

Port Cortlandt Appendix Documents

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1. Capacity Analysis Methodology

CAPACITY ANALYSIS METHODOLOGY

SIGNALIZED INTERSECTIONS

The operation of signalized intersections in the study area was analyzed by applying the Percentile Delay Methodology included in the Synchro 10 traffic analysis software. The Percentile Delay Methodology differs from the *Highway Capacity Manual (HCM)* Methodology by calculating vehicle delays for five different percentile scenarios (10th, 30th, 50th, 70th and 90th) and taking the volume weighted average of the scenarios as compared to HCM which calculates delay for a single average scenario. In addition, the Percentile Delay Methodology includes an additional queue delay component to account for the effects of queues and blocking on short links and turning bays. The methodology evaluates signalized intersections for average delay per vehicle and level of service (LOS).

LOS can be characterized for the entire intersection, each intersection approach, and each lane group. Delay alone is used to characterize LOS for the entire intersection or an approach. Total delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

LOS A describes operation with a delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B describes operation with delay between 10 and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C describes operation with delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operation with delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operation with delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operation with delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

A lane group can incur a delay less than 80 seconds per vehicle when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression

is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 seconds per vehicle represents failure from a delay perspective).

The delay criteria for the range of service levels for signalized intersections are shown in **Table A.1-1**.

Table A.1-1 LOS Criteria for Signalized Intersections

	Level-of-Ser	vice (LOS) ⁽¹⁾
Total Delay Per Vehicle	v/c ratio ≤ 1.0	v/c ratio > 1.0
≤ 10.0 seconds	A	F
>10.0 and ≤ 20.0 seconds	В	F
>20.0 and ≤ 35.0 seconds	С	F
>35.0 and ≤ 55.0 seconds	D	F
>55.0 and ≤ 80.0 seconds	E	F
>80.0 seconds	F	F

Note: (1) For approach-based and intersection-wide assessments, LOS is defined solely by delay.

Source: Transportation Research Board. Highway Capacity Manual, 6th Edition.

UNSIGNALIZED INTERSECTIONS

LOS for a two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections is determined by the computed or measured control delay using HCM Methodology. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns at TWSC intersections and for all movements at AWSC intersections. LOS is not defined for the intersection as a whole for TWSC intersections.

The LOS criteria for both TWSC and AWSC unsignalized intersections are summarized in **Table A.1-2**.

Note that the LOS criteria for unsignalized intersections are somewhat different from the criteria used in signalized intersections. At TWSC intersections, drivers on the stop-controlled approaches are required to select gaps in the major-street flow in order to execute crossing or turning maneuvers. In the presence of a queue, each driver on the controlled approach must also use some time to move into the front-of-queue position and prepare to evaluate gaps in the major-street flow. AWSC intersections require drivers on all approaches to stop before proceeding into the intersection.

Table A.1-2 LOS Criteria for Unsignalized Intersections

	Level-of-Service (LOS)(1)							
Control Delay Per Vehicle	v/c ratio ≤ 1.0	v/c ratio > 1.0						
≤ 10.0 seconds	A	F						
>10.0 and ≤ 15.0 seconds	В	F						
>15.0 and ≤ 25.0 seconds	С	F						
>25.0 and ≤ 35.0 seconds	D	F						
>35.0 and ≤ 50.0 seconds	E	F						
>50.0 seconds	F	F						

Note: (1) For TWSC intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street (for TWSC intersections). LOS is not calculated for major-street approaches or for the intersection as a whole.

Source: Transportation Research Board. Highway Capacity Manual, 6th Edition.

2. Turning Movement Counts (TMCs)

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Lousia Street Lousia

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastk Thru	oound Right	Total	Left	Westi Thru	oound Right	Total	Left	Northi Thru	bound Right	Total	Left	South Thru	bound Right	Total
Degiii Elia	Lon	11114	rtigitt	Total	Lon	· · · · · ·	rugin	Total	Lon		rtigiit	Total	Lon		rtigitt	Total
AM PEAK PERIOD																
7:00 AM - 7:15 AM	0	0	4	1	21	1	1	23	0	0	27	27	0	0	0	0
7:15 AM - 7:30 AM	0	1	0	1	29	0	0	23 29	1	0	33	34	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	35	0	3	38	0	0	48	48	0	3	0	3
7:45 AM - 8:00 AM	0	0	0	0	20	0	2	22	0	1	46 56	46 57	0	3 1	0	3
8:00 AM - 8:15 AM	0	0	0	1		0	2	26	0	1	37	39	_	- 1	0	
	0	0	0	1	23	0	1		1	2			0	1	0	1
	0	0	•	•	15	_	1	16		0	32	33	0	0		0
8:30 AM - 8:45 AM	•	•	0	0	22	0	1	23	0	0	39	39	-	0	0	_
8:45 AM - 9:00 AM	0	0	0	0	27	0	1	28	0	0	38	38	0	0	0	0
					ļ.				<u> </u>				ļ.			
							zed AM Pe		,							
7:30 AM - 7:45 AM	0	0	0	0	35	0	3	38	0	0	48	48	0	3	0	3
7:45 AM - 8:00 AM	0	0	0	0	20	0	2	22	0	1	56	57	0	1	0	1
8:00 AM - 8:15 AM	0	0	1	1	23	1	2	26	0	2	37	39	0	1	0	1
8:15 AM - 8:30 AM	0	1	0	1	15	0	1	16	1	0	32	33	1	0	0	1
Peak Hour Total	0	1	1	2	93	1	8	102	1	3	173	177	1	5	0	6
Peak 15 Minute Vol	0	1	1	1	35	1	3	38	1	2	56	57	1	3	0	3
Calculated PHF	N/A	0.25	0.25	0.50	0.66	0.25	0.67	0.67	0.25	0.38	0.77	0.78	0.25	0.42	N/A	0.50
									_				_			
PM PEAK PERIOD									١						_	•
4:00 PM - 4:15 PM	0	0	1	1	40	1	0	41	0	1	27	28	0	0	0	0
4:15 PM - 4:30 PM	0	1	0	1	30	0	1	31	1	0	26	27	0	1	0	1
4:30 PM - 4:45 PM	0	0	0	0	36	0	1	37	0	0	33	33	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	20	0	2	22	0	0	27	27	1	2	0	3
5:00 PM - 5:15 PM	0	0	1	1	22	1	1	24	0	3	20	23	0	0	0	0
5:15 PM - 5:30 PM	0	1	0	1	24	0	1	25	1	1	27	29	2	1	0	3
5:30 PM - 5:45 PM	0	0	0	0	31	0	0	31	0	0	21	21	2	0	0	2
5:45 PM - 6:00 PM	0	0	0	0	30	0	2	32	. 0	0	27	27	1	1	0	2
							zed PM Pe		,							
4:45 PM - 5:00 PM	0	0	0	0	20	0	2	22	0	0	27	27	1	2	0	3
5:00 PM - 5:15 PM	0	0	1	1	22	1	1	24	0	3	20	23	0	0	0	0
5:15 PM - 5:30 PM	0	1	0	1	24	0	1	25	1	1	27	29	2	1	0	3
5:30 PM - 5:45 PM	0	0	0	0	31	0	0	31	0	0	21	21	2	0	0	2
Peak Hour Total	0	1	1	2	97	1	4	102	1	4	95	100	5	3	0	8
Peak 15 Minute Vol	0	1	1	1	31	1	2	31	1	3	27	29	2	2	0	3
Calculated PHF	N/A	0.25	0.25	0.50	0.78	0.25	0.50	0.82	0.25	0.33	0.88	0.86	0.63	0.38	N/A	0.67

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Louisa Street Route 9 Southbound Ramps

