

AMENDED TRAFFIC IMPACT STUDY

HOLTEC OFFICE BUILDING

1 HOLTEC BOULEVARD

BLOCK 514 – LOT 3.01

CITY OF CAMDEN, CAMDEN COUNTY, NEW JERSEY

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Introduction

Pennoni Associates, Inc., has completed a Traffic Impact Study (TIS) associated with a proposed office building located at 1 Holtec Boulevard in the City of Camden, Camden County, New Jersey. The development consists of a 2-story, 51,586 SF office building, a 2,065 SF pole barn, and an existing surface parking lot adjacent to the main office building within the greater Holtec campus comprised will be expanded by 190 parking spaces. The proposed development will be accessed through an existing full movement driveway on Holtec Boulevard, which currently provides access to an existing parking lot. The site driveway will provide access to the proposed office building parking lot, which will provide a total of 274 additional parking spaces.

The existing site is bounded by Broadway (CR 551) to the east and north, the Holtec Driveway to the west, and Holtec Boulevard to the south. The development is anticipated to be completed in 2024.

The project study area is depicted on **Figure 1**, the overall facility site plan is depicted on **Figure 2**, and the ground floor site plan of the proposed office building is depicted on **Figure 3**.

Study Area

The study area defined for this TIS includes the following intersections:

- Broadway (CR 551) and Jefferson Street
- Broadway (CR 551) and Chelton Avenue
- Broadway (CR 551) and Holtec Driveway
- Broadway (CR 551) and Holtec Boulevard/Morgan Boulevard
- Holtec Boulevard/Morgan Boulevard and I-676 SB Ramp/Covanta Driveway
- Morgan Boulevard and I-676 NB Ramp/Master Street

The signal timing for the traffic signals at Broadway (CR 551) and Jefferson Street was obtained from the City of Camden. The signal timings for Broadway (CR 551) and Holtec Boulevard, Holtec Boulevard/Morgan Boulevard and I-676 SB Ramp/Covanta Driveway, and Morgan Boulevard and I-676 NB Ramp/Master Street were obtained from NJDOT.

Existing Roadway Facilities

The existing roadways within the study area are summarized below:

- **Broadway (CR 551)** – Broadway (CR 551) is a north-south oriented roadway and falls under both Urban Minor Arterial and Urban Principal Arterial roadway classifications within the study area. Broadway (CR 551) is of varying width and designated as a two-way. Within the study area, Broadway (CR 551) consists of one (1) travel lane in each direction and no parking on either side of the roadway. Sidewalk is present intermittently on both sides of the roadway. The speed limit is unposted on Broadway (CR 551), but is assumed to be 25 MPH.
- **Holtec Boulevard/Morgan Boulevard** – Holtec Boulevard/Morgan Boulevard is an east-west oriented roadway and falls under both Urban Minor Arterial and Urban Principal Arterial roadway classifications within the study area. Holtec Boulevard/Morgan Boulevard is of varying width and designated as a two-way. Within the study area, Holtec Boulevard/Morgan Boulevard consists of one (1) or more travel lanes in each direction and no parking on either side of the roadway. Sidewalk is present intermittently on both sides of the roadway. The speed limit is unposted on Holtec Boulevard/Morgan Boulevard, but is assumed to be 25 MPH.
- **I-676 Off Ramps** – The I-676 Off Ramps are north-south Urban Interstate roadways. Both ramps are approximately 26' wide and designated as a one-way. Within the study area, both ramps consist of two (2) travel lanes in the northbound and southbound directions, respectively, and no parking on either side of both roadways. There is no sidewalk present on either side of either roadway. While the speed limit is unposted on either ramp, it is assumed to be 25 MPH.
- **Jefferson Street** – Jefferson Street is an east-west oriented Urban Local roadway. Jefferson Street is approximately 28' wide and designated as a two-way. Within the study area, Jefferson Street consists of travel lanes in the eastbound and westbound directions and parking on both sides of the roadway. Sidewalk is present intermittently on both sides of the roadway. The speed limit is unposted on Jefferson Street, but assumed to be 25 MPH.

- **Chelton Avenue** – Chelton Avenue is an east-west Urban Local roadway. Chelton Avenue is approximately 29' wide and designated as a two-way. Within the study area, Chelton Avenue consists of travel lanes in the eastbound and westbound direction with no parking on either side of the roadway. Sidewalk is present intermittently on both sides of the roadway. The speed limit is unposted on Chelton Avenue, but assumed to be 25 MPH.

Existing Intersections

The existing intersections within the study area are summarized below:

- **Broadway (CR 551) and Jefferson Street** – The intersection of Broadway (CR 551) and Jefferson Street is a signalized intersection. The eastbound approach consists of one (1) shared left/through/right lane. The westbound approach consists of one (1) shared left/through/right lane. The northbound approach consists of one (1) shared left/through/right lane. The southbound approach consists of one (1) shared left/through/right lane.
- **Broadway (CR 551) and Chelton Avenue** – The intersection of Broadway (CR 551) and Chelton Avenue is an unsignalized intersection. The eastbound and westbound approaches both consist of one (1) shared left/through/right turn lane. The northbound and southbound approaches both consist of one (1) shared left/through/right lane. The eastbound and westbound approaches of Chelton Avenue are stop controlled.
- **Broadway (CR 551) and Holtec Driveway** – The intersection of Broadway (CR 551) and Holtec Driveway is an unsignalized intersection. The westbound approach consists of one (1) dedicated left lane and one (1) dedicated right lane. The northbound approach consists of one (1) shared through/right lane. The southbound approach consists of one (1) shared left/through lane. The northbound approach of Holtec Driveway is stop controlled.
- **Broadway (CR 551) and Holtec Boulevard/Morgan Boulevard** – The intersection of Broadway (CR 551) and Holtec Boulevard/Morgan Boulevard is a signalized intersection. Both the eastbound and westbound approaches consist of one (1) dedicated left lane, one (1) dedicated through lane, and one (1) shared through/right lane. The northbound approach consists of one (1) dedicated left lane, one (1) dedicated through lane, and one (1) dedicated right lane. The southbound approach consists of one (1) dedicated left lane and one (1) shared through/right lane. The traffic signal is a 4-phase signal with push buttons for crossing Broadway and Holtec Boulevard. It is linked with the Holtec Boulevard/Morgan Boulevard and I-676 SB Ramp/Covanta Driveway intersection under one controller.
- **Morgan Boulevard and I-676 SB Ramp/Covanta Driveway** – The intersection of Holtec Boulevard/Morgan Boulevard and I-676 SB Ramp/Covanta Driveway is a signalized intersection. The westbound approach consists of one (1) dedicated left lane, and two (2) dedicated through lanes. The northbound approach consists of one (1) shared left/right lane. The southbound approach consists of one (1) dedicated left lane, and one (1) shared through/right lane. The traffic signal is a 4-phase signal with push buttons for crossing I-676 SB Ramp/Covanta Driveway. It is linked with the Broadway (CR 551) and Holtec Boulevard intersection under one controller.
- **Morgan Boulevard and I-676 NB Ramp/Master Street** – The intersection of Morgan Boulevard and I-676 NB Ramp/Master Street is a signalized intersection. The eastbound approach consists of two (2) dedicated through lanes. The westbound approach consists of one (1) dedicated through lane, and one (1) shared through/right lane. The northbound approach consists of one (1) dedicated left turn lane, and one (1) shared left/through lane. The southbound approach consists of one (1) shared left/right lane. The traffic signal is a 3-phase signal.

Data Collection

Manual turning movement counts were conducted on Tuesday, November 1st, 2022, during the AM peak period between 7:00 – 9:00 AM and during the PM peak period between 4:00 – 6:00 PM at the intersections of:

- Broadway (CR 551) and Jefferson Street
- Broadway (CR 551) and Chelton Street
- Broadway (CR 551) and Holtec Driveway
- Broadway (CR 551) and Holtec Boulevard
- Morgan Boulevard and I-676 SB Ramp/Covanta Driveway
- Morgan Boulevard and I-676 NB Ramp/Master Street

The turning movement counts are provided in **Appendix A**.

Study Methodology

Capacity Analysis

Two analysis years are being considered: existing baseline traffic conditions and opening year analysis. The opening year analyses includes an assessment of the operational conditions of the study intersections under “No Build” and “Build” scenarios.

The performance of the study intersections for each analysis scenario was evaluated through a qualitative measure of operating conditions called Levels of Service (LOS). Six Levels of Service (LOS) are defined with letter designations from ‘A’ to ‘F’ with Level of Service ‘A’ representing delays up to ten seconds and Level of Service ‘F’ indicating delays exceeding eighty seconds. Level of Service ‘C’ or better is considered acceptable, with a threshold of Level of Service ‘D’ in urban areas. Levels of Service are determined through analysis procedures outlined in the *Highway Capacity Manual, Sixth Edition* (Transportation Research Board, Washington, D.C.). Under certain circumstances, *HCM 6th Edition* cannot be used to analyze an intersection due to certain restrictions such as a signal with non-NEMA phasing or an intersection that has U-turns; under those circumstances, *Synchro Lanes, Volumes, and Timings* output methodologies will be utilized.

Levels of Service for signalized intersections are based on average delay experienced by motorists passing the intersection. The delay is based on the results of the capacity analysis (rate of demand flow to capacity) and other important variables such as quality of progression, cycle length, and ratio of green time.

Levels of Service for unsignalized intersections are defined in terms of delay to vehicles entering from the side road and turning left from a major road. Delay is a function of the capacity of the approach and degree of saturation. The capacity is based on the distribution of gaps in the major street traffic stream, driver judgment in selecting a gap through which to execute the desired maneuver, and follow-up time required by each driver in a queue.

The Level of Service Criteria for signalized and unsignalized intersections is provided in **Table 1** and **Table 2**.

Table 1- Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay (Seconds per Vehicle)
A	≤ 10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

Table 2- Level of Service Criteria for Unsignalized Intersections

Level of Service	Control Delay (Seconds per Vehicle)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The operational analyses of the study intersections under all conditions were performed using the *Synchro* Version 11 software.

2022 Existing Conditions

Analysis of Existing Conditions

Capacity Analysis

Under the 2022 Existing Conditions, all study intersections operate at a LOS D or better and all approaches/movements operate at a LOS D or better except for the southbound approach of the I-676 SB Off-Ramp at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway which operates at LOS E (78.4 sec.) during the PM peak period.

The results of the capacity analysis are summarized in **Table 3**. *Synchro HCM 6th Edition* output summaries for the 2022 Existing Condition can be found in **Appendix B**.

Figure 4 illustrates the projected 2022 Existing Condition traffic volumes.

Table 3 – 2022 Existing Condition Delay and LOS

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Broadway (CR 551) & Jefferson Street (signalized)	EB Approach	C	30.0	C	28.6
	WB Approach	C	26.2	C	26.5
	NB Approach	A	3.4	A	3.3
	SB Approach	A	3.2	A	3.6
	Overall	A	9.8	A	8.1
Broadway (CR 551) & Chelton Street (unsignalized)	EB Approach	B	10.8	B	11.9
	WB Approach	B	10.3	B	10.7
	Overall	A	4.0	A	3.8
Broadway (CR 551) & Holtec Driveway (unsignalized)	NB Approach	A	10.4	A	10.8
	Overall	A	1.9	A	2.7
Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard (signalized)	EB Approach	D	39.1	D	45.7
	WB Approach	A	0.7	A	3.7
	NB Approach	D	45.9	D	40.2
	SB Approach	D	51.7	D	49.7
	Overall	C	24.0	C	31.9
Morgan Boulevard & I-676 SB Off-Ramp/Covanta Driveway (signalized)	EB Approach	A	1.2	A	0.8
	WB Approach	D	53.6	D	47.9
	NB Approach	A	0.6	A	0.6
	SB Approach	D	47.6	E	78.4
	Overall	D	35.6	D	42.5
Morgan Boulevard & I-676 NB Off-Ramp/Master Street (signalized)	EB Approach	B	10.5	A	9.6
	WB Approach	B	10.3	A	9.1
	NB Approach	C	32.4	C	29.9
	SB Approach	B	15.1	B	15.6
	Overall	B	18.2	B	14.7
Holtec Boulevard & Existing Site Driveway (unsignalized)	SB Approach	A	0.0	A	9.0
	Overall	A	0.0	A	6.3

2024 No Build Conditions

Background Growth

To account for general traffic growth in the area, an annual background growth rate is applied to existing traffic volumes on the study area roadways. An annual background growth rate of 1.00% has been established by NJDOT for Urban Local roadways in Camden County.

Through consultation with both Camden County and the City of Camden, no adjacent developments were identified that would have an additional adverse impact on the adjacent roadway network. The established NJDOT background growth rate was conservatively used to account for any increase in background traffic growth.

Figure 5 illustrates the projected 2022 No-Build Conditions traffic volumes.

Analysis of No Build Conditions

Capacity Analysis

Under the 2024 No-Build Conditions, all study intersections operate at a LOS D or better and all approaches/movements operate at a LOS D or better except for the southbound approach of the I-676 SB Off-Ramp at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway which continues to operate at LOS F (81.9 sec.) during the PM peak period.

The results of the capacity analysis are summarized in Table 4. Synchro HCM 6th Edition output summaries for the 2024 No-Build Conditions can be found in Appendix C.

Table 4 - 2024 No-Build Condition Delay and LOS

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Broadway (CR 551) & Jefferson Street (signalized)	EB Approach	C	30.2	C	28.7
	WB Approach	C	26.2	C	26.5
	NB Approach	A	3.4	A	3.3
	SB Approach	A	3.2	A	3.6
	Overall	A	9.8	A	8.1
Broadway (CR 551) & Chelton Street (unsignalized)	EB Approach	B	10.9	B	12.0
	WB Approach	B	10.4	B	10.7
	Overall	A	4.0	A	3.7
Broadway (CR 551) & Holtec Driveway (unsignalized)	NB Approach	A	10.4	A	10.9
	Overall	A	1.9	A	2.8
Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard (signalized)	EB Approach	D	39.2	D	45.9
	WB Approach	A	0.7	A	3.8
	NB Approach	D	46.0	D	40.2
	SB Approach	D	51.8	D	50.0
	Overall	C	24.1	C	32.1
Morgan Boulevard & I-676 SB Off-Ramp/Covanta Driveway (signalized)	EB Approach	A	1.3	A	0.8
	WB Approach	D	53.9	D	48.0
	NB Approach	A	0.6	A	0.6
	SB Approach	D	48.1	F	81.9
	Overall	D	35.9	D	44.2
Morgan Boulevard & I-676 NB Off-Ramp/Master Street (signalized)	EB Approach	B	10.6	A	9.6
	WB Approach	B	10.4	A	9.1
	NB Approach	C	32.5	C	29.9
	SB Approach	B	15.3	B	15.7
	Overall	B	18.4	B	14.8
Holtec Boulevard & Existing Site Driveway (unsignalized)	SB Approach	A	0.0	A	9.1
	Overall	A	0.0	A	6.8

Analysis of No-Build – Optimized Conditions

Under No-Build conditions with the existing signal timings, there is a reported LOS F (81.9 sec.) for the southbound approach of the I-676 SB Off-Ramp at the Morgan Boulevard signal in the PM peak period. The approach LOS F is a result of the delay on southbound left turn lane (140.5 sec.). The timings at the intersection of I-676 SB Off-Ramp at the Morgan Boulevard have been optimized in the No-Build condition utilizing *Synchro 11* software’s “optimize splits” functionality to mitigate the existing LOS F. The optimization of the timings, which involves the shifting 7 seconds from Broadway (CR 551) Phase to the I-676 ramp phase, improves the movement to LOS E, improves the approach to LOS D, and reduces the 95th percentile queue on the I-676 ramp by approximately 130’.

The below **Table 5** provides the optimized intersection delays for the intersection of Morgan Boulevard and I-676 SB Off-Ramp and the intersection of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551), which are operated by the same controller. The *Synchro 11* output summaries can be found in **Appendix D**.

Table 5 - 2024 No-Build Condition Delay and LOS - Optimized

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard (signalized)	EB Approach	D	41.0	D	47.9
	WB Approach	A	0.7	A	3.3
	NB Approach	D	50.3	D	45.8
	SB Approach	E	57.5	E	59.7
	Overall	C	26.4	D	36.5
Morgan Boulevard & I-676 SB Off-Ramp/Covanta Driveway (signalized)	EB Approach	A	1.5	A	1.1
	WB Approach	E	55.9	D	49.9
	NB Approach	A	0.5	A	0.4
	SB Approach	D	40.8	D	41.9
	Overall	D	34.0	C	25.4

2024 Build Conditions

Development Description

The proposed development is a 2-story office building and pole barn at 1 Holtec Boulevard in the City of Camden, New Jersey. The proposed office building will be 51,586 SF. The proposed development will be accessed through an existing full movement driveway on along Holtec Boulevard, which currently provides access to an existing parking lot which will be expanded by 274 spaces. An existing surface parking lot adjacent to the main office building within the greater Holtec campus will also be expanded by 190 parking spaces.

The overall facility site plan is depicted on **Figure 2** and the proposed office building site plan is illustrated on **Figure 3**.

Trip Generation

The trips generated by the proposed residential building were estimated in accordance with the methodology outlined in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. ITE defines a trip as a “single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site.” The trip generation was calculated for the Land Use Code 710 – General Office Building, which is described as a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted.

Table 6 below provides a breakdown of the estimated vehicular trips generated by the site during the roadway peak period (7:00 AM – 9:00 AM and 4:00 PM – 6:00 PM) for analysis of the 2024 Build Conditions:

Table 6 - Trip Generation

Land Use Description	Independent Variable	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
LUC 710 – General Office Building	1000 Sq. Ft. GFA	83	12	95	16	80	96

Summaries of the trip generation are provided in **Appendix E**.

The NJ State Highway Access Code defines a development as a significant generator of traffic if it generates 100 or more peak hour trips. The proposed 2-story office building generates a maximum of 96 peak hour trips and therefore does not meet the definition of a significant traffic generator.

Trip Distribution

New trips associated with the proposed office building is based on the existing roadway network patterns and the location of the proposed driveway. The distribution and site trips are provided in **Figure 6** and **Figure 7**.

Figure 8 illustrates the projected 2024 Build traffic volumes.

Analysis of Build Conditions

Capacity Analysis

The impact of the proposed office building development was evaluated for the AM and PM roadway peak periods with stop control at the proposed site driveway and utilizing the optimized signal timings at the intersections of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551) and Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway. Under the Build Conditions, all study intersections continue to operate at an overall LOS D or better and all approaches operate at a LOS D or better with the following exceptions:

- The southbound approach of Broadway (CR 551) at the intersection of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551) continues to operate at LOS E during the PM peak period with delays of 64.0 seconds.
- The westbound approach of Morgan Boulevard at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway continues to operate at LOS E during both the AM peak periods with a delay of 59.1 seconds.

The addition of the site trips to the roadway network does not result in a degradation in overall or approach LOS and a maximum increase in approach delay of 9.0 seconds and maximum increase in overall intersection delay of 3.2 seconds.

The results of the capacity analysis are summarized in **Table 7**. *Synchro HCM 6th Edition* output summaries for the 2024 Build Conditions can be found in **Appendix F**.

Table 7 - 2024 Build Condition Delay and LOS

Intersection	Approach	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec)	LOS	Delay (sec)
Broadway (CR 551) & Jefferson Street (signalized)	EB Approach	C	30.2	C	28.7
	WB Approach	C	26.2	C	26.5
	NB Approach	A	3.4	A	3.3
	SB Approach	A	3.2	A	3.6
	Overall	A	9.7	A	8.0
Broadway (CR 551) & Chelton Street (unsignalized)	EB Approach	B	11.0	B	12.0
	WB Approach	B	10.4	B	10.8
	Overall	A	3.9	A	3.7
Broadway (CR 551) & Holtec Driveway (unsignalized)	NB Approach	B	12.0	A	10.9
	Overall	A	1.8	A	2.7
Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard (signalized)	EB Approach	D	39.5	D	50.9
	WB Approach	A	0.6	A	3.6
	NB Approach	D	50.1	D	47.9
	SB Approach	D	53.9	E	64.0
	Overall	C	23.9	D	39.7
Morgan Boulevard & I-676 SB Off-Ramp/Covanta Driveway (signalized)	EB Approach	A	1.5	A	0.7
	WB Approach	E	59.1	D	50.1
	NB Approach	A	0.5	A	0.4
	SB Approach	D	38.9	D	45.6
	Overall	D	36.0	C	26.8
Morgan Boulevard & I-676 NB Off-Ramp/Master Street (signalized)	EB Approach	B	10.7	A	9.7
	WB Approach	B	10.7	A	9.2
	NB Approach	C	33.2	C	29.8
	SB Approach	B	15.6	B	15.8
	Overall	B	18.8	B	14.7
Holtec Boulevard & Site Driveway (unsignalized)	SB Approach	A	9.0	A	9.5
	Overall	A	0.4	A	7.0

Conclusions

A summary of the findings of the report is presented below:

- Under the Existing condition, the study intersections operate at LOS D or better and all study approaches operate at LOS D or better during the AM and PM peak periods with the exception of the southbound approach of the I-676 SB Off-Ramp at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway which operates at LOS E (78.4 sec.) during the PM peak period.
- Under the No-Build condition with existing timings, all study intersections operate at LOS D or better and all study approaches operate at LOS D or better during the AM and PM peak periods except for the southbound approach of the I-676 SB Off-Ramp at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway which continues to operate at LOS F (81.9 sec.) during the PM peak period.
- Under the optimized No-Build condition, the traffic signals at the intersections of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551) and Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway were optimized using *Synchro 11* software's "optimize splits" functionality. With signal timing optimization, the LOS F on the southbound approach of the I-676 SB Off-Ramp at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway is eliminated. The southbound approach of Broadway (CR 551) at the intersection of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551) operates at LOS E during both the AM and PM peak periods with delays of 57.5 and 59.7 seconds, respectively, and the westbound approach of Morgan Boulevard at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway operates at LOS E during the AM peak period with a delay of 55.9 seconds.
- Under the Build condition with optimized signal timings, the study intersections continue to operate at a LOS D or better and all approaches operate at a LOS D or better during the AM and PM peak periods with the following exceptions:
 - The southbound approach of Broadway (CR 551) at the intersection of Holtec Boulevard/Morgan Boulevard and Broadway (CR 551) continues to operate at LOS E during the AM peak period with delays of 64.0 seconds.
 - The westbound approach of Morgan Boulevard at the intersection of Morgan Boulevard and I-676 SB Off-Ramp/Covanta Driveway operates at LOS E during the AM peak period with a delay of 59.1 seconds.

In conclusion, the construction of the proposed office building and pole barn at 1 Holtec Boulevard will not result in a significant increase in traffic on the adjacent roadway network and will not result in an appreciable impact to the operation or traffic flow at the signalized and unsignalized intersections within the study area.



LEGEND:

- # STUDY INTERSECTION NO.
- ⊙ TRAFFIC SIGNAL

STUDY INTERSECTIONS

1. BROADWAY (CR 551) AND JEFFERSON STREET
2. BROADWAY (CR 551) AND CHELTON AVENUE
3. BROADWAY (CR 551) AND HOLTEC DRIVEWAY
4. BROADWAY (CR 551) AND HOLTEC BOULEVARD/MORGAN BOULEVARD
5. MORGAN BOULEVARD AND I-676 SB RAMP/COVANTA DRIVEWAY
6. MORGAN BOULEVARD AND I-676 NB RAMP/MASTER STREET
7. HOLTEC BOULEVARD AND EXISTING SITE DRIVEWAY

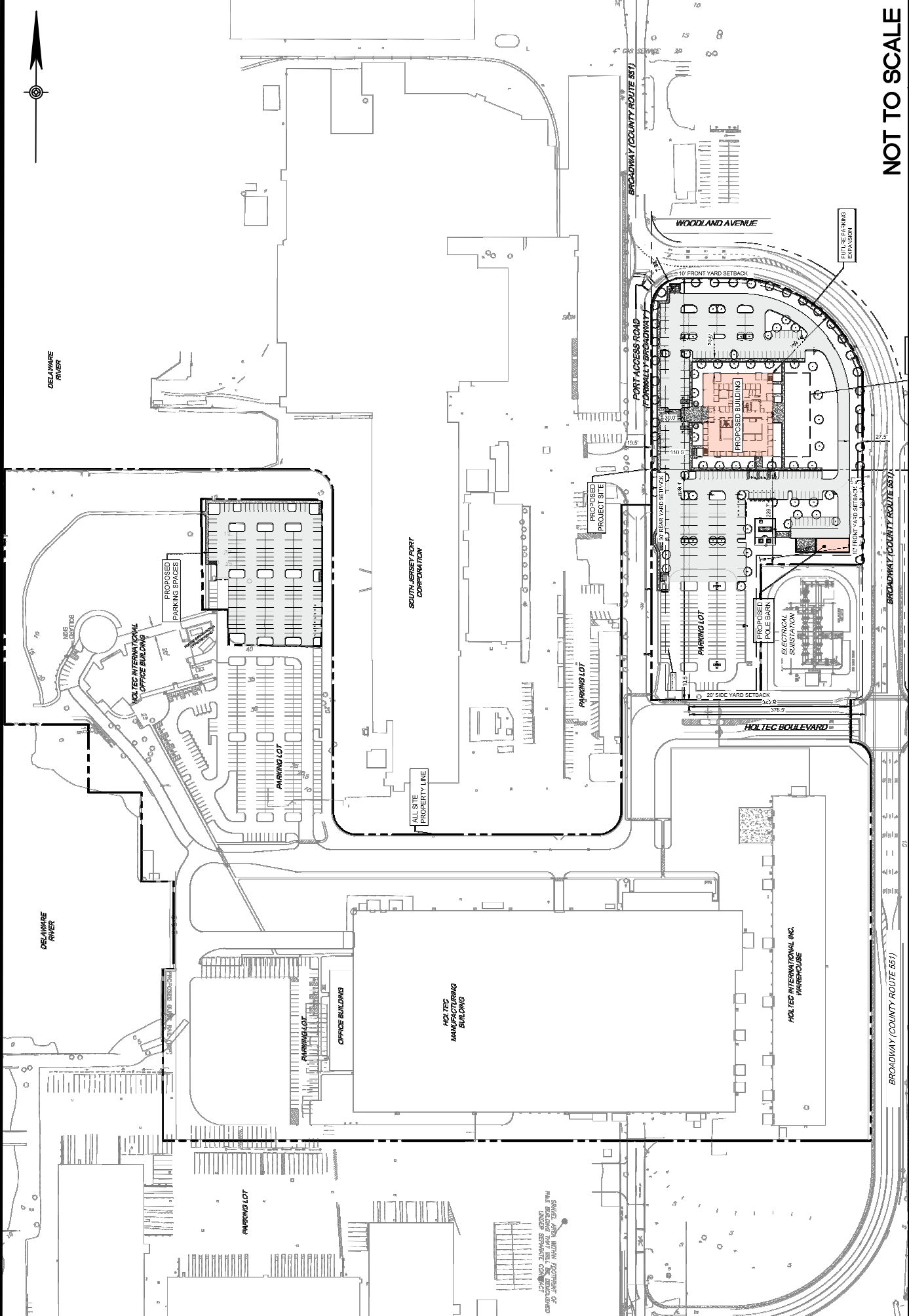
NOT TO SCALE

HOLTEC OFFICE BUILDING
 Proposed Office Building Development
 Camden, New Jersey

FIGURE 1
 Project Area

PENNONI ASSOCIATES INC.
 CONSULTING ENGINEERS
 515 GROVE STREET
 HADDON HEIGHTS, NJ





NOT TO SCALE

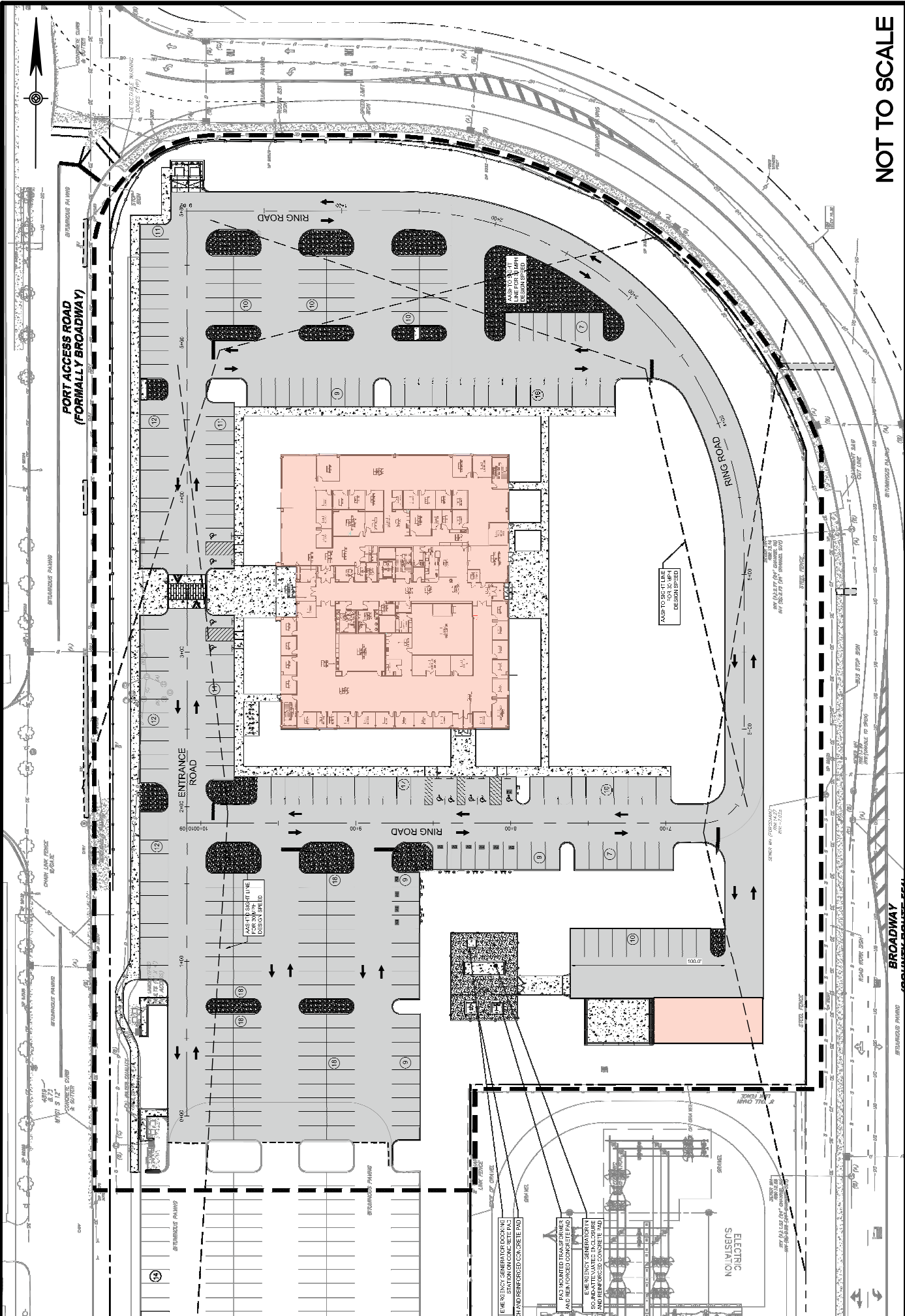
FIGURE 2
Site Plan
Overall Facility

HOLTEC OFFICE BUILDING
Proposed Office Building Development
Camden, New Jersey

PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS
515 GROVE STREET
HADDON HEIGHTS, NJ



SCALE: 1/8" = 1'-0" WITH 1/4" TYPICAL
DATE: 08/14/2014
DRAWN BY: J. J. JAMES
CHECKED BY: J. J. JAMES
PROJECT NO.: 14-001



NOT TO SCALE

HOLTEC OFFICE BUILDING
 Proposed Office Building Development
 Camden, New Jersey

FIGURE 3
 Site Plan
 Proposed Office Building

PENNONI ASSOCIATES INC.
 CONSULTING ENGINEERS
 515 GROVE STREET
 HADDON HEIGHTS, NJ



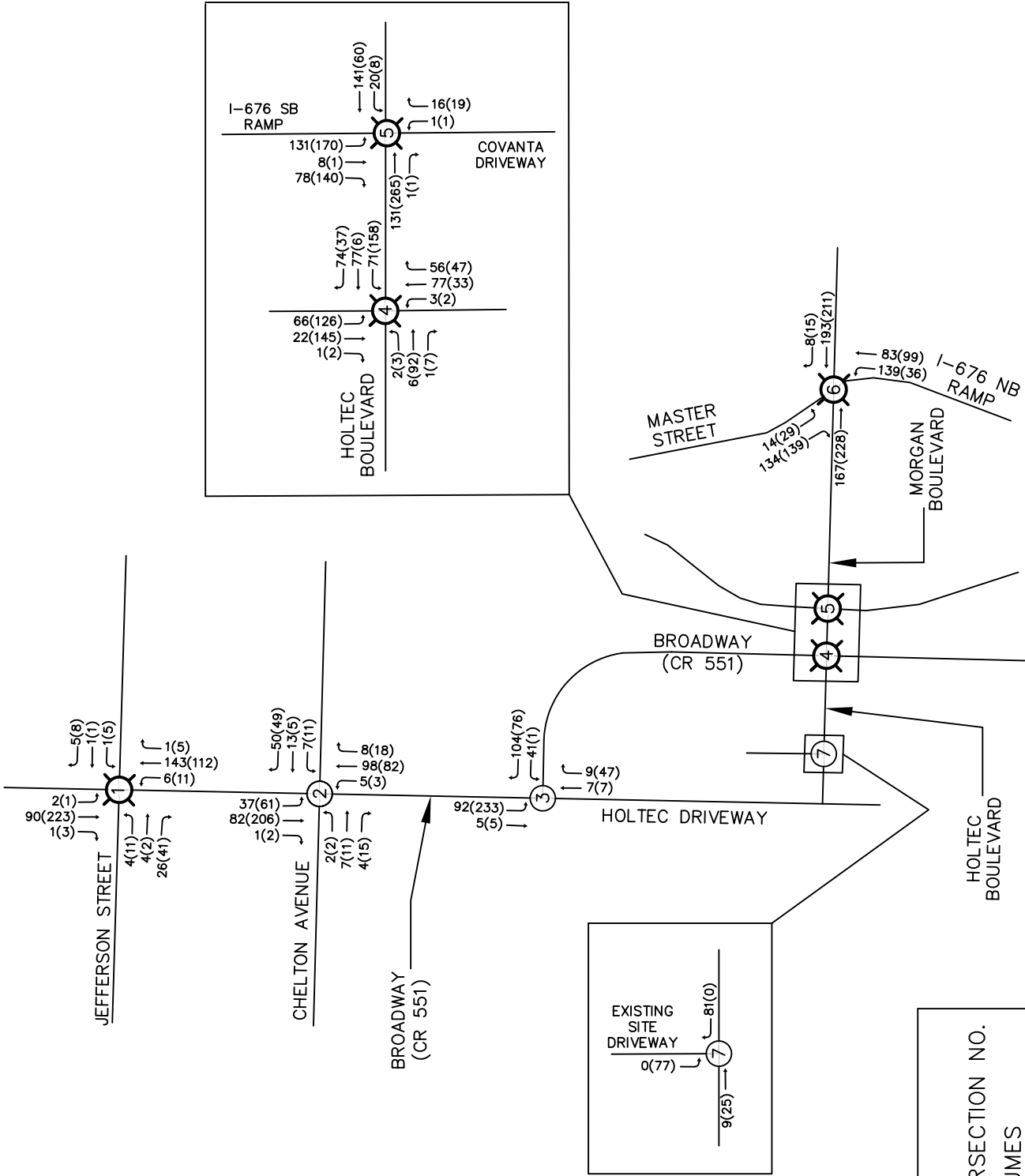
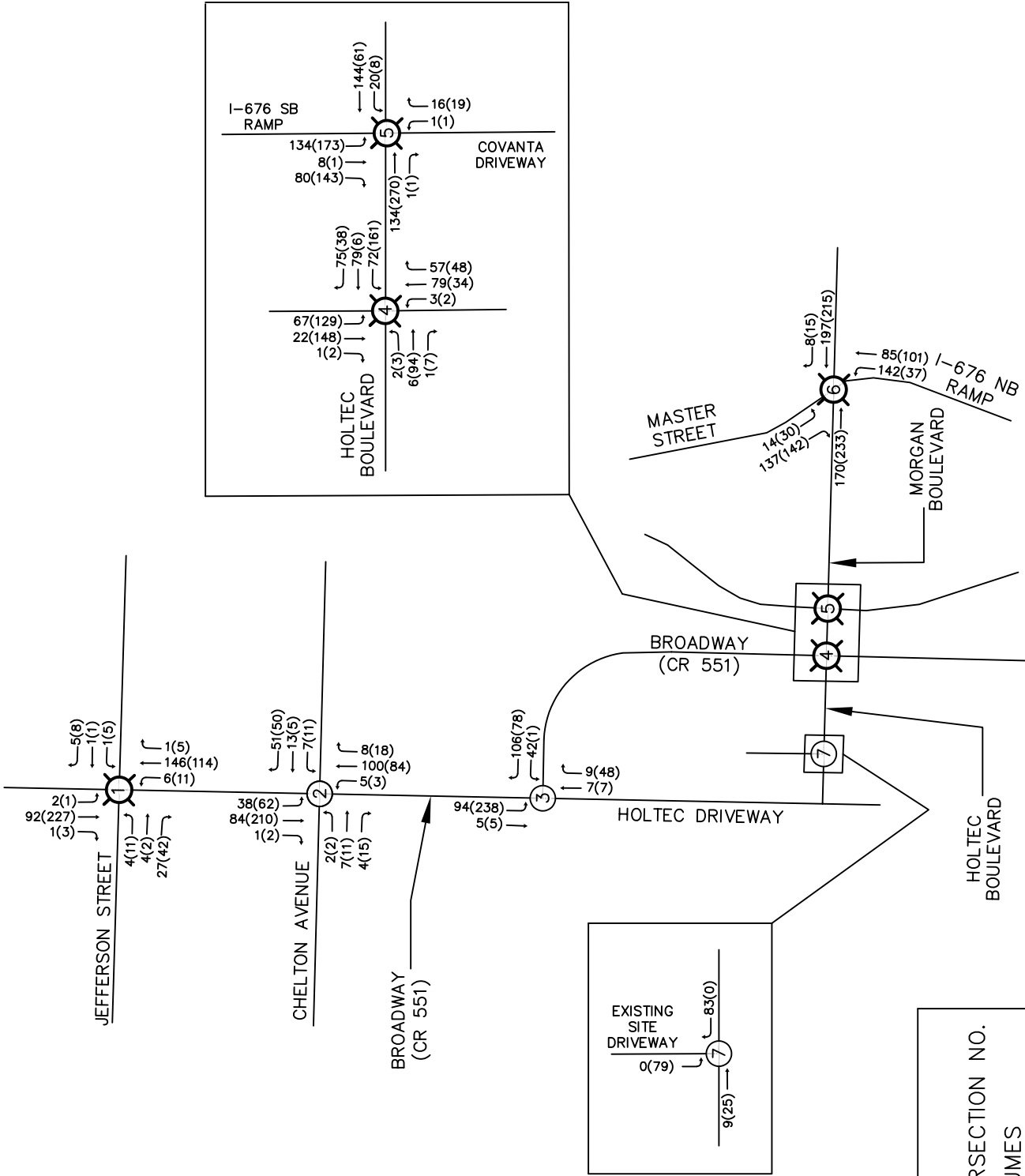


FIGURE 4
2022 Existing Condition
Peak Hour Traffic Volumes

HOLTEC OFFICE BUILDING
Proposed Office Building Development
Camden, New Jersey

PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS
515 GROVE STREET
HADDON HEIGHTS, NJ





NOT TO SCALE

LEGEND:

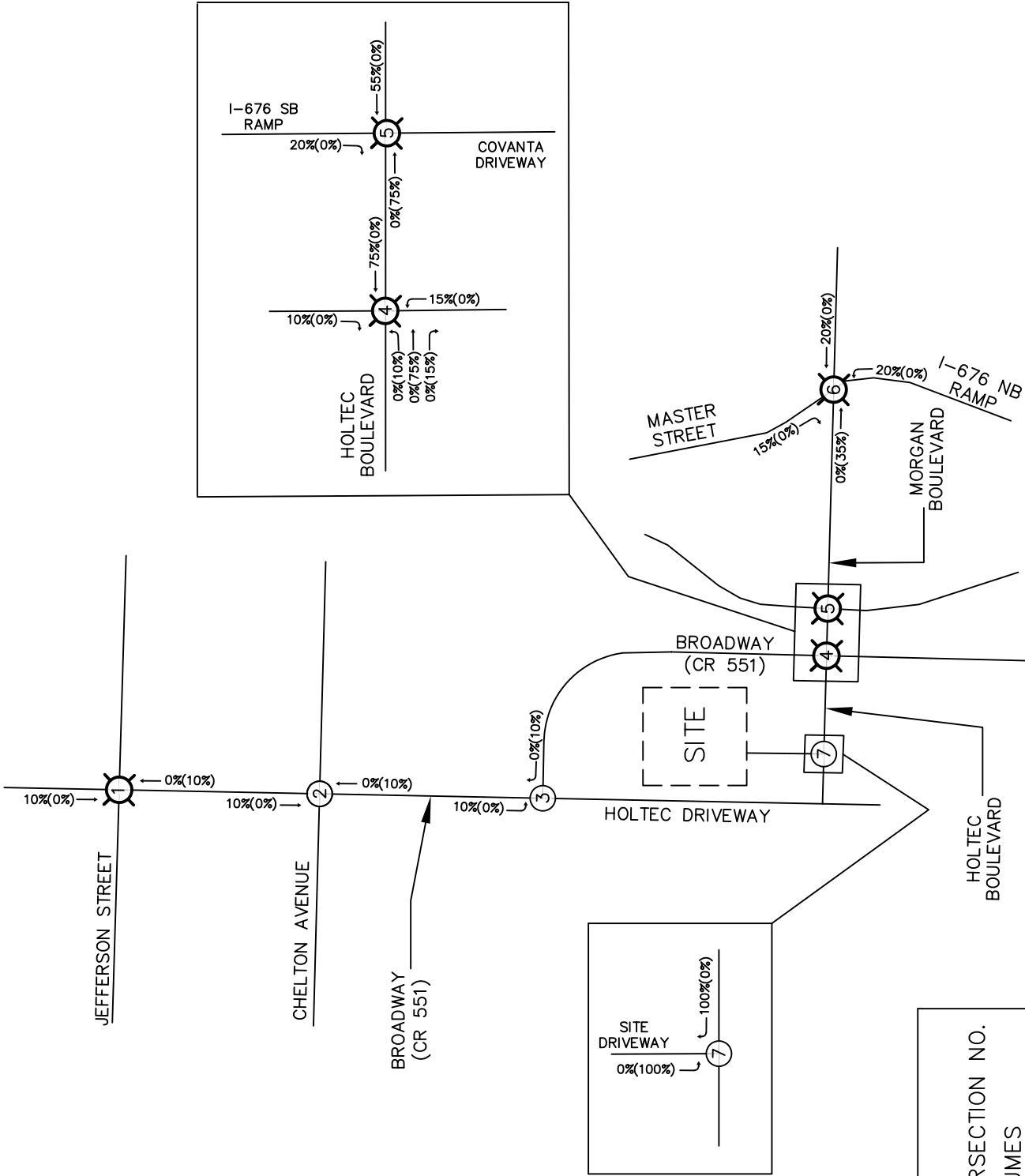
- ⊕ STUDY INTERSECTION NO.
- ← AM(PM) VOLUMES
- ⊗ TRAFFIC SIGNAL

FIGURE 5
 2024 No-Build Condition
 Peak Hour Traffic Volumes

HOLTEC OFFICE BUILDING
 Proposed Office Building Development
 Camden, New Jersey

PENNONI ASSOCIATES INC.
 CONSULTING ENGINEERS
 515 GROVE STREET
 HADDON HEIGHTS, NJ





NOT TO SCALE

LEGEND:

