</b>	<b>5.3</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	40.0	5.0	F
	Harding Ave	Byron Ave	23.1	16.6	C
	Byron Ave	500 Blk	17.7	10.9	D
<b>Total</b>			<b>80.8</b>	<b>9.6</b>	<b>E</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	53.0	3.8	F
	Harding Ave	Byron Ave	23.5	16.4	C
	Byron Ave	500 Blk	21.6	9.0	E
<b>Total</b>			<b>98.1</b>	<b>8.0</b>	<b>E</b>

**WEEKEND PEAK PERIOD**

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	54.0	25.5	B
	93rd St	94th St	23.5	18.7	C
	94th St	95th St	25.3	18.3	C
	95th St	96th St	25.3	17.6	D
	96th St	Harding Ave	14.1	23.6	C
	Harding Ave	9700 Blk	17.5	10.8	E
	9700 Blk	Harbour Way EB	57.2	26.0	B
	Harbour Way EB	Harbour Way WB	7.3	19.0	C
<b>Total</b>			<b>224.2</b>	<b>21.7</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.5	21.3	C
	Harbour Way EB	9700 Blk	68.4	21.7	C
	9700 Blk	Collins Ave	8.4	22.6	C
Harding Ave	Collins Ave	96th St	23.9	11.3	E
	96th St	95th St	21.2	21.4	C
	95th St	94th St	20.7	22.4	C
	94th St	93rd St	19.9	22.3	C
	93rd St	91st St	32.7	27.6	B
<b>Total</b>			<b>201.7</b>	<b>21.5</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	15.9	12.2	D
	Byron Ave	Harding Ave	57.2	6.7	F
	Harding Ave	Collins Ave	85.5	2.3	F
<b>Total</b>			<b>158.6</b>	<b>4.9</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	56.2	3.6	F
	Harding Ave	Byron Ave	26.5	14.5	C
	Byron Ave	500 Blk	20.2	9.6	D
<b>Total</b>			<b>102.9</b>	<b>7.6</b>	<b>E</b>



AM PEAK PERIOD

PM PEAK PERIOD

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	52.3	26.3	B
	93rd St	94th St	20.9	21.0	C
	94th St	95th St	18.6	24.9	B
	95th St	96th St	24.7	18.0	C
	96th St	Harding Ave	13.4	24.9	B
	Harding Ave	9700 Blk	16.9	11.2	E
	9700 Blk	Harbour Way EB	60.3	24.6	B
	Harbour Way EB	Harbour Way WB	7.6	18.2	C
<b>Total</b>			<b>214.7</b>	<b>22.7</b>	<b>C</b>

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	54.6	25.2	B
	93rd St	94th St	19.4	22.6	C
	94th St	95th St	23.8	19.5	C
	95th St	96th St	23.6	18.9	C
	96th St	Harding Ave	14.2	23.5	C
	Harding Ave	9700 Blk	20.6	9.2	F
	9700 Blk	Harbour Way EB	63.7	23.3	C
	Harbour Way EB	Harbour Way WB	7.7	18.0	D
<b>Total</b>			<b>227.6</b>	<b>21.4</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.8	20.4	C
	Harbour Way EB	9700 Blk	62.9	23.6	C
	9700 Blk	Collins Ave	9.0	21.1	C
Harding Ave	Collins Ave	96th St	50.2	5.4	F
	96th St	95th St	20.3	22.4	C
	95th St	94th St	19.4	23.9	C
	94th St	93rd St	18.9	23.4	C
	93rd St	91st St	32.2	28.1	B
<b>Total</b>			<b>219.7</b>	<b>19.8</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	7.0	19.8	C
	Harbour Way EB	9700 Blk	66.7	22.3	C
	9700 Blk	Collins Ave	8.8	21.5	C
Harding Ave	Collins Ave	96th St	26.5	10.2	E
	96th St	95th St	21.8	20.8	C
	95th St	94th St	19.9	23.3	C
	94th St	93rd St	20.3	21.8	C
	93rd St	91st St	32.2	28.1	B
<b>Total</b>			<b>203.2</b>	<b>21.4</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	15.9	12.2	D
	Byron Ave	Harding Ave	50.2	7.7	E
	Harding Ave	Collins Ave	73.7	2.7	F
<b>Total</b>			<b>139.8</b>	<b>5.6</b>	<b>F</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	16.9	11.5	D
	Byron Ave	Harding Ave	61.1	6.3	F
	Harding Ave	Collins Ave	53.6	3.7	F
<b>Total</b>			<b>131.6</b>	<b>5.9</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	39.4	5.1	F
	Harding Ave	Byron Ave	21.1	18.2	C
	Byron Ave	500 Blk	18.2	10.6	D
<b>Total</b>			<b>78.7</b>	<b>9.9</b>	<b>E</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	53.5	3.7	F
	Harding Ave	Byron Ave	21.0	18.3	C
	Byron Ave	500 Blk	17.1	11.3	D
<b>Total</b>			<b>91.6</b>	<b>8.5</b>	<b>E</b>

WEEKEND PEAK PERIOD

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	52.9	26.0	B
	93rd St	94th St	21.0	20.9	C
	94th St	95th St	23.1	20.0	C
	95th St	96th St	22.5	19.8	C
	96th St	Harding Ave	13.9	24.0	C
	Harding Ave	9700 Blk	16.2	11.7	E
	9700 Blk	Harbour Way EB	57.2	26.0	B
	Harbour Way EB	Harbour Way WB	7.3	19.0	C
<b>Total</b>			<b>214.1</b>	<b>22.8</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.5	21.3	C
	Harbour Way EB	9700 Blk	68.0	21.8	C
	9700 Blk	Collins Ave	8.4	22.6	C
Harding Ave	Collins Ave	96th St	21.5	12.5	E
	96th St	95th St	21.2	21.4	C
	95th St	94th St	20.6	22.5	C
	94th St	93rd St	19.8	22.4	C
	93rd St	91st St	32.4	27.9	B
<b>Total</b>			<b>198.4</b>	<b>21.9</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	16.8	11.5	D
	Byron Ave	Harding Ave	55.2	7.0	F
	Harding Ave	Collins Ave	77.9	2.6	F
<b>Total</b>			<b>149.9</b>	<b>5.2</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	37.4	5.4	F
	Harding Ave	Byron Ave	24.5	15.7	C
	Byron Ave	500 Blk	17.8	10.9	D
<b>Total</b>			<b>79.7</b>	<b>9.8</b>	<b>E</b>

AM PEAK PERIOD

PM PEAK PERIOD

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	52.3	26.3	B
	93rd St	94th St	20.5	21.4	C
	94th St	95th St	18.1	25.6	B
	95th St	96th St	24.7	18.0	C
	96th St	Harding Ave	13.4	24.9	B
	Harding Ave	9700 Blk	16.9	11.2	E
	9700 Blk	Harbour Way EB	60.3	24.6	B
	Harbour Way EB	Harbour Way WB	7.6	18.2	C
<b>Total</b>			<b>213.8</b>	<b>22.8</b>	<b>C</b>

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	54.6	25.2	B
	93rd St	94th St	19.3	22.8	C
	94th St	95th St	19.0	24.4	B
	95th St	96th St	25.8	17.3	D
	96th St	Harding Ave	14.3	23.3	C
	Harding Ave	9700 Blk	17.9	10.6	E
	9700 Blk	Harbour Way EB	63.7	23.3	C
	Harbour Way EB	Harbour Way WB	7.7	18.0	D
<b>Total</b>			<b>222.3</b>	<b>21.9</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.8	20.4	C
	Harbour Way EB	9700 Blk	62.9	23.6	C
	9700 Blk	Collins Ave	9.0	21.1	C
Harding Ave	Collins Ave	96th St	38.8	6.9	F
	96th St	95th St	20.0	22.7	C
	95th St	94th St	18.8	24.7	B
	94th St	93rd St	18.4	24.1	B
	93rd St	91st St	32.4	27.9	B
<b>Total</b>			<b>207.1</b>	<b>21.0</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	7.0	19.8	C
	Harbour Way EB	9700 Blk	66.7	22.3	C
	9700 Blk	Collins Ave	8.4	22.6	C
Harding Ave	Collins Ave	96th St	22.9	11.8	E
	96th St	95th St	20.8	21.8	C
	95th St	94th St	18.9	24.5	B
	94th St	93rd St	18.2	24.4	B
	93rd St	91st St	32.3	28.0	B
<b>Total</b>			<b>195.2</b>	<b>22.3</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	17.0	11.4	D
	Byron Ave	Harding Ave	69.2	5.6	F
	Harding Ave	Collins Ave	63.3	3.2	F
<b>Total</b>			<b>149.5</b>	<b>5.2</b>	<b>F</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	17.1	11.3	D
	Byron Ave	Harding Ave	75.0	5.1	F
	Harding Ave	Collins Ave	45.9	4.4	F
<b>Total</b>			<b>138.0</b>	<b>5.6</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	48.8	4.1	F
	Harding Ave	Byron Ave	21.1	18.2	C
	Byron Ave	500 Blk	13.2	14.7	C
<b>Total</b>			<b>83.1</b>	<b>9.4</b>	<b>E</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	54.8	3.7	F
	Harding Ave	Byron Ave	21.2	18.1	C
	Byron Ave	500 Blk	16.8	11.5	D
<b>Total</b>			<b>92.8</b>	<b>8.4</b>	<b>E</b>

WEEKEND PEAK PERIOD

Northbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	90th St	93rd St	52.9	26.0	B
	93rd St	94th St	20.4	21.5	C
	94th St	95th St	19.4	23.9	C
	95th St	96th St	22.7	19.6	C
	96th St	Harding Ave	14.0	23.8	C
	Harding Ave	9700 Blk	15.6	12.2	E
	9700 Blk	Harbour Way EB	57.2	26.0	B
	Harbour Way EB	Harbour Way WB	7.3	19.0	C
<b>Total</b>			<b>209.5</b>	<b>23.3</b>	<b>C</b>

Southbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
Collins Ave	Harbour Way WB	Harbour Way EB	6.5	21.3	C
	Harbour Way EB	9700 Blk	68.0	21.8	C
	9700 Blk	Collins Ave	8.4	22.6	C
Harding Ave	Collins Ave	96th St	14.8	18.2	C
	96th St	95th St	20.7	21.9	C
	95th St	94th St	18.8	24.7	B
	94th St	93rd St	18.4	24.1	B
	93rd St	91st St	32.5	27.8	B
<b>Total</b>			<b>188.1</b>	<b>23.1</b>	<b>C</b>

Eastbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	500 Blk	Byron Ave	16.8	11.5	D
	Byron Ave	Harding Ave	77.4	5.0	F
	Harding Ave	Collins Ave	66.8	3.0	F
<b>Total</b>			<b>161.0</b>	<b>4.8</b>	<b>F</b>

Westbound

	From	To	Travel Time (s)	Arterial Speed (mph)	LOS
96th St	Collins Ave	Harding Ave	51.4	3.9	F
	Harding Ave	Byron Ave	22.9	16.8	C
	Byron Ave	500 Blk	18.1	10.7	D
<b>Total</b>			<b>92.4</b>	<b>8.4</b>	<b>E</b>



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Existing Conditions AM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	28	937	108	1335	32		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98			1.00			
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1736	4988	1736	4965	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1704	4988	1736	4965	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)	2	7	16				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%		
Adj. Flow (vph)	0	0	30	1018	117	1451	35		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	1018	117	1486	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	7.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			13.0	68.0	26.0	68.0		36.0	36.0
Total Split (%)			10.0%	52.3%	20.0%	52.3%		28%	28%
Maximum Green (s)			7.3	61.4	20.3	61.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								1	1
Act Effct Green (s)			6.1	62.9	10.6	79.1			
Actuated g/C Ratio			0.07	0.69	0.12	0.87			
v/c Ratio			0.26	0.29	0.58	0.34			
Control Delay			73.0	1.6	51.7	4.8			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



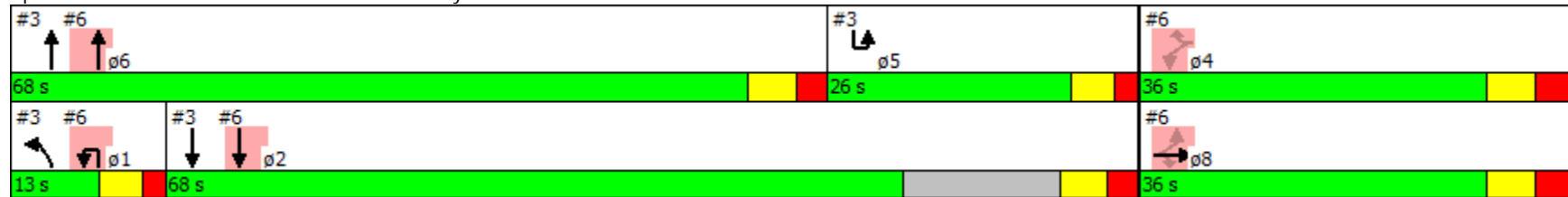
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.1	0.0	0.0			
Total Delay			73.0	1.7	51.7	4.8			
LOS			E	A	D	A			
Approach Delay				3.7		8.2			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 49.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A






















Splits and Phases: 3: Collins Ave & Harbour Way WB


















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations														
Volume (vph)	0	0	0	0	0	0	0	0	965	0	0	1335	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0		185		0	0		0	
Storage Lanes	0		1	1		1		1		0	0		0	
Taper Length (ft)	25			25				25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Ped Bike Factor														
Frt														
Flt Protected														
Satd. Flow (prot)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0	
Flt Permitted														
Satd. Flow (perm)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0	
Right Turn on Red			Yes			Yes				Yes			Yes	
Satd. Flow (RTOR)														
Link Speed (mph)		30			30				30				30	
Link Distance (ft)		290			219				2179				203	
Travel Time (s)		6.6			5.0				49.5				4.6	
Confl. Peds. (#/hr)	2		7	7		2		16						16
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	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12				12				12	
Link Offset(ft)		0			0				0				0	
Crosswalk Width(ft)		16			16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9	
Number of Detectors	1	1	1	1		1	1		0			0		
Detector Template	Left	Thru	Right	Left		Right	Left		Thru			Thru		

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	13.0		68.0			68.0		26.0
Total Split (%)	27.7%	27.7%	27.7%	27.7%		27.7%	10.0%		52.3%			52.3%		20%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	7.3		61.4			61.4		20.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	1	1	1	1		1								
Act Effct Green (s)									62.9			79.1		
Actuated g/C Ratio									0.69			0.87		
v/c Ratio									0.30			0.33		
Control Delay									7.9			0.8		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



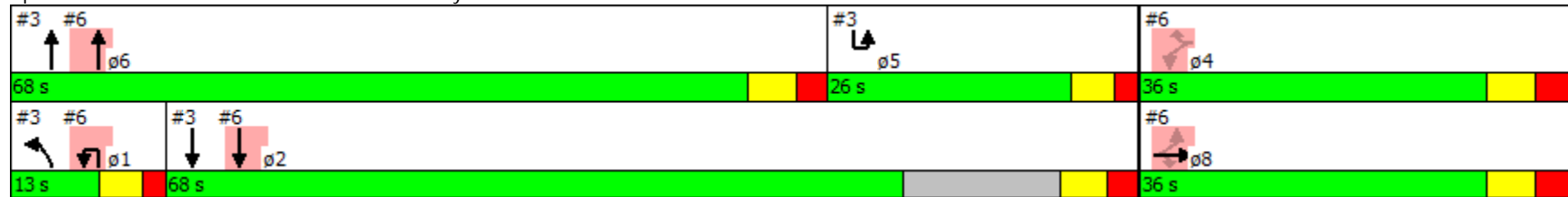
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									7.9			0.8		
LOS									A			A		
Approach Delay									7.9			0.8		
Approach LOS									A			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 3.8  
 Intersection Capacity Utilization 45.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	351	641	0	384	0	0	0	0	51	1469	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor											1.00	0.97
Frt		0.950	0.850									0.850
Flt Protected											0.998	
Satd. Flow (prot)	0	1681	1504	0	3539	0	0	0	0	0	5075	1583
Flt Permitted											0.998	
Satd. Flow (perm)	0	1681	1504	0	3539	0	0	0	0	0	5071	1530
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7	20									243
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	20					20	11		11	11		11
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	373	682	0	409	0	0	0	0	54	1563	331
Shared Lane Traffic (%)			27%									
Lane Group Flow (vph)	0	557	498	0	409	0	0	0	0	0	1617	331
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		85.0	85.0		85.0					75.0	75.0	75.0
Total Split (%)		53.1%	53.1%		53.1%					46.9%	46.9%	46.9%

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

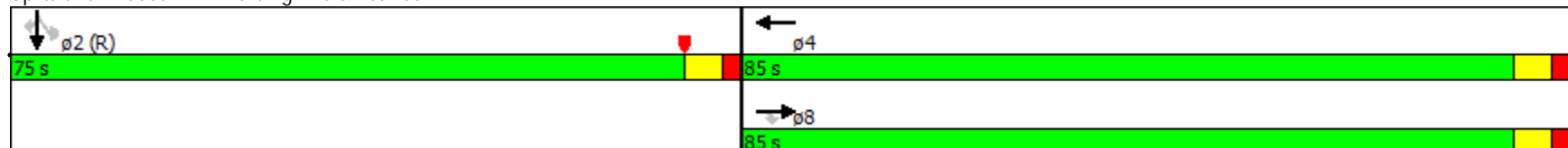


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		79.0	79.0		79.0					69.0	69.0	69.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					10					5	5	5
Act Effct Green (s)		79.0	79.0		79.0					69.0	69.0	
Actuated g/C Ratio		0.49	0.49		0.49					0.43	0.43	
v/c Ratio		0.67	0.66		0.23					0.74	0.41	
Control Delay		28.3	27.5		27.4					40.6	9.8	
Queue Delay		0.5	0.5		2.6					48.6	1.6	
Total Delay		28.8	28.0		30.0					89.1	11.3	
LOS		C	C		C					F	B	
Approach Delay		28.4			30.0					75.9		
Approach LOS		C			C					E		

Intersection Summary




















Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 39 (24%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 55.7  
 Intersection Capacity Utilization 98.7%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

Splits and Phases: 7: Harding Ave & 96th St















Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	366	21	0	0	3	7	402	1020	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.95	0.96			0.91		0.99	1.00				
Frt					0.902			0.999				
Flt Protected	0.950	0.957					0.950					
Satd. Flow (prot)	1665	1677	0	0	1521	0	1752	5023	0	0	0	0
Flt Permitted	0.950	0.957					0.950					
Satd. Flow (perm)	1586	1606	0	0	1521	0	1732	5023	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	18		75	75		18	14		31	31		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	407	23	0	0	3	8	447	1133	11	0	0	0
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	216	214	0	0	11	0	447	1144	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	80.0	80.0			14.0		66.0	66.0				
Total Split (%)	50.0%	50.0%			8.8%		41.3%	41.3%				
Maximum Green (s)	73.0	73.0			8.0		59.0	59.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	38	38						15				
Act Effct Green (s)	25.2	25.2			7.1		115.5	115.5				
Actuated g/C Ratio	0.16	0.16			0.04		0.72	0.72				
v/c Ratio	0.82	0.81			0.15		0.35	0.32				
Control Delay	85.0	83.5			46.8		8.8	7.3				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



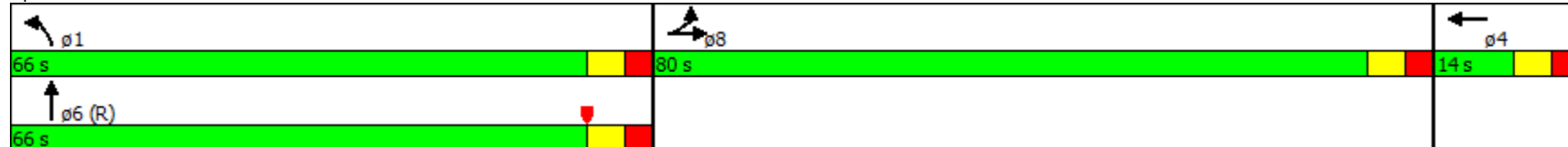
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.3	0.0				
Total Delay	85.1	83.6			46.8		9.0	7.3				
LOS	F	F			D		A	A				
Approach Delay		84.3			46.8			7.8				
Approach LOS		F			D			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 43 (27%), Referenced to phase 6:NBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 24.2  
 Intersection Capacity Utilization 98.7%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service F







Splits and Phases: 10: Collins Ave & 96th St





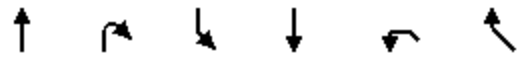
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Lane Configurations				↑↑↑	↔	↔	
Volume (vph)	0	0	0	1600	61	1253	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.871	0.850	
Flt Protected					0.993		
Satd. Flow (prot)	0	0	0	5036	1595	2854	
Flt Permitted					0.993		
Satd. Flow (perm)	0	0	0	5036	1594	2854	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1495	943	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)			19		19		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	
Adj. Flow (vph)	0	0	0	1720	66	1347	
Shared Lane Traffic (%)						30%	
Lane Group Flow (vph)	0	0	0	1720	470	943	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

8/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Protected Phases				2!	4!		11
Permitted Phases						Free	
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		27.0
Total Split (s)				113.0	113.0		27.0
Total Split (%)				80.7%	80.7%		19%
Maximum Green (s)				108.0	108.0		22.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							9
Act Effct Green (s)				133.6	133.6	140.0	
Actuated g/C Ratio				0.95	0.95	1.00	
v/c Ratio				0.36	0.30	0.33	
Control Delay				1.6	0.5	0.3	
Queue Delay				0.0	0.1	0.0	
Total Delay				1.6	0.5	0.3	
LOS				A	A	A	
Approach Delay				1.6	0.4		
Approach LOS				A	A		

**Intersection Summary**  
 Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 140

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

8/18/2014

Offset: 58 (41%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 1.1

Intersection LOS: A

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave



Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	3	0	0	1661	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1596	0	0	6346	0
Flt Permitted						
Satd. Flow (perm)	0	1596	0	0	6346	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	19	1	85			85
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	4	0	0	1977	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	4	0	0	1977	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.1%
Analysis Period (min)	15
	ICU Level of Service B

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1153	0	0	722	247	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3423	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		7	7		1	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1227	0	0	768	263	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1227	0	0	768	263	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0
Detector 1 Size(ft)	6			6	20	20

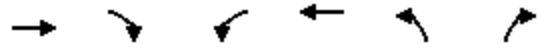
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	25.5			25.5	34.0	34.0
Total Split (s)	125.0			125.0	35.0	35.0
Total Split (%)	78.1%			78.1%	21.9%	21.9%
Maximum Green (s)	118.5			118.5	29.0	29.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	24.0	24.0
Pedestrian Calls (#/hr)	3			3	4	4
Act Effct Green (s)	129.1			129.1	18.4	18.4
Actuated g/C Ratio	0.81			0.81	0.12	0.12
v/c Ratio	0.43			0.27	0.67	0.12
Control Delay	4.2			3.9	75.8	20.3
Queue Delay	0.1			0.1	0.0	0.0
Total Delay	4.3			4.0	75.8	20.3
LOS	A			A	E	C
Approach Delay	4.3			4.0	71.1	

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A			A	E	

Intersection Summary

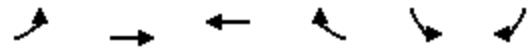
Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	136 (85%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	12.6
Intersection Capacity Utilization	53.6%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

8/18/2014

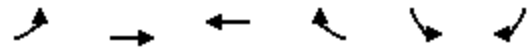


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	1111	886	80	19	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		0.99	
Frt			0.988		0.993	0.850
Flt Protected	0.950				0.954	
Satd. Flow (prot)	1770	3539	3486	0	3423	1441
Flt Permitted	0.256				0.954	
Satd. Flow (perm)	474	3539	3486	0	3399	1441
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			15		1	10
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	63			63	3	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	54	1248	996	90	21	11
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	54	1248	1086	0	22	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	0	0		20	20



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

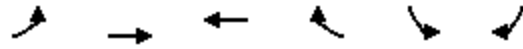
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA		Prot	Prot
Protected Phases		6	2		8	8
Permitted Phases	6					
Detector Phase	6	6	2		8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	15.0		7.0	7.0
Minimum Split (s)	21.0	21.0	21.0		38.0	38.0
Total Split (s)	122.0	122.0	122.0		38.0	38.0
Total Split (%)	76.3%	76.3%	76.3%		23.8%	23.8%
Maximum Green (s)	116.0	116.0	116.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0	1.0	1.0		2.5	2.5
Recall Mode	C-Max	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					2	2
Act Effct Green (s)	143.6	143.6	143.6		12.0	12.0
Actuated g/C Ratio	0.90	0.90	0.90		0.08	0.08
v/c Ratio	0.13	0.39	0.35		0.09	0.09
Control Delay	4.0	3.5	5.5		62.5	28.1
Queue Delay	0.0	0.0	0.2		0.0	0.0

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



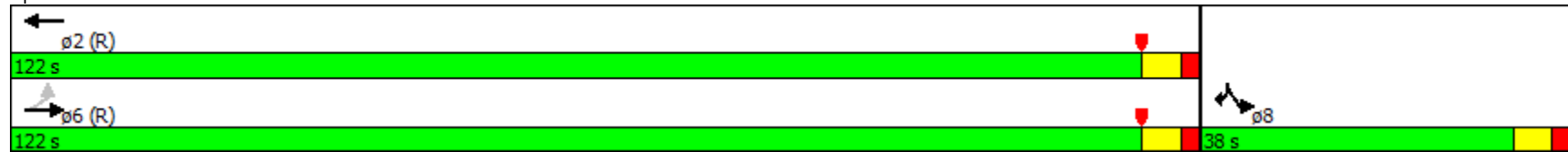
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	4.0	3.5	5.7		62.5	28.1
LOS	A	A	A		E	C
Approach Delay		3.5	5.7		51.8	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 153 (96%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 5.2  
 Intersection Capacity Utilization 55.7%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	25	42	37	46	0	0	0	0	69	1968	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.95			0.97						0.99	
Frt		0.916									0.997	
Flt Protected					0.978						0.998	
Satd. Flow (prot)	0	1603	0	0	1804	0	0	0	0	0	5005	0
Flt Permitted					0.835						0.998	
Satd. Flow (perm)	0	1603	0	0	1497	0	0	0	0	0	4964	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											6	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	23		33	33		23	10		62	62		10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	27	45	39	49	0	0	0	0	73	2094	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	88	0	0	0	0	0	2208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA						Perm	NA
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					133.0	133.0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		16.9%		16.9%	16.9%					83.1%	83.1%	
Maximum Green (s)		22.0		22.0	22.0					128.0	128.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		22.0			22.0						128.0	
Actuated g/C Ratio		0.14			0.14						0.80	
v/c Ratio		0.33			0.43						0.56	
Control Delay		67.0			70.5						2.1	
Queue Delay		0.0			0.0						0.3	
Total Delay		67.0			70.5						2.4	
LOS		E			E						A	
Approach Delay		67.0			70.5						2.4	
Approach LOS		E			E						A	

**Intersection Summary**

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 98 (61%), Referenced to phase 2:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Pretimed

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 6.9      Intersection LOS: A

Intersection Capacity Utilization 69.2%      ICU Level of Service C

Analysis Period (min) 15

Lanes, Volumes, Timings  
24: Harding Ave & 95th St


















8/18/2014

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	68	5	0	0	9	5	77	1351	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.955			0.999				
Flt Protected		0.955						0.997				
Satd. Flow (prot)	0	1762	0	0	1749	0	0	5016	0	0	0	0
Flt Permitted		0.747						0.997				
Satd. Flow (perm)	0	1366	0	0	1749	0	0	5016	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	8		24	24		8						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	75	5	0	0	10	5	85	1485	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	15	0	0	1578	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	26.0	26.0			26.0		24.0	24.0				
Total Split (s)	26.0	26.0			26.0		54.0	54.0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	32.5%	32.5%			32.5%		67.5%	67.5%				
Maximum Green (s)	21.0	21.0			21.0		49.5	49.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	17.0	17.0			17.0		12.0	12.0				
Pedestrian Calls (#/hr)	12	12			12		0	0				
Act Effct Green (s)		21.0			21.0			49.5				
Actuated g/C Ratio		0.26			0.26			0.62				
v/c Ratio		0.22			0.03			0.51				
Control Delay		16.5			18.5			4.0				
Queue Delay		0.0			0.0			0.0				
Total Delay		16.5			18.5			4.0				
LOS		B			B			A				
Approach Delay		16.5			18.5			4.0				
Approach LOS		B			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 22 (28%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.51  
 Intersection Signal Delay: 4.7  
 Intersection Capacity Utilization 53.2%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014


















Splits and Phases: 25: Collins Ave & 95th St





Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	16	47	44	57	0	0	0	0	68	1677	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						0.99	
Frt		0.899									0.993	
Flt Protected					0.979						0.998	
Satd. Flow (prot)	0	1638	0	0	1806	0	0	0	0	0	4953	0
Flt Permitted					0.793						0.998	
Satd. Flow (perm)	0	1638	0	0	1460	0	0	0	0	0	4937	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											16	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	39		2	2		39	37		22	22		37
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	19	56	52	68	0	0	0	0	81	1996	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	120	0	0	0	0	0	2176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA						Perm	NA
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					133.0	133.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		16.9%		16.9%	16.9%					83.1%	83.1%	
Maximum Green (s)		22.0		22.0	22.0					128.0	128.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		12		12	12					18	18	
Act Effct Green (s)		22.0			22.0						128.0	
Actuated g/C Ratio		0.14			0.14						0.80	
v/c Ratio		0.33			0.60						0.55	
Control Delay		67.0			82.6						3.6	
Queue Delay		0.0			4.9						0.0	
Total Delay		67.0			87.5						3.6	
LOS		E			F						A	
Approach Delay		67.0			87.5						3.6	
Approach LOS		E			F						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 91 (57%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 9.8      Intersection LOS: A  
 Intersection Capacity Utilization 64.7%      ICU Level of Service C  
 Analysis Period (min) 15

Lanes, Volumes, Timings  
28: Harding Ave & 94th St


















8/18/2014

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	57	2	0	0	9	0	87	1402	11	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		1.00						1.00				
Frt								0.999				
Flt Protected		0.954						0.997				
Satd. Flow (prot)	0	1743	0	0	1827	0	0	4965	0	0	0	0
Flt Permitted		0.725						0.997				
Satd. Flow (perm)	0	1319	0	0	1827	0	0	4963	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	3		43	43		3	4		18	18		4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	66	2	0	0	10	0	100	1611	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	10	0	0	1724	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	23.0	23.0			12.0		23.0	23.0				
Total Split (s)	28.0	28.0			28.0		52.0	52.0				
Total Split (%)	35.0%	35.0%			35.0%		65.0%	65.0%				
Maximum Green (s)	23.0	23.0			23.0		47.0	47.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	14.0	14.0					11.0	11.0				
Pedestrian Calls (#/hr)	22	22					9	9				
Act Effct Green (s)		11.4			11.8			61.6				
Actuated g/C Ratio		0.14			0.15			0.77				
v/c Ratio		0.36			0.04			0.45				
Control Delay		30.5			25.8			6.0				
Queue Delay		0.0			0.0			0.0				
Total Delay		30.5			25.8			6.0				
LOS		C			C			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.5			25.8			6.0				
Approach LOS		C			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 17 (21%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.45  
 Intersection Signal Delay: 7.0      Intersection LOS: A  
 Intersection Capacity Utilization 53.4%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔↔	
Volume (vph)	0	11	5	18	9	0	0	0	0	39	1922	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.955									0.999	
Flt Protected					0.968						0.999	
Satd. Flow (prot)	0	1769	0	0	1803	0	0	0	0	0	5075	0
Flt Permitted					0.840						0.999	
Satd. Flow (perm)	0	1769	0	0	1561	0	0	0	0	0	5075	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											2	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	12	6	20	10	0	0	0	0	44	2160	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	30	0	0	0	0	0	2217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		29.0		29.0	29.0					25.0	25.0	
Total Split (s)		29.0		29.0	29.0					131.0	131.0	
Total Split (%)		18.1%		18.1%	18.1%					81.9%	81.9%	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

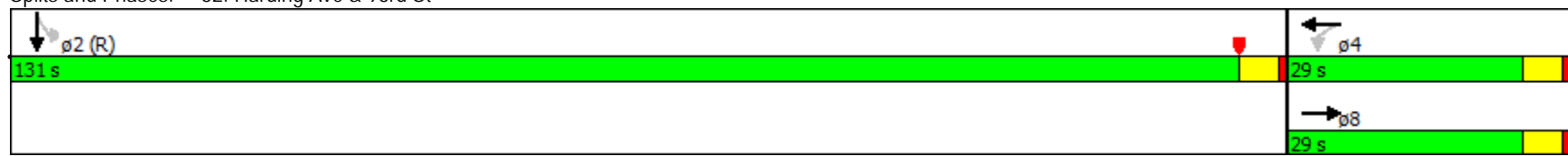


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		24.0		24.0	24.0					126.0	126.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					13.0	13.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		24.0			24.0						126.0	
Actuated g/C Ratio		0.15			0.15						0.79	
v/c Ratio		0.07			0.13						0.55	
Control Delay		59.3			56.4						3.5	
Queue Delay		0.0			0.0						0.1	
Total Delay		59.3			56.4						3.6	
LOS		E			E						A	
Approach Delay		59.3			56.4						3.6	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 110 (69%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.55  
 Intersection Signal Delay: 4.7  
 Intersection Capacity Utilization 68.7%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 32: Harding Ave & 93rd St





Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	25	0	20	1462	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	0.99			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1736	0	0	4983	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1727	0	0	4980	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	23	15			15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	27	0	22	1607	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1629	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	6		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	29.0		23.0	23.0		
Total Split (s)	29.0		51.0	51.0		
Total Split (%)	36.3%		63.8%	63.8%		
Maximum Green (s)	23.0		45.0	45.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	16.0		10.0	10.0		
Pedestrian Calls (#/hr)	11		7	7		
Act Effct Green (s)	10.2			65.4		
Actuated g/C Ratio	0.13			0.82		
v/c Ratio	0.12			0.40		
Control Delay	28.8			4.8		
Queue Delay	0.0			0.0		
Total Delay	28.8			4.8		
LOS	C			A		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	28.8			4.8		
Approach LOS	C			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 69 (86%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 5.2  
 Intersection Capacity Utilization 53.8%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	5	18	12	35	0	0	0	0	28	1956	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.893									0.998	
Flt Protected					0.987						0.999	
Satd. Flow (prot)	0	1645	0	0	1839	0	0	0	0	0	5068	0
Flt Permitted					0.910						0.999	
Satd. Flow (perm)	0	1645	0	0	1694	0	0	0	0	0	5068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									5	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	5	19	13	37	0	0	0	0	30	2081	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	50	0	0	0	0	0	2145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		29.0		29.0	29.0					26.0	26.0	
Total Split (s)		30.0		30.0	30.0					130.0	130.0	
Total Split (%)		18.8%		18.8%	18.8%					81.3%	81.3%	
Maximum Green (s)		25.0		25.0	25.0					125.0	125.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		11.9			11.9						141.5	
Actuated g/C Ratio		0.07			0.07						0.88	
v/c Ratio		0.17			0.40						0.48	
Control Delay		31.3			77.7						0.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		31.3			77.7						0.5	
LOS		C			E						A	
Approach Delay		31.3			77.7						0.5	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			E			A					

Intersection Summary


















Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	144 (90%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	2.6
Intersection LOS:	A
Intersection Capacity Utilization:	58.8%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 40: Harding Ave & 91st St



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	54	13	0	0	3	9	30	1321	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00				
Frt					0.896							
Flt Protected		0.961						0.999				
Satd. Flow (prot)	0	1790	0	0	1642	0	0	5079	0	0	0	0
Flt Permitted		0.758						0.999				
Satd. Flow (perm)	0	1401	0	0	1642	0	0	5078	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	8		22	22		8	5		14	14		5
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
Adj. Flow (vph)	59	14	0	0	3	10	33	1436	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	13	0	0	1473	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	11	11			11		7	7				
Act Effct Green (s)		11.7			11.7			70.1				
Actuated g/C Ratio		0.13			0.13			0.78				
v/c Ratio		0.40			0.06			0.37				
Control Delay		40.5			18.3			5.0				
Queue Delay		0.0			0.0			0.0				
Total Delay		40.5			18.3			5.0				
LOS		D			B			A				
Approach Delay		40.5			18.3			5.0				



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			A					

Intersection Summary



























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	66 (73%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	6.8
Intersection Capacity Utilization	53.4%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	A

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	12	0	0	16	0	8	29	1191	33	17	1585	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.95			0.89	0.89	0.96		1.00		0.99	1.00	
Frt						0.850		0.996			0.993	
Flt Protected	0.950			0.950	0.950		0.950			0.950		
Satd. Flow (prot)	4942	0	0	1665	1665	1568	1752	4999	0	1752	4982	0
Flt Permitted	0.950			0.950	0.950		0.096			0.180		
Satd. Flow (perm)	4673	0	0	1479	1479	1502	177	4999	0	329	4982	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						111		4			6	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	11		40	40		11	23		68	68		23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	13	0	0	17	0	9	32	1295	36	18	1723	84
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	13	0	0	8	9	9	32	1331	0	18	1807	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases	3					7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	40.0			24.0	24.0	24.0	11.0	85.0		11.0	85.0	
Total Split (%)	25.0%			15.0%	15.0%	15.0%	6.9%	53.1%		6.9%	53.1%	
Maximum Green (s)	33.2			17.2	17.2	17.2	5.0	78.5		5.0	78.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	20							34			34	
Act Effct Green (s)	12.4			7.1	7.1	7.1	128.6	127.3		126.9	123.6	
Actuated g/C Ratio	0.08			0.04	0.04	0.04	0.80	0.80		0.79	0.77	
v/c Ratio	0.03			0.11	0.12	0.05	0.16	0.33		0.06	0.47	
Control Delay	65.8			76.7	77.1	0.6	7.2	8.7		5.9	10.5	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay	65.8			76.7	77.1	0.6	7.2	9.2		5.9	10.5	
LOS	E			E	E	A	A	A		A	B	
Approach Delay					50.5			9.1			10.5	
Approach LOS					D			A			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 51 (32%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 55.1%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service B

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	3.5	26.0	0.15	20.8	B
Byron Ave	IV	30	12.2	4.2	16.4	0.05	11.8	D
Harding Ave	IV	30	19.2	28.3	47.5	0.11	8.1	E
Collins Ave	IV	30	12.6	83.5	96.1	0.06	2.1	F
Total	IV		66.5	119.5	186.0	0.37	7.1	E

## Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	46.8	60.6	0.06	3.6	F
Harding Ave	IV	30	12.6	27.4	40.0	0.06	5.0	F
Byron Ave	IV	30	19.2	3.9	23.1	0.11	16.6	C
500 Blk	IV	30	12.2	5.5	17.7	0.05	10.9	D
Total	IV		57.8	83.6	141.4	0.28	7.1	E

## Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.0	14.7	0.06	15.3	D
93rd St	III	30	48.5	4.8	53.3	0.38	25.8	B
94th St	III	30	17.2	6.0	23.2	0.12	18.9	C
95th St	III	30	17.2	4.0	21.2	0.13	21.8	C
96th St	III	30	17.4	7.3	24.7	0.12	18.0	C
Collins Ave	III	30	13.1	0.3	13.4	0.09	24.9	B
9700 Blk	III	30	8.2	8.7	16.9	0.05	11.2	E
Harbour Ave	III	30	52.4	7.9	60.3	0.41	24.6	B
Harbour Way WB	III	30	6.0	1.6	7.6	0.04	18.2	C
Total	III		189.7	45.6	235.3	1.42	21.7	C

## Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	4.8	12.8	0.05	14.5	D
Harbour Way EB	III	30	6.0	0.8	6.8	0.04	20.4	C
9700 Blk	III	30	52.4	10.5	62.9	0.41	23.6	C
Collins Ave	III	30	8.2	1.6	9.8	0.05	19.3	C
Total	III		74.6	17.7	92.3	0.56	21.7	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	40.6	52.2	0.07	5.2	F
95th St	III	30	16.9	2.1	19.0	0.13	23.9	C
94th St	III	30	17.3	3.6	20.9	0.13	22.2	C
93rd St	III	30	17.4	3.5	20.9	0.12	21.2	C
91st St	III	30	31.9	0.5	32.4	0.25	27.9	B
Total	III		95.1	50.3	145.4	0.70	17.4	D



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Existing Conditions PM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	29	2031	134	1548	43		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98						
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5115	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1748	5136	1787	5115	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		16	21						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	30	2072	137	1580	44		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	2072	137	1624	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			



Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			14.0	108.0	20.0	108.0		36.0	36.0
Total Split (%)			8.5%	65.9%	12.2%	65.9%		22%	22%
Maximum Green (s)			8.3	101.4	14.3	101.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								10	10
Act Effct Green (s)			6.7	102.6	13.7	117.5			
Actuated g/C Ratio			0.05	0.73	0.10	0.84			
v/c Ratio			0.35	0.55	0.78	0.38			
Control Delay			109.7	1.7	92.1	6.4			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			109.7	1.7	92.1	6.4			
LOS			F	A	F	A			
Approach Delay				3.2		13.1			
Approach LOS				A		B			

Intersection Summary

Area Type: Other  
 Cycle Length: 164  
 Actuated Cycle Length: 139.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 7.7  
 Intersection Capacity Utilization 67.7%  
 Analysis Period (min) 15
























Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 3: Collins Ave & Harbour Way WB
















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations														
Volume (vph)	0	0	1	0	0	0	0	0	2060	0	0	1548	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0		185		0	0		0	
Storage Lanes	0		1	1		1		1		0	0		0	
Taper Length (ft)	25			25				25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Ped Bike Factor			0.96											
Frt			0.850											
Flt Protected														
Satd. Flow (prot)	0	1881	1599	1881	0	1881	1881	0	5136	0	0	5136	0	
Flt Permitted														
Satd. Flow (perm)	0	1881	1528	1881	0	1881	1881	0	5136	0	0	5136	0	
Right Turn on Red			Yes			Yes				Yes			Yes	
Satd. Flow (RTOR)			106											
Link Speed (mph)		30			30				30				30	
Link Distance (ft)		290			219				2179				203	
Travel Time (s)		6.6			5.0				49.5				4.6	
Confl. Peds. (#/hr)			16	16				21					21	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12				12				12	
Link Offset(ft)		0			0				0				0	
Crosswalk Width(ft)		16			16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9	
Number of Detectors	1	1	1	1		1	1		0				0	
Detector Template	Left	Thru	Right	Left		Right	Left		Thru				Thru	

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	14.0		108.0			108.0		20.0
Total Split (%)	22.0%	22.0%	22.0%	22.0%		22.0%	8.5%		65.9%			65.9%		12%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	8.3		101.4			101.4		14.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	10	10	10	10		10								
Act Effct Green (s)			11.7						102.6			117.5		
Actuated g/C Ratio			0.08						0.73			0.84		
v/c Ratio			0.00						0.56			0.37		
Control Delay			0.0						11.3			1.0		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay			0.0						0.0			0.1		
Total Delay			0.0						11.3			1.1		
LOS			A						B			A		
Approach Delay									11.3			1.1		
Approach LOS									B			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 164  
 Actuated Cycle Length: 139.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 6.9  
 Intersection Capacity Utilization 61.8%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	393	597	0	431	0	0	0	0	20	1389	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor											1.00	0.94
Frt		0.962	0.850									0.850
Flt Protected											0.999	
Satd. Flow (prot)	0	1719	1519	0	3574	0	0	0	0	0	5131	1599
Flt Permitted											0.999	
Satd. Flow (perm)	0	1719	1519	0	3574	0	0	0	0	0	5128	1506
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14	22									256
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	4					4	25		18	18		25
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	418	635	0	459	0	0	0	0	21	1478	277
Shared Lane Traffic (%)			22%									
Lane Group Flow (vph)	0	558	495	0	459	0	0	0	0	0	1499	277
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		69.0	69.0		69.0					81.0	81.0	81.0

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		46.0%	46.0%		46.0%					54.0%	54.0%	54.0%
Maximum Green (s)		63.0	63.0		63.0					75.0	75.0	75.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					2					12	12	12
Act Effct Green (s)		63.0	63.0		63.0						75.0	75.0
Actuated g/C Ratio		0.42	0.42		0.42						0.50	0.50
v/c Ratio		0.76	0.76		0.31						0.58	0.31
Control Delay		35.2	35.1		40.4						20.2	5.9
Queue Delay		0.3	0.2		33.9						0.8	0.5
Total Delay		35.6	35.3		74.3						21.0	6.4
LOS		D	D		E						C	A
Approach Delay		35.4			74.3						18.8	
Approach LOS		D			E						B	

Intersection Summary

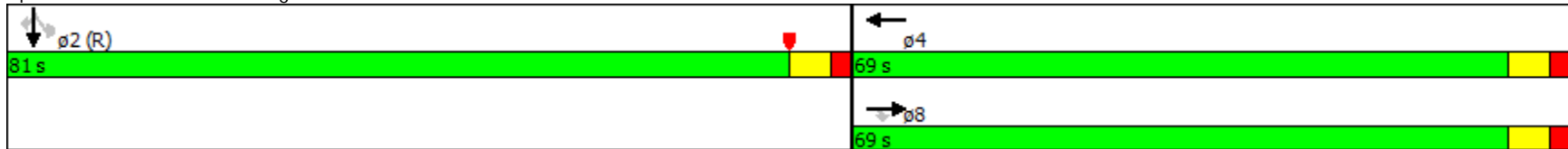
Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 98 (65%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 31.9  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service H

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014




















Splits and Phases: 7: Harding Ave & 96th St





Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	379	15	0	0	4	6	430	1727	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.97	0.97			0.95		1.00	1.00				
Frt					0.919							
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1681	1692	0	0	1620	0	1770	5083	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1623	1638	0	0	1620	0	1761	5083	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	14		66	66		14	7		32	32		7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	403	16	0	0	4	6	457	1837	6	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	210	209	0	0	10	0	457	1843	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)	20	20			20		0	0				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	65.0	65.0			14.0		71.0	71.0				
Total Split (%)	43.3%	43.3%			9.3%		47.3%	47.3%				
Maximum Green (s)	58.0	58.0			8.0		64.0	64.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	33	33						15				
Act Effct Green (s)	22.8	22.8			7.0		108.0	108.0				
Actuated g/C Ratio	0.15	0.15			0.05		0.72	0.72				
v/c Ratio	0.82	0.81			0.12		0.36	0.50				
Control Delay	61.9	61.0			49.0		4.6	4.9				
Queue Delay	0.1	0.1			0.0		0.5	0.3				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



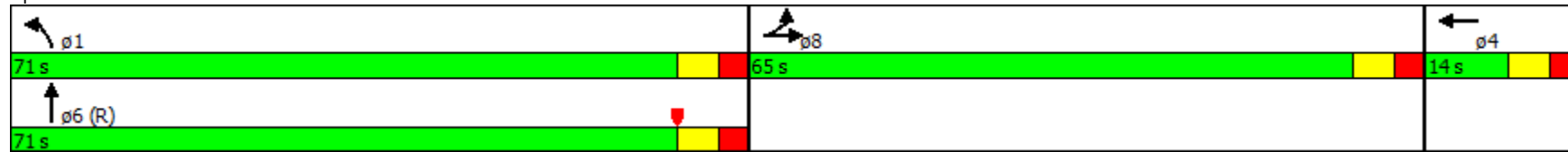
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	62.0	61.1			49.0		5.2	5.1				
LOS	E	E			D		A	A				
Approach Delay		61.6			49.0			5.1				
Approach LOS		E			D			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 113 (75%), Referenced to phase 6:NBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 14.0  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service H

Splits and Phases: 10: Collins Ave & 96th St



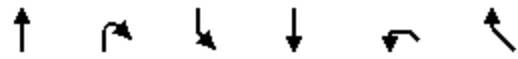
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							ø11
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	
Lane Configurations				↑↑↑	↑↑	↑↑	
Volume (vph)	0	0	0	1514	87	2001	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5085	1607	2882	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5085	1605	2882	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1724	1409	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)					25		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	0	0	0	1545	89	2042	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1545	722	1409	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11

Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Permitted Phases							Free
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		27.0
Total Split (s)				123.0	123.0		27.0
Total Split (%)				82.0%	82.0%		18%
Maximum Green (s)				118.0	118.0		22.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							12
Act Effct Green (s)				137.2	0.0	150.0	
Actuated g/C Ratio				0.91	0.00	1.00	
v/c Ratio				0.33	0.42	0.49	
Control Delay				0.2	0.7	0.9	
Queue Delay				0.0	0.2	0.2	
Total Delay				0.2	0.9	1.1	
LOS				A	A	A	
Approach Delay				0.2	1.1		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 100 (67%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

8/18/2014

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 0.7

Intersection LOS: A




Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

 φ2 (R)	 φ11
123 s	27 s
 φ4 (R)	
123 s	

Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	74	0	0	1514	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6458	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6458	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	25	1	114			114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	78	0	0	1594	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	78	0	0	1613	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.0%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1129	0	0	734	258	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3467	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						19
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		30	30			2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1176	0	0	765	269	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1176	0	0	765	269	19
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0



Lanes, Volumes, Timings  
18: Byron Ave & 96th St

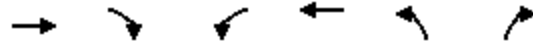
8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	6			6	20	20
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	34.0	34.0
Total Split (s)	40.0			40.0	35.0	35.0
Total Split (%)	53.3%			53.3%	46.7%	46.7%
Maximum Green (s)	33.5			33.5	29.0	29.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	24.0	24.0
Pedestrian Calls (#/hr)	15			15	1	1
Act Effct Green (s)	49.0			49.0	13.5	13.5
Actuated g/C Ratio	0.65			0.65	0.18	0.18
v/c Ratio	0.50			0.33	0.43	0.06
Control Delay	6.2			4.3	28.1	9.2
Queue Delay	0.1			0.0	0.0	0.0
Total Delay	6.4			4.3	28.1	9.2
LOS	A			A	C	A

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	6.4			4.3	26.8	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 6 (8%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.50  
 Intersection Signal Delay: 8.3  
 Intersection Capacity Utilization 50.0%  
 Analysis Period (min) 15

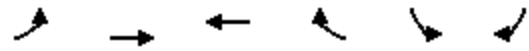
Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

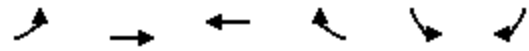
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	982	919	42	97	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		1.00	
Frt			0.993		0.970	0.850
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1787	3574	3542	0	3402	1455
Flt Permitted	0.238				0.961	
Satd. Flow (perm)	445	3574	3542	0	3396	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	58
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	74			74	1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	51	1034	967	44	102	83
Shared Lane Traffic (%)						30%
Lane Group Flow (vph)	51	1034	1011	0	127	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

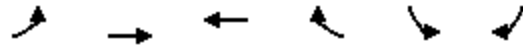
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	112.0	104.0		38.0	38.0
Total Split (%)	5.3%	74.7%	69.3%		25.3%	25.3%
Maximum Green (s)	4.0	106.0	98.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					37	37
Act Effct Green (s)	113.0	111.0	104.6		27.0	27.0
Actuated g/C Ratio	0.75	0.74	0.70		0.18	0.18
v/c Ratio	0.14	0.39	0.41		0.20	0.19
Control Delay	6.8	8.5	9.4		43.0	12.5

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.4		0.0	0.0
Total Delay	6.8	8.5	9.8		43.0	12.5
LOS	A	A	A		D	B
Approach Delay		8.4	9.8		33.5	
Approach LOS		A	A		C	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 149 (99%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.41  
 Intersection Signal Delay: 11.1  
 Intersection Capacity Utilization 49.5%  
 Analysis Period (min) 15


















Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	51	73	72	59	0	0	0	0	76	1897	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.93			0.96						0.98	
Frt		0.921									0.995	
Flt Protected					0.973						0.998	
Satd. Flow (prot)	0	1612	0	0	1830	0	0	0	0	0	5090	0
Flt Permitted					0.601						0.998	
Satd. Flow (perm)	0	1612	0	0	1080	0	0	0	0	0	5023	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	62		53	53		62	11		94	94		11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	52	74	73	60	0	0	0	0	78	1936	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	133	0	0	0	0	0	2079	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					123.0	123.0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		18.0%		18.0%	18.0%					82.0%	82.0%	
Maximum Green (s)		22.0		22.0	22.0					118.0	118.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		31		31	31					47	47	
Act Effct Green (s)		22.0			22.0						118.0	
Actuated g/C Ratio		0.15			0.15						0.79	
v/c Ratio		0.53			0.84						0.53	
Control Delay		68.4			103.8						5.0	
Queue Delay		0.0			0.0						0.0	
Total Delay		68.4			103.8						5.0	
LOS		E			F						A	
Approach Delay		68.4			103.8						5.0	
Approach LOS		E			F						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 123 (82%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.84  
 Intersection Signal Delay: 14.1  
 Intersection Capacity Utilization 91.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service F

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014


















Splits and Phases: 24: Harding Ave & 95th St





Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	101	8	0	0	7	4	100	2101	13	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.951			0.999				
Flt Protected		0.956						0.998				
Satd. Flow (prot)	0	1781	0	0	1760	0	0	5070	0	0	0	0
Flt Permitted		0.739						0.998				
Satd. Flow (perm)	0	1368	0	0	1760	0	0	5070	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	6		36	36		6						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	104	8	0	0	7	4	103	2166	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	11	0	0	2282	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	26.0	26.0			26.0		24.0	24.0				
Total Split (s)	27.0	27.0			27.0		48.0	48.0				
Total Split (%)	36.0%	36.0%			36.0%		64.0%	64.0%				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	22.0	22.0			22.0		43.5	43.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	17.0	17.0			17.0		12.0	12.0				
Pedestrian Calls (#/hr)	18	18			18		0	0				
Act Effct Green (s)		22.0			22.0			43.5				
Actuated g/C Ratio		0.29			0.29			0.58				
v/c Ratio		0.28			0.02			0.78				
Control Delay		32.5			16.0			9.7				
Queue Delay		0.0			0.0			0.0				
Total Delay		32.5			16.0			9.7				
LOS		C			B			A				
Approach Delay		32.5			16.0			9.7				
Approach LOS		C			B			A				

Intersection Summary


















Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 27 (36%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 10.8  
 Intersection Capacity Utilization 68.3%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	20	73	56	70	0	0	0	0	40	1885	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.96			0.99						0.98	
Frt		0.895									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1618	0	0	1840	0	0	0	0	0	5007	0
Flt Permitted					0.729						0.999	
Satd. Flow (perm)	0	1618	0	0	1352	0	0	0	0	0	4993	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											24	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	91		19	19		91	54		40	40		54
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	21	75	58	72	0	0	0	0	41	1943	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	130	0	0	0	0	0	2122	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm		NA
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					123.0	123.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		18.0%		18.0%	18.0%					82.0%	82.0%	
Maximum Green (s)		22.0		22.0	22.0					118.0	118.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		46		46	46					27	27	
Act Effct Green (s)		22.0			22.0						118.0	
Actuated g/C Ratio		0.15			0.15						0.79	
v/c Ratio		0.41			0.66						0.54	
Control Delay		63.9			69.5						3.0	
Queue Delay		0.0			3.5						0.0	
Total Delay		63.9			73.0						3.0	
LOS		E			E						A	
Approach Delay		63.9			73.0						3.0	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 138 (92%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.66  
 Intersection Signal Delay: 9.3  
 Intersection Capacity Utilization 69.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Lanes, Volumes, Timings  
28: Harding Ave & 94th St


















8/18/2014

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	85	0	0	0	2	1	85	2081	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt					0.955							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1797	0	0	5125	0	0	0	0
Flt Permitted		0.756						0.998				
Satd. Flow (perm)	0	1422	0	0	1797	0	0	5125	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1							
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)			48	48			2					2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	87	0	0	0	2	1	87	2123	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	3	0	0	2212	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	23.0	23.0			12.0		23.0	23.0				
Total Split (s)	28.0	28.0			28.0		47.0	47.0				
Total Split (%)	37.3%	37.3%			37.3%		62.7%	62.7%				
Maximum Green (s)	23.0	23.0			23.0		42.0	42.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	14.0	14.0					11.0	11.0				
Pedestrian Calls (#/hr)	24	24					1	1				
Act Effct Green (s)		11.7			12.0			56.4				
Actuated g/C Ratio		0.16			0.16			0.75				
v/c Ratio		0.39			0.01			0.57				
Control Delay		28.7			20.0			1.8				
Queue Delay		0.0			0.0			0.0				
Total Delay		28.7			20.0			1.8				
LOS		C			B			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		28.7			20.0			1.8				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 10 (13%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 2.9  
 Intersection Capacity Utilization 66.8%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 29: Collins Ave & 94th St





Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔↔	
Volume (vph)	0	12	9	11	24	0	0	0	0	26	2024	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			0.99						1.00	
Frt		0.942									0.998	
Flt Protected					0.985						0.999	
Satd. Flow (prot)	0	1733	0	0	1835	0	0	0	0	0	5070	0
Flt Permitted					0.930						0.999	
Satd. Flow (perm)	0	1733	0	0	1723	0	0	0	0	0	5070	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											4	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	9		9	9		9			1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	12	9	11	24	0	0	0	0	26	2044	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	35	0	0	0	0	0	2096	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		29.0		29.0	29.0					25.0	25.0	
Total Split (s)		29.0		29.0	29.0					121.0	121.0	
Total Split (%)		19.3%		19.3%	19.3%					80.7%	80.7%	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

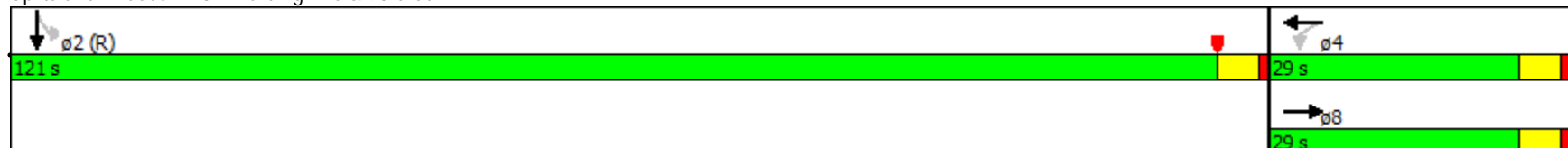


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		24.0		24.0	24.0					116.0	116.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					1	1	
Act Effct Green (s)		24.0			24.0						116.0	
Actuated g/C Ratio		0.16			0.16						0.77	
v/c Ratio		0.08			0.13						0.53	
Control Delay		54.6			61.9						3.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		54.6			61.9						3.3	
LOS		D			E						A	
Approach Delay		54.6			61.9						3.3	
Approach LOS		D			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 149 (99%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.53  
 Intersection Signal Delay: 4.8  
 Intersection Capacity Utilization 70.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	0	29	2156	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	1.00			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1770	0	0	5080	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1761	0	0	5078	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	35	18			18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	0	30	2223	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	2253	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	20		20	6		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	29.0		23.0	23.0		
Total Split (s)	29.0		46.0	46.0		
Total Split (%)	38.7%		61.3%	61.3%		
Maximum Green (s)	23.0		40.0	40.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	16.0		10.0	10.0		
Pedestrian Calls (#/hr)	18		9	9		
Act Effct Green (s)	13.4			57.2		
Actuated g/C Ratio	0.18			0.76		
v/c Ratio	0.11			0.58		
Control Delay	23.7			9.0		
Queue Delay	0.0			0.0		
Total Delay	23.7			9.0		
LOS	C			A		
Approach Delay	23.7			9.0		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014

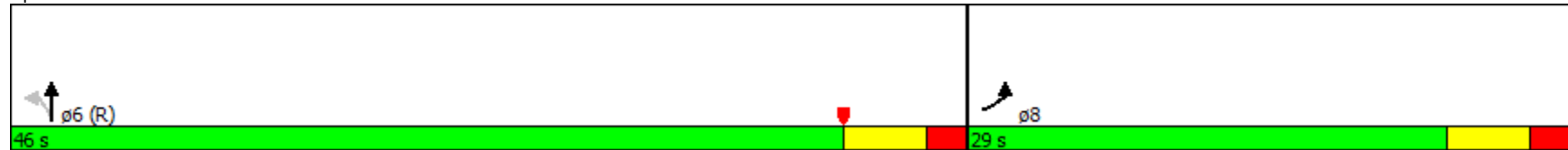


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	67 (89%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	9.2
Intersection Capacity Utilization	69.5%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	C

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	6	18	23	24	0	0	0	0	20	2006	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.897									0.998	
Flt Protected					0.976							
Satd. Flow (prot)	0	1671	0	0	1818	0	0	0	0	0	5075	0
Flt Permitted					0.832							
Satd. Flow (perm)	0	1671	0	0	1550	0	0	0	0	0	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									4	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	6	19	24	25	0	0	0	0	21	2068	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	49	0	0	0	0	0	2117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		29.0		29.0	29.0					26.0	26.0	
Total Split (s)		30.0		30.0	30.0					120.0	120.0	
Total Split (%)		20.0%		20.0%	20.0%					80.0%	80.0%	
Maximum Green (s)		25.0		25.0	25.0					115.0	115.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					14.0	14.0	
Pedestrian Calls (#/hr)		0		0	0					1	1	
Act Effct Green (s)		9.8			9.8						133.6	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.20			0.49						0.47	
Control Delay		33.9			83.1						0.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		33.9			83.1						0.3	
LOS		C			F						A	
Approach Delay		33.9			83.1						0.3	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

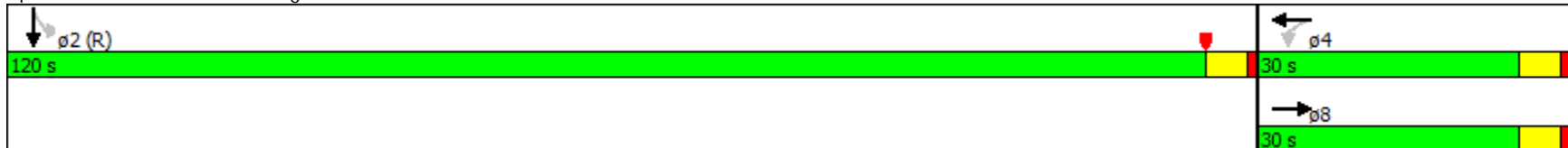


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			F						A	

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	28 (19%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	2.6
Intersection LOS:	A
Intersection Capacity Utilization:	59.5%
ICU Level of Service:	B
Analysis Period (min):	15


















Splits and Phases: 40: Harding Ave & 91st St





Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	42	0	0	0	5	5	72	1923	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932			0.999				
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1770	0	0	1721	0	0	5070	0	0	0	0
Flt Permitted		0.751						0.998				
Satd. Flow (perm)	0	1391	0	0	1721	0	0	5063	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5			20		5	13		3	3		13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	43	0	0	0	5	5	74	1982	7	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	10	0	0	2063	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	10	10			10		7	7				
Act Effct Green (s)		10.8			10.8			74.8				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.26			0.05			0.49				
Control Delay		37.2			23.6			5.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		37.2			23.6			5.2				
LOS		D			C			A				
Approach Delay		37.2			23.6			5.2				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A					

Intersection Summary



























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	1 (1%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	5.9
Intersection Capacity Utilization	60.0%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	172	0	0	36	5	31	72	1902	27	18	1491	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99			0.75	0.81	0.98		1.00			1.00	
Frt						0.850		0.998			0.990	
Flt Protected	0.950			0.950	0.963		0.950			0.950		
Satd. Flow (prot)	4990	0	0	1681	1704	1583	1770	5067	0	1770	5016	0
Flt Permitted	0.950			0.950	0.963		0.101			0.071		
Satd. Flow (perm)	4922	0	0	1268	1380	1552	188	5067	0	132	5016	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						119		2			10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	3		94	94		3	14		65	65		14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	179	0	0	38	5	32	75	1981	28	19	1553	112
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	179	0	0	21	22	32	75	2009	0	19	1665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20			20	20	20	20	0		20	0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	42.0			24.0	24.0	24.0	11.0	73.0		11.0	73.0	
Total Split (%)	28.0%			16.0%	16.0%	16.0%	7.3%	48.7%		7.3%	48.7%	
Maximum Green (s)	35.2			17.2	17.2	17.2	5.0	66.5		5.0	66.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	47							32			32	
Act Effct Green (s)	14.4			7.7	7.7	7.7	109.6	103.9		102.8	97.1	
Actuated g/C Ratio	0.10			0.05	0.05	0.05	0.73	0.69		0.69	0.65	
v/c Ratio	0.38			0.25	0.26	0.17	0.35	0.57		0.13	0.51	
Control Delay	65.4			75.1	75.3	1.9	10.6	12.2		8.8	15.8	
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



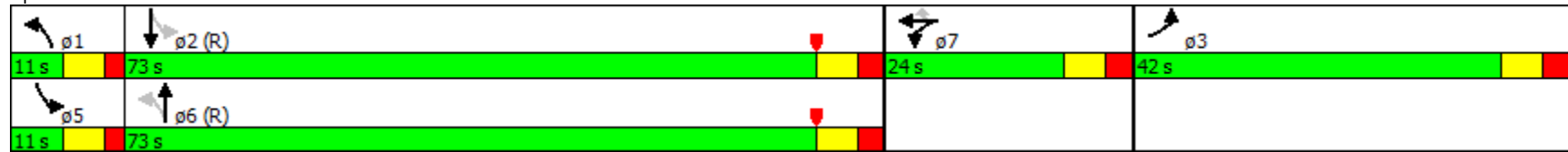
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	65.4			75.1	75.3	1.9	10.6	12.4		8.8	15.8	
LOS	E			E	E	A	B	B		A	B	
Approach Delay					43.9			12.4			15.7	
Approach LOS					D			B			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 75 (50%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 16.7  
 Intersection Capacity Utilization 70.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	8.5	31.0	0.15	17.4	C
Byron Ave	IV	30	12.2	6.2	18.4	0.05	10.5	D
Harding Ave	IV	30	19.2	35.2	54.4	0.11	7.1	E
Collins Ave	IV	30	12.6	61.0	73.6	0.06	2.7	F
Total	IV		66.5	110.9	177.4	0.37	7.4	E

## Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	49.0	62.8	0.06	3.5	F
Harding Ave	IV	30	12.6	40.4	53.0	0.06	3.8	F
Byron Ave	IV	30	19.2	4.3	23.5	0.11	16.4	C
500 Blk	IV	30	12.2	9.4	21.6	0.05	9.0	E
Total	IV		57.8	103.1	160.9	0.28	6.2	F

## Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.2	14.9	0.06	15.1	D
93rd St	III	30	48.5	9.0	57.5	0.38	23.9	C
94th St	III	30	17.2	1.8	19.0	0.12	23.1	C
95th St	III	30	17.2	9.7	26.9	0.13	17.2	D
96th St	III	30	17.4	4.9	22.3	0.12	20.0	C
Collins Ave	III	30	13.1	0.9	14.0	0.09	23.8	C
9700 Blk	III	30	8.2	12.2	20.4	0.05	9.3	F
Harbour Ave	III	30	52.4	11.3	63.7	0.41	23.3	C
Harbour Way WB	III	30	6.0	1.7	7.7	0.04	18.0	D
Total	III		189.7	56.7	246.4	1.42	20.7	C

## Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	6.4	14.4	0.05	12.9	E
Harbour Way EB	III	30	6.0	1.0	7.0	0.04	19.8	C
9700 Blk	III	30	52.4	15.8	68.2	0.41	21.8	C
Collins Ave	III	30	8.2	0.2	8.4	0.05	22.6	C
Total	III		74.6	23.4	98.0	0.56	20.4	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	20.2	31.8	0.07	8.5	F
95th St	III	30	16.9	5.0	21.9	0.13	20.7	C
94th St	III	30	17.3	3.0	20.3	0.13	22.8	C
93rd St	III	30	17.4	3.3	20.7	0.12	21.4	C
91st St	III	30	31.9	0.3	32.2	0.25	28.1	B
Total	III		95.1	31.8	126.9	0.70	20.0	C





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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Existing Conditions Weekend**

Lanes, Volumes, Timings  
3: Collins Ave & Harbour Way WB

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	12	1506	135	1573	18		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	0		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor									
Frt						0.998			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5125	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1787	5136	1787	5125	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		11							
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	13	1673	150	1748	20		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	13	1673	150	1768	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left		Left				

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	0	20	0			
Detector 1 Type			Cl+Ex		Cl+Ex				
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			16.0	98.0	21.0	98.0		34.0	34.0
Total Split (%)			10.5%	64.1%	13.7%	64.1%		22%	22%
Maximum Green (s)			10.3	91.4	15.3	91.4		27.0	27.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								0	0
Act Effct Green (s)			5.6	91.4	14.0	110.3			
Actuated g/C Ratio			0.05	0.78	0.12	0.94			
v/c Ratio			0.15	0.42	0.71	0.37			
Control Delay			78.8	1.3	68.5	1.3			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			78.8	1.3	68.5	1.3			
LOS			E	A	E	A			
Approach Delay				1.9		6.5			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 153  
 Actuated Cycle Length: 117.7  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 56.6%  
 Analysis Period (min) 15






















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 3: Collins Ave & Harbour Way WB
















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/17/2014

														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations														
Volume (vph)	0	0	0	0	0	0	0	0	1518	0	0	1573	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0		185		0	0		0	
Storage Lanes	0		1	1		1		1		0	0		0	
Taper Length (ft)	0			0				25			0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Ped Bike Factor														
Frt														
Flt Protected														
Satd. Flow (prot)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0	
Flt Permitted														
Satd. Flow (perm)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0	
Right Turn on Red			Yes			Yes				Yes			Yes	
Satd. Flow (RTOR)														
Link Speed (mph)		30			30				30				30	
Link Distance (ft)		290			219				2179				203	
Travel Time (s)		6.6			5.0				49.5				4.6	
Confl. Peds. (#/hr)			11	11							3	3		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12				12				12	
Link Offset(ft)		0			0				0				0	
Crosswalk Width(ft)		16			16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9	
Number of Detectors	1	1	1	1		1	1		0			0		
Detector Template	Left	Thru	Right	Left		Right	Left							

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

9/17/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		0			0		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex							
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	34.0	34.0	34.0	34.0		34.0	16.0		98.0			98.0		21.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%		22.2%	10.5%		64.1%			64.1%		14%
Maximum Green (s)	27.0	27.0	27.0	27.0		27.0	10.3		91.4			91.4		15.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	0	0	0	0		0								
Act Effct Green (s)									91.4			110.3		
Actuated g/C Ratio									0.78			0.94		
v/c Ratio									0.42			0.36		
Control Delay									4.8			0.5		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									4.8			0.5		
LOS									A			A		
Approach Delay									4.8			0.5		
Approach LOS									A			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	153
Actuated Cycle Length:	117.7
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	2.6
Intersection Capacity Utilization:	50.8%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	303	420	0	335	0	0	0	0	42	1274	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor		0.99	0.97								1.00	0.69
Frt		0.969	0.850									0.850
Flt Protected											0.998	
Satd. Flow (prot)	0	1721	1519	0	3574	0	0	0	0	0	5125	1599
Flt Permitted											0.998	
Satd. Flow (perm)	0	1721	1473	0	3574	0	0	0	0	0	5111	1109
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11	22									179
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	101		25	25		101	162		46	46		162
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	316	438	0	349	0	0	0	0	44	1327	301
Shared Lane Traffic (%)			19%									
Lane Group Flow (vph)	0	399	355	0	349	0	0	0	0	0	1371	301
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		66.0	66.0		66.0					84.0	84.0	84.0



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		44.0%	44.0%		44.0%					56.0%	56.0%	56.0%
Maximum Green (s)		60.0	60.0		60.0					78.0	78.0	78.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					25					41	41	41
Act Effct Green (s)		60.0	60.0		60.0						78.0	78.0
Actuated g/C Ratio		0.40	0.40		0.40						0.52	0.52
v/c Ratio		0.57	0.59		0.24						0.52	0.45
Control Delay		38.0	37.8		43.6						12.3	5.4
Queue Delay		2.2	1.2		4.7						0.7	0.6
Total Delay		40.2	39.0		48.4						13.0	6.0
LOS		D	D		D						B	A
Approach Delay		39.6			48.4						11.7	
Approach LOS		D			D						B	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 43 (29%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 23.9  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service B

Lanes, Volumes, Timings  
7: Harding Ave & 96th St




















9/17/2014

Splits and Phases: 7: Harding Ave & 96th St














Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	287	13	0	0	10	7	284	1140	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	0			0			25			0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.98	0.98			0.95		1.00	1.00				
Frt					0.943			0.999				
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1698	1708	0	0	1691	0	1787	5128	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1661	1674	0	0	1691	0	1779	5128	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	9		82	82		9	8		19	19		8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	322	15	0	0	11	8	319	1281	7	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	167	170	0	0	19	0	319	1288	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru							

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		0	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	57.0	57.0			10.0		65.0	83.0				
Total Split (%)	38.0%	38.0%			6.7%		43.3%	55.3%				
Maximum Green (s)	50.0	50.0			4.0		58.0	76.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	21	21						5				
Act Effct Green (s)	18.7	18.7			6.2		109.5	109.5				
Actuated g/C Ratio	0.12	0.12			0.04		0.73	0.73				
v/c Ratio	0.79	0.80			0.24		0.24	0.34				
Control Delay	72.1	72.9			54.8		7.7	7.9				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/17/2014

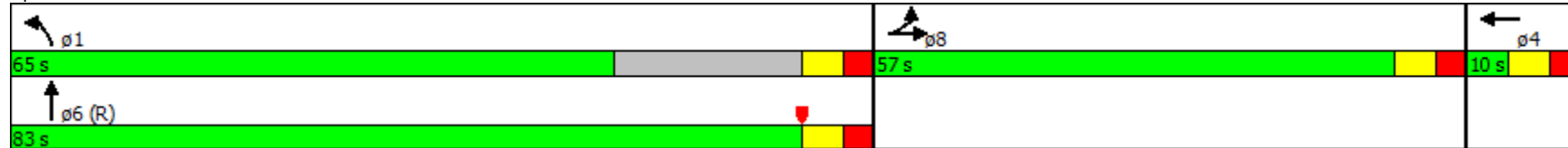


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.0	0.1				
Total Delay	72.1	73.0			54.8		7.7	7.9				
LOS	E	E			D		A	A				
Approach Delay		72.5			54.8			7.9				
Approach LOS		E			D			A				

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	51 (34%), Referenced to phase 6:NBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.80
Intersection Signal Delay:	19.4
Intersection Capacity Utilization:	60.7%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	B

Splits and Phases: 10: Collins Ave & 96th St



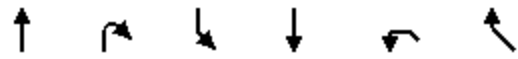
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

9/17/2014

	↑	↶	↷	↓	↶	↷	ø11
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	
Lane Configurations				↑↑↑	↶↷	↶↷	
Volume (vph)	0	0	0	1537	65	1536	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5136	1623	2910	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5136	1623	2910	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1626	1191	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	0	0	0	1727	73	1726	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1727	608	1191	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11
Permitted Phases						Free	

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

9/17/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		27.0
Total Split (s)				123.0	123.0		27.0
Total Split (%)				82.0%	82.0%		18%
Maximum Green (s)				118.0	118.0		22.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				150.0	0.0	150.0	
Actuated g/C Ratio				1.00	0.00	1.00	
v/c Ratio				0.34	0.37	0.41	
Control Delay				0.2	1.0	1.0	
Queue Delay				0.0	0.1	0.0	
Total Delay				0.2	1.1	1.1	
LOS				A	A	A	
Approach Delay				0.2	1.1		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 66 (44%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow  
 Natural Cycle: 55

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

9/17/2014

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 0.6

Intersection LOS: A

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

↓ ø2 (R) 123 s	↑ ø11 27 s
↙ ø4 (R) 123 s	



Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	76	0	0	1538	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6471	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6471	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)		35	162			162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	83	0	0	1672	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	83	0	0	1674	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.6%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/17/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Volume (vph)	832	0	0	667	150	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3463	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		62	62		1	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	876	0	0	702	158	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	876	0	0	702	158	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template					Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0

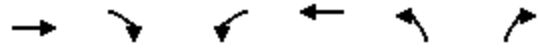
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/17/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	0			0	20	20
Detector 1 Type					Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	34.0	34.0
Total Split (s)	35.0			35.0	35.0	35.0
Total Split (%)	50.0%			50.0%	50.0%	50.0%
Maximum Green (s)	28.5			28.5	29.0	29.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	24.0	24.0
Pedestrian Calls (#/hr)	16			16	10	10
Act Effct Green (s)	45.7			45.7	11.8	11.8
Actuated g/C Ratio	0.65			0.65	0.17	0.17
v/c Ratio	0.38			0.30	0.27	0.08
Control Delay	3.7			7.3	24.6	8.1
Queue Delay	0.1			0.0	0.0	0.0
Total Delay	3.9			7.3	24.6	8.1
LOS	A			A	C	A

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

9/17/2014



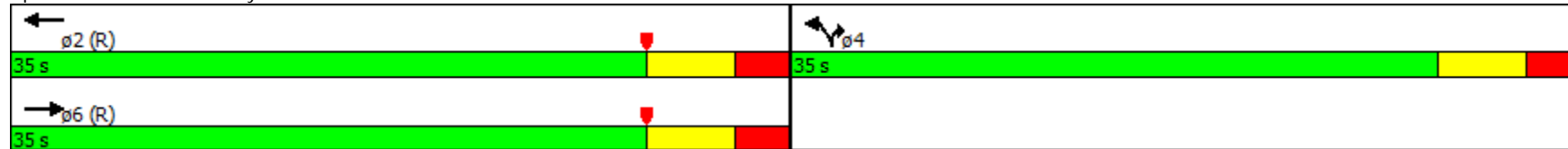
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	3.9			7.3	22.4	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 22 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.38  
 Intersection Signal Delay: 7.2  
 Intersection Capacity Utilization 52.1%  
 Analysis Period (min) 15

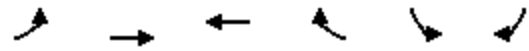
Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

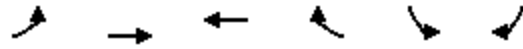
9/17/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	669	727	30	84	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.994		0.974	0.850
Flt Protected	0.950				0.960	
Satd. Flow (prot)	1787	3574	3549	0	3392	1455
Flt Permitted	0.296				0.960	
Satd. Flow (perm)	555	3574	3549	0	3392	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	49
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	14			14		13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	36	712	773	32	89	68
Shared Lane Traffic (%)						28%
Lane Group Flow (vph)	36	712	805	0	108	49
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left				Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