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastl Thru	oound Right	Total	Left	Westl Thru	bound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
AM PEAK PERIOD 7:00 AM - 7:15 AM 7:15 AM - 7:30 AM		23 27	51 47	74 74	0	15 22		15 22				0	1 0	0	22 17	23 17
7:30 AM - 7:45 AM 7:45 AM - 8:00 AM 8:00 AM - 8:15 AM		26 33 34	49 63 51	75 96 85	0	23 17 27		23 17 27				0	0 0	0	18 31 31	18 31 31
8:15 AM - 8:30 AM 8:30 AM - 8:45 AM 8:45 AM - 9:00 AM		41 36 28	55 50 51	96 86 79	0 0	30 17 23		30 17 23				0 0 0	0 0	0 0 0	31 30 27	31 30 27
				ļ		Generali	zed AM Pe	ak Hour O	nly							
7:30 AM - 7:45 AM	0	26	49	75	0	23	0	23	0	0	0	0	0	0	18	18
7:45 AM - 8:00 AM 8:00 AM - 8:15 AM 8:15 AM - 8:30 AM	0 0 0	33 34 41	63 51 55	96 85 96	0 0 0	17 27 30	0 0 0	17 27 30	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	31 31 31	31 31 31
Peak Hour Total Peak 15 Minute Vol Calculated PHF	0 0 N/A	134 41 0.82	218 63 0.87	352 96 0.92	0 0 N/A	97 30 0.81	0 0 N/A	97 30 0.81	0 0 N/A	0 0 N/A	0 0 N/A	0 0 N/A	0 0 N/A	0 0 N/A	111 31 0.90	111 31 0.90
Calculated PHF	N/A	0.82	0.67	0.92	N/A	0.01	IN/A	0.61	IN/A	IN/A	IV/A	IN/A	IN/A	IV/A	0.90	0.90
PM PEAK PERIOD		07				40									-00	00
4:00 PM - 4:15 PM 4:15 PM - 4:30 PM		37 47	14 18	51 65	0	18 18		18 19				0	0	0	20 21	20 21
4:30 PM - 4:45 PM		41	18	59	0	17		17				Ō	Ō	0	27	27
4:45 PM - 5:00 PM		45	19	64	0	21		21				0	0	0	23	23
5:00 PM - 5:15 PM 5:15 PM - 5:30 PM		39 47	24 26	63 73	0	30 14		30 15				0	2	0	40 24	42 24
5:30 PM - 5:45 PM		40	20	61	0	27		27				0	0	0	31	31
5:45 PM - 6:00 PM		41	20	61	Ö	28		28				0	Ö	Ö	25	25
	<u> </u>					Generali	zed PM Pe	ak Hour O	nly				l .			
4:45 PM - 5:00 PM	0	45	19	64	0	21	0	21	0	0	0	0	0	0	23	23
5:00 PM - 5:15 PM	0	39	24	63	0	30	0	30	0	0	0	0	2	0	40	42
5:15 PM - 5:30 PM 5:30 PM - 5:45 PM	0	47 40	26 21	73 61	1 0	14 27	0	15 27	0	0	0	0	0	0	24 31	24 31
Peak Hour Total	0	171	90	261	1	92	0	93	0	0	0	0	2	0	118	120
Peak 15 Minute Vol	0	47	26	73	1	30	0	30	0	0	0	0	2	0	40	42
Calculated PHF	N/A	0.91	0.87	0.89	0.25	0.77	N/A	0.78	N/A	N/A	N/A	N/A	0.25	N/A	0.74	0.71

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:		July 30, 2020
INTERSECTION:	STREET (E-W): STREET (N-S):	Louisa Street Route 9 Northbound Ramps
SURVEY PERIOD:	AM PEAK PERIOD PM PEAK PERIOD	7:00 AM TO 9:00 AM 4:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period			bound				bound			North					bound	
Begin End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
*** PE *** PEDIOD																
AM PEAK PERIOD								•								
7:00 AM - 7:15 AM	24			24				0	15	0		15				0
7:15 AM - 7:30 AM	27			27				0	22	0		22				0
7:30 AM - 7:45 AM	26			26				0	23	2		25				0
7:45 AM - 8:00 AM	33			33				0	17	1		18				0
8:00 AM - 8:15 AM	34			34				0	27	0		27				0
8:15 AM - 8:30 AM	41			41				0	30	0		30				0
8:30 AM - 8:45 AM	36			36				0	17	1		18				0
8:45 AM - 9:00 AM	28			28				0	23	0		23				0
						Generali	zed AM Pe	ak Hour O	nly							
7:30 AM - 7:45 AM	26	0	0	26	0	0	0	0	23	2	0	25	0	0	0	0
7:45 AM - 8:00 AM	33	0	0	33	0	0	0	0	17	1	0	18	0	0	0	0
8:00 AM - 8:15 AM	34	0	0	34	0	0	0	0	27	0	0	27	0	0	0	0
8:15 AM - 8:30 AM	41	0	0	41	0	0	0	0	30	0	0	30	0	0	0	0
Peak Hour Total	134	0	0	134	0	0	0	0	97	3	0	100	0	0	0	0
Peak 15 Minute Vol	41	0	0	41	0	0	0	0	30	2	0	30	0	0	0	0
Calculated PHF	0.82	N/A	N/A	0.82	N/A	N/A	N/A	N/A	0.81	0.38	N/A	0.83	N/A	N/A	N/A	N/A
PM PEAK PERIOD																
4:00 PM - 4:15 PM	37			37				0	18	0		18				0
4:15 PM - 4:30 PM	47			47				ō	19	ō		19				Ö
4:30 PM - 4:45 PM	41			41				ō	17	Ō		17				Ô
4:45 PM - 5:00 PM	45			45				Ô	21	0		21				Ô
5:00 PM - 5:15 PM	41			41				ŏ	30	0		30				0
5:15 PM - 5:30 PM	47			47				0	15	0		15				0
5:30 PM - 5:45 PM	40			40				0	27	0		27				0
5:45 PM - 6:00 PM	41			41				0	28	0		28				0
3.43 FW - 0.00 FW	41			41				U	20	U		20				U
						Canarali	mad DM Da	ak Hour O					J.			
4:45 PM - 5:00 PM	45		_	45					,	_		24		_	_	^
		0	0	45	0	0	0	0	21	0	0	21	0	0	0	0
5:00 PM - 5:15 PM	41	0	0	41	0	0	0	0	30	0	0	30	0	0	0	0
5:15 PM - 5:30 PM	47	0	0	47	0	0	0	0	15	0	0	15	0	0	0	0
5:30 PM - 5:45 PM	40	0	0	40	0	0	0	0	27	0	0	27	0	0	0	0
Peak Hour Total	173	0	0	173	0	0	0	0	93	0	0	93	0	0	0	0
Peak 15 Minute Vol	47	0	0	47	0	0	0	0	30	0	0	30	0	0	0	0
Calculated PHF	0.92	N/A	N/A	0.92	N/A	N/A	N/A	N/A	0.78	N/A	N/A	0.78	N/A	N/A	N/A	N/A

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Louisa Street Lower South Street

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period			oound			Westl				North				South		
Begin End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM PEAK PERIOD 7:00 AM - 7:15 AM	6	64	1	71	5	36	0	41	4	4	1	9	9	5	2	16
7:15 AM - 7:30 AM	5	61	ò	66	6	36	3	45	4	4	6	14	7	6	1	14
7:30 AM - 7:45 AM	3	63	1	67	9	41	ō	50	3	1	3	7	9	9	1	19
7:45 AM - 8:00 AM	5	87	1	93	4	45	1	50	5	1	2	8	7	4	3	14
8:00 AM - 8:15 AM	4	76	2	82	7	55	2	64	6	4	1	11	8	7	4	19
8:15 AM - 8:30 AM	4	88	1	93	3	61	0	64	6	4	2	12	6	3	2	11
8:30 AM - 8:45 AM	3	73	1	77	3	44	2	49	5	3	2	10	11	3	1	15
8:45 AM - 9:00 AM	4	65	0	69	4	48	1	53	4	2	3	9	11	4	1	16
												-				-
	•					Generali	zed AM Pe	ak Hour O	nly							
7:30 AM - 7:45 AM	3	63	1	67	9	41	0	50	3	1	3	7	9	9	1	19
7:45 AM - 8:00 AM	5	87	1	93	4	45	1	50	5	1	2	8	7	4	3	14
8:00 AM - 8:15 AM	4	76	2	82	7	55	2	64	6	4	1	11	8	7	4	19
8:15 AM - 8:30 AM	4	88	1	93	3	61	0	64	6	4	2	12	6	3	2	11
Peak Hour Total	16	314	5	335	23	202	3	228	20	10	8	38	30	23	10	63
Peak 15 Minute Vol	5	88	2	93	9	61	2	64	6	4	3	12	9	9	4	19
Calculated PHF	0.80	0.89	0.63	0.90	0.64	0.83	0.38	0.89	0.83	0.63	0.67	0.79	0.83	0.64	0.63	0.83
PM PEAK PERIOD				-	_			-	_				_			
4:00 PM - 4:15 PM	11	43	2	56	5	34	2	41	10	11	1	22	7	5	8	20
4:15 PM - 4:30 PM	11	53	1	65	5	34	2	41	8	8	6	22	6	5	7	18
4:30 PM - 4:45 PM	13	53	3	69	6	35	6	47	12	15	3	30	3	6	15	24
4:45 PM - 5:00 PM	11	57	3	71	4	37	6	47	11	7	2	20	5	4	10	19
5:00 PM - 5:15 PM	10	54	2	66	4	61	5	70	7	8	1	16	8	4	6	18
5:15 PM - 5:30 PM	8	64	1	73	3	33	4	40	11	9	2	22	7	3	8	18
5:30 PM - 5:45 PM	7	53	3	63	5	51	4	60	9	11	2	22	6	5	7	18
5:45 PM - 6:00 PM	7	57	1	65	4	49	3	56	11	7	3	21	1	4	8	13
	•	-			•					•				•		
	•					Generali	zed PM Pe	ak Hour O	nly							
4:45 PM - 5:00 PM	11	57	3	71	4	37	6	47	11	7	2	20	5	4	10	19
5:00 PM - 5:15 PM	10	54	2	66	4	61	5	70	7	8	1	16	8	4	6	18
5:15 PM - 5:30 PM	8	64	1	73	3	33	4	40	11	9	2	22	7	3	8	18
5:30 PM - 5:45 PM	7	53	3	63	5	51	4	60	9	11	2	22	6	5	7	18
Peak Hour Total	36	228	9	273	16	182	19	217	38	35	7	80	26	16	31	73
Peak 15 Minute Vol	11	64	3	73	5	61	6	70	11	11	2	22	8	5	10	19
Calculated PHF	0.82	0.89	0.75	0.93	0.80	0.75	0.79	0.78	0.86	0.80	0.88	0.91	0.81	0.80	0.78	0.96