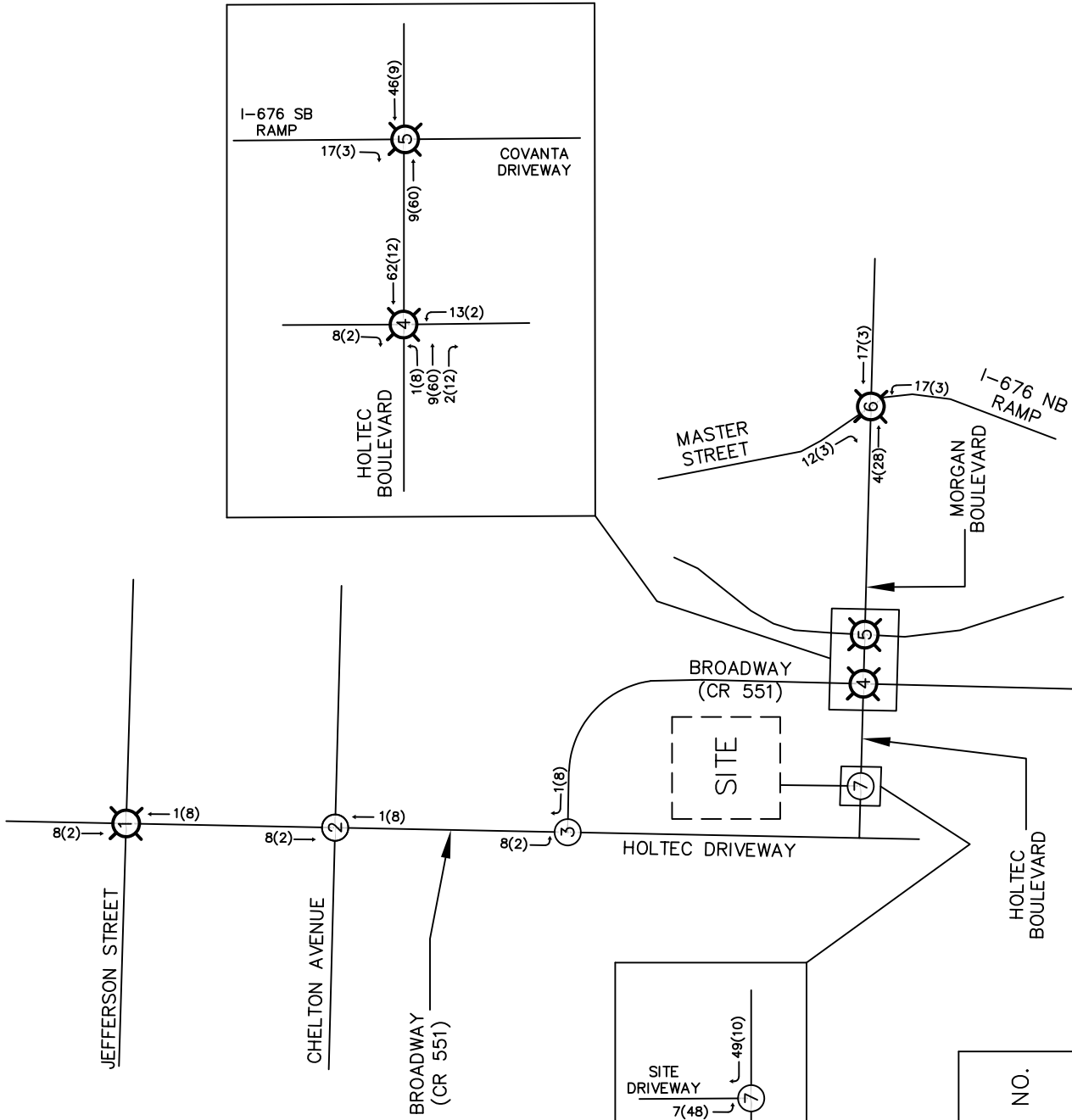
- ⊕ STUDY INTERSECTION NO.
- ← AM(PM) VOLUMES
- ⊙ TRAFFIC SIGNAL

FIGURE 6
Trip Distribution

HOLTEC OFFICE BUILDING
Proposed Office Building Development
Camden, New Jersey

PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS
515 GROVE STREET
HADDON HEIGHTS, NJ





NOT TO SCALE

LEGEND:

- ⊕ STUDY INTERSECTION NO.
- ← AM(PM) VOLUMES
- ⊖ TRAFFIC SIGNAL

Pennoni
 PENNONI ASSOCIATES INC.
 CONSULTING ENGINEERS
 515 GROVE STREET
 HADDON HEIGHTS, NJ

HOLTEC OFFICE BUILDING
 Proposed Office Building Development
 Camden, New Jersey

FIGURE 7
 Peak Hour Site Trips

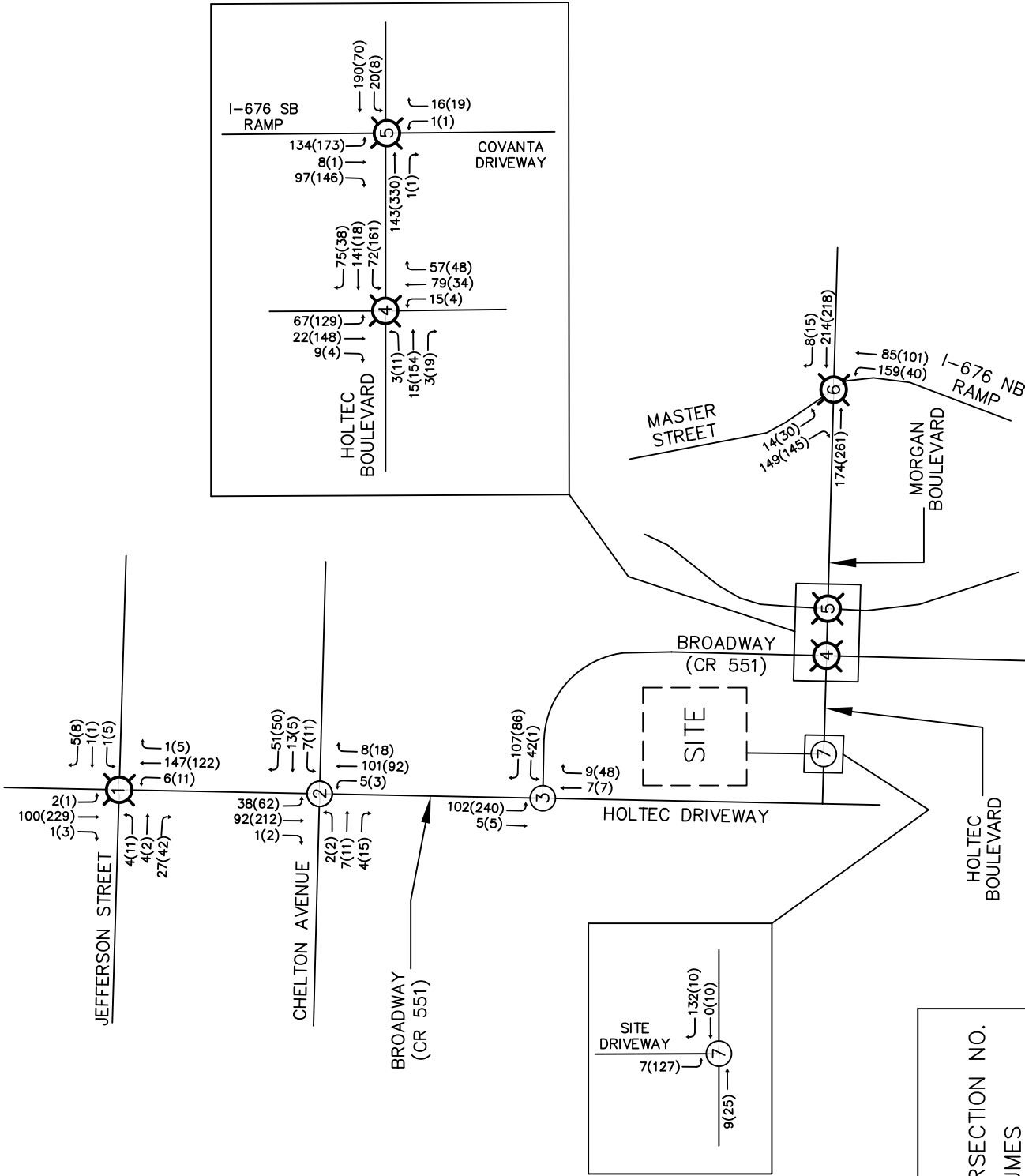


FIGURE 8
 2024 Build Condition
 Peak Hour Traffic Volumes

HOLTEC OFFICE BUILDING
 Proposed Office Building Development
 Camden, New Jersey

PENNONI ASSOCIATES INC.
 CONSULTING ENGINEERS
 515 GROVE STREET
 HADDON HEIGHTS, NJ



**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX A

Data Collection



www.TSTData.com
184 Baker Rd

Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Camden County, NJ
Broadway & Chelton Ave
Thursday, November 3, 2022
Location: 39.918289, -
75.119781

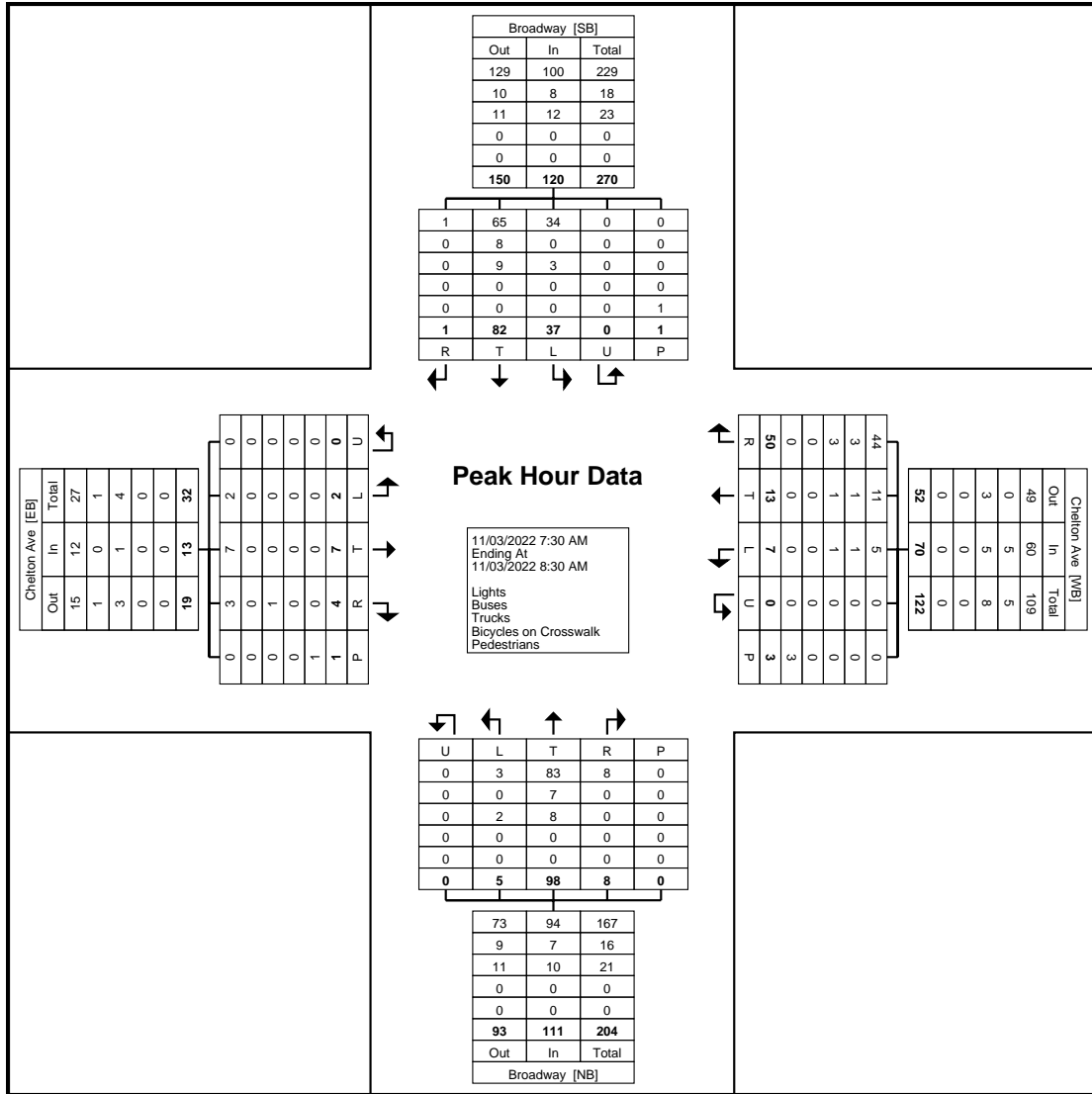
Count Name: Broadway &
Chelton Ave
Site Code:
Start Date: 11/03/2022
Page No: 1

Turning Movement Data

Start Time	Chelton Ave Eastbound						Chelton Ave Westbound						Broadway Northbound						Broadway Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	1	3	1	0	0	5	4	2	6	0	1	12	0	13	2	0	0	15	16	13	0	0	0	29	61
7:15 AM	1	0	0	0	0	1	0	1	8	0	1	9	1	33	2	0	0	36	5	12	0	0	0	17	63
7:30 AM	0	1	2	0	0	3	3	1	13	0	3	17	2	23	1	0	0	26	13	23	1	0	1	37	83
7:45 AM	0	3	0	0	0	3	2	3	18	0	0	23	2	25	4	0	0	31	11	21	0	0	0	32	89
Hourly Total	2	7	3	0	0	12	9	7	45	0	5	61	5	94	9	0	0	108	45	69	1	0	1	115	296
8:00 AM	2	2	0	0	0	4	0	5	8	0	0	13	0	21	2	0	0	23	8	13	0	0	0	21	61
8:15 AM	0	1	2	0	1	3	2	4	11	0	0	17	1	29	1	0	0	31	5	25	0	0	0	30	81
8:30 AM	0	4	0	0	0	4	2	0	8	0	0	10	1	30	1	0	0	32	10	19	0	1	0	30	76
8:45 AM	0	3	2	0	0	5	2	3	11	0	0	16	1	15	3	0	0	19	13	14	0	0	0	27	67
Hourly Total	2	10	4	0	1	16	6	12	38	0	0	56	3	95	7	0	0	105	36	71	0	1	0	108	285
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	3	0	0	0	3	2	1	13	0	1	16	0	27	5	0	0	32	17	42	1	0	1	60	111
4:15 PM	0	1	3	0	1	4	2	1	14	0	4	17	1	16	2	0	0	19	12	46	0	0	4	58	98
4:30 PM	1	5	9	0	1	15	4	2	15	0	0	21	1	22	7	0	0	30	12	63	1	0	1	76	142
4:45 PM	1	2	3	0	0	6	3	1	7	0	2	11	1	17	4	0	0	22	20	55	0	0	0	75	114
Hourly Total	2	11	15	0	2	28	11	5	49	0	7	65	3	82	18	0	0	103	61	206	2	0	6	269	465
5:00 PM	0	1	1	0	0	2	3	2	7	1	0	13	0	11	2	0	0	13	13	45	0	0	0	58	86
5:15 PM	1	2	3	0	0	6	1	1	6	0	0	8	0	15	1	0	0	16	13	37	2	0	0	52	82
5:30 PM	1	5	3	0	0	9	2	0	12	0	0	14	1	6	1	0	0	8	20	29	2	0	0	51	82
5:45 PM	1	3	2	0	0	6	3	3	14	0	0	20	0	12	3	0	0	15	9	28	0	0	0	37	78
Hourly Total	3	11	9	0	0	23	9	6	39	1	0	55	1	44	7	0	0	52	55	139	4	0	0	198	328
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	9	39	31	0	3	79	35	30	171	1	12	237	12	315	41	0	0	368	197	485	7	1	7	690	1374
Approach %	11.4	49.4	39.2	0.0	-	-	14.8	12.7	72.2	0.4	-	-	3.3	85.6	11.1	0.0	-	-	28.6	70.3	1.0	0.1	-	-	-
Total %	0.7	2.8	2.3	0.0	-	5.7	2.5	2.2	12.4	0.1	-	17.2	0.9	22.9	3.0	0.0	-	26.8	14.3	35.3	0.5	0.1	-	50.2	-
Lights	7	38	29	0	-	74	31	27	161	0	-	219	8	269	36	0	-	313	191	427	7	1	-	626	1232
% Lights	77.8	97.4	93.5	-	-	93.7	88.6	90.0	94.2	0.0	-	92.4	66.7	85.4	87.8	-	-	85.1	97.0	88.0	100.0	100.0	-	90.7	89.7
Buses	0	0	0	0	-	0	2	1	5	0	-	8	0	22	2	0	-	24	1	29	0	0	-	30	62
% Buses	0.0	0.0	0.0	-	-	0.0	5.7	3.3	2.9	0.0	-	3.4	0.0	7.0	4.9	-	-	6.5	0.5	6.0	0.0	0.0	-	4.3	4.5
Trucks	2	1	2	0	-	5	2	2	5	1	-	10	4	24	3	0	-	31	5	29	0	0	-	34	80
% Trucks	22.2	2.6	6.5	-	-	6.3	5.7	6.7	2.9	100.0	-	4.2	33.3	7.6	7.3	-	-	8.4	2.5	6.0	0.0	0.0	-	4.9	5.8
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	33.3	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	28.6	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	12	-	-	-	-	-	0	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	66.7	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	71.4	-	-

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Chelton Ave Eastbound						Chelton Ave Westbound						Broadway Northbound						Broadway Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:30 AM	0	1	2	0	0	3	3	1	13	0	3	17	2	23	1	0	0	26	13	23	1	0	1	37	83
7:45 AM	0	3	0	0	0	3	2	3	18	0	0	23	2	25	4	0	0	31	11	21	0	0	0	32	89
8:00 AM	2	2	0	0	0	4	0	5	8	0	0	13	0	21	2	0	0	23	8	13	0	0	0	21	61
8:15 AM	0	1	2	0	1	3	2	4	11	0	0	17	1	29	1	0	0	31	5	25	0	0	0	30	81
Total	2	7	4	0	1	13	7	13	50	0	3	70	5	98	8	0	0	111	37	82	1	0	1	120	314
Approach %	15.4	53.8	30.8	0.0	-	-	10.0	18.6	71.4	0.0	-	-	4.5	88.3	7.2	0.0	-	-	30.8	68.3	0.8	0.0	-	-	-
Total %	0.6	2.2	1.3	0.0	-	4.1	2.2	4.1	15.9	0.0	-	22.3	1.6	31.2	2.5	0.0	-	35.4	11.8	26.1	0.3	0.0	-	38.2	-
PHF	0.250	0.583	0.500	0.000	-	0.813	0.583	0.650	0.694	0.000	-	0.761	0.625	0.845	0.500	0.000	-	0.895	0.712	0.820	0.250	0.000	-	0.811	0.882
Lights	2	7	3	0	-	12	5	11	44	0	-	60	3	83	8	0	-	94	34	65	1	0	-	100	266
% Lights	100.0	100.0	75.0	-	-	92.3	71.4	84.6	88.0	-	-	85.7	60.0	84.7	100.0	-	-	84.7	91.9	79.3	100.0	-	-	83.3	84.7
Buses	0	0	0	0	-	0	1	1	3	0	-	5	0	7	0	0	-	7	0	8	0	0	-	8	20
% Buses	0.0	0.0	0.0	-	-	0.0	14.3	7.7	6.0	-	-	7.1	0.0	7.1	0.0	-	-	6.3	0.0	9.8	0.0	-	-	6.7	6.4
Trucks	0	0	1	0	-	1	1	1	3	0	-	5	2	8	0	0	-	10	3	9	0	0	-	12	28
% Trucks	0.0	0.0	25.0	-	-	7.7	14.3	7.7	6.0	-	-	7.1	40.0	8.2	0.0	-	-	9.0	8.1	11.0	0.0	-	-	10.0	8.9
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (7:30 AM)

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Chelton Ave Eastbound						Chelton Ave Westbound						Broadway Northbound						Broadway Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
4:00 PM	0	3	0	0	0	3	2	1	13	0	1	16	0	27	5	0	0	32	17	42	1	0	1	60	111
4:15 PM	0	1	3	0	1	4	2	1	14	0	4	17	1	16	2	0	0	19	12	46	0	0	4	58	98
4:30 PM	1	5	9	0	1	15	4	2	15	0	0	21	1	22	7	0	0	30	12	63	1	0	1	76	142
4:45 PM	1	2	3	0	0	6	3	1	7	0	2	11	1	17	4	0	0	22	20	55	0	0	0	75	114
Total	2	11	15	0	2	28	11	5	49	0	7	65	3	82	18	0	0	103	61	206	2	0	6	269	465
Approach %	7.1	39.3	53.6	0.0	-	-	16.9	7.7	75.4	0.0	-	-	2.9	79.6	17.5	0.0	-	-	22.7	76.6	0.7	0.0	-	-	-
Total %	0.4	2.4	3.2	0.0	-	6.0	2.4	1.1	10.5	0.0	-	14.0	0.6	17.6	3.9	0.0	-	22.2	13.1	44.3	0.4	0.0	-	57.8	-
PHF	0.500	0.550	0.417	0.000	-	0.467	0.688	0.625	0.817	0.000	-	0.774	0.750	0.759	0.643	0.000	-	0.805	0.763	0.817	0.500	0.000	-	0.885	0.819
Lights	2	11	15	0	-	28	10	5	48	0	-	63	3	74	14	0	-	91	59	188	2	0	-	249	431
% Lights	100.0	100.0	100.0	-	-	100.0	90.9	100.0	98.0	-	-	96.9	100.0	90.2	77.8	-	-	88.3	96.7	91.3	100.0	-	-	92.6	92.7
Buses	0	0	0	0	-	0	0	0	1	0	-	1	0	5	1	0	-	6	0	8	0	0	-	8	15
% Buses	0.0	0.0	0.0	-	-	0.0	0.0	0.0	2.0	-	-	1.5	0.0	6.1	5.6	-	-	5.8	0.0	3.9	0.0	-	-	3.0	3.2
Trucks	0	0	0	0	-	0	1	0	0	0	-	1	0	3	3	0	-	6	2	10	0	0	-	12	19
% Trucks	0.0	0.0	0.0	-	-	0.0	9.1	0.0	0.0	-	-	1.5	0.0	3.7	16.7	-	-	5.8	3.3	4.9	0.0	-	-	4.5	4.1
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	50.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	50.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	66.7	-	-



www.TSTData.com
184 Baker Rd

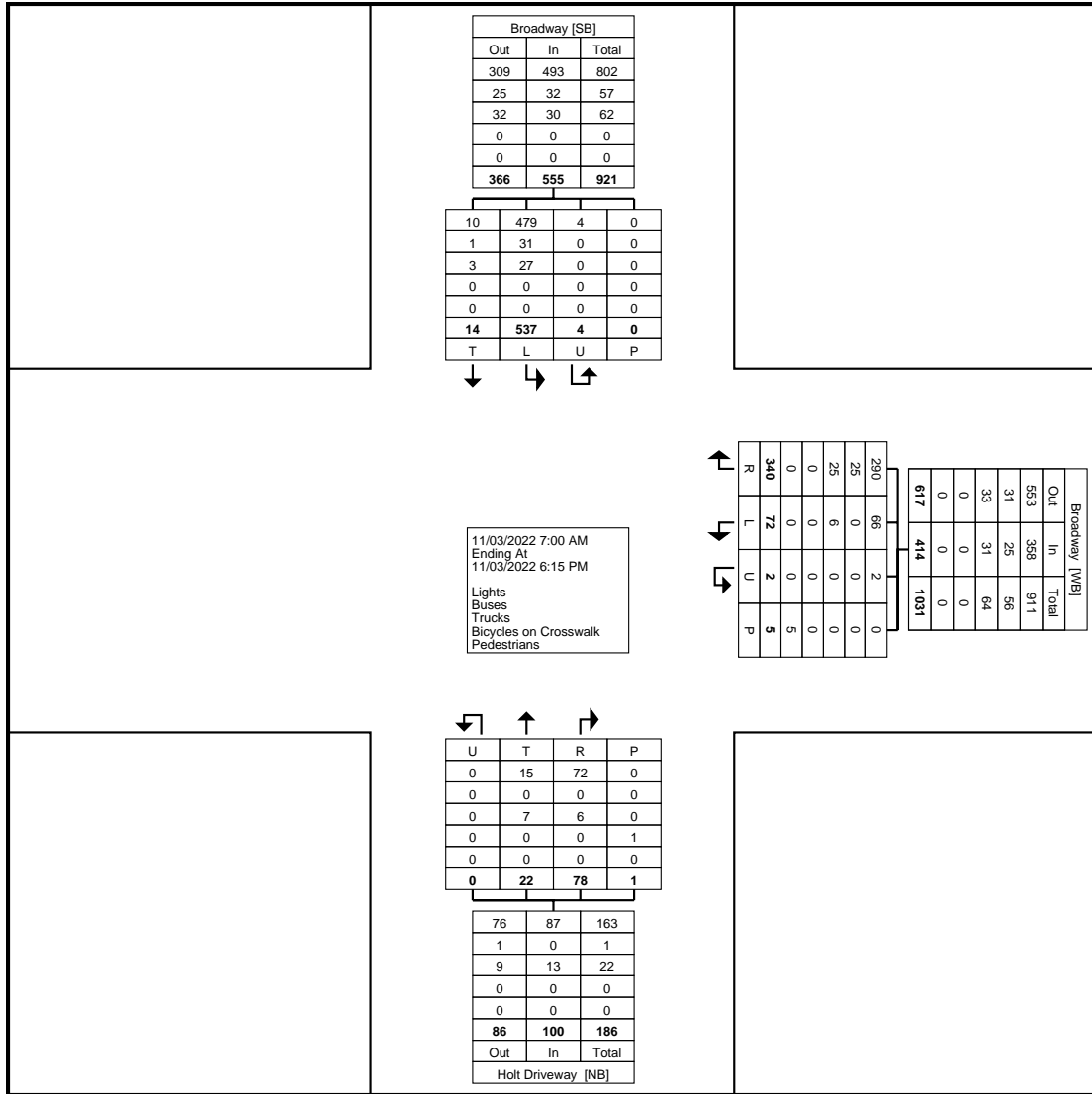
Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Camden County, NJ
Broadway & Holt Driveway
Thursday, November 3, 2022
Location: 39.915401, -
75.119792

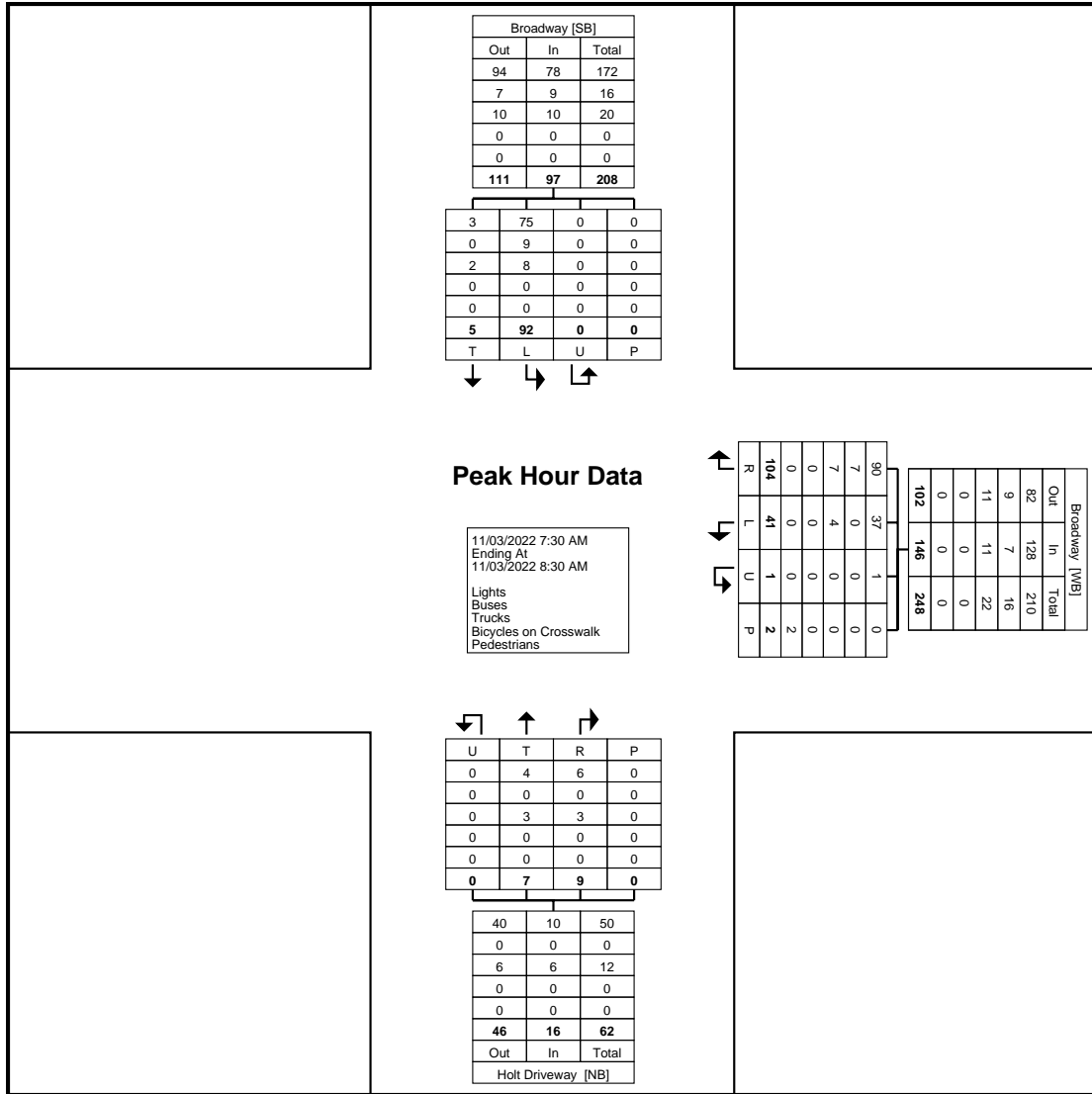
Count Name: Broadway & Holt
Driveway
Site Code:
Start Date: 11/03/2022
Page No: 1

Turning Movement Data

Start Time	Broadway Westbound					Holt Driveway Northbound					Broadway Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	12	16	0	0	28	1	1	0	0	2	18	1	0	0	19	49
7:15 AM	9	36	0	1	45	1	0	0	0	1	8	1	1	0	10	56
7:30 AM	11	24	0	1	35	1	2	0	0	3	29	0	0	0	29	67
7:45 AM	19	30	0	1	49	2	3	0	0	5	19	3	0	0	22	76
Hourly Total	51	106	0	3	157	5	6	0	0	11	74	5	1	0	80	248
8:00 AM	6	20	0	0	26	2	2	0	0	4	15	1	0	0	16	46
8:15 AM	5	30	1	0	36	2	2	0	0	4	29	1	0	0	30	70
8:30 AM	5	29	0	0	34	4	4	0	0	8	19	2	1	0	22	64
8:45 AM	3	17	1	0	21	2	3	0	0	5	18	0	0	0	18	44
Hourly Total	19	96	2	0	117	10	11	0	0	21	81	4	1	0	86	224
9:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:00 PM	0	26	0	0	26	0	6	0	0	6	42	0	0	0	42	74
4:15 PM	0	22	0	2	22	3	6	0	0	9	49	3	0	0	52	83
4:30 PM	0	22	0	0	22	1	4	0	1	5	73	2	0	0	75	102
4:45 PM	1	20	0	0	21	2	5	0	0	7	64	0	0	0	64	92
Hourly Total	1	90	0	2	91	6	21	0	1	27	228	5	0	0	233	351
5:00 PM	0	12	0	0	12	1	32	0	0	33	47	0	0	0	47	92
5:15 PM	1	14	0	0	15	0	6	0	0	6	39	0	1	0	40	61
5:30 PM	0	8	0	0	8	0	1	0	0	1	31	0	0	0	31	40
5:45 PM	0	13	0	0	13	0	1	0	0	1	37	0	1	0	38	52
Hourly Total	1	47	0	0	48	1	40	0	0	41	154	0	2	0	156	245
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	72	340	2	5	414	22	78	0	1	100	537	14	4	0	555	1069
Approach %	17.4	82.1	0.5	-	-	22.0	78.0	0.0	-	-	96.8	2.5	0.7	-	-	-
Total %	6.7	31.8	0.2	-	38.7	2.1	7.3	0.0	-	9.4	50.2	1.3	0.4	-	51.9	-
Lights	66	290	2	-	358	15	72	0	-	87	479	10	4	-	493	938
% Lights	91.7	85.3	100.0	-	86.5	68.2	92.3	-	-	87.0	89.2	71.4	100.0	-	88.8	87.7
Buses	0	25	0	-	25	0	0	0	-	0	31	1	0	-	32	57
% Buses	0.0	7.4	0.0	-	6.0	0.0	0.0	-	-	0.0	5.8	7.1	0.0	-	5.8	5.3
Trucks	6	25	0	-	31	7	6	0	-	13	27	3	0	-	30	74
% Trucks	8.3	7.4	0.0	-	7.5	31.8	7.7	-	-	13.0	5.0	21.4	0.0	-	5.4	6.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	5	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	-	-	-



Turning Movement Data Plot



Turning Movement Peak Hour Data Plot (7:30 AM)



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184 Baker Rd

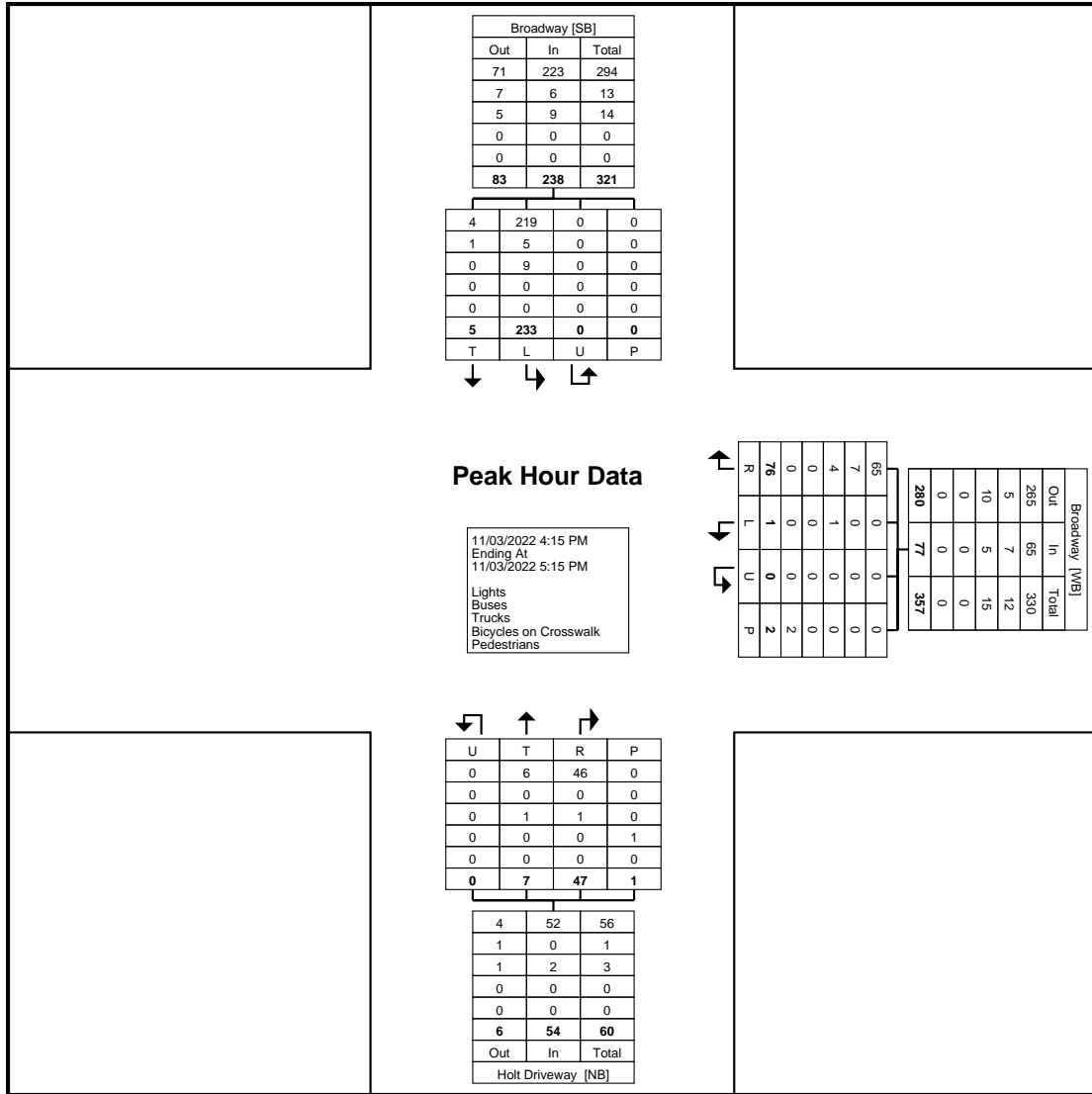
Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: Broadway & Holt
Driveway
Site Code:
Start Date: 11/03/2022
Page No: 5

Camden County, NJ
Broadway & Holt Driveway
Thursday, November 3, 2022
Location: 39.915401, -
75.119792

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Broadway Westbound					Holt Driveway Northbound					Broadway Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
4:15 PM	0	22	0	2	22	3	6	0	0	9	49	3	0	0	52	83
4:30 PM	0	22	0	0	22	1	4	0	1	5	73	2	0	0	75	102
4:45 PM	1	20	0	0	21	2	5	0	0	7	64	0	0	0	64	92
5:00 PM	0	12	0	0	12	1	32	0	0	33	47	0	0	0	47	92
Total	1	76	0	2	77	7	47	0	1	54	233	5	0	0	238	369
Approach %	1.3	98.7	0.0	-	-	13.0	87.0	0.0	-	-	97.9	2.1	0.0	-	-	-
Total %	0.3	20.6	0.0	-	20.9	1.9	12.7	0.0	-	14.6	63.1	1.4	0.0	-	64.5	-
PHF	0.250	0.864	0.000	-	0.875	0.583	0.367	0.000	-	0.409	0.798	0.417	0.000	-	0.793	0.904
Lights	0	65	0	-	65	6	46	0	-	52	219	4	0	-	223	340
% Lights	0.0	85.5	-	-	84.4	85.7	97.9	-	-	96.3	94.0	80.0	-	-	93.7	92.1
Buses	0	7	0	-	7	0	0	0	-	0	5	1	0	-	6	13
% Buses	0.0	9.2	-	-	9.1	0.0	0.0	-	-	0.0	2.1	20.0	-	-	2.5	3.5
Trucks	1	4	0	-	5	1	1	0	-	2	9	0	0	-	9	16
% Trucks	100.0	5.3	-	-	6.5	14.3	2.1	-	-	3.7	3.9	0.0	-	-	3.8	4.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (4:15 PM)



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184 Baker Rd

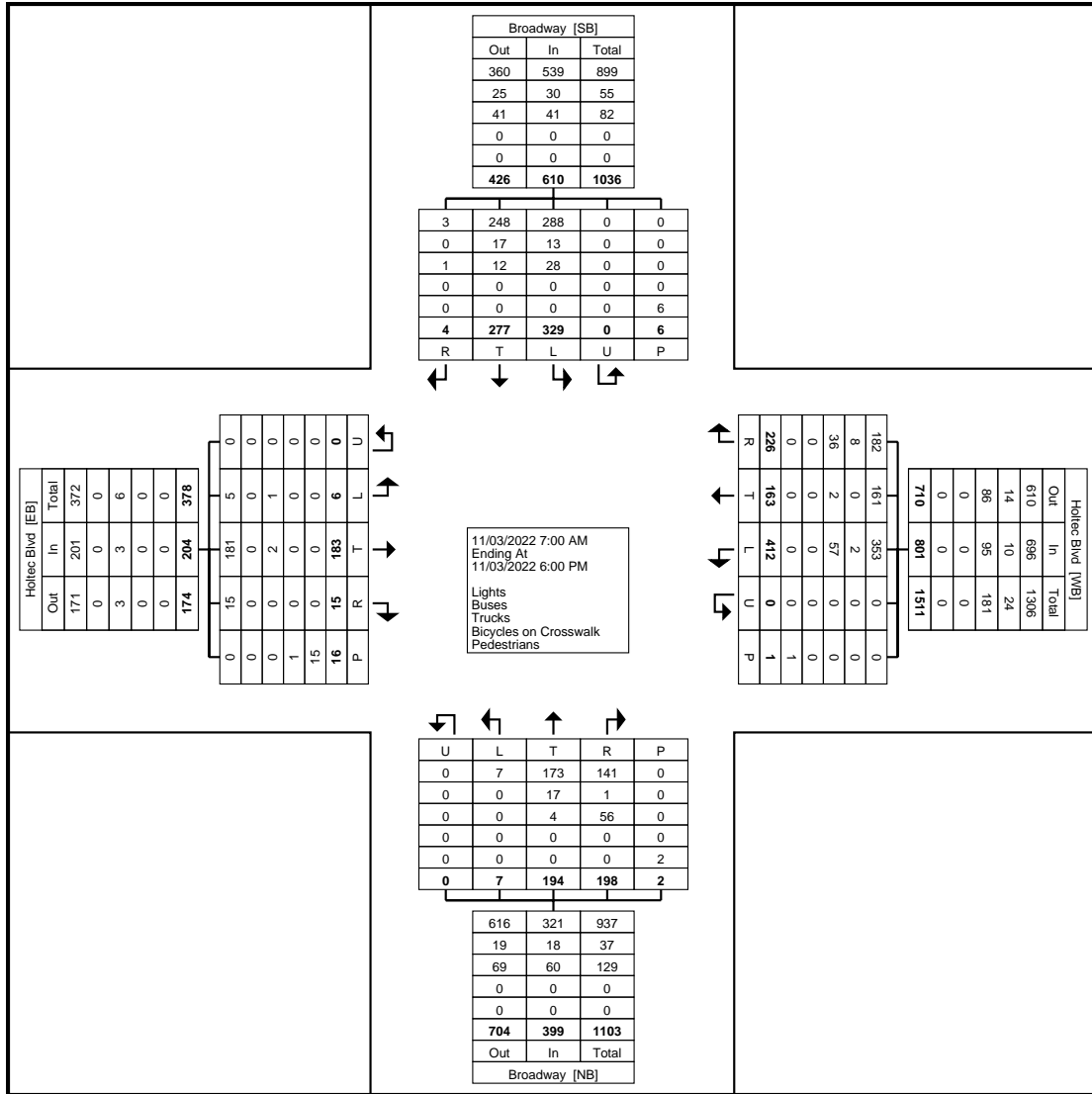
Camden County, NJ
Broadway & Holtec Blvd
Thursday, November 3, 2022
Location: 39.912638, -
75.118081

Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

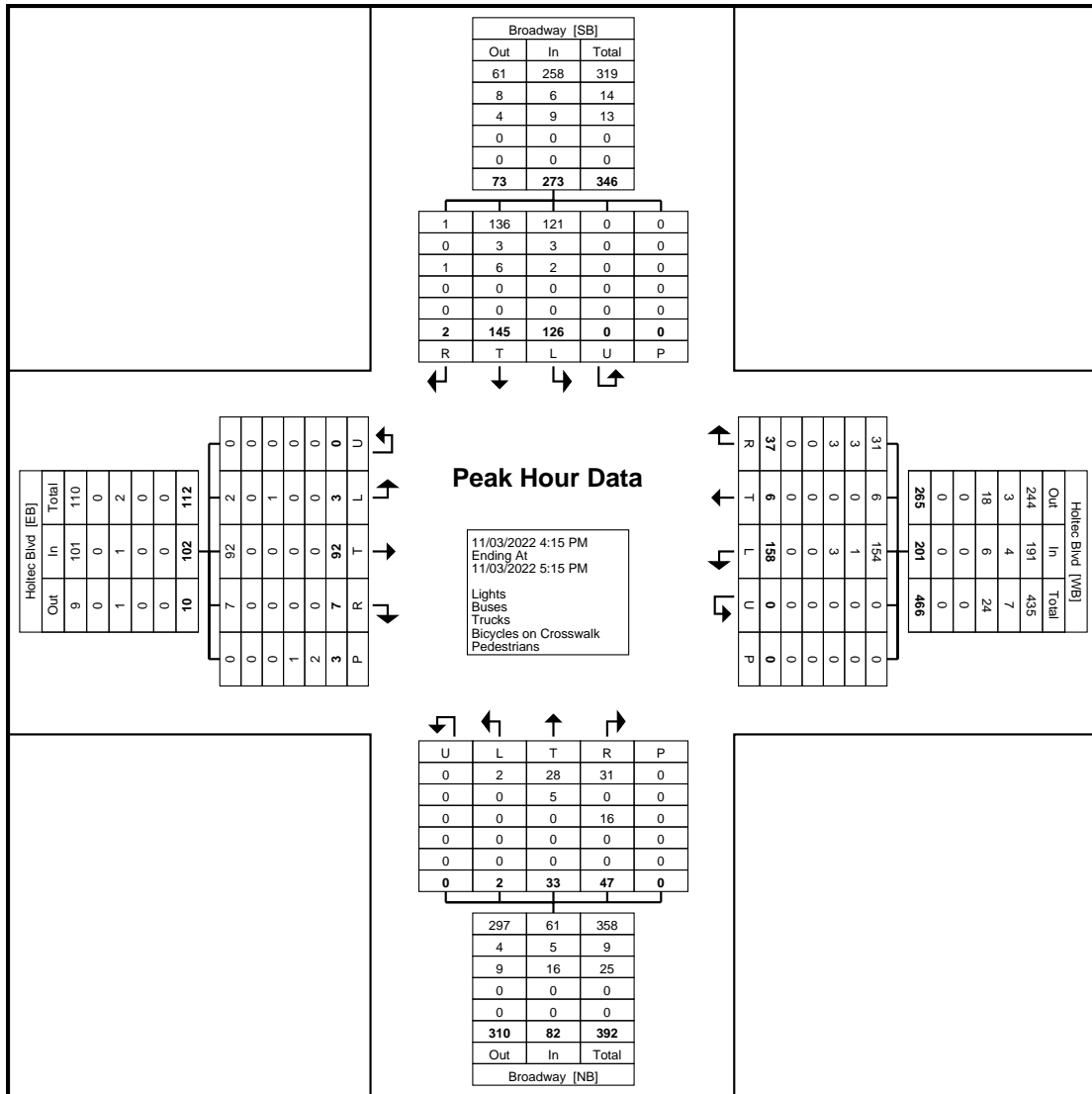
Count Name: Broadway &
Holtec Blvd
Site Code:
Start Date: 11/03/2022
Page No: 1