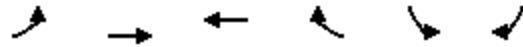
9/17/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	0	0		20	20
Detector 1 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	32.0	24.0		38.0	38.0
Total Split (%)	11.4%	45.7%	34.3%		54.3%	54.3%
Maximum Green (s)	4.0	26.0	18.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					3	3
Act Effct Green (s)	50.5	49.7	46.3		12.1	12.1
Actuated g/C Ratio	0.72	0.71	0.66		0.17	0.17
v/c Ratio	0.07	0.28	0.34		0.18	0.17
Control Delay	7.6	7.3	8.0		18.7	6.7

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

9/17/2014



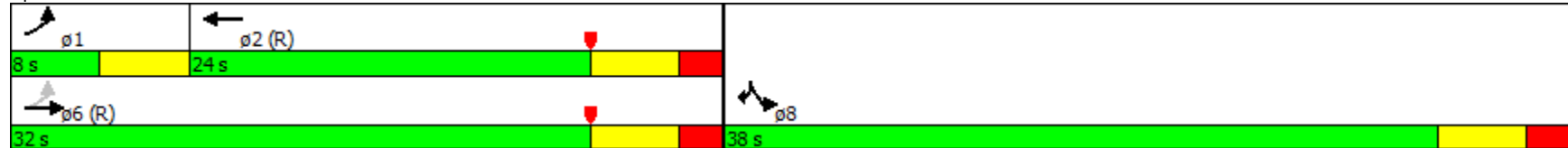
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	7.6	7.3	8.2		18.7	6.7
LOS	A	A	A		B	A
Approach Delay		7.3	8.2		15.0	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other  
 Cycle Length: 70  
 Actuated Cycle Length: 70  
 Offset: 15 (21%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.34  
 Intersection Signal Delay: 8.4  
 Intersection Capacity Utilization 50.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	47	74	75	52	0	0	0	0	53	1674	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.95			0.97						0.99	
Frt		0.917									0.996	
Flt Protected					0.971						0.998	
Satd. Flow (prot)	0	1638	0	0	1827	0	0	0	0	0	5095	0
Flt Permitted					0.597						0.998	
Satd. Flow (perm)	0	1638	0	0	1087	0	0	0	0	0	5047	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											8	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	67		35	35		67	15		84	84		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	48	76	77	54	0	0	0	0	55	1726	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	131	0	0	0	0	0	1827	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					123.0	123.0	



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		18.0%		18.0%	18.0%					82.0%	82.0%	
Maximum Green (s)		22.0		22.0	22.0					118.0	118.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		17		17	17					21	21	
Act Effct Green (s)		22.0			22.0						118.0	
Actuated g/C Ratio		0.15			0.15						0.79	
v/c Ratio		0.52			0.82						0.46	
Control Delay		67.6			88.0						4.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		67.6			88.0						4.4	
LOS		E			F						A	
Approach Delay		67.6			88.0						4.4	
Approach LOS		E			F						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 69 (46%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 13.4  
 Intersection Capacity Utilization 85.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service E

Lanes, Volumes, Timings  
24: Harding Ave & 95th St


















9/17/2014

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	80	8	0	0	9	6	94	1460	8	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.95			0.98			1.00				
Frt					0.949			0.999				
Flt Protected		0.957						0.997				
Satd. Flow (prot)	0	1800	0	0	1741	0	0	5114	0	0	0	0
Flt Permitted		0.751						0.997				
Satd. Flow (perm)	0	1344	0	0	1741	0	0	5103	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	51		85	85		51	17		16	16		17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	86	9	0	0	10	6	101	1570	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	16	0	0	1680	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	26.0	26.0			26.0		24.0	24.0				
Total Split (s)	27.0	27.0			27.0		48.0	48.0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	36.0%	36.0%			36.0%		64.0%	64.0%				
Maximum Green (s)	22.0	22.0			22.0		43.5	43.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	17.0	17.0			17.0		12.0	12.0				
Pedestrian Calls (#/hr)	21	21			21		4	4				
Act Effct Green (s)		22.0			22.0			43.5				
Actuated g/C Ratio		0.29			0.29			0.58				
v/c Ratio		0.24			0.03			0.57				
Control Delay		20.6			15.6			8.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		20.6			15.6			8.1				
LOS		C			B			A				
Approach Delay		20.6			15.6			8.1				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 26 (35%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.57  
 Intersection Signal Delay: 8.9      Intersection LOS: A  
 Intersection Capacity Utilization 57.9%      ICU Level of Service B  
 Analysis Period (min) 15

Lanes, Volumes, Timings  
25: Collins Ave & 95th St


















9/17/2014

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	21	76	42	53	0	0	0	0	32	1527	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.97			0.99						0.98	
Frt		0.894									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1632	0	0	1840	0	0	0	0	0	4982	0
Flt Permitted					0.768						0.999	
Satd. Flow (perm)	0	1632	0	0	1431	0	0	0	0	0	4969	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											25	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	98		13	13		98	74		36	36		74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	22	80	44	56	0	0	0	0	34	1607	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	100	0	0	0	0	0	1756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		27.0		27.0	27.0					25.0	25.0	
Total Split (s)		27.0		27.0	27.0					123.0	123.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		18.0%		18.0%	18.0%					82.0%	82.0%	
Maximum Green (s)		22.0		22.0	22.0					118.0	118.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0					13.0	13.0	
Pedestrian Calls (#/hr)		25		25	25					19	19	
Act Effct Green (s)		22.0			22.0						118.0	
Actuated g/C Ratio		0.15			0.15						0.79	
v/c Ratio		0.43			0.48						0.45	
Control Delay		64.5			73.9						3.4	
Queue Delay		0.0			2.1						0.0	
Total Delay		64.5			76.0						3.4	
LOS		E			E						A	
Approach Delay		64.5			76.0						3.4	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 87 (58%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 10.3  
 Intersection Capacity Utilization 61.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/17/2014


















Splits and Phases: 28: Harding Ave & 94th St





Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	81	2	0	0	4	3	58	1433	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			1.00				
Frt					0.942							
Flt Protected		0.953						0.998				
Satd. Flow (prot)	0	1793	0	0	1754	0	0	5125	0	0	0	0
Flt Permitted		0.726						0.998				
Satd. Flow (perm)	0	1344	0	0	1754	0	0	5123	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	13		135	135		13	3		35	35		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	88	2	0	0	4	3	63	1558	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	7	0	0	1624	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	23.0	23.0			12.0		23.0	23.0				
Total Split (s)	28.0	28.0			28.0		47.0	47.0				
Total Split (%)	37.3%	37.3%			37.3%		62.7%	62.7%				
Maximum Green (s)	23.0	23.0			23.0		42.0	42.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	14.0	14.0					11.0	11.0				
Pedestrian Calls (#/hr)	34	34					9	9				
Act Effct Green (s)		13.4			13.8			54.6				
Actuated g/C Ratio		0.18			0.18			0.73				
v/c Ratio		0.38			0.02			0.44				
Control Delay		31.9			18.3			6.3				
Queue Delay		0.0			0.0			0.0				
Total Delay		31.9			18.3			6.3				
LOS		C			B			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.9			18.3			6.3				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 8 (11%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 7.6  
 Intersection Capacity Utilization 54.4%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	8	7	18	10	0	0	0	0	20	1558	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.937									0.999	
Flt Protected					0.969						0.999	
Satd. Flow (prot)	0	1763	0	0	1823	0	0	0	0	0	5123	0
Flt Permitted					0.853						0.999	
Satd. Flow (perm)	0	1763	0	0	1605	0	0	0	0	0	5119	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											3	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	18					18	9		15	15		9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	8	7	19	11	0	0	0	0	21	1640	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	30	0	0	0	0	0	1676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		29.0		29.0	29.0					25.0	25.0	
Total Split (s)		29.0		29.0	29.0					121.0	121.0	

# Lanes, Volumes, Timings

## 32: Harding Ave & 93rd St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		19.3%		19.3%	19.3%					80.7%	80.7%	
Maximum Green (s)		24.0		24.0	24.0					116.0	116.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					4	4	
Act Effct Green (s)		24.0			24.0						116.0	
Actuated g/C Ratio		0.16			0.16						0.77	
v/c Ratio		0.05			0.12						0.42	
Control Delay		54.1			55.4						2.5	
Queue Delay		0.0			0.0						0.1	
Total Delay		54.1			55.4						2.5	
LOS		D			E						A	
Approach Delay		54.1			55.4						2.5	
Approach LOS		D			E						A	

### Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 97 (65%), Referenced to phase 2:SBTL, Start of Yellow

Natural Cycle: 55

Control Type: Pretimed

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 3.9

Intersection Capacity Utilization 61.4%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/17/2014

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	24	0	23	1452	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor				1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1787	0	0	5131	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1787	0	0	5129	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)		49	14			14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	27	0	26	1631	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1657	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/17/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	0		
Detector 1 Type	Cl+Ex		Cl+Ex			
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	29.0		23.0	23.0		
Total Split (s)	29.0		31.0	31.0		
Total Split (%)	48.3%		51.7%	51.7%		
Maximum Green (s)	23.0		25.0	25.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	16.0		10.0	10.0		
Pedestrian Calls (#/hr)	12		4	4		
Act Effct Green (s)	10.2			49.2		
Actuated g/C Ratio	0.17			0.82		
v/c Ratio	0.09			0.39		
Control Delay	18.6			5.5		
Queue Delay	0.0			0.0		
Total Delay	18.6			5.5		
LOS	B			A		



Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

9/17/2014

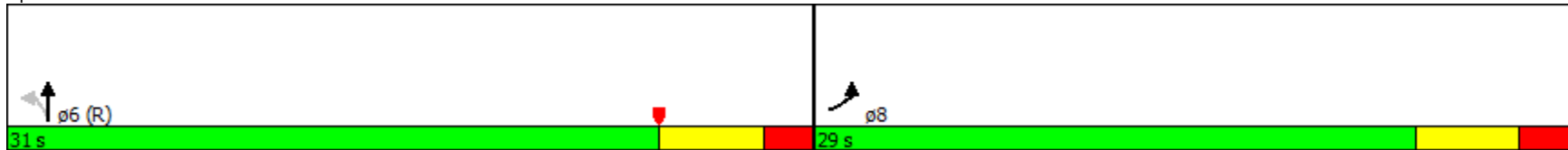


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	18.6			5.5		
Approach LOS	B			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60
Offset:	10 (17%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.39
Intersection Signal Delay:	5.8
Intersection LOS:	A
Intersection Capacity Utilization:	57.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	16	18	9	13	0	0	0	0	8	1606	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.929									0.999	
Flt Protected					0.980							
Satd. Flow (prot)	0	1748	0	0	1844	0	0	0	0	0	5128	0
Flt Permitted					0.858							
Satd. Flow (perm)	0	1748	0	0	1614	0	0	0	0	0	5128	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									2	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)	3					3	8		6	6		8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	17	19	10	14	0	0	0	0	9	1727	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	24	0	0	0	0	0	1751	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		29.0		29.0	29.0					26.0	26.0	
Total Split (s)		30.0		30.0	30.0					120.0	120.0	
Total Split (%)		20.0%		20.0%	20.0%					80.0%	80.0%	
Maximum Green (s)		25.0		25.0	25.0					115.0	115.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					2	2	
Act Effct Green (s)		10.6			10.6						132.8	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.26			0.21						0.39	
Control Delay		40.0			66.9						0.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		40.0			66.9						0.8	
LOS		D			E						A	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/17/2014



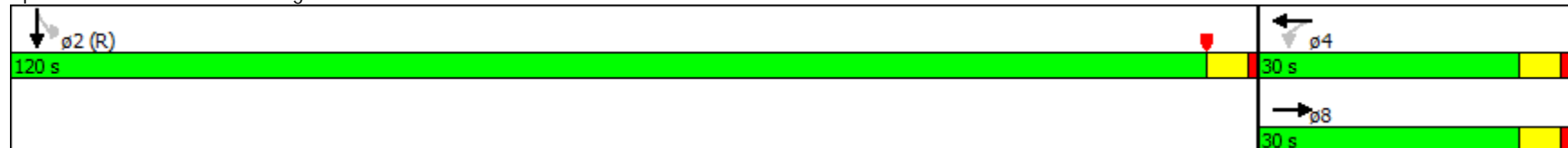
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		40.0			66.9						0.8	
Approach LOS		D			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 130 (87%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 2.4  
 Intersection Capacity Utilization 51.1%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 40: Harding Ave & 91st St



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	35	0	0	0	9	9	50	1327	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1738	0	0	5125	0	0	0	0
Flt Permitted		0.744						0.998				
Satd. Flow (perm)	0	1392	0	0	1738	0	0	5120	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5		28	28		5	10		3	3		10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	38	0	0	0	10	10	55	1458	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	20	0	0	1518	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	7	7			7		41	41				
Act Effct Green (s)		10.6			10.6			75.0				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.23			0.09			0.36				
Control Delay		36.7			22.4			4.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		36.7			22.4			4.1				
LOS		D			C			A				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		36.7			22.4			4.1				
Approach LOS		D			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 60 (67%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 54.0%  
 Analysis Period (min) 15



























Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk













9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	180	0	0	34	7	24	92	1405	39	27	1453	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	1.00			0.70	0.79	0.99		1.00		0.99	0.99	
Frt						0.850		0.996			0.986	
Flt Protected	0.950			0.950	0.967		0.950			0.950		
Satd. Flow (prot)	5040	0	0	1698	1728	1599	1787	5090	0	1787	4990	0
Flt Permitted	0.950			0.950	0.967		0.097			0.142		
Satd. Flow (perm)	5017	0	0	1185	1372	1575	182	5090	0	264	4990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						119		4			15	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	1		105	105		1	53		110	110		53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	189	0	0	36	7	25	97	1479	41	28	1529	159
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	189	0	0	21	22	25	97	1520	0	28	1688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left			Left		



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/17/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	0		20	0	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	41.0			22.0	22.0	22.0	16.0	76.0		11.0	71.0	
Total Split (%)	27.3%			14.7%	14.7%	14.7%	10.7%	50.7%		7.3%	47.3%	
Maximum Green (s)	34.2			15.2	15.2	15.2	10.0	69.5		5.0	64.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	26							28			28	
Act Effct Green (s)	13.1			7.6	7.6	7.6	111.6	105.0		103.1	97.3	
Actuated g/C Ratio	0.09			0.05	0.05	0.05	0.74	0.70		0.69	0.65	
v/c Ratio	0.43			0.24	0.25	0.13	0.43	0.43		0.12	0.52	
Control Delay	67.3			75.0	75.1	1.4	17.1	9.3		8.0	16.0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/17/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	
Total Delay	67.3			75.0	75.1	1.4	17.1	9.6		8.0	16.0	
LOS	E			E	E	A	B	A		A	B	
Approach Delay					48.0			10.0			15.9	
Approach LOS					D			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 29 (19%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 16.6

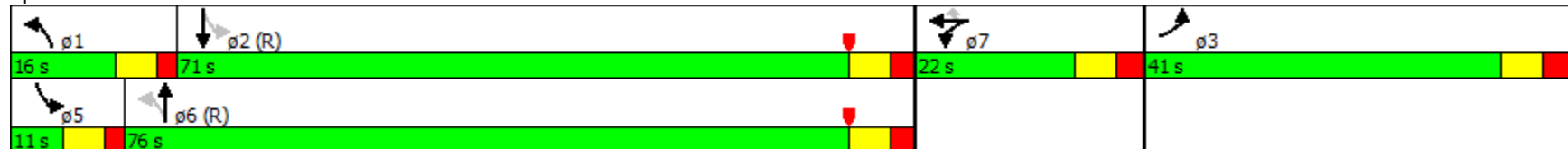
Intersection LOS: B

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service

9/17/2014

### Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	7.3	29.8	0.15	18.1	C
Byron Ave	IV	30	12.2	3.7	15.9	0.05	12.2	D
Harding Ave	IV	30	19.2	38.0	57.2	0.11	6.7	F
Collins Ave	IV	30	12.6	72.9	85.5	0.06	2.3	F
Total	IV		66.5	121.9	188.4	0.37	7.0	F

### Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	54.8	68.6	0.06	3.2	F
Harding Ave	IV	30	12.6	43.6	56.2	0.06	3.6	F
Byron Ave	IV	30	19.2	7.3	26.5	0.11	14.5	C
500 Blk	IV	30	12.2	8.0	20.2	0.05	9.6	D
Total	IV		57.8	113.7	171.5	0.28	5.8	F

### Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	4.1	13.8	0.06	16.3	D
93rd St	III	30	48.5	5.5	54.0	0.38	25.5	B
94th St	III	30	17.2	6.3	23.5	0.12	18.7	C
95th St	III	30	17.2	8.1	25.3	0.13	18.3	C
96th St	III	30	17.4	7.9	25.3	0.12	17.6	D
Collins Ave	III	30	13.1	1.0	14.1	0.09	23.6	C
9700 Blk	III	30	8.2	9.3	17.5	0.05	10.8	E
Harbour Ave	III	30	52.4	4.8	57.2	0.41	26.0	B
Harbour Way WB	III	30	6.0	1.3	7.3	0.04	19.0	C
Total	III		189.7	48.3	238.0	1.42	21.4	C

### Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	1.3	9.3	0.05	20.0	C
Harbour Way EB	III	30	6.0	0.5	6.5	0.04	21.3	C
9700 Blk	III	30	52.4	16.0	68.4	0.41	21.7	C
Collins Ave	III	30	8.2	0.2	8.4	0.05	22.6	C
Total	III		74.6	18.0	92.6	0.56	21.6	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	12.3	23.9	0.07	11.3	E
95th St	III	30	16.9	4.3	21.2	0.13	21.4	C
94th St	III	30	17.3	3.4	20.7	0.13	22.4	C
93rd St	III	30	17.4	2.5	19.9	0.12	22.3	C
91st St	III	30	31.9	0.8	32.7	0.25	27.6	B
Total	III		95.1	23.3	118.4	0.70	21.4	C



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 1 AM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	28	937	108	1335	32		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98			1.00			
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1736	4988	1736	4965	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1704	4988	1736	4965	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)	2	7	16				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%		
Adj. Flow (vph)	0	0	30	1018	117	1451	35		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	1018	117	1486	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	7.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			13.0	68.0	26.0	68.0		36.0	36.0
Total Split (%)			10.0%	52.3%	20.0%	52.3%		28%	28%
Maximum Green (s)			7.3	61.4	20.3	61.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								1	1
Act Effct Green (s)			6.1	62.9	10.6	79.1			
Actuated g/C Ratio			0.07	0.69	0.12	0.87			
v/c Ratio			0.26	0.29	0.58	0.34			
Control Delay			73.0	1.6	51.7	4.8			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



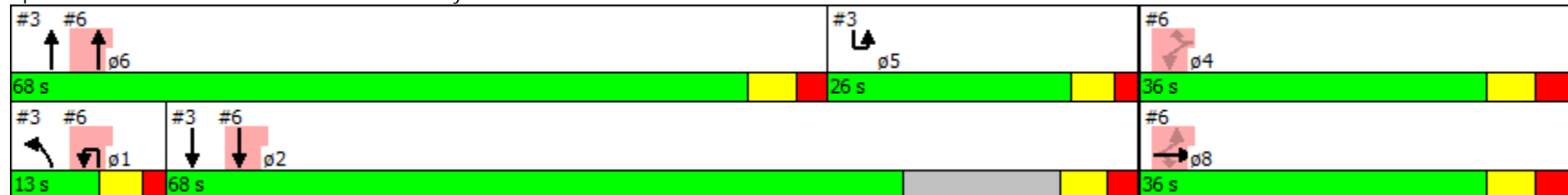
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.1	0.0	0.0			
Total Delay			73.0	1.7	51.7	4.8			
LOS			E	A	D	A			
Approach Delay				3.7		8.2			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 49.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A






















Splits and Phases: 3: Collins Ave & Harbour Way WB





Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations														
Volume (vph)	0	0	0	0	0	0	0	0	965	0	0	1335	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0		185		0	0		0	
Storage Lanes	0		1	1		1		1		0	0		0	
Taper Length (ft)	25			25				25			25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Ped Bike Factor														
Frt														
Flt Protected														
Satd. Flow (prot)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0	
Flt Permitted														
Satd. Flow (perm)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0	
Right Turn on Red			Yes			Yes				Yes			Yes	
Satd. Flow (RTOR)														
Link Speed (mph)		30			30				30				30	
Link Distance (ft)		290			219				2179				203	
Travel Time (s)		6.6			5.0				49.5				4.6	
Confl. Peds. (#/hr)	2		7	7		2		16						16
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	0.92	0.92
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12				12				12	
Link Offset(ft)		0			0				0				0	
Crosswalk Width(ft)		16			16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9	
Number of Detectors	1	1	1	1		1	1		0			0		
Detector Template	Left	Thru	Right	Left		Right	Left		Thru			Thru		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	13.0		68.0			68.0		26.0
Total Split (%)	27.7%	27.7%	27.7%	27.7%		27.7%	10.0%		52.3%			52.3%		20%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	7.3		61.4			61.4		20.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	1	1	1	1		1								
Act Effct Green (s)									62.9			79.1		
Actuated g/C Ratio									0.69			0.87		
v/c Ratio									0.30			0.33		
Control Delay									7.9			0.8		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



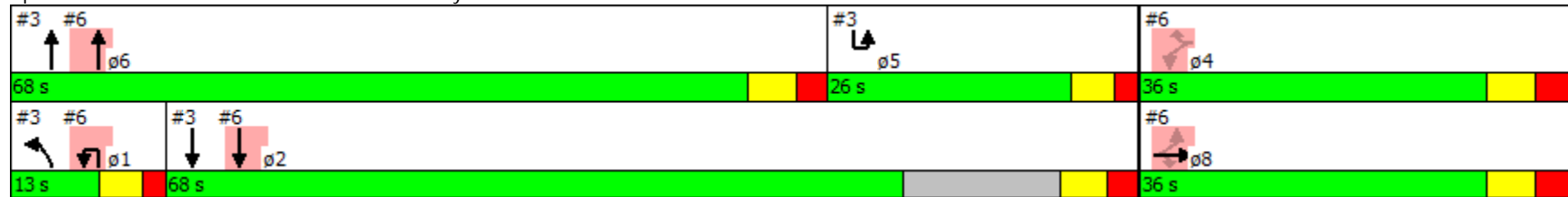
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									7.9			0.8		
LOS									A			A		
Approach Delay									7.9			0.8		
Approach LOS									A			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 3.8  
 Intersection Capacity Utilization 45.9%  
 Analysis Period (min) 15




















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	0	351	641	0	384	0	0	0	0	51	1469	311	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor											1.00	0.97	
Frt		0.950	0.850									0.850	
Flt Protected											0.998		
Satd. Flow (prot)	0	1681	1504	0	3539	0	0	0	0	0	5075	1583	
Flt Permitted											0.998		
Satd. Flow (perm)	0	1681	1504	0	3539	0	0	0	0	0	5071	1530	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		8	20									249	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		564			294			666			278		
Travel Time (s)		12.8			6.7			15.1			6.3		
Confl. Peds. (#/hr)	20					20	11		11	11		11	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	0	373	682	0	409	0	0	0	0	54	1563	331	
Shared Lane Traffic (%)			27%										
Lane Group Flow (vph)	0	557	498	0	409	0	0	0	0	0	1617	331	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		0			0			0			0		
Link Offset(ft)		0			0			0			0		
Crosswalk Width(ft)		16			16			16			16		
Two way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Turn Type		NA	Perm		NA					Perm	NA	Perm	
Protected Phases		8			4						2		
Permitted Phases			8							2		2	
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0	
Total Split (s)		83.0	83.0		83.0					77.0	77.0	77.0	
Total Split (%)		51.9%	51.9%		51.9%					48.1%	48.1%	48.1%	

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



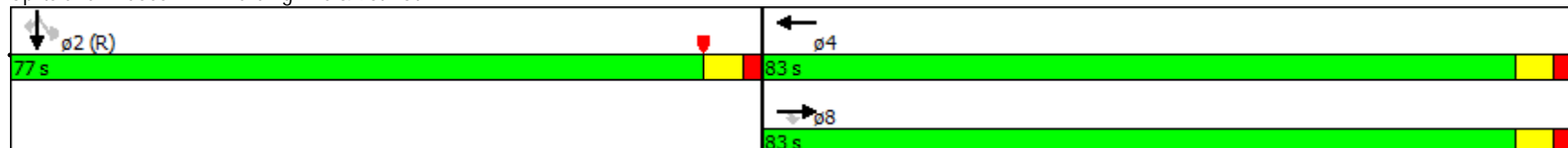
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		77.0	77.0		77.0					71.0	71.0	71.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					10					5	5	5
Act Effct Green (s)		77.0	77.0		77.0					71.0	71.0	
Actuated g/C Ratio		0.48	0.48		0.48					0.44	0.44	
v/c Ratio		0.69	0.68		0.24					0.72	0.41	
Control Delay		31.0	30.3		26.8					38.6	8.9	
Queue Delay		2.1	0.5		1.3					48.6	1.5	
Total Delay		33.1	30.8		28.1					87.2	10.4	
LOS		C	C		C					F	B	
Approach Delay		32.0			28.1					74.1		
Approach LOS		C			C					E		

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 34 (21%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.72  
 Intersection Signal Delay: 55.6  
 Intersection Capacity Utilization 98.7%  
 Analysis Period (min) 15




















Intersection LOS: E  
 ICU Level of Service F

Splits and Phases: 7: Harding Ave & 96th St















Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	366	21	0	0	3	7	402	1020	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.95	0.96			0.92		0.99	1.00				
Frt					0.902			0.999				
Flt Protected	0.950	0.957					0.950					
Satd. Flow (prot)	1665	1677	0	0	1536	0	1752	5023	0	0	0	0
Flt Permitted	0.950	0.957					0.950					
Satd. Flow (perm)	1586	1606	0	0	1536	0	1733	5023	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	18		75	75		18	14		31	31		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	407	23	0	0	3	8	447	1133	11	0	0	0
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	216	214	0	0	11	0	447	1144	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	77.0	77.0			15.0		68.0	68.0				
Total Split (%)	48.1%	48.1%			9.4%		42.5%	42.5%				
Maximum Green (s)	70.0	70.0			9.0		61.0	61.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	38	38						15				
Act Effct Green (s)	25.2	25.2			7.1		115.6	115.6				
Actuated g/C Ratio	0.16	0.16			0.04		0.72	0.72				
v/c Ratio	0.83	0.81			0.15		0.35	0.32				
Control Delay	62.6	61.1			46.8		8.6	7.3				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



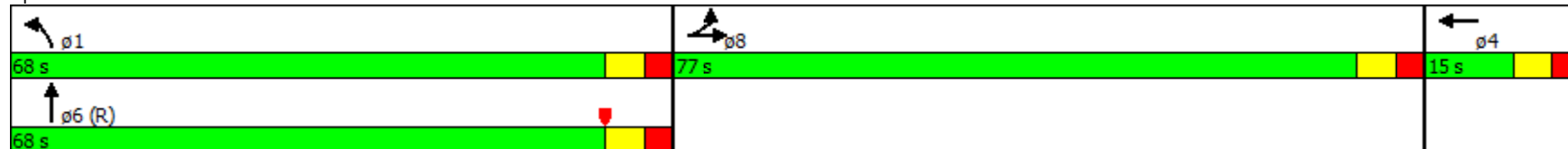
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.4	0.0				
Total Delay	62.7	61.2			46.8		9.0	7.3				
LOS	E	E			D		A	A				
Approach Delay		61.9			46.8			7.7				
Approach LOS		E			D			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 89 (56%), Referenced to phase 6:NBT, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 19.4  
 Intersection Capacity Utilization 98.7%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service F







Splits and Phases: 10: Collins Ave & 96th St











Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Lane Configurations				↑↑↑	↔	↔	
Volume (vph)	0	0	0	1600	61	1253	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.871	0.850	
Flt Protected					0.993		
Satd. Flow (prot)	0	0	0	5036	1595	2854	
Flt Permitted					0.993		
Satd. Flow (perm)	0	0	0	5036	1594	2854	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1495	943	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)			19		19		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	
Adj. Flow (vph)	0	0	0	1720	66	1347	
Shared Lane Traffic (%)						30%	
Lane Group Flow (vph)	0	0	0	1720	470	943	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	

Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Protected Phases				2!	4!		11
Permitted Phases						Free	
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		17.0
Total Split (s)				133.0	133.0		17.0
Total Split (%)				88.7%	88.7%		11%
Maximum Green (s)				128.0	128.0		12.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							9
Act Effct Green (s)				145.6	145.6	150.0	
Actuated g/C Ratio				0.97	0.97	1.00	
v/c Ratio				0.35	0.30	0.33	
Control Delay				0.8	0.5	0.3	
Queue Delay				0.0	0.1	0.0	
Total Delay				0.8	0.5	0.3	
LOS				A	A	A	
Approach Delay				0.8	0.4		
Approach LOS				A	A		
<b>Intersection Summary</b>							
Area Type:	Other						
Cycle Length:	150						
Actuated Cycle Length:	150						

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

8/18/2014

Offset: 0 (0%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 0.6

Intersection LOS: A

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

 φ2 (R)	 φ11
133 s	17 s
 φ4 (R)	
133 s	

Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	3	0	0	1661	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1596	0	0	6346	0
Flt Permitted						
Satd. Flow (perm)	0	1596	0	0	6346	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	19	1	85			85
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	4	0	0	1977	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	4	0	0	1977	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.1%
Analysis Period (min)	15
	ICU Level of Service B

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1153	0	0	722	247	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3421	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		7	7		1	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1227	0	0	768	263	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1227	0	0	768	263	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0
Detector 1 Size(ft)	6			6	20	20

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

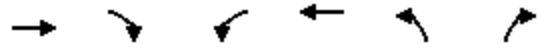
8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	25.5			25.5	28.0	28.0
Total Split (s)	132.0			132.0	28.0	28.0
Total Split (%)	82.5%			82.5%	17.5%	17.5%
Maximum Green (s)	125.5			125.5	22.0	22.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	18.0	18.0
Pedestrian Calls (#/hr)	3			3	4	4
Act Effct Green (s)	130.4			130.4	17.1	17.1
Actuated g/C Ratio	0.82			0.82	0.11	0.11
v/c Ratio	0.43			0.27	0.72	0.13
Control Delay	3.7			1.9	80.0	21.8
Queue Delay	0.1			0.2	0.0	0.0
Total Delay	3.8			2.1	80.0	21.8
LOS	A			A	E	C
Approach Delay	3.8			2.1	75.1	

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A			A	E	

Intersection Summary

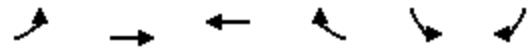
Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	6 (4%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	12.2
Intersection Capacity Utilization	52.3%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

8/18/2014

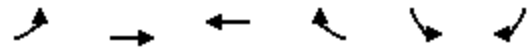


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	1111	886	80	19	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		0.99	
Frt			0.988		0.993	0.850
Flt Protected	0.950				0.954	
Satd. Flow (prot)	1770	3539	3486	0	3423	1441
Flt Permitted	0.257				0.954	
Satd. Flow (perm)	476	3539	3486	0	3391	1441
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			19		1	10
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	63			63	3	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	54	1248	996	90	21	11
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	54	1248	1086	0	22	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	0	0		20	20



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

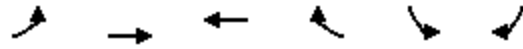
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA		Prot	Prot
Protected Phases		6	2		8	8
Permitted Phases	6					
Detector Phase	6	6	2		8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	15.0		7.0	7.0
Minimum Split (s)	21.0	21.0	21.0		30.0	30.0
Total Split (s)	130.0	130.0	130.0		30.0	30.0
Total Split (%)	81.3%	81.3%	81.3%		18.8%	18.8%
Maximum Green (s)	124.0	124.0	124.0		24.0	24.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0	1.0	1.0		2.5	2.5
Recall Mode	C-Max	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					20.0	20.0
Pedestrian Calls (#/hr)					2	2
Act Effct Green (s)	145.2	145.2	145.2		10.4	10.4
Actuated g/C Ratio	0.91	0.91	0.91		0.06	0.06
v/c Ratio	0.12	0.39	0.34		0.10	0.10
Control Delay	3.1	2.7	6.0		65.6	30.8
Queue Delay	0.0	0.0	0.3		0.0	0.0

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



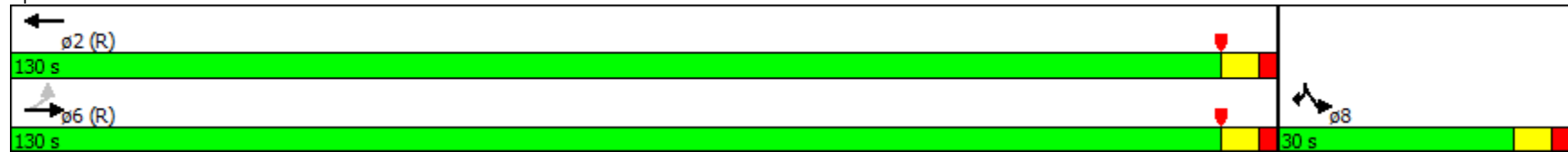
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	3.1	2.7	6.3		65.6	30.8
LOS	A	A	A		E	C
Approach Delay		2.7	6.3		54.7	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 18 (11%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 5.0  
 Intersection Capacity Utilization 55.7%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	25	42	37	46	0	0	0	0	69	1968	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.96			0.98						1.00	
Frt		0.916									0.997	
Flt Protected					0.978						0.998	
Satd. Flow (prot)	0	1614	0	0	1804	0	0	0	0	0	5007	0
Flt Permitted					0.836						0.998	
Satd. Flow (perm)	0	1614	0	0	1504	0	0	0	0	0	4987	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											8	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	23		33	33		23	10		62	62		10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	27	45	39	49	0	0	0	0	73	2094	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	88	0	0	0	0	0	2208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA						Perm	NA
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		18.0		18.0	18.0					25.0	25.0	
Total Split (s)		18.0		18.0	18.0					62.0	62.0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		22.5%		22.5%	22.5%					77.5%	77.5%	
Maximum Green (s)		13.0		13.0	13.0					57.0	57.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		6.0		6.0	6.0					13.0	13.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		13.0			13.0						57.0	
Actuated g/C Ratio		0.16			0.16						0.71	
v/c Ratio		0.27			0.36						0.62	
Control Delay		32.6			32.5						3.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		32.6			32.5						3.4	
LOS		C			C						A	
Approach Delay		32.6			32.5						3.4	
Approach LOS		C			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 22 (28%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.62  
 Intersection Signal Delay: 5.4  
 Intersection Capacity Utilization 62.0%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service B

Lanes, Volumes, Timings  
24: Harding Ave & 95th St


















8/18/2014

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	68	5	0	0	9	5	77	1351	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.955			0.999				
Flt Protected		0.955						0.997				
Satd. Flow (prot)	0	1762	0	0	1748	0	0	5016	0	0	0	0
Flt Permitted		0.729						0.997				
Satd. Flow (perm)	0	1330	0	0	1748	0	0	5016	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	8		24	24		8						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	75	5	0	0	10	5	85	1485	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	15	0	0	1578	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	21.0	21.0			21.0		24.0	24.0				
Total Split (s)	21.0	21.0			21.0		59.0	59.0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	26.3%	26.3%			26.3%		73.8%	73.8%				
Maximum Green (s)	16.0	16.0			16.0		54.5	54.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	12.0	12.0			12.0		12.0	12.0				
Pedestrian Calls (#/hr)	12	12			12		0	0				
Act Effct Green (s)		16.0			16.0			54.5				
Actuated g/C Ratio		0.20			0.20			0.68				
v/c Ratio		0.30			0.04			0.46				
Control Delay		24.8			21.8			1.4				
Queue Delay		0.0			0.0			0.0				
Total Delay		24.8			21.8			1.4				
LOS		C			C			A				
Approach Delay		24.8			21.8			1.4				
Approach LOS		C			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 24 (30%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.46  
 Intersection Signal Delay: 2.7  
 Intersection Capacity Utilization 49.1%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014


















Splits and Phases: 25: Collins Ave & 95th St





Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	16	47	44	57	0	0	0	0	68	1677	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						0.99	
Frt		0.899									0.993	
Flt Protected					0.979						0.998	
Satd. Flow (prot)	0	1638	0	0	1806	0	0	0	0	0	4970	0
Flt Permitted					0.835						0.998	
Satd. Flow (perm)	0	1638	0	0	1537	0	0	0	0	0	4962	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											20	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	39		2	2		39	37		22	22		37
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	19	56	52	68	0	0	0	0	81	1996	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	120	0	0	0	0	0	2176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		15.0		15.0	15.0					25.0	25.0	
Total Split (s)		20.0		20.0	20.0					60.0	60.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		25.0%		25.0%	25.0%					75.0%	75.0%	
Maximum Green (s)		15.0		15.0	15.0					55.0	55.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		3.0		3.0	3.0					13.0	13.0	
Pedestrian Calls (#/hr)		12		12	12					18	18	
Act Effct Green (s)		15.0			15.0						55.0	
Actuated g/C Ratio		0.19			0.19						0.69	
v/c Ratio		0.24			0.42						0.64	
Control Delay		30.2			30.8						2.1	
Queue Delay		0.0			0.0						0.0	
Total Delay		30.2			30.8						2.1	
LOS		C			C						A	
Approach Delay		30.2			30.8						2.1	
Approach LOS		C			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 38 (48%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 58.4%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Lanes, Volumes, Timings  
28: Harding Ave & 94th St


















8/18/2014

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	57	2	0	0	9	0	87	1402	11	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99						1.00				
Frt								0.999				
Flt Protected		0.954						0.997				
Satd. Flow (prot)	0	1743	0	0	1827	0	0	4965	0	0	0	0
Flt Permitted		0.725						0.997				
Satd. Flow (perm)	0	1317	0	0	1827	0	0	4963	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								3				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	3		43	43		3	4		18	18		4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	66	2	0	0	10	0	100	1611	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	10	0	0	1724	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	18.0	18.0			12.0		23.0	23.0				
Total Split (s)	18.0	18.0			18.0		62.0	62.0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	22.5%	22.5%			22.5%		77.5%	77.5%				
Maximum Green (s)	13.0	13.0			13.0		57.0	57.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	9.0	9.0					11.0	11.0				
Pedestrian Calls (#/hr)	22	22					9	9				
Act Effct Green (s)		13.0			13.0			57.0				
Actuated g/C Ratio		0.16			0.16			0.71				
v/c Ratio		0.32			0.03			0.49				
Control Delay		31.2			28.7			3.7				
Queue Delay		0.0			0.0			0.0				
Total Delay		31.2			28.7			3.7				
LOS		C			C			A				
Approach Delay		31.2			28.7			3.7				
Approach LOS		C			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 11 (14%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.49  
 Intersection Signal Delay: 4.9  
 Intersection Capacity Utilization 50.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗			↖						↕↕↕	
Volume (vph)	0	11	5	18	9	0	0	0	0	39	1922	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.955									0.999	
Flt Protected					0.968						0.999	
Satd. Flow (prot)	0	1769	0	0	1803	0	0	0	0	0	5075	0
Flt Permitted					0.828						0.999	
Satd. Flow (perm)	0	1769	0	0	1537	0	0	0	0	0	5075	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											2	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	12	6	20	10	0	0	0	0	44	2160	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	30	0	0	0	0	0	2217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		24.0		24.0	24.0					25.0	25.0	
Total Split (s)		24.0		24.0	24.0					136.0	136.0	
Total Split (%)		15.0%		15.0%	15.0%					85.0%	85.0%	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