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA
i e	

INTERSECTION INFORMATION

SURVEY DATE:		July 30, 2020											
INTERSECTION:	STREET (E-W): STREET (N-S):	Bleakley Avenue Broadway											
SURVEY PERIOD:	AM PEAK PERIOD PM PEAK PERIOD) AM) PM										

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastl Thru	oound Right	Total	Left	West Thru	bound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
AM PEAK PERIOD 7:00 AM - 7:15 AM 7:15 AM - 7:30 AM				0	0		8	8 10		18 18	19 28	37 46	5 8	18 17		23 25
7:30 AM - 7:45 AM 7:45 AM - 8:00 AM 8:00 AM - 8:15 AM				0 0 0	2 3 1		16 7 4	18 10 5		11 17 18	24 28 12	35 45 30	8 4 4	23 12 17		31 16 21
8:15 AM - 8:30 AM 8:30 AM - 8:45 AM 8:45 AM - 9:00 AM				0 0 0	4 1 7		11 14 4	15 15 11		26 15 18	16 22 27	42 37 45	4 3 4	18 17 17		22 20 21
	<u> </u>				<u> </u>	General	zed AM Pe	ak Hour O	nlv				1			<u> </u>
7:30 AM - 7:45 AM 7:45 AM - 8:00 AM	0	0	0	0	2	0	16 7	18 10	0	11 17	24 28	35 45	8 4	23 12	0	31 16
8:00 AM - 8:15 AM 8:15 AM - 8:30 AM	0	0	0	0	1 4	0	4 11	5 15	0	18 26	12 16	30 42	4	17 18	0	21
Peak Hour Total Peak 15 Minute Vol	0	0	0	0	10 4	0	38 16	48 18	0	72 26	80 28	152 45	20 8	70 23	0	90 31
Calculated PHF	N/A	N/A	N/A	N/A	0.63	N/A	0.59	0.67	N/A	0.69	0.71	0.84	0.63	0.76	N/A	0.73
PM PEAK PERIOD	Г				T T								Т			
4:00 PM - 4:15 PM 4:15 PM - 4:30 PM				0	15 6		9	24 13		12 19	15 14	27 33	3 4	33 24		36 28
4:30 PM - 4:45 PM				0	10		7	17		23	19	42	2	23		26 25
4:45 PM - 5:00 PM 5:00 PM - 5:15 PM				0	10 8		6 5	16 13		22 18	17 22	39 40	2	17 15		19 18
5:15 PM - 5:30 PM				0	7		9	16		17	24	41	7	16		23
5:30 PM - 5:45 PM 5:45 PM - 6:00 PM				0	7		3	10 5		25 19	17 18	42 37	4	27 22		31 23
3.431 W - 0.001 W				U			-	3		13	10	31	'	22		23
							zed PM Pe		,							
4:45 PM - 5:00 PM 5:00 PM - 5:15 PM	0	0	0	0	10 8	0	6 5	16 13	0	22 18	17 22	39 40	2 3	17 15	0	19 18
5:15 PM - 5:30 PM	0	0	0	0	7	0	9	16	0	17	24	41	7	16	0	23
5:30 PM - 5:45 PM	0	0	0	0	7	0	3	10	0	25	17	42	4	27	0	31
Peak Hour Total Peak 15 Minute Vol	0	0	0	0	32 10	0	23 9	55 16	0	82 25	80 24	162 42	16 7	75 27	0	91 31
Calculated PHF		N/A	N/A	N/A	0.80	N/A	0.64	0.86	N/A	0.82	0.83	0.96	0.57	0.69	N/A	0.73

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S): Route 9A
 Bleakley Avenue Route 9A
 TO 9:00 AM TO 9:00 AM TO 6:00 PM

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM TO 6:00 PM
 TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period			oound		Westbound Total Left Thru Right Total					North					bound	
Begin End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM PEAK PERIOD																
7:00 AM - 7:15 AM	22		7	29				0	1	33		34		90	11	101
7:15 AM - 7:30 AM	36		12	48				Ö	i i	26		27		81	15	96
7:30 AM - 7:45 AM	30		8	38				ō	2	45		47		96	16	112
7:45 AM - 8:00 AM	40		6	46				Ö	2	64		66		74	12	86
8:00 AM - 8:15 AM	17		10	27				o o	4	53		57		72	8	80
8:15 AM - 8:30 AM	22		6	28				o o	2	65		67		51	13	64
8:30 AM - 8:45 AM	27		5	32				ō	3	58		61		38	10	48
8:45 AM - 9:00 AM	31		6	37				o o	1	77		78		26	7	33
	-			-				-	1						•	
					1	General	ized AM Pe	ak Hour O	nly				1			1
7:30 AM - 7:45 AM	30	0	8	38	0	0	0	0	2	45	0	47	0	96	16	112
7:45 AM - 8:00 AM	40	0	6	46	0	0	0	0	2	64	0	66	0	74	12	86
8:00 AM - 8:15 AM	17	0	10	27	0	0	0	0	4	53	0	57	0	72	8	80
8:15 AM - 8:30 AM	22	0	6	28	0	0	0	0	2	65	0	67	0	51	13	64
Peak Hour Total	109	0	30	139	0	0	0	0	10	227	0	237	0	293	49	342
Peak 15 Minute Vol	40	0	10	46	0	0	0	0	4	65	0	67	0	96	16	112
Calculated PHF	0.68	N/A	0.75	0.76	N/A	N/A	N/A	N/A	0.63	0.87	N/A	0.88	N/A	0.76	0.77	0.76
PM PEAK PERIOD																
4:00 PM - 4:15 PM	21		3	24				0	3	119		122		119	12	131
4:15 PM - 4:30 PM	21		3	24				0	1	106		107		103	8	111
4:30 PM - 4:45 PM	17		4	21				0	1	98		99		87	7	94
4:45 PM - 5:00 PM	16		5	21				0	3	106		109		116	5	121
5:00 PM - 5:15 PM	15		3	18				0	4	137		141		108	10	118
5:15 PM - 5:30 PM	20		6	26				0	3	100		103		119	11	130
5:30 PM - 5:45 PM	17		1	18				0	2	113		115		93	10	103
5:45 PM - 6:00 PM	18		6	24				0	2	96		98		104	10	114
4.45.004								ak Hour O	, ,	400		400		440		404
4:45 PM - 5:00 PM	16	0	5	21	0	0	0	0	3	106	0	109	0	116	5	121
5:00 PM - 5:15 PM	15	0	3	18	0	0	0	0	4	137	0	141	0	108	10	118
5:15 PM - 5:30 PM	20	0	6	26	0	0	0	0	3 2	100	0	103	0	119	11	130
5:30 PM - 5:45 PM	17	0		18	0	0	0	0		113	0	115	0	93	10	103
Peak Hour Total	68	0	15	83	0	0	0	0	12	456	0	468	0	436	36	472
Peak 15 Minute Vol	20	0	6	26	0	0	0	0	4	137	0	141	0	119	11	130
Calculated PHF	0.85	N/A	0.63	0.80	N/A	N/A	N/A	N/A	0.75	0.83	N/A	0.83	N/A	0.92	0.82	0.91

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA
i e	

INTERSECTION INFORMATION

SURVEY DATE:		July 30, 2020
INTERSECTION:	STREET (E-W): STREET (N-S):	Continental Driveway Broadway
SURVEY PERIOD:	AM PEAK PERIOD PM PEAK PERIOD	