Turning Movement Data

Start Time	Holtec Blvd Eastbound							Holtec Blvd Westbound							Broadway Northbound							Broadway Southbound							Int. Total
	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	
7:00 AM	0	1	0	0	0	0	1	7	29	19	0	0	0	55	1	10	5	0	0	0	16	9	8	0	0	0	0	17	89
7:15 AM	0	1	0	0	0	1	1	15	16	32	0	0	0	63	0	19	13	0	0	0	32	8	4	1	0	0	0	13	109
7:30 AM	0	1	1	0	0	3	2	20	11	17	0	0	1	48	1	19	5	0	0	0	25	18	13	0	0	0	2	31	106
7:45 AM	1	0	1	0	0	1	2	20	19	32	0	0	0	71	3	21	12	0	0	0	36	18	5	0	0	0	0	23	132
Hourly Total	1	3	2	0	0	5	6	62	75	100	0	0	1	237	5	69	35	0	0	0	109	53	30	1	0	0	2	84	436
8:00 AM	0	3	0	0	0	1	3	17	21	11	0	0	0	49	0	17	13	0	0	0	30	13	5	0	0	0	0	18	100
8:15 AM	0	3	0	0	0	0	3	17	16	15	0	0	0	48	0	19	18	0	0	0	37	20	9	0	0	0	0	29	117
8:30 AM	1	0	0	0	0	0	1	17	21	16	0	0	0	54	0	20	13	0	0	0	33	15	3	1	0	0	0	19	107
8:45 AM	0	3	0	0	0	1	3	22	22	12	0	0	0	56	0	10	17	0	0	0	27	14	8	0	0	0	2	22	108
Hourly Total	1	9	0	0	0	2	10	73	80	54	0	0	0	207	0	66	61	0	0	0	127	62	25	1	0	0	2	88	432
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	41	3	1	0	4	46	31	1	13	1	0	0	46	0	11	23	1	0	0	35	32	17	0	0	0	0	49	176
4:15 PM	1	18	2	0	0	0	21	27	2	13	0	0	0	42	1	7	14	0	0	0	22	28	24	1	0	0	0	53	138
4:30 PM	2	25	1	0	0	2	28	23	1	12	0	0	0	36	1	8	12	0	0	0	21	38	39	0	0	0	0	77	162
4:45 PM	0	18	0	0	0	0	18	63	2	7	0	0	0	72	0	12	9	0	0	0	21	27	39	1	0	0	0	67	178
Hourly Total	4	102	6	1	0	6	113	144	6	45	1	0	0	196	2	38	58	1	0	0	99	125	119	2	0	0	0	246	654
5:00 PM	0	31	4	0	0	1	35	45	1	5	0	0	0	51	0	6	11	1	0	0	18	33	43	0	0	0	0	76	180
5:15 PM	0	20	1	0	0	0	21	38	0	3	0	0	0	41	0	11	12	2	0	0	25	23	21	0	0	0	1	44	131
5:30 PM	0	10	0	0	0	0	10	27	0	7	0	0	0	34	0	1	6	1	0	1	8	13	18	0	0	0	0	31	83
5:45 PM	0	8	1	0	0	2	9	23	1	11	0	0	0	35	0	3	10	0	0	1	13	20	21	0	0	0	1	41	98
Hourly Total	0	69	6	0	0	3	75	133	2	26	0	0	0	161	0	21	39	4	0	2	64	89	103	0	0	0	2	192	492
Grand Total	6	183	14	1	0	16	204	412	163	225	1	0	1	801	7	194	193	5	0	2	399	329	277	4	0	0	6	610	2014
Approach %	2.9	89.7	6.9	0.5	0.0	-	-	51.4	20.3	28.1	0.1	0.0	-	-	1.8	48.6	48.4	1.3	0.0	-	-	53.9	45.4	0.7	0.0	0.0	-	-	-
Total %	0.3	9.1	0.7	0.0	0.0	-	10.1	20.5	8.1	11.2	0.0	0.0	-	39.8	0.3	9.6	9.6	0.2	0.0	-	19.8	16.3	13.8	0.2	0.0	0.0	-	30.3	-
Lights	5	181	14	1	0	-	201	353	161	181	1	0	-	696	7	173	137	4	0	-	321	288	248	3	0	0	-	539	1757
% Lights	83.3	98.9	100.0	100.0	-	-	98.5	85.7	98.8	80.4	100.0	-	-	86.9	100.0	89.2	71.0	80.0	-	-	80.5	87.5	89.5	75.0	-	-	-	88.4	87.2
Buses	0	0	0	0	0	-	0	2	0	8	0	0	-	10	0	17	1	0	0	-	18	13	17	0	0	0	-	30	58
% Buses	0.0	0.0	0.0	0.0	-	-	0.0	0.5	0.0	3.6	0.0	-	-	1.2	0.0	8.8	0.5	0.0	-	-	4.5	4.0	6.1	0.0	-	-	-	4.9	2.9
Trucks	1	2	0	0	0	-	3	57	2	36	0	0	-	95	0	4	55	1	0	-	60	28	12	1	0	0	-	41	199
% Trucks	16.7	1.1	0.0	0.0	-	-	1.5	13.8	1.2	16.0	0.0	-	-	11.9	0.0	2.1	28.5	20.0	-	-	15.0	8.5	4.3	25.0	-	-	-	6.7	9.9
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	6.3	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	15	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	-	93.8	-	-	-	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-



Turning Movement Data Plot



Turning Movement Peak Hour Data Plot (4:15 PM)



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184 Baker Rd

Camden County, NJ
Broadway & Jefferson St
Thursday, November 3, 2022
Location: 39.919549, -
75.119781

Coatesville, Pennsylvania, United States 19320
610-466-1469
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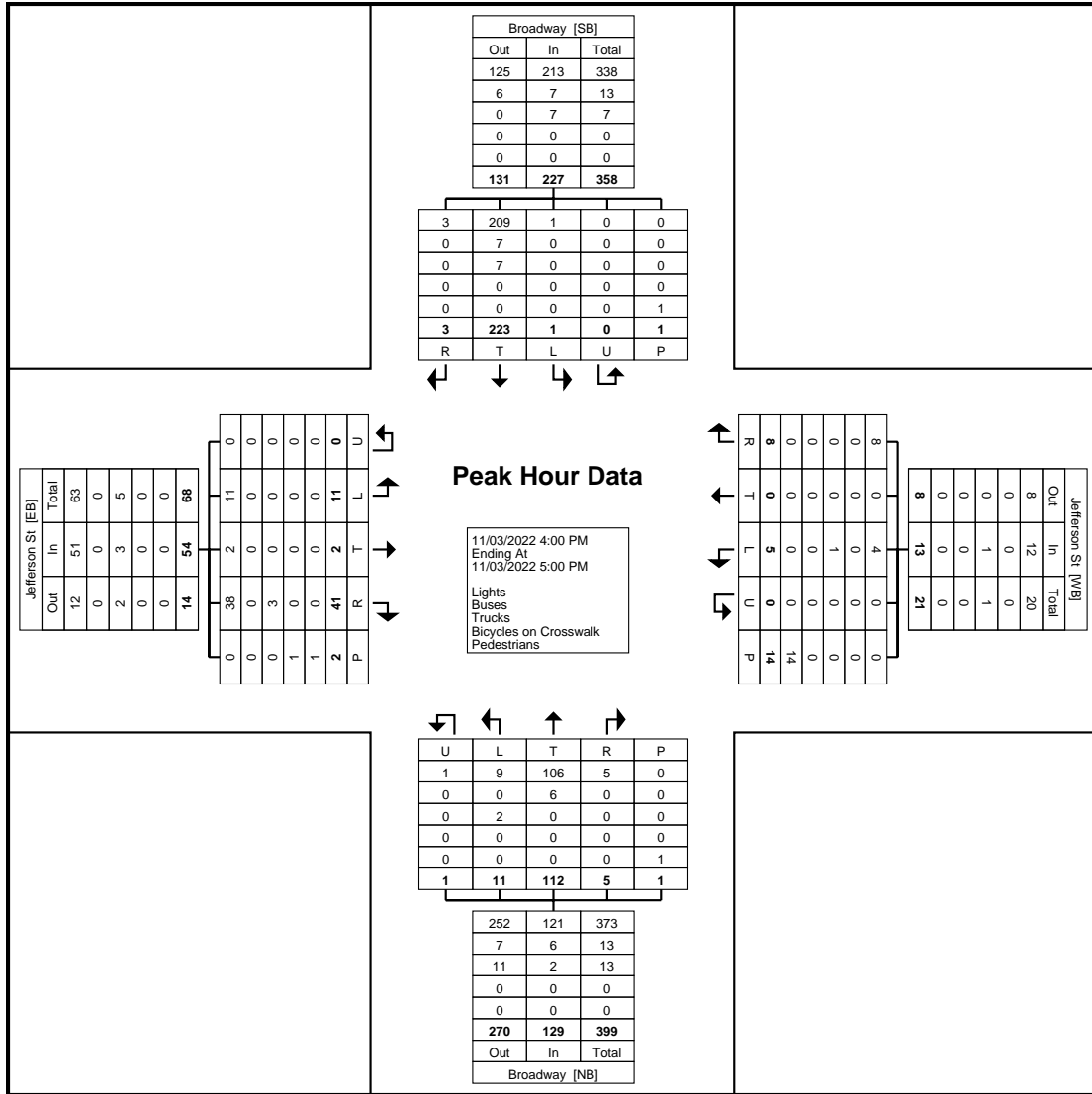
Count Name: Broadway &
Jefferson St
Site Code:
Start Date: 11/03/2022
Page No: 1

Turning Movement Data

Start Time	Jefferson St Eastbound							Jefferson St Westbound							Broadway Northbound							Broadway Southbound							Int. Total	
	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total		
7:00 AM	2	0	0	1	0	0	3	3	1	0	1	0	0	5	3	20	0	0	0	0	23	0	25	1	0	0	1	26	57	
7:15 AM	2	0	2	2	0	1	6	1	0	0	1	0	4	2	4	38	1	0	0	0	43	1	11	0	0	0	0	12	63	
7:30 AM	3	1	7	8	0	1	19	0	0	0	1	0	3	1	3	33	0	0	0	0	36	0	22	0	0	0	0	22	78	
7:45 AM	0	0	1	4	0	0	5	0	0	0	0	0	0	0	2	40	0	0	0	0	42	1	25	0	0	0	0	26	73	
Hourly Total	7	1	10	15	0	2	33	4	1	0	3	0	7	8	12	131	1	0	0	0	144	2	83	1	0	0	1	86	271	
8:00 AM	1	0	0	3	0	0	4	1	0	2	0	0	1	3	1	31	0	0	0	0	32	0	18	0	0	0	0	18	57	
8:15 AM	0	3	2	1	0	1	6	0	0	1	1	0	3	2	0	39	1	0	0	0	40	1	25	0	0	0	0	26	74	
8:30 AM	0	0	2	3	0	2	5	1	1	2	0	0	5	4	3	35	0	0	0	0	38	2	23	1	0	0	1	26	73	
8:45 AM	1	0	2	0	0	0	3	1	0	1	0	0	2	2	3	22	0	0	0	0	25	0	24	0	0	0	0	24	54	
Hourly Total	2	3	6	7	0	3	18	3	1	6	1	0	11	11	7	127	1	0	0	0	135	3	90	1	0	0	1	94	258	
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	3	1	0	8	0	0	12	1	0	2	1	0	1	4	7	33	0	0	0	0	40	1	48	0	0	0	0	49	105	
4:15 PM	2	0	1	6	0	0	9	0	0	0	2	0	3	2	1	25	1	0	0	0	27	0	52	0	0	0	0	52	90	
4:30 PM	2	1	3	12	0	1	18	1	0	1	0	0	2	2	0	33	3	0	1	0	37	0	60	2	0	0	1	62	119	
4:45 PM	4	0	2	9	0	1	15	3	0	1	1	0	8	5	3	21	1	0	0	1	25	0	63	1	0	0	0	64	109	
Hourly Total	11	2	6	35	0	2	54	5	0	4	4	0	14	13	11	112	5	0	1	1	129	1	223	3	0	0	1	227	423	
5:00 PM	1	1	2	3	0	2	7	0	0	3	1	0	3	4	0	21	0	0	0	2	21	1	51	0	0	0	0	52	84	
5:15 PM	2	0	1	5	0	3	8	0	2	1	2	0	2	5	2	22	1	0	0	1	25	1	48	2	0	0	0	51	89	
5:30 PM	2	1	2	3	0	0	8	1	0	0	0	0	3	1	2	18	0	0	0	0	20	0	45	1	0	0	0	46	75	
5:45 PM	2	1	0	3	0	1	6	0	2	1	1	0	4	4	0	25	1	0	0	0	26	4	36	0	0	0	0	40	76	
Hourly Total	7	3	5	14	0	6	29	1	4	5	4	0	12	14	4	86	2	0	0	3	92	6	180	3	0	0	0	189	324	
Grand Total	27	9	27	71	0	13	134	13	6	15	12	0	44	46	34	456	9	0	1	4	500	12	576	8	0	0	3	596	1276	
Approach %	20.1	6.7	20.1	53.0	0.0	-	-	28.3	13.0	32.6	26.1	0.0	-	-	6.8	91.2	1.8	0.0	0.2	-	-	2.0	96.6	1.3	0.0	0.0	-	-	-	
Total %	2.1	0.7	2.1	5.6	0.0	-	10.5	1.0	0.5	1.2	0.9	0.0	-	3.6	2.7	35.7	0.7	0.0	0.1	-	39.2	0.9	45.1	0.6	0.0	0.0	-	46.7	-	
Lights	24	8	21	63	0	-	116	10	6	15	12	0	-	43	29	401	9	0	1	-	440	12	531	7	0	0	-	550	1149	
% Lights	88.9	88.9	77.8	88.7	-	-	86.6	76.9	100.0	100.0	100.0	-	-	93.5	85.3	87.9	100.0	-	100.0	-	88.0	100.0	92.2	87.5	-	-	-	92.3	90.0	
Buses	1	0	1	0	0	-	2	0	0	0	0	0	-	0	0	28	0	0	0	-	28	0	27	0	0	0	-	27	57	
% Buses	3.7	0.0	3.7	0.0	-	-	1.5	0.0	0.0	0.0	0.0	-	-	0.0	0.0	6.1	0.0	-	0.0	-	5.6	0.0	4.7	0.0	-	-	-	4.5	4.5	
Trucks	2	1	5	8	0	-	16	3	0	0	0	0	-	3	5	27	0	0	0	-	32	0	18	1	0	0	-	19	70	
% Trucks	7.4	11.1	18.5	11.3	-	-	11.9	23.1	0.0	0.0	0.0	-	-	6.5	14.7	5.9	0.0	-	0.0	-	6.4	0.0	3.1	12.5	-	-	-	3.2	5.5	
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	
% Bicycles on Crosswalk	-	-	-	-	-	7.7	-	-	-	-	-	-	2.3	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	
Pedestrians	-	-	-	-	-	12	-	-	-	-	-	-	43	-	-	-	-	-	-	4	-	-	-	-	-	-	3	-	-	
% Pedestrians	-	-	-	-	-	92.3	-	-	-	-	-	-	97.7	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Jefferson St Eastbound							Jefferson St Westbound							Broadway Northbound							Broadway Southbound							Int. Total
	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	U-Turn	Peds	App. Total	
4:00 PM	3	1	0	8	0	0	12	1	0	2	1	0	1	4	7	33	0	0	0	0	40	1	48	0	0	0	0	49	105
4:15 PM	2	0	1	6	0	0	9	0	0	0	2	0	3	2	1	25	1	0	0	0	27	0	52	0	0	0	0	52	90
4:30 PM	2	1	3	12	0	1	18	1	0	1	0	0	2	2	0	33	3	0	1	0	37	0	60	2	0	0	1	62	119
4:45 PM	4	0	2	9	0	1	15	3	0	1	1	0	8	5	3	21	1	0	0	1	25	0	63	1	0	0	0	64	109
Total	11	2	6	35	0	2	54	5	0	4	4	0	14	13	11	112	5	0	1	1	129	1	223	3	0	0	1	227	423
Approach %	20.4	3.7	11.1	64.8	0.0	-	-	38.5	0.0	30.8	30.8	0.0	-	-	8.5	86.8	3.9	0.0	0.8	-	-	0.4	98.2	1.3	0.0	0.0	-	-	-
Total %	2.6	0.5	1.4	8.3	0.0	-	12.8	1.2	0.0	0.9	0.9	0.0	-	3.1	2.6	26.5	1.2	0.0	0.2	-	30.5	0.2	52.7	0.7	0.0	0.0	-	53.7	-
PHF	0.688	0.500	0.500	0.729	0.000	-	0.750	0.417	0.000	0.500	0.500	0.000	-	0.650	0.393	0.848	0.417	0.000	0.250	-	0.806	0.250	0.885	0.375	0.000	0.000	-	0.887	0.889
Lights	11	2	6	32	0	-	51	4	0	4	4	0	-	12	9	106	5	0	1	-	121	1	209	3	0	0	-	213	397
% Lights	100.0	100.0	100.0	91.4	-	-	94.4	80.0	-	100.0	100.0	-	-	92.3	81.8	94.6	100.0	-	100.0	-	93.8	100.0	93.7	100.0	-	-	-	93.8	93.9
Buses	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	6	0	0	0	-	6	0	7	0	0	0	-	7	13
% Buses	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	0.0	0.0	5.4	0.0	-	0.0	-	4.7	0.0	3.1	0.0	-	-	-	3.1	3.1
Trucks	0	0	0	3	0	-	3	1	0	0	0	0	-	1	2	0	0	0	0	-	2	0	7	0	0	0	-	7	13
% Trucks	0.0	0.0	0.0	8.6	-	-	5.6	20.0	-	0.0	0.0	-	-	7.7	18.2	0.0	0.0	-	0.0	-	1.6	0.0	3.1	0.0	-	-	-	3.1	3.1
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	50.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	-	14	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	50.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-

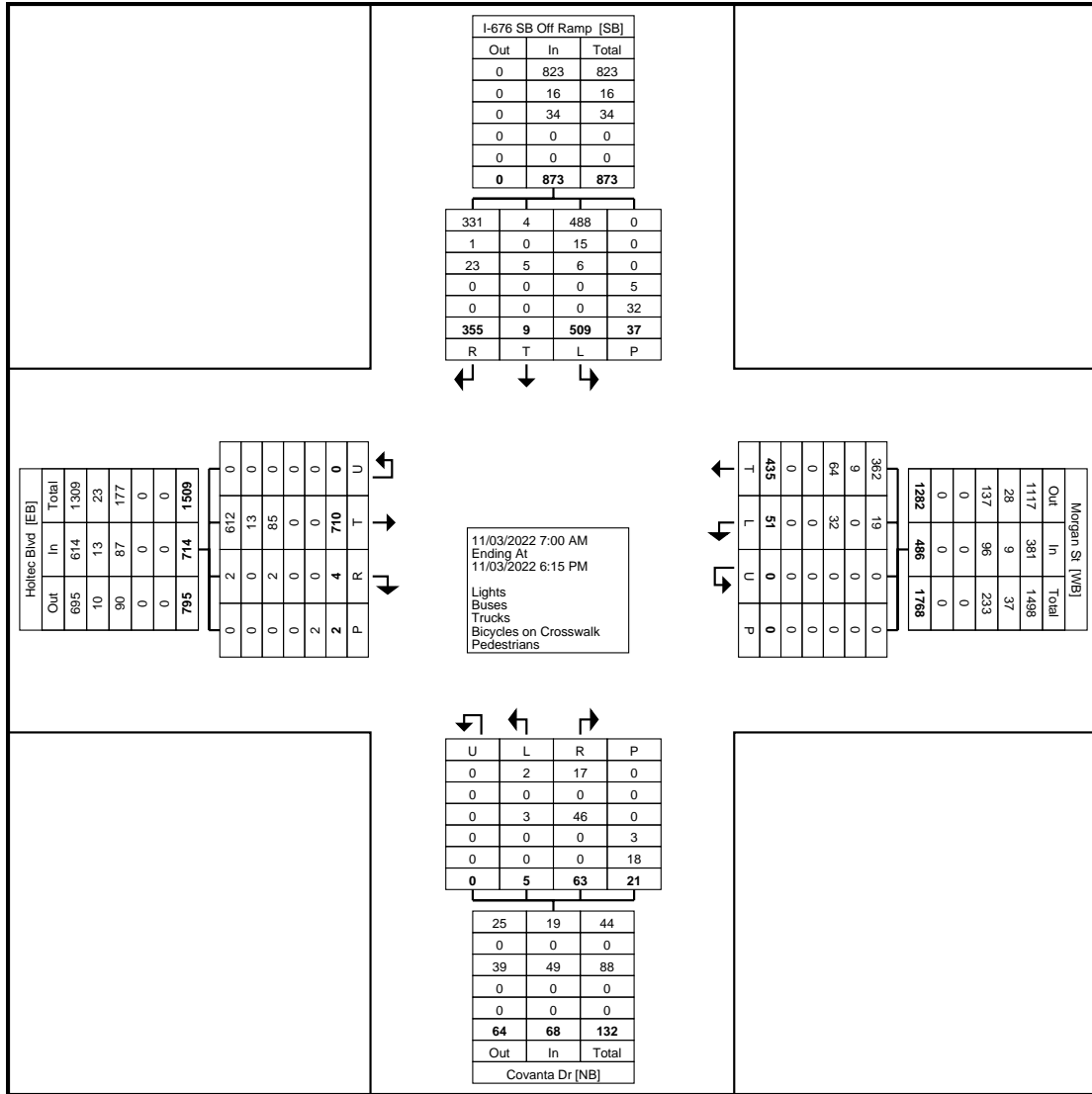


Turning Movement Peak Hour Data Plot (4:00 PM)

Turning Movement Data

Start Time	Holtec Blvd Eastbound						Morgan St Westbound					Covanta Dr Northbound						I-676 SB Off Ramp Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
7:00 AM	18	0	0	0	0	18	4	36	0	0	40	0	0	0	0	0	0	14	1	13	0	2	28	86
7:15 AM	19	1	0	0	0	20	5	47	0	0	52	1	5	1	0	1	7	20	0	16	0	2	36	115
7:30 AM	25	0	0	0	0	25	3	37	0	0	40	0	6	0	0	1	6	18	0	13	0	4	31	102
7:45 AM	29	0	1	0	0	30	7	51	0	0	58	0	0	1	0	1	1	35	1	26	1	0	63	152
Hourly Total	91	1	1	0	0	93	19	171	0	0	190	1	11	2	0	3	14	87	2	68	1	8	158	455
8:00 AM	30	0	0	0	0	30	5	22	0	0	27	0	5	0	0	0	5	35	2	17	1	3	55	117
8:15 AM	44	0	0	0	0	44	5	31	0	0	36	0	2	0	0	1	2	31	3	16	1	1	51	133
8:30 AM	28	0	0	0	0	28	3	37	0	0	40	0	8	0	0	2	8	30	2	16	0	1	48	124
8:45 AM	33	0	1	0	0	34	5	39	0	0	44	0	6	1	0	1	7	28	0	17	0	2	45	130
Hourly Total	135	0	1	0	0	136	18	129	0	0	147	0	21	1	0	4	22	124	7	66	2	7	199	504
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	99	0	0	0	0	99	1	23	0	0	24	3	3	2	0	1	8	29	0	20	0	2	49	180
4:15 PM	58	0	0	0	1	58	2	20	0	0	22	0	4	5	0	3	9	41	0	24	0	2	65	154
4:30 PM	72	1	0	0	0	73	5	12	0	0	17	0	0	1	0	3	1	39	0	22	0	2	61	152
4:45 PM	53	0	0	0	0	53	1	15	0	0	16	1	4	1	0	0	6	46	0	56	0	1	102	177
Hourly Total	282	1	0	0	1	283	9	70	0	0	79	4	11	9	0	7	24	155	0	122	0	7	277	663
5:00 PM	82	0	0	0	1	82	0	13	0	0	13	0	1	3	0	1	4	44	0	37	1	0	82	181
5:15 PM	53	0	0	0	0	53	2	16	0	0	18	0	0	1	0	1	1	39	0	25	0	3	64	136
5:30 PM	35	0	0	0	0	35	2	20	0	0	22	0	0	0	0	3	0	35	0	12	2	6	49	106
5:45 PM	32	0	0	0	0	32	1	16	0	0	17	0	2	1	0	2	3	25	0	17	2	6	44	96
Hourly Total	202	0	0	0	1	202	5	65	0	0	70	0	3	5	0	7	8	143	0	91	5	15	239	519
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	710	2	2	0	2	714	51	435	0	0	486	5	46	17	0	21	68	509	9	347	8	37	873	2141
Approach %	99.4	0.3	0.3	0.0	-	-	10.5	89.5	0.0	-	-	7.4	67.6	25.0	0.0	-	-	58.3	1.0	39.7	0.9	-	-	-
Total %	33.2	0.1	0.1	0.0	-	33.3	2.4	20.3	0.0	-	22.7	0.2	2.1	0.8	0.0	-	3.2	23.8	0.4	16.2	0.4	-	40.8	-
Lights	612	1	1	0	-	614	19	362	0	-	381	2	7	10	0	-	19	488	4	323	8	-	823	1837
% Lights	86.2	50.0	50.0	-	-	86.0	37.3	83.2	-	-	78.4	40.0	15.2	58.8	-	-	27.9	95.9	44.4	93.1	100.0	-	94.3	85.8
Buses	13	0	0	0	-	13	0	9	0	-	9	0	0	0	0	-	0	15	0	1	0	-	16	38
% Buses	1.8	0.0	0.0	-	-	1.8	0.0	2.1	-	-	1.9	0.0	0.0	0.0	-	-	0.0	2.9	0.0	0.3	0.0	-	1.8	1.8
Trucks	85	1	1	0	-	87	32	64	0	-	96	3	39	7	0	-	49	6	5	23	0	-	34	266
% Trucks	12.0	50.0	50.0	-	-	12.2	62.7	14.7	-	-	19.8	60.0	84.8	41.2	-	-	72.1	1.2	55.6	6.6	0.0	-	3.9	12.4
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	5	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	14.3	-	-	-	-	-	13.5	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	0	-	-	-	-	-	18	-	-	-	-	-	32	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	85.7	-	-	-	-	-	86.5	-	-

Camden County, NJ
Holtec Blvd & I676 SB Off Ramp
Thursday, November 3, 2022
Location: 39.91263, -75.117426

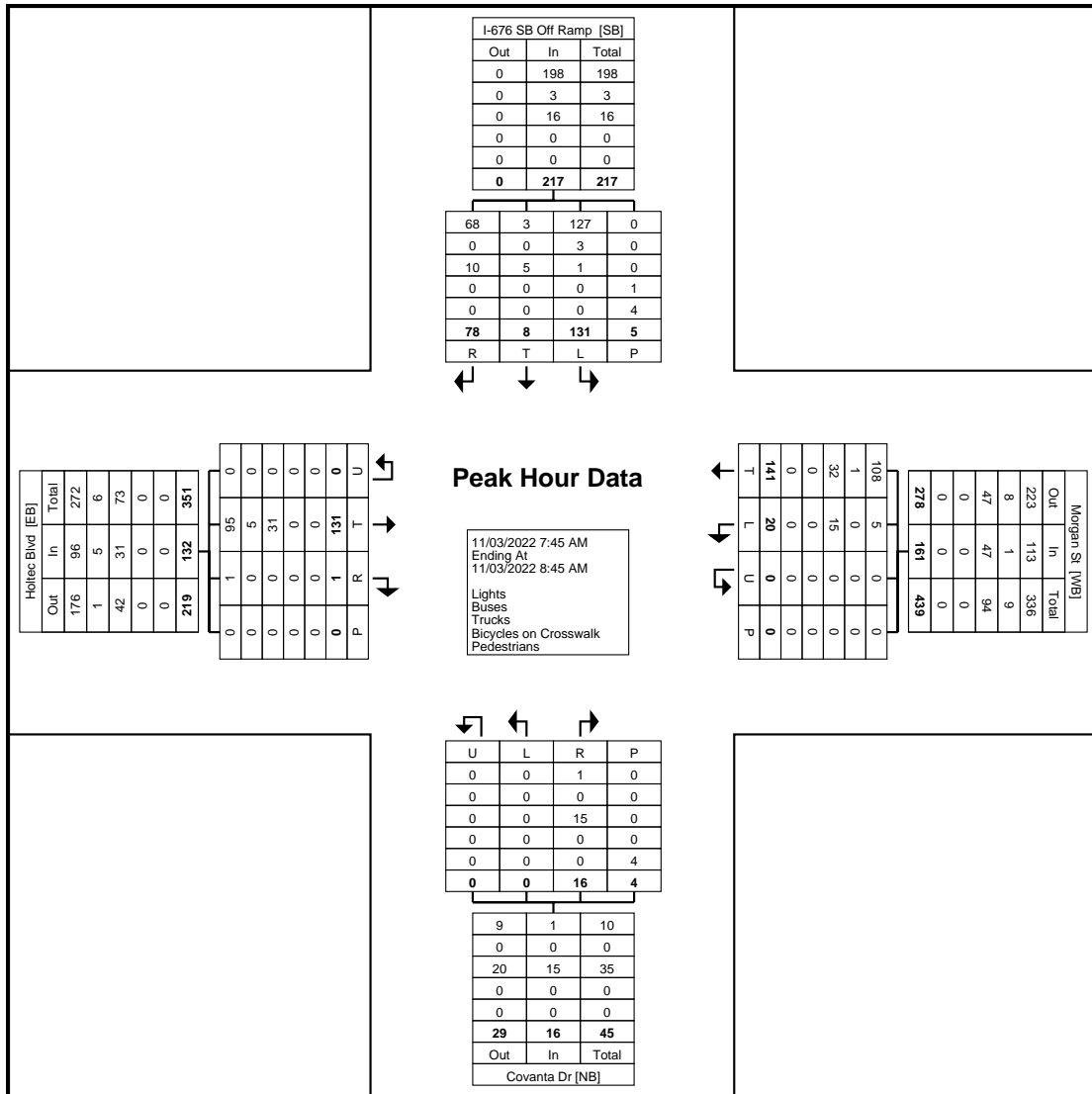


Turning Movement Data Plot

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Holtec Blvd Eastbound						Morgan St Westbound					Covanta Dr Northbound						I-676 SB Off Ramp Southbound						Int. Total	
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total		
7:45 AM	29	0	1	0	0	30	7	51	0	0	58	0	0	1	0	1	1	35	1	26	1	0	63	152	
8:00 AM	30	0	0	0	0	30	5	22	0	0	27	0	5	0	0	0	5	35	2	17	1	3	55	117	
8:15 AM	44	0	0	0	0	44	5	31	0	0	36	0	2	0	0	1	2	31	3	16	1	1	51	133	
8:30 AM	28	0	0	0	0	28	3	37	0	0	40	0	8	0	0	2	8	30	2	16	0	1	48	124	
Total	131	0	1	0	0	132	20	141	0	0	161	0	15	1	0	4	16	131	8	75	3	5	217	526	
Approach %	99.2	0.0	0.8	0.0	-	-	12.4	87.6	0.0	-	-	0.0	93.8	6.3	0.0	-	-	60.4	3.7	34.6	1.4	-	-	-	
Total %	24.9	0.0	0.2	0.0	-	25.1	3.8	26.8	0.0	-	30.6	0.0	2.9	0.2	0.0	-	3.0	24.9	1.5	14.3	0.6	-	41.3	-	
PHF	0.744	0.000	0.250	0.000	-	0.750	0.714	0.691	0.000	-	0.694	0.000	0.469	0.250	0.000	-	0.500	0.936	0.667	0.721	0.750	-	0.861	0.865	
Lights	95	0	1	0	-	96	5	108	0	-	113	0	1	0	0	-	1	127	3	65	3	-	198	408	
% Lights	72.5	-	100.0	-	-	72.7	25.0	76.6	-	-	70.2	-	6.7	0.0	-	-	6.3	96.9	37.5	86.7	100.0	-	91.2	77.6	
Buses	5	0	0	0	-	5	0	1	0	-	1	0	0	0	0	-	0	3	0	0	0	-	3	9	
% Buses	3.8	-	0.0	-	-	3.8	0.0	0.7	-	-	0.6	-	0.0	0.0	-	-	0.0	2.3	0.0	0.0	0.0	-	1.4	1.7	
Trucks	31	0	0	0	-	31	15	32	0	-	47	0	14	1	0	-	15	1	5	10	0	-	16	109	
% Trucks	23.7	-	0.0	-	-	23.5	75.0	22.7	-	-	29.2	-	93.3	100.0	-	-	93.8	0.8	62.5	13.3	0.0	-	7.4	20.7	
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	20.0	-	-	-
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	80.0	-	-	-

Camden County, NJ
Holtec Blvd & I676 SB Off Ramp
Thursday, November 3, 2022
Location: 39.91263, -75.117426



Turning Movement Peak Hour Data Plot (7:45 AM)

Camden County, NJ
Holtec Blvd & I676 SB Off Ramp
Thursday, November 3, 2022
Location: 39.91263, -75.117426

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Holtec Blvd Eastbound						Morgan St Westbound					Covanta Dr Northbound						I-676 SB Off Ramp Southbound						Int. Total
	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	
4:15 PM	58	0	0	0	1	58	2	20	0	0	22	0	4	5	0	3	9	41	0	24	0	2	65	154
4:30 PM	72	1	0	0	0	73	5	12	0	0	17	0	0	1	0	3	1	39	0	22	0	2	61	152
4:45 PM	53	0	0	0	0	53	1	15	0	0	16	1	4	1	0	0	6	46	0	56	0	1	102	177
5:00 PM	82	0	0	0	1	82	0	13	0	0	13	0	1	3	0	1	4	44	0	37	1	0	82	181
Total	265	1	0	0	2	266	8	60	0	0	68	1	9	10	0	7	20	170	0	139	1	5	310	664
Approach %	99.6	0.4	0.0	0.0	-	-	11.8	88.2	0.0	-	-	5.0	45.0	50.0	0.0	-	-	54.8	0.0	44.8	0.3	-	-	-
Total %	39.9	0.2	0.0	0.0	-	40.1	1.2	9.0	0.0	-	10.2	0.2	1.4	1.5	0.0	-	3.0	25.6	0.0	20.9	0.2	-	46.7	-
PHF	0.808	0.250	0.000	0.000	-	0.811	0.400	0.750	0.000	-	0.773	0.250	0.563	0.500	0.000	-	0.556	0.924	0.000	0.621	0.250	-	0.760	0.917
Lights	245	0	0	0	-	245	1	56	0	-	57	0	2	7	0	-	9	163	0	134	1	-	298	609
% Lights	92.5	0.0	-	-	-	92.1	12.5	93.3	-	-	83.8	0.0	22.2	70.0	-	-	45.0	95.9	-	96.4	100.0	-	96.1	91.7
Buses	2	0	0	0	-	2	0	3	0	-	3	0	0	0	0	-	0	6	0	1	0	-	7	12
% Buses	0.8	0.0	-	-	-	0.8	0.0	5.0	-	-	4.4	0.0	0.0	0.0	-	-	0.0	3.5	-	0.7	0.0	-	2.3	1.8
Trucks	18	1	0	0	-	19	7	1	0	-	8	1	7	3	0	-	11	1	0	4	0	-	5	43
% Trucks	6.8	100.0	-	-	-	7.1	87.5	1.7	-	-	11.8	100.0	77.8	30.0	-	-	55.0	0.6	-	2.9	0.0	-	1.6	6.5
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	28.6	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	0	-	-	-	-	-	-	5	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	71.4	-	-	-	-	-	100.0	-	-



Camden County, NJ
 Morgan St & Master St/I676 NB
 Off Ramp
 Thursday, November 3, 2022
 Location: 39.912604, -
 75.114601

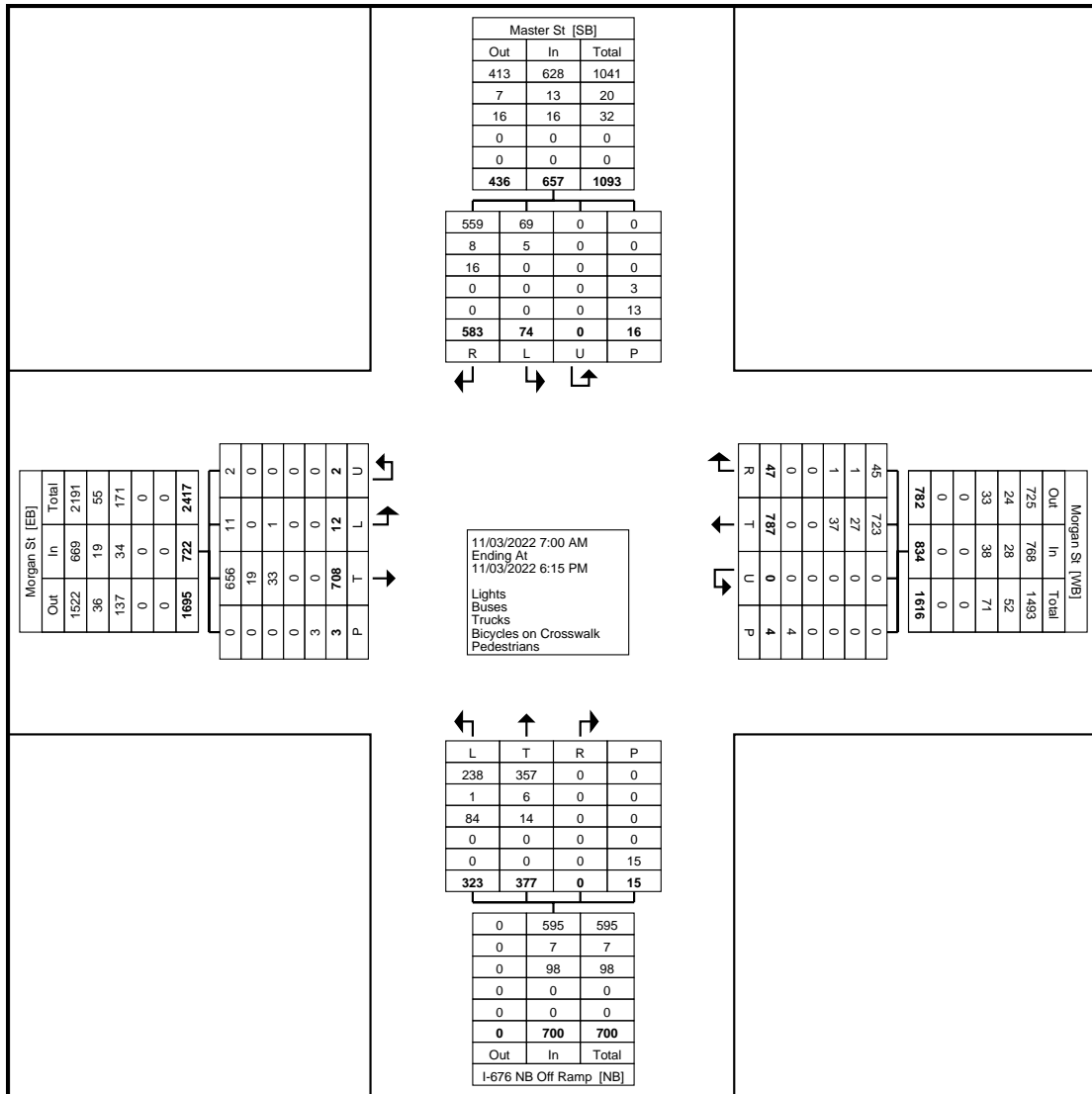
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Count Name: Morgan St &
 Master St/I-676 NB Off Ramp
 Site Code:
 Start Date: 11/03/2022
 Page No: 1

Turning Movement Data

Start Time	Morgan St Eastbound					Morgan St Westbound					I-676 NB Off Ramp Northbound						Master St Southbound						Int. Total	
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds		App. Total
7:00 AM	1	17	0	0	18	41	3	0	0	0	44	34	22	0	0	1	56	0	21	17	0	0	38	156
7:15 AM	2	28	0	3	30	51	3	1	0	0	55	32	24	0	0	1	56	0	14	13	0	0	27	168
7:30 AM	0	23	0	0	23	51	1	0	0	1	52	31	36	0	0	1	67	4	21	20	0	0	45	187
7:45 AM	0	34	0	0	34	55	5	0	0	0	60	48	22	0	0	0	70	1	22	22	0	0	45	209
Hourly Total	3	102	0	3	105	198	12	1	0	1	211	145	104	0	0	3	249	5	78	72	0	0	155	720
8:00 AM	1	46	0	0	47	40	1	0	0	0	41	23	21	0	0	0	44	5	15	10	0	1	30	162
8:15 AM	0	43	0	0	43	37	1	0	0	0	38	33	22	0	0	2	55	1	20	11	0	1	32	168
8:30 AM	0	44	0	0	44	61	1	0	0	0	62	35	18	0	0	0	53	7	25	9	0	0	41	200
8:45 AM	0	40	0	0	40	44	3	2	0	0	49	35	23	0	0	1	58	3	15	25	0	1	43	190
Hourly Total	1	173	0	0	174	182	6	2	0	0	190	126	84	0	0	3	210	16	75	55	0	3	146	720
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	59	0	0	61	50	4	0	0	0	54	14	24	0	0	1	38	10	16	20	0	3	46	199
4:15 PM	2	57	0	0	59	53	5	1	0	1	59	7	21	0	0	1	28	4	17	14	0	1	35	181
4:30 PM	1	55	2	0	58	57	3	0	0	1	60	6	23	0	0	1	29	12	15	16	0	1	43	190
4:45 PM	0	57	0	0	57	51	2	0	0	0	53	9	31	0	0	0	40	3	14	27	0	0	44	194
Hourly Total	5	228	2	0	235	211	14	1	0	2	226	36	99	0	0	3	135	29	62	77	0	5	168	764
5:00 PM	1	70	0	0	71	52	0	0	0	0	52	0	28	0	0	0	28	4	15	25	0	2	44	195
5:15 PM	2	54	0	0	56	42	2	1	0	0	45	5	22	0	0	3	27	6	18	21	0	1	45	173
5:30 PM	0	44	0	0	44	53	5	0	0	0	58	7	20	0	0	2	27	8	16	19	0	3	43	172
5:45 PM	0	37	0	0	37	49	3	0	0	1	52	4	20	0	0	1	24	6	30	20	0	2	56	169
Hourly Total	3	205	0	0	208	196	10	1	0	1	207	16	90	0	0	6	106	24	79	85	0	8	188	709
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	12	708	2	3	722	787	42	5	0	4	834	323	377	0	0	15	700	74	294	289	0	16	657	2913
Approach %	1.7	98.1	0.3	-	-	94.4	5.0	0.6	0.0	-	-	46.1	53.9	0.0	0.0	-	-	11.3	44.7	44.0	0.0	-	-	-
Total %	0.4	24.3	0.1	-	24.8	27.0	1.4	0.2	0.0	-	28.6	11.1	12.9	0.0	0.0	-	24.0	2.5	10.1	9.9	0.0	-	22.6	-
Lights	11	656	2	-	669	723	41	4	0	-	768	238	357	0	0	-	595	69	275	284	0	-	628	2660
% Lights	91.7	92.7	100.0	-	92.7	91.9	97.6	80.0	-	-	92.1	73.7	94.7	-	-	-	85.0	93.2	93.5	98.3	-	-	95.6	91.3
Buses	0	19	0	-	19	27	1	0	0	-	28	1	6	0	0	-	7	5	7	1	0	-	13	67
% Buses	0.0	2.7	0.0	-	2.6	3.4	2.4	0.0	-	-	3.4	0.3	1.6	-	-	-	1.0	6.8	2.4	0.3	-	-	2.0	2.3
Trucks	1	33	0	-	34	37	0	1	0	-	38	84	14	0	0	-	98	0	12	4	0	-	16	186
% Trucks	8.3	4.7	0.0	-	4.7	4.7	0.0	20.0	-	-	4.6	26.0	3.7	-	-	-	14.0	0.0	4.1	1.4	-	-	2.4	6.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	18.8	-	-
Pedestrians	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	15	-	-	-	-	-	13	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	81.3	-	-