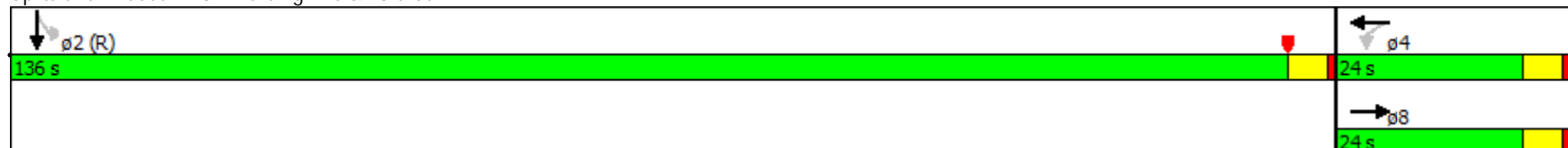


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		19.0		19.0	19.0					131.0	131.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					13.0	13.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		19.0			19.0						131.0	
Actuated g/C Ratio		0.12			0.12						0.82	
v/c Ratio		0.09			0.16						0.53	
Control Delay		64.1			62.6						1.5	
Queue Delay		0.0			0.0						0.2	
Total Delay		64.1			62.6						1.6	
LOS		E			E						A	
Approach Delay		64.1			62.6						1.6	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 130 (81%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.53  
 Intersection Signal Delay: 3.0  
 Intersection Capacity Utilization 64.6%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 32: Harding Ave & 93rd St





Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	25	0	20	1462	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	0.99			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1736	0	0	4983	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1723	0	0	4980	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	23	15			15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	27	0	22	1607	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1629	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	6		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	23.0		23.0	23.0		
Total Split (s)	23.0		57.0	57.0		
Total Split (%)	28.8%		71.3%	71.3%		
Maximum Green (s)	17.0		51.0	51.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	10.0		10.0	10.0		
Pedestrian Calls (#/hr)	11		7	7		
Act Effct Green (s)	9.0			66.6		
Actuated g/C Ratio	0.11			0.83		
v/c Ratio	0.14			0.39		
Control Delay	36.8			3.8		
Queue Delay	0.0			0.0		
Total Delay	36.8			3.8		
LOS	D			A		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	36.8			3.8		
Approach LOS	D			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 74 (93%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 51.2%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	5	18	12	35	0	0	0	0	28	1956	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.893									0.998	
Flt Protected					0.987						0.999	
Satd. Flow (prot)	0	1644	0	0	1839	0	0	0	0	0	5068	0
Flt Permitted					0.905						0.999	
Satd. Flow (perm)	0	1644	0	0	1685	0	0	0	0	0	5068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									6	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	5	19	13	37	0	0	0	0	30	2081	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	50	0	0	0	0	0	2145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		24.0		24.0	24.0					26.0	26.0	
Total Split (s)		24.0		24.0	24.0					136.0	136.0	
Total Split (%)		15.0%		15.0%	15.0%					85.0%	85.0%	
Maximum Green (s)		19.0		19.0	19.0					131.0	131.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		10.9			10.9						142.5	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.19			0.44						0.48	
Control Delay		33.0			81.9						0.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		33.0			81.9						0.3	
LOS		C			F						A	
Approach Delay		33.0			81.9						0.3	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			F						A	

Intersection Summary


















Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	2.5
Intersection Capacity Utilization	58.8%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 40: Harding Ave & 91st St



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	54	13	0	0	3	9	30	1321	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00				
Frt					0.896							
Flt Protected		0.961						0.999				
Satd. Flow (prot)	0	1790	0	0	1642	0	0	5079	0	0	0	0
Flt Permitted		0.758						0.999				
Satd. Flow (perm)	0	1401	0	0	1642	0	0	5078	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	8		22	22		8	5		14	14		5
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
Adj. Flow (vph)	59	14	0	0	3	10	33	1436	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	13	0	0	1473	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	11	11			11		7	7				
Act Effct Green (s)		11.7			11.7			70.1				
Actuated g/C Ratio		0.13			0.13			0.78				
v/c Ratio		0.40			0.06			0.37				
Control Delay		40.5			18.3			5.0				
Queue Delay		0.0			0.0			0.0				
Total Delay		40.5			18.3			5.0				
LOS		D			B			A				
Approach Delay		40.5			18.3			5.0				



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			A					

Intersection Summary



























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	6.8
Intersection LOS:	A
Intersection Capacity Utilization:	53.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	12	0	0	16	0	8	29	1191	33	17	1585	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.95			0.86	0.86	0.95		1.00		0.99	1.00	
Frt						0.850		0.996			0.993	
Flt Protected	0.950			0.950	0.950		0.950			0.950		
Satd. Flow (prot)	4942	0	0	1665	1665	1568	1752	4999	0	1752	4982	0
Flt Permitted	0.950			0.950	0.950		0.096			0.180		
Satd. Flow (perm)	4673	0	0	1440	1440	1492	177	4999	0	328	4982	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						111		4			7	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	11		40	40		11	23		68	68		23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	13	0	0	17	0	9	32	1295	36	18	1723	84
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	13	0	0	8	9	9	32	1331	0	18	1807	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases	3					7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	35.0			21.0	21.0	21.0	16.0	88.0		16.0	88.0	
Total Split (%)	21.9%			13.1%	13.1%	13.1%	10.0%	55.0%		10.0%	55.0%	
Maximum Green (s)	28.2			14.2	14.2	14.2	10.0	81.5		10.0	81.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	20							34			34	
Act Effct Green (s)	12.4			7.1	7.1	7.1	128.6	127.3		126.9	123.6	
Actuated g/C Ratio	0.08			0.04	0.04	0.04	0.80	0.80		0.79	0.77	
v/c Ratio	0.03			0.11	0.12	0.05	0.16	0.33		0.06	0.47	
Control Delay	65.8			76.7	77.1	0.6	7.2	8.7		5.9	10.5	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay	65.8			76.7	77.1	0.6	7.2	9.2		5.9	10.5	
LOS	E			E	E	A	A	A		A	B	
Approach Delay						50.5		9.1			10.5	
Approach LOS						D		A			B	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 55.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	2.7	25.2	0.15	21.4	B
Byron Ave	IV	30	12.2	3.7	15.9	0.05	12.2	D
Harding Ave	IV	30	19.2	31.0	50.2	0.11	7.7	E
Collins Ave	IV	30	12.6	61.1	73.7	0.06	2.7	F
Total	IV		66.5	98.5	165.0	0.37	8.0	E

## Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	46.8	60.6	0.06	3.6	F
Harding Ave	IV	30	12.6	26.8	39.4	0.06	5.1	F
Byron Ave	IV	30	19.2	1.9	21.1	0.11	18.2	C
500 Blk	IV	30	12.2	6.0	18.2	0.05	10.6	D
Total	IV		57.8	81.5	139.3	0.28	7.2	E

## Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.0	14.7	0.06	15.3	D
93rd St	III	30	48.5	3.8	52.3	0.38	26.3	B
94th St	III	30	17.2	3.7	20.9	0.12	21.0	C
95th St	III	30	17.2	1.4	18.6	0.13	24.9	B
96th St	III	30	17.4	7.3	24.7	0.12	18.0	C
Collins Ave	III	30	13.1	0.3	13.4	0.09	24.9	B
9700 Blk	III	30	8.2	8.7	16.9	0.05	11.2	E
Harbour Ave	III	30	52.4	7.9	60.3	0.41	24.6	B
Harbour Way WB	III	30	6.0	1.6	7.6	0.04	18.2	C
Total	III		189.7	39.7	229.4	1.42	22.2	C

## Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	4.8	12.8	0.05	14.5	D
Harbour Way EB	III	30	6.0	0.8	6.8	0.04	20.4	C
9700 Blk	III	30	52.4	10.5	62.9	0.41	23.6	C
Collins Ave	III	30	8.2	0.8	9.0	0.05	21.1	C
Total	III		74.6	16.9	91.5	0.56	21.9	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	38.6	50.2	0.07	5.4	F
95th St	III	30	16.9	3.4	20.3	0.13	22.4	C
94th St	III	30	17.3	2.1	19.4	0.13	23.9	C
93rd St	III	30	17.4	1.5	18.9	0.12	23.4	C
91st St	III	30	31.9	0.3	32.2	0.25	28.1	B
Total	III		95.1	45.9	141.0	0.70	18.0	D



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 1 PM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	29	2031	134	1548	43		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98						
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5115	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1748	5136	1787	5115	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		16	21						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	30	2072	137	1580	44		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	2072	137	1624	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			



Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			14.0	108.0	20.0	108.0		36.0	36.0
Total Split (%)			8.5%	65.9%	12.2%	65.9%		22%	22%
Maximum Green (s)			8.3	101.4	14.3	101.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								10	10
Act Effct Green (s)			6.7	102.6	13.7	117.5			
Actuated g/C Ratio			0.05	0.73	0.10	0.84			
v/c Ratio			0.35	0.55	0.78	0.38			
Control Delay			109.7	1.7	92.1	6.4			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			109.7	1.7	92.1	6.4			
LOS			F	A	F	A			
Approach Delay				3.2		13.1			
Approach LOS				A		B			

Intersection Summary

Area Type: Other  
 Cycle Length: 164  
 Actuated Cycle Length: 139.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 7.7  
 Intersection Capacity Utilization 67.7%  
 Analysis Period (min) 15



























Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 3: Collins Ave & Harbour Way WB
















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

																ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations																
Volume (vph)	0	0	1	0	0	0	0	0	2060	0	0	1548	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	0		0		185		0	0		0			
Storage Lanes	0		1	1		1		1		0	0		0			
Taper Length (ft)	25			25				25			25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00			
Ped Bike Factor			0.96													
Frt			0.850													
Flt Protected																
Satd. Flow (prot)	0	1881	1599	1881	0	1881	1881	0	5136	0	0	5136	0			
Flt Permitted																
Satd. Flow (perm)	0	1881	1528	1881	0	1881	1881	0	5136	0	0	5136	0			
Right Turn on Red			Yes			Yes				Yes			Yes			
Satd. Flow (RTOR)			106													
Link Speed (mph)		30			30				30				30			
Link Distance (ft)		290			219				2179				203			
Travel Time (s)		6.6			5.0				49.5				4.6			
Confl. Peds. (#/hr)			16	16					21					21		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0			
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0			
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right			
Median Width(ft)		12			12				12				12			
Link Offset(ft)		0			0				0				0			
Crosswalk Width(ft)		16			16				16				16			
Two way Left Turn Lane																
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15		9	15		9	9	15		9	15		9			
Number of Detectors	1	1	1	1		1	1		0				0			
Detector Template	Left	Thru	Right	Left		Right	Left		Thru				Thru			

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	14.0		108.0			108.0		20.0
Total Split (%)	22.0%	22.0%	22.0%	22.0%		22.0%	8.5%		65.9%			65.9%		12%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	8.3		101.4			101.4		14.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	10	10	10	10		10								
Act Effct Green (s)			11.7						102.6			117.5		
Actuated g/C Ratio			0.08						0.73			0.84		
v/c Ratio			0.00						0.56			0.37		
Control Delay			0.0						11.3			1.0		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay			0.0						0.0			0.1		
Total Delay			0.0						11.3			1.1		
LOS			A						B			A		
Approach Delay									11.3			1.1		
Approach LOS									B			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 164  
 Actuated Cycle Length: 139.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 6.9  
 Intersection Capacity Utilization 61.8%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	393	597	0	431	0	0	0	0	20	1389	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor											1.00	0.94
Frt		0.962	0.850									0.850
Flt Protected											0.999	
Satd. Flow (prot)	0	1719	1519	0	3574	0	0	0	0	0	5131	1599
Flt Permitted											0.999	
Satd. Flow (perm)	0	1719	1519	0	3574	0	0	0	0	0	5128	1501
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12	22									232
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	4					4	25		18	18		25
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	418	635	0	459	0	0	0	0	21	1478	277
Shared Lane Traffic (%)			22%									
Lane Group Flow (vph)	0	558	495	0	459	0	0	0	0	0	1499	277
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		69.0	69.0		69.0					91.0	91.0	91.0

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		43.1%	43.1%		43.1%					56.9%	56.9%	56.9%
Maximum Green (s)		63.0	63.0		63.0					85.0	85.0	85.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					2					12	12	12
Act Effct Green (s)		63.0	63.0		63.0						85.0	85.0
Actuated g/C Ratio		0.39	0.39		0.39						0.53	0.53
v/c Ratio		0.82	0.81		0.33						0.55	0.31
Control Delay		41.9	41.4		40.9						14.9	2.3
Queue Delay		1.8	0.5		6.1						0.7	0.6
Total Delay		43.7	41.9		47.0						15.7	2.9
LOS		D	D		D						B	A
Approach Delay		42.9			47.0						13.7	
Approach LOS		D			D						B	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 101 (63%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 27.7  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service H

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014




















Splits and Phases: 7: Harding Ave & 96th St





Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	379	15	0	0	4	6	430	1727	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.96	0.97			0.94		1.00	1.00				
Frt					0.919							
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1681	1692	0	0	1615	0	1770	5082	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1619	1634	0	0	1615	0	1762	5082	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	14		66	66		14	7		32	32		7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	403	16	0	0	4	6	457	1837	6	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	210	209	0	0	10	0	457	1843	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)	20	20			20		0	0				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	65.0	65.0			14.0		81.0	81.0				
Total Split (%)	40.6%	40.6%			8.8%		50.6%	50.6%				
Maximum Green (s)	58.0	58.0			8.0		74.0	74.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	33	33						15				
Act Effct Green (s)	24.0	24.0			7.0		116.7	116.7				
Actuated g/C Ratio	0.15	0.15			0.04		0.73	0.73				
v/c Ratio	0.83	0.83			0.13		0.35	0.50				
Control Delay	41.9	41.0			52.3		5.6	6.2				
Queue Delay	0.2	0.2			0.0		0.5	0.2				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



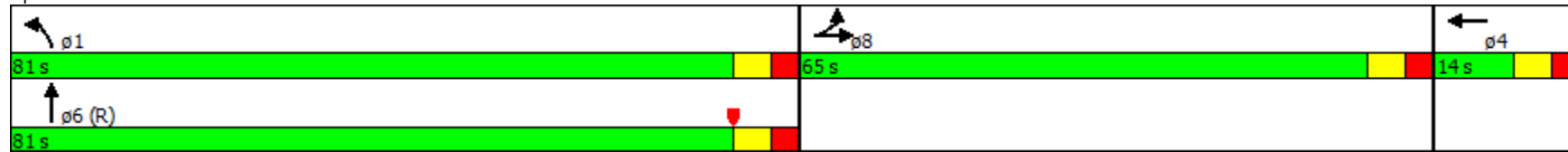
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	42.1	41.2			52.3		6.1	6.4				
LOS	D	D			D		A	A				
Approach Delay		41.6			52.3			6.4				
Approach LOS		D			D			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 137 (86%), Referenced to phase 6:NBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 11.9  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service H

Splits and Phases: 10: Collins Ave & 96th St



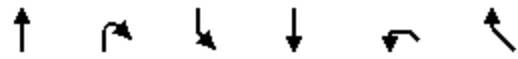
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							ø11
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	
Lane Configurations				↑↑↑	↔	↔	
Volume (vph)	0	0	0	1514	87	2001	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5085	1607	2882	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5085	1605	2882	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1724	1409	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)					25		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	0	0	0	1545	89	2042	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1545	722	1409	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

8/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Permitted Phases							Free
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		17.0
Total Split (s)				143.0	143.0		17.0
Total Split (%)				89.4%	89.4%		11%
Maximum Green (s)				138.0	138.0		12.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							12
Act Effct Green (s)				151.2	0.0	160.0	
Actuated g/C Ratio				0.94	0.00	1.00	
v/c Ratio				0.32	0.42	0.49	
Control Delay				0.6	0.7	1.1	
Queue Delay				0.0	0.3	0.2	
Total Delay				0.6	1.0	1.3	
LOS				A	A	A	
Approach Delay				0.6	1.2		
Approach LOS				A	A		

**Intersection Summary**  
 Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 94 (59%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

8/18/2014

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 0.9

Intersection LOS: A

Intersection Capacity Utilization 67.1%

ICU Level of Service C

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

↓ ø2 (R) 143 s	↓ ø4 (R) 143 s	↓ ø11 17 s
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Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	74	0	0	1514	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6458	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6458	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	25	1	114			114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	78	0	0	1594	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	78	0	0	1613	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.0%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

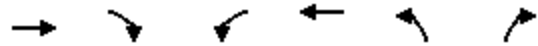
8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1129	0	0	734	258	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3467	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						19
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		30	30			2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1176	0	0	765	269	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1176	0	0	765	269	19
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0



Lanes, Volumes, Timings  
18: Byron Ave & 96th St

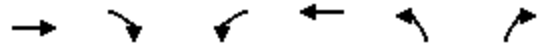
8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	6			6	20	20
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	26.0	26.0
Total Split (s)	54.0			54.0	26.0	26.0
Total Split (%)	67.5%			67.5%	32.5%	32.5%
Maximum Green (s)	47.5			47.5	20.0	20.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	16.0	16.0
Pedestrian Calls (#/hr)	15			15	1	1
Act Effct Green (s)	55.3			55.3	12.2	12.2
Actuated g/C Ratio	0.69			0.69	0.15	0.15
v/c Ratio	0.48			0.31	0.51	0.07
Control Delay	4.7			1.8	33.8	11.9
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	5.0			1.8	33.8	11.9
LOS	A			A	C	B

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	5.0			1.8	32.4	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 2 (3%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.51  
 Intersection Signal Delay: 7.4  
 Intersection Capacity Utilization 49.6%  
 Analysis Period (min) 15

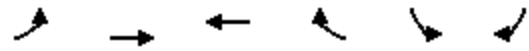
Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

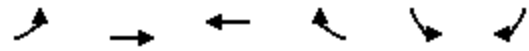
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	982	919	42	97	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		1.00	
Frt			0.993		0.970	0.850
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1787	3574	3542	0	3402	1455
Flt Permitted	0.242				0.961	
Satd. Flow (perm)	452	3574	3542	0	3395	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		18	58
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	74			74	1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	51	1034	967	44	102	83
Shared Lane Traffic (%)						30%
Lane Group Flow (vph)	51	1034	1011	0	127	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

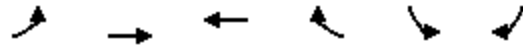
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	114.0	114.0		38.0	38.0
Total Split (%)	5.0%	71.3%	71.3%		23.8%	23.8%
Maximum Green (s)	4.0	108.0	108.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					37	37
Act Effct Green (s)	123.0	121.0	114.6		27.0	27.0
Actuated g/C Ratio	0.77	0.76	0.72		0.17	0.17
v/c Ratio	0.13	0.38	0.40		0.22	0.20
Control Delay	6.3	8.0	4.9		47.9	13.3

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.4		0.0	0.0
Total Delay	6.3	8.0	5.3		47.9	13.3
LOS	A	A	A		D	B
Approach Delay		7.9	5.3		37.1	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 60 (38%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 9.1  
 Intersection Capacity Utilization 49.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔↔	
Volume (vph)	0	51	73	72	59	0	0	0	0	76	1897	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.92			0.94						0.99	
Frt		0.921									0.995	
Flt Protected					0.973						0.998	
Satd. Flow (prot)	0	1594	0	0	1830	0	0	0	0	0	5093	0
Flt Permitted					0.765						0.998	
Satd. Flow (perm)	0	1594	0	0	1355	0	0	0	0	0	5057	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											12	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	62		53	53		62	11		94	94		11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	52	74	73	60	0	0	0	0	78	1936	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	133	0	0	0	0	0	2079	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA						Perm	NA
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		15.0		15.0	15.0					25.0	25.0	
Total Split (s)		22.0		22.0	22.0					58.0	58.0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		27.5%		27.5%	27.5%					72.5%	72.5%	
Maximum Green (s)		17.0		17.0	17.0					53.0	53.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		3.0		3.0	3.0					13.0	13.0	
Pedestrian Calls (#/hr)		31		31	31					47	47	
Act Effct Green (s)		17.0			17.0						53.0	
Actuated g/C Ratio		0.21			0.21						0.66	
v/c Ratio		0.37			0.46						0.62	
Control Delay		30.7			35.8						4.9	
Queue Delay		0.0			0.0						0.0	
Total Delay		30.7			35.8						4.9	
LOS		C			D						A	
Approach Delay		30.7			35.8						4.9	
Approach LOS		C			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 77 (96%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.62  
 Intersection Signal Delay: 8.1      Intersection LOS: A  
 Intersection Capacity Utilization 72.3%      ICU Level of Service C  
 Analysis Period (min) 15

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014


















Splits and Phases: 24: Harding Ave & 95th St





Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	101	8	0	0	7	4	100	2101	13	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.951			0.999				
Flt Protected		0.956						0.998				
Satd. Flow (prot)	0	1781	0	0	1759	0	0	5070	0	0	0	0
Flt Permitted		0.733						0.998				
Satd. Flow (perm)	0	1356	0	0	1759	0	0	5070	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	6		36	36		6						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	104	8	0	0	7	4	103	2166	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	11	0	0	2282	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	24.0	24.0			24.0		24.0	24.0				
Total Split (s)	24.0	24.0			24.0		56.0	56.0				
Total Split (%)	30.0%	30.0%			30.0%		70.0%	70.0%				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	19.0	19.0			19.0		51.5	51.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	15.0	15.0			15.0		12.0	12.0				
Pedestrian Calls (#/hr)	18	18			18		0	0				
Act Effct Green (s)		19.0			19.0			51.5				
Actuated g/C Ratio		0.24			0.24			0.64				
v/c Ratio		0.35			0.03			0.70				
Control Delay		28.4			19.9			6.6				
Queue Delay		0.0			0.0			0.0				
Total Delay		28.4			19.9			6.6				
LOS		C			B			A				
Approach Delay		28.4			19.9			6.6				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 45 (56%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 7.7  
 Intersection Capacity Utilization 66.7%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	20	73	56	70	0	0	0	0	40	1885	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.94			0.97						0.99	
Frt		0.895									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1584	0	0	1840	0	0	0	0	0	5038	0
Flt Permitted					0.824						0.999	
Satd. Flow (perm)	0	1584	0	0	1511	0	0	0	0	0	5030	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											29	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	91		19	19		91	54		40	40		54
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	21	75	58	72	0	0	0	0	41	1943	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	130	0	0	0	0	0	2122	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		12.0		12.0	12.0					25.0	25.0	
Total Split (s)		22.0		22.0	22.0					58.0	58.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		27.5%		27.5%	27.5%					72.5%	72.5%	
Maximum Green (s)		17.0		17.0	17.0					53.0	53.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		0.0		0.0	0.0					13.0	13.0	
Pedestrian Calls (#/hr)		46		46	46					27	27	
Act Effct Green (s)		17.0			17.0						53.0	
Actuated g/C Ratio		0.21			0.21						0.66	
v/c Ratio		0.29			0.40						0.63	
Control Delay		29.2			27.1						2.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		29.2			27.1						2.6	
LOS		C			C						A	
Approach Delay		29.2			27.1						2.6	
Approach LOS		C			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 10 (13%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.63  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 64.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Lanes, Volumes, Timings  
28: Harding Ave & 94th St


















8/18/2014

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	85	0	0	0	2	1	85	2081	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt					0.955							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1797	0	0	5125	0	0	0	0
Flt Permitted		0.756						0.998				
Satd. Flow (perm)	0	1422	0	0	1797	0	0	5124	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1							
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)			48	48			2					2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	87	0	0	0	2	1	87	2123	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	3	0	0	2212	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	18.0	18.0			12.0		23.0	23.0				
Total Split (s)	18.0	18.0			18.0		62.0	62.0				
Total Split (%)	22.5%	22.5%			22.5%		77.5%	77.5%				
Maximum Green (s)	13.0	13.0			13.0		57.0	57.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	Min	Min			Min		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	9.0	9.0					11.0	11.0				
Pedestrian Calls (#/hr)	24	24					1	1				
Act Effct Green (s)		10.1			10.1			59.9				
Actuated g/C Ratio		0.13			0.13			0.75				
v/c Ratio		0.48			0.01			0.58				
Control Delay		39.4			25.7			2.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		39.4			25.7			2.2				
LOS		D			C			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		39.4			25.7			2.2				
Approach LOS		D			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 45 (56%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 3.6  
 Intersection Capacity Utilization 63.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 29: Collins Ave & 94th St





Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔↔	
Volume (vph)	0	12	9	11	24	0	0	0	0	26	2024	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.98			0.99						1.00	
Frt		0.942									0.998	
Flt Protected					0.985						0.999	
Satd. Flow (prot)	0	1728	0	0	1835	0	0	0	0	0	5070	0
Flt Permitted					0.921						0.999	
Satd. Flow (perm)	0	1728	0	0	1703	0	0	0	0	0	5070	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											5	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	9		9	9		9			1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	12	9	11	24	0	0	0	0	26	2044	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	35	0	0	0	0	0	2096	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		23.0		23.0	23.0					25.0	25.0	
Total Split (s)		23.0		23.0	23.0					137.0	137.0	
Total Split (%)		14.4%		14.4%	14.4%					85.6%	85.6%	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

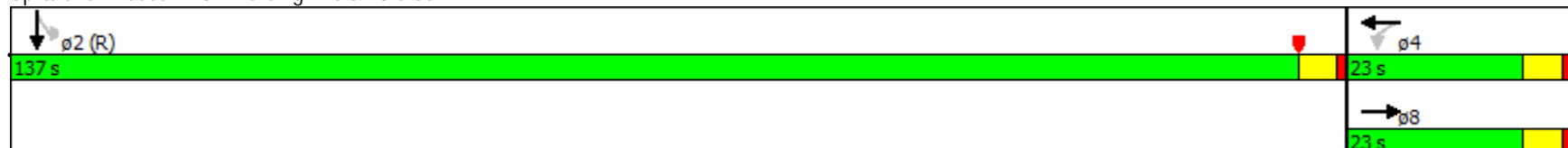


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)		18.0		18.0	18.0					132.0	132.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					1	1	
Act Effct Green (s)		18.0			18.0						132.0	
Actuated g/C Ratio		0.11			0.11						0.82	
v/c Ratio		0.11			0.18						0.50	
Control Delay		65.4			60.7						2.9	
Queue Delay		0.0			0.0						0.2	
Total Delay		65.4			60.7						3.1	
LOS		E			E						A	
Approach Delay		65.4			60.7						3.1	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 1 (1%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.50  
 Intersection Signal Delay: 4.6  
 Intersection Capacity Utilization 65.8%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	0	29	2156	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	0.99			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1770	0	0	5080	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1757	0	0	5077	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	35	18			18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	0	30	2223	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	2253	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	20		20	6		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	23.0		23.0	23.0		
Total Split (s)	23.0		57.0	57.0		
Total Split (%)	28.8%		71.3%	71.3%		
Maximum Green (s)	17.0		51.0	51.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	10.0		10.0	10.0		
Pedestrian Calls (#/hr)	18		9	9		
Act Effct Green (s)	11.0			64.6		
Actuated g/C Ratio	0.14			0.81		
v/c Ratio	0.15			0.55		
Control Delay	29.9			6.1		
Queue Delay	0.0			0.0		
Total Delay	29.9			6.1		
LOS	C			A		
Approach Delay	29.9			6.1		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	32 (40%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	6.5
Intersection Capacity Utilization	66.0%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	C

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	6	18	23	24	0	0	0	0	20	2006	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.897									0.998	
Flt Protected					0.976							
Satd. Flow (prot)	0	1671	0	0	1818	0	0	0	0	0	5075	0
Flt Permitted					0.832							
Satd. Flow (perm)	0	1671	0	0	1550	0	0	0	0	0	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									4	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	6	19	24	25	0	0	0	0	21	2068	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	49	0	0	0	0	0	2117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		25.0		25.0	25.0					26.0	26.0	
Total Split (s)		25.0		25.0	25.0					135.0	135.0	
Total Split (%)		15.6%		15.6%	15.6%					84.4%	84.4%	
Maximum Green (s)		20.0		20.0	20.0					130.0	130.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		13.0		13.0	13.0					14.0	14.0	
Pedestrian Calls (#/hr)		0		0	0					1	1	
Act Effct Green (s)		10.1			10.1						143.3	
Actuated g/C Ratio		0.06			0.06						0.90	
v/c Ratio		0.20			0.51						0.47	
Control Delay		35.5			89.5						0.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		35.5			89.5						0.3	
LOS		D			F						A	
Approach Delay		35.5			89.5						0.3	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			F						A		

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	32 (20%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	2.7
Intersection Capacity Utilization	59.5%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B


















Splits and Phases: 40: Harding Ave & 91st St





Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	42	0	0	0	5	5	72	1923	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932			0.999				
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1770	0	0	1721	0	0	5070	0	0	0	0
Flt Permitted		0.751						0.998				
Satd. Flow (perm)	0	1391	0	0	1721	0	0	5063	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5			20		5	13		3	3		13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	43	0	0	0	5	5	74	1982	7	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	10	0	0	2063	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	10	10			10		7	7				
Act Effct Green (s)		10.8			10.8			74.8				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.26			0.05			0.49				
Control Delay		37.2			23.6			5.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		37.2			23.6			5.2				
LOS		D			C			A				
Approach Delay		37.2			23.6			5.2				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A					

Intersection Summary



























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	1 (1%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	5.9
Intersection Capacity Utilization	60.0%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	172	0	0	36	5	31	72	1902	27	18	1491	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99			0.70	0.77	0.98		1.00			1.00	
Frt						0.850		0.998			0.990	
Flt Protected	0.950			0.950	0.963		0.950			0.950		
Satd. Flow (prot)	4990	0	0	1681	1704	1583	1770	5067	0	1770	5015	0
Flt Permitted	0.950			0.950	0.963		0.106			0.072		
Satd. Flow (perm)	4918	0	0	1171	1304	1549	197	5067	0	134	5015	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						111		2			10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	3		94	94		3	14		65	65		14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	179	0	0	38	5	32	75	1981	28	19	1553	112
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	179	0	0	21	22	32	75	2009	0	19	1665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20			20	20	20	20	0		20	0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	36.0			21.0	21.0	21.0	17.0	86.0		17.0	86.0	
Total Split (%)	22.5%			13.1%	13.1%	13.1%	10.6%	53.8%		10.6%	53.8%	
Maximum Green (s)	29.2			14.2	14.2	14.2	11.0	79.5		11.0	79.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	47							32			32	
Act Effct Green (s)	14.4			7.8	7.8	7.8	118.7	113.7		113.5	107.8	
Actuated g/C Ratio	0.09			0.05	0.05	0.05	0.74	0.71		0.71	0.67	
v/c Ratio	0.40			0.26	0.27	0.18	0.36	0.56		0.13	0.49	
Control Delay	70.9			80.8	81.1	2.2	11.1	12.4		8.3	14.3	
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



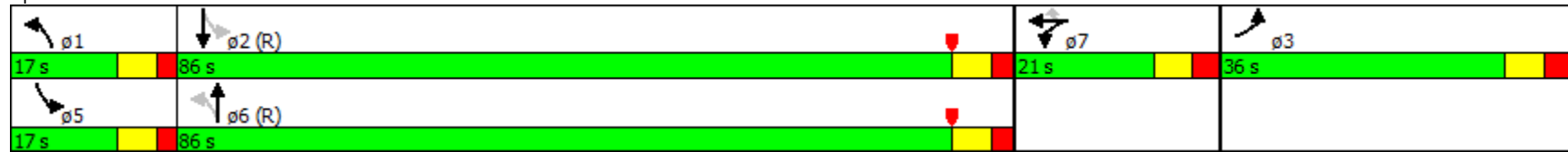
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.9			80.8	81.1	2.2	11.1	12.5		8.3	14.3	
LOS	E			F	F	A	B	B		A	B	
Approach Delay					47.3			12.5			14.2	
Approach LOS					D			B			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 94 (59%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 16.5  
 Intersection Capacity Utilization 70.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service

8/18/2014

### Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	8.0	30.5	0.15	17.7	C
Byron Ave	IV	30	12.2	4.7	16.9	0.05	11.5	D
Harding Ave	IV	30	19.2	41.9	61.1	0.11	6.3	F
Collins Ave	IV	30	12.6	41.0	53.6	0.06	3.7	F
Total	IV		66.5	95.6	162.1	0.37	8.1	E

### Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	52.3	66.1	0.06	3.3	F
Harding Ave	IV	30	12.6	40.9	53.5	0.06	3.7	F
Byron Ave	IV	30	19.2	1.8	21.0	0.11	18.3	C
500 Blk	IV	30	12.2	4.9	17.1	0.05	11.3	D
Total	IV		57.8	99.9	157.7	0.28	6.3	F

### Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.2	14.9	0.06	15.1	D
93rd St	III	30	48.5	6.1	54.6	0.38	25.2	B
94th St	III	30	17.2	2.2	19.4	0.12	22.6	C
95th St	III	30	17.2	6.6	23.8	0.13	19.5	C
96th St	III	30	17.4	6.2	23.6	0.12	18.9	C
Collins Ave	III	30	13.1	1.1	14.2	0.09	23.5	C
9700 Blk	III	30	8.2	12.4	20.6	0.05	9.2	F
Harbour Ave	III	30	52.4	11.3	63.7	0.41	23.3	C
Harbour Way WB	III	30	6.0	1.7	7.7	0.04	18.0	D
Total	III		189.7	52.8	242.5	1.42	21.0	C

### Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	6.4	14.4	0.05	12.9	E
Harbour Way EB	III	30	6.0	1.0	7.0	0.04	19.8	C
9700 Blk	III	30	52.4	14.3	66.7	0.41	22.3	C
Collins Ave	III	30	8.2	0.6	8.8	0.05	21.5	C
Total	III		74.6	22.3	96.9	0.56	20.6	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	14.9	26.5	0.07	10.2	E
95th St	III	30	16.9	4.9	21.8	0.13	20.8	C
94th St	III	30	17.3	2.6	19.9	0.13	23.3	C
93rd St	III	30	17.4	2.9	20.3	0.12	21.8	C
91st St	III	30	31.9	0.3	32.2	0.25	28.1	B
Total	III		95.1	25.6	120.7	0.70	21.0	C





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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 1 Weekend**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	12	1506	135	1573	18		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	0		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor									
Frt						0.998			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5125	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1787	5136	1787	5125	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		11							
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	13	1673	150	1748	20		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	13	1673	150	1768	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left		Left				

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	0	20	0			
Detector 1 Type			Cl+Ex		Cl+Ex				
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			16.0	98.0	21.0	98.0		34.0	34.0
Total Split (%)			10.5%	64.1%	13.7%	64.1%		22%	22%
Maximum Green (s)			10.3	91.4	15.3	91.4		27.0	27.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								0	0
Act Effct Green (s)			5.6	91.4	14.0	110.3			
Actuated g/C Ratio			0.05	0.78	0.12	0.94			
v/c Ratio			0.15	0.42	0.71	0.37			
Control Delay			78.8	1.3	68.5	1.3			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			78.8	1.3	68.5	1.3			
LOS			E	A	E	A			
Approach Delay				1.9		6.5			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 153  
 Actuated Cycle Length: 117.7  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 56.6%  
 Analysis Period (min) 15



























Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 3: Collins Ave & Harbour Way WB
















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014

																ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations																
Volume (vph)	0	0	0	0	0	0	0	0	1518	0	0	1573	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	0		0		185		0	0		0			
Storage Lanes	0		1	1		1		1		0	0		0			
Taper Length (ft)	0			0				25			0					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00			
Ped Bike Factor																
Frt																
Flt Protected																
Satd. Flow (prot)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0			
Flt Permitted																
Satd. Flow (perm)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0			
Right Turn on Red			Yes			Yes				Yes			Yes			
Satd. Flow (RTOR)																
Link Speed (mph)		30			30				30				30			
Link Distance (ft)		290			219				2179				203			
Travel Time (s)		6.6			5.0				49.5				4.6			
Confl. Peds. (#/hr)			11	11							3	3				
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0			
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0			
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right			
Median Width(ft)		12			12				12				12			
Link Offset(ft)		0			0				0				0			
Crosswalk Width(ft)		16			16				16				16			
Two way Left Turn Lane																
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9			
Number of Detectors	1	1	1	1		1	1		0				0			
Detector Template	Left	Thru	Right	Left		Right	Left									

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		0			0		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex							
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	34.0	34.0	34.0	34.0		34.0	16.0		98.0			98.0		21.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%		22.2%	10.5%		64.1%			64.1%		14%
Maximum Green (s)	27.0	27.0	27.0	27.0		27.0	10.3		91.4			91.4		15.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	0	0	0	0		0								
Act Effct Green (s)									91.4			110.3		
Actuated g/C Ratio									0.78			0.94		
v/c Ratio									0.42			0.36		
Control Delay									4.8			0.5		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									4.8			0.5		
LOS									A			A		
Approach Delay									4.8			0.5		
Approach LOS									A			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	153
Actuated Cycle Length:	117.7
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	2.6
Intersection Capacity Utilization:	50.8%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	303	420	0	335	0	0	0	0	42	1274	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor		0.99	0.97								1.00	0.69
Frt		0.969	0.850									0.850
Flt Protected											0.998	
Satd. Flow (prot)	0	1720	1519	0	3574	0	0	0	0	0	5125	1599
Flt Permitted											0.998	
Satd. Flow (perm)	0	1720	1470	0	3574	0	0	0	0	0	5111	1109
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10	22									151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	101		25	25		101	162		46	46		162
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	316	438	0	349	0	0	0	0	44	1327	301
Shared Lane Traffic (%)			19%									
Lane Group Flow (vph)	0	399	355	0	349	0	0	0	0	0	1371	301
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		61.0	61.0		61.0					89.0	89.0	89.0



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		40.7%	40.7%		40.7%					59.3%	59.3%	59.3%
Maximum Green (s)		55.0	55.0		55.0					83.0	83.0	83.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					25					41	41	41
Act Effct Green (s)		55.0	55.0		55.0						83.0	83.0
Actuated g/C Ratio		0.37	0.37		0.37						0.55	0.55
v/c Ratio		0.63	0.64		0.27						0.48	0.44
Control Delay		36.0	35.7		24.8						9.9	3.4
Queue Delay		0.4	0.3		0.9						0.6	0.6
Total Delay		36.4	36.0		25.7						10.4	4.0
LOS		D	D		C						B	A
Approach Delay		36.2			25.7						9.3	
Approach LOS		D			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 36 (24%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 18.7  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service B

Lanes, Volumes, Timings  
7: Harding Ave & 96th St




















9/18/2014

Splits and Phases: 7: Harding Ave & 96th St















Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	287	13	0	0	10	7	284	1140	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	0			0			25			0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.98	0.98			0.95		1.00	1.00				
Frt					0.943			0.999				
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1698	1708	0	0	1691	0	1787	5128	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1661	1674	0	0	1691	0	1779	5128	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	9		82	82		9	8		19	19		8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	322	15	0	0	11	8	319	1281	7	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	167	170	0	0	19	0	319	1288	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru							