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastk Thru	oound Right	Total	Left	West Thru	bound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
AM PEAK PERIOD																
7:00 AM - 7:15 AM	2		0	2				0	0	35		35		14	3	17
7:15 AM - 7:30 AM	3		0	3				0	0	44		44		15	3	18
7:30 AM - 7:45 AM	4		0	4				0	0	31		31		20	2	22
7:45 AM - 8:00 AM	2		0	2				0	Ö	42		42		8	3	11
8:00 AM - 8:15 AM	3		0	3				0	0	26		26		14	4	18
8:15 AM - 8:30 AM	3		0	3				0	0	38		38		19	1	20
8:30 AM - 8:45 AM	2		0	2				0	Ö	36		36		14	i	15
8:45 AM - 9:00 AM	1		0	1				0	0	44		44		16	4	20
6.45 AIVI - 9.00 AIVI	'		U	'				U	U	***		***		10	*	20
				I	ı	Generali	zed AM Pe	ak Hour O	nly			I	ı			
7:30 AM - 7:45 AM	4	0	0	4	0	0	0	0	0	31	0	31	0	20	2	22
7:45 AM - 8:00 AM	2	0	0	2	0	0	0	0	0	42	0	42	0	8	3	11
8:00 AM - 8:15 AM	3	0	0	3	0	0	0	0	0	26	0	26	0	14	4	18
8:15 AM - 8:30 AM	3	0	0	3	0	0	0	0	0	38	0	38	0	19	1	20
Peak Hour Total	12	0	0	12	0	0	0	0	0	137	0	137	0	61	10	71
Peak 15 Minute Vol	4	0	0	4	0	0	0	0	0	42	0	42	0	20	4	22
Calculated PHF	0.75	N/A	N/A	0.75	N/A	N/A	N/A	N/A	N/A	0.82	N/A	0.82	N/A	0.76	0.63	0.81
PM PEAK PERIOD																
4:00 PM - 4:15 PM	6		0	6				0	0	12		12		39	3	42
4:15 PM - 4:30 PM	5		0	5				0	0	23		23		24	1	25
4:30 PM - 4:45 PM	1		0	1				0	0	38		38		28	1	29
4:45 PM - 5:00 PM	2		0	2				0	0	35		35		24	2	26
5:00 PM - 5:15 PM	3		0	3				0	0	37		37		20	2	22
5:15 PM - 5:30 PM	4		0	4				0	0	36		36		16	4	20
5:30 PM - 5:45 PM	1		0	1				0	0	39		39		32	1	33
5:45 PM - 6:00 PM	4		0	4				0	0	31		31		19	1	20
						Canarali	mad DM Da	ak Hour O	als:							
4:45 PM - 5:00 PM	2	0	0	2	0	Generali	Zea PIVI Pe	O O	niy I o	35	0	35	0	24	2	26
5:00 PM - 5:15 PM	3	0	0	3	0	0	0	0	0	37	0	37	0	20	2	22
5:15 PM - 5:30 PM	4	0	0	4	0	0	0	0	0	36	0	36	0	16	4	20
5:30 PM - 5:45 PM	1	0	0	1	0	0	0	0	0	39	0	39	0	32	1	33
Peak Hour Total	10	0	0	10	0	0	0	0	0	147	0	147	0	92	9	101
Peak 15 Minute Vol	4	0	0	4	0	0	0	0	0	39	0	39	0	32	4	33
Calculated PHF		N/A	N/A	0.63	N/A	N/A	N/A	N/A	N/A	0.94	N/A	0.94	N/A	0.72	0.56	0.77

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	_	July 30, 2020		
INTERSECTION:	STREET (E-W): STREET (N-S):	Entergy Main Driveway Broadway		
SURVEY PERIOD:	AM PEAK PERIOD PM PEAK PERIOD		TO TO	9:00 AM 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left		bound	Westbound Total Left Thru Right Total I				1 -4	North		Total	Left	South Thru	bound	T-4-1	
Begin End	Lett	Thru	Right	i otai	Lett	i nru	Right	i otai	Left	Thru	Right	Total	Lett	ınru	Right	Total
*** PE *** PEDIOD																
AM PEAK PERIOD			_					•	_			07				
7:00 AM - 7:15 AM	0		0	0				0	0	37		37		17	1	18
7:15 AM - 7:30 AM	0		0	0				0	1	46		47		18	3	21
7:30 AM - 7:45 AM	0		0	0				0	0	35		35		22	3	25
7:45 AM - 8:00 AM	1		0	1				0	0	44		44		11	4	15
8:00 AM - 8:15 AM	1		0	1				0	0	29		29		18	0	18
8:15 AM - 8:30 AM	2		1	3				0	1	40		41		19	3	22
8:30 AM - 8:45 AM	0		0	0				0	1	37		38		15	3	18
8:45 AM - 9:00 AM	0		0	0				0	0	45		45		20	4	24
						Generali	zed AM Pe	ak Hour O	nly							
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	35	0	35	0	22	3	25
7:45 AM - 8:00 AM	1	0	0	1	0	0	0	0	0	44	0	44	0	11	4	15
8:00 AM - 8:15 AM	1	0	0	1	0	0	0	0	0	29	0	29	0	18	0	18
8:15 AM - 8:30 AM	2	0	1	3	0	0	0	0	1	40	0	41	0	19	3	22
Peak Hour Total	4	0	1	5	0	0	0	0	1	148	0	149	0	70	10	80
Peak 15 Minute Vol	2	0	1	3	Ö	0	0	Ō	1	44	0	44	Ō	22	4	25
Calculated PHF		N/A	0.25	0.42	N/A	N/A	N/A	N/A	0.25	0.84	N/A	0.85	N/A	0.80	0.63	0.80
PM PEAK PERIOD																
4:00 PM - 4:15 PM	9		0	9				0	0	18		18		42	6	48
4:15 PM - 4:30 PM	5		0	5				0	0	28		28		25	5	30
4:30 PM - 4:45 PM	3		0	3				0	0	39		39		29	4	33
4:45 PM - 5:00 PM	3		Ô	3				Ô	1	36		37		26	1	27
5:00 PM - 5:15 PM	2		1	3				ŏ	2	38		40		21	2	23
5:15 PM - 5:30 PM	1		ò	1				0	0	40		40		20	3	23
5:30 PM - 5:45 PM	2		0	2				0	0	40		40		33	1	34
5:45 PM - 6:00 PM	3		0	3				0	1	34		35		20	3	23
5.45 FW - 0.00 FW	3		U	3				U		34		33		20	3	23
						Generali	zod DM Do	ak Hour O	nlv							
4:45 PM - 5:00 PM	3	0	0	3	0	0	O O	0	1 1	36	0	37	0	26	1	27
5:00 PM - 5:15 PM	2	0	1	3	0	0	0	0	2	38	0	40	0	21	2	23
5:15 PM - 5:30 PM	1	0	0	1	0	0	0	0	0	36 40	0	40	0	20	3	23
5:15 PM - 5:30 PM 5:30 PM - 5:45 PM	2	0	0	2	0	0	0	0	0	40 40	0	40	0	33	3 1	23 34
Peak Hour Total	8	0	1	9	0	0	0	0	3	154	0	157	0	100	7	107
Peak 15 Minute Vol	3	0	1	3	0	0	0	0	2	40	0	40	0	33	3	34
Calculated PHF	0.67	N/A	0.25	0.75	N/A	N/A	N/A	N/A	0.38	0.96	N/A	0.98	N/A	0.76	0.58	0.79

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

INTERSECTION: STREET (E-W): Welcher Avenue
STREET (N-S): Route 9A/Route 9 Southbound Off-Ramp