Turning Movement Data Plot



Camden County, NJ
 Morgan St & Master St/I676 NB
 Off Ramp
 Thursday, November 3, 2022
 Location: 39.912604, -
 75.114601

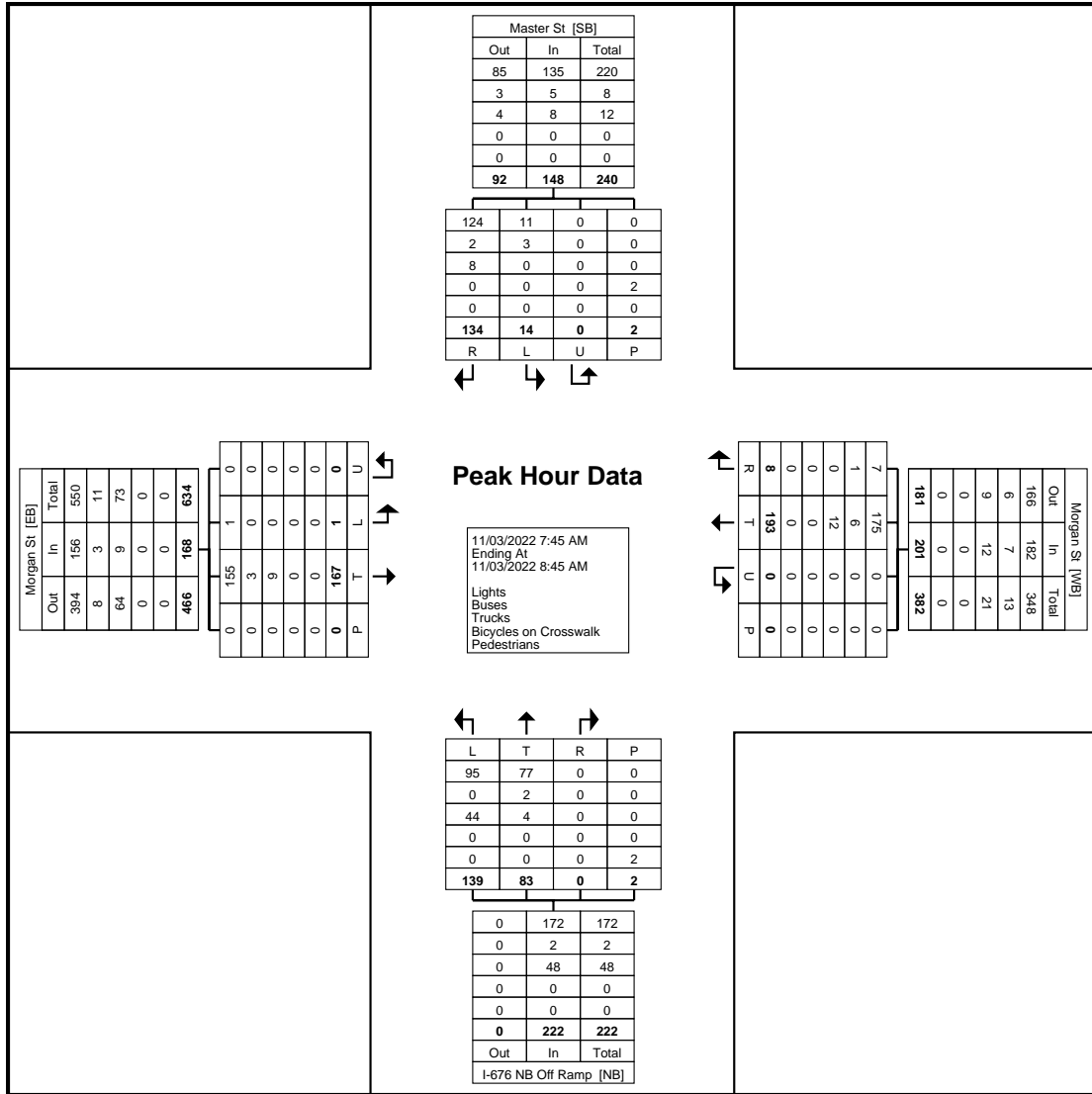
www.TSTData.com
 184 Baker Rd

Coatesville, Pennsylvania, United States 19320
 610-466-1469
 Serving Transportation Professionals Since 1995

Count Name: Morgan St &
 Master St/I-676 NB Off Ramp
 Site Code:
 Start Date: 11/03/2022
 Page No: 3

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Morgan St Eastbound					Morgan St Westbound					I-676 NB Off Ramp Northbound						Master St Southbound						Int. Total	
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds		App. Total
7:45 AM	0	34	0	0	34	55	5	0	0	0	60	48	22	0	0	0	70	1	22	22	0	0	45	209
8:00 AM	1	46	0	0	47	40	1	0	0	0	41	23	21	0	0	0	44	5	15	10	0	1	30	162
8:15 AM	0	43	0	0	43	37	1	0	0	0	38	33	22	0	0	2	55	1	20	11	0	1	32	168
8:30 AM	0	44	0	0	44	61	1	0	0	0	62	35	18	0	0	0	53	7	25	9	0	0	41	200
Total	1	167	0	0	168	193	8	0	0	0	201	139	83	0	0	2	222	14	82	52	0	2	148	739
Approach %	0.6	99.4	0.0	-	-	96.0	4.0	0.0	0.0	-	-	62.6	37.4	0.0	0.0	-	-	9.5	55.4	35.1	0.0	-	-	-
Total %	0.1	22.6	0.0	-	22.7	26.1	1.1	0.0	0.0	-	27.2	18.8	11.2	0.0	0.0	-	30.0	1.9	11.1	7.0	0.0	-	20.0	-
PHF	0.250	0.908	0.000	-	0.894	0.791	0.400	0.000	0.000	-	0.810	0.724	0.943	0.000	0.000	-	0.793	0.500	0.820	0.591	0.000	-	0.822	0.884
Lights	1	155	0	-	156	175	7	0	0	-	182	95	77	0	0	-	172	11	75	49	0	-	135	645
% Lights	100.0	92.8	-	-	92.9	90.7	87.5	-	-	-	90.5	68.3	92.8	-	-	-	77.5	78.6	91.5	94.2	-	-	91.2	87.3
Buses	0	3	0	-	3	6	1	0	0	-	7	0	2	0	0	-	2	3	1	1	0	-	5	17
% Buses	0.0	1.8	-	-	1.8	3.1	12.5	-	-	-	3.5	0.0	2.4	-	-	-	0.9	21.4	1.2	1.9	-	-	3.4	2.3
Trucks	0	9	0	-	9	12	0	0	0	-	12	44	4	0	0	-	48	0	6	2	0	-	8	77
% Trucks	0.0	5.4	-	-	5.4	6.2	0.0	-	-	-	6.0	31.7	4.8	-	-	-	21.6	0.0	7.3	3.8	-	-	5.4	10.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	0.0	-	-



Turning Movement Peak Hour Data Plot (7:45 AM)



Camden County, NJ
 Morgan St & Master St/I676 NB
 Off Ramp
 Thursday, November 3, 2022
 Location: 39.912604, -
 75.114601

www.TSTData.com
 184 Baker Rd

Coatesville, Pennsylvania, United States 19320
 610-466-1469
 Serving Transportation Professionals Since 1995

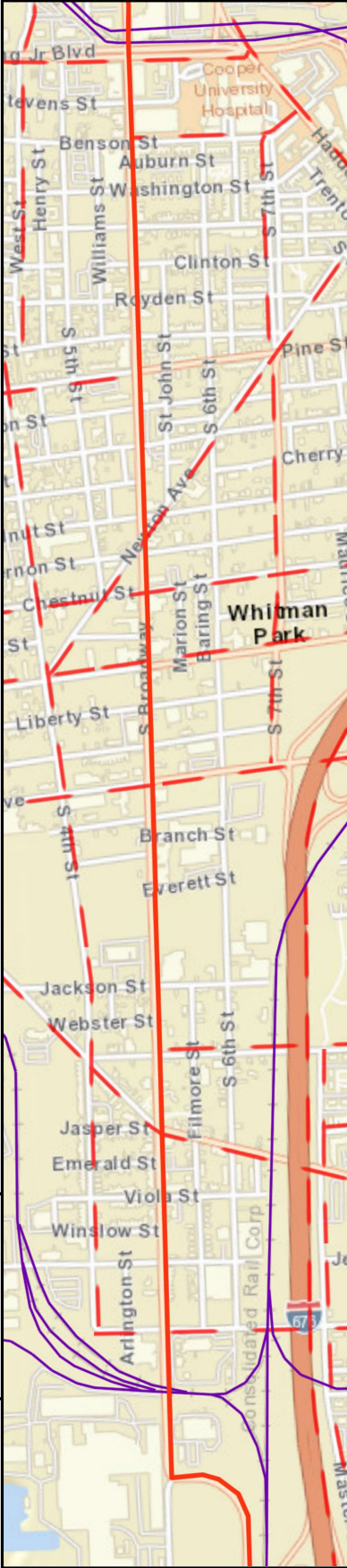
Count Name: Morgan St &
 Master St/I-676 NB Off Ramp
 Site Code:
 Start Date: 11/03/2022
 Page No: 5

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Morgan St Eastbound					Morgan St Westbound					I-676 NB Off Ramp Northbound						Master St Southbound						Int. Total	
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	Right on Red	U-Turn	Peds	App. Total	Left	Thru	Right	Right on Red	Peds	App. Total	Left	Right	Right on Red	U-Turn	Peds		App. Total
4:00 PM	2	59	0	0	61	50	4	0	0	0	54	14	24	0	0	1	38	10	16	20	0	3	46	199
4:15 PM	2	57	0	0	59	53	5	1	0	1	59	7	21	0	0	1	28	4	17	14	0	1	35	181
4:30 PM	1	55	2	0	58	57	3	0	0	1	60	6	23	0	0	1	29	12	15	16	0	1	43	190
4:45 PM	0	57	0	0	57	51	2	0	0	0	53	9	31	0	0	0	40	3	14	27	0	0	44	194
Total	5	228	2	0	235	211	14	1	0	2	226	36	99	0	0	3	135	29	62	77	0	5	168	764
Approach %	2.1	97.0	0.9	-	-	93.4	6.2	0.4	0.0	-	-	26.7	73.3	0.0	0.0	-	-	17.3	36.9	45.8	0.0	-	-	-
Total %	0.7	29.8	0.3	-	30.8	27.6	1.8	0.1	0.0	-	29.6	4.7	13.0	0.0	0.0	-	17.7	3.8	8.1	10.1	0.0	-	22.0	-
PHF	0.625	0.966	0.250	-	0.963	0.925	0.700	0.250	0.000	-	0.942	0.643	0.798	0.000	0.000	-	0.844	0.604	0.912	0.713	0.000	-	0.913	0.960
Lights	5	209	2	-	216	197	14	1	0	-	212	28	96	0	0	-	124	27	58	77	0	-	162	714
% Lights	100.0	91.7	100.0	-	91.9	93.4	100.0	100.0	-	-	93.8	77.8	97.0	-	-	-	91.9	93.1	93.5	100.0	-	-	96.4	93.5
Buses	0	8	0	-	8	7	0	0	0	-	7	0	2	0	0	-	2	2	3	0	0	-	5	22
% Buses	0.0	3.5	0.0	-	3.4	3.3	0.0	0.0	-	-	3.1	0.0	2.0	-	-	-	1.5	6.9	4.8	0.0	-	-	3.0	2.9
Trucks	0	11	0	-	11	7	0	0	0	-	7	8	1	0	0	-	9	0	1	0	0	-	1	28
% Trucks	0.0	4.8	0.0	-	4.7	3.3	0.0	0.0	-	-	3.1	22.2	1.0	-	-	-	6.7	0.0	1.6	0.0	-	-	0.6	3.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Mile Posts: 32.000 - 34.570

ROUTE 551 (South to North)



Secondary Direction
Primary Direction

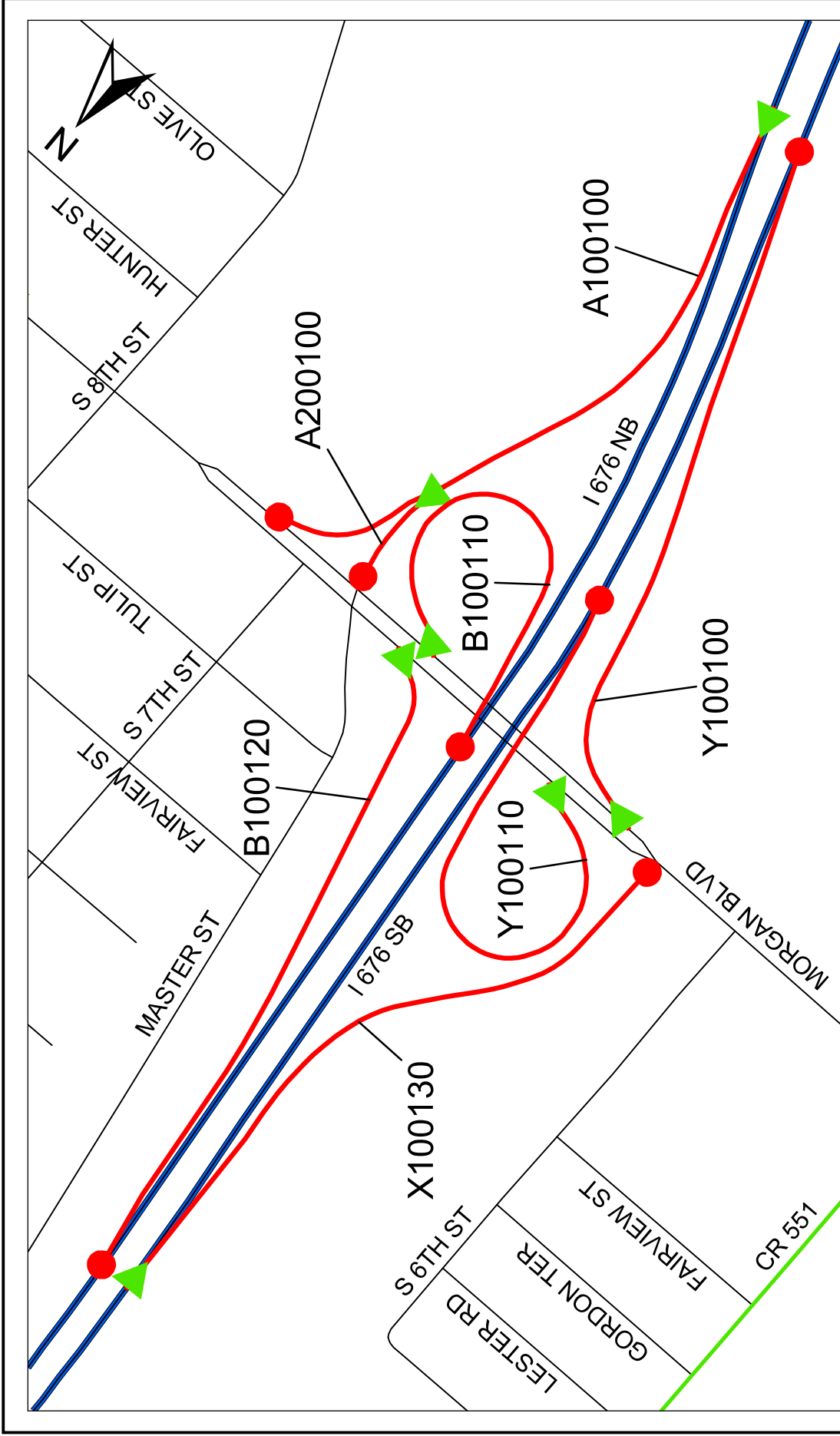
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	




Street Name	Direction	Signal	Notes
(34.57) PENN STREET	Secondary		
(34.49) COOPER STREET	Primary	Green	
(34.41) MARKET STREET	Primary	Green	
(34.33) FEDERAL STREET	Primary	Green	
(34.22) DR MARTIN LUTHER KING BLVD	Primary	Green	
(34.15) STEVENS STREET	Primary	Green	
(34.11) BENSON STREET	Primary	Green	
(34.04) WASHINGTON STREET	Primary	Green	
(33.99) BERKLEY STREET	Primary	Green	
(33.94) CLINTON STREET	Primary	Green	
(33.90) ROYDEN STREET	Primary	Green	
(33.85) LINE STREET	Primary	Green	
(33.80) PINE STREET	Primary	Green	
(33.75) DIVISION STREET	Primary	Green	
(33.70) SPRUCE STREET	Primary	Green	
(33.66) CHERRY ST	Primary	Green	
(33.62) WALNUT ST	Primary	Green	
(33.57) MT VERNON STREET	Primary	Green	
(33.52) CHESTNUT STREET	Primary	Green	
(33.46) SYCAMORE ST	Primary	Green	
(33.42) KAIGHN STREET	Primary	Green	
(33.40) AMBER STREET	Primary	Green	
(33.36) LIBERTY STREET	Primary	Green	
(33.31) MECHANIC STREET	Primary	Green	
(33.27) ATLANTIC AVENUE	Primary	Green	
(33.24) LANDSDOWNE AVENUE	Primary	Green	
WHITMAN ST (33.21) BRANCH ST	Primary	Green	
(33.19) EVERETT ST	Primary	Green	
(33.02) JACKSON STREET	Primary	Green	
(32.97) WEBSTER ST	Primary	Green	
(32.91) VAN HOOK STREET	Primary	Green	
(32.82) JASPER ST	Primary	Green	
(32.78) EMERALD ST	Primary	Green	
(32.74) VIOLA AVENUE	Primary	Green	
(32.70) WINSLOW ST	Primary	Green	
(32.66) JEFFERSON AVENUE	Primary	Green	
CHELTON AVENUE (32.57)	Primary	Green	
(32.49) READING RR	Primary		
(32.38) WOODLAND AVE	Primary	Green	
(32.28) FAIRVIEW ST	Primary	Green	
MORGAN BLVD (32.18)	Primary	Green	

Street Name	Camden City, Camden Co
Jurisdiction	Camden City, Camden Co
Functional Class	Urban Principal Arterial
Federal Aid - NHS Sy	NHS
Control Section	IM - Transit Term.
Speed Limit	25
Number of Lanes	2
Med. Type	None
Mec. Width	36
Traffic Volume	4,511 (2018)
Traffic Sta. ID	7-4-880
Structure No.	0455160
Enlarged Views	See Enlarged View #14

Date last inventoried: June 2012

SRI = 00000551

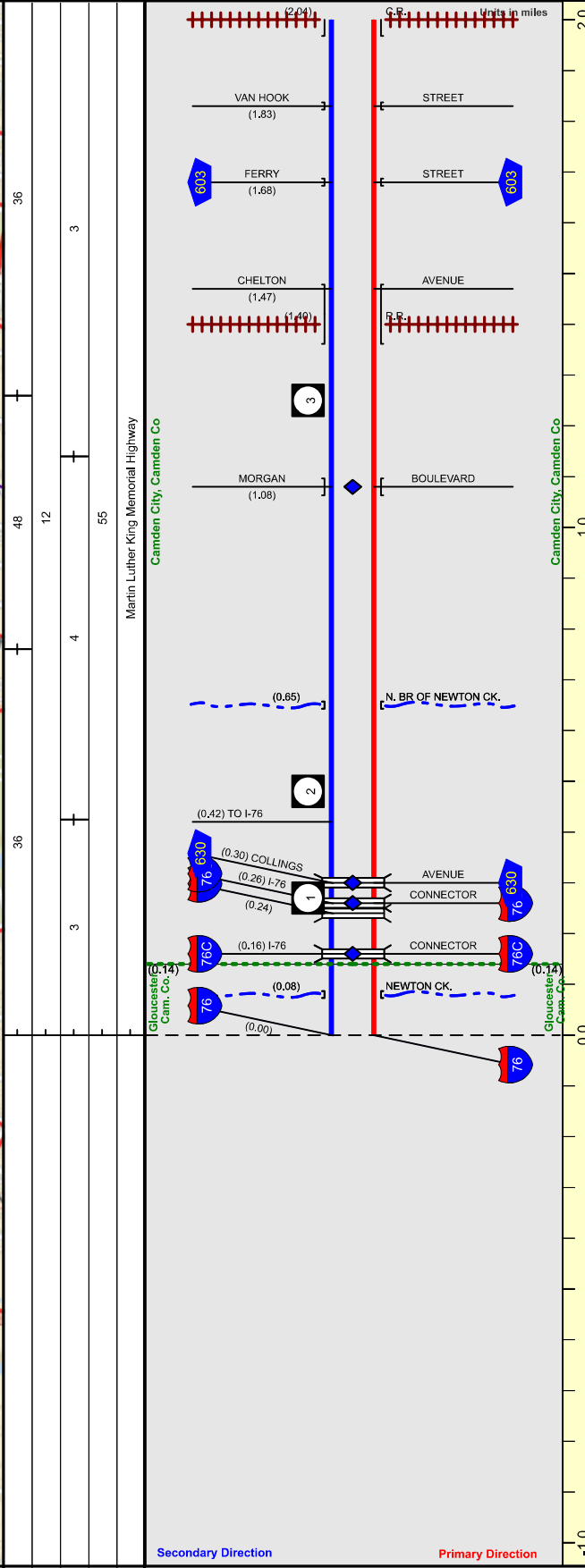
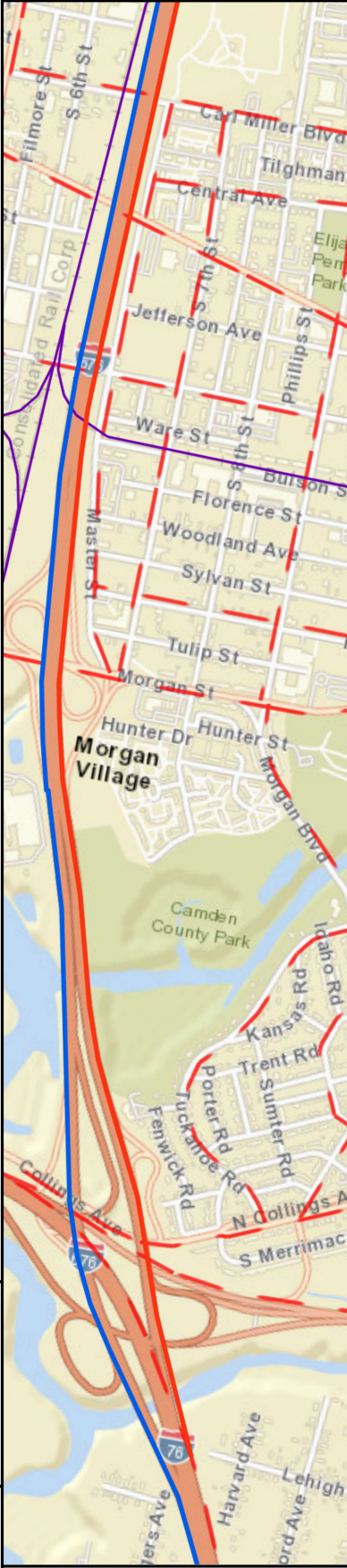


	Beginning of Ramp
	End of Ramp
	Ramp

SRI RAMP IDENTIFICATION
I 676 at Morgan Boulevard

Mile Posts: 0.000 - 2.000

I-676 (South to North)



Street Name	Martin Luther King Memorial Highway	
Jurisdiction	Camden City, Camden Co	
Functional Class	Urban Interstate	
Federal Aid - NHS Sy	STRAHNET Inter.	
Control Section	0418	
Speed Limit	55	
Number of Lanes	3	
Med. Type	Positive	
Mec. Width	VAR	
Pavement	36	
Shoulder	12	
Traffic Volume	10	
Traffic Sta. ID	0418154 0418153	
Structure No.	0418155 0418156 0418157 0418158	
Enlarged Views	See Enlarged View #43	

SRI = 00000676

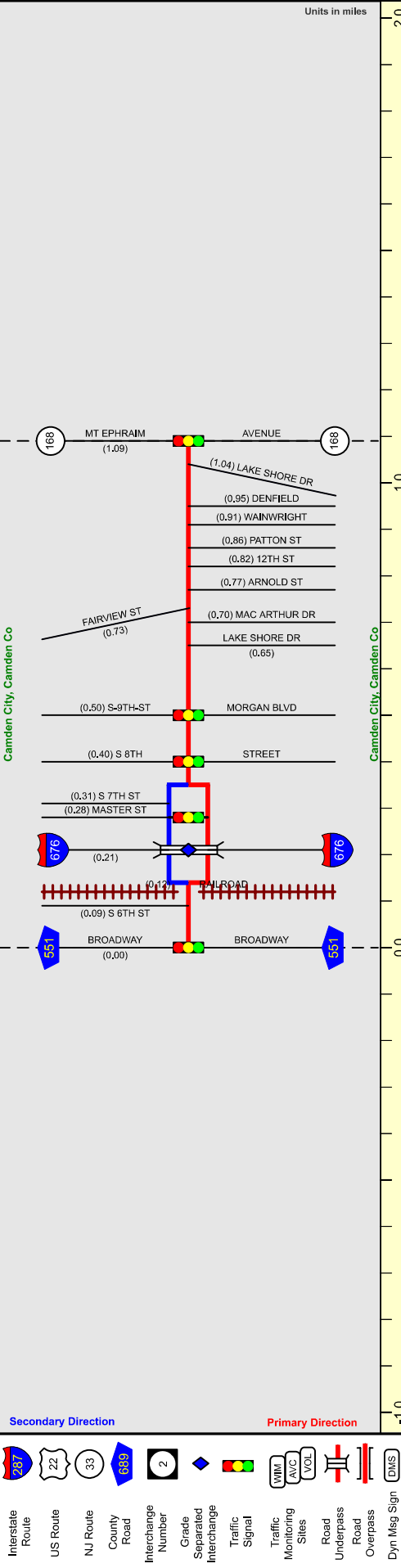
Date last inventoried: May 2018

Mile Posts: 0.000 - 1.090

MORGAN BLVD (West to East)



Pavement	24
Shoulder	
Number of Lanes	2
Speed Limit	25
Street Name	Morgan Boulevard

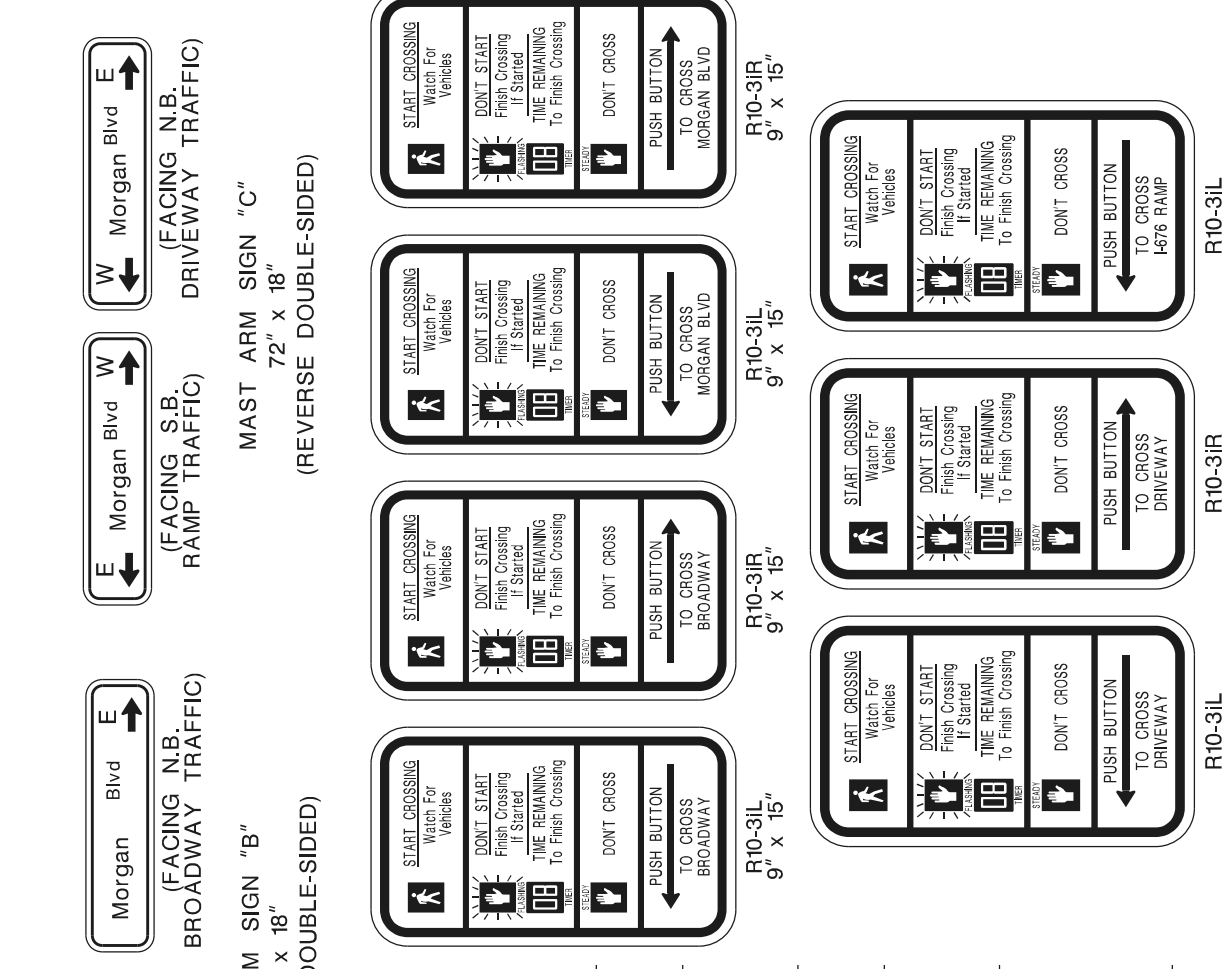


Street Name	Morgan Boulevard	Fairview Street
Jurisdiction	Municipal	Municipal
Functional Class	Urban Principal Arterial	Urban Minor Arterial
Federal Aid - NHS Sy	NHS	STP
Control Section		
Speed Limit	25	
Number of Lanes	2	
Med. Type	None	None
Mec. Width	4	28
Pavement	60	48
Shoulder	24	
Traffic Volume		
Traffic Sta. ID		
Structure No.	0419155	
Enlarged Views		

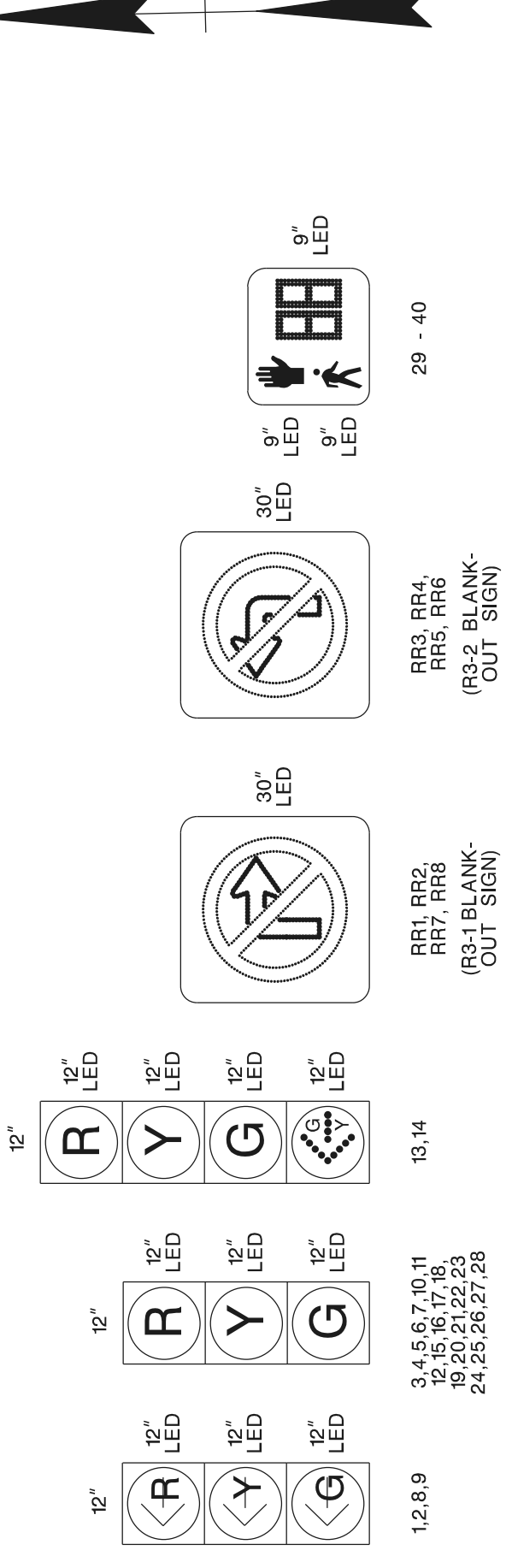
SRI = 04081537

Date last inventoried: May 2014

SIGN LEGEND
NOT TO SCALE



SIGNAL LEGEND
NOT TO SCALE



NOTE:
1. SIGNAL HEAD NOS. 7, 13, 14, 15, & 16 ARE OPTICALLY GRAMMED WITH LIMITS OF VISIBILITY AS SHOWN ON THE PLAN.
2. SIGNAL HEAD NOS. 5 & 12 SHALL BE MOUNTED AT 10' HEIGHT.
3. SIGNAL HEAD NOS. 1, 3, 4, 6, 7, 8, 9, 10, 11, 14, 15 & 16 SHALL BE EQUIPPED WITH BACKPLATES.

CONSTRUCT: 18" x 36" JUNCTION BOX
CONSTRUCT: 3" RMC
INSTALL: AW-5/C, AX-10/C, AY-10/C, AZ-5/C, BA-2/C, BB-2/C, BC-10/C, BD-10/C, BE-10/C, BF-5/C, BG-2/C, BH-2/C, ID(C)(F), I2(C)P4, 11(C)#8(GND)

CONSTRUCT: 3" RMC
INSTALL: BC-10/C, BD-10/C, BE-10/C, BF-5/C, BG-2/C, BH-2/C, ID(C)(I), 11(C)#8(GND)

CONSTRUCT: FOUNDATION, TYPE STF, STA. 11+47, 47 LT.
INSTALL: TSS-S, PSH, PB(A), SIGN(R10-3L), SIGN(R10-5)

CONSTRUCT: 18" x 36" JUNCTION BOX
INSTALL: AW-5/C, 11(C)#8(GND)

CONSTRUCT: (2) 3" RMC
INSTALL: AK-10/C, AL-10/C, AM-10/C, AN-5/C, AO-2/C, AP-10/C, AQ-10/C, AR-10/C, AS-5/C, AT-2/C, AU-2/C, AV-2/C, AW-2/C, AX-10/C, AY-10/C, AZ-5/C, BA-2/C, BB-2/C, BC-10/C, BD-10/C, BE-10/C, BF-5/C, BG-2/C, BH-2/C, ID(C)(A), 11(C)#8(GND)

AREAS OF IMAGE DETECTION

CONSTRUCT: FOUNDATION, TYPE STF, STA. 9+45, 45 LT.
INSTALL: TSS-S, PSH, PB(B), SIGN(R10-3R), SIGN(R10-5)

CONSTRUCT: 3" RMC
INSTALL: Y-5/C, Z-2/C, 11(C)#8(GND)

CONSTRUCT: 18" x 36" JUNCTION BOX
INSTALL: Y-5/C, Z-2/C, 11(C)#8(GND)

CONSTRUCT: 3" RMC
INSTALL: S-10/C, T-10/C, U-10/C, V-10/C, W-5/C, X-2/C, Y-5/C, Z-2/C, ID(C)(I), 2-11(C)#8(GND)

CONSTRUCT: FOUNDATION, TYPE STF, STA. 9+56, 56 RT.
INSTALL: TSS-T, PSH, PB(B), SIGN(R10-3R)

CONSTRUCT: 3" RMC
INSTALL: Y-5/C, Z-2/C, 11(C)#8(GND)

CONSTRUCT: 18" x 36" JUNCTION BOX
INSTALL: Y-5/C, Z-2/C, 11(C)#8(GND)

CONSTRUCT: 3" RMC
INSTALL: S-10/C, T-10/C, U-10/C, V-10/C, W-5/C, X-2/C, ID(C)(I), 2-11(C)#8(GND)

CONSTRUCT: FOUNDATION, TYPE STF, STA. 9+45, 45 LT.
INSTALL: TSS-S, PSH, PB(A), SIGN(R10-3L), TSSMA-S, (4)TSH, ID(D), SIGN(S'A', R10-5), LIMONGOOSE-150W @ 270° 5' TILT; LAMP (3)

AREAS OF IMAGE DETECTION

CONSTRUCT: FOUNDATION, TYPE STF, STA. 9+46, 50 RT.
INSTALL: TSS-T, (2)TSH, PSH, PB(B), SIGN(R10-3R)

CONSTRUCT: 3" RMC
INSTALL: A-10/C, B-10/C, C-5/C, D-2/C, 11(C)#8(GND)

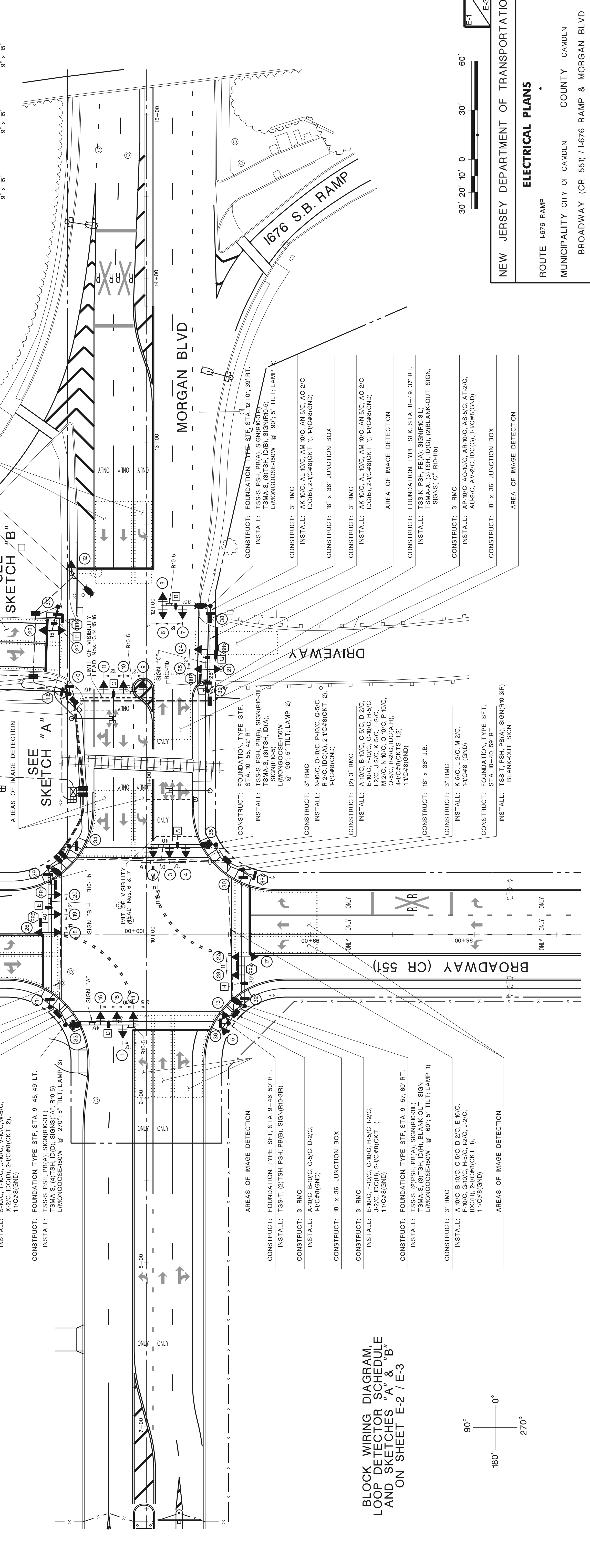
CONSTRUCT: 18" x 36" JUNCTION BOX
INSTALL: A-10/C, B-10/C, C-5/C, D-2/C, 11(C)#8(GND)

CONSTRUCT: 3" RMC
INSTALL: E-10/C, F-10/C, G-10/C, H-5/C, I-2/C, J-2/C, ID(C)(H), 2-11(C)#8(GND)

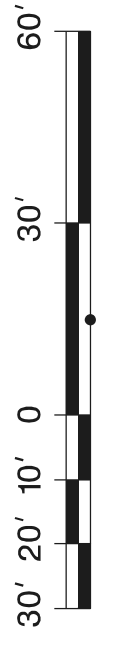
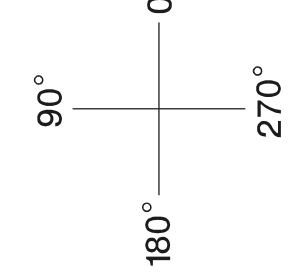
CONSTRUCT: FOUNDATION, TYPE STF, STA. 9+57, 60 RT.
INSTALL: TSS-S, PSH, PB(A), SIGN(R10-3L), TSSMA-S, (3)TSH, ID(H), BLANK-OUT SIGN, LIMONGOOSE-150W @ 60° 5' TILT; LAMP (1)

CONSTRUCT: 3" RMC
INSTALL: A-10/C, B-10/C, C-5/C, D-2/C, E-10/C, F-10/C, G-10/C, H-5/C, I-2/C, J-2/C, ID(C)(H), 2-11(C)#8(GND)

AREAS OF IMAGE DETECTION



**BLOCK WIRING DIAGRAM
LOOP DETECTOR SCHEDULE
AND SKETCHES "A" & "B"
ON SHEET E-2 / E-3**



NEW JERSEY DEPARTMENT OF TRANSPORTATION
ELECTRICAL PLANS
ROUTE 1676 RAMP
MUNICIPALITY CITY OF CAMDEN COUNTY CAMDEN
BROADWAY (CR 551) / 1676 RAMP & MORGAN BLVD

Styppshire Associates LLC
277 North 10th Street, Suite 303, Atlantic NJ 08009
Camden, NJ 08104
RANDAL C. FABIAN, P.E.
Professional Engineer
No. 38592
24 JUN 16
CONTROL SECTION
NO.