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		0	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			10.0		11.0	23.0				
Total Split (s)	52.0	52.0			10.0		88.0	88.0				
Total Split (%)	34.7%	34.7%			6.7%		58.7%	58.7%				
Maximum Green (s)	45.0	45.0			4.0		81.0	81.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	21	21						5				
Act Effct Green (s)	18.6	18.6			6.2		109.6	109.6				
Actuated g/C Ratio	0.12	0.12			0.04		0.73	0.73				
v/c Ratio	0.80	0.81			0.24		0.24	0.34				
Control Delay	64.5	65.3			54.8		5.2	5.1				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.0	0.1				
Total Delay	64.7	65.5			54.8		5.2	5.3				
LOS	E	E			D		A	A				
Approach Delay		65.1			54.8			5.2				
Approach LOS		E			D			A				

Intersection Summary










Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	90 (60%), Referenced to phase 6:NBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	16.0
Intersection Capacity Utilization:	60.7%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	B

Splits and Phases: 10: Collins Ave & 96th St



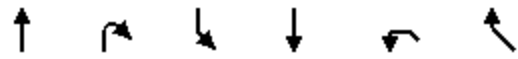
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

9/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Lane Configurations							
Volume (vph)	0	0	0	1537	65	1536	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5136	1623	2910	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5136	1623	2910	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1626	1191	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	0	0	0	1727	73	1726	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1727	608	1191	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11
Permitted Phases						Free	

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

9/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		27.0
Total Split (s)				123.0	123.0		27.0
Total Split (%)				82.0%	82.0%		18%
Maximum Green (s)				118.0	118.0		22.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				150.0	0.0	150.0	
Actuated g/C Ratio				1.00	0.00	1.00	
v/c Ratio				0.34	0.37	0.41	
Control Delay				0.2	0.9	0.8	
Queue Delay				0.0	0.0	0.0	
Total Delay				0.2	0.9	0.8	
LOS				A	A	A	
Approach Delay				0.2	0.9		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow  
 Natural Cycle: 55

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

9/18/2014

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 0.5

Intersection LOS: A

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

↓ ø2 (R)	↑	↑ ø11
123 s		27 s
↙ ø4 (R)	↑	
123 s		



Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	76	0	0	1538	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6471	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6471	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)		35	162			162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	83	0	0	1672	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	83	0	0	1674	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.6%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Volume (vph)	832	0	0	667	150	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3462	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		62	62		1	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	876	0	0	702	158	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	876	0	0	702	158	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template					Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0

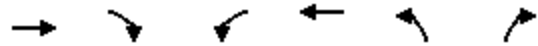
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	0			0	20	20
Detector 1 Type					Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	34.0	34.0
Total Split (s)	40.0			40.0	35.0	35.0
Total Split (%)	53.3%			53.3%	46.7%	46.7%
Maximum Green (s)	33.5			33.5	29.0	29.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	24.0	24.0
Pedestrian Calls (#/hr)	16			16	10	10
Act Effct Green (s)	50.5			50.5	12.0	12.0
Actuated g/C Ratio	0.67			0.67	0.16	0.16
v/c Ratio	0.36			0.29	0.29	0.09
Control Delay	4.6			5.3	27.1	9.1
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	4.7			5.3	27.1	9.1
LOS	A			A	C	A

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

9/18/2014



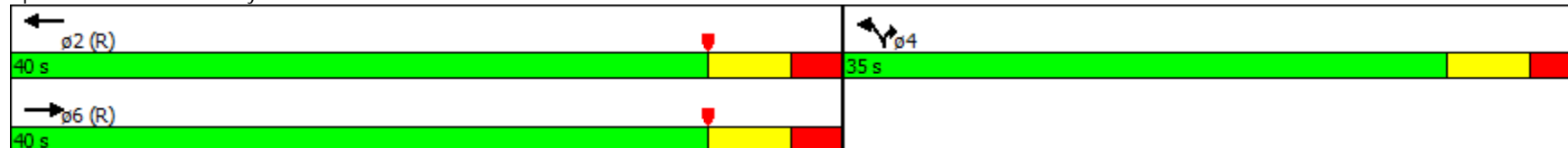
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	4.7			5.3	24.8	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 23 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 7.0  
 Intersection Capacity Utilization 52.1%  
 Analysis Period (min) 15

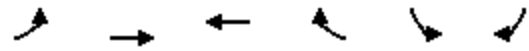
Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

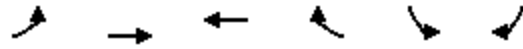
9/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	669	727	30	84	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.994		0.974	0.850
Flt Protected	0.950				0.960	
Satd. Flow (prot)	1787	3574	3549	0	3391	1455
Flt Permitted	0.298				0.960	
Satd. Flow (perm)	559	3574	3549	0	3391	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	49
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	14			14		13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	36	712	773	32	89	68
Shared Lane Traffic (%)						28%
Lane Group Flow (vph)	36	712	805	0	108	49
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left				Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

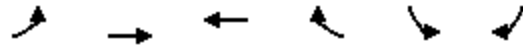
9/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	0	0		20	20
Detector 1 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	37.0	29.0		38.0	38.0
Total Split (%)	10.7%	49.3%	38.7%		50.7%	50.7%
Maximum Green (s)	4.0	31.0	23.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					3	3
Act Effct Green (s)	55.5	54.7	49.5		12.1	12.1
Actuated g/C Ratio	0.74	0.73	0.66		0.16	0.16
v/c Ratio	0.07	0.27	0.34		0.19	0.18
Control Delay	7.0	6.8	5.6		20.7	7.5

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

9/18/2014



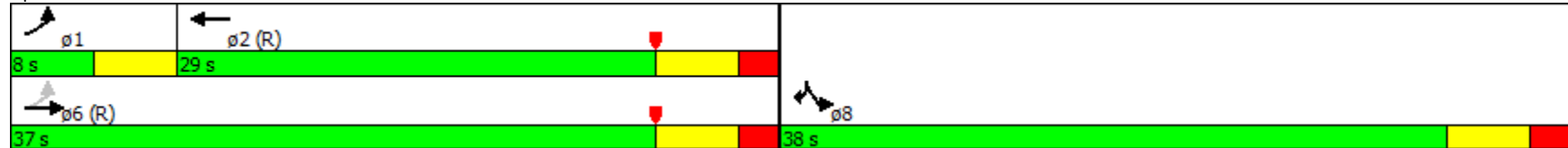
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	7.0	6.8	5.7		20.7	7.5
LOS	A	A	A		C	A
Approach Delay		6.8	5.7		16.5	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 14 (19%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.34  
 Intersection Signal Delay: 7.2  
 Intersection Capacity Utilization 50.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	47	74	75	52	0	0	0	0	53	1674	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.96			0.98						0.99	
Frt		0.917									0.996	
Flt Protected					0.971						0.998	
Satd. Flow (prot)	0	1661	0	0	1827	0	0	0	0	0	5099	0
Flt Permitted					0.750						0.998	
Satd. Flow (perm)	0	1661	0	0	1377	0	0	0	0	0	5075	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	67		35	35		67	15		84	84		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	48	76	77	54	0	0	0	0	55	1726	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	131	0	0	0	0	0	1827	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		21.0		21.0	21.0					25.0	25.0	
Total Split (s)		21.0		21.0	21.0					54.0	54.0	



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		28.0%		28.0%	28.0%					72.0%	72.0%	
Maximum Green (s)		16.0		16.0	16.0					49.0	49.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					13.0	13.0	
Pedestrian Calls (#/hr)		17		17	17					21	21	
Act Effct Green (s)		16.0			16.0						49.0	
Actuated g/C Ratio		0.21			0.21						0.65	
v/c Ratio		0.35			0.45						0.55	
Control Delay		28.4			23.8						4.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		28.4			23.8						4.3	
LOS		C			C						A	
Approach Delay		28.4			23.8						4.3	
Approach LOS		C			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 9 (12%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.55  
 Intersection Signal Delay: 7.0      Intersection LOS: A  
 Intersection Capacity Utilization 75.8%      ICU Level of Service D  
 Analysis Period (min) 15

Lanes, Volumes, Timings  
 24: Harding Ave & 95th St


















9/18/2014

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	80	8	0	0	9	6	94	1460	8	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.95			0.98			1.00				
Frt					0.949			0.999				
Flt Protected		0.957						0.997				
Satd. Flow (prot)	0	1800	0	0	1741	0	0	5114	0	0	0	0
Flt Permitted		0.754						0.997				
Satd. Flow (perm)	0	1350	0	0	1741	0	0	5103	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	51		85	85		51	17		16	16		17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	86	9	0	0	10	6	101	1570	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	16	0	0	1680	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	26.0	26.0			26.0		24.0	24.0				
Total Split (s)	28.0	28.0			28.0		47.0	47.0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	37.3%	37.3%			37.3%		62.7%	62.7%				
Maximum Green (s)	23.0	23.0			23.0		42.5	42.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	17.0	17.0			17.0		12.0	12.0				
Pedestrian Calls (#/hr)	21	21			21		4	4				
Act Effct Green (s)		23.0			23.0			42.5				
Actuated g/C Ratio		0.31			0.31			0.57				
v/c Ratio		0.23			0.03			0.58				
Control Delay		18.2			15.0			5.9				
Queue Delay		0.0			0.0			0.0				
Total Delay		18.2			15.0			5.9				
LOS		B			B			A				
Approach Delay		18.2			15.0			5.9				
Approach LOS		B			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 20 (27%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 6.6      Intersection LOS: A  
 Intersection Capacity Utilization 57.9%      ICU Level of Service B  
 Analysis Period (min) 15

Lanes, Volumes, Timings  
25: Collins Ave & 95th St


















9/18/2014

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	21	76	42	53	0	0	0	0	32	1527	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.97			0.99						0.99	
Frt		0.894									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1639	0	0	1840	0	0	0	0	0	5027	0
Flt Permitted					0.826						0.999	
Satd. Flow (perm)	0	1639	0	0	1541	0	0	0	0	0	5021	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											33	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	98		13	13		98	74		36	36		74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	22	80	44	56	0	0	0	0	34	1607	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	100	0	0	0	0	0	1756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		19.0		19.0	19.0					25.0	25.0	
Total Split (s)		19.0		19.0	19.0					56.0	56.0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		25.3%		25.3%	25.3%					74.7%	74.7%	
Maximum Green (s)		14.0		14.0	14.0					51.0	51.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		10.0		10.0	10.0					13.0	13.0	
Pedestrian Calls (#/hr)		25		25	25					19	19	
Act Effct Green (s)		14.0			14.0						51.0	
Actuated g/C Ratio		0.19			0.19						0.68	
v/c Ratio		0.33			0.35						0.51	
Control Delay		30.1			33.8						3.3	
Queue Delay		0.0			0.0						0.0	
Total Delay		30.1			33.8						3.3	
LOS		C			C						A	
Approach Delay		30.1			33.8						3.3	
Approach LOS		C			C						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 16 (21%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.51  
 Intersection Signal Delay: 6.2  
 Intersection Capacity Utilization 55.2%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service B

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014


















Splits and Phases: 28: Harding Ave & 94th St





Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	81	2	0	0	4	3	58	1433	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			1.00				
Frt					0.942							
Flt Protected		0.953						0.998				
Satd. Flow (prot)	0	1793	0	0	1751	0	0	5125	0	0	0	0
Flt Permitted		0.726						0.998				
Satd. Flow (perm)	0	1344	0	0	1751	0	0	5123	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	13		135	135		13	3		35	35		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	88	2	0	0	4	3	63	1558	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	7	0	0	1624	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	23.0	23.0			12.0		23.0	23.0				
Total Split (s)	23.0	23.0			23.0		52.0	52.0				
Total Split (%)	30.7%	30.7%			30.7%		69.3%	69.3%				
Maximum Green (s)	18.0	18.0			18.0		47.0	47.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	14.0	14.0					11.0	11.0				
Pedestrian Calls (#/hr)	34	34					9	9				
Act Effct Green (s)		13.4			13.8			54.6				
Actuated g/C Ratio		0.18			0.18			0.73				
v/c Ratio		0.38			0.02			0.44				
Control Delay		28.8			18.3			3.8				
Queue Delay		0.0			0.0			0.0				
Total Delay		28.8			18.3			3.8				
LOS		C			B			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		28.8			18.3			3.8				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 12 (16%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 5.2  
 Intersection Capacity Utilization 54.4%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	8	7	18	10	0	0	0	0	20	1558	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.937									0.999	
Flt Protected					0.969						0.999	
Satd. Flow (prot)	0	1763	0	0	1823	0	0	0	0	0	5123	0
Flt Permitted					0.847						0.999	
Satd. Flow (perm)	0	1763	0	0	1593	0	0	0	0	0	5119	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											3	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	18					18	9		15	15		9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	8	7	19	11	0	0	0	0	21	1640	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	30	0	0	0	0	0	1676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Minimum Split (s)		26.0		26.0	26.0					25.0	25.0	
Total Split (s)		26.0		26.0	26.0					124.0	124.0	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)		17.3%		17.3%	17.3%					82.7%	82.7%	
Maximum Green (s)		21.0		21.0	21.0					119.0	119.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					4	4	
Act Effct Green (s)		21.0			21.0						119.0	
Actuated g/C Ratio		0.14			0.14						0.79	
v/c Ratio		0.06			0.13						0.41	
Control Delay		56.9			57.0						2.4	
Queue Delay		0.0			0.0						0.1	
Total Delay		56.9			57.0						2.5	
LOS		E			E						A	
Approach Delay		56.9			57.0						2.5	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 99 (66%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.41  
 Intersection Signal Delay: 3.9  
 Intersection Capacity Utilization 58.9%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/18/2014

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	24	0	23	1452	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor				1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1787	0	0	5131	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1787	0	0	5128	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)		49	14			14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	27	0	26	1631	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1657	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	0		
Detector 1 Type	Cl+Ex		Cl+Ex			
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	25.0		23.0	23.0		
Total Split (s)	25.0		50.0	50.0		
Total Split (%)	33.3%		66.7%	66.7%		
Maximum Green (s)	19.0		44.0	44.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	12.0		10.0	10.0		
Pedestrian Calls (#/hr)	12		4	4		
Act Effct Green (s)	9.4			61.2		
Actuated g/C Ratio	0.13			0.82		
v/c Ratio	0.12			0.40		
Control Delay	30.5			4.4		
Queue Delay	0.0			0.0		
Total Delay	30.5			4.4		
LOS	C			A		



Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	30.5			4.4		
Approach LOS	C			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 69 (92%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 4.8  
 Intersection Capacity Utilization 54.6%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	16	18	9	13	0	0	0	0	8	1606	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.929									0.999	
Flt Protected					0.980							
Satd. Flow (prot)	0	1748	0	0	1844	0	0	0	0	0	5128	0
Flt Permitted					0.852							
Satd. Flow (perm)	0	1748	0	0	1603	0	0	0	0	0	5128	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									3	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)	3					3	8		6	6		8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	17	19	10	14	0	0	0	0	9	1727	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	24	0	0	0	0	0	1751	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		26.0		26.0	26.0					26.0	26.0	
Total Split (s)		26.0		26.0	26.0					124.0	124.0	
Total Split (%)		17.3%		17.3%	17.3%					82.7%	82.7%	
Maximum Green (s)		21.0		21.0	21.0					119.0	119.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		14.0		14.0	14.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					2	2	
Act Effct Green (s)		10.0			10.0						133.4	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.27			0.22						0.38	
Control Delay		41.3			68.7						0.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		41.3			68.7						0.5	
LOS		D			E						A	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		41.3			68.7						0.5	
Approach LOS		D			E						A	

Intersection Summary


















Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 128 (85%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.38  
 Intersection Signal Delay: 2.2      Intersection LOS: A  
 Intersection Capacity Utilization 50.8%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 40: Harding Ave & 91st St














Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	35	0	0	0	9	9	50	1327	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1738	0	0	5125	0	0	0	0
Flt Permitted		0.744						0.998				
Satd. Flow (perm)	0	1392	0	0	1738	0	0	5120	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5		28	28		5	10		3	3		10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	38	0	0	0	10	10	55	1458	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	20	0	0	1518	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	7	7			7		41	41				
Act Effct Green (s)		10.6			10.6			75.0				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.23			0.09			0.36				
Control Delay		36.7			22.4			4.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		36.7			22.4			4.1				
LOS		D			C			A				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		36.7			22.4			4.1				
Approach LOS		D			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 60 (67%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 54.0%  
 Analysis Period (min) 15



























Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk













9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	180	0	0	34	7	24	92	1405	39	27	1453	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	1.00			0.75	0.83	0.99		1.00		0.99	0.99	
Frt						0.850		0.996			0.986	
Flt Protected	0.950			0.950	0.967		0.950			0.950		
Satd. Flow (prot)	5040	0	0	1698	1728	1599	1787	5090	0	1787	4990	0
Flt Permitted	0.950			0.950	0.967		0.098			0.141		
Satd. Flow (perm)	5017	0	0	1280	1438	1576	184	5090	0	262	4990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						119		4			16	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	1		105	105		1	53		110	110		53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	189	0	0	36	7	25	97	1479	41	28	1529	159
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	189	0	0	21	22	25	97	1520	0	28	1688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left			Left		



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	0		20	0	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	30.0			26.0	26.0	26.0	16.0	78.0		16.0	78.0	
Total Split (%)	20.0%			17.3%	17.3%	17.3%	10.7%	52.0%		10.7%	52.0%	
Maximum Green (s)	23.2			19.2	19.2	19.2	10.0	71.5		10.0	71.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	26							28			28	
Act Effct Green (s)	13.1			7.6	7.6	7.6	111.2	105.0		103.7	97.9	
Actuated g/C Ratio	0.09			0.05	0.05	0.05	0.74	0.70		0.69	0.65	
v/c Ratio	0.43			0.24	0.25	0.13	0.44	0.43		0.12	0.52	
Control Delay	67.3			75.0	75.1	1.4	16.3	8.0		7.9	15.6	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	
Total Delay	67.3			75.0	75.1	1.4	16.3	8.3		7.9	15.6	
LOS	E			E	E	A	B	A		A	B	
Approach Delay					48.0			8.7			15.5	
Approach LOS					D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 30 (20%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 15.8

Intersection LOS: B

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service

9/18/2014

### Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	6.8	29.3	0.15	18.4	C
Byron Ave	IV	30	12.2	4.6	16.8	0.05	11.5	D
Harding Ave	IV	30	19.2	36.0	55.2	0.11	7.0	F
Collins Ave	IV	30	12.6	65.3	77.9	0.06	2.6	F
Total	IV		66.5	112.7	179.2	0.37	7.4	E

### Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	54.8	68.6	0.06	3.2	F
Harding Ave	IV	30	12.6	24.8	37.4	0.06	5.4	F
Byron Ave	IV	30	19.2	5.3	24.5	0.11	15.7	C
500 Blk	IV	30	12.2	5.6	17.8	0.05	10.9	D
Total	IV		57.8	90.5	148.3	0.28	6.7	F

### Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	4.1	13.8	0.06	16.3	D
93rd St	III	30	48.5	4.4	52.9	0.38	26.0	B
94th St	III	30	17.2	3.8	21.0	0.12	20.9	C
95th St	III	30	17.2	5.9	23.1	0.13	20.0	C
96th St	III	30	17.4	5.1	22.5	0.12	19.8	C
Collins Ave	III	30	13.1	0.8	13.9	0.09	24.0	C
9700 Blk	III	30	8.2	8.0	16.2	0.05	11.7	E
Harbour Ave	III	30	52.4	4.8	57.2	0.41	26.0	B
Harbour Way WB	III	30	6.0	1.3	7.3	0.04	19.0	C
Total	III		189.7	38.2	227.9	1.42	22.4	C

### Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	1.3	9.3	0.05	20.0	C
Harbour Way EB	III	30	6.0	0.5	6.5	0.04	21.3	C
9700 Blk	III	30	52.4	15.6	68.0	0.41	21.8	C
Collins Ave	III	30	8.2	0.2	8.4	0.05	22.6	C
Total	III		74.6	17.6	92.2	0.56	21.7	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	9.9	21.5	0.07	12.5	E
95th St	III	30	16.9	4.3	21.2	0.13	21.4	C
94th St	III	30	17.3	3.3	20.6	0.13	22.5	C
93rd St	III	30	17.4	2.4	19.8	0.12	22.4	C
91st St	III	30	31.9	0.5	32.4	0.25	27.9	B
Total	III		95.1	20.4	115.5	0.70	21.9	C



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 2 AM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	28	937	108	1335	32		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98			1.00			
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1736	4988	1736	4965	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1704	4988	1736	4965	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)	2	7	16				2		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%		
Adj. Flow (vph)	0	0	30	1018	117	1451	35		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	1018	117	1486	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	7.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			13.0	68.0	26.0	68.0		36.0	36.0
Total Split (%)			10.0%	52.3%	20.0%	52.3%		28%	28%
Maximum Green (s)			7.3	61.4	20.3	61.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								1	1
Act Effct Green (s)			6.1	62.9	10.6	79.1			
Actuated g/C Ratio			0.07	0.69	0.12	0.87			
v/c Ratio			0.26	0.29	0.58	0.34			
Control Delay			73.0	1.6	51.7	4.8			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



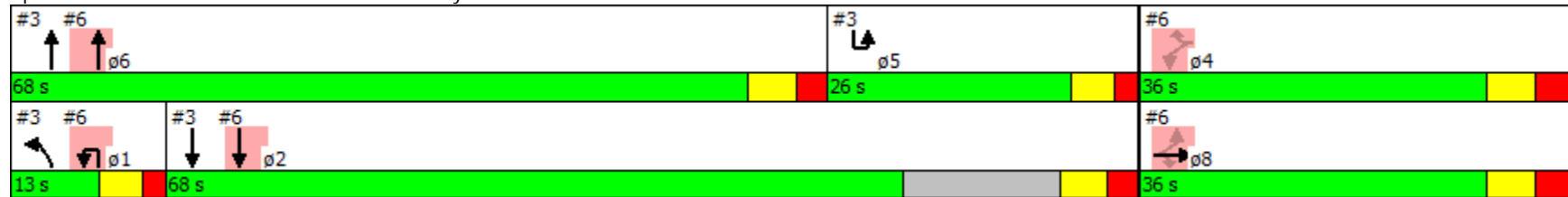
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.1	0.0	0.0			
Total Delay			73.0	1.7	51.7	4.8			
LOS			E	A	D	A			
Approach Delay				3.7		8.2			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 49.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A



























Splits and Phases: 3: Collins Ave & Harbour Way WB


















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

																ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations																
Volume (vph)	0	0	0	0	0	0	0	0	965	0	0	1335	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	0		0		185		0	0		0			
Storage Lanes	0		1	1		1		1		0	0		0			
Taper Length (ft)	25			25				25			25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00			
Ped Bike Factor																
Frt																
Flt Protected																
Satd. Flow (prot)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0			
Flt Permitted																
Satd. Flow (perm)	0	1827	1827	1827	0	1827	1827	0	4988	0	0	4988	0			
Right Turn on Red			Yes			Yes				Yes			Yes			
Satd. Flow (RTOR)																
Link Speed (mph)		30			30				30				30			
Link Distance (ft)		290			219				2179				203			
Travel Time (s)		6.6			5.0				49.5				4.6			
Confl. Peds. (#/hr)	2		7	7		2		16							16	
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	0.92			
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%			
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0			
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1049	0	0	1451	0			
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No			
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right			
Median Width(ft)		12			12				12				12			
Link Offset(ft)		0			0				0				0			
Crosswalk Width(ft)		16			16				16				16			
Two way Left Turn Lane																
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Turning Speed (mph)	15		9	15		9	9	15		9	15		9			
Number of Detectors	1	1	1	1		1	1		0				0			
Detector Template	Left	Thru	Right	Left		Right	Left		Thru				Thru			

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	7.0	7.0	7.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	13.0		68.0			68.0		26.0
Total Split (%)	27.7%	27.7%	27.7%	27.7%		27.7%	10.0%		52.3%			52.3%		20%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	7.3		61.4			61.4		20.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	1	1	1	1		1								
Act Effct Green (s)									62.9			79.1		
Actuated g/C Ratio									0.69			0.87		
v/c Ratio									0.30			0.33		
Control Delay									7.9			0.8		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



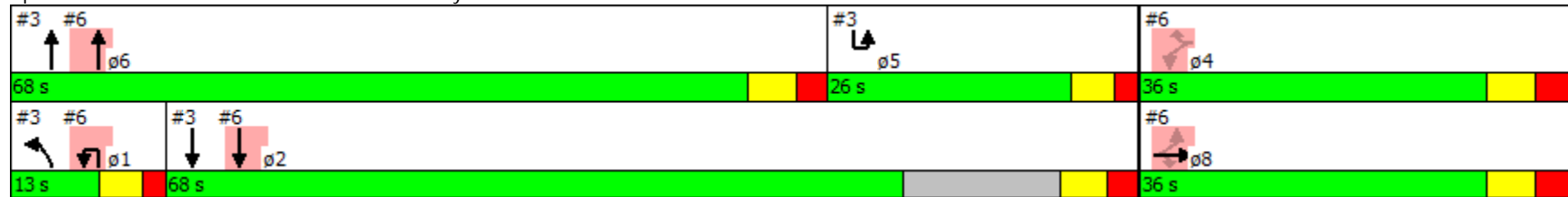
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									7.9			0.8		
LOS									A			A		
Approach Delay									7.9			0.8		
Approach LOS									A			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 90.7  
 Natural Cycle: 70  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 3.8  
 Intersection Capacity Utilization 45.9%  
 Analysis Period (min) 15




















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	0	351	641	0	384	0	0	0	0	51	1469	311	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00	
Ped Bike Factor											1.00	0.97	
Frt		0.950	0.850									0.850	
Flt Protected											0.998		
Satd. Flow (prot)	0	1681	1504	0	3539	0	0	0	0	0	5075	1583	
Flt Permitted											0.998		
Satd. Flow (perm)	0	1681	1504	0	3539	0	0	0	0	0	5071	1530	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)		8	20									249	
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		564			294			666			278		
Travel Time (s)		12.8			6.7			15.1			6.3		
Confl. Peds. (#/hr)	20					20	11		11	11		11	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	0	373	682	0	409	0	0	0	0	54	1563	331	
Shared Lane Traffic (%)			27%										
Lane Group Flow (vph)	0	557	498	0	409	0	0	0	0	0	1617	331	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		0			0			0			0		
Link Offset(ft)		0			0			0			0		
Crosswalk Width(ft)		16			16			16			16		
Two way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Number of Detectors		1	1		1					1	0	0	
Detector Template										Left	Thru	Right	
Leading Detector (ft)		20	20		20					20	0	0	
Trailing Detector (ft)		0	0		0					0	0	0	
Detector 1 Position(ft)		0	0		0					0	0	0	
Detector 1 Size(ft)		20	20		20					20	6	20	

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0					0.0	0.0	0.0
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Detector Phase		8	8		4					2	2	2
Switch Phase												
Minimum Initial (s)		7.0	7.0		7.0					7.0	7.0	7.0
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		83.0	83.0		83.0					77.0	77.0	77.0
Total Split (%)		51.9%	51.9%		51.9%					48.1%	48.1%	48.1%
Maximum Green (s)		77.0	77.0		77.0					71.0	71.0	71.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5	2.5		2.5					1.0	1.0	1.0
Recall Mode		None	None		None					C-Max	C-Max	C-Max
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					10					5	5	5
Act Effct Green (s)		61.3	61.3		61.3						86.7	86.7
Actuated g/C Ratio		0.38	0.38		0.38						0.54	0.54
v/c Ratio		0.86	0.85		0.30						0.59	0.35
Control Delay		50.0	48.6		36.2						27.2	7.2
Queue Delay		0.8	0.3		0.6						24.3	1.2
Total Delay		50.8	48.9		36.9						51.5	8.3
LOS		D	D		D						D	A
Approach Delay		49.9			36.9						44.1	

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

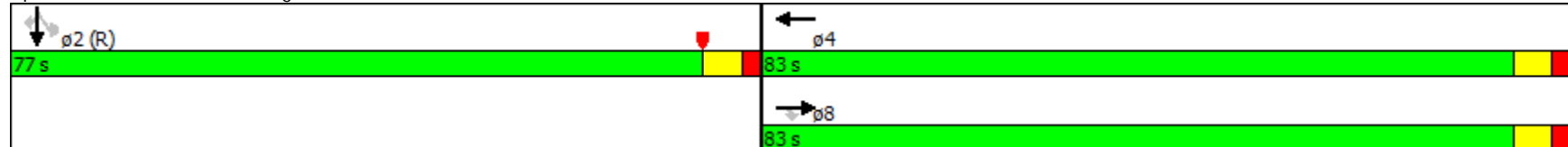


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			D						D	

Intersection Summary




















Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	46 (29%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay:	45.0
Intersection Capacity Utilization	98.7%
Analysis Period (min)	15
Intersection LOS:	D
ICU Level of Service	F

Splits and Phases: 7: Harding Ave & 96th St



Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	366	21	0	0	3	7	402	1020	10	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.95	0.96			0.92		0.99	1.00				
Frt					0.902			0.999				
Flt Protected	0.950	0.957					0.950					
Satd. Flow (prot)	1665	1677	0	0	1536	0	1752	5023	0	0	0	0
Flt Permitted	0.950	0.957					0.950					
Satd. Flow (perm)	1586	1606	0	0	1536	0	1733	5023	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	18		75	75		18	14		31	31		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	407	23	0	0	3	8	447	1133	11	0	0	0
Shared Lane Traffic (%)	47%											
Lane Group Flow (vph)	216	214	0	0	11	0	447	1144	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	77.0	77.0			15.0		68.0	68.0				
Total Split (%)	48.1%	48.1%			9.4%		42.5%	42.5%				
Maximum Green (s)	70.0	70.0			9.0		61.0	61.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	38	38						15				
Act Effct Green (s)	25.2	25.2			7.1		115.6	115.6				
Actuated g/C Ratio	0.16	0.16			0.04		0.72	0.72				
v/c Ratio	0.83	0.81			0.15		0.35	0.32				
Control Delay	52.2	50.7			46.8		8.6	7.3				



Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

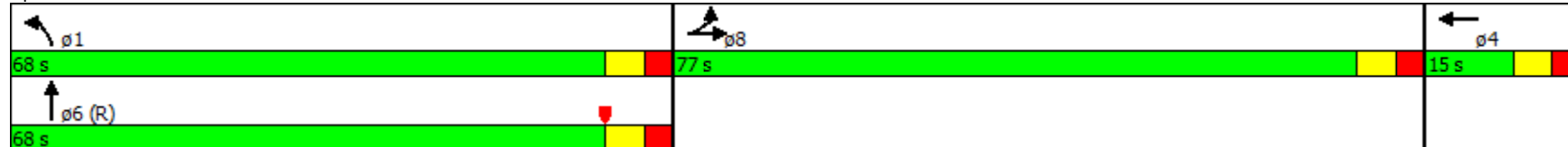


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.4	0.0				
Total Delay	52.3	50.7			46.8		9.0	7.3				
LOS	D	D			D		A	A				
Approach Delay		51.5			46.8			7.8				
Approach LOS		D			D			A				

Intersection Summary







Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	88 (55%), Referenced to phase 6:NBT, Start of Yellow
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay:	17.2
Intersection Capacity Utilization:	98.7%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	F

Splits and Phases: 10: Collins Ave & 96th St



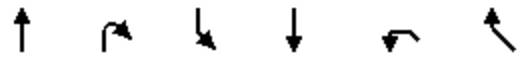
Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							ø11
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	
Lane Configurations				↑↑↑	↔	↔	
Volume (vph)	0	0	0	1600	61	1253	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.871	0.850	
Flt Protected					0.993		
Satd. Flow (prot)	0	0	0	5036	1595	2854	
Flt Permitted					0.993		
Satd. Flow (perm)	0	0	0	5036	1594	2854	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1495	943	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)			19		19		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	
Adj. Flow (vph)	0	0	0	1720	66	1347	
Shared Lane Traffic (%)						30%	
Lane Group Flow (vph)	0	0	0	1720	470	943	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

8/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Protected Phases				2!	4!		11
Permitted Phases						Free	
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		17.0
Total Split (s)				133.0	133.0		17.0
Total Split (%)				88.7%	88.7%		11%
Maximum Green (s)				128.0	128.0		12.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							9
Act Effct Green (s)				145.6	145.6	150.0	
Actuated g/C Ratio				0.97	0.97	1.00	
v/c Ratio				0.35	0.30	0.33	
Control Delay				0.8	0.5	0.3	
Queue Delay				0.0	0.1	0.0	
Total Delay				0.8	0.5	0.3	
LOS				A	A	A	
Approach Delay				0.8	0.4		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

8/18/2014

Offset: 0 (0%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow

Natural Cycle: 40

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.35

Intersection Signal Delay: 0.6

Intersection LOS: A

Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

↓ ø2 (R)	133 s	↓ ø11	17 s
↙ ø4 (R)	133 s		

Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014









Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	3	0	0	1661	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1596	0	0	6346	0
Flt Permitted						
Satd. Flow (perm)	0	1596	0	0	6346	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	19	1	85			85
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	4	0	0	1977	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	4	0	0	1977	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	58.1%
Analysis Period (min)	15
	ICU Level of Service B

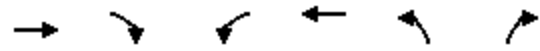
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1153	0	0	722	247	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3539	0	0	3539	3433	1583
Flt Permitted					0.950	
Satd. Flow (perm)	3539	0	0	3539	3421	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		7	7		1	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1227	0	0	768	263	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1227	0	0	768	263	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0
Detector 1 Size(ft)	6			6	20	20

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

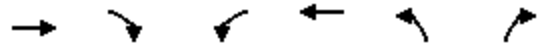
8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	25.5			25.5	28.0	28.0
Total Split (s)	132.0			132.0	28.0	28.0
Total Split (%)	82.5%			82.5%	17.5%	17.5%
Maximum Green (s)	125.5			125.5	22.0	22.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	18.0	18.0
Pedestrian Calls (#/hr)	3			3	4	4
Act Effct Green (s)	130.4			130.4	17.1	17.1
Actuated g/C Ratio	0.82			0.82	0.11	0.11
v/c Ratio	0.43			0.27	0.72	0.13
Control Delay	4.8			1.9	80.0	21.8
Queue Delay	0.3			0.2	0.0	0.0
Total Delay	5.1			2.0	80.0	21.8
LOS	A			A	E	C
Approach Delay	5.1			2.0	75.1	

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach LOS	A			A	E	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	114 (71%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.72
Intersection Signal Delay:	12.9
Intersection Capacity Utilization	52.3%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

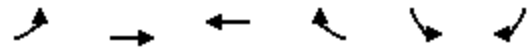
Splits and Phases: 18: Byron Ave & 96th St





Lanes, Volumes, Timings  
21: 96th St & 500 Blk

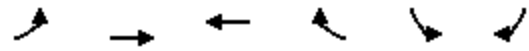
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	1111	886	80	19	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		0.99	
Frt			0.988		0.993	0.850
Flt Protected	0.950				0.954	
Satd. Flow (prot)	1770	3539	3486	0	3423	1441
Flt Permitted	0.257				0.954	
Satd. Flow (perm)	476	3539	3486	0	3391	1441
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			19		1	10
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	63			63	3	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	54	1248	996	90	21	11
Shared Lane Traffic (%)						10%
Lane Group Flow (vph)	54	1248	1086	0	22	10
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	0	0		20	20

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

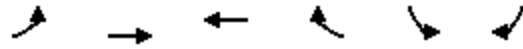
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	Perm	NA	NA		Prot	Prot
Protected Phases		6	2		8	8
Permitted Phases	6					
Detector Phase	6	6	2		8	8
Switch Phase						
Minimum Initial (s)	15.0	15.0	15.0		7.0	7.0
Minimum Split (s)	21.0	21.0	21.0		30.0	30.0
Total Split (s)	130.0	130.0	130.0		30.0	30.0
Total Split (%)	81.3%	81.3%	81.3%		18.8%	18.8%
Maximum Green (s)	124.0	124.0	124.0		24.0	24.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	2.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0		6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0	1.0	1.0		2.5	2.5
Recall Mode	C-Max	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					20.0	20.0
Pedestrian Calls (#/hr)					2	2
Act Effct Green (s)	145.2	145.2	145.2		10.4	10.4
Actuated g/C Ratio	0.91	0.91	0.91		0.06	0.06
v/c Ratio	0.12	0.39	0.34		0.10	0.10
Control Delay	3.1	2.7	1.0		65.6	30.8
Queue Delay	0.0	0.0	0.2		0.0	0.0

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



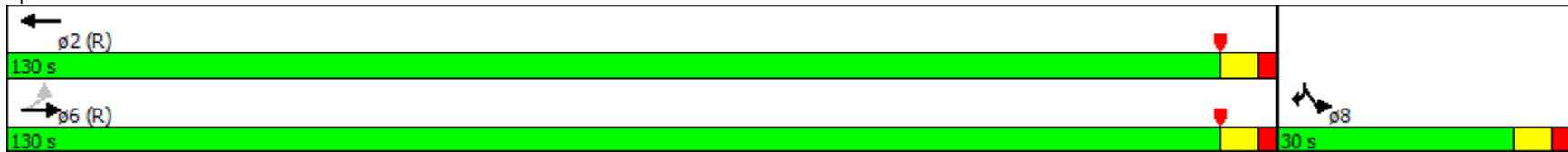
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay	3.1	2.7	1.3		65.6	30.8
LOS	A	A	A		E	C
Approach Delay		2.7	1.3		54.7	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 30 (19%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 2.8  
 Intersection Capacity Utilization 55.7%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	25	42	37	46	0	0	0	0	69	1968	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.96			0.98						1.00	
Frt		0.916									0.997	
Flt Protected					0.978						0.998	
Satd. Flow (prot)	0	1614	0	0	1804	0	0	0	0	0	5007	0
Flt Permitted					0.823						0.998	
Satd. Flow (perm)	0	1614	0	0	1481	0	0	0	0	0	4987	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											8	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	23		33	33		23	10		62	62		10
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	27	45	39	49	0	0	0	0	73	2094	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	88	0	0	0	0	0	2208	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		18.0		18.0	18.0					25.0	25.0	
Total Split (s)		18.0		18.0	18.0					62.0	62.0	
Total Split (%)		22.5%		22.5%	22.5%					77.5%	77.5%	
Maximum Green (s)		13.0		13.0	13.0					57.0	57.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		6.0		6.0	6.0					13.0	13.0	
Pedestrian Calls (#/hr)		0		0	0					0	0	
Act Effct Green (s)		9.7			9.7						63.7	
Actuated g/C Ratio		0.12			0.12						0.80	
v/c Ratio		0.37			0.49						0.56	
Control Delay		37.0			44.7						3.1	
Queue Delay		0.0			0.0						0.0	
Total Delay		37.0			44.7						3.1	
LOS		D			D						A	

Lanes, Volumes, Timings  
 24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		37.0			44.7						3.1	
Approach LOS		D			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 27 (34%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 5.7  
 Intersection Capacity Utilization 62.0%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	68	5	0	0	9	5	77	1351	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.955			0.999				
Flt Protected		0.955						0.997				
Satd. Flow (prot)	0	1762	0	0	1748	0	0	5016	0	0	0	0
Flt Permitted		0.729						0.997				
Satd. Flow (perm)	0	1330	0	0	1748	0	0	5016	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	8		24	24		8						
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	75	5	0	0	10	5	85	1485	8	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	15	0	0	1578	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		7.0	7.0				
Minimum Split (s)	21.0	21.0			21.0		24.0	24.0				
Total Split (s)	21.0	21.0			21.0		59.0	59.0				
Total Split (%)	26.3%	26.3%			26.3%		73.8%	73.8%				
Maximum Green (s)	16.0	16.0			16.0		54.5	54.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	12.0	12.0			12.0		12.0	12.0				
Pedestrian Calls (#/hr)	12	12			12		0	0				
Act Effct Green (s)		10.0			10.0			63.4				
Actuated g/C Ratio		0.12			0.12			0.79				
v/c Ratio		0.48			0.07			0.40				
Control Delay		44.0			23.7			0.9				
Queue Delay		0.0			0.0			0.0				
Total Delay		44.0			23.7			0.9				
LOS		D			C			A				