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM
 TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastk Thru	oound Right	Total	Left	West	oound Right	Total	Left	Northi Thru	bound Right	Total	Left	South Thru	bound Right	Total
			g	. o.u.				. ota.	20.1			. ota.				. ota.
AM PEAK PERIOD																
7:00 AM - 7:15 AM		9	7	16	50	7		57	0		38	38	11	75	20	106
7:15 AM - 7:15 AM		10	6	16	60	7		67	0		38	38	11	75 76	22	100
7:30 AM - 7:45 AM		6	7	13	74	5		79	0		52	52	19	65	8	92
7:45 AM - 8:00 AM		4	1	5	59	11		70	0		72	72	12	63	19	94
8:00 AM - 8:15 AM		6	10	16	43	7		50	0		53	53	8	57	9	74
8:15 AM - 8:30 AM		8	4	12	36	5		41	2		62	64	13	57	8	78
8:30 AM - 8:45 AM		9	7	16	42	7		49	2		57	59	9	39	7	55
8:45 AM - 9:00 AM		9	3	12	40	15		55	3		77	80	15	28	7	50
0.107411 0.007411		•	•					•				00			•	
ļ	1					Generali	zed AM Pe	ak Hour O	nlv							
7:30 AM - 7:45 AM	0	6	7	13	74	5	0	79	0	0	52	52	19	65	8	92
7:45 AM - 8:00 AM	0	4	1	5	59	11	0	70	0	0	72	72	12	63	19	94
8:00 AM - 8:15 AM	0	6	10	16	43	7	0	50	0	0	53	53	8	57	9	74
8:15 AM - 8:30 AM	0	8	4	12	36	5	Ō	41	2	0	62	64	13	57	8	78
Peak Hour Total	0	24	22	46	212	28	0	240	2	0	239	241	52	242	44	338
Peak 15 Minute Vol	0	8	10	16	74	11	0	79	2	0	72	72	19	65	19	94
Calculated PHF	N/A	0.75	0.55	0.72	0.72	0.64	N/A	0.76	0.25	N/A	0.83	0.84	0.68	0.93	0.58	0.90
PM PEAK PERIOD																
4:00 PM - 4:15 PM		8	12	20	59	15		74	4		123	127	12	68	14	94
4:15 PM - 4:30 PM		20	5	25	50	18		68	1		114	115	26	62	16	104
4:30 PM - 4:45 PM		5	5	10	40	12		52	2		95	97	13	56	18	87
4:45 PM - 5:00 PM		17	9	26	60	13		73	4		103	107	10	56	13	79
5:00 PM - 5:15 PM		28	9	37	49	11		60	0		140	140	9	70	16	95
5:15 PM - 5:30 PM		12	5	17	63	13		76	0		105	105	15	73	13	101
5:30 PM - 5:45 PM		26	2	28	57	20		77	0		117	117	14	52	11	77
5:45 PM - 6:00 PM		11	9	20	52	14		66	0		100	100	25	60	17	102
									<u> </u>							
								ak Hour O	, ,							
4:45 PM - 5:00 PM	0	17	9	26	60	13	0	73	4	0	103	107	10	56	13	79
5:00 PM - 5:15 PM	0	28	9	37	49	11	0	60	0	0	140	140	9	70	16	95
5:15 PM - 5:30 PM	0	12	5	17	63	13	0	76	0	0	105	105	15	73	13	101
5:30 PM - 5:45 PM	0	26	2	28	57	20	0	77	0	0	117	117	14	52	11	77
Peak Hour Total	0	83	25	108	229	57	0	286	4	0	465	469	48	251	53	352
Peak 15 Minute Vol	0	28	9	37	63	20	0	77	4	0	140	140	15	73	16	101
Calculated PHF	N/A	0.74	0.69	0.73	0.91	0.71	N/A	0.93	0.25	N/A	0.83	0.84	0.80	0.86	0.83	0.87

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Welcher Avenue Route 9 Northbound Ramps

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastk Thru	oound Right	Total	Left	Westl Thru	oound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
Begin End	Leit	HIIIU	Rigiit	TOTAL	Leit	Illiu	Rigiit	TOLAI	Leit	IIIIu	Rigiit	TOtal	Leit	HIIIU	Rigiii	TOTAL
AM PEAK PERIOD																ŀ
7:00 AM - 7:15 AM	30	30		60		40	13	55	15	0	20	35				0
7:15 AM - 7:15 AM	29	30		60 59		42 52	14	66	15	0	20	35				0
7:30 AM - 7:45 AM	51	26		59 77		64	18	82	15	0	8	23				0
7:45 AM - 8:00 AM	52	36		88		56	28	84	14	0	o 18	32				0
8:00 AM - 8:15 AM	46	21		67		44	13	57	6	0	12	18				0
8:15 AM - 8:30 AM	43	40		83		29	12	41	12	0	6	18				0
8:30 AM - 8:45 AM	43	31		63 75		34	7	41	15	0	6	21				0
8:45 AM - 9:00 AM	60	41		101		31	7 19	50	24	0	3	27				0
6.45 AIVI - 9.00 AIVI	60	41		101		31	19	50	24	U	3	21				U
					l	0"	! AM D-	ak Hour O					l			
7:30 AM - 7:45 AM	E4	26	0	77	1 0	Generali 64	zea AW Pe			_		22		_	_	
7:45 AM - 8:00 AM	51 52	36	0	77 88	0	56	28	82 84	15 14	0	8 18	23 32	0	0	0	0
					_								_		-	
8:00 AM - 8:15 AM	46	21	0	67	0	44	13	57	6	0	12	18	0	0	0	0
8:15 AM - 8:30 AM	43	40		83	0	29	12	41	12	0	6	18	0	0	0	0
Peak Hour Total	192	123	0	315	0	193	71	264	47	0	44	91	0	0	0	0
Peak 15 Minute Vol	52	40	0	88	0	64	28	84	15	0	18	32	0	0	0	0
Calculated PHF	0.92	0.77	N/A	0.89	N/A	0.75	0.63	0.79	0.78	N/A	0.61	0.71	N/A	N/A	N/A	N/A
DIA DE MA DEDIGO									,							
PM PEAK PERIOD				4.40												
4:00 PM - 4:15 PM	92	51		143		50	26	76	24	0	26	50				0
4:15 PM - 4:30 PM	85	75		160		40	24	64	28	0	18	46				0
4:30 PM - 4:45 PM	94	19		113		36	22	58	16	0	30	46				0
4:45 PM - 5:00 PM	78	52		130		48	24	72	25	0	34	59				0
5:00 PM - 5:15 PM	93	84		177		38	26	64	22	0	21	43				0
5:15 PM - 5:30 PM	79	53		132		54	22	76	22	0	45	67				0
5:30 PM - 5:45 PM	74	83		157		61	29	90	16	0	22	38				0
5:45 PM - 6:00 PM	66	70		136		53	20	73	13	0	18	31				0
					J.				<u> </u>							
								ak Hour O								
4:45 PM - 5:00 PM	78	52	0	130	0	48	24	72	25	0	34	59	0	0	0	0
5:00 PM - 5:15 PM	93	84	0	177	0	38	26	64	22	0	21	43	0	0	0	0
5:15 PM - 5:30 PM	79	53	0	132	0	54	22	76	22	0	45	67	0	0	0	0
5:30 PM - 5:45 PM	74	83	0	157	0	61	29	90	16	0	22	38	0	0	0	0
Peak Hour Total	324	272	0	596	0	201	101	302	85	0	122	207	0	0	0	0
Peak 15 Minute Vol	93	84	0	177	0	61	29	90	25	0	45	67	0	0	0	0
Calculated PHF	0.87	0.81	N/A	0.84	N/A	0.82	0.87	0.84	0.85	N/A	0.68	0.77	N/A	N/A	N/A	N/A

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S): Route 9 Southbound On-Ramp Route 9A

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD 4:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastb Thru	oound Right	Total	Westbound otal Left Thru Right Total					Northi Thru	bound Right	Total	Left	South Thru	bound Right	Total
Begin Enu	Leit	IIIIu	Rigiit	TOTAL	Leit	HIII	Rigiit	I Otal	Left	HIIIU	Rigiit	TOtal	Leit	IIIIu	Rigiii	i Otai
AM PEAK PERIOD																
7:00 AM - 7:15 AM	0	1	0	1				0	0	38	17	55	31	101	0	132
7:15 AM - 7:30 AM	1	0	5	6				0	3	37	22	62	51	91	0	142
7:30 AM - 7:45 AM	1	0	2	3				0	1	51	23	75	36	110	0	146
7:45 AM - 8:00 AM	0	0	3	3				0	2	72	30	104	40	83	0	123
8:00 AM - 8:15 AM	1	1	1	3				0	1	52	17	70	31	79	0	110
8:15 AM - 8:30 AM	0	0	0	0				0	0	64	23	87	33	64	0	97
8:30 AM - 8:45 AM	0	0	1	1				0	1	59	25	85	41	47	0	88
8:45 AM - 9:00 AM	0	0	2	2				0	2	80	26	108	40	31	0	71
				•	•			ak Hour O	nly			•	•			•
7:30 AM - 7:45 AM	1	0	2	3	0	0	0	0	1	51	23	75	36	110	0	146
7:45 AM - 8:00 AM	0	0	3	3	0	0	0	0	2	72	30	104	40	83	0	123
8:00 AM - 8:15 AM	1	1	1	3	0	0	0	0	1	52	17	70	31	79	0	110
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	64	23	87	33	64	0	97
Peak Hour Total	2	1	6	9	0	0	0	0	4	239	93	336	140	336	0	476
Peak 15 Minute Vol	1	1	3	3	0	0	0	0	2	72	30	104	40	110	0	146
Calculated PHF	0.50	0.25	0.50	0.75	N/A	N/A	N/A	N/A	0.50	0.83	0.78	0.81	0.88	0.76	N/A	0.82
PM PEAK PERIOD	1			Ī	ı			Ī	1			Ī	1			ī
4:00 PM - 4:15 PM	0	4	0	1				0	0	127	13	140	7	131	1	139
4:15 PM - 4:30 PM	0	0	0	0				0	0	115	12	127	6	111	0	117
4:30 PM - 4:45 PM	2	0	0	2				0	0	95	20	115	6	94	1	101
4:45 PM - 5:00 PM	1	0	1	2				0	1	106	15	122	5	120	0	125
5:00 PM - 5:15 PM	0	1	4	2				0	2	140	10	152	11	117	0	128
5:15 PM - 5:30 PM	1	Ó	0	1				0	1	104	15	120	11	130	0	141
5:30 PM - 5:45 PM	0	0	0	0				0	Ö	117	13	130	8	103	0	111
5:45 PM - 6:00 PM	0	0	0	0				0	0	100	14	114	7	114	0	121
5.45 PW - 6.00 PW	U	U	U	U				U	U	100	14	114	'	114	U	121
						Generali	zed PM Pe	ak Hour O	nly				l			<u> </u>
4:45 PM - 5:00 PM	1	0	1	2	0	0	0	0	1	106	15	122	5	120	0	125
5:00 PM - 5:15 PM	0	1	1	2	0	0	0	0	2	140	10	152	11	117	0	128
5:15 PM - 5:30 PM	1	0	0	1	0	0	0	0	1	104	15	120	11	130	0	141
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	117	13	130	8	103	0	111
Peak Hour Total	2	1	2	5	0	0	0	0	4	467	53	524	35	470	0	505
Peak 15 Minute Vol	1	1	1	2	0	0	0	0	2	140	15	152	11	130	0	141
Calculated PHF	0.50	0.25	0.50	0.63	N/A	N/A	N/A	N/A	0.50	0.83	0.88	0.86	0.80	0.90	N/A	0.90