REVISION DESCRIPTION	BY	CHECKED	DATE

REFERENCE

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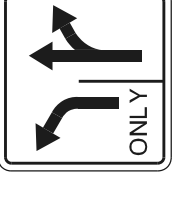
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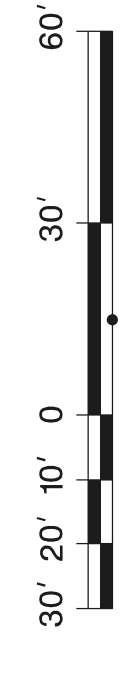
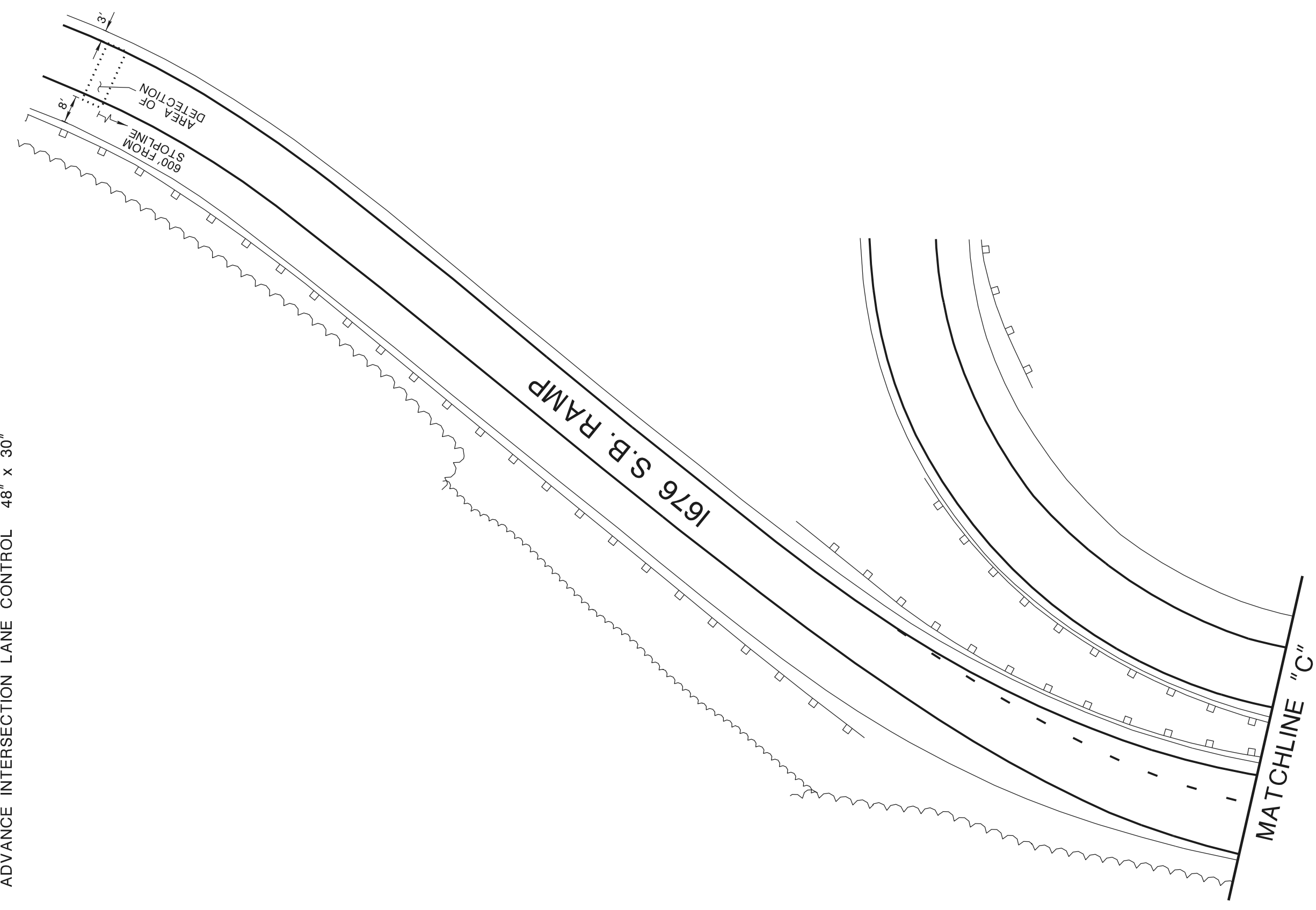
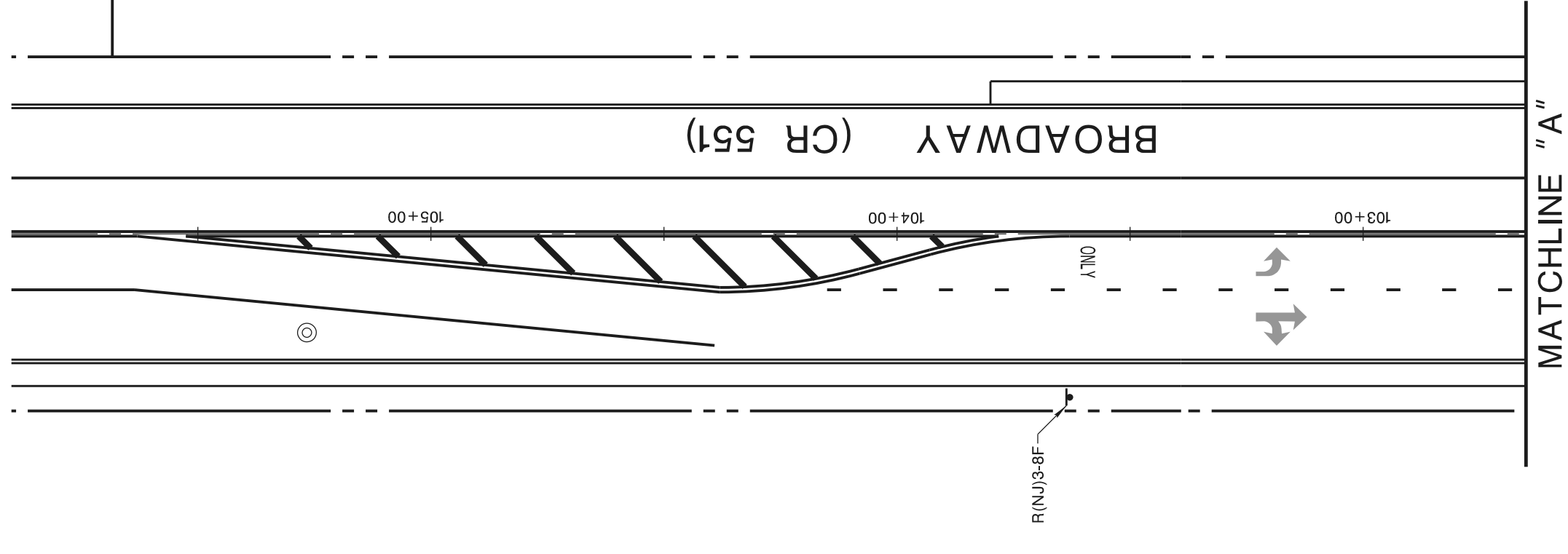
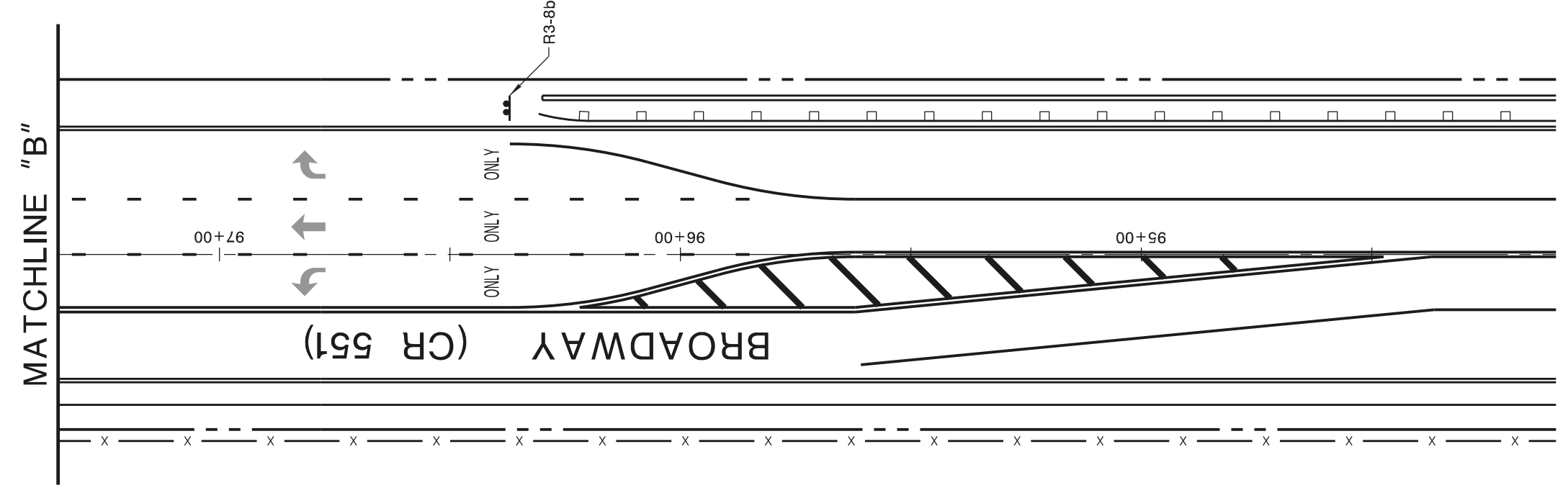
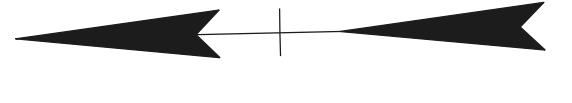
STATE FEDERAL PROJECT NO.
N.J. *

SIGN LEGEND
NOT TO SCALE



R(N)J3-8F
30' x 30'

R3-8b ADVANCE INTERSECTION LANE CONTROL 48" x 30"



TSP-2
TSP-2
NEW JERSEY DEPARTMENT OF TRANSPORTATION
BUREAU OF TRAFFIC ENGINEERING AND INVESTIGATIONS
TRAFFIC SIGNAL INSTALLATION
ROUTE BROADWAY (CR 551) / 1676 RAMP & MORGAN BLVD
MUNICIPALITY CITY OF CAMDEN COUNTY CAMDEN
DESIGN AUTHORIZED - BUREAU OF TRAFFIC SIGNAL & SAFETY ENGINEERING DATE
SUBMITTED
CHECKED
AUTHORIZED

REVISION	DESCRIPTION	CADD	BY	CK'D	DATE

SCALE: 1" = 30'
DRAWN
CHECKED
AUTHORIZED
TS

REFERENCE

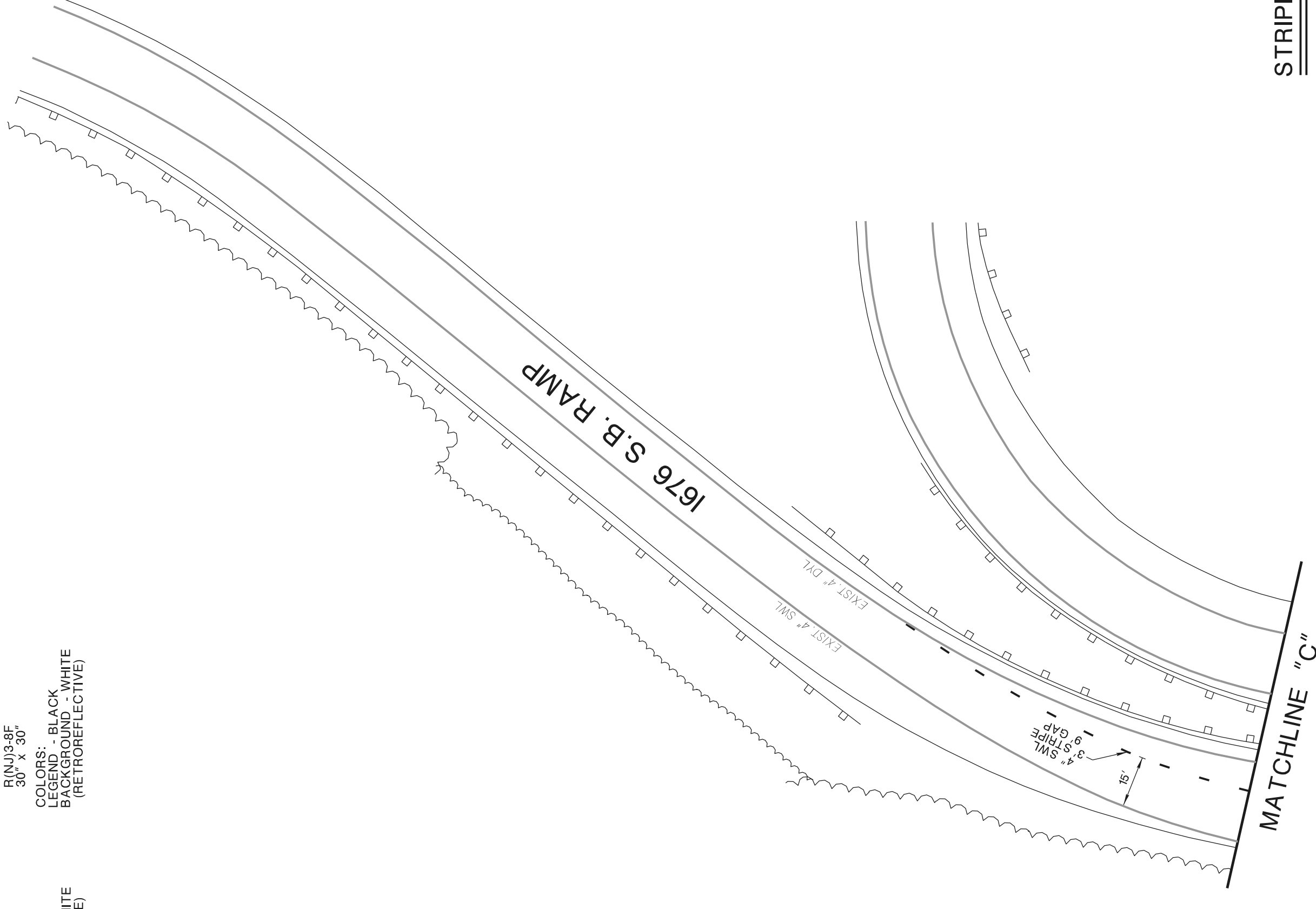
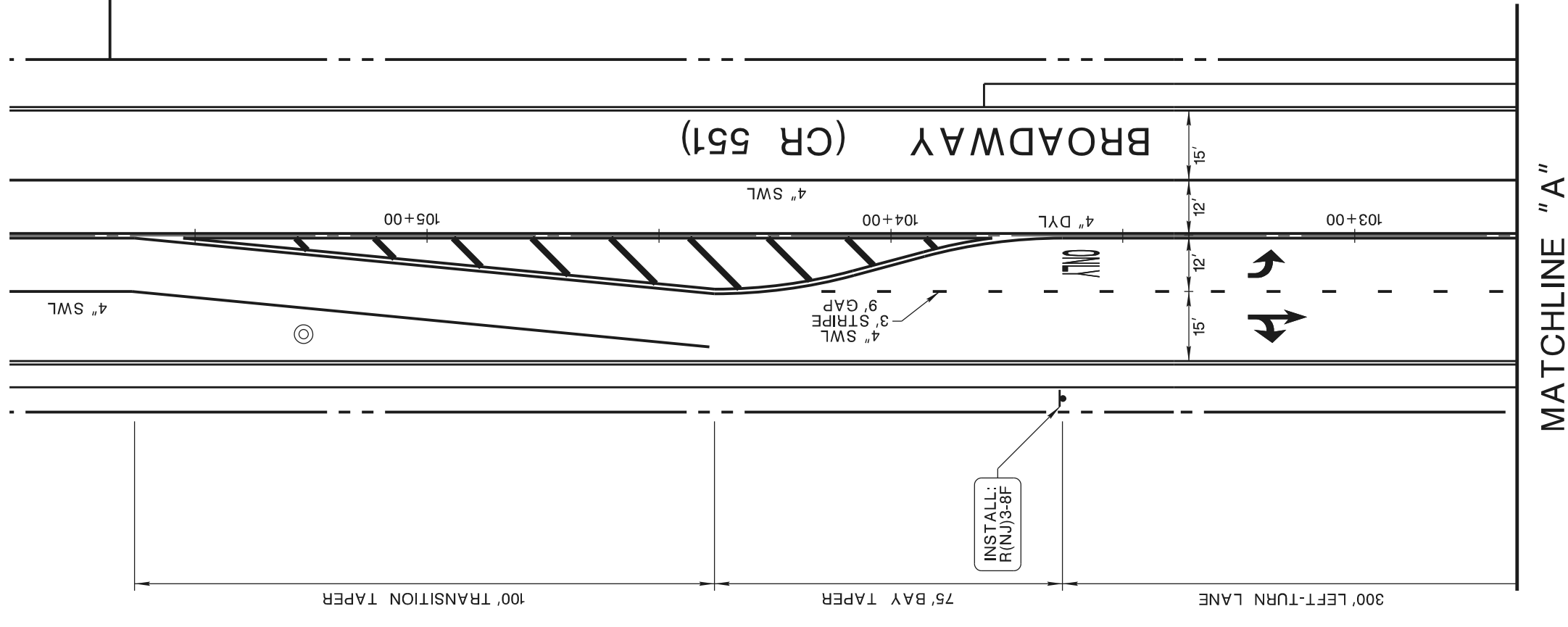
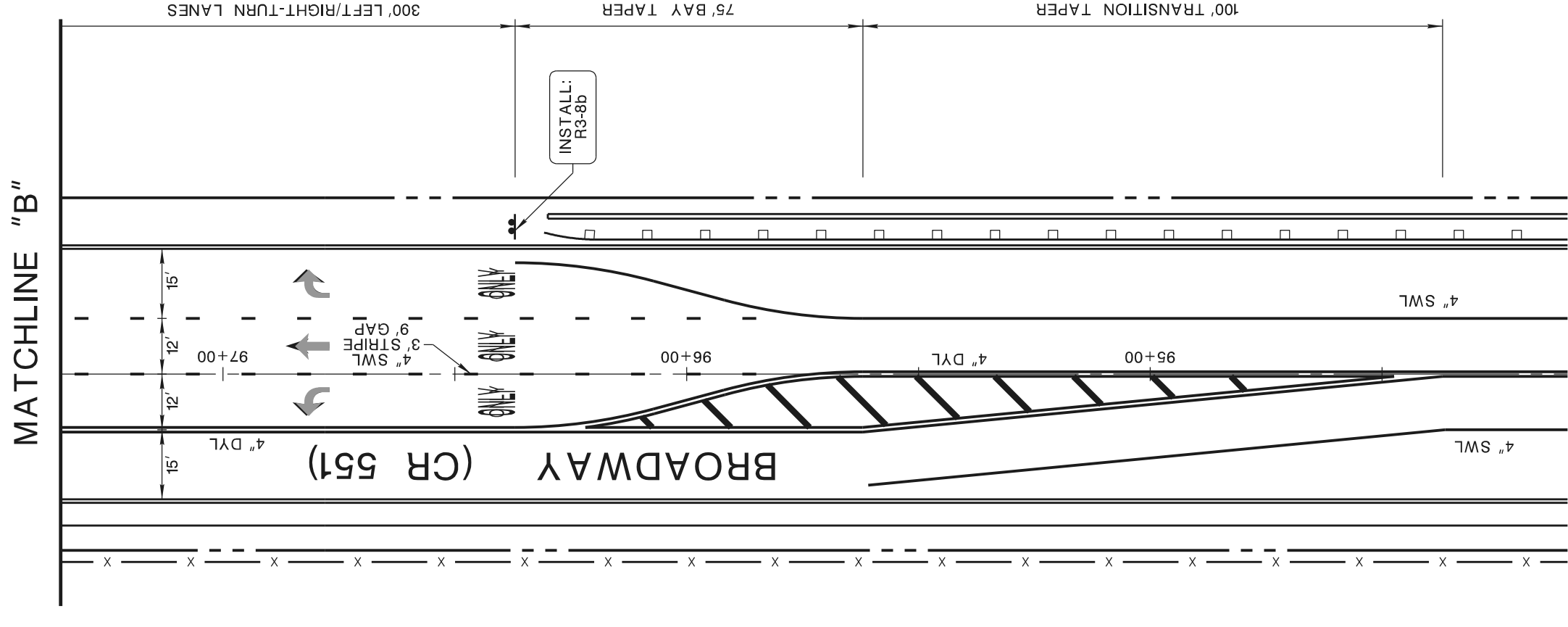
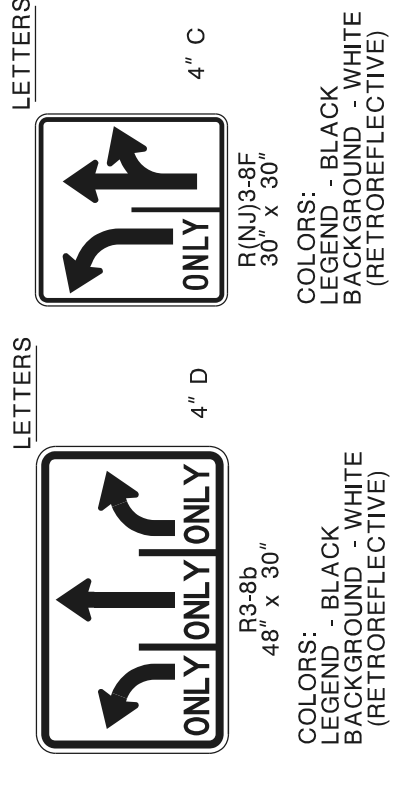
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SIGN LEGEND
NOT TO SCALE



STRIPING LEGEND

- SWL - SOLID WHITE LINE
- BWL - BROKEN WHITE LINE
- SYL - SOLID YELLOW LINE
- DYL - DOUBLE YELLOW LINE



GENERAL NOTES

1. ALL SIGNS, SIGNALS AND MARKINGS TO BE IN ACCORDANCE WITH THE CURRENT M.U.T.C.D.
2. EXISTING MARKINGS NOT IN CONFORMANCE WITH THIS PLAN ARE TO BE REMOVED BY THE GRINDING METHOD.
3. WITH THE INSTALLATION OR GRINDING OF THE PAVEMENT MARKINGS, RAISED PAVEMENT MARKINGS (RPM'S) SHALL BE INSTALLED IN CONFORMANCE WITH THE CURRENT M.U.T.C.D. WHERE APPLICABLE. TO CONCORD WITH THE NEW PAVEMENT MARKINGS, THE RPM'S MUST BE INSTALLED IN ACCORDANCE WITH THE CURRENT M.U.T.C.D. STANDARD PRACTICES WITH THE CURRENT TRAFFIC CONTROL BRIDGE CONSTRUCTION DETAILS.

NEW JERSEY DEPARTMENT OF TRANSPORTATION
SS-2

TRAFFIC SIGNING & STRIPING PLAN
BROADWAY (CR 551) / I-676 RAMP & MORGAN BLVD
CITY OF CAMDEN, CAMDEN COUNTY

Shropshire Associates LLC
277 North 10th Street
Camden, NJ 08104
Randal C. Fabian, P.E.
24 JUN 16
Professional Engineer No. 42852

REVISION	DESCRIPTION	BY	C/K/D	DATE

120-Second Variable Cycle

Normal Operation

Signal Indications

Phase	Signal Indications												RR7, RR8	RR Signals	RR Gates	Time (Sec)								
	1,2	3-5	6,7	8,9	10-12	13,14	15,16	17-20	21,22	23-25	26-28	29-32					33-36	37-40	RR1, RR2	RR3, RR4	RR5, RR6			
A. Broadway (CR 551) ROW Change (Outer) Clearance Inside Clearance Change (Inner) Clearance	<R-	R	G	<R-	R	R	G	R	R	R	G	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	7 - 25
	<R-	R	G	<R-	R	R	Y	R	R	R	Y	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3
	<R-	R	G	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2
	<R-	R	G	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	5
	<R-	R	Y	<R-	R	Y/<Y-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3
<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2	
B. I-676 Ramp/Dwvy ROW Change (Outer) Clearance Inside Clearance Change (Inner) Clearance	<R-	R	R	<R-	R	G	R	G	R	G	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	7 - 15
	<R-	R	R	<R-	R	G	R	Y	R	Y	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
	<R-	R	R	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2	
	<R-	R	R	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	5	
	<R-	R	R	<R-	R	Y/<Y-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2		
C. Morgan Blvd ROW Change (Outer) Clearance Inside Clearance Change (Inner) Clearance	<R-	G	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	7 - 14
	<R-	Y	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
	<R-	R	G	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2	
	<R-	R	G	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	5	
	<R-	R	Y	<R-	R	Y/<Y-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2		
D. Morgan Blvd Lag Lefts Change (Outer) Clearance Inside Clearance Change (Inner) Clearance	<G-	R	R	<G-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	5 - 7
	<Y-	R	R	<Y-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2	
	<R-	R	G	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	5	
	<R-	R	Y	<R-	R	Y/<Y-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2		
Pre-emption End of Railroad Pre-pulse Track Clearance Track Clearance - Breakaway Change Red Clearance Hold Return - Gate Ascending Change Clearance Return to Normal (Phase B)	<R-	R	G	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-	
	<R-	R	G	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	UP	3	
	<R-	R	G	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	DESCENDING	6	
	<R-	R	Y	<R-	R	Y/<Y-	R	R	R	R	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	DESCENDING	3	
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	DESCENDING	2	
	<R-	R	R	<R-	R	R	R	G	R	G	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	HORIZONTAL	-	
	<R-	R	R	<R-	R	R	R	G	G	G	G	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	ASCENDING	10	
	<R-	R	R	<R-	R	R	R	G	G	G	Y	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	UP	3	
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	NLT	NRT	NRT	NRT	NRT	UP	2	
	<R-	R	R	<R-	R	G/<G-	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-	
Emergency Flash	<R-	R	Y	<R-	Y	Y	R	R	R	R	R	Dark	Dark	Dark	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-	
	<R-	R	R	<R-	R	R	R	R	R	R	R	Dark	Dark	Dark	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-	

120-Second Variable Cycle

With Pedestrian Actuation

Signal Indications

Phase	Signal Indications												RR Signals	RR Gates	Time (Sec)					
	1,2	3-5	6,7	8,9	10-12	13,14	15,16	17-20	21,22	23-25	26-28	29-32				33-36	37-40	RR1, RR2	RR3, RR4	RR5, RR6
A. Broadway (CR 551) ROW Pedestrian Clearance Change (Outer) Clearance	<R-	R	G	<R-	R	R	G	R	R	R	G	DW	W	W	OFF	OFF	OFF	OFF	UP	7
	<R-	R	G	<R-	R	R	G	R	R	R	G	DW	FDW	FDW	OFF	OFF	OFF	OFF	UP	25
	<R-	R	G	<R-	R	R	Y	R	R	R	Y	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	G	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
	<R-	R	G	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	5
	<R-	R	Y	<R-	R	Y	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
B. I-676 Ramp/Dwvy ROW Change (Outer) Clearance	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	7
	<R-	R	R	<R-	R	G	R	G	Y	Y	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
	<R-	R	R	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	5
	<R-	R	R	<R-	R	Y	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
C. Morgan Blvd ROW Pedestrian Clearance Change (Outer) Clearance	<R-	G	G	<R-	G	R	R	R	R	R	R	W	DW	DW	OFF	OFF	OFF	OFF	UP	7
	<R-	G	G	<R-	G	R	R	R	R	R	R	FDW	DW	DW	OFF	OFF	OFF	OFF	UP	20
	<R-	Y	G	<R-	G	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	G	<R-	G	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
	<R-	R	G	<R-	G	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	5
	<R-	R	Y	<R-	Y	Y	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
D. Morgan Blvd Lag Lefts Change (Outer) Clearance	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	5
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
	<R-	R	G	<R-	R	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	5
	<R-	R	Y	<R-	Y	Y	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	3
	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	UP	2
Emergency Flash	<R-	R	Y	<R-	Y	R	R	R	R	R	R	Dark	Dark	Dark	OFF	OFF	OFF	OFF	UP	-

120-Second Variable Cycle

Railroad Pre-emption Operation

Signal Indications

Phase	Signal Indications												RR1, RR2	RR3, RR4	RR5, RR6	RR7, RR8	RR Signals	RR Gates	Time (Sec)				
	1,2	3-5	6,7	8,9	10-12	13,14	15,16	17-20	21,22	23-25	26-28	29-32								33-36	37-40		
φA to Pre-empt Broadway (CR 551) ROW RR Pre-Pulse Pedestrian RR Pre-Pulse Change (Outer) RR Pre-Pulse Clearance Track Clearance Track Clearance - Breakaway Change Red Clearance Hold Return - Gate Ascending Change Clearance Return to Normal (Phase B)	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	D/W	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	F/DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	4
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	2
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	NRT	NRT	NLT	NLT	NRT	NRT	ACTIVE	ACTIVE	UP	3
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	6
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	3
	<R-	R	G	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	2
	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	HORIZONTAL	-
	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	ASCENDING	10
	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	OFF	OFF	UP	3
	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	OFF	OFF	UP	2
	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	OFF	OFF	OFF	OFF	OFF	UP	-
	φB to Pre-empt I-676 Ramp/Dwvy ROW RR Pre-Pulse Extension RR Pre-Pulse Change (Outer) RR Pre-Pulse Clearance Track Clearance Track Clearance - Breakaway Change Red Clearance Hold Return - Gate Ascending Change Clearance Return to Normal (Phase B)	<R-	R	R	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	-
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	4	
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	3	
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	OFF	OFF	OFF	OFF	OFF	OFF	OFF	UP	4	
<R-		R	G	<R-	R	R	R	G	R	R	G	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	UP	3	
<R-		R	G	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	6
<R-		R	Y	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	3
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	DESCENDING	2
<R-		R	Y	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	HORIZONTAL	-
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	ACTIVE	ACTIVE	ASCENDING	10
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	OFF	OFF	UP	3
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	NLT	NLT	NRT	OFF	OFF	UP	2
<R-		R	R	<R-	R	R	R	G	R	R	G	DW	DW	DW	NRT	NRT	OFF	OFF	OFF	OFF	OFF	UP	-

120-Second Variable Cycle

Railroad Pre-emption Operation

Signal Indications

Phase	Signal Indications																RR Signals	RR Gates	Time (Sec)		
	1,2	3-5	6,7	8,9	10-12	13,14	15,16	17-20	21,22	23-25	26-28	29-32	33-36	37-40	RR1, RR2	RR3, RR4				RR5, RR6	RR7, RR8
φC to Pre-empt Morgan Blvd ROW	<R-	G	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	-
RR Pre-Pulse Pedestrian	<R-	G	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	4
RR Pre-Pulse Change (Outer)	<R-	Y	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	3
RR Pre-Pulse Clearance	<R-	R	G	<R-	G	G	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	2
Track Clearance	<R-	R	G	<R-	G/<G-	G	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	UP	3
Track Clearance - Breakaway	<R-	R	G	<R-	G/<G-	G	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	6
Change	<R-	R	Y	<R-	Y/<Y-	Y	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	3
Red Clearance	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	2
Hold	<R-	R	R	<R-	R	R	R	G	G	G	G	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	HORIZONTAL	-
Return - Gate Ascending	<R-	R	R	<R-	R	R	R	G	G	G	G	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	ASCENDING	10
Change	<R-	R	R	<R-	R	R	Y	Y	G	G	Y	DW	DW	DW	NRT	NLT	NLT	NRT	OFF	UP	3
Clearance	<R-	R	R	<R-	R	R	R	R	G	G	R	DW	DW	DW	NRT	NLT	NLT	NRT	OFF	UP	2
Return to Normal (Phase B)	<R-	R	R	<R-	G/<G-	G	R	R	G	G	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	-
φD to Pre-empt Morgan Blvd Lag Lefts	<G-	R	R	<G-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	-
RR Pre-Pulse Extension	<G-	R	R	<G-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	4
RR Pre-Pulse Change (Outer)	<Y-	R	R	<Y-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	3
RR Pre-Pulse Clearance	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	2
Track Clearance	<R-	R	G	<R-	G/<G-	G	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	UP	3
Track Clearance - Breakaway	<R-	R	G	<R-	G/<G-	G	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	6
Change	<R-	R	Y	<R-	Y/<Y-	Y	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	3
Red Clearance	<R-	R	R	<R-	R	R	R	R	R	R	R	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	2
Hold	<R-	R	R	<R-	R	R	G	G	G	G	G	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	DESCENDING	-
Return - Gate Ascending	<R-	R	R	<R-	R	R	G	G	G	G	G	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	HORIZONTAL	10
Change	<R-	R	R	<R-	R	R	Y	Y	G	G	Y	DW	DW	DW	NRT	NLT	NLT	NRT	ACTIVE	ASCENDING	3
Clearance	<R-	R	R	<R-	R	R	R	R	G	G	R	DW	DW	DW	NRT	NLT	NLT	NRT	OFF	UP	2
Return to Normal (Phase B)	<R-	R	R	<R-	G/<G-	G	R	R	G	G	R	DW	DW	DW	OFF	OFF	OFF	OFF	OFF	UP	-

Notes:

1. The memory circuits shall be OFF.
2. The vehicle interval shall be set at 4-seconds.
3. The manual control shall be disconnected.
4. With pedestrian pushbutton actuation, the cycle length will be exceeded.
5. A queue detector pre-emption shall be provided on the I-676 southbound ramp. The queue detection shall employ a 10-second delay before accepting actuation.
6. Upon actuation of the queue detector pre-emption, all minimum Green, Yellow change, Red clearance, and pedestrian clearance times shall be guaranteed followed by Green time to Phase B for the duration of the actuation plus 15-seconds.
7. The minimum queue detector pre-emption re-service time shall be set at 4-minutes.
8. Upon completion of the queue detector pre-emption, ROW shall be given to Morgan Boulevard and Normal Operation shall resume.
9. Railroad pre-emption supercedes the queue pre-emption for the I-676 southbound ramp.
10. Phase B shall have Dynamic MAX / MAX 3 option installed with the following parameters:
 - a. the number of successive MAX terminations (max-outs) shall be set at 2
 - b. the increment adjustment time or MAX 3 Adjust shall be set to 10-seconds
 - c. the Dynamic Maximum Green Limit Time or MAX 3 Limit shall be set to 45-seconds
 - d. the number of successive GAP terminations (gap-outs) shall be set at 2
11. During transition into Railroad Pre-emption control the minimum Green time shall be set at 4-seconds, and the pedestrian change interval shall be set at 4-seconds.
12. All railroad equipment and hardware (flashing Red light signals, automatic gates, mast mounted crossbucks and accompanying signs) are owned, operated and maintained by Consolidated Rail Corporation (CONRAIL).

TRAFFIC ENGINEERING - ELECTRICAL PROJECT

Number 596

Job No.	0418103
Memo to	Mr. R. Uth - #4
Attention	

Route No.	<u>I-676</u> Morgan Boulevard and Relocated
Location	Master Street and Ramp SM Camden City, Camden County
Date	May 1, 1980

Kindly engage your State forces to employ signal timing and operations as shown below:

70 Second Background Cycle

Signal Faces

<u>Phase</u>	<u>1-6</u>	<u>7-10</u>	<u>11-13</u>	<u>Time</u>
A. Morgan Boulevard ROW	G	R	R	38-22
A. Morgan Boulevard Change	Y	R	R	3*
A. Morgan Boulevard Clear	R	R	R	2
B. Ramp SM ROW	R	R	G	***10-22
B. Ramp SM Change	R	R	Y	3
B. Ramp SM Clearance	R	R	R	2
C. Relocated Master Street ROW	R	G	R	7-11**
C. Relocated Master Street Change	R	Y	R	3
C. Relocated Master Street Clear	R	R	R	2

Reference:

Vehicle interval for Phases B and C: 2 seconds

Memory circuit for Phases B and C be disconnected.

Manual control be disconnected.

Controller shall be capable of skipping phases not actuated.

*Offset is 0 seconds measured from the beginning of yellow to Morgan Boulevard at this intersection.

**An actuation of the pedestrian push button on the northeast corner shall provide 11 seconds of green to Phase C without recall.

***An actuation of the pedestrian push button on the southeast corner shall provide 11 seconds of green to Phase B.

JMP:JS:vlb

**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX B
2022 Existing Synchro Analysis Worksheets

USATX22001 - Holtec International Headquarters

Existing - AM
1: Broadway (CR 551) & Jefferson Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	4	26	1	1	5	6	143	1	2	90	1
Future Volume (vph)	4	4	26	1	1	5	6	143	1	2	90	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.897			0.904			0.999			0.999	
Flt Protected		0.994			0.993			0.998			0.999	
Satd. Flow (prot)	0	1636	0	0	1984	0	0	1928	0	0	1893	0
Flt Permitted		0.966			0.960			0.993			0.997	
Satd. Flow (perm)	0	1590	0	0	1918	0	0	1918	0	0	1889	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		58			10			1			1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	25%	25%	19%	0%	0%	0%	0%	15%	0%	0%	17%	0%
Adj. Flow (vph)	9	9	58	2	2	10	7	161	1	2	101	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	76	0	0	14	0	0	169	0	0	104	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			2			0	
Crosswalk Width(ft)		18			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.28			0.05			0.12			0.08	
Control Delay		14.2			17.7			3.4			3.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.2			17.7			3.4			3.2	
LOS		B			B			A			A	

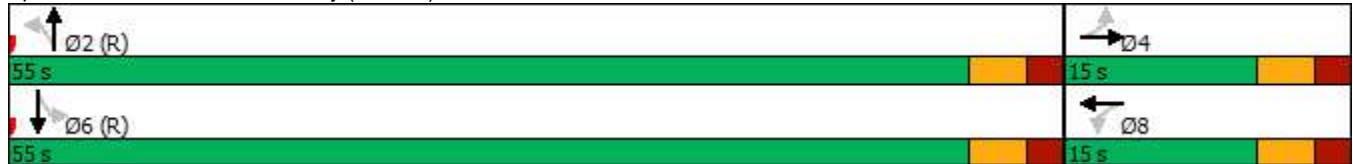


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		14.2			17.7			3.4			3.2	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.28
Intersection Signal Delay:	6.1
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	4	26	1	1	5	6	143	1	2	90	1
Future Volume (veh/h)	4	4	26	1	1	5	6	143	1	2	90	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1570	1633	1661	1950	2028	1950	1950	1791	1950	1950	1759	1950
Adj Flow Rate, veh/h	9	9	58	2	2	10	7	161	1	2	101	1
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	25	25	19	0	0	0	0	15	0	0	17	0
Cap, veh/h	68	37	154	71	60	180	74	1240	8	58	1234	12
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	74	261	1077	86	417	1260	29	1736	11	7	1728	17
Grp Volume(v), veh/h	76	0	0	14	0	0	169	0	0	104	0	0
Grp Sat Flow(s),veh/h/ln	1411	0	0	1763	0	0	1775	0	0	1752	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	0.5	0.0	0.0	2.1	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.12		0.76	0.14		0.71	0.04		0.01	0.02		0.01
Lane Grp Cap(c), veh/h	259	0	0	311	0	0	1321	0	0	1304	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.05	0.00	0.00	0.13	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	259	0	0	311	0	0	1321	0	0	1304	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	25.9	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.0	0.0	0.0	26.2	0.0	0.0	3.4	0.0	0.0	3.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		76			14			169			104	
Approach Delay, s/veh		30.0			26.2			3.4			3.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	7	4	7	13	50	5	98	8	37	82	1
Future Volume (vph)	2	7	4	7	13	50	5	98	8	37	82	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.958			0.903			0.990			0.999	
Flt Protected		0.994			0.995			0.998			0.985	
Satd. Flow (prot)	0	1952	0	0	1738	0	0	1897	0	0	1862	0
Flt Permitted		0.994			0.995			0.998			0.985	
Satd. Flow (perm)	0	1952	0	0	1738	0	0	1897	0	0	1862	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	25%	29%	15%	12%	40%	15%	0%	8%	21%	0%
Adj. Flow (vph)	2	9	5	9	17	66	6	109	9	46	101	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	92	0	0	124	0	0	148	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			-4			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.5%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	7	4	7	13	50	5	98	8	37	82	1
Future Vol, veh/h	2	7	4	7	13	50	5	98	8	37	82	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	76	76	76	90	90	90	81	81	81
Heavy Vehicles, %	0	0	25	29	15	12	40	15	0	8	21	0
Mvmt Flow	2	9	5	9	17	66	6	109	9	46	101	1

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	361	324	102	327	320	114	102	0	0	118	0	0
Stage 1	194	194	-	126	126	-	-	-	-	-	-	-
Stage 2	167	130	-	201	194	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.45	7.39	6.65	6.32	4.5	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.525	3.761	4.135	3.408	2.56	-	-	2.272	-	-
Pot Cap-1 Maneuver	598	597	894	577	576	912	1283	-	-	1434	-	-
Stage 1	812	744	-	817	767	-	-	-	-	-	-	-
Stage 2	840	792	-	743	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	526	574	894	550	554	912	1283	-	-	1434	-	-
Mov Cap-2 Maneuver	526	574	-	550	554	-	-	-	-	-	-	-
Stage 1	808	719	-	813	763	-	-	-	-	-	-	-
Stage 2	758	788	-	705	692	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB		
HCM Control Delay, s	10.8		10.3			0.4		2.3		
HCM LOS	B		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	635	769	1434	-	-
HCM Lane V/C Ratio	0.004	-	-	0.025	0.12	0.032	-	-
HCM Control Delay (s)	7.8	0	-	10.8	10.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	92	5	41	104	7	9
Future Volume (vph)	92	5	41	104	7	9
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1613	0	1684	1726	1295	1246
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1613	0	1684	1726	1295	1246
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.80	0.80
Heavy Vehicles (%)	19%	40%	10%	13%	43%	33%
Adj. Flow (vph)	114	6	55	139	9	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	55	139	9	11
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	2			22	-2	
Crosswalk Width(ft)	76			40	46	
Two way Left Turn Lane						
Headway Factor	0.97	0.82	0.97	0.97	0.97	0.97
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	5	41	104	7	9
Future Vol, veh/h	92	5	41	104	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	75	75	80	80
Heavy Vehicles, %	19	40	10	13	43	33
Mvmt Flow	114	6	55	139	9	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	120	0	366 117
Stage 1	-	-	-	-	117 -
Stage 2	-	-	-	-	249 -
Critical Hdwy	-	-	4.2	-	6.83 6.53
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.83 -
Follow-up Hdwy	-	-	2.29	-	3.887 3.597
Pot Cap-1 Maneuver	-	-	1420	-	560 858
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	706 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1420	-	538 858
Mov Cap-2 Maneuver	-	-	-	-	538 -
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	678 -























Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	538	858	-	-	1420	-
HCM Lane V/C Ratio	0.016	0.013	-	-	0.038	-
HCM Control Delay (s)	11.8	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

USATX22001 - Holtec International Headquarters

Existing - AM

4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	1	71	77	74	3	77	56	66	22	1
Future Volume (vph)	2	6	1	71	77	74	3	77	56	66	22	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.927				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1852	3164	0	1278	3170	0	1852	1773	1237	1531	1587	0
Flt Permitted	0.630			0.751			0.738			0.702		
Satd. Flow (perm)	1228	3164	0	1010	3170	0	1439	1773	1237	1131	1587	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			95							1
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		454			173			434			525	
Travel Time (s)		12.4			4.7			11.8			14.3	
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.92	0.92	0.92	0.77	0.77	0.77
Heavy Vehicles (%)	0%	17%	0%	45%	1%	16%	0%	10%	34%	21%	23%	0%
Adj. Flow (vph)	3	8	1	91	99	95	3	84	61	86	29	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	9	0	91	194	0	3	84	61	86	30	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)		-2			2			-6			6	
Crosswalk Width(ft)		36			42			32			30	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1		1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	-10	-10		-10	-10		-10	-10	-10	-10	-10	
Detector 1 Position(ft)	-10	-10		-10	-10		-10	-10	-10	-10	-10	
Detector 1 Size(ft)	60	60		60	60		60	60	60	60	60	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1			1	
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0

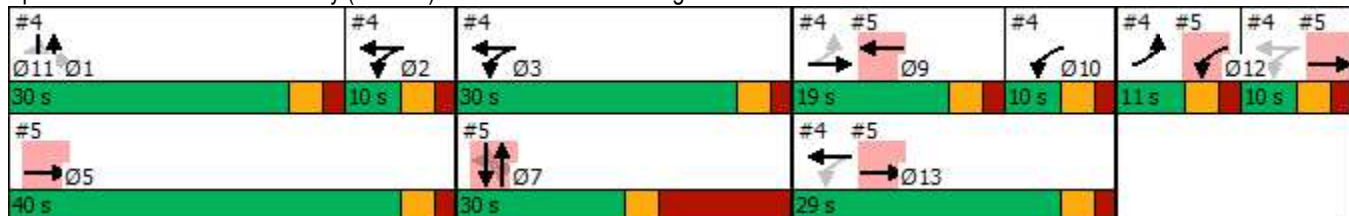


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	19.0					30.0	30.0	30.0	30.0	30.0	
Total Split (%)	9.2%	15.8%					25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	6.0	14.0					25.0	25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	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	0.0	0.0	
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	
Recall Mode	None	None					None	None	None	None	None	
Act Effct Green (s)	18.7	12.6		60.6	68.2		14.5	14.5	14.5	14.5	14.5	
Actuated g/C Ratio	0.18	0.12		0.60	0.67		0.14	0.14	0.14	0.14	0.14	
v/c Ratio	0.01	0.02		0.13	0.09		0.01	0.33	0.35	0.53	0.13	
Control Delay	29.5	42.3		1.5	0.1		39.7	45.1	47.3	55.5	40.6	
Queue Delay	0.0	0.0		0.3	0.2		0.0	0.0	0.0	0.0	0.0	
Total Delay	29.5	42.3		1.8	0.2		39.7	45.1	47.3	55.5	40.6	
LOS	C	D		A	A		D	D	D	E	D	
Approach Delay		39.1			0.7			45.9				51.7
Approach LOS		D			A			D				D