Lanes, Volumes, Timings  
 25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		44.0			23.7			0.9				
Approach LOS		D			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 24 (30%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.48  
 Intersection Signal Delay: 3.2  
 Intersection Capacity Utilization 47.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	16	47	44	57	0	0	0	0	68	1677	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						0.99	
Frt		0.899									0.993	
Flt Protected					0.979						0.998	
Satd. Flow (prot)	0	1638	0	0	1806	0	0	0	0	0	4970	0
Flt Permitted					0.825						0.998	
Satd. Flow (perm)	0	1638	0	0	1519	0	0	0	0	0	4962	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											20	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	39		2	2		39	37		22	22		37
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	0	19	56	52	68	0	0	0	0	81	1996	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	120	0	0	0	0	0	2176	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		15.0		15.0	15.0					25.0	25.0	
Total Split (s)		20.0		20.0	20.0					60.0	60.0	
Total Split (%)		25.0%		25.0%	25.0%					75.0%	75.0%	
Maximum Green (s)		15.0		15.0	15.0					55.0	55.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		3.0		3.0	3.0					13.0	13.0	
Pedestrian Calls (#/hr)		12		12	12					18	18	
Act Effct Green (s)		11.0			11.0						62.4	
Actuated g/C Ratio		0.14			0.14						0.78	
v/c Ratio		0.33			0.58						0.56	
Control Delay		34.1			37.5						1.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		34.1			37.5						1.5	
LOS		C			D						A	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.1			37.5						1.5	
Approach LOS		C			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 42 (53%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 58.4%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	57	2	0	0	9	0	87	1402	11	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99						1.00				
Frt								0.999				
Flt Protected		0.954						0.997				
Satd. Flow (prot)	0	1743	0	0	1827	0	0	4965	0	0	0	0
Flt Permitted		0.725						0.997				
Satd. Flow (perm)	0	1317	0	0	1827	0	0	4963	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								3				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	3		43	43		3	4		18	18		4
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	66	2	0	0	10	0	100	1611	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	10	0	0	1724	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Minimum Split (s)	18.0	18.0			12.0		23.0	23.0				
Total Split (s)	18.0	18.0			18.0		62.0	62.0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	22.5%	22.5%			22.5%		77.5%	77.5%				
Maximum Green (s)	13.0	13.0			13.0		57.0	57.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	9.0	9.0					11.0	11.0				
Pedestrian Calls (#/hr)	22	22					9	9				
Act Effct Green (s)		13.0			13.0			57.0				
Actuated g/C Ratio		0.16			0.16			0.71				
v/c Ratio		0.32			0.03			0.49				
Control Delay		31.9			28.7			3.3				
Queue Delay		0.0			0.0			0.0				
Total Delay		31.9			28.7			3.3				
LOS		C			C			A				
Approach Delay		31.9			28.7			3.3				
Approach LOS		C			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 6 (8%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.49  
 Intersection Signal Delay: 4.5  
 Intersection Capacity Utilization 50.5%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service A

Lanes, Volumes, Timings  
29: Collins Ave & 94th St


















8/18/2014

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	11	5	18	9	0	0	0	0	39	1922	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.955									0.999	
Flt Protected					0.968						0.999	
Satd. Flow (prot)	0	1769	0	0	1803	0	0	0	0	0	5075	0
Flt Permitted					0.789						0.999	
Satd. Flow (perm)	0	1769	0	0	1465	0	0	0	0	0	5075	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											2	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)			2	2					1	1		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	0	12	6	20	10	0	0	0	0	44	2160	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	18	0	0	30	0	0	0	0	0	2217	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		24.0		24.0	24.0					25.0	25.0	
Total Split (s)		24.0		24.0	24.0					136.0	136.0	
Total Split (%)		15.0%		15.0%	15.0%					85.0%	85.0%	
Maximum Green (s)		19.0		19.0	19.0					131.0	131.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					13.0	13.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		10.1			10.1						146.7	
Actuated g/C Ratio		0.06			0.06						0.92	
v/c Ratio		0.16			0.33						0.48	
Control Delay		71.6			75.5						1.0	
Queue Delay		0.0			0.0						0.1	
Total Delay		71.6			75.5						1.0	
LOS		E			E						A	
Approach Delay		71.6			75.5						1.0	

Lanes, Volumes, Timings  
 32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		E			E						A	

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	130 (81%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	2.6
Intersection LOS:	A
Intersection Capacity Utilization	56.9%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	25	0	20	1462	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	0.99			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1736	0	0	4983	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1723	0	0	4980	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	23	15			15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	27	0	22	1607	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1629	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	6		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	23.0		23.0	23.0		
Total Split (s)	23.0		57.0	57.0		
Total Split (%)	28.8%		71.3%	71.3%		
Maximum Green (s)	17.0		51.0	51.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	10.0		10.0	10.0		
Pedestrian Calls (#/hr)	11		7	7		
Act Effct Green (s)	9.0			66.6		
Actuated g/C Ratio	0.11			0.83		
v/c Ratio	0.14			0.39		
Control Delay	35.0			3.8		
Queue Delay	0.0			0.0		
Total Delay	35.0			3.8		
LOS	C			A		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	35.0			3.8		
Approach LOS	C			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 72 (90%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.39  
 Intersection Signal Delay: 4.3  
 Intersection Capacity Utilization 51.2%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	5	18	12	35	0	0	0	0	28	1956	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.99			1.00						1.00	
Frt		0.893									0.998	
Flt Protected					0.987						0.999	
Satd. Flow (prot)	0	1644	0	0	1839	0	0	0	0	0	5068	0
Flt Permitted					0.905						0.999	
Satd. Flow (perm)	0	1644	0	0	1685	0	0	0	0	0	5068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									6	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)			1	1			1		1	1		1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	5	19	13	37	0	0	0	0	30	2081	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	24	0	0	50	0	0	0	0	0	2145	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		24.0		24.0	24.0					26.0	26.0	
Total Split (s)		24.0		24.0	24.0					136.0	136.0	
Total Split (%)		15.0%		15.0%	15.0%					85.0%	85.0%	
Maximum Green (s)		19.0		19.0	19.0					131.0	131.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					1	1	
Act Effct Green (s)		10.9			10.9						142.5	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.19			0.44						0.48	
Control Delay		33.0			81.9						0.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		33.0			81.9						0.5	
LOS		C			F						A	
Approach Delay		33.0			81.9						0.5	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	C			F			A					

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	0 (0%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	2.7
Intersection Capacity Utilization	58.8%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B


















Splits and Phases: 40: Harding Ave & 91st St





Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	54	13	0	0	3	9	30	1321	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00				
Frt					0.896							
Flt Protected		0.961						0.999				
Satd. Flow (prot)	0	1790	0	0	1642	0	0	5079	0	0	0	0
Flt Permitted		0.758						0.999				
Satd. Flow (perm)	0	1401	0	0	1642	0	0	5078	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	8		22	22		8	5		14	14		5
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
Adj. Flow (vph)	59	14	0	0	3	10	33	1436	4	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	13	0	0	1473	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	11	11			11		7	7				
Act Effct Green (s)		11.7			11.7			70.1				
Actuated g/C Ratio		0.13			0.13			0.78				
v/c Ratio		0.40			0.06			0.37				
Control Delay		40.5			18.3			5.0				
Queue Delay		0.0			0.0			0.0				
Total Delay		40.5			18.3			5.0				
LOS		D			B			A				
Approach Delay		40.5			18.3			5.0				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			B			A					

Intersection Summary



































Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	6.8
Intersection Capacity Utilization	53.4%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	A

Splits and Phases: 45: Collins Ave & 90th St















Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  			 	 	 	 	  		 	  	  
Volume (vph)	12	0	0	16	0	8	29	1191	33	17	1585	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.95			0.86	0.86	0.95		1.00		0.99	1.00	
Frt						0.850		0.996			0.993	
Flt Protected	0.950			0.950	0.950		0.950			0.950		
Satd. Flow (prot)	4942	0	0	1665	1665	1568	1752	4999	0	1752	4982	0
Flt Permitted	0.950			0.950	0.950		0.096			0.180		
Satd. Flow (perm)	4673	0	0	1440	1440	1492	177	4999	0	328	4982	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						111		4			7	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	11		40	40		11	23		68	68		23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	13	0	0	17	0	9	32	1295	36	18	1723	84
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	13	0	0	8	9	9	32	1331	0	18	1807	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases	3					7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	35.0			21.0	21.0	21.0	16.0	88.0		16.0	88.0	
Total Split (%)	21.9%			13.1%	13.1%	13.1%	10.0%	55.0%		10.0%	55.0%	
Maximum Green (s)	28.2			14.2	14.2	14.2	10.0	81.5		10.0	81.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	20							34			34	
Act Effct Green (s)	12.4			7.1	7.1	7.1	128.6	127.3		126.9	123.6	
Actuated g/C Ratio	0.08			0.04	0.04	0.04	0.80	0.80		0.79	0.77	
v/c Ratio	0.03			0.11	0.12	0.05	0.16	0.33		0.06	0.47	
Control Delay	65.8			76.7	77.1	0.6	7.2	8.7		5.9	10.5	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.5		0.0	0.0	
Total Delay	65.8			76.7	77.1	0.6	7.2	9.2		5.9	10.5	
LOS	E			E	E	A	A	A		A	B	
Approach Delay						50.5		9.1			10.5	
Approach LOS						D		A			B	

Intersection Summary

Area Type: Other

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 10.5

Intersection LOS: B

Intersection Capacity Utilization 55.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service

8/18/2014

### Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	2.7	25.2	0.15	21.4	B
Byron Ave	IV	30	12.2	4.8	17.0	0.05	11.4	D
Harding Ave	IV	30	19.2	50.0	69.2	0.11	5.6	F
Collins Ave	IV	30	12.6	50.7	63.3	0.06	3.2	F
Total	IV		66.5	108.2	174.7	0.37	7.5	E

### Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	46.8	60.6	0.06	3.6	F
Harding Ave	IV	30	12.6	36.2	48.8	0.06	4.1	F
Byron Ave	IV	30	19.2	1.9	21.1	0.11	18.2	C
500 Blk	IV	30	12.2	1.0	13.2	0.05	14.7	C
Total	IV		57.8	85.9	143.7	0.28	6.9	F

### Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.0	14.7	0.06	15.3	D
93rd St	III	30	48.5	3.8	52.3	0.38	26.3	B
94th St	III	30	17.2	3.3	20.5	0.12	21.4	C
95th St	III	30	17.2	0.9	18.1	0.13	25.6	B
96th St	III	30	17.4	7.3	24.7	0.12	18.0	C
Collins Ave	III	30	13.1	0.3	13.4	0.09	24.9	B
9700 Blk	III	30	8.2	8.7	16.9	0.05	11.2	E
Harbour Ave	III	30	52.4	7.9	60.3	0.41	24.6	B
Harbour Way WB	III	30	6.0	1.6	7.6	0.04	18.2	C
Total	III		189.7	38.8	228.5	1.42	22.3	C

### Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	4.8	12.8	0.05	14.5	D
Harbour Way EB	III	30	6.0	0.8	6.8	0.04	20.4	C
9700 Blk	III	30	52.4	10.5	62.9	0.41	23.6	C
Collins Ave	III	30	8.2	0.8	9.0	0.05	21.1	C
Total	III		74.6	16.9	91.5	0.56	21.9	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	27.2	38.8	0.07	6.9	F
95th St	III	30	16.9	3.1	20.0	0.13	22.7	C
94th St	III	30	17.3	1.5	18.8	0.13	24.7	B
93rd St	III	30	17.4	1.0	18.4	0.12	24.1	B
91st St	III	30	31.9	0.5	32.4	0.25	27.9	B
Total	III		95.1	33.3	128.4	0.70	19.7	C





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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 2 PM**

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	29	2031	134	1548	43		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	25		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor			0.98						
Frt						0.996			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5115	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1748	5136	1787	5115	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		16	21						
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	30	2072	137	1580	44		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	30	2072	137	1624	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left	Thru	Left	Thru			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	6	20	6			
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			14.0	108.0	20.0	108.0		36.0	36.0
Total Split (%)			8.5%	65.9%	12.2%	65.9%		22%	22%
Maximum Green (s)			8.3	101.4	14.3	101.4		29.0	29.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								10	10
Act Effct Green (s)			6.7	102.6	13.7	117.5			
Actuated g/C Ratio			0.05	0.73	0.10	0.84			
v/c Ratio			0.35	0.55	0.78	0.38			
Control Delay			109.7	1.7	92.1	6.4			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			109.7	1.7	92.1	6.4			
LOS			F	A	F	A			
Approach Delay				3.2		13.1			
Approach LOS				A		B			

Intersection Summary






























Area Type:	Other
Cycle Length:	164
Actuated Cycle Length:	139.7
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	7.7
Intersection Capacity Utilization	67.7%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	C

Splits and Phases: 3: Collins Ave & Harbour Way WB



Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014

																ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations									  			  	  			
Volume (vph)	0	0	1	0	0	0	0	0	2060	0	0	1548	0			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Storage Length (ft)	0		0	0		0		185		0	0		0			
Storage Lanes	0		1	1		1		1		0	0		0			
Taper Length (ft)	25			25				25			25					
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00			
Ped Bike Factor			0.96													
Frt			0.850													
Flt Protected																
Satd. Flow (prot)	0	1881	1599	1881	0	1881	1881	0	5136	0	0	5136	0			
Flt Permitted																
Satd. Flow (perm)	0	1881	1528	1881	0	1881	1881	0	5136	0	0	5136	0			
Right Turn on Red			Yes			Yes				Yes			Yes			
Satd. Flow (RTOR)			106													
Link Speed (mph)		30			30				30				30			
Link Distance (ft)		290			219				2179				203			
Travel Time (s)		6.6			5.0				49.5				4.6			
Confl. Peds. (#/hr)			16	16					21					21		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0			
Shared Lane Traffic (%)																
Lane Group Flow (vph)	0	0	1	0	0	0	0	0	2102	0	0	1580	0			
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No		
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right			
Median Width(ft)		12			12				12				12			
Link Offset(ft)		0			0				0				0			
Crosswalk Width(ft)		16			16				16				16			
Two way Left Turn Lane																
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15		9	15		9	9	15		9	15		9			
Number of Detectors	1	1	1	1		1	1		0				0			
Detector Template	Left	Thru	Right	Left		Right	Left		Thru				Thru			

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		6			6		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex			Cl+Ex		
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	36.0	36.0	36.0	36.0		36.0	14.0		108.0			108.0		20.0
Total Split (%)	22.0%	22.0%	22.0%	22.0%		22.0%	8.5%		65.9%			65.9%		12%
Maximum Green (s)	29.0	29.0	29.0	29.0		29.0	8.3		101.4			101.4		14.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	10	10	10	10		10								
Act Effct Green (s)			11.7						102.6			117.5		
Actuated g/C Ratio			0.08						0.73			0.84		
v/c Ratio			0.00						0.56			0.37		
Control Delay			0.0						11.3			1.0		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay			0.0						0.0			0.1		
Total Delay			0.0						11.3			1.1		
LOS			A						B			A		
Approach Delay									11.3			1.1		
Approach LOS									B			A		

Intersection Summary

Area Type: Other  
 Cycle Length: 164  
 Actuated Cycle Length: 139.7  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 6.9  
 Intersection Capacity Utilization 61.8%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	393	597	0	431	0	0	0	0	20	1389	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor											1.00	0.94
Frt		0.962	0.850									0.850
Flt Protected											0.999	
Satd. Flow (prot)	0	1719	1519	0	3574	0	0	0	0	0	5131	1599
Flt Permitted											0.999	
Satd. Flow (perm)	0	1719	1519	0	3574	0	0	0	0	0	5128	1501
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12	22									232
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	4					4	25		18	18		25
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	418	635	0	459	0	0	0	0	21	1478	277
Shared Lane Traffic (%)			22%									
Lane Group Flow (vph)	0	558	495	0	459	0	0	0	0	0	1499	277
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1					1	0	0
Detector Template										Left	Thru	Right
Leading Detector (ft)		20	20		20					20	0	0
Trailing Detector (ft)		0	0		0					0	0	0
Detector 1 Position(ft)		0	0		0					0	0	0



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20	20		20					20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0					0.0	0.0	0.0
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Detector Phase		8	8		4					2	2	2
Switch Phase												
Minimum Initial (s)		7.0	7.0		7.0					7.0	7.0	7.0
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		69.0	69.0		69.0					91.0	91.0	91.0
Total Split (%)		43.1%	43.1%		43.1%					56.9%	56.9%	56.9%
Maximum Green (s)		63.0	63.0		63.0					85.0	85.0	85.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5	2.5		2.5					1.0	1.0	1.0
Recall Mode		None	None		None					C-Max	C-Max	C-Max
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					2					12	12	12
Act Effct Green (s)		56.2	56.2		56.2						91.8	91.8
Actuated g/C Ratio		0.35	0.35		0.35						0.57	0.57
v/c Ratio		0.91	0.90		0.37						0.51	0.29
Control Delay		55.8	54.9		42.2						11.3	1.8
Queue Delay		1.4	0.4		2.6						0.5	0.5
Total Delay		57.2	55.3		44.8						11.8	2.3
LOS		E	E		D						B	A

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

8/18/2014



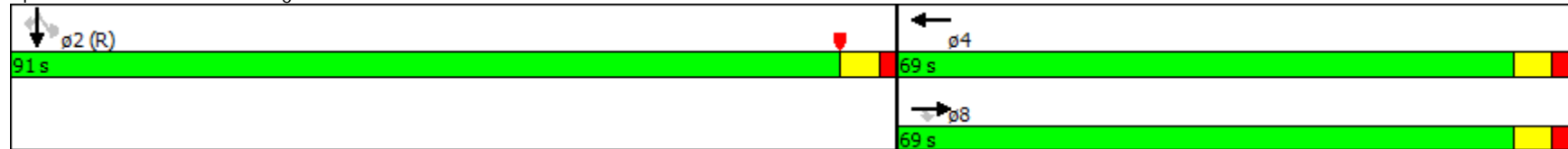
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		56.3			44.8						10.3	
Approach LOS		E			D						B	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 110 (69%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 29.9  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15




















Intersection LOS: C  
 ICU Level of Service H

Splits and Phases: 7: Harding Ave & 96th St















Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	379	15	0	0	4	6	430	1727	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.96	0.97			0.94		1.00	1.00				
Frt					0.919							
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1681	1692	0	0	1615	0	1770	5082	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1619	1634	0	0	1615	0	1762	5082	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6							
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	14		66	66		14	7		32	32		7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	403	16	0	0	4	6	457	1837	6	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	210	209	0	0	10	0	457	1843	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru		Left	Thru				
Leading Detector (ft)	20	20			20		0	0				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			13.0		11.0	23.0				
Total Split (s)	65.0	65.0			14.0		81.0	81.0				
Total Split (%)	40.6%	40.6%			8.8%		50.6%	50.6%				
Maximum Green (s)	58.0	58.0			8.0		74.0	74.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	33	33						15				
Act Effct Green (s)	25.3	25.3			7.0		115.5	115.5				
Actuated g/C Ratio	0.16	0.16			0.04		0.72	0.72				
v/c Ratio	0.79	0.78			0.13		0.36	0.50				
Control Delay	34.0	33.3			52.3		7.6	8.4				
Queue Delay	0.2	0.2			0.0		0.5	0.2				

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

8/18/2014



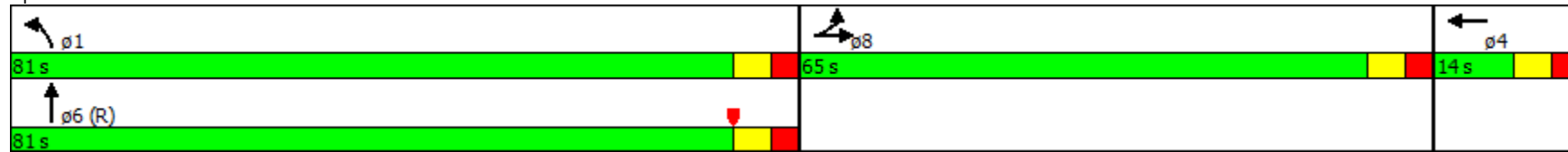
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	34.2	33.5			52.3		8.1	8.6				
LOS	C	C			D		A	A				
Approach Delay		33.8			52.3			8.5				
Approach LOS		C			D			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 146 (91%), Referenced to phase 6:NBT, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 12.6  
 Intersection Capacity Utilization 109.1%  
 Analysis Period (min) 15







Intersection LOS: B  
 ICU Level of Service H

Splits and Phases: 10: Collins Ave & 96th St



Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

8/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Lane Configurations				↑↑↑	↑↑	↑↑	
Volume (vph)	0	0	0	1514	87	2001	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Ped Bike Factor					1.00		
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5085	1607	2882	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5085	1605	2882	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1724	1409	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Confl. Peds. (#/hr)					25		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	
Adj. Flow (vph)	0	0	0	1545	89	2042	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1545	722	1409	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11

Lanes, Volumes, Timings  
 14: Harding Ave & Collins Ave

8/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Permitted Phases							Free
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		17.0
Total Split (s)				143.0	143.0		17.0
Total Split (%)				89.4%	89.4%		11%
Maximum Green (s)				138.0	138.0		12.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							5.0
Pedestrian Calls (#/hr)							12
Act Effct Green (s)				151.2	0.0	160.0	
Actuated g/C Ratio				0.94	0.00	1.00	
v/c Ratio				0.32	0.42	0.49	
Control Delay				0.2	0.7	1.2	
Queue Delay				0.0	0.2	0.1	
Total Delay				0.2	0.9	1.3	
LOS				A	A	A	
Approach Delay				0.2	1.2		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 130 (81%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow





Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	74	0	0	1514	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865			0.998	
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6458	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6458	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)	25	1	114			114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	78	0	0	1594	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	78	0	0	1613	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.0%
Analysis Period (min)	15
	ICU Level of Service A

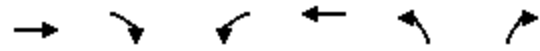
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↘	↗
Volume (vph)	1129	0	0	734	258	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3467	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						19
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		30	30			2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	1176	0	0	765	269	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1176	0	0	765	269	19
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template	Thru			Thru	Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	6			6	20	20
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	26.0	26.0
Total Split (s)	54.0			54.0	26.0	26.0
Total Split (%)	67.5%			67.5%	32.5%	32.5%
Maximum Green (s)	47.5			47.5	20.0	20.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	16.0	16.0
Pedestrian Calls (#/hr)	15			15	1	1
Act Effct Green (s)	55.3			55.3	12.2	12.2
Actuated g/C Ratio	0.69			0.69	0.15	0.15
v/c Ratio	0.48			0.31	0.51	0.07
Control Delay	4.9			2.0	33.8	11.9
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	5.1			2.0	33.8	11.9
LOS	A			A	C	B

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

8/18/2014

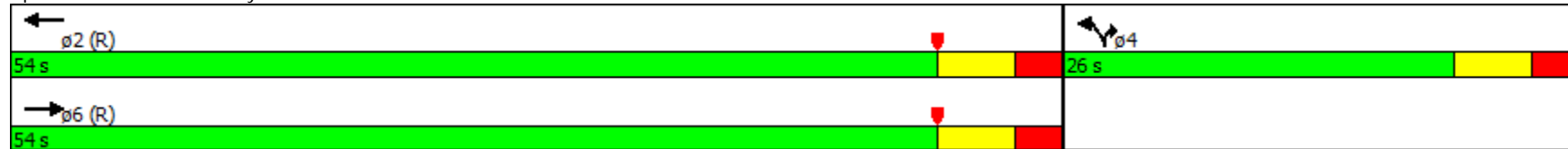


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	5.1			2.0	32.4	
Approach LOS	A			A	C	

Intersection Summary

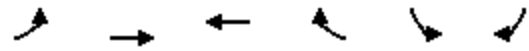
Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 12 (15%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.51  
 Intersection Signal Delay: 7.6      Intersection LOS: A  
 Intersection Capacity Utilization 49.6%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 18: Byron Ave & 96th St



Lanes, Volumes, Timings  
21: 96th St & 500 Blk

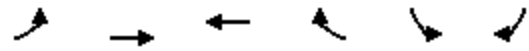
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	48	982	919	42	97	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	0.99		1.00		1.00	
Frt			0.993		0.970	0.850
Flt Protected	0.950				0.961	
Satd. Flow (prot)	1787	3574	3542	0	3402	1455
Flt Permitted	0.242				0.961	
Satd. Flow (perm)	452	3574	3542	0	3395	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		18	58
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	74			74	1	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	51	1034	967	44	102	83
Shared Lane Traffic (%)						30%
Lane Group Flow (vph)	51	1034	1011	0	127	58
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left	Thru	Thru		Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

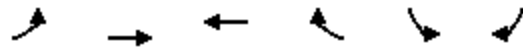
8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	114.0	114.0		38.0	38.0
Total Split (%)	5.0%	71.3%	71.3%		23.8%	23.8%
Maximum Green (s)	4.0	108.0	108.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					37	37
Act Effct Green (s)	123.0	121.0	114.6		27.0	27.0
Actuated g/C Ratio	0.77	0.76	0.72		0.17	0.17
v/c Ratio	0.13	0.38	0.40		0.22	0.20
Control Delay	6.3	8.0	4.6		47.9	13.3

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

8/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.4		0.0	0.0
Total Delay	6.3	8.0	5.0		47.9	13.3
LOS	A	A	A		D	B
Approach Delay		7.9	5.0		37.1	
Approach LOS		A	A		D	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 69 (43%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.40  
 Intersection Signal Delay: 9.0  
 Intersection Capacity Utilization 49.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔						↔↔↔	
Volume (vph)	0	51	73	72	59	0	0	0	0	76	1897	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.92			0.94						0.99	
Frt		0.921									0.995	
Flt Protected					0.973						0.998	
Satd. Flow (prot)	0	1594	0	0	1830	0	0	0	0	0	5093	0
Flt Permitted					0.756						0.998	
Satd. Flow (perm)	0	1594	0	0	1339	0	0	0	0	0	5057	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											12	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	62		53	53		62	11		94	94		11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	52	74	73	60	0	0	0	0	78	1936	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	0	0	133	0	0	0	0	0	2079	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		15.0		15.0	15.0					25.0	25.0	
Total Split (s)		22.0		22.0	22.0					58.0	58.0	
Total Split (%)		27.5%		27.5%	27.5%					72.5%	72.5%	
Maximum Green (s)		17.0		17.0	17.0					53.0	53.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		3.0		3.0	3.0					13.0	13.0	
Pedestrian Calls (#/hr)		31		31	31					47	47	
Act Effct Green (s)		12.4			12.4						57.6	
Actuated g/C Ratio		0.16			0.16						0.72	
v/c Ratio		0.51			0.64						0.57	
Control Delay		37.5			54.5						3.9	
Queue Delay		0.0			0.0						0.0	
Total Delay		37.5			54.5						3.9	
LOS		D			D						A	

Lanes, Volumes, Timings  
 24: Harding Ave & 95th St

8/18/2014



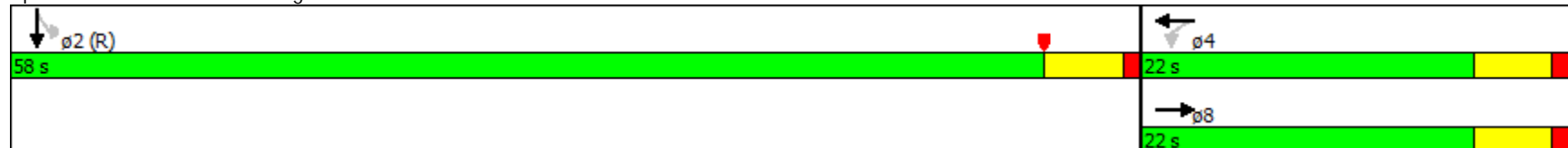
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		37.5			54.5						3.9	
Approach LOS		D			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 2 (3%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 8.6  
 Intersection Capacity Utilization 72.1%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service C

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	101	8	0	0	7	4	100	2101	13	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99							
Frt					0.951			0.999				
Flt Protected		0.956						0.998				
Satd. Flow (prot)	0	1781	0	0	1759	0	0	5070	0	0	0	0
Flt Permitted		0.733						0.998				
Satd. Flow (perm)	0	1356	0	0	1759	0	0	5070	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					4			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	6		36	36		6						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	104	8	0	0	7	4	103	2166	13	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	112	0	0	11	0	0	2282	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	1				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	20				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	20				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		7.0	7.0				
Minimum Split (s)	24.0	24.0			24.0		24.0	24.0				
Total Split (s)	24.0	24.0			24.0		56.0	56.0				
Total Split (%)	30.0%	30.0%			30.0%		70.0%	70.0%				
Maximum Green (s)	19.0	19.0			19.0		51.5	51.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	15.0	15.0			15.0		12.0	12.0				
Pedestrian Calls (#/hr)	18	18			18		0	0				
Act Effct Green (s)		13.0			12.7			60.7				
Actuated g/C Ratio		0.16			0.16			0.76				
v/c Ratio		0.51			0.04			0.59				
Control Delay		42.2			20.6			1.8				
Queue Delay		0.0			0.0			0.0				
Total Delay		42.2			20.6			1.8				
LOS		D			C			A				
Approach Delay		42.2			20.6			1.8				

Lanes, Volumes, Timings  
 25: Collins Ave & 95th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A					

Intersection Summary


















Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	68 (85%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	3.8
Intersection LOS:	A
Intersection Capacity Utilization:	65.7%
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 25: Collins Ave & 95th St



Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	20	73	56	70	0	0	0	0	40	1885	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.94			0.97						0.99	
Frt		0.895									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1584	0	0	1840	0	0	0	0	0	5038	0
Flt Permitted					0.811						0.999	
Satd. Flow (perm)	0	1584	0	0	1487	0	0	0	0	0	5030	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											29	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	91		19	19		91	54		40	40		54
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	21	75	58	72	0	0	0	0	41	1943	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	96	0	0	130	0	0	0	0	0	2122	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		12.0		12.0	12.0					25.0	25.0	
Total Split (s)		22.0		22.0	22.0					58.0	58.0	
Total Split (%)		27.5%		27.5%	27.5%					72.5%	72.5%	
Maximum Green (s)		17.0		17.0	17.0					53.0	53.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		0.0		0.0	0.0					13.0	13.0	
Pedestrian Calls (#/hr)		46		46	46					27	27	
Act Effct Green (s)		11.7			11.7						61.7	
Actuated g/C Ratio		0.15			0.15						0.77	
v/c Ratio		0.41			0.60						0.55	
Control Delay		35.3			39.3						1.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		35.3			39.3						1.6	
LOS		D			D						A	

Lanes, Volumes, Timings  
 28: Harding Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		35.3			39.3						1.6	
Approach LOS		D			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 16 (20%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 64.5%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service C


















Splits and Phases: 28: Harding Ave & 94th St





Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	85	0	0	0	2	1	85	2081	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor								1.00				
Frt					0.955							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1797	0	0	5125	0	0	0	0
Flt Permitted		0.756						0.998				
Satd. Flow (perm)	0	1422	0	0	1797	0	0	5124	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					1							
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)			48	48			2					2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	87	0	0	0	2	1	87	2123	2	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	3	0	0	2212	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	6				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	18.0	18.0			12.0		23.0	23.0				
Total Split (s)	18.0	18.0			18.0		62.0	62.0				
Total Split (%)	22.5%	22.5%			22.5%		77.5%	77.5%				
Maximum Green (s)	13.0	13.0			13.0		57.0	57.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	Min	Min			Min		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	9.0	9.0					11.0	11.0				
Pedestrian Calls (#/hr)	24	24					1	1				
Act Effct Green (s)		10.1			10.1			59.9				
Actuated g/C Ratio		0.13			0.13			0.75				
v/c Ratio		0.48			0.01			0.58				
Control Delay		39.4			25.7			2.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		39.4			25.7			2.1				
LOS		D			C			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		39.4			25.7			2.1				
Approach LOS		D			C			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 80  
 Actuated Cycle Length: 80  
 Offset: 56 (70%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 3.6  
 Intersection Capacity Utilization 63.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	12	9	11	24	0	0	0	0	26	2024	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.98			0.99						1.00	
Frt		0.942									0.998	
Flt Protected					0.985						0.999	
Satd. Flow (prot)	0	1728	0	0	1835	0	0	0	0	0	5070	0
Flt Permitted					0.887						0.999	
Satd. Flow (perm)	0	1728	0	0	1640	0	0	0	0	0	5070	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											5	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	9		9	9		9			1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	0	12	9	11	24	0	0	0	0	26	2044	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	21	0	0	35	0	0	0	0	0	2096	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		23.0		23.0	23.0					25.0	25.0	
Total Split (s)		23.0		23.0	23.0					137.0	137.0	
Total Split (%)		14.4%		14.4%	14.4%					85.6%	85.6%	
Maximum Green (s)		18.0		18.0	18.0					132.0	132.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		11.0		11.0	11.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					1	1	
Act Effct Green (s)		10.0			10.0						143.4	
Actuated g/C Ratio		0.06			0.06						0.90	
v/c Ratio		0.20			0.34						0.46	
Control Delay		73.2			73.1						0.8	
Queue Delay		0.0			0.0						0.1	
Total Delay		73.2			73.1						0.9	
LOS		E			E						A	
Approach Delay		73.2			73.1						0.9	

Lanes, Volumes, Timings  
 32: Harding Ave & 93rd St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	E		E		A							

Intersection Summary

Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	30 (19%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.46
Intersection Signal Delay:	2.8
Intersection LOS:	A
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	35	0	29	2156	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor	0.99			1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1770	0	0	5080	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1757	0	0	5077	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)	5	35	18			18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	36	0	30	2223	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	0	0	2253	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left	Thru		
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	20		20	6		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	23.0		23.0	23.0		
Total Split (s)	23.0		57.0	57.0		
Total Split (%)	28.8%		71.3%	71.3%		
Maximum Green (s)	17.0		51.0	51.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	10.0		10.0	10.0		
Pedestrian Calls (#/hr)	18		9	9		
Act Effct Green (s)	11.0			64.6		
Actuated g/C Ratio	0.14			0.81		
v/c Ratio	0.15			0.55		
Control Delay	26.8			6.1		
Queue Delay	0.0			0.0		
Total Delay	26.8			6.1		
LOS	C			A		
Approach Delay	26.8			6.1		



Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

8/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach LOS	C			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	40 (50%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay:	6.4
Intersection Capacity Utilization	66.0%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	C

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	6	18	23	24	0	0	0	0	20	2006	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.897									0.998	
Flt Protected					0.976							
Satd. Flow (prot)	0	1671	0	0	1818	0	0	0	0	0	5075	0
Flt Permitted					0.832							
Satd. Flow (perm)	0	1671	0	0	1550	0	0	0	0	0	5075	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									4	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)									3	3		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	6	19	24	25	0	0	0	0	21	2068	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	25	0	0	49	0	0	0	0	0	2117	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left	Thru	
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	
Detector 1 Size(ft)		20		20	20					20	6	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		25.0		25.0	25.0					26.0	26.0	
Total Split (s)		25.0		25.0	25.0					135.0	135.0	
Total Split (%)		15.6%		15.6%	15.6%					84.4%	84.4%	
Maximum Green (s)		20.0		20.0	20.0					130.0	130.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		13.0		13.0	13.0					14.0	14.0	
Pedestrian Calls (#/hr)		0		0	0					1	1	
Act Effct Green (s)		10.1			10.1						143.3	
Actuated g/C Ratio		0.06			0.06						0.90	
v/c Ratio		0.20			0.51						0.47	
Control Delay		35.5			89.5						0.4	
Queue Delay		0.0			0.0						0.0	
Total Delay		35.5			89.5						0.4	
LOS		D			F						A	
Approach Delay		35.5			89.5						0.4	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

8/18/2014

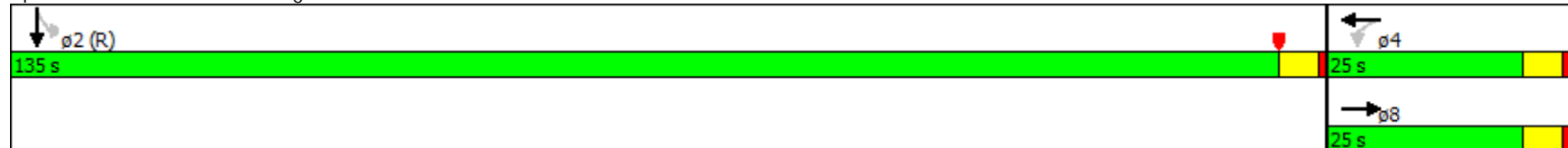


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			F						A		

Intersection Summary


















Area Type:	Other
Cycle Length:	160
Actuated Cycle Length:	160
Offset:	60 (38%), Referenced to phase 2:SBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	2.8
Intersection Capacity Utilization	59.5%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	B

Splits and Phases: 40: Harding Ave & 91st St



Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	42	0	0	0	5	5	72	1923	7	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932			0.999				
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1770	0	0	1721	0	0	5070	0	0	0	0
Flt Permitted		0.751						0.998				
Satd. Flow (perm)	0	1391	0	0	1721	0	0	5063	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					5			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5			20		5	13		3	3		13
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	43	0	0	0	5	5	74	1982	7	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	43	0	0	10	0	0	2063	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left	Thru				
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		20	6				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex				
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	10	10			10		7	7				
Act Effct Green (s)		10.8			10.8			74.8				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.26			0.05			0.49				
Control Delay		37.2			23.6			5.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		37.2			23.6			5.2				
LOS		D			C			A				
Approach Delay		37.2			23.6			5.2				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			C			A					

Intersection Summary



























Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay:	5.9
Intersection Capacity Utilization:	60.0%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	B

Splits and Phases: 45: Collins Ave & 90th St



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	172	0	0	36	5	31	72	1902	27	18	1491	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	0.99			0.70	0.77	0.98		1.00			1.00	
Frt						0.850		0.998			0.990	
Flt Protected	0.950			0.950	0.963		0.950			0.950		
Satd. Flow (prot)	4990	0	0	1681	1704	1583	1770	5067	0	1770	5015	0
Flt Permitted	0.950			0.950	0.963		0.106			0.072		
Satd. Flow (perm)	4918	0	0	1171	1304	1549	197	5067	0	134	5015	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						111		2			10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	3		94	94		3	14		65	65		14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	179	0	0	38	5	32	75	1981	28	19	1553	112
Shared Lane Traffic (%)				44%								
Lane Group Flow (vph)	179	0	0	21	22	32	75	2009	0	19	1665	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20			20	20	20	20	0		20	0	



Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	6		20	6	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	36.0			21.0	21.0	21.0	17.0	86.0		17.0	86.0	
Total Split (%)	22.5%			13.1%	13.1%	13.1%	10.6%	53.8%		10.6%	53.8%	
Maximum Green (s)	29.2			14.2	14.2	14.2	11.0	79.5		11.0	79.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	47							32			32	
Act Effct Green (s)	14.4			7.8	7.8	7.8	118.7	113.7		113.5	107.8	
Actuated g/C Ratio	0.09			0.05	0.05	0.05	0.74	0.71		0.71	0.67	
v/c Ratio	0.40			0.26	0.27	0.18	0.36	0.56		0.13	0.49	
Control Delay	70.9			80.8	81.1	2.2	9.6	9.7		8.3	14.3	
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