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Route 9 (Jans Peeck Bridge)
 Route 9 / Bear Mountain Parkway

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastk Thru	oound Right	Total	Left	West Thru	bound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
Begin Enu	Leit	HIII	Rigiit	TOLAI	Leit	HIIIU	Rigiit	TOLAI	Leit	HIII	Rigiit	TOTAL	Leit	HIII	Rigiit	TOTAL
AM PEAK PERIOD																
7:00 AM - 7:15 AM	30		155	185				0	113	55		168		76	41	117
7:15 AM - 7:13 AM	41		178	219				0	121	47		168		70	35	105
7:30 AM - 7:45 AM	27		201	228				0	106	70		176		68	36	103
7:45 AM - 8:00 AM	31		217	248				0	99	73		172		77	40	117
8:00 AM - 8:15 AM	33		206	239				0	131	63		194		90	41	131
8:15 AM - 8:30 AM	25		233	258				0	146	76		222		83	55	138
8:30 AM - 8:45 AM	27		241	268				0	137	64		201		80	50	130
8:45 AM - 9:00 AM	36		201	237				0	140	80		220		80	41	121
0.43 AW - 3.00 AW	30		201	237				U	140	00		220		00	41	121
					1	General	ized AM Pe	ak Hour O	nlv				1			
7:30 AM - 7:45 AM	27	0	201	228	0	0	0	0	106	70	0	176	0	68	36	104
7:45 AM - 8:00 AM	31	Ö	217	248	0	0	0	0	99	73	Ö	172	Ö	77	40	117
8:00 AM - 8:15 AM	33	0	206	239	0	0	0	0	131	63	Ö	194	0	90	41	131
8:15 AM - 8:30 AM	25	0	233	258	0	0	0	0	146	76	Ô	222	0	83	55	138
Peak Hour Total	116	0	857	973	0	0	0	0	482	282	0	764	0	318	172	490
Peak 15 Minute Vol	33	0	233	258	0	0	0	0	146	76	ő	222	0	90	55	138
Calculated PHF	0.88	N/A	0.92	0.94	N/A	N/A	N/A	N/A	0.83	0.93	N/A	0.86	N/A	0.88	0.78	0.89
PM PEAK PERIOD																
4:00 PM - 4:15 PM	47		181	228				0	177	91		268		101	26	127
4:15 PM - 4:30 PM	78		166	244				0	166	87		253		95	30	125
4:30 PM - 4:45 PM	73		159	232				0	199	88		287		103	36	139
4:45 PM - 5:00 PM	65		178	243				0	201	95		296		87	17	104
5:00 PM - 5:15 PM	61		223	284				0	222	103		325		110	18	128
5:15 PM - 5:30 PM	76		241	317				0	228	111		339		103	20	123
5:30 PM - 5:45 PM	70		231	301				0	213	87		300		90	23	113
5:45 PM - 6:00 PM	59		179	238				0	207	105		312		91	31	122
												-				
					•	General	ized PM Pe	ak Hour O	nly			-	•			
4:45 PM - 5:00 PM	65	0	178	243	0	0	0	0	201	95	0	296	0	87	17	104
5:00 PM - 5:15 PM	61	0	223	284	0	0	0	0	222	103	0	325	0	110	18	128
5:15 PM - 5:30 PM	76	0	241	317	0	0	0	0	228	111	0	339	0	103	20	123
5:30 PM - 5:45 PM	70	0	231	301	0	0	0	0	213	87	0	300	0	90	23	113
Peak Hour Total	272	0	873	1145	0	0	0	0	864	396	0	1260	0	390	78	468
Peak 15 Minute Vol	76	0	241	317	0	0	0	0	228	111	0	339	0	110	23	128
Calculated PHF	0.89	N/A	0.91	0.90	N/A	N/A	N/A	N/A	0.95	0.89	N/A	0.93	N/A	0.89	0.85	0.91
Calculated PHF	0.89	N/A	0.91	0.90	N/A	N/A	N/A	N/A	0.95	0.89	N/A	0.93	N/A	0.89	0.85	0.91

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 July 30, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Route 9 Southbound Ramps Route 6

 SURVEY PERIOD:
 AM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD PM PEAK PERIOD
 7:00 AM 4:00 PM TO 6:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period Begin End	Left	Eastl Thru	oound Right	Total	Left	Westl Thru	bound Right	Total	Left	North Thru	bound Right	Total	Left	South Thru	bound Right	Total
AM PEAK PERIOD																
7:00 AM - 7:15 AM				0	10		2	12		5	31	36	2	7		9
7:15 AM - 7:30 AM				Ō	12		3	15		6	35	41	1	6		7
7:30 AM - 7:45 AM				0	13		1	14		4	38	42	3	5		8
7:45 AM - 8:00 AM				0	8		4	12		4	33	37	1	3		4
8:00 AM - 8:15 AM				0	11		2	13		5	40	45	3	8		11
8:15 AM - 8:30 AM				0	10		2	12		5	37	42	1	2		3
8:30 AM - 8:45 AM				0	10		2	12		3	34	37	2	4		6
8:45 AM - 9:00 AM				0	9		2	11		4	30	34	3	1		4
						Generali	zed AM Pe	ak Hour O	nlv							
7:30 AM - 7:45 AM	0	0	0	0	13	0	1	14	0	4	38	42	3	5	0	8
7:45 AM - 8:00 AM	0	0	0	0	8	0	4	12	0	4	33	37	1	3	0	4
8:00 AM - 8:15 AM	0	0	0	0	11	0	2	13	0	5	40	45	3	8	0	11
8:15 AM - 8:30 AM	0	0	0	0	10	0	2	12	0	5	37	42	1	2	0	3
Peak Hour Total	0	0	0	0	42	0	9	51	0	18	148	166	8	18	0	26
Peak 15 Minute Vol	0	0	0	0	13	0	4	14	0	5	40	45	3	8	0	11
Calculated PHF	N/A	N/A	N/A	N/A	0.81	N/A	0.56	0.91	N/A	0.90	0.93	0.92	0.67	0.56	N/A	0.59
PM PEAK PERIOD				T	1				T							ı
4:00 PM - 4:15 PM				0	12		3	15		5	20	25	4	5		9
4:15 PM - 4:30 PM				0	13		2	15		6	17	23	3	4		7
4:30 PM - 4:45 PM				0	15		1	16		4	16	20	2	3		5
4:45 PM - 5:00 PM				0	10		3	13		7	10	17	2	8		10
5:00 PM - 5:15 PM				0	14		4	18		4	17	21	2	2		4
5:15 PM - 5:30 PM				0	13		3	16		3	14	17	4	3		7
5:30 PM - 5:45 PM				0	17		1	18		3	15	18	1	4		5
5:45 PM - 6:00 PM				0	10		3	13		3	27	30	1	4		5
0.001111				ŭ								00		•		
								ak Hour O								
4:45 PM - 5:00 PM	0	0	0	0	10	0	3	13	0	7	10	17	2	8	0	10
5:00 PM - 5:15 PM	0	0	0	0	14	0	4	18	0	4	17	21	2	2	0	4
5:15 PM - 5:30 PM	0	0	0	0	13	0	3	16	0	3	14	17	4	3	0	7
5:30 PM - 5:45 PM	0	0	0	0	17	0	1	18	0	3	15	18	1	4	0	5
Peak Hour Total	0	0	0	0	54	0	11	65	0	17	56	73	9	17	0	26
Peak 15 Minute Vol	0	0	0	0	17	0	4	18	0	7	17	21	4	8	0	10
Calculated PHF	N/A	N/A	N/A	N/A	0.79	N/A	0.69	0.90	N/A	0.61	0.82	0.87	0.56	0.53	N/A	0.65