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 101.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 24.0
 Intersection LOS: C
 Intersection Capacity Utilization 30.0%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard



USATX22001 - Holtec International Headquarters

Existing - AM

5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑			↕		↖	↗	
Traffic Volume (vph)	0	131	1	20	141	0	1	0	16	131	8	78
Future Volume (vph)	0	131	1	20	141	0	1	0	16	131	8	78
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999						0.873			0.863	
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	2895	0	1059	3012	0	0	901	0	1799	1432	0
Flt Permitted				0.950				0.970		0.735		
Satd. Flow (perm)	0	2895	0	1059	3012	0	0	876	0	1392	1432	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						245			91	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			781			270			419	
Travel Time (s)		4.7			21.3			7.4			11.4	
Peak Hour Factor	0.75	0.75	0.75	0.69	0.69	0.69	0.50	0.50	0.50	0.86	0.86	0.86
Heavy Vehicles (%)	0%	28%	0%	75%	23%	0%	0%	0%	94%	3%	63%	13%
Adj. Flow (vph)	0	175	1	29	204	0	2	0	32	152	9	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	176	0	29	204	0	0	34	0	152	100	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			0			12	
Link Offset(ft)		0			-4			0			4	
Crosswalk Width(ft)		16			38			22			26	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1		1	1		1	1	
Detector Template		Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)		50		50	50		50	50		50	50	
Trailing Detector (ft)		-10		-10	-10		-10	-10		-10	-10	
Detector 1 Position(ft)		-10		-10	-10		-10	-10		-10	-10	
Detector 1 Size(ft)		60		60	60		60	60		60	60	
Detector 1 Type		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	
Detector 1 Queue (s)		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	
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7			7	
Permitted Phases							7			7	7	
Detector Phase		5 13 11		12	9		7	7		7	7	
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5	22.5	

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0

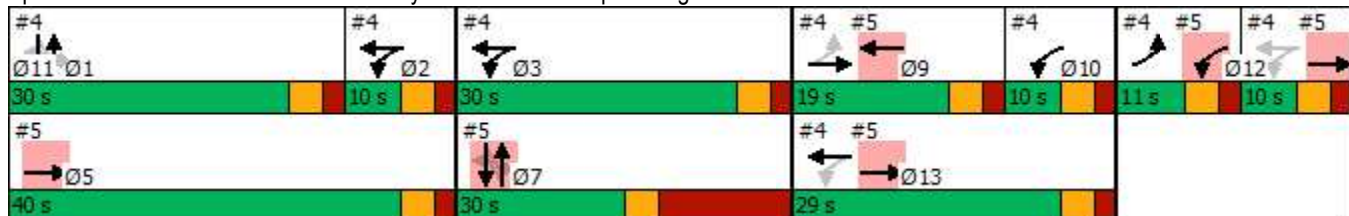


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)				11.0	19.0		30.0	30.0		30.0	30.0	
Total Split (%)				9.2%	15.8%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)				6.0	14.0		15.0	15.0		15.0	15.0	
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0	12.0	
Lost Time Adjust (s)				0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0			15.0		15.0	15.0	
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode				None	None		None	None		None	None	
Act Effct Green (s)		57.6		6.2	12.6			14.8		14.8	14.8	
Actuated g/C Ratio		0.57		0.06	0.12			0.15		0.15	0.15	
v/c Ratio		0.11		0.45	0.55			0.10		0.75	0.35	
Control Delay		1.1		74.8	50.6			0.6		68.7	15.6	
Queue Delay		0.1		0.0	0.0			0.0		0.0	0.0	
Total Delay		1.2		74.8	50.6			0.6		68.7	15.6	
LOS		A		E	D			A		E	B	
Approach Delay		1.2			53.6			0.6			47.6	
Approach LOS		A			D			A			D	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 101.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 35.6
 Intersection LOS: D
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard



USATX22001 - Holtec International Headquarters

Existing - AM

6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑↓	
Traffic Volume (vph)	0	167	0	0	193	8	139	83	0	14	0	134
Future Volume (vph)	0	167	0	0	193	8	139	83	0	14	0	134
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.994							0.878
Flt Protected							0.950	0.987				0.995
Satd. Flow (prot)	0	3463	0	0	3374	0	1333	1607	0	0	1573	0
Flt Permitted							0.950	0.987				0.995
Satd. Flow (perm)	0	3463	0	0	3374	0	1333	1607	0	0	1573	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8							163
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.79	0.79	0.79	0.82	0.82	0.82
Heavy Vehicles (%)	0%	7%	0%	0%	9%	13%	32%	7%	0%	21%	0%	7%
Adj. Flow (vph)	0	188	0	0	238	10	176	105	0	17	0	163
Shared Lane Traffic (%)							22%					
Lane Group Flow (vph)	0	188	0	0	248	0	137	144	0	0	180	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			24				-2
Crosswalk Width(ft)		20			26			24				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		0			0		1	1		1		1
Detector Template		Thru			Thru		Left	Thru		Left		Thru
Leading Detector (ft)		0			0		50	50		50		50
Trailing Detector (ft)		0			0		-10	-10		-10		-10
Detector 1 Position(ft)		-10			-10		-10	-10		-10		-10
Detector 1 Size(ft)		60			60		60	60		60		60
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			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔↕	
Traffic Volume (vph)	0	9	0	81	0	0
Future Volume (vph)	0	9	0	81	0	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.850			
Flt Protected						
Satd. Flow (prot)	0	1912	3087	0	1912	0
Flt Permitted						
Satd. Flow (perm)	0	1912	3087	0	1912	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		66	454		187	
Travel Time (s)		1.8	12.4		5.1	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.92	0.92
Adj. Flow (vph)	0	12	0	104	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	12	104	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	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	0.97	0.97	0.97	0.97	0.97	0.97
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 6.7%	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	0	9	0	81	0	0
Future Vol, veh/h	0	9	0	81	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	78	78	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	104	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	104	0	-	0	64 52
Stage 1	-	-	-	-	52 -
Stage 2	-	-	-	-	12 -
Critical Hdwy	4.13	-	-	-	6.63 6.93
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.219	-	-	-	3.519 3.319
Pot Cap-1 Maneuver	1487	-	-	-	938 1005
Stage 1	-	-	-	-	964 -
Stage 2	-	-	-	-	1011 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1487	-	-	-	938 1005
Mov Cap-2 Maneuver	-	-	-	-	938 -
Stage 1	-	-	-	-	964 -
Stage 2	-	-	-	-	1011 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1487	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

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Existing - PM
1: Broadway (CR 551) & Jefferson Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	11	2	41	5	1	8	11	112	5	1	223	3
Future Volume (vph)	11	2	41	5	1	8	11	112	5	1	223	3
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.898			0.926			0.995			0.998	
Flt Protected		0.990			0.982			0.996				
Satd. Flow (prot)	0	1840	0	0	1873	0	0	2067	0	0	2083	0
Flt Permitted		0.936			0.890			0.973				
Satd. Flow (perm)	0	1740	0	0	1698	0	0	2019	0	0	2083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		55			12			6			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	9%	20%	0%	0%	18%	5%	0%	0%	6%	0%
Adj. Flow (vph)	15	3	55	8	2	12	14	138	6	1	251	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	0	0	22	0	0	158	0	0	255	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			2			0	
Crosswalk Width(ft)		18			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.25			0.09			0.11			0.17	
Control Delay		13.9			19.0			3.2			3.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.9			19.0			3.2			3.6	
LOS		B			B			A			A	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		13.9			19.0			3.2			3.6	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.25
Intersection Signal Delay:	5.6
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	11	2	41	5	1	8	11	112	5	1	223	3
Future Volume (veh/h)	11	2	41	5	1	8	11	112	5	1	223	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	2028	1813	1646	2028	1950	1676	1949	1950	1950	1933	1950
Adj Flow Rate, veh/h	15	3	55	8	2	12	14	138	6	1	251	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	20	0	0	18	5	0	0	6	0
Cap, veh/h	88	35	186	128	52	132	129	1209	51	52	1361	16
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	181	244	1301	404	364	922	102	1692	71	1	1905	23
Grp Volume(v), veh/h	73	0	0	22	0	0	158	0	0	255	0	0
Grp Sat Flow(s),veh/h/ln	1727	0	0	1690	0	0	1865	0	0	1929	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.7	0.0	0.0	1.8	0.0	0.0	3.0	0.0	0.0
Prop In Lane	0.21		0.75	0.36		0.55	0.09		0.04	0.00		0.01
Lane Grp Cap(c), veh/h	309	0	0	312	0	0	1388	0	0	1429	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.07	0.00	0.00	0.11	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	309	0	0	312	0	0	1388	0	0	1429	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	26.0	0.0	0.0	3.1	0.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	0.0	0.0	26.5	0.0	0.0	3.3	0.0	0.0	3.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		73			22			158			255	
Approach Delay, s/veh		28.6			26.5			3.3			3.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								

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Existing - PM
2: Broadway (CR 551) & Chelton Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	11	15	11	5	49	3	82	18	61	206	2
Future Volume (vph)	2	11	15	11	5	49	3	82	18	61	206	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.927			0.897			0.977			0.999	
Flt Protected		0.997			0.992			0.998			0.989	
Satd. Flow (prot)	0	2043	0	0	1909	0	0	1928	0	0	2030	0
Flt Permitted		0.997			0.992			0.998			0.989	
Satd. Flow (perm)	0	2043	0	0	1909	0	0	1928	0	0	2030	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.47	0.47	0.47	0.77	0.77	0.77	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	9%	0%	2%	0%	10%	22%	3%	9%	0%
Adj. Flow (vph)	4	23	32	14	6	64	4	101	22	69	231	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	84	0	0	127	0	0	302	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			-4			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97	0.97	0.82	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	11	15	11	5	49	3	82	18	61	206	2
Future Vol, veh/h	2	11	15	11	5	49	3	82	18	61	206	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	77	77	77	81	81	81	89	89	89
Heavy Vehicles, %	0	0	0	9	0	2	0	10	22	3	9	0
Mvmt Flow	4	23	32	14	6	64	4	101	22	69	231	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	525	501	232	518	491	112	233	0	0	123	0	0
Stage 1	370	370	-	120	120	-	-	-	-	-	-	-
Stage 2	155	131	-	398	371	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.22	4.1	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.318	2.2	-	-	2.227	-	-
Pot Cap-1 Maneuver	466	475	812	457	481	941	1346	-	-	1458	-	-
Stage 1	654	624	-	868	800	-	-	-	-	-	-	-
Stage 2	852	792	-	614	623	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	411	448	812	404	454	941	1346	-	-	1458	-	-
Mov Cap-2 Maneuver	411	448	-	404	454	-	-	-	-	-	-	-
Stage 1	652	590	-	865	798	-	-	-	-	-	-	-
Stage 2	786	790	-	536	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	10.7	0.2	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1346	-	-	585	720	1458	-	-
HCM Lane V/C Ratio	0.003	-	-	0.102	0.117	0.047	-	-
HCM Control Delay (s)	7.7	0	-	11.9	10.7	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	233	5	1	76	7	47
Future Volume (vph)	233	5	1	76	7	47
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1829	0	926	1696	1625	1625
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1829	0	926	1696	1625	1625
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.79	0.79	0.88	0.88	0.41	0.41
Heavy Vehicles (%)	6%	20%	100%	15%	14%	2%
Adj. Flow (vph)	295	6	1	86	17	115
Shared Lane Traffic (%)						
Lane Group Flow (vph)	301	0	1	86	17	115
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	2			22	-2	
Crosswalk Width(ft)	76			40	46	
Two way Left Turn Lane						
Headway Factor	0.97	0.82	0.97	0.97	0.97	0.97
Turning Speed (mph)		60	15		60	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.2%			ICU Level of Service A		
Analysis Period (min)	15					

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	233	5	1	76	7	47
Future Vol, veh/h	233	5	1	76	7	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	88	88	41	41
Heavy Vehicles, %	6	20	100	15	14	2
Mvmt Flow	295	6	1	86	17	115

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	301	0	386 298
Stage 1	-	-	-	-	298 -
Stage 2	-	-	-	-	88 -
Critical Hdwy	-	-	5.1	-	6.54 6.22
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	3.1	-	3.626 3.318
Pot Cap-1 Maneuver	-	-	861	-	594 741
Stage 1	-	-	-	-	727 -
Stage 2	-	-	-	-	906 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	861	-	593 741
Mov Cap-2 Maneuver	-	-	-	-	593 -
Stage 1	-	-	-	-	727 -
Stage 2	-	-	-	-	905 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	741	-	-	861	-
HCM Lane V/C Ratio	0.029	0.155	-	-	0.001	-
HCM Control Delay (s)	11.3	10.7	-	-	9.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-

USATX22001 - Holtec International Headquarters

Existing - PM

4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	92	7	158	6	37	2	33	47	126	145	2
Future Volume (vph)	3	92	7	158	6	37	2	33	47	126	145	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.872				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1393	3664	0	1799	2842	0	1852	1696	1228	1781	1827	0
Flt Permitted	0.714			0.666			0.502			0.734		
Satd. Flow (perm)	1047	3664	0	1261	2842	0	979	1696	1228	1376	1827	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		5			53							
Link Speed (mph)		25			25			25				25
Link Distance (ft)		454			173			434				525
Travel Time (s)		12.4			4.7			11.8				14.3
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	33%	0%	0%	3%	0%	16%	0%	15%	35%	4%	6%	50%
Adj. Flow (vph)	4	126	10	226	9	53	2	35	51	142	163	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	136	0	226	62	0	2	35	51	142	165	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)		-2			2			-6				6
Crosswalk Width(ft)		36			42			32				30
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1		1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	-10	-10		-10	-10		-10	-10	-10	-10	-10	
Detector 1 Position(ft)	-10	-10		-10	-10		-10	-10	-10	-10	-10	
Detector 1 Size(ft)	60	60		60	60		60	60	60	60	60	
Detector 1 Type	Cl+Ex	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	0.0	
Detector 1 Queue (s)	0.0	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	0.0	
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.5	10.0	22.5	10.0	10.0	10.0

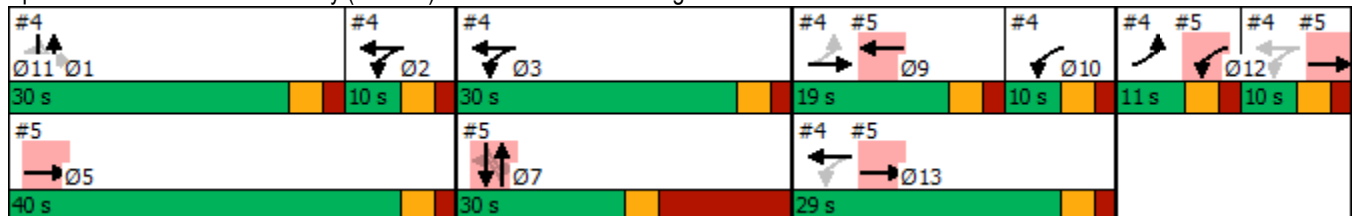


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	19.0					30.0	30.0	30.0	30.0	30.0	
Total Split (%)	9.2%	15.8%					25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	6.0	14.0					25.0	25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0	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	0.0	0.0	
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	
Recall Mode	None	None					None	None	None	None	None	
Act Effct Green (s)	16.2	10.3		61.0	69.4		16.9	16.9	16.9	16.9	16.9	
Actuated g/C Ratio	0.16	0.10		0.60	0.68		0.17	0.17	0.17	0.17	0.17	
v/c Ratio	0.02	0.36		0.23	0.03		0.01	0.12	0.25	0.62	0.54	
Control Delay	30.3	46.1		4.2	0.2		37.5	38.4	41.4	53.0	46.9	
Queue Delay	0.0	0.0		0.5	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	30.3	46.1		4.7	0.2		37.5	38.4	41.4	53.0	46.9	
LOS	C	D		A	A		D	D	D	D	D	
Approach Delay		45.7			3.7			40.2			49.7	
Approach LOS		D			A			D			D	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	102.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay:	31.9
Intersection LOS:	C
Intersection Capacity Utilization:	37.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard



USATX22001 - Holtec International Headquarters

Existing - PM

5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑			↕		↖	↗	
Traffic Volume (vph)	0	265	1	8	60	0	1	0	19	170	1	140
Future Volume (vph)	0	265	1	8	60	0	1	0	19	170	1	140
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.872				0.851
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	3422	0	985	3463	0	0	1089	0	1781	1596	0
Flt Permitted				0.950				0.964		0.734		
Satd. Flow (perm)	0	3422	0	985	3463	0	0	1053	0	1376	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								245				184
Link Speed (mph)		25			25			25				25
Link Distance (ft)		173			781			270				419
Travel Time (s)		4.7			21.3			7.4				11.4
Peak Hour Factor	0.81	0.81	0.81	0.77	0.77	0.77	0.56	0.56	0.56	0.76	0.76	0.76
Heavy Vehicles (%)	0%	8%	100%	88%	7%	0%	100%	0%	53%	4%	0%	4%
Adj. Flow (vph)	0	327	1	10	78	0	2	0	34	224	1	184
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	328	0	10	78	0	0	36	0	224	185	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			0				12
Link Offset(ft)		0			-4			0				4
Crosswalk Width(ft)		16			38			22				26
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		1		1	1		1	1		1		1
Detector Template		Thru		Left	Thru		Left	Thru		Left		Thru
Leading Detector (ft)		50		50	50		50	50		50		50
Trailing Detector (ft)		-10		-10	-10		-10	-10		-10		-10
Detector 1 Position(ft)		-10		-10	-10		-10	-10		-10		-10
Detector 1 Size(ft)		60		60	60		60	60		60		60
Detector 1 Type		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
Detector 1 Queue (s)		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
Turn Type		NA		Prot	NA		Perm	NA		Perm		NA
Protected Phases		5 13 11		12	9			7				7
Permitted Phases							7			7		7
Detector Phase		5 13 11		12	9		7	7		7		7
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5		22.5

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Enter Blocked Intersection							
Lane Alignment							
Median Width(ft)							
Link Offset(ft)							
Crosswalk Width(ft)							
Two way Left Turn Lane							
Headway Factor							
Turning Speed (mph)							
Number of Detectors							
Detector Template							
Leading Detector (ft)							
Trailing Detector (ft)							
Detector 1 Position(ft)							
Detector 1 Size(ft)							
Detector 1 Type							
Detector 1 Channel							
Detector 1 Extend (s)							
Detector 1 Queue (s)							
Detector 1 Delay (s)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.5	10.0	10.0	10.0	10.0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)				11.0	19.0		30.0	30.0		30.0	30.0	
Total Split (%)				9.2%	15.8%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)				6.0	14.0		15.0	15.0		15.0	15.0	
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0	12.0	
Lost Time Adjust (s)				0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0			15.0		15.0	15.0	
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode				None	None		None	None		None	None	
Act Effct Green (s)		61.0		6.0	10.3			15.2		15.2	15.2	
Actuated g/C Ratio		0.60		0.06	0.10			0.15		0.15	0.15	
v/c Ratio		0.16		0.18	0.22			0.10		1.10	0.47	
Control Delay		0.6		59.1	46.5			0.6		133.9	11.3	
Queue Delay		0.2		0.0	0.0			0.0		0.0	0.0	
Total Delay		0.8		59.1	46.5			0.6		133.9	11.3	
LOS		A		E	D			A		F	B	
Approach Delay		0.8			47.9			0.6			78.4	
Approach LOS		A			D			A			E	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 102.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 42.5
 Intersection LOS: D
 Intersection Capacity Utilization 39.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard

#4 011 01 30 s	#4 02 10 s	#4 03 30 s	#4 #5 09 19 s	#4 10 10 s	#4 #5 12 11 s	#4 #5 13 10 s
#5 05 40 s	#5 07 30 s	#4 #5 13 29 s				

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Existing - PM

6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑↓	
Traffic Volume (vph)	0	228	0	0	211	15	36	99	0	29	0	139
Future Volume (vph)	0	228	0	0	211	15	36	99	0	29	0	139
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.990							0.888
Flt Protected							0.950	0.998				0.991
Satd. Flow (prot)	0	3431	0	0	3443	0	1443	1784	0	0	1616	0
Flt Permitted							0.950	0.998				0.991
Satd. Flow (perm)	0	3431	0	0	3443	0	1443	1784	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13							153
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.84	0.84	0.84	0.91	0.91	0.91
Heavy Vehicles (%)	0%	8%	0%	0%	7%	0%	22%	3%	0%	7%	0%	6%
Adj. Flow (vph)	0	238	0	0	224	16	43	118	0	32	0	153
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	238	0	0	240	0	39	122	0	0	185	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			24				-2
Crosswalk Width(ft)		20			26			24				16
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		0			0		1	1		1		1
Detector Template		Thru			Thru		Left	Thru		Left		Thru
Leading Detector (ft)		0			0		50	50		50		50
Trailing Detector (ft)		0			0		-10	-10		-10		-10
Detector 1 Position(ft)		-10			-10		-10	-10		-10		-10
Detector 1 Size(ft)		60			60		60	60		60		60
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			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0

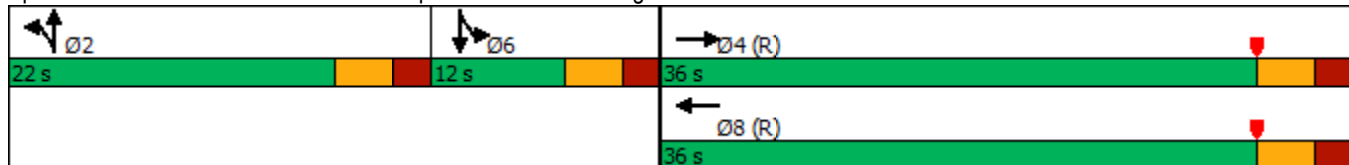


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0			0.0	
Total Lost Time (s)		5.0			5.0		5.0	5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Recall Mode		C-Max			C-Max		None	None		None	None	
Act Effct Green (s)		38.6			38.6		11.2	11.2			8.1	
Actuated g/C Ratio		0.55			0.55		0.16	0.16			0.12	
v/c Ratio		0.13			0.13		0.17	0.43			0.57	
Control Delay		9.6			9.1		26.5	31.0			15.6	
Queue Delay		0.0			0.0		0.0	0.0			0.0	
Total Delay		9.6			9.1		26.5	31.0			15.6	
LOS		A			A		C	C			B	
Approach Delay		9.6			9.1			29.9			15.6	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 14.7
 Intersection LOS: B
 Intersection Capacity Utilization 43.3%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔↕	
Traffic Volume (vph)	0	25	0	0	77	0
Future Volume (vph)	0	25	0	0	77	0
Ideal Flow (vphp)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Fr						
Flt Protected					0.950	
Satd. Flow (prot)	0	1912	3632	0	1816	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1912	3632	0	1816	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		66	454		187	
Travel Time (s)		1.8	12.4		5.1	
Peak Hour Factor	0.73	0.73	0.70	0.70	0.92	0.92
Adj. Flow (vph)	0	34	0	0	84	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	0	0	84	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	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	0.97	0.97	0.97	0.97	0.97	0.97
Turning Speed (mph)	60			60	60	60
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.2%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	6.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	0	25	0	0	77	0
Future Vol, veh/h	0	25	0	0	77	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	70	70	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	0	84	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	35
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	34
Critical Hdwy	4.13	-	-	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.83
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.219	-	-	-	3.519
Pot Cap-1 Maneuver	1621	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1621	-	-	-	976
Mov Cap-2 Maneuver	-	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1621	-	-	-	976
HCM Lane V/C Ratio	-	-	-	-	0.086
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX C
2024 No-Build Synchro Analysis Worksheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	4	27	1	1	5	6	146	1	2	92	1
Future Volume (vph)	4	4	27	1	1	5	6	146	1	2	92	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.896			0.904			0.999			0.999	
Flt Protected		0.994			0.993			0.998			0.999	
Satd. Flow (prot)	0	1635	0	0	1984	0	0	1928	0	0	1893	0
Flt Permitted		0.967			0.960			0.993			0.998	
Satd. Flow (perm)	0	1591	0	0	1918	0	0	1918	0	0	1891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			10			1			1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	25%	25%	19%	0%	0%	0%	0%	15%	0%	0%	17%	0%
Adj. Flow (vph)	9	9	60	2	2	10	7	164	1	2	103	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	14	0	0	172	0	0	106	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.28			0.05			0.13			0.08	
Control Delay		14.1			17.7			3.4			3.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.1			17.7			3.4			3.2	
LOS		B			B			A			A	
Approach Delay		14.1			17.7			3.4			3.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			2			18			11	
Queue Length 95th (ft)		8			7			33			22	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		278			282			1370			1351	
Starvation Cap Reductn		0			0			0			0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.28			0.05			0.13			0.08	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.28
Intersection Signal Delay:	6.1
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	4	27	1	1	5	6	146	1	2	92	1
Future Volume (veh/h)	4	4	27	1	1	5	6	146	1	2	92	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1570	1633	1661	1950	2028	1950	1950	1791	1950	1950	1759	1950
Adj Flow Rate, veh/h	9	9	60	2	2	10	7	164	1	2	103	1
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	25	25	19	0	0	0	0	15	0	0	17	0
Cap, veh/h	68	36	155	71	60	180	73	1241	7	57	1235	12
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	72	254	1085	86	417	1259	28	1737	10	7	1729	17
Grp Volume(v), veh/h	78	0	0	14	0	0	172	0	0	106	0	0
Grp Sat Flow(s),veh/h/ln	1411	0	0	1763	0	0	1775	0	0	1752	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.5	0.0	0.0	2.1	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.12		0.77	0.14		0.71	0.04		0.01	0.02		0.01
Lane Grp Cap(c), veh/h	259	0	0	311	0	0	1322	0	0	1304	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.05	0.00	0.00	0.13	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	259	0	0	311	0	0	1322	0	0	1304	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	25.9	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	0.0	26.2	0.0	0.0	3.4	0.0	0.0	3.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		78			14			172			106	
Approach Delay, s/veh		30.2			26.2			3.4			3.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	7	4	7	13	51	5	100	8	38	84	1
Future Volume (vph)	2	7	4	7	13	51	5	100	8	38	84	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.958			0.903			0.990			0.999	
Flt Protected		0.994			0.995			0.998			0.985	
Satd. Flow (prot)	0	1952	0	0	1739	0	0	1897	0	0	1861	0
Flt Permitted		0.994			0.995			0.998			0.985	
Satd. Flow (perm)	0	1952	0	0	1739	0	0	1897	0	0	1861	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	25%	29%	15%	12%	40%	15%	0%	8%	21%	0%
Adj. Flow (vph)	2	9	5	9	17	67	6	111	9	47	104	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	93	0	0	126	0	0	152	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	7	4	7	13	51	5	100	8	38	84	1
Future Vol, veh/h	2	7	4	7	13	51	5	100	8	38	84	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	76	76	76	90	90	90	81	81	81
Heavy Vehicles, %	0	0	25	29	15	12	40	15	0	8	21	0
Mvmt Flow	2	9	5	9	17	67	6	111	9	47	104	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	369	331	105	334	327	116	105	0	0	120	0	0
Stage 1	199	199	-	128	128	-	-	-	-	-	-	-
Stage 2	170	132	-	206	199	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.45	7.39	6.65	6.32	4.5	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.525	3.761	4.135	3.408	2.56	-	-	2.272	-	-
Pot Cap-1 Maneuver	591	592	890	571	571	910	1280	-	-	1431	-	-
Stage 1	807	740	-	815	766	-	-	-	-	-	-	-
Stage 2	837	791	-	738	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	518	568	890	544	548	910	1280	-	-	1431	-	-
Mov Cap-2 Maneuver	518	568	-	544	548	-	-	-	-	-	-	-
Stage 1	803	714	-	811	762	-	-	-	-	-	-	-
Stage 2	754	787	-	700	688	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.9		10.4		0.3		2.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1280	-	-	629	766	1431	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.122	0.033	-	-
HCM Control Delay (s)	7.8	0	-	10.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	94	5	42	106	7	9
Future Volume (vph)	94	5	42	106	7	9
Ideal Flow (vphp)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1613	0	1684	1726	1295	1246
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1613	0	1684	1726	1295	1246
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.80	0.80
Heavy Vehicles (%)	19%	40%	10%	13%	43%	33%
Adj. Flow (vph)	116	6	56	141	9	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	122	0	56	141	9	11
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	5	42	106	7	9
Future Vol, veh/h	94	5	42	106	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	75	75	80	80
Heavy Vehicles, %	19	40	10	13	43	33
Mvmt Flow	116	6	56	141	9	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	122	0	372 119
Stage 1	-	-	-	-	119 -
Stage 2	-	-	-	-	253 -
Critical Hdwy	-	-	4.2	-	6.83 6.53
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.83 -
Follow-up Hdwy	-	-	2.29	-	3.887 3.597
Pot Cap-1 Maneuver	-	-	1417	-	555 855
Stage 1	-	-	-	-	814 -
Stage 2	-	-	-	-	703 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1417	-	533 855
Mov Cap-2 Maneuver	-	-	-	-	533 -
Stage 1	-	-	-	-	814 -
Stage 2	-	-	-	-	675 -























Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	533	855	-	-	1417	-
HCM Lane V/C Ratio	0.016	0.013	-	-	0.04	-
HCM Control Delay (s)	11.9	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

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
















No-Build - AM

4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	1	72	79	75	3	79	57	67	22	1
Future Volume (vph)	2	6	1	72	79	75	3	79	57	67	22	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.927				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1852	3164	0	1278	3171	0	1852	1773	1237	1531	1587	0
Flt Permitted	0.628			0.751			0.738			0.701		
Satd. Flow (perm)	1225	3164	0	1010	3171	0	1439	1773	1237	1130	1587	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			96							1
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		444			173			434			525	
Travel Time (s)		12.1			4.7			11.8			14.3	
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.92	0.92	0.92	0.77	0.77	0.77
Heavy Vehicles (%)	0%	17%	0%	45%	1%	16%	0%	10%	34%	21%	23%	0%
Adj. Flow (vph)	3	8	1	92	101	96	3	86	62	87	29	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	9	0	92	197	0	3	86	62	87	30	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1			1	
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	9.2%	15.8%					25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	6.0	14.0					25.0	25.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	18.8	12.7		61.0	68.5		14.6	14.6	14.6	14.6	14.6	14.6
Actuated g/C Ratio	0.18	0.12		0.60	0.67		0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.01	0.02		0.13	0.09		0.01	0.34	0.35	0.54	0.13	
Control Delay	29.5	42.4		1.5	0.1		39.7	45.2	47.5	55.7	40.6	
Queue Delay	0.0	0.0		0.3	0.2		0.0	0.0	0.0	0.0	0.0	
Total Delay	29.5	42.4		1.8	0.2		39.7	45.2	47.5	55.7	40.6	
LOS	C	D		A	A		D	D	D	E	D	
Approach Delay		39.2			0.7			46.0			51.8	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	30.0	10.0	10.0	29.0
Total Split (%)	8%	25%	33%	25%	8%	8%	24%
Maximum Green (s)	5.0	25.0	35.0	15.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	12.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Vehicle Extension (s)	4.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							

HCM 6th Edition methodology does not support clustered intersections.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	134	1	20	144	0	1	0	16	134	8	80
Future Volume (vph)	0	134	1	20	144	0	1	0	16	134	8	80
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999						0.873			0.863	
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	2895	0	1059	3012	0	0	901	0	1799	1433	0
Flt Permitted				0.950				0.970		0.735		
Satd. Flow (perm)	0	2895	0	1059	3012	0	0	876	0	1392	1433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						245			93	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			781			270			419	
Travel Time (s)		4.7			21.3			7.4			11.4	
Peak Hour Factor	0.75	0.75	0.75	0.69	0.69	0.69	0.50	0.50	0.50	0.86	0.86	0.86
Heavy Vehicles (%)	0%	28%	0%	75%	23%	0%	0%	0%	94%	3%	63%	13%
Adj. Flow (vph)	0	179	1	29	209	0	2	0	32	156	9	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	180	0	29	209	0	0	34	0	156	102	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7			7	
Permitted Phases							7			7	7	
Detector Phase		5 13 11		12	9		7	7		7	7	
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5	22.5	
Total Split (s)				11.0	19.0		30.0	30.0		30.0	30.0	
Total Split (%)				9.2%	15.8%		25.0%	25.0%		25.0%	25.0%	
Maximum Green (s)				6.0	14.0		15.0	15.0		15.0	15.0	
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0	12.0	
Lost Time Adjust (s)				0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0			15.0		15.0	15.0	
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode				None	None		None	None		None	None	
Act Effct Green (s)		57.8		6.2	12.7			15.1		15.1	15.1	
Actuated g/C Ratio		0.57		0.06	0.12			0.15		0.15	0.15	
v/c Ratio		0.11		0.46	0.56			0.10		0.76	0.35	
Control Delay		1.2		75.3	50.9			0.6		69.5	15.4	
Queue Delay		0.1		0.0	0.0			0.0		0.0	0.0	
Total Delay		1.3		75.3	50.9			0.6		69.5	15.4	
LOS		A		E	D			A		E	B	
Approach Delay		1.3			53.9			0.6			48.1	

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	10.0	30.0	40.0	10.0	10.0	29.0
Total Split (%)	25%	8%	25%	33%	8%	8%	24%
Maximum Green (s)	25.0	5.0	25.0	35.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			D			A			D	
Queue Length 50th (ft)		2		20	73			0		108	6	
Queue Length 95th (ft)		3		#42	91			0		#227	52	
Internal Link Dist (ft)		93			701			190			339	
Turn Bay Length (ft)				115						250		
Base Capacity (vph)		1933		63	423			340		210	295	
Starvation Cap Reductn		904		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.17		0.46	0.49			0.10		0.74	0.35	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 102
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 35.9
 Intersection LOS: D
 Intersection Capacity Utilization 43.1%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard





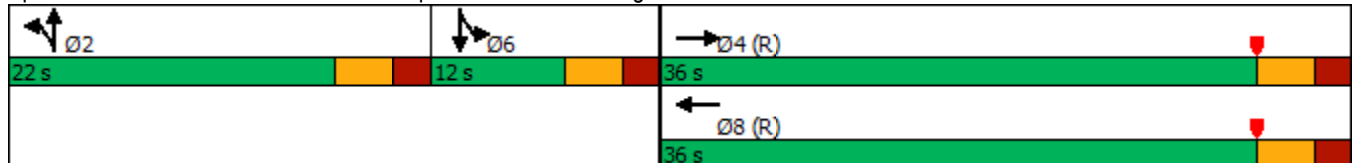
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑	
Traffic Volume (vph)	0	170	0	0	197	8	142	85	0	14	0	137
Future Volume (vph)	0	170	0	0	197	8	142	85	0	14	0	137
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Fr _t					0.994							0.877
Fl _t Protected							0.950	0.987				0.995
Satd. Flow (prot)	0	3463	0	0	3374	0	1333	1611	0	0	1571	0
Fl _t Permitted							0.950	0.987				0.995
Satd. Flow (perm)	0	3463	0	0	3374	0	1333	1611	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8							167
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.79	0.79	0.79	0.82	0.82	0.82
Heavy Vehicles (%)	0%	7%	0%	0%	9%	13%	32%	7%	0%	21%	0%	7%
Adj. Flow (vph)	0	191	0	0	243	10	180	108	0	17	0	167
Shared Lane Traffic (%)							21%					
Lane Group Flow (vph)	0	191	0	0	253	0	142	146	0	0	184	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0		3.0
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		34.5			34.5		13.1	13.1		7.4		7.4
Actuated g/C Ratio		0.49			0.49		0.19	0.19		0.11		0.11
v/c Ratio		0.11			0.15		0.57	0.49		0.58		0.58
Control Delay		10.6			10.4		34.7	30.4		15.3		15.3
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		10.6			10.4		34.7	30.4		15.3		15.3
LOS		B			B		C	C		B		B
Approach Delay		10.6			10.4			32.5		15.3		15.3
Approach LOS		B			B			C		B		B
Queue Length 50th (ft)		21			27		60	60		7		7
Queue Length 95th (ft)		42			46		92	91		49		49



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		701			506			462				187
Turn Bay Length (ft)												
Base Capacity (vph)		1707			1667		323	391				315
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.11			0.15		0.44	0.37				0.58

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow	
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	18.4
Intersection LOS:	B
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (vph)	0	9	0	83	0	0
Future Volume (vph)	0	9	0	83	0	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.850			
Flt Protected						
Satd. Flow (prot)	0	1912	3087	0	1912	0
Flt Permitted						
Satd. Flow (perm)	0	1912	3087	0	1912	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		76	444		152	
Travel Time (s)		2.1	12.1		4.1	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.75	0.75
Adj. Flow (vph)	0	12	0	106	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	12	106	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	6.7% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↔	
Traffic Vol, veh/h	0	9	0	83	0	0
Future Vol, veh/h	0	9	0	83	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	78	78	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	106	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	65 53
Stage 1	-	-	-	-	53 -
Stage 2	-	-	-	-	12 -
Critical Hdwy	4.13	-	-	-	6.63 6.93
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.219	-	-	-	3.519 3.319
Pot Cap-1 Maneuver	1484	-	-	-	937 1004
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	1011 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	937 1004
Mov Cap-2 Maneuver	-	-	-	-	937 -
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	1011 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	11	2	42	5	1	8	11	114	5	1	227	3
Future Volume (vph)	11	2	42	5	1	8	11	114	5	1	227	3
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.898			0.926			0.995			0.998	
Flt Protected		0.990			0.982			0.996				
Satd. Flow (prot)	0	1839	0	0	1873	0	0	2067	0	0	2083	0
Flt Permitted		0.937			0.889			0.973				
Satd. Flow (perm)	0	1741	0	0	1696	0	0	2020	0	0	2083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			12			6			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	9%	20%	0%	0%	18%	5%	0%	0%	6%	0%
Adj. Flow (vph)	15	3	56	8	2	12	14	141	6	1	255	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	22	0	0	161	0	0	259	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.25			0.09			0.11			0.17	
Control Delay		13.8			19.0			3.2			3.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.8			19.0			3.2			3.6	
LOS		B			B			A			A	
Approach Delay		13.8			19.0			3.2			3.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			4			16			29	
Queue Length 95th (ft)		29			15			27			48	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		296			252			1444			1488	
Starvation Cap Reductn		0			0			0			0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.09			0.11			0.17	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.25
Intersection Signal Delay:	5.6
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	11	2	42	5	1	8	11	114	5	1	227	3
Future Volume (veh/h)	11	2	42	5	1	8	11	114	5	1	227	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	2028	1813	1646	2028	1950	1676	1949	1950	1950	1933	1950
Adj Flow Rate, veh/h	15	3	56	8	2	12	14	141	6	1	255	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	20	0	0	18	5	0	0	6	0
Cap, veh/h	87	34	187	128	52	132	126	1213	50	52	1361	16
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	179	241	1306	404	364	921	99	1698	70	1	1905	22
Grp Volume(v), veh/h	74	0	0	22	0	0	161	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1726	0	0	1689	0	0	1866	0	0	1929	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.7	0.0	0.0	1.8	0.0	0.0	3.1	0.0	0.0
Prop In Lane	0.20		0.76	0.36		0.55	0.09		0.04	0.00		0.01
Lane Grp Cap(c), veh/h	308	0	0	311	0	0	1389	0	0	1429	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.07	0.00	0.00	0.12	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	308	0	0	311	0	0	1389	0	0	1429	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	26.0	0.0	0.0	3.1	0.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	0.0	26.5	0.0	0.0	3.3	0.0	0.0	3.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		74			22			161			259	
Approach Delay, s/veh		28.7			26.5			3.3			3.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	11	15	11	5	50	3	84	18	62	210	2
Future Volume (vph)	2	11	15	11	5	50	3	84	18	62	210	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.927			0.897			0.977			0.999	
Flt Protected		0.997			0.992			0.998			0.989	
Satd. Flow (prot)	0	2043	0	0	1909	0	0	1929	0	0	2030	0
Flt Permitted		0.997			0.992			0.998			0.989	
Satd. Flow (perm)	0	2043	0	0	1909	0	0	1929	0	0	2030	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.47	0.47	0.47	0.77	0.77	0.77	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	9%	0%	2%	0%	10%	22%	3%	9%	0%
Adj. Flow (vph)	4	23	32	14	6	65	4	104	22	70	236	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	85	0	0	130	0	0	308	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.4%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	11	15	11	5	50	3	84	18	62	210	2
Future Vol, veh/h	2	11	15	11	5	50	3	84	18	62	210	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	77	77	77	81	81	81	89	89	89
Heavy Vehicles, %	0	0	0	9	0	2	0	10	22	3	9	0
Mvmt Flow	4	23	32	14	6	65	4	104	22	70	236	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	536	511	237	528	501	115	238	0	0	126	0	0
Stage 1	377	377	-	123	123	-	-	-	-	-	-	-
Stage 2	159	134	-	405	378	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.22	4.1	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.318	2.2	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	469	807	450	475	937	1341	-	-	1454	-	-
Stage 1	649	619	-	864	798	-	-	-	-	-	-	-
Stage 2	848	789	-	609	619	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	403	441	807	396	447	937	1341	-	-	1454	-	-
Mov Cap-2 Maneuver	403	441	-	396	447	-	-	-	-	-	-	-
Stage 1	647	584	-	861	796	-	-	-	-	-	-	-
Stage 2	780	787	-	530	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	10.7	0.2	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	577	715	1454	-	-
HCM Lane V/C Ratio	0.003	-	-	0.103	0.12	0.048	-	-
HCM Control Delay (s)	7.7	0	-	12	10.7	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.2	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	238	5	1	78	7	48
Future Volume (vph)	238	5	1	78	7	48
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1829	0	926	1696	1625	1625
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1829	0	926	1696	1625	1625
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.79	0.79	0.88	0.88	0.41	0.41
Heavy Vehicles (%)	6%	20%	100%	15%	14%	2%
Adj. Flow (vph)	301	6	1	89	17	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	0	1	89	17	117
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.5%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	238	5	1	78	7	48
Future Vol, veh/h	238	5	1	78	7	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	88	88	41	41
Heavy Vehicles, %	6	20	100	15	14	2
Mvmt Flow	301	6	1	89	17	117

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	307	0	395 304
Stage 1	-	-	-	-	304 -
Stage 2	-	-	-	-	91 -
Critical Hdwy	-	-	5.1	-	6.54 6.22
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	3.1	-	3.626 3.318
Pot Cap-1 Maneuver	-	-	855	-	587 736
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	903 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	855	-	586 736
Mov Cap-2 Maneuver	-	-	-	-	586 -
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	902 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	736	-	-	855	-
HCM Lane V/C Ratio	0.029	0.159	-	-	0.001	-
HCM Control Delay (s)	11.3	10.8	-	-	9.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	94	7	161	6	38	2	34	48	129	148	2
Future Volume (vph)	3	94	7	161	6	38	2	34	48	129	148	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.871				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1393	3664	0	1799	2838	0	1852	1696	1228	1781	1827	0
Flt Permitted	0.714			0.664			0.495			0.733		
Satd. Flow (perm)	1047	3664	0	1257	2838	0	965	1696	1228	1374	1827	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		5			54							
Link Speed (mph)		25			25			25				25
Link Distance (ft)		444			173			434				525
Travel Time (s)		12.1			4.7			11.8				14.3
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	33%	0%	0%	3%	0%	16%	0%	15%	35%	4%	6%	50%
Adj. Flow (vph)	4	129	10	230	9	54	2	37	52	145	166	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	139	0	230	63	0	2	37	52	145	168	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					30.0	30.0	30.0	30.0	30.0	30.0
Total Split (%)	9.2%	15.8%					25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	6.0	14.0					25.0	25.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	16.3	10.4		61.1	69.5		17.1	17.1	17.1	17.1	17.1	17.1
Actuated g/C Ratio	0.16	0.10		0.60	0.68		0.17	0.17	0.17	0.17	0.17	0.17
v/c Ratio	0.02	0.37		0.24	0.03		0.01	0.13	0.25	0.63	0.55	
Control Delay	30.3	46.3		4.3	0.2		37.5	38.5	41.5	53.4	47.0	
Queue Delay	0.0	0.0		0.5	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	30.3	46.3		4.8	0.2		37.5	38.5	41.5	53.4	47.0	
LOS	C	D		A	A		D	D	D	D	D	
Approach Delay		45.9			3.8			40.2			50.0	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0
Total Split (s)	10.0	30.0	40.0	30.0	10.0	10.0	29.0
Total Split (%)	8%	25%	33%	25%	8%	8%	24%
Maximum Green (s)	5.0	25.0	35.0	15.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	12.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Vehicle Extension (s)	4.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS	D			A			D			D		
Queue Length 50th (ft)	2	41		26	0		1	19	28	83	95	
Queue Length 95th (ft)	9	66		29	0		9	54	71	166	181	
Internal Link Dist (ft)	364			93			354			445		
Turn Bay Length (ft)	190			100			315			375		
Base Capacity (vph)	188	512		965	1950		238	420	304	340	452	
Starvation Cap Reductn	0	0		397	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.02	0.27		0.40	0.03		0.01	0.09	0.17	0.43	0.37	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	102.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	32.1
Intersection LOS:	C
Intersection Capacity Utilization:	37.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard

#4 Ø11 Ø1 30 s	#4 Ø2 10 s	#4 Ø3 30 s	#4 #5 Ø9 19 s	#4 Ø10 10 s	#4 #5 Ø12 11 s	#4 #5 Ø13 10 s
#5 Ø5 40 s	#5 Ø7 30 s	#4 #5 Ø13 29 s				



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↵	↑↑			↕		↵	↵	
Traffic Volume (vph)	0	270	1	8	61	0	1	0	19	173	1	143
Future Volume (vph)	0	270	1	8	61	0	1	0	19	173	1	143
Ideal Flow (vphp)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.872				0.851
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	3422	0	985	3463	0	0	1089	0	1781	1596	0
Flt Permitted				0.950				0.964		0.734		
Satd. Flow (perm)	0	3422	0	985	3463	0	0	1053	0	1376	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								245				188
Link Speed (mph)		25			25			25				25
Link Distance (ft)		173			781			270				419
Travel Time (s)		4.7			21.3			7.4				11.4
Peak Hour Factor	0.81	0.81	0.81	0.77	0.77	0.77	0.56	0.56	0.56	0.76	0.76	0.76
Heavy Vehicles (%)	0%	8%	100%	88%	7%	0%	100%	0%	53%	4%	0%	4%
Adj. Flow (vph)	0	333	1	10	79	0	2	0	34	228	1	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	0	10	79	0	0	36	0	228	189	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7				7
Permitted Phases							7			7		7
Detector Phase		5 13 11		12	9		7	7		7		7
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5		22.5
Total Split (s)				11.0	19.0		30.0	30.0		30.0		30.0
Total Split (%)				9.2%	15.8%		25.0%	25.0%		25.0%		25.0%
Maximum Green (s)				6.0	14.0		15.0	15.0		15.0		15.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0		3.0
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0		12.0
Lost Time Adjust (s)				0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)				5.0	5.0			15.0		15.0		15.0
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0		4.0
Recall Mode				None	None		None	None		None		None
Act Effct Green (s)		61.3		6.0	10.4			15.2		15.2		15.2
Actuated g/C Ratio		0.60		0.06	0.10			0.15		0.15		0.15
v/c Ratio		0.16		0.18	0.23			0.10		1.12		0.48
Control Delay		0.6		59.2	46.6			0.6		140.5		11.3
Queue Delay		0.2		0.0	0.0			0.0		0.0		0.0
Total Delay		0.8		59.2	46.6			0.6		140.5		11.3
LOS		A		E	D			A		F		B
Approach Delay		0.8			48.0			0.6				81.9

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	30.0	10.0	30.0	40.0	10.0	10.0	29.0
Total Split (%)	25%	8%	25%	33%	8%	8%	24%
Maximum Green (s)	25.0	5.0	25.0	35.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Approach LOS		A			D				A			F	
Queue Length 50th (ft)		1			6			23			0		~156
Queue Length 95th (ft)		1			23			46			0		#306
Internal Link Dist (ft)		93			701			190			339		
Turn Bay Length (ft)					115						250		
Base Capacity (vph)		2330			58			480			365		204
Starvation Cap Reductn		1290			0			0			0		0
Spillback Cap Reductn		0			0			0			0		0
Storage Cap Reductn		0			0			0			0		0
Reduced v/c Ratio		0.32			0.17			0.16			0.10		1.12

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 102.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.12
 Intersection Signal Delay: 44.2
 Intersection LOS: D
 Intersection Capacity Utilization 40.0%
 ICU Level of Service A
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard

#4 ↑ Ø11 Ø1 30 s	#4 ↙ Ø2 10 s	#4 ↘ Ø3 30 s	#4 #5 → ↙ Ø9 19 s	#4 ↘ Ø10 10 s	#4 #5 ↙ ↘ Ø12 11 s	#4 #5 ↘ → Ø13 10 s
#5 → Ø5 40 s	#5 ↕ Ø7 30 s		#4 #5 ↙ → Ø13 29 s			



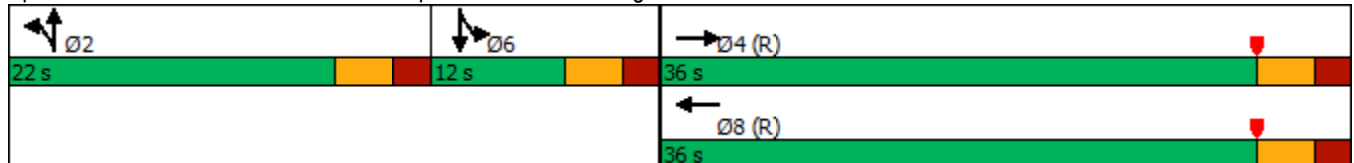
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↖	↖			↕	
Traffic Volume (vph)	0	233	0	0	215	15	37	101	0	30	0	142
Future Volume (vph)	0	233	0	0	215	15	37	101	0	30	0	142
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.990							0.889
Flt Protected							0.950	0.998				0.991
Satd. Flow (prot)	0	3431	0	0	3443	0	1443	1784	0	0	1618	0
Flt Permitted							0.950	0.998				0.991
Satd. Flow (perm)	0	3431	0	0	3443	0	1443	1784	0	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13							156
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.84	0.84	0.84	0.91	0.91	0.91
Heavy Vehicles (%)	0%	8%	0%	0%	7%	0%	22%	3%	0%	7%	0%	6%
Adj. Flow (vph)	0	243	0	0	229	16	44	120	0	33	0	156
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	243	0	0	245	0	40	124	0	0	189	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0		3.0
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		38.6			38.6		11.3	11.3		8.2		8.2
Actuated g/C Ratio		0.55			0.55		0.16	0.16		0.12		0.12
v/c Ratio		0.13			0.13		0.17	0.43		0.58		0.58
Control Delay		9.6			9.1		26.4	31.0		15.7		15.7
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		9.6			9.1		26.4	31.0		15.7		15.7
LOS		A			A		C	C		B		B
Approach Delay		9.6			9.1			29.9		15.7		15.7
Approach LOS		A			A			C		B		B
Queue Length 50th (ft)		25			24		15	52		13		13
Queue Length 95th (ft)		52			50		37	88		67		67



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		701			506			462			187	
Turn Bay Length (ft)												
Base Capacity (vph)		1890			1902		350	433			326	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.13			0.13		0.11	0.29			0.58	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	14.8
Intersection LOS:	B
Intersection Capacity Utilization	43.5%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (vph)	0	25	0	0	79	0
Future Volume (vph)	0	25	0	0	79	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt						
Flt Protected					0.950	
Satd. Flow (prot)	0	1912	3632	0	1816	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1912	3632	0	1816	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		76	444		152	
Travel Time (s)		2.1	12.1		4.1	
Peak Hour Factor	0.73	0.73	0.70	0.70	0.73	0.92
Adj. Flow (vph)	0	34	0	0	108	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	0	0	108	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	0	25	0	0	79	0
Future Vol, veh/h	0	25	0	0	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	70	70	73	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	0	108	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	35
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	34
Critical Hdwy	4.13	-	-	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.83
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.219	-	-	-	3.519
Pot Cap-1 Maneuver	1621	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1621	-	-	-	976
Mov Cap-2 Maneuver	-	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1621	-	-	-	976
HCM Lane V/C Ratio	-	-	-	-	0.111
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX D
2024 No-Build - Optimized Synchro Analysis Worksheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	4	27	1	1	5	6	146	1	2	92	1
Future Volume (vph)	4	4	27	1	1	5	6	146	1	2	92	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.896			0.904			0.999			0.999	
Flt Protected		0.994			0.993			0.998			0.999	
Satd. Flow (prot)	0	1635	0	0	1984	0	0	1928	0	0	1893	0
Flt Permitted		0.967			0.960			0.993			0.998	
Satd. Flow (perm)	0	1591	0	0	1918	0	0	1918	0	0	1891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			10			1			1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	25%	25%	19%	0%	0%	0%	0%	15%	0%	0%	17%	0%
Adj. Flow (vph)	9	9	60	2	2	10	7	164	1	2	103	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	14	0	0	172	0	0	106	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.28			0.05			0.13			0.08	
Control Delay		14.1			17.7			3.4			3.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.1			17.7			3.4			3.2	
LOS		B			B			A			A	
Approach Delay		14.1			17.7			3.4			3.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			2			18			11	
Queue Length 95th (ft)		8			7			33			22	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		278			282			1370			1351	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	



















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.28			0.05			0.13			0.08	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.28
Intersection Signal Delay:	6.1
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street



												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	4	27	1	1	5	6	146	1	2	92	1
Future Volume (veh/h)	4	4	27	1	1	5	6	146	1	2	92	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1570	1633	1661	1950	2028	1950	1950	1791	1950	1950	1759	1950
Adj Flow Rate, veh/h	9	9	60	2	2	10	7	164	1	2	103	1
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	25	25	19	0	0	0	0	15	0	0	17	0
Cap, veh/h	68	36	155	71	60	180	73	1241	7	57	1235	12
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	72	254	1085	86	417	1259	28	1737	10	7	1729	17
Grp Volume(v), veh/h	78	0	0	14	0	0	172	0	0	106	0	0
Grp Sat Flow(s),veh/h/ln	1411	0	0	1763	0	0	1775	0	0	1752	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.5	0.0	0.0	2.1	0.0	0.0	1.3	0.0	0.0
Prop In Lane	0.12		0.77	0.14		0.71	0.04		0.01	0.02		0.01
Lane Grp Cap(c), veh/h	259	0	0	311	0	0	1322	0	0	1304	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.05	0.00	0.00	0.13	0.00	0.00	0.08	0.00	0.00
Avail Cap(c_a), veh/h	259	0	0	311	0	0	1322	0	0	1304	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	25.9	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	0.0	26.2	0.0	0.0	3.4	0.0	0.0	3.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		78			14			172			106	
Approach Delay, s/veh		30.2			26.2			3.4			3.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.8								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	7	4	7	13	51	5	100	8	38	84	1
Future Volume (vph)	2	7	4	7	13	51	5	100	8	38	84	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.958			0.903			0.990			0.999	
Flt Protected		0.994			0.995			0.998			0.985	
Satd. Flow (prot)	0	1952	0	0	1739	0	0	1897	0	0	1861	0
Flt Permitted		0.994			0.995			0.998			0.985	
Satd. Flow (perm)	0	1952	0	0	1739	0	0	1897	0	0	1861	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	25%	29%	15%	12%	40%	15%	0%	8%	21%	0%
Adj. Flow (vph)	2	9	5	9	17	67	6	111	9	47	104	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	93	0	0	126	0	0	152	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.7%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	7	4	7	13	51	5	100	8	38	84	1
Future Vol, veh/h	2	7	4	7	13	51	5	100	8	38	84	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	76	76	76	90	90	90	81	81	81
Heavy Vehicles, %	0	0	25	29	15	12	40	15	0	8	21	0
Mvmt Flow	2	9	5	9	17	67	6	111	9	47	104	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	369	331	105	334	327	116	105	0	0	120	0	0
Stage 1	199	199	-	128	128	-	-	-	-	-	-	-
Stage 2	170	132	-	206	199	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.45	7.39	6.65	6.32	4.5	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.525	3.761	4.135	3.408	2.56	-	-	2.272	-	-
Pot Cap-1 Maneuver	591	592	890	571	571	910	1280	-	-	1431	-	-
Stage 1	807	740	-	815	766	-	-	-	-	-	-	-
Stage 2	837	791	-	738	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	518	568	890	544	548	910	1280	-	-	1431	-	-
Mov Cap-2 Maneuver	518	568	-	544	548	-	-	-	-	-	-	-
Stage 1	803	714	-	811	762	-	-	-	-	-	-	-
Stage 2	754	787	-	700	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	10.4	0.3	2.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1280	-	-	629	766	1431	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.122	0.033	-	-
HCM Control Delay (s)	7.8	0	-	10.9	10.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	94	5	42	106	7	9
Future Volume (vph)	94	5	42	106	7	9
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1613	0	1684	1726	1295	1246
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1613	0	1684	1726	1295	1246
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.80	0.80
Heavy Vehicles (%)	19%	40%	10%	13%	43%	33%
Adj. Flow (vph)	116	6	56	141	9	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	122	0	56	141	9	11
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.9%
	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔	↑	↔	↔
Traffic Vol, veh/h	94	5	42	106	7	9
Future Vol, veh/h	94	5	42	106	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	75	75	80	80
Heavy Vehicles, %	19	40	10	13	43	33
Mvmt Flow	116	6	56	141	9	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	122	0	372 119
Stage 1	-	-	-	-	119 -
Stage 2	-	-	-	-	253 -
Critical Hdwy	-	-	4.2	-	6.83 6.53
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.83 -
Follow-up Hdwy	-	-	2.29	-	3.887 3.597
Pot Cap-1 Maneuver	-	-	1417	-	555 855
Stage 1	-	-	-	-	814 -
Stage 2	-	-	-	-	703 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1417	-	533 855
Mov Cap-2 Maneuver	-	-	-	-	533 -
Stage 1	-	-	-	-	814 -
Stage 2	-	-	-	-	675 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	533	855	-	-	1417	-
HCM Lane V/C Ratio	0.016	0.013	-	-	0.04	-
HCM Control Delay (s)	11.9	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	6	1	72	79	75	3	79	57	67	22	1
Future Volume (vph)	2	6	1	72	79	75	3	79	57	67	22	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.927				0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1852	3164	0	1278	3171	0	1852	1773	1237	1531	1587	0
Flt Permitted	0.628			0.751			0.738			0.701		
Satd. Flow (perm)	1225	3164	0	1010	3171	0	1439	1773	1237	1130	1587	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		1			96							1
Link Speed (mph)		25			25			25				25
Link Distance (ft)		444			173			434				525
Travel Time (s)		12.1			4.7			11.8				14.3
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.92	0.92	0.92	0.77	0.77	0.77
Heavy Vehicles (%)	0%	17%	0%	45%	1%	16%	0%	10%	34%	21%	23%	0%
Adj. Flow (vph)	3	8	1	92	101	96	3	86	62	87	29	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	9	0	92	197	0	3	86	62	87	30	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	15.8%					19.2%	19.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	18.9	12.7		63.5	71.3		13.9	13.9	13.9	13.9	13.9	13.9
Actuated g/C Ratio	0.18	0.12		0.61	0.69		0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.01	0.02		0.13	0.09		0.02	0.36	0.38	0.58	0.14	
Control Delay	31.0	44.3		1.4	0.1		43.7	49.3	52.0	62.0	44.3	
Queue Delay	0.0	0.0		0.3	0.2		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.0	44.3		1.7	0.3		43.7	49.3	52.0	62.0	44.3	
LOS	C	D		A	A		D	D	D	E	D	
Approach Delay		41.0			0.7			50.3			57.5	
Approach LOS		D			A			D			E	
Queue Length 50th (ft)	2	2		4	0		2	58	42	61	19	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0
Total Split (s)	10.0	37.0	33.0	37.0	10.0	10.0	29.0
Total Split (%)	8%	31%	28%	31%	8%	8%	24%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	12.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							





















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	8	9		4	0		11	112	89	100	42	
Internal Link Dist (ft)		364			93			354			445	
Turn Bay Length (ft)	190			100			315			375		
Base Capacity (vph)	260	442		772	2211		258	318	221	202	285	
Starvation Cap Reductn	0	0		361	1382		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.01	0.02		0.22	0.24		0.01	0.27	0.28	0.43	0.11	

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	104
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	26.4
Intersection LOS:	C
Intersection Capacity Utilization	30.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard

#4 Ø11 Ø1 23 s	#4 Ø2 10 s	#4 Ø3 37 s	#4 #5 Ø9 19 s	#4 Ø10 10 s	#4 #5 Ø12 11 s	#4 #5 Ø13 10 s
#5 Ø5 33 s	#5 Ø7 37 s	#4 #5 Ø13 29 s				

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	134	1	20	144	0	1	0	16	134	8	80
Future Volume (vph)	0	134	1	20	144	0	1	0	16	134	8	80
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999						0.873			0.863	
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	2895	0	1059	3012	0	0	901	0	1799	1433	0
Flt Permitted				0.950				0.970		0.735		
Satd. Flow (perm)	0	2895	0	1059	3012	0	0	876	0	1392	1433	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						245			93	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			781			270			419	
Travel Time (s)		4.7			21.3			7.4			11.4	
Peak Hour Factor	0.75	0.75	0.75	0.69	0.69	0.69	0.50	0.50	0.50	0.86	0.86	0.86
Heavy Vehicles (%)	0%	28%	0%	75%	23%	0%	0%	0%	94%	3%	63%	13%
Adj. Flow (vph)	0	179	1	29	209	0	2	0	32	156	9	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	180	0	29	209	0	0	34	0	156	102	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7			7	
Permitted Phases							7			7	7	
Detector Phase		5 13 11		12	9		7	7		7	7	
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5	22.5	
Total Split (s)				11.0	19.0		37.0	37.0		37.0	37.0	
Total Split (%)				9.2%	15.8%		30.8%	30.8%		30.8%	30.8%	
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0	12.0	
Lost Time Adjust (s)				0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0			15.0		15.0	15.0	
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Recall Mode				None	None		None	None		None	None	
Act Effct Green (s)		57.5		6.2	12.7			17.3		17.3	17.3	
Actuated g/C Ratio		0.55		0.06	0.12			0.17		0.17	0.17	
v/c Ratio		0.11		0.46	0.57			0.10		0.67	0.32	
Control Delay		1.3		77.8	52.9			0.5		58.6	13.7	
Queue Delay		0.1		0.0	0.0			0.0		0.0	0.0	
Total Delay		1.5		77.8	52.9			0.5		58.6	13.7	
LOS		A		E	D			A		E	B	
Approach Delay		1.5			55.9			0.5			40.8	
Approach LOS		A			E			A			D	
Queue Length 50th (ft)		2		21	77			0		109	6	

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	23.0	10.0	37.0	33.0	10.0	10.0	29.0
Total Split (%)	19%	8%	31%	28%	8%	8%	24%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		3		#44	92			0		177	49	
Internal Link Dist (ft)		93			701			190			339	
Turn Bay Length (ft)				115						250		
Base Capacity (vph)		1711		63	420			383		305	387	
Starvation Cap Reductn		837		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.21		0.46	0.50			0.09		0.51	0.26	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 104
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 34.0 Intersection LOS: C
 Intersection Capacity Utilization 43.1% ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard

#4 Ø11 Ø1 23 s	#4 Ø2 10 s	#4 Ø3 37 s	#4 #5 Ø9 19 s	#4 Ø10 10 s	#4 #5 Ø12 11 s	#4 #5 Ø13 10 s
#5 Ø5 33 s	#5 Ø7 37 s	#4 #5 Ø13 29 s				



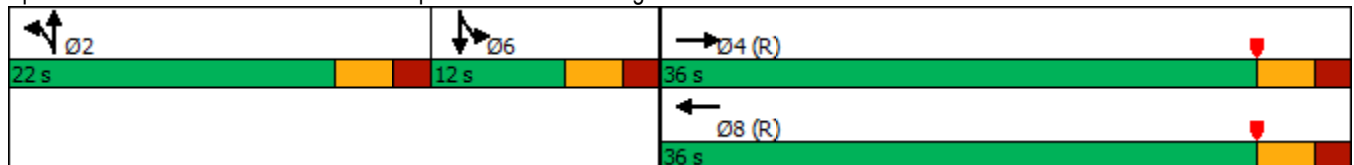
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑↓	
Traffic Volume (vph)	0	170	0	0	197	8	142	85	0	14	0	137
Future Volume (vph)	0	170	0	0	197	8	142	85	0	14	0	137
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Frt					0.994							0.877
Flt Protected							0.950	0.987				0.995
Satd. Flow (prot)	0	3463	0	0	3374	0	1333	1611	0	0	1571	0
Flt Permitted							0.950	0.987				0.995
Satd. Flow (perm)	0	3463	0	0	3374	0	1333	1611	0	0	1571	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					8							167
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.79	0.79	0.79	0.82	0.82	0.82
Heavy Vehicles (%)	0%	7%	0%	0%	9%	13%	32%	7%	0%	21%	0%	7%
Adj. Flow (vph)	0	191	0	0	243	10	180	108	0	17	0	167
Shared Lane Traffic (%)							21%					
Lane Group Flow (vph)	0	191	0	0	253	0	142	146	0	0	184	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		34.5			34.5		13.1	13.1		7.4		7.4
Actuated g/C Ratio		0.49			0.49		0.19	0.19		0.11		0.11
v/c Ratio		0.11			0.15		0.57	0.49		0.58		0.58
Control Delay		10.6			10.4		34.7	30.4		15.3		15.3
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		10.6			10.4		34.7	30.4		15.3		15.3
LOS		B			B		C	C		B		B
Approach Delay		10.6			10.4			32.5		15.3		15.3
Approach LOS		B			B			C		B		B
Queue Length 50th (ft)		21			27		60	60		7		7
Queue Length 95th (ft)		42			46		92	91		49		49
Internal Link Dist (ft)		701			506			462		187		187
Turn Bay Length (ft)												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1707			1667		323	391				315
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.11			0.15		0.44	0.37				0.58

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	18.4
Intersection LOS:	B
Intersection Capacity Utilization	48.2%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (vph)	0	9	0	83	0	0
Future Volume (vph)	0	9	0	83	0	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.850			
Flt Protected						
Satd. Flow (prot)	0	1912	3087	0	1912	0
Flt Permitted						
Satd. Flow (perm)	0	1912	3087	0	1912	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		76	444		152	
Travel Time (s)		2.1	12.1		4.1	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.75	0.75
Adj. Flow (vph)	0	12	0	106	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	12	106	0	0	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	6.7% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	0	9	0	83	0	0
Future Vol, veh/h	0	9	0	83	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	78	78	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	106	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	106	0	-	0	65 53
Stage 1	-	-	-	-	53 -
Stage 2	-	-	-	-	12 -
Critical Hdwy	4.13	-	-	-	6.63 6.93
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	2.219	-	-	-	3.519 3.319
Pot Cap-1 Maneuver	1484	-	-	-	937 1004
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	1011 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1484	-	-	-	937 1004
Mov Cap-2 Maneuver	-	-	-	-	937 -
Stage 1	-	-	-	-	963 -
Stage 2	-	-	-	-	1011 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1484	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	11	2	42	5	1	8	11	114	5	1	227	3
Future Volume (vph)	11	2	42	5	1	8	11	114	5	1	227	3
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.898			0.926			0.995			0.998	
Flt Protected		0.990			0.982			0.996				
Satd. Flow (prot)	0	1839	0	0	1873	0	0	2067	0	0	2083	0
Flt Permitted		0.937			0.889			0.973				
Satd. Flow (perm)	0	1741	0	0	1696	0	0	2020	0	0	2083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			12			6			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	9%	20%	0%	0%	18%	5%	0%	0%	6%	0%
Adj. Flow (vph)	15	3	56	8	2	12	14	141	6	1	255	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	22	0	0	161	0	0	259	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.25			0.09			0.11			0.17	
Control Delay		13.8			19.0			3.2			3.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.8			19.0			3.2			3.6	
LOS		B			B			A			A	
Approach Delay		13.8			19.0			3.2			3.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			4			16			29	
Queue Length 95th (ft)		29			15			27			48	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		296			252			1444			1488	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.09			0.11			0.17	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.25
Intersection Signal Delay:	5.6
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	11	2	42	5	1	8	11	114	5	1	227	3
Future Volume (veh/h)	11	2	42	5	1	8	11	114	5	1	227	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	2028	1813	1646	2028	1950	1676	1949	1950	1950	1933	1950
Adj Flow Rate, veh/h	15	3	56	8	2	12	14	141	6	1	255	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	20	0	0	18	5	0	0	6	0
Cap, veh/h	87	34	187	128	52	132	126	1213	50	52	1361	16
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	179	241	1306	404	364	921	99	1698	70	1	1905	22
Grp Volume(v), veh/h	74	0	0	22	0	0	161	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1726	0	0	1689	0	0	1866	0	0	1929	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.7	0.0	0.0	1.8	0.0	0.0	3.1	0.0	0.0
Prop In Lane	0.20		0.76	0.36		0.55	0.09		0.04	0.00		0.01
Lane Grp Cap(c), veh/h	308	0	0	311	0	0	1389	0	0	1429	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.07	0.00	0.00	0.12	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	308	0	0	311	0	0	1389	0	0	1429	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	26.0	0.0	0.0	3.1	0.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	0.0	26.5	0.0	0.0	3.3	0.0	0.0	3.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		74			22			161				259
Approach Delay, s/veh		28.7			26.5			3.3				3.6
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	11	15	11	5	50	3	84	18	62	210	2
Future Volume (vph)	2	11	15	11	5	50	3	84	18	62	210	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.927			0.897			0.977			0.999	
Flt Protected		0.997			0.992			0.998			0.989	
Satd. Flow (prot)	0	2043	0	0	1909	0	0	1929	0	0	2030	0
Flt Permitted		0.997			0.992			0.998			0.989	
Satd. Flow (perm)	0	2043	0	0	1909	0	0	1929	0	0	2030	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.47	0.47	0.47	0.77	0.77	0.77	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	9%	0%	2%	0%	10%	22%	3%	9%	0%
Adj. Flow (vph)	4	23	32	14	6	65	4	104	22	70	236	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	85	0	0	130	0	0	308	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.4%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	11	15	11	5	50	3	84	18	62	210	2
Future Vol, veh/h	2	11	15	11	5	50	3	84	18	62	210	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	77	77	77	81	81	81	89	89	89
Heavy Vehicles, %	0	0	0	9	0	2	0	10	22	3	9	0
Mvmt Flow	4	23	32	14	6	65	4	104	22	70	236	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	536	511	237	528	501	115	238	0	0	126	0	0
Stage 1	377	377	-	123	123	-	-	-	-	-	-	-
Stage 2	159	134	-	405	378	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.22	4.1	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.318	2.2	-	-	2.227	-	-
Pot Cap-1 Maneuver	459	469	807	450	475	937	1341	-	-	1454	-	-
Stage 1	649	619	-	864	798	-	-	-	-	-	-	-
Stage 2	848	789	-	609	619	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	403	441	807	396	447	937	1341	-	-	1454	-	-
Mov Cap-2 Maneuver	403	441	-	396	447	-	-	-	-	-	-	-
Stage 1	647	584	-	861	796	-	-	-	-	-	-	-
Stage 2	780	787	-	530	584	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	10.7	0.2	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	577	715	1454	-	-
HCM Lane V/C Ratio	0.003	-	-	0.103	0.12	0.048	-	-
HCM Control Delay (s)	7.7	0	-	12	10.7	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.2	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	238	5	1	78	7	48
Future Volume (vph)	238	5	1	78	7	48
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1829	0	926	1696	1625	1625
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1829	0	926	1696	1625	1625
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.79	0.79	0.88	0.88	0.41	0.41
Heavy Vehicles (%)	6%	20%	100%	15%	14%	2%
Adj. Flow (vph)	301	6	1	89	17	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	307	0	1	89	17	117
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.5%
ICU Level of Service	A
Analysis Period (min)	15

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	238	5	1	78	7	48
Future Vol, veh/h	238	5	1	78	7	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	88	88	41	41
Heavy Vehicles, %	6	20	100	15	14	2
Mvmt Flow	301	6	1	89	17	117

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	307	0	395 304
Stage 1	-	-	-	-	304 -
Stage 2	-	-	-	-	91 -
Critical Hdwy	-	-	5.1	-	6.54 6.22
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	3.1	-	3.626 3.318
Pot Cap-1 Maneuver	-	-	855	-	587 736
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	903 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	855	-	586 736
Mov Cap-2 Maneuver	-	-	-	-	586 -
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	902 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	586	736	-	-	855	-
HCM Lane V/C Ratio	0.029	0.159	-	-	0.001	-
HCM Control Delay (s)	11.3	10.8	-	-	9.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	94	7	161	6	38	2	34	48	129	148	2
Future Volume (vph)	3	94	7	161	6	38	2	34	48	129	148	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.871				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1393	3664	0	1799	2838	0	1852	1696	1228	1781	1827	0
Flt Permitted	0.714			0.664			0.458			0.733		
Satd. Flow (perm)	1047	3664	0	1257	2838	0	893	1696	1228	1374	1827	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		5			54							
Link Speed (mph)		25			25			25				25
Link Distance (ft)		444			173			434				525
Travel Time (s)		12.1			4.7			11.8				14.3
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	33%	0%	0%	3%	0%	16%	0%	15%	35%	4%	6%	50%
Adj. Flow (vph)	4	129	10	230	9	54	2	37	52	145	166	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	139	0	230	63	0	2	37	52	145	168	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	15.8%					19.2%	19.2%	19.2%	19.2%	19.2%	19.2%
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	16.5	10.5		67.1	75.4		15.9	15.9	15.9	15.9	15.9	15.9
Actuated g/C Ratio	0.15	0.10		0.63	0.70		0.15	0.15	0.15	0.15	0.15	0.15
v/c Ratio	0.02	0.38		0.23	0.03		0.02	0.15	0.29	0.71	0.62	
Control Delay	31.3	48.4		3.7	0.1		43.0	43.7	47.5	65.1	55.1	
Queue Delay	0.0	0.0		0.5	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.3	48.4		4.2	0.1		43.0	43.7	47.5	65.1	55.1	
LOS	C	D		A	A		D	D	D	E	E	
Approach Delay		47.9			3.3			45.8			59.7	
Approach LOS		D			A			D			E	
Queue Length 50th (ft)	2	45		28	0		1	21	31	92	105	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0
Total Split (s)	10.0	37.0	33.0	37.0	10.0	10.0	29.0
Total Split (%)	8%	31%	28%	31%	8%	8%	24%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	12.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							

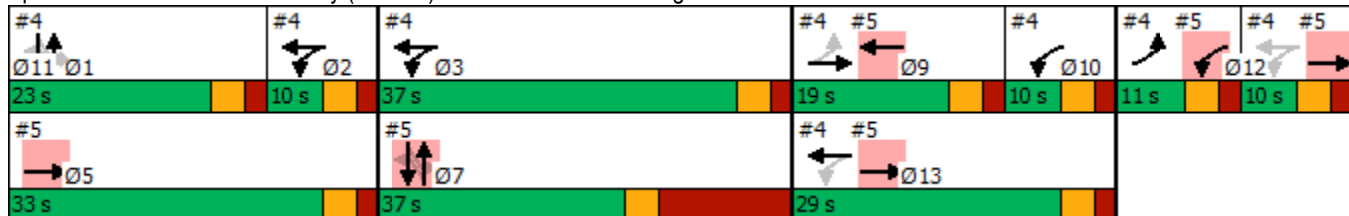




















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)	9	66		22	0		9	58	76	#197	196	
Internal Link Dist (ft)		364			93			354			445	
Turn Bay Length (ft)	190			100			315			375		
Base Capacity (vph)	181	487		1038	2010		151	287	208	232	309	
Starvation Cap Reductn	0	0		454	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.02	0.29		0.39	0.03		0.01	0.13	0.25	0.63	0.54	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 107.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 36.5
 Intersection LOS: D
 Intersection Capacity Utilization 37.3%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: Broadway (CR 551) & Holtec Boulevard/Morgan Boulevard



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	270	1	8	61	0	1	0	19	173	1	143
Future Volume (vph)	0	270	1	8	61	0	1	0	19	173	1	143
Ideal Flow (vphp)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.872				0.851
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	3422	0	985	3463	0	0	1089	0	1781	1596	0
Flt Permitted				0.950				0.970		0.734		
Satd. Flow (perm)	0	3422	0	985	3463	0	0	1060	0	1376	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								245				188
Link Speed (mph)		25			25			25				25
Link Distance (ft)		173			781			270				419
Travel Time (s)		4.7			21.3			7.4				11.4
Peak Hour Factor	0.81	0.81	0.81	0.77	0.77	0.77	0.56	0.56	0.56	0.76	0.76	0.76
Heavy Vehicles (%)	0%	8%	100%	88%	7%	0%	100%	0%	53%	4%	0%	4%
Adj. Flow (vph)	0	333	1	10	79	0	2	0	34	228	1	188
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	334	0	10	79	0	0	36	0	228	189	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7				7
Permitted Phases							7			7		7
Detector Phase		5 13 11		12	9		7	7		7		7
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5		22.5
Total Split (s)				11.0	19.0		37.0	37.0		37.0		37.0
Total Split (%)				9.2%	15.8%		30.8%	30.8%		30.8%		30.8%
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0		3.0
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0		12.0
Lost Time Adjust (s)				0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)				5.0	5.0			15.0		15.0		15.0
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Recall Mode				None	None		None	None		None		None
Act Effct Green (s)		60.0		5.9	10.5			21.3		21.3		21.3
Actuated g/C Ratio		0.56		0.06	0.10			0.20		0.20		0.20
v/c Ratio		0.17		0.19	0.23			0.09		0.84		0.40
Control Delay		0.7		61.1	48.5			0.5		69.2		8.9
Queue Delay		0.4		0.0	0.0			0.0		0.0		0.0
Total Delay		1.1		61.1	48.5			0.5		69.2		8.9
LOS		A		E	D			A		E		A
Approach Delay		1.1			49.9			0.4				41.9
Approach LOS		A			D			A				D
Queue Length 50th (ft)		1		7	26			0		147		1

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	23.0	10.0	37.0	33.0	10.0	10.0	29.0
Total Split (%)	19%	8%	31%	28%	8%	8%	24%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Queue Length 50th (ft)							















Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Length 95th (ft)		2		23	46			0		#241	33	
Internal Link Dist (ft)		93			701			190			339	
Turn Bay Length (ft)				115						250		
Base Capacity (vph)		1990		55	456			414		285	479	
Starvation Cap Reductn		1177		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.41		0.18	0.17			0.09		0.80	0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 107.2
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 25.4
 Intersection LOS: C
 Intersection Capacity Utilization 40.0%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard



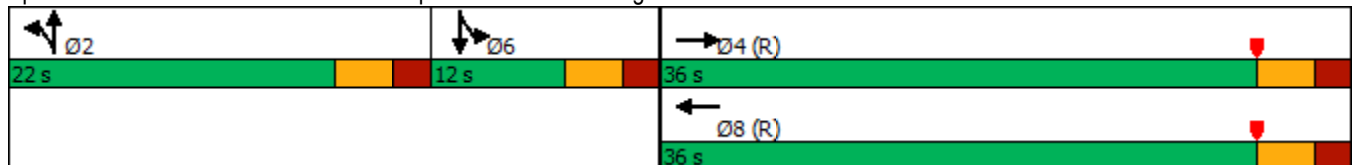
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑↓	
Traffic Volume (vph)	0	233	0	0	215	15	37	101	0	30	0	142
Future Volume (vph)	0	233	0	0	215	15	37	101	0	30	0	142
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Fr _t					0.990							0.889
Fl _t Protected							0.950	0.998				0.991
Satd. Flow (prot)	0	3431	0	0	3443	0	1443	1784	0	0	1618	0
Fl _t Permitted							0.950	0.998				0.991
Satd. Flow (perm)	0	3431	0	0	3443	0	1443	1784	0	0	1618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13							156
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.84	0.84	0.84	0.91	0.91	0.91
Heavy Vehicles (%)	0%	8%	0%	0%	7%	0%	22%	3%	0%	7%	0%	6%
Adj. Flow (vph)	0	243	0	0	229	16	44	120	0	33	0	156
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	243	0	0	245	0	40	124	0	0	189	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		38.6			38.6		11.3	11.3				8.2
Actuated g/C Ratio		0.55			0.55		0.16	0.16				0.12
v/c Ratio		0.13			0.13		0.17	0.43				0.58
Control Delay		9.6			9.1		26.4	31.0				15.7
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		9.6			9.1		26.4	31.0				15.7
LOS		A			A		C	C				B
Approach Delay		9.6			9.1			29.9				15.7
Approach LOS		A			A			C				B
Queue Length 50th (ft)		25			24		15	52				13
Queue Length 95th (ft)		52			50		37	88				67
Internal Link Dist (ft)		701			506			462				187
Turn Bay Length (ft)												



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Base Capacity (vph)		1890			1902		350	433				326
Starvation Cap Reductn		0			0		0	0				0
Spillback Cap Reductn		0			0		0	0				0
Storage Cap Reductn		0			0		0	0				0
Reduced v/c Ratio		0.13			0.13		0.11	0.29				0.58

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	14.8
Intersection LOS:	B
Intersection Capacity Utilization	43.5%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Volume (vph)	0	25	0	0	79	0
Future Volume (vph)	0	25	0	0	79	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Fr						
Flt Protected					0.950	
Satd. Flow (prot)	0	1912	3632	0	1816	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1912	3632	0	1816	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		76	444		152	
Travel Time (s)		2.1	12.1		4.1	
Peak Hour Factor	0.73	0.73	0.70	0.70	0.73	0.92
Adj. Flow (vph)	0	34	0	0	108	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	0	0	108	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.3% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↔		↕	
Traffic Vol, veh/h	0	25	0	0	79	0
Future Vol, veh/h	0	25	0	0	79	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	70	70	73	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	0	0	108	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1	0	-	0	35
Stage 1	-	-	-	-	1
Stage 2	-	-	-	-	34
Critical Hdwy	4.13	-	-	-	6.63
Critical Hdwy Stg 1	-	-	-	-	5.83
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	2.219	-	-	-	3.519
Pot Cap-1 Maneuver	1621	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1621	-	-	-	976
Mov Cap-2 Maneuver	-	-	-	-	976
Stage 1	-	-	-	-	1022
Stage 2	-	-	-	-	988

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1621	-	-	-	976
HCM Lane V/C Ratio	-	-	-	-	0.111
HCM Control Delay (s)	0	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4

**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX E
Trip Generation

Land Use: 710

General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Additional Data

If two or more general office buildings are in close physical proximity (within a close walk) and function as a unit (perhaps with a shared parking facility and common or complementary tenants), the total gross floor area or employment of the paired office buildings can be used for calculating the site trip generation. If the individual buildings are isolated or not functionally related to one another, trip generation should be calculated for each building separately.

For study sites with reported gross floor area and employees, an average employee density of 3.3 employees per 1,000 square feet GFA (or roughly 300 square feet per employee) has been consistent through the 1980s, 1990s, and 2000s. No sites counted in the 2010s reported both GFA and employees.

The average building occupancy varies considerably within the studies for which occupancy data were provided. The reported occupied gross floor area was 88 percent for general urban/suburban sites and 96 percent for the center city core and dense multi-use urban sites.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The average numbers of person trips per vehicle trip at the eight center city core sites at which both person trip and vehicle trip data were collected are as follows:

- 2.8 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.9 during Weekday, AM Peak Hour of Generator
- 2.9 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 3.0 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 18 dense multi-use urban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.5 during Weekday, AM Peak Hour of Generator
- 1.5 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.5 during Weekday, PM Peak Hour of Generator

The average numbers of person trips per vehicle trip at the 23 general urban/suburban sites at which both person trip and vehicle trip data were collected are as follows:

- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 1.3 during Weekday, AM Peak Hour of Generator
- 1.3 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 1.4 during Weekday, PM Peak Hour of Generator

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), California, Colorado, Connecticut, Georgia, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, New Hampshire, New Jersey, New York, Ontario (CAN) Pennsylvania, Texas, Utah, Virginia, and Washington.

Source Numbers

161, 175, 183, 184, 185, 207, 212, 217, 247, 253, 257, 260, 262, 273, 279, 297, 298, 300, 301, 302, 303, 304, 321, 322, 323, 324, 327, 404, 407, 408, 419, 423, 562, 734, 850, 859, 862, 867, 869, 883, 884, 890, 891, 904, 940, 944, 946, 964, 965, 972, 1009, 1030, 1058, 1061

Query

Filter

DATA SOURCE:

SEARCH BY LAND USE CODE:

LAND USE GROUP:

LAND USE:

LAND USE SUBCATEGORY:

SETTING/LOCATION:

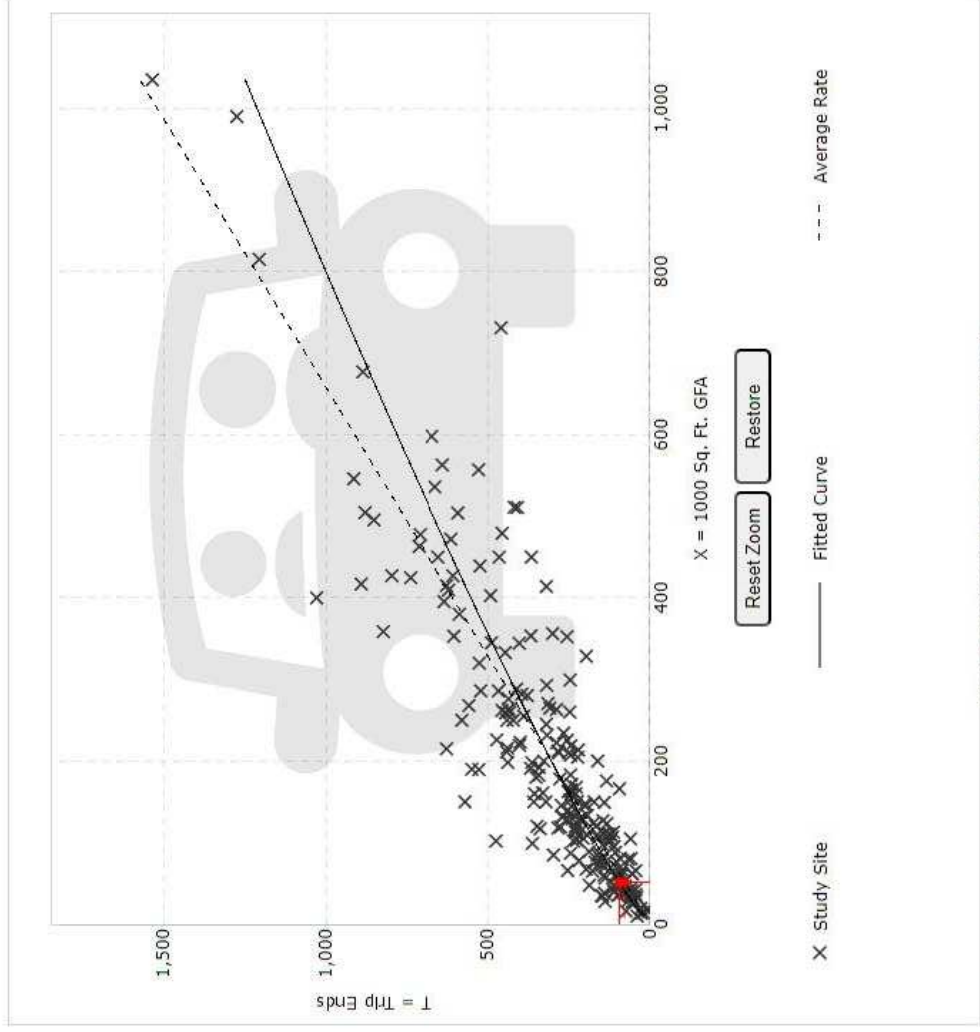
INDEPENDENT VARIABLE (IV):

TIME PERIOD:

TRIP TYPE:

ENTER IV VALUE TO CALCULATE TRIPS:

Data Plot and Equation



DATA STATISTICS

Land Use:	General Office Building (710) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 7 and 9 a.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	221
Avg. 1000 Sq. Ft. GFA:	201
Average Rate:	1.52
Range of Rates:	0.32 - 4.93
Standard Deviation:	0.58
Fitted Curve Equation:	$\ln(T) = 0.86 \ln(X) + 1.16$
R²:	0.78
Directional Distribution:	88% entering, 12% exiting
Calculated Trip Ends:	Average Rate: 78 (Total), 69 (Entry), 9 (Exit) Fitted Curve: 95 (Total), 83 (Entry), 12 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
 Hover the mouse pointer on data points to view X and T values.