8/18/2014



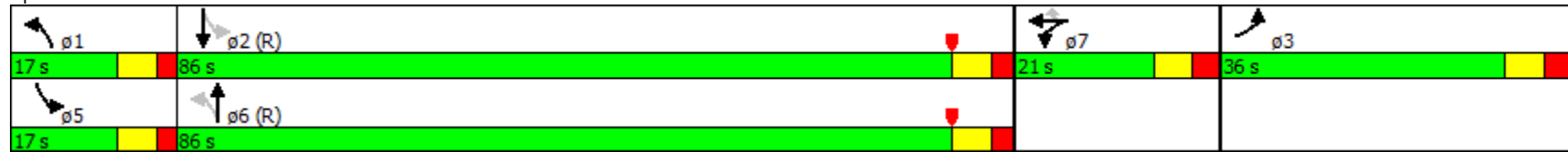
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	70.9			80.8	81.1	2.2	9.6	9.9		8.3	14.3	
LOS	E			F	F	A	A	A		A	B	
Approach Delay					47.3			9.9			14.2	
Approach LOS					D			A			B	

Intersection Summary

Area Type: Other  
 Cycle Length: 160  
 Actuated Cycle Length: 160  
 Offset: 100 (63%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow  
 Natural Cycle: 85  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.56  
 Intersection Signal Delay: 15.1  
 Intersection Capacity Utilization 70.6%  
 Analysis Period (min) 15

Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 50: Collins Ave & 9700 Blk



**Arterial Level of Service: EB 96th St**

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	8.0	30.5	0.15	17.7	C
Byron Ave	IV	30	12.2	4.9	17.1	0.05	11.3	D
Harding Ave	IV	30	19.2	55.8	75.0	0.11	5.1	F
Collins Ave	IV	30	12.6	33.3	45.9	0.06	4.4	F
<b>Total</b>	<b>IV</b>		<b>66.5</b>	<b>102.0</b>	<b>168.5</b>	<b>0.37</b>	<b>7.8</b>	<b>E</b>

**Arterial Level of Service: WB 96th St**

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	52.3	66.1	0.06	3.3	F
Harding Ave	IV	30	12.6	42.2	54.8	0.06	3.7	F
Byron Ave	IV	30	19.2	2.0	21.2	0.11	18.1	C
500 Blk	IV	30	12.2	4.6	16.8	0.05	11.5	D
<b>Total</b>	<b>IV</b>		<b>57.8</b>	<b>101.1</b>	<b>158.9</b>	<b>0.28</b>	<b>6.3</b>	<b>F</b>

**Arterial Level of Service: NB Collins Ave**

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	5.2	14.9	0.06	15.1	D
93rd St	III	30	48.5	6.1	54.6	0.38	25.2	B
94th St	III	30	17.2	2.1	19.3	0.12	22.8	C
95th St	III	30	17.2	1.8	19.0	0.13	24.4	B
96th St	III	30	17.4	8.4	25.8	0.12	17.3	D
Collins Ave	III	30	13.1	1.2	14.3	0.09	23.3	C
9700 Blk	III	30	8.2	9.7	17.9	0.05	10.6	E
Harbour Ave	III	30	52.4	11.3	63.7	0.41	23.3	C
Harbour Way WB	III	30	6.0	1.7	7.7	0.04	18.0	D
<b>Total</b>	<b>III</b>		<b>189.7</b>	<b>47.5</b>	<b>237.2</b>	<b>1.42</b>	<b>21.5</b>	<b>C</b>

**Arterial Level of Service: SB Collins Ave**

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	6.4	14.4	0.05	12.9	E
Harbour Way EB	III	30	6.0	1.0	7.0	0.04	19.8	C
9700 Blk	III	30	52.4	14.3	66.7	0.41	22.3	C
Collins Ave	III	30	8.2	0.2	8.4	0.05	22.6	C
<b>Total</b>	<b>III</b>		<b>74.6</b>	<b>21.9</b>	<b>96.5</b>	<b>0.56</b>	<b>20.7</b>	<b>C</b>

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	11.3	22.9	0.07	11.8	E
95th St	III	30	16.9	3.9	20.8	0.13	21.8	C
94th St	III	30	17.3	1.6	18.9	0.13	24.5	B
93rd St	III	30	17.4	0.8	18.2	0.12	24.4	B
91st St	III	30	31.9	0.4	32.3	0.25	28.0	B
Total	III		95.1	18.0	113.1	0.70	22.4	C



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# **Traffic Mitigation Plan for Bal Harbour Shops Traffic Congestion**

## **Appendix C: Detailed Synchro Summaries**

### **Synchro Outputs—Option 2 Weekend**

Lanes, Volumes, Timings  
3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Lane Configurations			↘	↑↑↑	↘	↑↑↑			
Volume (vph)	0	0	12	1506	135	1573	18		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900		
Storage Length (ft)	0	0	130		210		0		
Storage Lanes	0	0	1		1		0		
Taper Length (ft)	0		25		25				
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	0.91		
Ped Bike Factor									
Frt						0.998			
Flt Protected			0.950		0.950				
Satd. Flow (prot)	0	0	1787	5136	1787	5125	0		
Flt Permitted			0.950		0.950				
Satd. Flow (perm)	0	0	1787	5136	1787	5125	0		
Right Turn on Red		Yes					No		
Satd. Flow (RTOR)									
Link Speed (mph)	30			30		30			
Link Distance (ft)	272			203		273			
Travel Time (s)	6.2			4.6		6.2			
Confl. Peds. (#/hr)		11							
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%		
Adj. Flow (vph)	0	0	13	1673	150	1748	20		
Shared Lane Traffic (%)									
Lane Group Flow (vph)	0	0	13	1673	150	1768	0		
Enter Blocked Intersection	No	No	No	No	No	No	No		
Lane Alignment	Left	Right	Left	Left	R NA	Left	Right		
Median Width(ft)	0			12		12			
Link Offset(ft)	0			0		0			
Crosswalk Width(ft)	16			16		16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Turning Speed (mph)	15	9	15		9		9		
Number of Detectors			1	0	1	0			
Detector Template			Left		Left				

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Leading Detector (ft)			20	0	20	0			
Trailing Detector (ft)			0	0	0	0			
Detector 1 Position(ft)			0	0	0	0			
Detector 1 Size(ft)			20	0	20	0			
Detector 1 Type			Cl+Ex		Cl+Ex				
Detector 1 Channel									
Detector 1 Extend (s)			0.0	0.0	0.0	0.0			
Detector 1 Queue (s)			0.0	0.0	0.0	0.0			
Detector 1 Delay (s)			0.0	0.0	0.0	0.0			
Turn Type			Prot	NA	Prot	NA			
Protected Phases			1	6	5	2		4	8
Permitted Phases									
Detector Phase			1	6	5	2			
Switch Phase									
Minimum Initial (s)			5.0	7.0	5.0	7.0		7.0	5.0
Minimum Split (s)			11.0	14.0	11.0	14.0		31.0	31.0
Total Split (s)			16.0	98.0	21.0	98.0		34.0	34.0
Total Split (%)			10.5%	64.1%	13.7%	64.1%		22%	22%
Maximum Green (s)			10.3	91.4	15.3	91.4		27.0	27.0
Yellow Time (s)			3.7	4.0	3.7	4.0		4.0	4.0
All-Red Time (s)			2.0	2.6	2.0	2.6		3.0	3.0
Lost Time Adjust (s)			0.0	0.0	0.0	0.0			
Total Lost Time (s)			5.7	6.6	5.7	6.6			
Lead/Lag			Lead	Lead	Lag	Lag			
Lead-Lag Optimize?			Yes	Yes	Yes	Yes			
Vehicle Extension (s)			2.0	1.0	2.0	1.0		2.5	2.5
Recall Mode			None	Max	None	Max		None	None
Walk Time (s)								4.0	4.0
Flash Dont Walk (s)								20.0	20.0
Pedestrian Calls (#/hr)								0	0
Act Effct Green (s)			5.6	91.4	14.0	110.3			
Actuated g/C Ratio			0.05	0.78	0.12	0.94			
v/c Ratio			0.15	0.42	0.71	0.37			
Control Delay			78.8	1.3	68.5	1.3			

Lanes, Volumes, Timings  
 3: Collins Ave & Harbour Way WB

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR	ø4	ø8
Queue Delay			0.0	0.0	0.0	0.0			
Total Delay			78.8	1.3	68.5	1.3			
LOS			E	A	E	A			
Approach Delay				1.9		6.5			
Approach LOS				A		A			

Intersection Summary

Area Type: Other  
 Cycle Length: 153  
 Actuated Cycle Length: 117.7  
 Natural Cycle: 75  
 Control Type: Semi Act-Uncoord  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 4.4  
 Intersection Capacity Utilization 56.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service B






















Splits and Phases: 3: Collins Ave & Harbour Way WB


















Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Lane Configurations														
Volume (vph)	0	0	0	0	0	0	0	0	1518	0	0	1573	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	0		0	0		0		185		0	0		0	
Storage Lanes	0		1	1		1		1		0	0		0	
Taper Length (ft)	0			0				25			0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	
Ped Bike Factor														
Frt														
Flt Protected														
Satd. Flow (prot)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0	
Flt Permitted														
Satd. Flow (perm)	0	1881	1881	1881	0	1881	1881	0	5136	0	0	5136	0	
Right Turn on Red			Yes			Yes				Yes			Yes	
Satd. Flow (RTOR)														
Link Speed (mph)		30			30				30				30	
Link Distance (ft)		290			219				2179				203	
Travel Time (s)		6.6			5.0				49.5				4.6	
Confl. Peds. (#/hr)			11	11							3	3		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0	
Shared Lane Traffic (%)														
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	1687	0	0	1748	0	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	
Median Width(ft)		12			12				12				12	
Link Offset(ft)		0			0				0				0	
Crosswalk Width(ft)		16			16				16				16	
Two way Left Turn Lane														
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	9	15		9	15		9	
Number of Detectors	1	1	1	1		1	1		0			0		
Detector Template	Left	Thru	Right	Left		Right	Left							

Lanes, Volumes, Timings  
6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014

														ø5
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Leading Detector (ft)	20	20	20	20		20	20		0			0		
Trailing Detector (ft)	0	0	0	0		0	0		0			0		
Detector 1 Position(ft)	0	0	0	0		0	0		0			0		
Detector 1 Size(ft)	20	20	20	20		20	20		0			0		
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex							
Detector 1 Channel														
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Turn Type			Perm	Perm		Perm	Prot		NA			NA		
Protected Phases		8					1		6			2		5
Permitted Phases	8		8	4		4								
Detector Phase	8	8	8	4		4	1		6			2		
Switch Phase														
Minimum Initial (s)	5.0	5.0	5.0	7.0		7.0	5.0		7.0			7.0		5.0
Minimum Split (s)	31.0	31.0	31.0	31.0		31.0	11.0		14.0			14.0		11.0
Total Split (s)	34.0	34.0	34.0	34.0		34.0	16.0		98.0			98.0		21.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%		22.2%	10.5%		64.1%			64.1%		14%
Maximum Green (s)	27.0	27.0	27.0	27.0		27.0	10.3		91.4			91.4		15.3
Yellow Time (s)	4.0	4.0	4.0	4.0		4.0	3.7		4.0			4.0		3.7
All-Red Time (s)	3.0	3.0	3.0	3.0		3.0	2.0		2.6			2.6		2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0		0.0			0.0		
Total Lost Time (s)		7.0	7.0	7.0		7.0	5.7		6.6			6.6		
Lead/Lag							Lead		Lead			Lag		Lag
Lead-Lag Optimize?							Yes		Yes			Yes		Yes
Vehicle Extension (s)	2.5	2.5	2.5	2.5		2.5	2.0		1.0			1.0		2.0
Recall Mode	None	None	None	None		None	None		Max			Max		None
Walk Time (s)	4.0	4.0	4.0	4.0		4.0								
Flash Dont Walk (s)	20.0	20.0	20.0	20.0		20.0								
Pedestrian Calls (#/hr)	0	0	0	0		0								
Act Effct Green (s)									91.4			110.3		
Actuated g/C Ratio									0.78			0.94		
v/c Ratio									0.42			0.36		
Control Delay									4.8			0.5		

Lanes, Volumes, Timings  
 6: Collins Ave & Harbour Way EB/Harbour Ave

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR	ø5
Queue Delay									0.0			0.0		
Total Delay									4.8			0.5		
LOS									A			A		
Approach Delay									4.8			0.5		
Approach LOS									A			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	153
Actuated Cycle Length:	117.7
Natural Cycle:	75
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	2.6
Intersection Capacity Utilization:	50.8%
Analysis Period (min):	15
Intersection LOS:	A
ICU Level of Service:	A

Splits and Phases: 6: Collins Ave & Harbour Way EB/Harbour Ave



Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	303	420	0	335	0	0	0	0	42	1274	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor		0.99	0.97								1.00	0.69
Frt		0.969	0.850									0.850
Flt Protected											0.998	
Satd. Flow (prot)	0	1720	1519	0	3574	0	0	0	0	0	5125	1599
Flt Permitted											0.998	
Satd. Flow (perm)	0	1720	1470	0	3574	0	0	0	0	0	5111	1109
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10	22									151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		564			294			666			278	
Travel Time (s)		12.8			6.7			15.1			6.3	
Confl. Peds. (#/hr)	101		25	25		101	162		46	46		162
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	316	438	0	349	0	0	0	0	44	1327	301
Shared Lane Traffic (%)			19%									
Lane Group Flow (vph)	0	399	355	0	349	0	0	0	0	0	1371	301
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1	1		1					1	0	0
Detector Template										Left		
Leading Detector (ft)		20	20		20					20	0	0
Trailing Detector (ft)		0	0		0					0	0	0
Detector 1 Position(ft)		0	0		0					0	0	0

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20	20		20					20	0	0
Detector 1 Type		Cl+Ex	Cl+Ex		Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0		0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0		0.0					0.0	0.0	0.0
Turn Type		NA	Perm		NA					Perm	NA	Perm
Protected Phases		8			4						2	
Permitted Phases			8							2		2
Detector Phase		8	8		4					2	2	2
Switch Phase												
Minimum Initial (s)		7.0	7.0		7.0					7.0	7.0	7.0
Minimum Split (s)		13.0	13.0		25.0					30.0	30.0	30.0
Total Split (s)		61.0	61.0		61.0					89.0	89.0	89.0
Total Split (%)		40.7%	40.7%		40.7%					59.3%	59.3%	59.3%
Maximum Green (s)		55.0	55.0		55.0					83.0	83.0	83.0
Yellow Time (s)		4.0	4.0		4.0					4.0	4.0	4.0
All-Red Time (s)		2.0	2.0		2.0					2.0	2.0	2.0
Lost Time Adjust (s)		0.0	0.0		0.0						0.0	0.0
Total Lost Time (s)		6.0	6.0		6.0						6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5	2.5		2.5					1.0	1.0	1.0
Recall Mode		None	None		None					C-Max	C-Max	C-Max
Walk Time (s)					7.0					7.0	7.0	7.0
Flash Dont Walk (s)					12.0					17.0	17.0	17.0
Pedestrian Calls (#/hr)					25					41	41	41
Act Effct Green (s)		40.5	40.5		40.5						97.5	97.5
Actuated g/C Ratio		0.27	0.27		0.27						0.65	0.65
v/c Ratio		0.85	0.86		0.36						0.41	0.39
Control Delay		58.2	59.8		38.8						3.2	1.5
Queue Delay		0.3	0.0		0.4						0.3	0.5
Total Delay		58.5	59.8		39.2						3.5	2.0
LOS		E	E		D						A	A

Lanes, Volumes, Timings  
7: Harding Ave & 96th St

9/18/2014



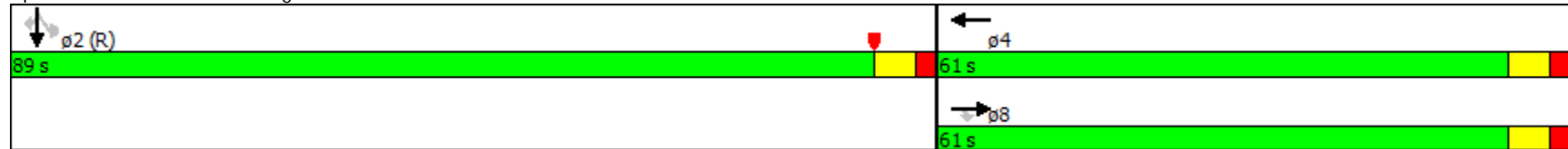
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		59.1			39.2						3.2	
Approach LOS		E			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 49 (33%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 22.9  
 Intersection Capacity Utilization 60.7%  
 Analysis Period (min) 15




















Intersection LOS: C  
 ICU Level of Service B

Splits and Phases: 7: Harding Ave & 96th St















Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	287	13	0	0	10	7	284	1140	6	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	380		0	0		0
Storage Lanes	1		0	0		0	1		0	0		0
Taper Length (ft)	0			0			25			0		
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	0.98	0.98			0.95		1.00	1.00				
Frt					0.943			0.999				
Flt Protected	0.950	0.956					0.950					
Satd. Flow (prot)	1698	1708	0	0	1691	0	1787	5128	0	0	0	0
Flt Permitted	0.950	0.956					0.950					
Satd. Flow (perm)	1661	1674	0	0	1691	0	1779	5128	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8			1				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		294			321			653			82	
Travel Time (s)		6.7			7.3			14.8			1.9	
Confl. Peds. (#/hr)	9		82	82		9	8		19	19		8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	322	15	0	0	11	8	319	1281	7	0	0	0
Shared Lane Traffic (%)	48%											
Lane Group Flow (vph)	167	170	0	0	19	0	319	1288	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		0	0				
Detector Template					Thru							

Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20	20			20		0	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				
Detector 1 Size(ft)	20	20			20		0	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex							
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Split	NA			NA		Prot	NA				
Protected Phases	8	8			4		1	6				
Permitted Phases												
Detector Phase	8	8			4		1	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		4.0	4.0				
Minimum Split (s)	25.0	25.0			10.0		11.0	23.0				
Total Split (s)	52.0	52.0			10.0		88.0	88.0				
Total Split (%)	34.7%	34.7%			6.7%		58.7%	58.7%				
Maximum Green (s)	45.0	45.0			4.0		81.0	81.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	3.0	3.0			2.0		3.0	3.0				
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0				
Total Lost Time (s)	7.0	7.0			6.0		7.0	7.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0			2.5		2.0	1.0				
Recall Mode	None	None			None		Max	C-Max				
Walk Time (s)	4.0	4.0						4.0				
Flash Dont Walk (s)	14.0	14.0						12.0				
Pedestrian Calls (#/hr)	21	21						5				
Act Effct Green (s)	18.6	18.6			6.2		109.6	109.6				
Actuated g/C Ratio	0.12	0.12			0.04		0.73	0.73				
v/c Ratio	0.80	0.81			0.24		0.24	0.34				
Control Delay	53.3	54.2			54.8		5.2	5.3				



Lanes, Volumes, Timings  
10: Collins Ave & 96th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.1	0.1			0.0		0.0	0.1				
Total Delay	53.4	54.3			54.8		5.2	5.4				
LOS	D	D			D		A	A				
Approach Delay		53.9			54.8			5.3				
Approach LOS		D			D			A				

Intersection Summary










Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	87 (58%), Referenced to phase 6:NBT, Start of Yellow
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay:	14.2
Intersection Capacity Utilization:	60.7%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	B

Splits and Phases: 10: Collins Ave & 96th St



Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

9/18/2014

							
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Lane Configurations							
Volume (vph)	0	0	0	1537	65	1536	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Util. Factor	1.00	1.00	1.00	0.91	1.00	0.91	
Frt					0.868	0.850	
Flt Protected					0.994		
Satd. Flow (prot)	0	0	0	5136	1623	2910	
Flt Permitted					0.994		
Satd. Flow (perm)	0	0	0	5136	1623	2910	
Right Turn on Red		Yes			Yes	Yes	
Satd. Flow (RTOR)					1626	1191	
Link Speed (mph)	30			30	30		
Link Distance (ft)	117			278	407		
Travel Time (s)	2.7			6.3	9.3		
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	
Adj. Flow (vph)	0	0	0	1727	73	1726	
Shared Lane Traffic (%)						31%	
Lane Group Flow (vph)	0	0	0	1727	608	1191	
Enter Blocked Intersection	No	No	No	Yes	No	No	
Lane Alignment	Left	Right	Left	R NA	L NA	Right	
Median Width(ft)	12			12	12		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)		9	15		15	9	
Number of Detectors				0	0	0	
Detector Template							
Leading Detector (ft)				0	0	0	
Trailing Detector (ft)				0	0	0	
Turn Type				NA	Prot	Free	
Protected Phases				2!	4!		11
Permitted Phases						Free	

Lanes, Volumes, Timings  
14: Harding Ave & Collins Ave

9/18/2014



Lane Group	NBT	NBR	SBL	SBT	NWL	NWR	ø11
Detector Phase				2	4		
Switch Phase							
Minimum Initial (s)				15.0	15.0		1.0
Minimum Split (s)				20.0	20.0		27.0
Total Split (s)				123.0	123.0		27.0
Total Split (%)				82.0%	82.0%		18%
Maximum Green (s)				118.0	118.0		22.0
Yellow Time (s)				4.0	4.0		4.0
All-Red Time (s)				1.0	1.0		1.0
Lost Time Adjust (s)				0.0	0.0		
Total Lost Time (s)				5.0	5.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)				3.0	3.0		3.0
Recall Mode				C-Max	C-Max		None
Walk Time (s)							7.0
Flash Dont Walk (s)							15.0
Pedestrian Calls (#/hr)							0
Act Effct Green (s)				150.0	0.0	150.0	
Actuated g/C Ratio				1.00	0.00	1.00	
v/c Ratio				0.34	0.37	0.41	
Control Delay				0.2	0.9	0.9	
Queue Delay				0.0	0.0	0.0	
Total Delay				0.2	1.0	0.9	
LOS				A	A	A	
Approach Delay				0.2	1.0		
Approach LOS				A	A		

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 0 (0%), Referenced to phase 2:SBT and 4:NWL, Start of Yellow  
 Natural Cycle: 55

# Lanes, Volumes, Timings

## 14: Harding Ave & Collins Ave

9/18/2014

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.41

Intersection Signal Delay: 0.6

Intersection LOS: A

Intersection Capacity Utilization 60.6%

ICU Level of Service B

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 14: Harding Ave & Collins Ave

 φ2 (R)		 φ11
123 s		27 s
 φ4 (R)		
123 s		

Lanes, Volumes, Timings  
17: Harding Ave & 9600 Blk

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	76	0	0	1538	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.86	0.86
Ped Bike Factor						
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1627	0	0	6471	0
Flt Permitted						
Satd. Flow (perm)	0	1627	0	0	6471	0
Link Speed (mph)	20			30	30	
Link Distance (ft)	158			278	117	
Travel Time (s)	5.4			6.3	2.7	
Confl. Peds. (#/hr)		35	162			162
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	83	0	0	1672	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	83	0	0	1674	0
Enter Blocked Intersection	No	No	No	No	Yes	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	40.6%
Analysis Period (min)	15
	ICU Level of Service A

Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↗
Volume (vph)	832	0	0	667	150	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Ped Bike Factor					1.00	
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	3574	0	0	3574	3467	1599
Flt Permitted					0.950	
Satd. Flow (perm)	3574	0	0	3574	3462	1599
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						24
Link Speed (mph)	30			30	20	
Link Distance (ft)	284			564	316	
Travel Time (s)	6.5			12.8	10.8	
Confl. Peds. (#/hr)		62	62		1	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	876	0	0	702	158	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	876	0	0	702	158	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Number of Detectors	0			0	1	1
Detector Template					Left	Right
Leading Detector (ft)	0			0	20	20
Trailing Detector (ft)	0			0	0	0
Detector 1 Position(ft)	0			0	0	0

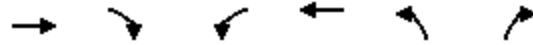
Lanes, Volumes, Timings  
18: Byron Ave & 96th St

9/18/2014

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Detector 1 Size(ft)	0			0	20	20
Detector 1 Type					Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0			0.0	0.0	0.0
Detector 1 Queue (s)	0.0			0.0	0.0	0.0
Detector 1 Delay (s)	0.0			0.0	0.0	0.0
Turn Type	NA			NA	Prot	Prot
Protected Phases	6			2	4	4
Permitted Phases						
Detector Phase	6			2	4	4
Switch Phase						
Minimum Initial (s)	15.0			15.0	7.0	7.0
Minimum Split (s)	26.0			26.0	34.0	34.0
Total Split (s)	40.0			40.0	35.0	35.0
Total Split (%)	53.3%			53.3%	46.7%	46.7%
Maximum Green (s)	33.5			33.5	29.0	29.0
Yellow Time (s)	4.0			4.0	4.0	4.0
All-Red Time (s)	2.5			2.5	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.5			6.5	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0			1.0	2.5	2.5
Recall Mode	C-Max			C-Max	None	None
Walk Time (s)	7.0			7.0	4.0	4.0
Flash Dont Walk (s)	12.0			12.0	24.0	24.0
Pedestrian Calls (#/hr)	16			16	10	10
Act Effct Green (s)	50.5			50.5	12.0	12.0
Actuated g/C Ratio	0.67			0.67	0.16	0.16
v/c Ratio	0.36			0.29	0.29	0.09
Control Delay	4.6			3.7	27.1	9.1
Queue Delay	0.2			0.0	0.0	0.0
Total Delay	4.7			3.7	27.1	9.1
LOS	A			A	C	A

Lanes, Volumes, Timings  
 18: Byron Ave & 96th St

9/18/2014



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Approach Delay	4.7			3.7	24.8	
Approach LOS	A			A	C	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 23 (31%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 52.1%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

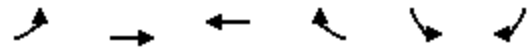
Splits and Phases: 18: Byron Ave & 96th St





Lanes, Volumes, Timings  
21: 96th St & 500 Blk

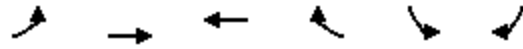
9/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	34	669	727	30	84	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	145			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	25				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	0.97	0.91
Ped Bike Factor	1.00		1.00		0.99	
Frt			0.994		0.974	0.850
Flt Protected	0.950				0.960	
Satd. Flow (prot)	1787	3574	3549	0	3391	1455
Flt Permitted	0.298				0.960	
Satd. Flow (perm)	559	3574	3549	0	3391	1455
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	49
Link Speed (mph)		30	30		20	
Link Distance (ft)		792	284		172	
Travel Time (s)		18.0	6.5		5.9	
Confl. Peds. (#/hr)	14			14		13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	36	712	773	32	89	68
Shared Lane Traffic (%)						28%
Lane Group Flow (vph)	36	712	805	0	108	49
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	0	0		1	1
Detector Template	Left				Left	Right

Lanes, Volumes, Timings  
21: 96th St & 500 Blk

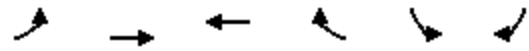
9/18/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Leading Detector (ft)	20	0	0		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	0	0		20	20
Detector 1 Type	Cl+Ex				Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Turn Type	pm+pt	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases	6					
Detector Phase	1	6	2		8	8
Switch Phase						
Minimum Initial (s)	4.0	15.0	15.0		7.0	7.0
Minimum Split (s)	8.0	21.0	21.0		38.0	38.0
Total Split (s)	8.0	37.0	29.0		38.0	38.0
Total Split (%)	10.7%	49.3%	38.7%		50.7%	50.7%
Maximum Green (s)	4.0	31.0	23.0		32.0	32.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	0.0	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	4.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	2.0	1.0	1.0		2.5	2.5
Recall Mode	None	C-Max	C-Max		None	None
Walk Time (s)					4.0	4.0
Flash Dont Walk (s)					28.0	28.0
Pedestrian Calls (#/hr)					3	3
Act Effct Green (s)	55.5	54.7	49.5		12.1	12.1
Actuated g/C Ratio	0.74	0.73	0.66		0.16	0.16
v/c Ratio	0.07	0.27	0.34		0.19	0.18
Control Delay	7.0	6.8	5.9		20.7	7.5

Lanes, Volumes, Timings  
 21: 96th St & 500 Blk

9/18/2014



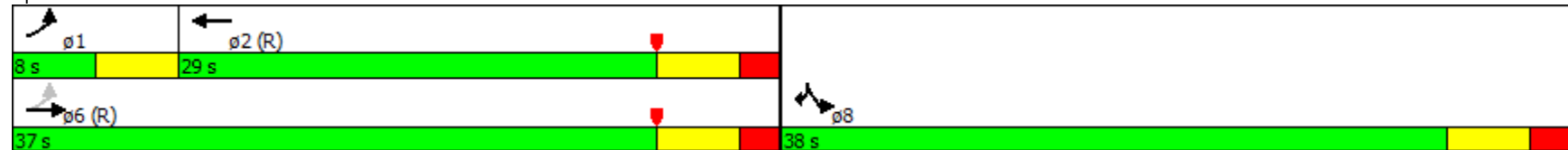
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	7.0	6.8	6.0		20.7	7.5
LOS	A	A	A		C	A
Approach Delay		6.8	6.0		16.5	
Approach LOS		A	A		B	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 14 (19%), Referenced to phase 2:WBT and 6:EBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.34  
 Intersection Signal Delay: 7.3  
 Intersection Capacity Utilization 50.9%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 21: 96th St & 500 Blk



Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	47	74	75	52	0	0	0	0	53	1674	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.96			0.98						0.99	
Frt		0.917									0.996	
Flt Protected					0.971						0.998	
Satd. Flow (prot)	0	1661	0	0	1827	0	0	0	0	0	5099	0
Flt Permitted					0.749						0.998	
Satd. Flow (perm)	0	1661	0	0	1375	0	0	0	0	0	5075	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											10	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		515			286			680			666	
Travel Time (s)		17.6			9.8			15.5			15.1	
Confl. Peds. (#/hr)	67		35	35		67	15		84	84		15
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	48	76	77	54	0	0	0	0	55	1726	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	131	0	0	0	0	0	1827	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
24: Harding Ave & 95th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		21.0		21.0	21.0					25.0	25.0	
Total Split (s)		21.0		21.0	21.0					54.0	54.0	
Total Split (%)		28.0%		28.0%	28.0%					72.0%	72.0%	
Maximum Green (s)		16.0		16.0	16.0					49.0	49.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		12.0		12.0	12.0					13.0	13.0	
Pedestrian Calls (#/hr)		17		17	17					21	21	
Act Effct Green (s)		11.7			11.7						56.7	
Actuated g/C Ratio		0.16			0.16						0.76	
v/c Ratio		0.48			0.61						0.48	
Control Delay		34.1			38.5						3.8	
Queue Delay		0.0			0.0						0.0	
Total Delay		34.1			38.5						3.8	
LOS		C			D						A	

Lanes, Volumes, Timings  
 24: Harding Ave & 95th St

9/18/2014



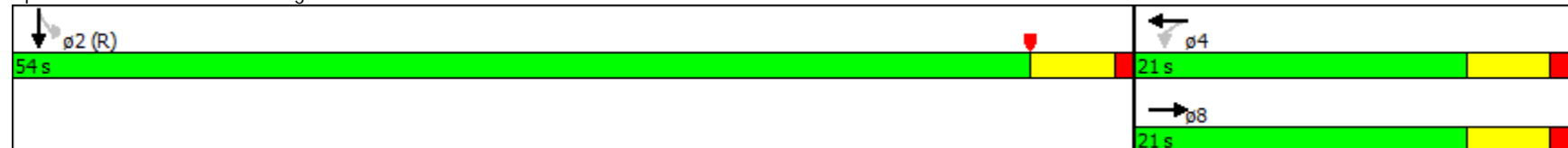
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.1			38.5						3.8	
Approach LOS		C			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 15 (20%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 7.8  
 Intersection Capacity Utilization 73.8%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service D

Splits and Phases: 24: Harding Ave & 95th St



Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	80	8	0	0	9	6	94	1460	8	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.96			0.98			1.00				
Frt					0.949			0.999				
Flt Protected		0.957						0.997				
Satd. Flow (prot)	0	1800	0	0	1744	0	0	5114	0	0	0	0
Flt Permitted		0.735						0.997				
Satd. Flow (perm)	0	1322	0	0	1744	0	0	5103	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					6			2				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		286			358			679			653	
Travel Time (s)		9.8			12.2			15.4			14.8	
Confl. Peds. (#/hr)	51		85	85		51	17		16	16		17
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	86	9	0	0	10	6	101	1570	9	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	16	0	0	1680	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
25: Collins Ave & 95th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			4.0		7.0	7.0				
Minimum Split (s)	28.0	28.0			28.0		24.0	24.0				
Total Split (s)	28.0	28.0			28.0		47.0	47.0				
Total Split (%)	37.3%	37.3%			37.3%		62.7%	62.7%				
Maximum Green (s)	23.0	23.0			23.0		42.5	42.5				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		0.5	0.5				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			4.5				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0			4.0		7.0	7.0				
Flash Dont Walk (s)	19.0	19.0			19.0		12.0	12.0				
Pedestrian Calls (#/hr)	21	21			21		4	4				
Act Effct Green (s)		13.9			13.9			54.5				
Actuated g/C Ratio		0.19			0.19			0.73				
v/c Ratio		0.39			0.05			0.45				
Control Delay		31.1			16.2			2.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		31.1			16.2			2.2				
LOS		C			B			A				



Lanes, Volumes, Timings  
 25: Collins Ave & 95th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		31.1			16.2			2.2				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 17 (23%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.45  
 Intersection Signal Delay: 3.8  
 Intersection Capacity Utilization 59.1%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 25: Collins Ave & 95th St















Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	21	76	42	53	0	0	0	0	32	1527	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor		0.97			0.99						0.99	
Frt		0.894									0.990	
Flt Protected					0.978						0.999	
Satd. Flow (prot)	0	1639	0	0	1840	0	0	0	0	0	5027	0
Flt Permitted					0.810						0.999	
Satd. Flow (perm)	0	1639	0	0	1512	0	0	0	0	0	5021	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											33	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		402			276			650			680	
Travel Time (s)		13.7			9.4			14.8			15.5	
Confl. Peds. (#/hr)	98		13	13		98	74		36	36		74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	22	80	44	56	0	0	0	0	34	1607	115
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	102	0	0	100	0	0	0	0	0	1756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		19.0		19.0	19.0					25.0	25.0	
Total Split (s)		19.0		19.0	19.0					56.0	56.0	
Total Split (%)		25.3%		25.3%	25.3%					74.7%	74.7%	
Maximum Green (s)		14.0		14.0	14.0					51.0	51.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		10.0		10.0	10.0					13.0	13.0	
Pedestrian Calls (#/hr)		25		25	25					19	19	
Act Effct Green (s)		10.5			10.5						57.9	
Actuated g/C Ratio		0.14			0.14						0.77	
v/c Ratio		0.45			0.47						0.45	
Control Delay		34.8			39.4						1.5	
Queue Delay		0.0			0.0						0.0	
Total Delay		34.8			39.4						1.5	
LOS		C			D						A	

Lanes, Volumes, Timings  
28: Harding Ave & 94th St

9/18/2014



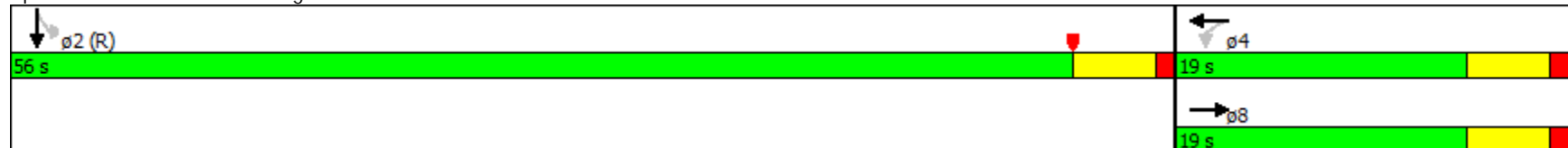
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		34.8			39.4						1.5	
Approach LOS		C			D						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 31 (41%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.47  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 55.2%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 28: Harding Ave & 94th St



Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	81	2	0	0	4	3	58	1433	3	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.98			0.99			1.00				
Frt					0.942							
Flt Protected		0.953						0.998				
Satd. Flow (prot)	0	1793	0	0	1751	0	0	5125	0	0	0	0
Flt Permitted		0.726						0.998				
Satd. Flow (perm)	0	1344	0	0	1751	0	0	5123	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					3			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			351			644			679	
Travel Time (s)		9.4			12.0			14.6			15.4	
Confl. Peds. (#/hr)	13		135	135		13	3		35	35		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	88	2	0	0	4	3	63	1558	3	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	90	0	0	7	0	0	1624	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left						Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
29: Collins Ave & 94th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	4.0	4.0			7.0		7.0	7.0				
Minimum Split (s)	23.0	23.0			12.0		23.0	23.0				
Total Split (s)	23.0	23.0			23.0		52.0	52.0				
Total Split (%)	30.7%	30.7%			30.7%		69.3%	69.3%				
Maximum Green (s)	18.0	18.0			18.0		47.0	47.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	1.0	1.0			1.0		1.0	1.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		5.0			5.0			5.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	4.0	4.0					7.0	7.0				
Flash Dont Walk (s)	14.0	14.0					11.0	11.0				
Pedestrian Calls (#/hr)	34	34					9	9				
Act Effct Green (s)		13.4			13.8			54.6				
Actuated g/C Ratio		0.18			0.18			0.73				
v/c Ratio		0.38			0.02			0.44				
Control Delay		30.3			18.3			3.2				
Queue Delay		0.0			0.0			0.0				
Total Delay		30.3			18.3			3.2				
LOS		C			B			A				

Lanes, Volumes, Timings  
 29: Collins Ave & 94th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		30.3			18.3			3.2				
Approach LOS		C			B			A				

Intersection Summary

Area Type: Other  
 Cycle Length: 75  
 Actuated Cycle Length: 75  
 Offset: 2 (3%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 50  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.44  
 Intersection Signal Delay: 4.7  
 Intersection Capacity Utilization 54.4%  
 Analysis Period (min) 15


















Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 29: Collins Ave & 94th St



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Volume (vph)	0	8	7	18	10	0	0	0	0	20	1558	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.937									0.999	
Flt Protected					0.969						0.999	
Satd. Flow (prot)	0	1763	0	0	1823	0	0	0	0	0	5123	0
Flt Permitted					0.799						0.999	
Satd. Flow (perm)	0	1763	0	0	1503	0	0	0	0	0	5119	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											3	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		276			297			1326			650	
Travel Time (s)		9.4			10.1			30.1			14.8	
Confl. Peds. (#/hr)	18					18	9		15	15		9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	8	7	19	11	0	0	0	0	21	1640	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	30	0	0	0	0	0	1676	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template				Left						Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	