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA
i e	

INTERSECTION INFORMATION

SURVEY DATE:		July 30, 2020
INTERSECTION:	STREET (E-W): STREET (N-S):	Route 6 Route 9 Northbound Ramps
SURVEY PERIOD:	AM PEAK PERIOD PM PEAK PERIOD	7:00 AM TO 9:00 AM 4:00 PM TO 6:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate

Time Period			bound				bound				bound				bound	
Begin End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
AM PEAK PERIOD																
7:00 AM - 7:15 AM	5	12		17		37	18	55				0	26		0	26
7:15 AM - 7:30 AM	4	14		18		41	21	62				0	25		2	27
7:30 AM - 7:45 AM	6	12		18		42	18	60				0	27		1	28
7:45 AM - 8:00 AM	5	6		11		37	15	52				0	30		0	30
8:00 AM - 8:15 AM	6	13		19		45	17	62				0	31		0	31
8:15 AM - 8:30 AM	4	8		12		40	11	51				0	35		1	36
8:30 AM - 8:45 AM	3	11		14		37	10	47				0	30		4	34
8:45 AM - 9:00 AM	2	8		10		27	13	40				0	31		3	34
								ak Hour O	,							
7:30 AM - 7:45 AM	6	12	0	18	0	42	18	60	0	0	0	0	27	0	1	28
7:45 AM - 8:00 AM	5	6	0	11	0	37	15	52	0	0	0	0	30	0	0	30
8:00 AM - 8:15 AM	6	13	0	19	0	45	17	62	0	0	0	0	31	0	0	31
8:15 AM - 8:30 AM	4	8	0	12	0	40	11	51	0	0	0	0	35	0	1	36
Peak Hour Total	21	39	0	60	0	164	61	225	0	0	0	0	123	0	2	125
Peak 15 Minute Vol	6	13	0	19	0	45	18	62	0	0	0	0	35	0	1	36
Calculated PHF	0.88	0.75	N/A	0.79	N/A	0.91	0.85	0.91	N/A	N/A	N/A	N/A	0.88	N/A	0.50	0.87
PM PEAK PERIOD																
4:00 PM - 4:15 PM	3	14		17		19	13	32				0	43		1	44
4:15 PM - 4:30 PM	2	15		17		22	12	34				0	37		0	37
4:30 PM - 4:45 PM	1	17		18		21	11	32				0	40		4	44
4:45 PM - 5:00 PM	2	16		18		17	17	34				0	45		2	47
5:00 PM - 5:15 PM	4	12		16		15	15	30				0	30		2	32
5:15 PM - 5:30 PM	4	12		16		17	13	30				0	40		0	40
5:30 PM - 5:45 PM	3	18		21		18	10	28				0	27		3	30
5:45 PM - 6:00 PM	2	12		14		29	10	39				0	28		0	28
								ak Hour O	nly							
4:45 PM - 5:00 PM	2	16	0	18	0	17	17	34	0	0	0	0	45	0	2	47
5:00 PM - 5:15 PM	4	12	0	16	0	15	15	30	0	0	0	0	30	0	2	32
5:15 PM - 5:30 PM	4	12	0	16	0	17	13	30	0	0	0	0	40	0	0	40
5:30 PM - 5:45 PM	3	18	0	21	0	18	10	28	0	0	0	0	27	0	3	30
Peak Hour Total	13	58	0	71	0	67	55	122	0	0	0	0	142	0	7	149
Peak 15 Minute Vol	4	18	0	21	0	18	17	34	0	0	0	0	45	0	3	47
Calculated PHF	0.81	0.81	N/A	0.85	N/A	0.93	0.81	0.90	N/A	N/A	N/A	N/A	0.79	N/A	0.58	0.79

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Lousia Street John Walsh Blvd/Park Entrance

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time F	Period		Eastb	ound			Westl	oound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY P	EAK PERIOD																
12:00 PM -		0	0	1	1	27	1	1	29	0	1	23	24	1	0	0	1
12:15 PM -	12:30 PM	Ō	1	0	1	27	0	0	27	1	Ô	20	21	0	Ō	Ō	0
12:30 PM -	12:45 PM	Ō	Ö	Ō	0	18	Ö	2	20	Ö	1	17	18	0	Ō	Ō	ō
12:45 PM -	- 1:00 PM	0	0	0	0	27	0	1	28	0	4	27	31	3	1	0	4
1:00 PM -	- 1:15 PM	0	0	1	1	28	1	0	29	0	0	23	23	2	1	0	3
1:15 PM -	1:30 PM	0	1	0	1	27	0	2	29	1	2	29	32	0	1	0	1
1:30 PM -	1:45 PM	0	0	0	0	28	0	1	29	0	1	27	28	1	0	0	1
1:45 PM -	2:00 PM	0	0	0	0	27	0	2	29	0	0	24	24	1	0	0	1
					J	Ge	neralized	Saturday F	Peak Hour (Only				ļ			
12:30 PM -	- 12:45 PM	0	0	0	0	18	0	2	20	0	1	17	18	0	0	0	0
12:45 PM -	1:00 PM	0	0	0	0	27	0	1	28	0	4	27	31	3	1	0	4
1:00 PM -	- 1:15 PM	0	0	1	1	28	1	0	29	0	0	23	23	2	1	0	3
1:15 PM -	- 1:30 PM	0	1	0	1	27	0	2	29	1	2	29	32	0	1	0	1
P	eak Hour Total	0	1	1	2	100	1	5	106	1	7	96	104	5	3	0	8
	k 15 Minute Vol	0	1	1	1	28	1	2	29	1	4	29	32	3	1	0	4
(Calculated PHF	N/A	0.25	0.25	0.50	0.89	0.25	0.63	0.91	0.25	0.44	0.83	0.81	0.42	0.75	N/A	0.50

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Louisa Street Route 9 Southbound Ramps

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time F	Period		Eastb	ound		Westbound				Northbound				Southbound			
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY P	EAK PERIOD																
	12:15 PM		36	23	59	1	17		18				0	1	0	33	34
12:15 PM -	- 12:30 PM		26	25	51	0	23		23				0	0	0	31	31
12:30 PM -	- 12:45 PM		31	27	58	0	19		19				0	0	0	37	37
12:45 PM -	1:00 PM		30	30	60	0	20		20				0	0	0	30	30
1:00 PM -	- 1:15 PM		27	31	58	2	15		17				0	0	0	31	31
1:15 PM -	- 1:30 PM		25	31	56	0	24		24				0	0	0	35	35
1:30 PM -	- 1:45 PM		31	21	52	1	26		27				0	0	0	31	31
1:45 PM -	- 2:00 PM		27	27	54	0	25		25				0	0	0	27	27
						Ge	neralized	Saturday F	eak Hour (Only							
12:30 PM -	- 12:45 PM	0	31	27	58	0	19	0	19	0	0	0	0	0	0	37	37
12:45 PM -	1:00 PM	0	30	30	60	0	20	0	20	0	0	0	0	0	0	30	30
1:00 PM -	- 1:15 PM	0	27	31	58	2	15	0	17	0	0	0	0	0	0	31	31
1:15 PM -	- 1:30 PM	0	25	31	56	0	24	0	24	0	0	0	0	0	0	35	35
	Peak Hour Total	0	113	119	232	2	78	0	80	0	0	0	0	0	0	133	133
	k 15 Minute Vol	0	31	31	60	2	24	0	24	0	0	0	0	0	0	37	37
(Calculated PHF	N/A	0.91	0.96	0.97	0.25	0.81	N/A	0.83	N/A	N/A	N/A	N/A	N/A	N/A	0.90	0.90

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020		
INTERSECTION:	STREET (E-W): Louisa Street STREET (N-S): Route 9 North	bound Ramps	
SURVEY PERIOD:	SATURDAY PEAK PERIOD	12:00 PM TO	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time F	Period		Eastb	ound			Westl	ound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY P	FAK PERIOD																
12:00 PM -		37			37				0	18	0		18				0
12:15 PM -		26			26				0	23	Ō		23				ō
12:30 PM -	12:45 PM	31			31				0	19	0		19				0
12:45 PM -	1:00 PM	30			30				0	20	4		24				0
1:00 PM -	1:15 PM	27			27				0	17	0		17				0
1:15 PM -	1:30 PM	25			25				0	24	1		25				0
1:30 PM -	1:45 PM	31			31				0	27	0		27				0
1:45 PM -	2:00 PM	27			27				0	25	0		25				0
						Ge	neralized	Saturday F	Peak Hour (Only				J.			
12:30 PM -	12:45 PM	31	0	0	31	0	0	0	0	19	0	0	19	0	0	0	0
12:45 PM -	1:00 PM	30	0	0	30	0	0	0	0	20	4	0	24	0	0	0	0
1:00 PM -	1:15 PM	27	0	0	27	0	0	0	0	17	0	0	17	0	0	0	0
1:15 PM -	1:30 PM	25	0	0	25	0	0	0	0	24	1	0	25	0	0	0	0
Р	eak Hour Total	113	0	0	113	0	0	0	0	80	5	0	85	0	0	0	0
	k 15 Minute Vol	31	0	0	31	0	0	0	0	24	4	0	25	0	0	0	0
C	Calculated PHF	0.91	N/A	N/A	0.91	N/A	N/A	N/A	N/A	0.83	0.31	N/A	0.85	N/A	N/A	N/A	N/A