Query

Filter

DATA SOURCE: Trip Generation Manual, 11th Ed

SEARCH BY LAND USE CODE: 710

LAND USE GROUP: (700-799) Office

LAND USE: 710 - General Office Building

LAND USE SUBCATEGORY: All Sites

SETTING/LOCATION: General Urban/Suburban

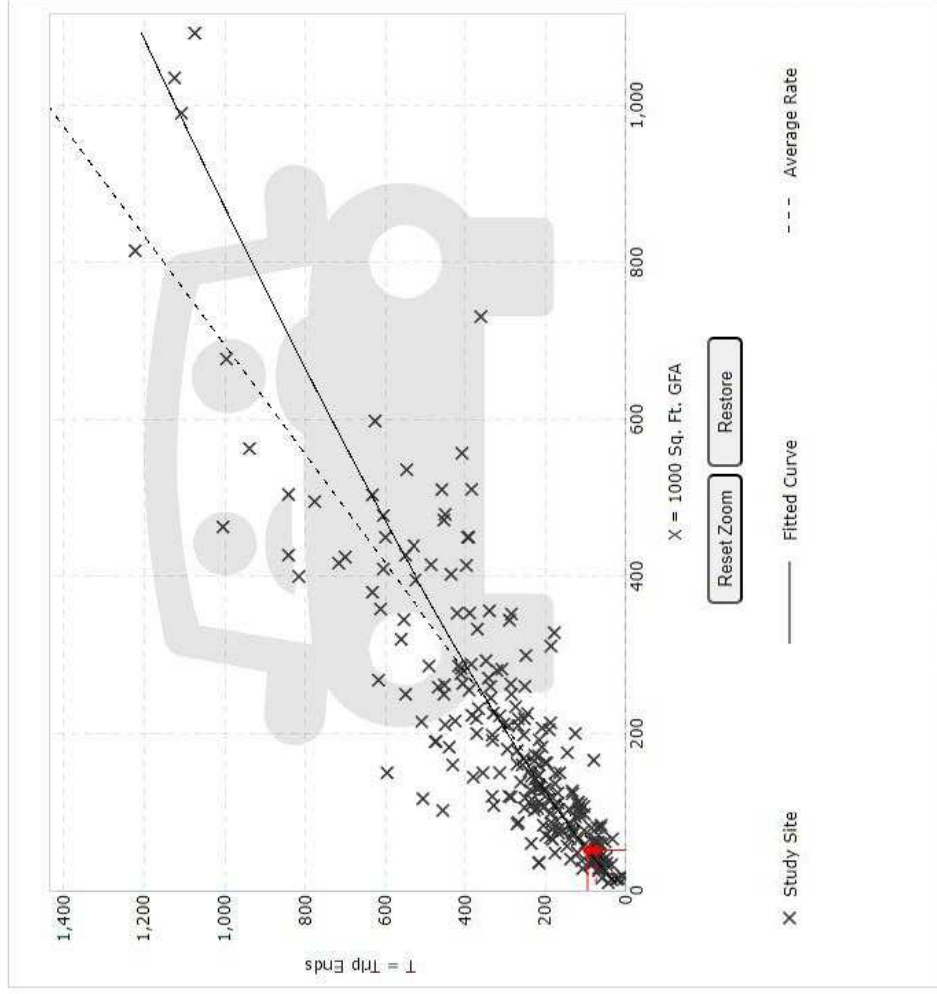
INDEPENDENT VARIABLE (IV): 1000 Sq. Ft. GFA

TIME PERIOD: Weekday, Peak Hour of Adjacent Street Traffic

TRIP TYPE: Vehicle

ENTER IV VALUE TO CALCULATE TRIPS: 51.59

Data Plot and Equation



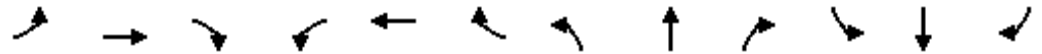
DATA STATISTICS

Land Use:	General Office Building (710) Click for Description and Data Plots
Independent Variable:	1000 Sq. Ft. GFA
Time Period:	Weekday Peak Hour of Adjacent Street Traffic One Hour Between 4 and 6 p.m.
Setting/Location:	General Urban/Suburban
Trip Type:	Vehicle
Number of Studies:	232
Avg. 1000 Sq. Ft. GFA:	199
Average Rate:	1.44
Range of Rates:	0.26 - 6.20
Standard Deviation:	0.60
Fitted Curve Equation:	$\ln(T) = 0.83 \ln(X) + 1.29$
R²:	0.77
Directional Distribution:	17% entering, 83% exiting
Calculated Trip Ends:	Average Rate: 74 (Total), 13 (Entry), 61 (Exit) Fitted Curve: 96 (Total), 16 (Entry), 80 (Exit)

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

**HOLTEC OFFICE BUILDING
1 HOLTEC BOULEVARD
BLOCK 514 – LOT 3.01**

APPENDIX F
2024 Build Synchro Analysis Worksheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	4	4	27	1	1	5	6	147	1	2	100	1
Future Volume (vph)	4	4	27	1	1	5	6	147	1	2	100	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.896			0.904			0.999			0.999	
Flt Protected		0.994			0.993			0.998			0.999	
Satd. Flow (prot)	0	1635	0	0	1984	0	0	1928	0	0	1892	0
Flt Permitted		0.967			0.960			0.993			0.998	
Satd. Flow (perm)	0	1591	0	0	1918	0	0	1918	0	0	1890	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		60			10			1			1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	25%	25%	19%	0%	0%	0%	0%	15%	0%	0%	17%	0%
Adj. Flow (vph)	9	9	60	2	2	10	7	165	1	2	112	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	14	0	0	173	0	0	115	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.28			0.05			0.13			0.09	
Control Delay		14.1			17.7			3.4			3.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.1			17.7			3.4			3.2	
LOS		B			B			A			A	
Approach Delay		14.1			17.7			3.4			3.2	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			2			18			12	
Queue Length 95th (ft)		8			7			33			24	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		278			282			1370			1350	
Starvation Cap Reductn		0			0			0			0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.28			0.05			0.13			0.09	

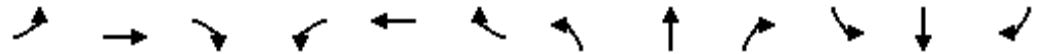
Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.28
Intersection Signal Delay:	6.0
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	4	4	27	1	1	5	6	147	1	2	100	1
Future Volume (veh/h)	4	4	27	1	1	5	6	147	1	2	100	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1570	1633	1661	1950	2028	1950	1950	1791	1950	1950	1759	1950
Adj Flow Rate, veh/h	9	9	60	2	2	10	7	165	1	2	112	1
Peak Hour Factor	0.45	0.45	0.45	0.50	0.50	0.50	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	25	25	19	0	0	0	0	15	0	0	17	0
Cap, veh/h	68	36	155	71	60	180	73	1241	7	57	1237	11
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	72	254	1085	86	417	1259	28	1737	10	6	1732	15
Grp Volume(v), veh/h	78	0	0	14	0	0	173	0	0	115	0	0
Grp Sat Flow(s),veh/h/ln	1411	0	0	1763	0	0	1775	0	0	1753	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	0.0	0.5	0.0	0.0	2.1	0.0	0.0	1.4	0.0	0.0
Prop In Lane	0.12		0.77	0.14		0.71	0.04		0.01	0.02		0.01
Lane Grp Cap(c), veh/h	259	0	0	311	0	0	1321	0	0	1304	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.05	0.00	0.00	0.13	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	259	0	0	311	0	0	1321	0	0	1304	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	25.9	0.0	0.0	3.2	0.0	0.0	3.1	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	0.3	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	0.0	0.0	26.2	0.0	0.0	3.4	0.0	0.0	3.2	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		78			14			173				115
Approach Delay, s/veh		30.2			26.2			3.4				3.2
Approach LOS		C			C			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				9.7								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	7	4	7	13	51	5	101	8	38	92	1
Future Volume (vph)	2	7	4	7	13	51	5	101	8	38	92	1
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.958			0.903			0.990			0.999	
Flt Protected		0.994			0.995			0.998			0.986	
Satd. Flow (prot)	0	1952	0	0	1739	0	0	1897	0	0	1859	0
Flt Permitted		0.994			0.995			0.998			0.986	
Satd. Flow (perm)	0	1952	0	0	1739	0	0	1897	0	0	1859	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles (%)	0%	0%	25%	29%	15%	12%	40%	15%	0%	8%	21%	0%
Adj. Flow (vph)	2	9	5	9	17	67	6	112	9	47	114	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	16	0	0	93	0	0	127	0	0	162	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

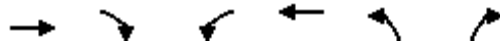
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.1%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	7	4	7	13	51	5	101	8	38	92	1
Future Vol, veh/h	2	7	4	7	13	51	5	101	8	38	92	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	76	76	76	90	90	90	81	81	81
Heavy Vehicles, %	0	0	25	29	15	12	40	15	0	8	21	0
Mvmt Flow	2	9	5	9	17	67	6	112	9	47	114	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	380	342	115	345	338	117	115	0	0	121	0	0
Stage 1	209	209	-	129	129	-	-	-	-	-	-	-
Stage 2	171	133	-	216	209	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.45	7.39	6.65	6.32	4.5	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.39	5.65	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.525	3.761	4.135	3.408	2.56	-	-	2.272	-	-
Pot Cap-1 Maneuver	581	583	879	561	563	909	1268	-	-	1430	-	-
Stage 1	798	733	-	814	765	-	-	-	-	-	-	-
Stage 2	836	790	-	729	705	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	509	560	879	535	540	909	1268	-	-	1430	-	-
Mov Cap-2 Maneuver	509	560	-	535	540	-	-	-	-	-	-	-
Stage 1	794	707	-	810	761	-	-	-	-	-	-	-
Stage 2	753	786	-	691	680	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11		10.4		0.3		2.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1268	-	-	620	761	1430	-	-
HCM Lane V/C Ratio	0.004	-	-	0.026	0.123	0.033	-	-
HCM Control Delay (s)	7.9	0	-	11	10.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.1	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↻		↻	↻	↻	↻
Traffic Volume (vph)	102	5	42	107	7	9
Future Volume (vph)	102	5	42	107	7	9
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.994					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1616	0	1684	1726	1295	1246
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1616	0	1684	1726	1295	1246
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.81	0.81	0.75	0.75	0.80	0.80
Heavy Vehicles (%)	19%	40%	10%	13%	43%	33%
Adj. Flow (vph)	126	6	56	143	9	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	132	0	56	143	9	11
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	102	5	42	107	7	9
Future Vol, veh/h	102	5	42	107	7	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	75	75	80	80
Heavy Vehicles, %	19	40	10	13	43	33
Mvmt Flow	126	6	56	143	9	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	132	0	384 129
Stage 1	-	-	-	-	129 -
Stage 2	-	-	-	-	255 -
Critical Hdwy	-	-	4.2	-	6.83 6.53
Critical Hdwy Stg 1	-	-	-	-	5.83 -
Critical Hdwy Stg 2	-	-	-	-	5.83 -
Follow-up Hdwy	-	-	2.29	-	3.887 3.597
Pot Cap-1 Maneuver	-	-	1405	-	546 844
Stage 1	-	-	-	-	805 -
Stage 2	-	-	-	-	701 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1405	-	524 844
Mov Cap-2 Maneuver	-	-	-	-	524 -
Stage 1	-	-	-	-	805 -
Stage 2	-	-	-	-	673 -



















Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	844	-	-	1405	-
HCM Lane V/C Ratio	0.017	0.013	-	-	0.04	-
HCM Control Delay (s)	12	9.3	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	15	3	72	141	75	15	79	57	67	22	9
Future Volume (vph)	3	15	3	72	141	75	15	79	57	67	22	9
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.948				0.850		0.956	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1852	3164	0	1278	3307	0	1852	1773	1237	1531	1603	0
Flt Permitted	0.581			0.741			0.730			0.701		
Satd. Flow (perm)	1133	3164	0	997	3307	0	1423	1773	1237	1130	1603	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		4			96							12
Link Speed (mph)		25			25			25				25
Link Distance (ft)		454			173			434				525
Travel Time (s)		12.4			4.7			11.8				14.3
Peak Hour Factor	0.75	0.75	0.75	0.78	0.78	0.78	0.92	0.92	0.92	0.77	0.77	0.77
Heavy Vehicles (%)	0%	17%	0%	45%	1%	16%	0%	10%	34%	21%	23%	0%
Adj. Flow (vph)	4	20	4	92	181	96	16	86	62	87	29	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	24	0	92	277	0	16	86	62	87	41	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	15.8%					19.2%	19.2%	19.2%	19.2%	19.2%	19.2%
Maximum Green (s)	6.0	14.0					18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	19.9	13.7		64.5	72.2		14.0	14.0	14.0	14.0	14.0	14.0
Actuated g/C Ratio	0.19	0.13		0.61	0.69		0.13	0.13	0.13	0.13	0.13	0.13
v/c Ratio	0.02	0.06		0.13	0.12		0.08	0.37	0.38	0.58	0.18	
Control Delay	31.3	40.9		1.2	0.1		44.9	49.5	52.2	62.4	35.9	
Queue Delay	0.0	0.0		0.3	0.2		0.0	0.0	0.0	0.0	0.0	
Total Delay	31.3	40.9		1.5	0.3		44.9	49.5	52.2	62.4	35.9	
LOS	C	D		A	A		D	D	D	E	D	
Approach Delay		39.5			0.6			50.1			53.9	

Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	10.0	10.0	22.5	10.0	10.0	10.0
Total Split (s)	10.0	37.0	33.0	37.0	10.0	10.0	29.0
Total Split (%)	8%	31%	28%	31%	8%	8%	24%
Maximum Green (s)	5.0	32.0	28.0	22.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	12.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Vehicle Extension (s)	4.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							

HCM 6th Edition methodology does not support clustered intersections.

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	143	1	20	190	0	1	0	16	134	8	97
Future Volume (vph)	0	143	1	20	190	0	1	0	16	134	8	97
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999						0.873			0.861	
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	2895	0	1059	3012	0	0	901	0	1799	1439	0
Flt Permitted				0.950				0.968		0.735		
Satd. Flow (perm)	0	2895	0	1059	3012	0	0	874	0	1392	1439	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1						245			113	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		173			781			270			419	
Travel Time (s)		4.7			21.3			7.4			11.4	
Peak Hour Factor	0.75	0.75	0.75	0.69	0.69	0.69	0.50	0.50	0.50	0.86	0.86	0.86
Heavy Vehicles (%)	0%	28%	0%	75%	23%	0%	0%	0%	94%	3%	63%	13%
Adj. Flow (vph)	0	191	1	29	275	0	2	0	32	156	9	113
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	192	0	29	275	0	0	34	0	156	122	0
Turn Type		NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases		5 13 11		12	9			7			7	
Permitted Phases							7			7	7	
Detector Phase		5 13 11		12	9		7	7		7	7	
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0	7.0	
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5	22.5	
Total Split (s)				11.0	19.0		37.0	37.0		37.0	37.0	
Total Split (%)				9.2%	15.8%		30.8%	30.8%		30.8%	30.8%	
Maximum Green (s)				6.0	14.0		22.0	22.0		22.0	22.0	
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0	12.0	
Lost Time Adjust (s)				0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)				5.0	5.0			15.0		15.0	15.0	
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0	4.0	
Recall Mode				None	None		None	None		None	None	
Act Effct Green (s)		58.4		6.2	13.7			17.4		17.4	17.4	
Actuated g/C Ratio		0.56		0.06	0.13			0.17		0.17	0.17	
v/c Ratio		0.12		0.47	0.70			0.10		0.68	0.37	
Control Delay		1.4		78.5	57.0			0.5		59.2	13.0	
Queue Delay		0.1		0.0	0.0			0.0		0.0	0.0	
Total Delay		1.5		78.5	57.0			0.5		59.2	13.0	
LOS		A		E	E			A		E	B	
Approach Delay		1.5			59.1			0.5			38.9	

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	10.0	10.0	10.0	10.0	10.0
Total Split (s)	23.0	10.0	37.0	33.0	10.0	10.0	29.0
Total Split (%)	19%	8%	31%	28%	8%	8%	24%
Maximum Green (s)	18.0	5.0	32.0	28.0	5.0	5.0	24.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							

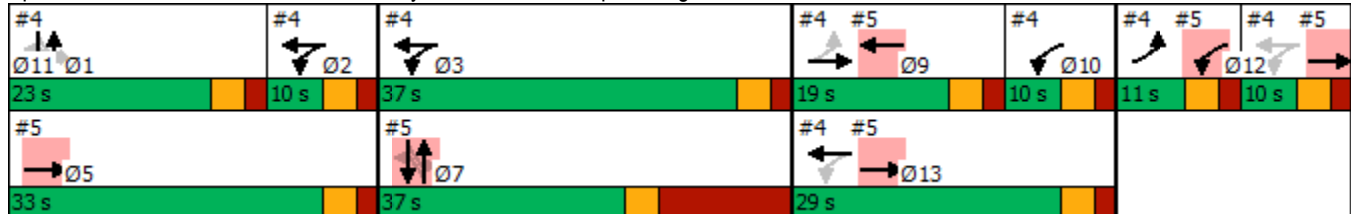


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		A			E			A			D	
Queue Length 50th (ft)		3		21	104			0		109	6	
Queue Length 95th (ft)		4		#44	118			0		177	53	
Internal Link Dist (ft)		93			701			190			339	
Turn Bay Length (ft)				115						250		
Base Capacity (vph)		1719		62	414			381		301	400	
Starvation Cap Reductn		821		0	0			0		0	0	
Spillback Cap Reductn		0		0	0			0		0	0	
Storage Cap Reductn		0		0	0			0		0	0	
Reduced v/c Ratio		0.21		0.47	0.66			0.09		0.52	0.30	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 105
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay: 36.0
 Intersection LOS: D
 Intersection Capacity Utilization 43.1%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↖	↖			↕	
Traffic Volume (vph)	0	174	0	0	214	8	159	85	0	14	0	149
Future Volume (vph)	0	174	0	0	214	8	159	85	0	14	0	149
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Fr _t					0.995							0.877
Fl _t Protected							0.950	0.985				0.996
Satd. Flow (prot)	0	3463	0	0	3378	0	1333	1591	0	0	1574	0
Fl _t Permitted							0.950	0.985				0.996
Satd. Flow (perm)	0	3463	0	0	3378	0	1333	1591	0	0	1574	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					7							182
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.89	0.89	0.89	0.81	0.81	0.81	0.79	0.79	0.79	0.82	0.82	0.82
Heavy Vehicles (%)	0%	7%	0%	0%	9%	13%	32%	7%	0%	21%	0%	7%
Adj. Flow (vph)	0	196	0	0	264	10	201	108	0	17	0	182
Shared Lane Traffic (%)							24%					
Lane Group Flow (vph)	0	196	0	0	274	0	153	156	0	0	199	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0		3.0
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		34.3			34.3		13.4	13.4		7.3		7.3
Actuated g/C Ratio		0.49			0.49		0.19	0.19		0.10		0.10
v/c Ratio		0.12			0.17		0.60	0.51		0.61		0.61
Control Delay		10.7			10.7		35.5	30.9		15.6		15.6
Queue Delay		0.0			0.0		0.0	0.0		0.0		0.0
Total Delay		10.7			10.7		35.5	30.9		15.6		15.6
LOS		B			B		D	C		B		B
Approach Delay		10.7			10.7			33.2		15.6		15.6
Approach LOS		B			B			C		B		B
Queue Length 50th (ft)		22			31		64	64		7		7
Queue Length 95th (ft)		42			50		98	96		50		50

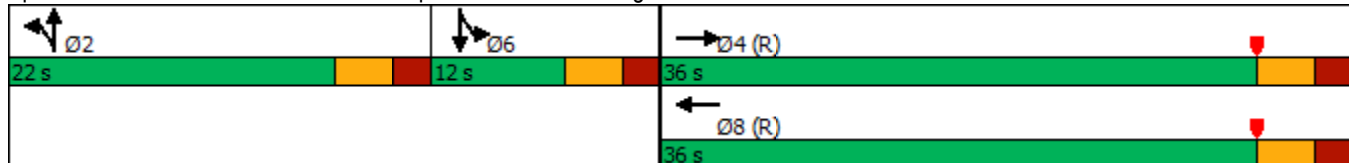


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		701			506			462			187	
Turn Bay Length (ft)												
Base Capacity (vph)		1697			1659		323	386			326	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.12			0.17		0.47	0.40			0.61	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.61
Intersection Signal Delay:	18.8
Intersection LOS:	B
Intersection Capacity Utilization	48.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↔↔	
Traffic Volume (vph)	0	9	0	132	7	0
Future Volume (vph)	0	9	0	132	7	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt		0.850				
Flt Protected					0.950	
Satd. Flow (prot)	0	3632	3087	0	1816	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3632	3087	0	1816	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		66	454		232	
Travel Time (s)		1.8	12.4		6.3	
Peak Hour Factor	0.75	0.75	0.78	0.78	0.75	0.75
Adj. Flow (vph)	0	12	0	169	9	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	12	169	0	9	0
Sign Control		Free	Free		Stop	

Intersection Summary

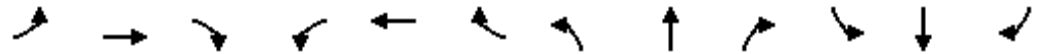
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	14.2%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↕	
Traffic Vol, veh/h	0	9	0	132	7	0
Future Vol, veh/h	0	9	0	132	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	78	78	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	0	169	9	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	169	0	-	0	91
Stage 1	-	-	-	-	85
Stage 2	-	-	-	-	6
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1406	-	-	-	899
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	1016
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1406	-	-	-	899
Mov Cap-2 Maneuver	-	-	-	-	899
Stage 1	-	-	-	-	929
Stage 2	-	-	-	-	1016

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1406	-	-	-	899
HCM Lane V/C Ratio	-	-	-	-	0.01
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	11	2	42	5	1	8	11	122	5	1	229	3
Future Volume (vph)	11	2	42	5	1	8	11	122	5	1	229	3
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.898			0.926			0.995			0.998	
Flt Protected		0.990			0.982			0.996				
Satd. Flow (prot)	0	1839	0	0	1873	0	0	2068	0	0	2083	0
Flt Permitted		0.937			0.889			0.974				
Satd. Flow (perm)	0	1741	0	0	1696	0	0	2023	0	0	2083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			12			6			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		452			490			458			215	
Travel Time (s)		12.3			13.4			12.5			5.9	
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	9%	20%	0%	0%	18%	5%	0%	0%	6%	0%
Adj. Flow (vph)	15	3	56	8	2	12	14	151	6	1	257	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	22	0	0	171	0	0	261	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (s)	15.0	15.0		15.0	15.0		55.0	55.0		55.0	55.0	
Total Split (%)	21.4%	21.4%		21.4%	21.4%		78.6%	78.6%		78.6%	78.6%	
Maximum Green (s)	10.0	10.0		10.0	10.0		50.0	50.0		50.0	50.0	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		10.0			10.0			50.0			50.0	
Actuated g/C Ratio		0.14			0.14			0.71			0.71	
v/c Ratio		0.25			0.09			0.12			0.18	
Control Delay		13.8			19.0			3.2			3.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.8			19.0			3.2			3.6	
LOS		B			B			A			A	
Approach Delay		13.8			19.0			3.2			3.6	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		7			4			18			29	
Queue Length 95th (ft)		29			15			29			48	
Internal Link Dist (ft)		372			410			378			135	
Turn Bay Length (ft)												
Base Capacity (vph)		296			252			1446			1488	
Starvation Cap Reductn		0			0			0			0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.25			0.09			0.12			0.18	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Pretimed
Maximum v/c Ratio:	0.25
Intersection Signal Delay:	5.5
Intersection LOS:	A
Intersection Capacity Utilization	58.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 1: Broadway (CR 551) & Jefferson Street





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (veh/h)	11	2	42	5	1	8	11	122	5	1	229	3
Future Volume (veh/h)	11	2	42	5	1	8	11	122	5	1	229	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1950	2028	1813	1646	2028	1950	1676	1949	1950	1950	1933	1950
Adj Flow Rate, veh/h	15	3	56	8	2	12	14	151	6	1	257	3
Peak Hour Factor	0.75	0.75	0.75	0.65	0.65	0.65	0.81	0.81	0.81	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	9	20	0	0	18	5	0	0	6	0
Cap, veh/h	87	34	187	128	52	132	120	1226	47	52	1361	16
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	179	241	1306	404	364	921	91	1716	66	1	1906	22
Grp Volume(v), veh/h	74	0	0	22	0	0	171	0	0	261	0	0
Grp Sat Flow(s),veh/h/ln	1726	0	0	1689	0	0	1872	0	0	1929	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.6	0.0	0.0	0.7	0.0	0.0	1.9	0.0	0.0	3.1	0.0	0.0
Prop In Lane	0.20		0.76	0.36		0.55	0.08		0.04	0.00		0.01
Lane Grp Cap(c), veh/h	308	0	0	311	0	0	1393	0	0	1429	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.07	0.00	0.00	0.12	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	308	0	0	311	0	0	1393	0	0	1429	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	0.0	26.0	0.0	0.0	3.1	0.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.7	0.0	0.0	26.5	0.0	0.0	3.3	0.0	0.0	3.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		74			22			171			261	
Approach Delay, s/veh		28.7			26.5			3.3			3.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.0		15.0		55.0		15.0				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		50.0		10.0		50.0		10.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				8.0								
HCM 6th LOS				A								



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	2	11	15	11	5	50	3	92	18	62	212	2
Future Volume (vph)	2	11	15	11	5	50	3	92	18	62	212	2
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	16	12	12	16	12	12	16	12
Lane Util. 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
Frt		0.927			0.897			0.979			0.999	
Flt Protected		0.997			0.992			0.999			0.989	
Satd. Flow (prot)	0	2043	0	0	1909	0	0	1937	0	0	2030	0
Flt Permitted		0.997			0.992			0.999			0.989	
Satd. Flow (perm)	0	2043	0	0	1909	0	0	1937	0	0	2030	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		457			492			1065			458	
Travel Time (s)		12.5			13.4			29.0			12.5	
Peak Hour Factor	0.47	0.47	0.47	0.77	0.77	0.77	0.81	0.81	0.81	0.89	0.89	0.89
Heavy Vehicles (%)	0%	0%	0%	9%	0%	2%	0%	10%	22%	3%	9%	0%
Adj. Flow (vph)	4	23	32	14	6	65	4	114	22	70	238	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	0	0	85	0	0	140	0	0	310	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	34.5%
Analysis Period (min)	15
	ICU Level of Service A

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	11	15	11	5	50	3	92	18	62	212	2
Future Vol, veh/h	2	11	15	11	5	50	3	92	18	62	212	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	47	47	47	77	77	77	81	81	81	89	89	89
Heavy Vehicles, %	0	0	0	9	0	2	0	10	22	3	9	0
Mvmt Flow	4	23	32	14	6	65	4	114	22	70	238	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	548	523	239	540	513	125	240	0	0	136	0	0
Stage 1	379	379	-	133	133	-	-	-	-	-	-	-
Stage 2	169	144	-	407	380	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.5	6.22	4.1	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4	3.318	2.2	-	-	2.227	-	-
Pot Cap-1 Maneuver	450	462	805	442	468	926	1339	-	-	1442	-	-
Stage 1	647	618	-	854	790	-	-	-	-	-	-	-
Stage 2	838	782	-	607	617	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	395	435	805	389	440	926	1339	-	-	1442	-	-
Mov Cap-2 Maneuver	395	435	-	389	440	-	-	-	-	-	-	-
Stage 1	645	583	-	851	788	-	-	-	-	-	-	-
Stage 2	770	780	-	528	582	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	10.8	0.2	1.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1339	-	-	572	705	1442	-	-
HCM Lane V/C Ratio	0.003	-	-	0.104	0.122	0.048	-	-
HCM Control Delay (s)	7.7	0	-	12	10.8	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0.2	-	-



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↶		↷	↶	↷	↷
Traffic Volume (vph)	240	5	1	86	7	48
Future Volume (vph)	240	5	1	86	7	48
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Width (ft)	12	16	12	12	12	12
Storage Length (ft)		0	175		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1829	0	926	1696	1625	1625
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1829	0	926	1696	1625	1625
Link Speed (mph)	25			25	25	
Link Distance (ft)	1065			501	353	
Travel Time (s)	29.0			13.7	9.6	
Peak Hour Factor	0.79	0.79	0.88	0.88	0.41	0.41
Heavy Vehicles (%)	6%	20%	100%	15%	14%	2%
Adj. Flow (vph)	304	6	1	98	17	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	310	0	1	98	17	117
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.6%
	ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	240	5	1	86	7	48
Future Vol, veh/h	240	5	1	86	7	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Stop
Storage Length	-	-	175	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	79	79	88	88	41	41
Heavy Vehicles, %	6	20	100	15	14	2
Mvmt Flow	304	6	1	98	17	117

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	310	0	407 307
Stage 1	-	-	-	-	307 -
Stage 2	-	-	-	-	100 -
Critical Hdwy	-	-	5.1	-	6.54 6.22
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	3.1	-	3.626 3.318
Pot Cap-1 Maneuver	-	-	853	-	578 733
Stage 1	-	-	-	-	720 -
Stage 2	-	-	-	-	895 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	853	-	577 733
Mov Cap-2 Maneuver	-	-	-	-	577 -
Stage 1	-	-	-	-	720 -
Stage 2	-	-	-	-	894 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	733	-	-	853	-
HCM Lane V/C Ratio	0.03	0.16	-	-	0.001	-
HCM Control Delay (s)	11.4	10.8	-	-	9.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	154	19	161	18	38	4	34	48	129	148	4
Future Volume (vph)	11	154	19	161	18	38	4	34	48	129	148	4
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	190		0	100		0	315		0	375		0
Storage Lanes	1		0	1		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.899				0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1393	3646	0	1799	3006	0	1852	1696	1228	1781	1815	0
Flt Permitted	0.702			0.539			0.439			0.733		
Satd. Flow (perm)	1029	3646	0	1020	3006	0	856	1696	1228	1374	1815	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		9			54							1
Link Speed (mph)		25			25			25				25
Link Distance (ft)		454			173			434				525
Travel Time (s)		12.4			4.7			11.8				14.3
Peak Hour Factor	0.73	0.73	0.73	0.70	0.70	0.70	0.93	0.93	0.93	0.89	0.89	0.89
Heavy Vehicles (%)	33%	0%	0%	3%	0%	16%	0%	15%	35%	4%	6%	50%
Adj. Flow (vph)	15	211	26	230	26	54	4	37	52	145	166	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	15	237	0	230	80	0	4	37	52	145	170	0
Turn Type	pm+pt	NA		custom	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	12	9		10 2 3	2 3 13			1				1
Permitted Phases	9			11 13	2 11		1		1	1		
Detector Phase	12	9		10 2 3	2 3 13		1	1	1	1	1	1
Switch Phase												
Minimum Initial (s)	5.0	7.0					7.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	12.0					12.0	12.0	12.0	12.0	12.0	12.0
Total Split (s)	11.0	19.0					23.0	23.0	23.0	23.0	23.0	23.0
Total Split (%)	9.2%	15.8%					19.2%	19.2%	19.2%	19.2%	19.2%	19.2%
Maximum Green (s)	6.0	14.0					18.0	18.0	18.0	18.0	18.0	18.0
Yellow Time (s)	3.0	3.0					3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0					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	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0					5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lead					Lead	Lead	Lead	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes					Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	4.0					4.0	4.0	4.0	4.0	4.0	4.0
Recall Mode	None	None					None	None	None	None	None	None
Act Effct Green (s)	18.6	12.6		69.3	76.6		16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.17	0.11		0.62	0.69		0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.08	0.56		0.24	0.04		0.03	0.15	0.30	0.74	0.65	
Control Delay	32.6	51.9		4.2	0.4		44.5	45.7	49.8	70.0	58.8	
Queue Delay	0.0	0.0		0.5	0.1		0.0	0.0	0.0	0.0	0.0	
Total Delay	32.6	51.9		4.7	0.5		44.5	45.7	49.8	70.0	58.8	
LOS	C	D		A	A		D	D	D	E	E	
Approach Delay		50.8			3.6			47.9			64.0	

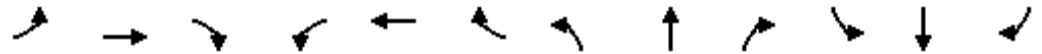
Lane Group	Ø2	Ø3	Ø5	Ø7	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	2	3	5	7	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	7.0	5.0	5.0	5.0
Minimum Split (s)	10.0	9.5	10.0	22.5	10.0	9.5	10.0
Total Split (s)	10.0	37.0	33.0	37.0	10.0	10.0	29.0
Total Split (%)	8%	31%	28%	31%	8%	8%	24%
Maximum Green (s)	5.0	32.5	28.0	22.0	5.0	5.5	24.0
Yellow Time (s)	3.0	3.5	3.0	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	1.0	2.0	12.0	2.0	1.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lag				Lag	Lag	
Lead-Lag Optimize?	Yes				Yes	Yes	
Vehicle Extension (s)	4.0	3.0	3.0	4.0	3.0	3.0	3.0
Recall Mode	Max	None	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							

HCM 6th Edition methodology does not support clustered intersections.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↖	↑↑			↕		↖	↗	
Traffic Volume (vph)	0	330	1	8	70	0	1	0	19	173	1	146
Future Volume (vph)	0	330	1	8	70	0	1	0	19	173	1	146
Ideal Flow (vphp)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Storage Length (ft)	0		0	115		0	0		0	250		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.872				0.851
Flt Protected				0.950				0.997		0.950		
Satd. Flow (prot)	0	3423	0	985	3463	0	0	1089	0	1781	1596	0
Flt Permitted				0.950				0.969		0.734		
Satd. Flow (perm)	0	3423	0	985	3463	0	0	1059	0	1376	1596	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)								241				192
Link Speed (mph)		25			25			25				25
Link Distance (ft)		173			781			270				419
Travel Time (s)		4.7			21.3			7.4				11.4
Peak Hour Factor	0.81	0.81	0.81	0.77	0.77	0.77	0.56	0.56	0.56	0.76	0.76	0.76
Heavy Vehicles (%)	0%	8%	100%	88%	7%	0%	100%	0%	53%	4%	0%	4%
Adj. Flow (vph)	0	407	1	10	91	0	2	0	34	228	1	192
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	408	0	10	91	0	0	36	0	228	193	0
Turn Type		NA		Prot	NA		Perm	NA		Perm		NA
Protected Phases		5 13 11		12	9			7				7
Permitted Phases							7			7		7
Detector Phase		5 13 11		12	9		7	7		7		7
Switch Phase												
Minimum Initial (s)				5.0	7.0		7.0	7.0		7.0		7.0
Minimum Split (s)				10.0	12.0		22.5	22.5		22.5		22.5
Total Split (s)				11.0	19.0		37.0	37.0		37.0		37.0
Total Split (%)				9.2%	15.8%		30.8%	30.8%		30.8%		30.8%
Maximum Green (s)				6.0	14.0		22.0	22.0		22.0		22.0
Yellow Time (s)				3.0	3.0		3.0	3.0		3.0		3.0
All-Red Time (s)				2.0	2.0		12.0	12.0		12.0		12.0
Lost Time Adjust (s)				0.0	0.0			0.0		0.0		0.0
Total Lost Time (s)				5.0	5.0			15.0		15.0		15.0
Lead/Lag				Lead	Lead							
Lead-Lag Optimize?				Yes	Yes							
Vehicle Extension (s)				3.0	4.0		4.0	4.0		4.0		4.0
Recall Mode				None	None		None	None		None		None
Act Effct Green (s)		61.2		5.9	12.6			21.3		21.3		21.3
Actuated g/C Ratio		0.55		0.05	0.11			0.19		0.19		0.19
v/c Ratio		0.22		0.19	0.23			0.09		0.87		0.42
Control Delay		0.5		63.6	48.7			0.5		76.5		9.1
Queue Delay		0.2		0.0	0.0			0.0		0.0		0.0
Total Delay		0.7		63.6	48.7			0.5		76.5		9.1
LOS		A		E	D			A		E		A
Approach Delay		0.7			50.1			0.4				45.6

Lane Group	Ø1	Ø2	Ø3	Ø5	Ø10	Ø11	Ø13
Lane Configurations							
Traffic Volume (vph)							
Future Volume (vph)							
Ideal Flow (vphpl)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
Flt Protected							
Satd. Flow (prot)							
Flt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Travel Time (s)							
Peak Hour Factor							
Heavy Vehicles (%)							
Adj. Flow (vph)							
Shared Lane Traffic (%)							
Lane Group Flow (vph)							
Turn Type							
Protected Phases	1	2	3	5	10	11	13
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.0	10.0	9.5	10.0	10.0	9.5	10.0
Total Split (s)	23.0	10.0	37.0	33.0	10.0	10.0	29.0
Total Split (%)	19%	8%	31%	28%	8%	8%	24%
Maximum Green (s)	18.0	5.0	32.5	28.0	5.0	5.5	24.0
Yellow Time (s)	3.0	3.0	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)							
Total Lost Time (s)							
Lead/Lag	Lead	Lag			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	4.0	4.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	None	None	None	None	None
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							

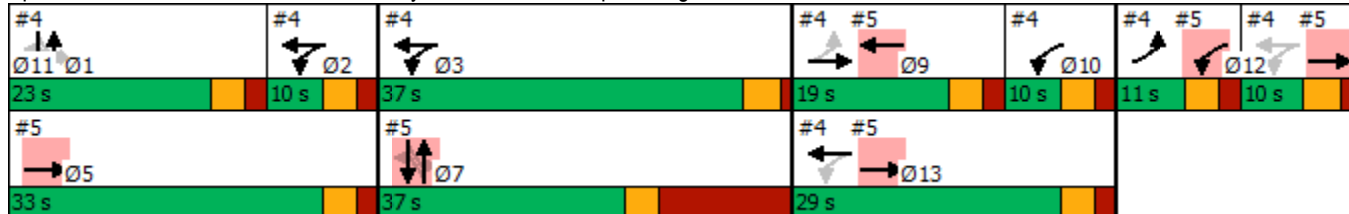


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Approach LOS		A			D				A			D	
Queue Length 50th (ft)		1		8	34			0		174	1		
Queue Length 95th (ft)		1		22	51			0		#243	33		
Internal Link Dist (ft)		93			701			190			339		
Turn Bay Length (ft)				115						250			
Base Capacity (vph)		1921		53	439			403		274	471		
Starvation Cap Reductn		791		0	0			0		0	0		
Spillback Cap Reductn		0		0	0			0		0	0		
Storage Cap Reductn		0		0	0			0		0	0		
Reduced v/c Ratio		0.36		0.19	0.21			0.09		0.83	0.41		

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 111.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 25.5
 Intersection LOS: C
 Intersection Capacity Utilization 41.6%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Covanta Driveway/I-676 SB Off-Ramp & Morgan Boulevard





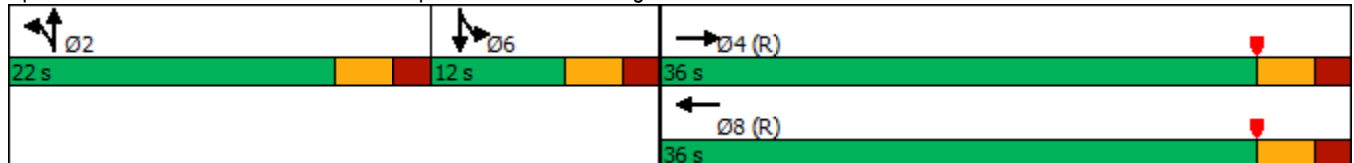
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑			↑↓	
Traffic Volume (vph)	0	261	0	0	218	15	40	101	0	30	0	145
Future Volume (vph)	0	261	0	0	218	15	40	101	0	30	0	145
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950	1950
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00
Fr _t					0.990							0.888
Fl _t Protected							0.950	0.998				0.991
Satd. Flow (prot)	0	3431	0	0	3443	0	1443	1782	0	0	1616	0
Fl _t Permitted							0.950	0.998				0.991
Satd. Flow (perm)	0	3431	0	0	3443	0	1443	1782	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					13							159
Link Speed (mph)		25			25			25				25
Link Distance (ft)		781			586			542				267
Travel Time (s)		21.3			16.0			14.8				7.3
Peak Hour Factor	0.96	0.96	0.96	0.94	0.94	0.94	0.84	0.84	0.84	0.91	0.91	0.91
Heavy Vehicles (%)	0%	8%	0%	0%	7%	0%	22%	3%	0%	7%	0%	6%
Adj. Flow (vph)	0	272	0	0	232	16	48	120	0	33	0	159
Shared Lane Traffic (%)							10%					
Lane Group Flow (vph)	0	272	0	0	248	0	43	125	0	0	192	0
Turn Type		NA			NA		Split	NA		Split		NA
Protected Phases		4			8		2	2		6		6
Permitted Phases												
Detector Phase		4			8		2	2		6		6
Switch Phase												
Minimum Initial (s)		22.0			22.0		10.0	10.0		7.0		7.0
Minimum Split (s)		27.0			27.0		15.0	15.0		12.0		12.0
Total Split (s)		36.0			36.0		22.0	22.0		12.0		12.0
Total Split (%)		51.4%			51.4%		31.4%	31.4%		17.1%		17.1%
Maximum Green (s)		31.0			31.0		17.0	17.0		7.0		7.0
Yellow Time (s)		3.0			3.0		3.0	3.0		3.0		3.0
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		0.0
Total Lost Time (s)		5.0			5.0		5.0	5.0		5.0		5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0		3.0
Recall Mode		C-Max			C-Max		None	None		None		None
Act Effct Green (s)		38.5			38.5		11.3	11.3				8.1
Actuated g/C Ratio		0.55			0.55		0.16	0.16				0.12
v/c Ratio		0.14			0.13		0.18	0.43				0.59
Control Delay		9.7			9.2		26.6	31.0				15.8
Queue Delay		0.0			0.0		0.0	0.0				0.0
Total Delay		9.7			9.2		26.6	31.0				15.8
LOS		A			A		C	C				B
Approach Delay		9.7			9.2			29.8				15.8
Approach LOS		A			A			C				B
Queue Length 50th (ft)		28			24		17	52				13
Queue Length 95th (ft)		57			51		38	89				68



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		701			506			462			187	
Turn Bay Length (ft)												
Base Capacity (vph)		1888			1900		350	432			328	
Starvation Cap Reductn		0			0		0	0			0	
Spillback Cap Reductn		0			0		0	0			0	
Storage Cap Reductn		0			0		0	0			0	
Reduced v/c Ratio		0.14			0.13		0.12	0.29			0.59	

Intersection Summary	
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Yellow	
Natural Cycle:	55
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay:	14.7
Intersection LOS:	B
Intersection Capacity Utilization	43.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: I-676 NB Off-Ramp/Master Street & Morgan Boulevard





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕↕	↕↔		↔↔	
Traffic Volume (vph)	0	25	10	10	127	0
Future Volume (vph)	0	25	10	10	127	0
Ideal Flow (vphpl)	1950	1950	1950	1950	1950	1950
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt		0.925				
Flt Protected					0.950	
Satd. Flow (prot)	0	3632	3360	0	1816	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	3632	3360	0	1816	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		66	454		232	
Travel Time (s)		1.8	12.4		6.3	
Peak Hour Factor	0.73	0.73	0.70	0.70	0.73	0.73
Adj. Flow (vph)	0	34	14	14	174	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	28	0	174	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.9%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	0	25	10	10	127	0
Future Vol, veh/h	0	25	10	10	127	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	73	73	70	70	73	73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	14	14	174	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	28	0	-	0	38
Stage 1	-	-	-	-	21
Stage 2	-	-	-	-	17
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1584	-	-	-	969
Stage 1	-	-	-	-	999
Stage 2	-	-	-	-	1003
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1584	-	-	-	969
Mov Cap-2 Maneuver	-	-	-	-	969
Stage 1	-	-	-	-	999
Stage 2	-	-	-	-	1003

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	969
HCM Lane V/C Ratio	-	-	-	-	0.18
HCM Control Delay (s)	0	-	-	-	9.5
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7