Lanes, Volumes, Timings  
32: Harding Ave & 93rd St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					1.0	1.0	
Minimum Split (s)		26.0		26.0	26.0					25.0	25.0	
Total Split (s)		26.0		26.0	26.0					124.0	124.0	
Total Split (%)		17.3%		17.3%	17.3%					82.7%	82.7%	
Maximum Green (s)		21.0		21.0	21.0					119.0	119.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		4.0		4.0	4.0					7.0	7.0	
Flash Dont Walk (s)		17.0		17.0	17.0					13.0	13.0	
Pedestrian Calls (#/hr)		5		5	5					4	4	
Act Effct Green (s)		10.3			10.3						136.5	
Actuated g/C Ratio		0.07			0.07						0.91	
v/c Ratio		0.12			0.29						0.36	
Control Delay		64.6			69.0						1.0	
Queue Delay		0.0			0.0						0.1	
Total Delay		64.6			69.0						1.1	
LOS		E			E						A	

Lanes, Volumes, Timings  
 32: Harding Ave & 93rd St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		64.6			69.0						1.1	
Approach LOS		E			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 97 (65%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 2.8  
 Intersection Capacity Utilization 53.8%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 32: Harding Ave & 93rd St



Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	24	0	23	1452	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	0.91	1.00	1.00
Ped Bike Factor				1.00		
Frt						
Flt Protected	0.950			0.999		
Satd. Flow (prot)	1787	0	0	5131	0	0
Flt Permitted	0.950			0.999		
Satd. Flow (perm)	1787	0	0	5128	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						
Link Speed (mph)	20			30	30	
Link Distance (ft)	297			2018	644	
Travel Time (s)	10.1			45.9	14.6	
Confl. Peds. (#/hr)		49	14			14
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	27	0	26	1631	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	0	0	1657	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0		
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		

Lanes, Volumes, Timings  
33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector 1 Size(ft)	20		20	0		
Detector 1 Type	Cl+Ex		Cl+Ex			
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Prot		Perm	NA		
Protected Phases	8			6		
Permitted Phases			6			
Detector Phase	8		6	6		
Switch Phase						
Minimum Initial (s)	7.0		7.0	7.0		
Minimum Split (s)	25.0		23.0	23.0		
Total Split (s)	25.0		50.0	50.0		
Total Split (%)	33.3%		66.7%	66.7%		
Maximum Green (s)	19.0		44.0	44.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	6.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	2.5		1.0	1.0		
Recall Mode	None		C-Max	C-Max		
Walk Time (s)	7.0		7.0	7.0		
Flash Dont Walk (s)	12.0		10.0	10.0		
Pedestrian Calls (#/hr)	12		4	4		
Act Effct Green (s)	9.4			61.2		
Actuated g/C Ratio	0.13			0.82		
v/c Ratio	0.12			0.40		
Control Delay	35.0			4.4		
Queue Delay	0.0			0.0		
Total Delay	35.0			4.4		
LOS	C			A		

Lanes, Volumes, Timings  
 33: Collins Ave & 93rd St

9/18/2014



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Approach Delay	35.0			4.4		
Approach LOS	C			A		

Intersection Summary


















Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	66 (88%), Referenced to phase 6:NBTL, Start of Yellow
Natural Cycle:	50
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.40
Intersection Signal Delay:	4.9
Intersection Capacity Utilization	54.6%
Analysis Period (min)	15
Intersection LOS:	A
ICU Level of Service	A

Splits and Phases: 33: Collins Ave & 93rd St



Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	16	18	9	13	0	0	0	0	8	1606	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Ped Bike Factor											1.00	
Frt		0.929									0.999	
Flt Protected					0.980							
Satd. Flow (prot)	0	1748	0	0	1844	0	0	0	0	0	5128	0
Flt Permitted					0.852							
Satd. Flow (perm)	0	1748	0	0	1603	0	0	0	0	0	5128	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19									3	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		367			147			331			1326	
Travel Time (s)		12.5			5.0			7.5			30.1	
Confl. Peds. (#/hr)	3					3	8		6	6		8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	0	17	19	10	14	0	0	0	0	9	1727	15
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	24	0	0	0	0	0	1751	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1					1	0	
Detector Template		Thru		Left	Thru					Left		
Leading Detector (ft)		20		20	20					20	0	
Trailing Detector (ft)		0		0	0					0	0	
Detector 1 Position(ft)		0		0	0					0	0	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)		20		20	20					20	0	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	
Turn Type		NA		Perm	NA					Perm	NA	
Protected Phases		8			4						2	
Permitted Phases				4						2		
Detector Phase		8		4	4					2	2	
Switch Phase												
Minimum Initial (s)		7.0		7.0	7.0					7.0	7.0	
Minimum Split (s)		26.0		26.0	26.0					26.0	26.0	
Total Split (s)		26.0		26.0	26.0					124.0	124.0	
Total Split (%)		17.3%		17.3%	17.3%					82.7%	82.7%	
Maximum Green (s)		21.0		21.0	21.0					119.0	119.0	
Yellow Time (s)		4.0		4.0	4.0					4.0	4.0	
All-Red Time (s)		1.0		1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.0			5.0						5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		2.5		2.5	2.5					1.0	1.0	
Recall Mode		None		None	None					C-Max	C-Max	
Walk Time (s)		7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)		14.0		14.0	14.0					14.0	14.0	
Pedestrian Calls (#/hr)		1		1	1					2	2	
Act Effct Green (s)		10.0			10.0						133.4	
Actuated g/C Ratio		0.07			0.07						0.89	
v/c Ratio		0.27			0.22						0.38	
Control Delay		41.3			68.7						0.6	
Queue Delay		0.0			0.0						0.0	
Total Delay		41.3			68.7						0.6	
LOS		D			E						A	

Lanes, Volumes, Timings  
40: Harding Ave & 91st St

9/18/2014

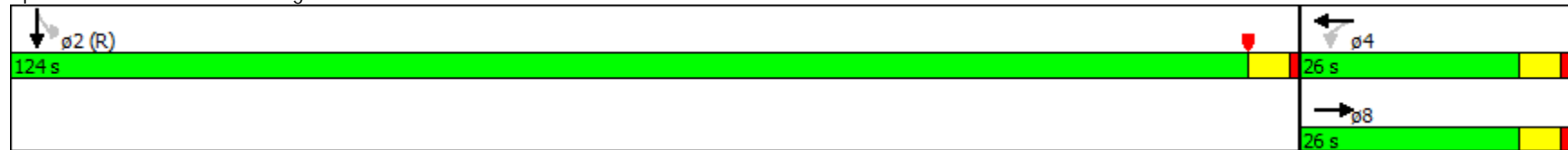


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		41.3			68.7						0.6	
Approach LOS		D			E						A	

Intersection Summary

Area Type: Other  
 Cycle Length: 150  
 Actuated Cycle Length: 150  
 Offset: 125 (83%), Referenced to phase 2:SBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.38  
 Intersection Signal Delay: 2.3      Intersection LOS: A  
 Intersection Capacity Utilization 50.8%      ICU Level of Service A  
 Analysis Period (min) 15


















Splits and Phases: 40: Harding Ave & 91st St





Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  				
Volume (vph)	35	0	0	0	9	9	50	1327	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99			1.00				
Frt					0.932							
Flt Protected		0.950						0.998				
Satd. Flow (prot)	0	1787	0	0	1738	0	0	5125	0	0	0	0
Flt Permitted		0.744						0.998				
Satd. Flow (perm)	0	1392	0	0	1738	0	0	5120	0	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					10			1				
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		263			923			330			2018	
Travel Time (s)		9.0			31.5			7.5			45.9	
Confl. Peds. (#/hr)	5		28	28		5	10		3	3		10
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	38	0	0	0	10	10	55	1458	5	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	38	0	0	20	0	0	1518	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1			1		1	0				
Detector Template	Left	Thru			Thru		Left					
Leading Detector (ft)	20	20			20		20	0				
Trailing Detector (ft)	0	0			0		0	0				
Detector 1 Position(ft)	0	0			0		0	0				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 1 Size(ft)	20	20			20		20	0				
Detector 1 Type	Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex					
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Queue (s)	0.0	0.0			0.0		0.0	0.0				
Detector 1 Delay (s)	0.0	0.0			0.0		0.0	0.0				
Turn Type	Perm	NA			NA		Perm	NA				
Protected Phases		8			4			6				
Permitted Phases	8						6					
Detector Phase	8	8			4		6	6				
Switch Phase												
Minimum Initial (s)	7.0	7.0			7.0		7.0	7.0				
Minimum Split (s)	29.0	29.0			29.0		22.0	22.0				
Total Split (s)	30.0	30.0			30.0		60.0	60.0				
Total Split (%)	33.3%	33.3%			33.3%		66.7%	66.7%				
Maximum Green (s)	24.0	24.0			24.0		54.0	54.0				
Yellow Time (s)	4.0	4.0			4.0		4.0	4.0				
All-Red Time (s)	2.0	2.0			2.0		2.0	2.0				
Lost Time Adjust (s)		0.0			0.0			0.0				
Total Lost Time (s)		6.0			6.0			6.0				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.5	2.5			2.5		1.0	1.0				
Recall Mode	None	None			None		C-Max	C-Max				
Walk Time (s)	5.0	5.0			5.0		7.0	7.0				
Flash Dont Walk (s)	18.0	18.0			18.0		9.0	9.0				
Pedestrian Calls (#/hr)	7	7			7		41	41				
Act Effct Green (s)		10.6			10.6			75.0				
Actuated g/C Ratio		0.12			0.12			0.83				
v/c Ratio		0.23			0.09			0.36				
Control Delay		36.7			22.4			4.1				
Queue Delay		0.0			0.0			0.0				
Total Delay		36.7			22.4			4.1				
LOS		D			C			A				

Lanes, Volumes, Timings  
45: Collins Ave & 90th St

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		36.7			22.4			4.1				
Approach LOS		D			C			A				

Intersection Summary



























Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 60 (67%), Referenced to phase 6:NBTL, Start of Yellow  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.36  
 Intersection Signal Delay: 5.1      Intersection LOS: A  
 Intersection Capacity Utilization 54.0%      ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 45: Collins Ave & 90th St















Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  							  			  	
Volume (vph)	180	0	0	34	7	24	92	1405	39	27	1453	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	160		0	200		0
Storage Lanes	3		0	1		1	1		0	1		0
Taper Length (ft)	0			0			25			25		
Lane Util. Factor	0.94	1.00	1.00	0.95	0.95	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor	1.00			0.75	0.83	0.99		1.00		0.99	0.99	
Frt						0.850		0.996			0.986	
Flt Protected	0.950			0.950	0.967		0.950			0.950		
Satd. Flow (prot)	5040	0	0	1698	1728	1599	1787	5090	0	1787	4990	0
Flt Permitted	0.950			0.950	0.967		0.098			0.141		
Satd. Flow (perm)	5017	0	0	1280	1438	1576	184	5090	0	262	4990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						119		4			16	
Link Speed (mph)		20			20			30			30	
Link Distance (ft)		188			161			278			2179	
Travel Time (s)		6.4			5.5			6.3			49.5	
Confl. Peds. (#/hr)	1		105	105		1	53		110	110		53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	189	0	0	36	7	25	97	1479	41	28	1529	159
Shared Lane Traffic (%)				41%								
Lane Group Flow (vph)	189	0	0	21	22	25	97	1520	0	28	1688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		36			36			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1			1	1	1	1	0		1	0	
Detector Template	Left			Left	Thru	Right	Left			Left		

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/18/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Leading Detector (ft)	20			20	20	20	20	0		20	0	
Trailing Detector (ft)	0			0	0	0	0	0		0	0	
Detector 1 Position(ft)	0			0	0	0	0	0		0	0	
Detector 1 Size(ft)	20			20	20	20	20	0		20	0	
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex		
Detector 1 Channel												
Detector 1 Extend (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type	Prot			Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	3			7	7		1	6		5	2	
Permitted Phases						7	6			2		
Detector Phase	3			7	7	7	1	6		5	2	
Switch Phase												
Minimum Initial (s)	7.0			7.0	7.0	7.0	5.0	7.0		5.0	7.0	
Minimum Split (s)	23.0			14.0	14.0	14.0	11.0	36.0		11.0	36.0	
Total Split (s)	30.0			26.0	26.0	26.0	16.0	78.0		16.0	78.0	
Total Split (%)	20.0%			17.3%	17.3%	17.3%	10.7%	52.0%		10.7%	52.0%	
Maximum Green (s)	23.2			19.2	19.2	19.2	10.0	71.5		10.0	71.5	
Yellow Time (s)	4.0			4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)	2.8			2.8	2.8	2.8	2.0	2.5		2.0	2.5	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.8			6.8	6.8	6.8	6.0	6.5		6.0	6.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.5			2.5	2.5	2.5	2.0	1.0		2.0	1.0	
Recall Mode	None			None	None	None	None	C-Max		None	C-Max	
Walk Time (s)	5.0							5.0			5.0	
Flash Dont Walk (s)	11.0							24.0			24.0	
Pedestrian Calls (#/hr)	26							28			28	
Act Effct Green (s)	13.1			7.6	7.6	7.6	111.2	105.0		103.7	97.9	
Actuated g/C Ratio	0.09			0.05	0.05	0.05	0.74	0.70		0.69	0.65	
v/c Ratio	0.43			0.24	0.25	0.13	0.44	0.43		0.12	0.52	
Control Delay	67.3			75.0	75.1	1.4	15.2	7.4		7.9	15.6	

Lanes, Volumes, Timings  
50: Collins Ave & 9700 Blk

9/18/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0	0.0	0.2		0.0	0.0	
Total Delay	67.3			75.0	75.1	1.4	15.2	7.6		7.9	15.6	
LOS	E			E	E	A	B	A		A	B	
Approach Delay					48.0			8.1			15.5	
Approach LOS					D			A			B	

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 34 (23%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 63.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 50: Collins Ave & 9700 Blk



## Arterial Level of Service

9/18/2014

### Arterial Level of Service: EB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
500 Blk	IV	30	22.5	6.8	29.3	0.15	18.4	C
Byron Ave	IV	30	12.2	4.6	16.8	0.05	11.5	D
Harding Ave	IV	30	19.2	58.2	77.4	0.11	5.0	F
Collins Ave	IV	30	12.6	54.2	66.8	0.06	3.0	F
Total	IV		66.5	123.8	190.3	0.37	6.9	F

### Arterial Level of Service: WB 96th St

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Collins Ave	IV	30	13.8	54.8	68.6	0.06	3.2	F
Harding Ave	IV	30	12.6	38.8	51.4	0.06	3.9	F
Byron Ave	IV	30	19.2	3.7	22.9	0.11	16.8	C
500 Blk	IV	30	12.2	5.9	18.1	0.05	10.7	D
Total	IV		57.8	103.2	161.0	0.28	6.2	F

### Arterial Level of Service: NB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
90th St	III	30	9.7	4.1	13.8	0.06	16.3	D
93rd St	III	30	48.5	4.4	52.9	0.38	26.0	B
94th St	III	30	17.2	3.2	20.4	0.12	21.5	C
95th St	III	30	17.2	2.2	19.4	0.13	23.9	C
96th St	III	30	17.4	5.3	22.7	0.12	19.6	C
Collins Ave	III	30	13.1	0.9	14.0	0.09	23.8	C
9700 Blk	III	30	8.2	7.4	15.6	0.05	12.2	E
Harbour Ave	III	30	52.4	4.8	57.2	0.41	26.0	B
Harbour Way WB	III	30	6.0	1.3	7.3	0.04	19.0	C
Total	III		189.7	33.6	223.3	1.42	22.8	C

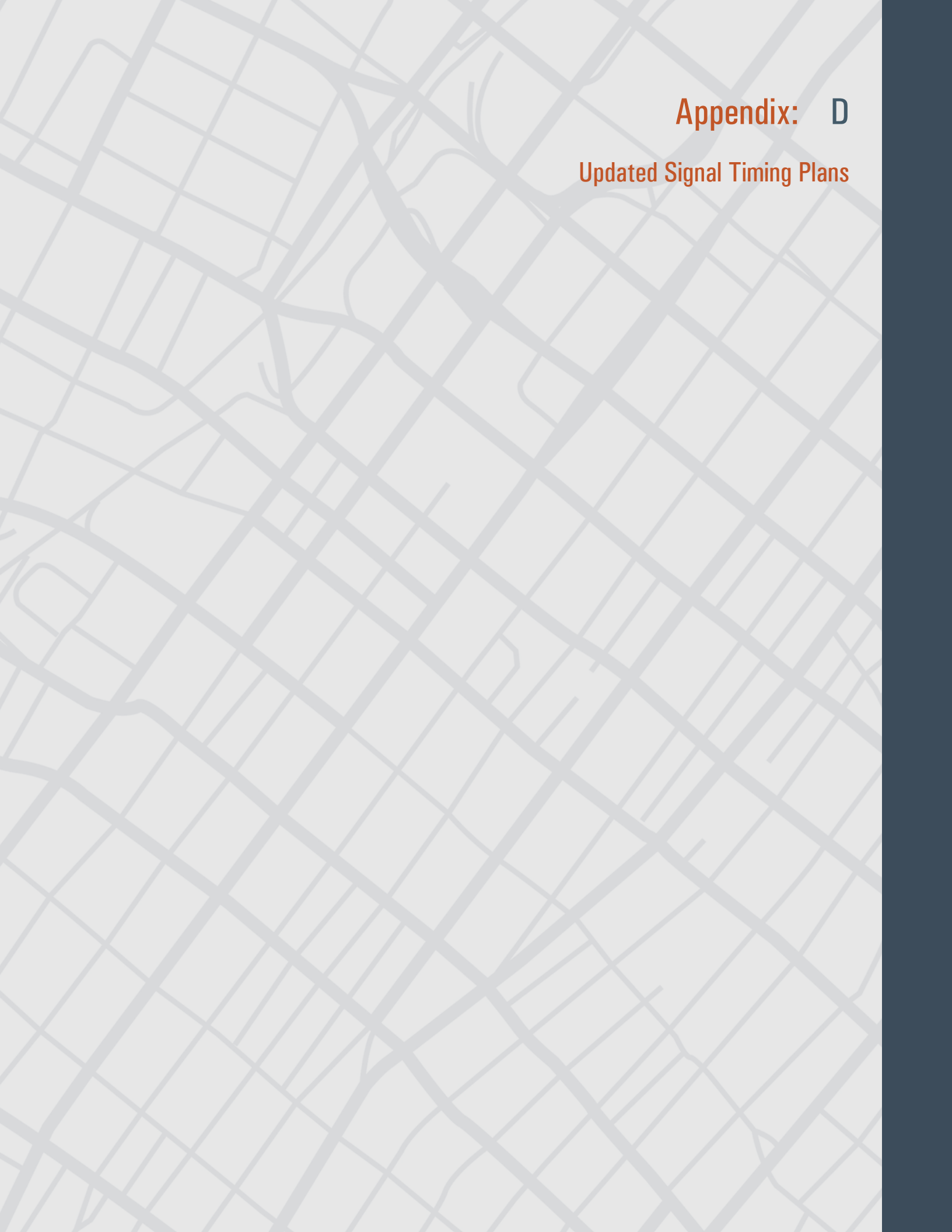
### Arterial Level of Service: SB Collins Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Harbour Way WB	III	30	8.0	1.3	9.3	0.05	20.0	C
Harbour Way EB	III	30	6.0	0.5	6.5	0.04	21.3	C
9700 Blk	III	30	52.4	15.6	68.0	0.41	21.8	C
Collins Ave	III	30	8.2	0.2	8.4	0.05	22.6	C
Total	III		74.6	17.6	92.2	0.56	21.7	C

Arterial Level of Service: SB Harding Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
96th St	III	30	11.6	3.2	14.8	0.07	18.2	C
95th St	III	30	16.9	3.8	20.7	0.13	21.9	C
94th St	III	30	17.3	1.5	18.8	0.13	24.7	B
93rd St	III	30	17.4	1.0	18.4	0.12	24.1	B
91st St	III	30	31.9	0.6	32.5	0.25	27.8	B
Total	III		95.1	10.1	105.2	0.70	24.1	B





## Appendix: D

### Updated Signal Timing Plans

## Recommended Signal Timing Parameters

AM Peak Period

Intersection: Collins Avenue & Harbour Way <span style="float: right;"><b>(No change to current operation)</b></span>											
Synchro No.: 3 & 6											
MDC Asset No.: 3629											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL	SBT		WBT	SBL	NBT		EBT		Alt. 1	Alt. 2
Green Time	7	61	0	12	20	61	0	12			
Yellow	3.7	4	0	4	3.7	4	0	4			
All Red	2	2.6	0	3	2	2.6	0	3			
Force Off											

Intersection: Harding Avenue & 96th Street											
Synchro No.: 7											
MDC Asset No.: 2919											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
		SBT		WBT				EBT		Alt. 1	Alt. 2
Green Time	0	71	0	77	0	0	0	77			
Yellow	0	4	0	4	0	0	0	4	160	85	97
All Red	0	2.3	0	2	0	0	0	2.3			
Force Off	0	0	0	83	0	0	0	83			

Intersection: Collins Avenue & 96th Street											
Synchro No.: 10											
MDC Asset No.: 3005											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL		EBT	WBT	PED	NBT				Alt. 1	Alt. 2
Green Time	61	0	70	9	17	61	0	0			
Yellow	4	0	4	4	0	4	0	0	160	140	139
All Red	2.9	0	2.2	2.2	1	2.9	0	0			
Force Off	0	0	77	92	115	0	0	0			

## Recommended Signal Timing Parameters

AM Peak Period

Intersection: Collins Avenue & Harding Avenue											
Synchro No.: 14											
MDC Asset No: 3006											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		NS		PED		NBL					
Green Time	0	128	0	17	0	128	0	0			
Yellow	0	4	0	0	0	4	0	0	150	51	51
All Red	0	1	0	0	0	1	0	0			
Force Off	0	0	0	22	0	0	0	0			

Intersection: 96th Street & Byron Avenue											
Synchro No.: 18											
MDC Asset No: 3648											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		WBT		NBT		EBT					
Green Time	0	126	0	22	0	126	0	0			
Yellow	0	4	0	4	0	4	0	0	160	57	165
All Red	0	2.5	0	2	0	2.5	0	0			
Force Off	0	0	0	28	0	0	0	0			

Intersection: 96th Street & 500 Block											
Synchro No.: 21											
MDC Asset No: 4344											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	EBL	WBT				EBT		SBT			
Green Time	0	124	0	0	0	124	0	24			
Yellow	3.7	4	0	0	0	4	0	4	160	69	81
All Red	0	2	0	0	0	2	0	2			
Force Off	0	0	0	0	0	0	0	30			

## Recommended Signal Timing Parameters

AM Peak Period

Intersection: Harding Avenue & 95th Street											
Synchro No.: 24											
MDC Asset No: 2918											
	1	2	3	4	5	6	7	8		Offset	Offset
		SBT		WBT				EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	57	0	13	0	0	0	13			
Yellow	0	4	0	4	0	0	0	4	80	73	78
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	18	0	0	0	18			

Intersection: Collins Avenue & 95th Street											
Synchro No.: 25											
MDC Asset No: 3319											
	1	2	3	4	5	6	7	8		Offset	Offset
				WBT		NBT		EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	0	0	16	0	54	0	16			
Yellow	0	0	0	4	0	4	0	4	80	75	75
All Red	0	0	0	0.8	0	0.5	0	0.8			
Force Off	0	0	0	20	0	0	0	20			

Intersection: Harding Avenue & 94th Street											
Synchro No.: 28											
MDC Asset No: 2917											
	1	2	3	4	5	6	7	8		Offset	Offset
		SBT		WBT				EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	55	0	15	0	0	0	15			
Yellow	0	4	0	4	0	0	0	4	80	9	93
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	20	0	0	0	20			

## Recommended Signal Timing Parameters

AM Peak Period

Intersection: Collins Avenue & 94th Street											
Synchro No.: 29											
MDC Asset No: 2912											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	13	0	57	0	13	80	62	57
Yellow	0	0	0	4	0	4	0	4			
All Red	0	0	0	1.4	0	1.4	0	1.4			
Force Off	0	0	0	18	0	0	0	18			

Intersection: Harding Avenue & 93rd Street											
Synchro No.: 32											
MDC Asset No: 3185											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	131	0	19	0	0	0	19	160	21	181
Yellow	0	4	0	4	0	0	0	4			
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	24	0	0	0	24			

Intersection: Collins Avenue & 93rd Street											
Synchro No.: 33											
MDC Asset No: 2911											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
						NBT		EBT			
Green Time	0	0	0	0	0	51	0	17	80	45	123
Yellow	0	0	0	0	0	4	0	4			
All Red	0	0	0	0	0	2	0	2			
Force Off	0	0	0	0	0	0	0	23			

## Recommended Signal Timing Parameters

AM Peak Period

Intersection: Harding Avenue & 91st Street											
Synchro No.: 40											
MDC Asset No: 2916											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	131	0	19	0	0	0	19			
Yellow	0	4	0	4	0	0	0	4	160	51	51
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	24	0	0	0	24			

Intersection: Collins Avenue & 90th Street											
<b>(No change to current operation)</b>											
Synchro No.: 45											
MDC Asset No: 4231											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	24	0	54	0	24			
Yellow	0	0	0	4	0	4	0	4	90	66	66
All Red	0	0	0	2.4	0	2.3	0	2.4			
Force Off	0	0	0	30	0	0	0	0			

Intersection: Collins Avenue & 9700 Block											
Synchro No.: 50											
MDC Asset No: 3548											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	NBL	SBT			SBL	NBT	WBT	EBT			
Green Time	10	81	0	0	10	81	14	28			
Yellow	3.7	4	0	0	3.7	4	4	4	160	51	51
All Red	2.5	2.5	0	0	2.5	2.5	2.8	2.8			
Force Off	72	0	0	0	72	0	20	55			

## Recommended Signal Timing Parameters

PM Peak Period

Intersection: Collins Avenue & Harbour Way <span style="float: right;"><b>(No change to current operation)</b></span>											
Synchro No.: 3 & 6											
MDC Asset No.: 3629											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL	SBT		WBT	SBL	NBT		EBT		Alt. 1	Alt. 2
Green Time	8	101	0	12	14	101	0	12			
Yellow	3.7	4	0	4	3.7	4	0	4			
All Red	2	2.6	0	3	2	2.6	0	3			
Force Off											

Intersection: Harding Avenue & 96th Street											
Synchro No.: 7											
MDC Asset No.: 2919											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
		SBT		WBT				EBT		Alt. 1	Alt. 2
Green Time	0	85	0	63	0	0	0	63			
Yellow	0	4	0	4	0	0	0	4	160	101	110
All Red	0	2.3	0	2	0	0	0	2.3			
Force Off	0	0	0	69	0	0	0	69			

Intersection: Collins Avenue & 96th Street											
Synchro No.: 10											
MDC Asset No.: 3005											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL		EBT	WBT	PED	NBT				Alt. 1	Alt. 2
Green Time	74	0	58	8	17	74	0	0			
Yellow	4	0	4	4	0	4	0	0	160	137	146
All Red	2.9	0	2.2	2.2	1	2.9	0	0			
Force Off	0	0	65	79	102	0	0	0			

## Recommended Signal Timing Parameters

PM Peak Period

Intersection: Collins Avenue & Harding Avenue											
Synchro No.: 14											
MDC Asset No: 3006											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		NS		PED		NBL					
Green Time	0	138	0	17	0	138	0	0			
Yellow	0	4	0	0	0	4	0	0	160	94	130
All Red	0	1	0	0	0	1	0	0			
Force Off	0	0	0	22	0	0	0	0			

Intersection: 96th Street & Byron Avenue											
Synchro No.: 18											
MDC Asset No: 3648											
	1	2	3	4	5	6	7	8	Cycle	77	2
		WBT		NBT		EBT					
Green Time	0	48	0	20	0	48	0	0			
Yellow	0	4	0	4	0	4	0	0	80	2	12
All Red	0	2.5	0	2	0	2.5	0	0			
Force Off	0	0	0	26	0	0	0	0			

Intersection: 96th Street & 500 Block											
Synchro No.: 21											
MDC Asset No: 4344											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	EBL	WBT				EBT		SBT			
Green Time	4	108	0	0	0	108	0	32			
Yellow	3.7	4	0	0	0	4	0	4	160	60	69
All Red	0	2	0	0	0	2	0	2			
Force Off	48	0	0	0	0	0	0	38			



## Recommended Signal Timing Parameters

PM Peak Period

Intersection: Harding Avenue & 95th Street											
Synchro No.: 24											
MDC Asset No: 2918											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	53	0	17	0	0	0	17			
Yellow	0	4	0	4	0	0	0	4	80	77	2
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	22	0	0	0	22			

Intersection: Collins Avenue & 95th Street											
Synchro No.: 25											
MDC Asset No: 3319											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	18	0	52	0	18			
Yellow	0	0	0	4	0	4	0	4	80	45	68
All Red	0	0	0	0.8	0	0.5	0	0.8			
Force Off	0	0	0	22	0	0	0	22			

Intersection: Harding Avenue & 94th Street											
Synchro No.: 28											
MDC Asset No: 2917											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	53	0	17	0	0	0	17			
Yellow	0	4	0	4	0	0	0	4	80	10	16
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	22	0	0	0	22			

## Recommended Signal Timing Parameters

PM Peak Period

Intersection: Collins Avenue & 94th Street											
Synchro No.: 29											
MDC Asset No: 2912											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	13	0	57	0	13			
Yellow	0	0	0	4	0	4	0	4	80	45	56
All Red	0	0	0	1.4	0	1.4	0	1.4			
Force Off	0	0	0	18	0	0	0	18			

Intersection: Harding Avenue & 93rd Street											
Synchro No.: 32											
MDC Asset No: 3185											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	132	0	18	0	0	0	18			
Yellow	0	4	0	4	0	0	0	4	160	1	30
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	23	0	0	0	23			

Intersection: Collins Avenue & 93rd Street											
Synchro No.: 33											
MDC Asset No: 2911											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
						NBT		EBT			
Green Time	0	0	0	0	0	51	0	17			
Yellow	0	0	0	0	0	4	0	4	80	32	40
All Red	0	0	0	0	0	2	0	2			
Force Off	0	0	0	0	0	0	0	23			

## Recommended Signal Timing Parameters

PM Peak Period

Intersection: Harding Avenue & 91st Street											
Synchro No.: 40											
MDC Asset No: 2916											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	130	0	20	0	0	0	20			
Yellow	0	4	0	4	0	0	0	4	160	32	60
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	25	0	0	0	25			

Intersection: Collins Avenue & 90th Street											
<b>(No change to current operation)</b>											
Synchro No.: 45											
MDC Asset No: 4231											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	24	0	54	0	24			
Yellow	0	0	0	4	0	4	0	4	90	1	1
All Red	0	0	0	2.4	0	2.3	0	2.4			
Force Off	0	0	0	30	0	0	0	30			

Intersection: Collins Avenue & 9700 Block											
Synchro No.: 50											
MDC Asset No: 3548											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	NBL	SBT			SBL	NBT	WBT	EBT			
Green Time	11	79	0	0	11	79	14	29			
Yellow	3.7	4	0	0	3.7	4	4	4	160	94	100
All Red	2.5	2.5	0	0	2.5	2.5	2.8	2.8			
Force Off	74	0	0	0	74	0	20	56			

## Recommended Signal Timing Parameters

Weekend Peak Period

Intersection: Collins Avenue & Harbour Way <span style="float: right;"><b>(No change to current operation)</b></span>											
Synchro No.: 3 & 6											
MDC Asset No.: 3629											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL	SBT		WBT	SBL	NBT		EBT		Alt. 1	Alt. 2
Green Time	10	91	0	10	15	91	0	10			
Yellow	3.7	4	0	4	3.7	4	0	4			
All Red	2	2.6	0	3	2	2.6	0	3			
Force Off											

Intersection: Harding Avenue & 96th Street											
Synchro No.: 7											
MDC Asset No.: 2919											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
		SBT		WBT				EBT		Alt. 1	Alt. 2
Green Time	0	83	0	55	0	0	0	55			
Yellow	0	4	0	4	0	0	0	4	150	36	49
All Red	0	2.3	0	2	0	0	0	2.3			
Force Off	0	0	0	61	0	0	0	61			

Intersection: Collins Avenue & 96th Street											
Synchro No.: 10											
MDC Asset No.: 3005											
	1	2	3	4	5	6	7	8	Cycle	Offset	Offset
	NBL		EBT	WBT	PED	NBT				Alt. 1	Alt. 2
Green Time	81	0	46	4	17	81	0	0			
Yellow	4	0	4	4	0	4	0	0	150	90	87
All Red	2.9	0	2.2	2.2	1	2.9	0	0			
Force Off	0	0	53	63	86	0	0	0			

## Recommended Signal Timing Parameters

Weekend Peak Period

Intersection: Collins Avenue & Harding Avenue											
Synchro No.: 14											
MDC Asset No: 3006											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		NS		PED		NBL					
Green Time	0	118	0	27	0	118	0	0			
Yellow	0	4	0	0	0	4	0	0	150	0	0
All Red	0	1	0	0	0	1	0	0			
Force Off	0	0	0	32	0	0	0	0			

Intersection: 96th Street & Byron Avenue											
Synchro No.: 18											
MDC Asset No: 3648											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		WBT		NBT		EBT				77	2
Green Time	0	34	0	29	0	34	0	0			
Yellow	0	4	0	4	0	4	0	0	75	23	23
All Red	0	2.5	0	2	0	2.5	0	0			
Force Off	0	0	0	35	0	0	0	0			

Intersection: 96th Street & 500 Block											
Synchro No.: 21											
MDC Asset No: 4344											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	EBL	WBT				EBT		SBT			
Green Time	4	23	0	0	0	23	0	32			
Yellow	3.7	4	0	0	0	4	0	4	75	14	14
All Red	0	2	0	0	0	2	0	2			
Force Off	48	0	0	0	0	0	0	38			

## Recommended Signal Timing Parameters

Weekend Peak Period

Intersection: Harding Avenue & 95th Street											
Synchro No.: 24											
MDC Asset No: 2918											
	1	2	3	4	5	6	7	8		Offset	Offset
		SBT		WBT				EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	49	0	16	0	0	0	16			
Yellow	0	4	0	4	0	0	0	4	75	9	15
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	21	0	0	0	21			

Intersection: Collins Avenue & 95th Street											
Synchro No.: 25											
MDC Asset No: 3319											
	1	2	3	4	5	6	7	8		Offset	Offset
				WBT		NBT		EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	0	0	22	0	44	0	22			
Yellow	0	0	0	4	0	4	0	4	75	20	17
All Red	0	0	0	0.8	0	0.5	0	0.8			
Force Off	0	0	0	26	0	0	0	26			

Intersection: Harding Avenue & 94th Street											
Synchro No.: 28											
MDC Asset No: 2917											
	1	2	3	4	5	6	7	8		Offset	Offset
		SBT		WBT				EBT	Cycle	Alt. 1	Alt. 2
Green Time	0	51	0	14	0	0	0	14			
Yellow	0	4	0	4	0	0	0	4	75	16	31
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	19	0	0	0	19			

## Recommended Signal Timing Parameters

Weekend Peak Period

Intersection: Collins Avenue & 94th Street											
Synchro No.: 29											
MDC Asset No: 2912											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	18	0	47	0	18			
Yellow	0	0	0	4	0	4	0	4	75	12	2
All Red	0	0	0	1.4	0	1.4	0	1.4			
Force Off	0	0	0	23	0	0	0	23			

Intersection: Harding Avenue & 93rd Street											
Synchro No.: 32											
MDC Asset No: 3185											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	44	0	21	0	0	0	21			
Yellow	0	4	0	4	0	0	0	4	75	99	97
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	26	0	0	0	26			

Intersection: Collins Avenue & 93rd Street											
Synchro No.: 33											
MDC Asset No: 2911											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
						NBT		EBT			
Green Time	0	0	0	0	0	44	0	19			
Yellow	0	0	0	0	0	4	0	4	75	69	66
All Red	0	0	0	0	0	2	0	2			
Force Off	0	0	0	0	0	0	0	25			

## Recommended Signal Timing Parameters

Weekend Peak Period

Intersection: Harding Avenue & 91st Street											
Synchro No.: 40											
MDC Asset No: 2916											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
		SBT		WBT				EBT			
Green Time	0	119	0	21	0	0	0	21			
Yellow	0	4	0	4	0	0	0	4	150	128	125
All Red	0	1	0	1	0	0	0	1			
Force Off	0	0	0	26	0	0	0	26			

Intersection: Collins Avenue & 90th Street <span style="float: right;"><b>(No change to current operation)</b></span>											
Synchro No.: 45											
MDC Asset No: 4231											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
				WBT		NBT		EBT			
Green Time	0	0	0	24	0	54	0	24			
Yellow	0	0	0	4	0	4	0	4	90	60	60
All Red	0	0	0	2.4	0	2.3	0	2.4			
Force Off	0	0	0	30	0	0	0	30			

Intersection: Collins Avenue & 9700 Block											
Synchro No.: 50											
MDC Asset No: 3548											
	1	2	3	4	5	6	7	8	Cycle	Offset Alt. 1	Offset Alt. 2
	NBL	SBT			SBL	NBT	WBT	EBT			
Green Time	10	72	0	0	10	72	19	23			
Yellow	3.7	4	0	0	3.7	4	4	4	150	30	34
All Red	2.5	2.5	0	0	2.5	2.5	2.8	2.8			
Force Off	72	0	0	0	72	0	25	55			



## Recommended Signal Timing Parameters

### Pedestrian Timing Changes

Intersection:		Harding Avenue & 95th Street							
Synchro No.:		24							
MDC Asset No:		2918							
		1	2	3	4	5	6	7	8
			SBT		WBT				EBT
AM	Green Time	0	57	0	13	0	0	0	13
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	9	0	0	0	9
PM	Green Time	0	53	0	17	0	0	0	17
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	13	0	0	0	13
Wknd	Green Time	0	49	0	16	0	0	0	16
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	12	0	0	0	12

Intersection:		Collins Avenue & 95th Street							
Synchro No.:		25							
MDC Asset No:		3319							
		1	2	3	4	5	6	7	8
					WBT		NBT		EBT
AM	Green Time	0	0	0	16	0	54	0	16
	Walk	0	0	0	4	0	7	0	4
	Flashing Don't Walk	0	0	0	12	0	12	0	12
PM	Green Time	0	0	0	18	0	52	0	18
	Walk	0	0	0	4	0	7	0	4
	Flashing Don't Walk	0	0	0	14	0	12	0	14
Wknd	Green Time	0	0	0	22	0	44	0	22
	Walk	0	0	0	4	0	7	0	4
	Flashing Don't Walk	0	0	0	18	0	12	0	18

## Recommended Signal Timing Parameters

### Pedestrian Timing Changes

Intersection:		Harding Avenue & 94th Street							
Synchro No.:		28							
MDC Asset No:		2917							
		1	2	3	4	5	6	7	8
			SBT		WBT				EBT
AM	Green Time	0	55	0	15	0	0	0	15
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	11	0	0	0	11
PM	Green Time	0	53	0	17	0	0	0	17
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	13	0	0	0	13
Wknd	Green Time	0	51	0	14	0	0	0	14
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	10	0	0	0	10

Intersection:		Harding Avenue & 93rd Street							
Synchro No.:		32							
MDC Asset No:		3185							
		1	2	3	4	5	6	7	8
			SBT		WBT				EBT
AM	Green Time	0	131	0	19	0	0	0	19
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	15	0	0	0	15
PM	Green Time	0	132	0	18	0	0	0	18
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	14	0	0	0	14
Wknd	Green Time	0	44	0	21	0	0	0	21
	Walk	0	7	0	4	0	0	0	4
	Flashing Don't Walk	0	13	0	17	0	0	0	17



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