 PROJECT NAME:
 Port Cortlandt

 PROJECT NO:
 190365

 DATE:
 September 10, 2020

 ANALYST:
 AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S): Lower South Street

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time F	Period		Eastb	ound			Westl	oound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY P	EAK PERIOD																
12:00 PM -		3	55	1	59	1	46	2	49	3	2	1	6	2	1	2	5
12:15 PM -	12:30 PM	4	45	2	51	4	51	3	58	4	3	2	9	3	4	3	10
12:30 PM -	12:45 PM	4	54	0	58	3	52	1	56	4	1	3	8	4	3	4	11
12:45 PM -	1:00 PM	6	51	3	60	2	46	1	49	3	4	4	11	5	2	5	12
1:00 PM -	1:15 PM	3	53	2	58	0	43	2	45	2	3	4	9	5	0	4	9
1:15 PM -	1:30 PM	3	52	1	56	1	53	4	58	4	2	5	11	6	1	1	8
1:30 PM -	1:45 PM	2	46	4	52	2	52	1	55	2	1	4	7	6	2	4	12
1:45 PM -	- 2:00 PM	1	52	1	54	1	50	2	53	1	2	1	4	6	1	4	11
						Ge	neralized	Saturday F	Peak Hour	Only							
12:30 PM -	- 12:45 PM	4	54	0	58	3	52	1	56	4	1	3	8	4	3	4	11
12:45 PM -	1:00 PM	6	51	3	60	2	46	1	49	3	4	4	11	5	2	5	12
1:00 PM -	1:15 PM	3	53	2	58	0	43	2	45	2	3	4	9	5	0	4	9
1:15 PM -	- 1:30 PM	3	52	1	56	1	53	4	58	4	2	5	11	6	1	1	8
P	eak Hour Total	16	210	6	232	6	194	8	208	13	10	16	39	20	6	14	40
	k 15 Minute Vol	6	54	3	60	3	53	4	58	4	4	5	11	6	3	5	12
(Calculated PHF	0.67	0.97	0.50	0.97	0.50	0.92	0.50	0.90	0.81	0.63	0.80	0.89	0.83	0.50	0.70	0.83

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020				
INTERSECTION:	STREET (E-W): STREET (N-S):	Bleakley Avenue Broadway			
SURVEY PERIOD:	SATURDAY PEAK	(PERIOD	12:00 PM	то _	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time I	Period		Eastb	ound			Westl	oound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY	PEAK PERIOD																
	- 12:15 PM				0	3		6	9		15	13	28	2	14		16
	- 12:30 PM				0	4		5	g		10	19	29	3	14		17
12:30 PM	- 12:45 PM				0	1		4	5		16	11	27	4	14		18
12:45 PM	- 1:00 PM				0	7		5	12		22	9	31	4	22		26
1:00 PM	- 1:15 PM				Ō	2		4	6		19	12	31	1	18		19
1:15 PM	- 1:30 PM				0	4		8	12		17	10	27	2	19		21
1:30 PM	- 1:45 PM				0	3		5	8		12	8	20	2	18		20
1:45 PM	- 2:00 PM				0	4		4	8		17	17	34	6	19		25
						Ge	neralized	Saturday F	Peak Hour	Only							
12:30 PM	- 12:45 PM	0	0	0	0	1	0	4	5	0	16	11	27	4	14	0	18
12:45 PM	- 1:00 PM	0	0	0	0	7	0	5	12	0	22	9	31	4	22	0	26
1:00 PM	- 1:15 PM	0	0	0	0	2	0	4	6	0	19	12	31	1	18	0	19
1:15 PM	- 1:30 PM	0	0	0	0	4	0	8	12	0	17	10	27	2	19	0	21
F	Peak Hour Total	0	0	0	0	14	0	21	35	0	74	42	116	11	73	0	84
Peal	k 15 Minute Vol	0	0	0	0	7	0	8	12	0	22	12	31	4	22	0	26
(Calculated PHF	N/A	N/A	N/A	N/A	0.50	N/A	0.66	0.73	N/A	0.84	0.88	0.94	0.69	0.83	N/A	0.81

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020				
INTERSECTION:	STREET (E-W): STREET (N-S):	Bleakley Avenue Route 9A			
SURVEY PERIOD:	SATURDAY PEAK	(PERIOD	12:00 PM	то _	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time I	Period		Eastb	ound			Westk	ound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
CATUDDAY	PEAK PERIOD																
	- 12:15 PM	10		10	20				0	2	56		58		95	2	97
									0	2						3	
12:15 PM	- 12:30 PM	23		14	37				U	2	57		59		115	3	118
12:30 PM	- 12:45 PM	12		13	25				0	1	65		66		98	4	102
12:45 PM	- 1:00 PM	10		10	20				0	1	62		63		83	5	88
1:00 PM	- 1:15 PM	10		16	26				0	1	65		66		85	6	91
1:15 PM	- 1:30 PM	10		15	25				0	3	68		71		82	7	89
1:30 PM	- 1:45 PM	11		11	22				0	3	55		58		88	6	94
1:45 PM	- 2:00 PM	14		14	28				0	2	58		60		93	6	99
						Ge	neralized	Saturday F	Peak Hour (Only							
12:30 PM	- 12:45 PM	12	0	13	25	0	0	0	0	1	65	0	66	0	98	4	102
12:45 PM	- 1:00 PM	10	0	10	20	0	0	0	0	1	62	0	63	0	83	5	88
1:00 PM	- 1:15 PM	10	0	16	26	0	0	0	0	1	65	0	66	0	85	6	91
1:15 PM	- 1:30 PM	10	0	15	25	0	0	0	0	3	68	0	71	0	82	7	89
	Peak Hour Total	42	0	54	96	0	0	0	0	6	260	0	266	0	348	22	370
Peal	k 15 Minute Vol	12	0	16	26	0	0	0	0	3	68	0	71	0	98	7	102
(Calculated PHF	0.88	N/A	0.84	0.92	N/A	N/A	N/A	N/A	0.50	0.96	N/A	0.94	N/A	0.89	0.79	0.91

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020			
INTERSECTION:		tinental Driveway adway		
SURVEY PERIOD:	SATURDAY PEAK PERI	12:00 PM	то	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time	Period		Eacth	ound			Weetl	oound			North	bound			South	hound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY I	PEAK PERIOD																
12:00 PM	- 12:15 PM	0		0	0				0	0	29		29		15	1	16
12:15 PM	- 12:30 PM	1		0	1				0	0	28		28		17	0	17
12:30 PM	- 12:45 PM	1		0	1				0	0	24		24		9	2	11
12:45 PM	- 1:00 PM	0		0	0				0	0	31		31		26	3	29
1:00 PM	- 1:15 PM	1		0	1				0	0	30		30		18	1	19
1:15 PM	- 1:30 PM	0		0	0				0	0	25		25		22	1	23
1:30 PM	- 1:45 PM	1		0	1				0	0	19		19		19	2	21
1:45 PM	- 2:00 PM	0		0	0				0	0	34		34		22	1	23
					-	Ge	neralized	Saturday F	Peak Hour	Only							
12:30 PM	- 12:45 PM	1	0	0	1	0	0	0	0	0	24	0	24	0	9	2	11
12:45 PM	- 1:00 PM	0	0	0	0	0	0	0	0	0	31	0	31	0	26	3	29
1:00 PM	- 1:15 PM	1	0	0	1	0	0	0	0	0	30	0	30	0	18	1	19
1:15 PM	- 1:30 PM	0	0	0	0	0	0	0	0	0	25	0	25	0	22	1	23
	Peak Hour Total	2	0	0	2	0	0	0	0	0	110	0	110	0	75	7	82
Pea	ak 15 Minute Vol	1	0	0	1	0	0	0	0	0	31	0	31	0	26	3	29
	Calculated PHF	0.50	N/A	N/A	0.50	N/A	N/A	N/A	N/A	N/A	0.89	N/A	0.89	N/A	0.72	0.58	0.71

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020				
INTERSECTION:	STREET (E-W): STREET (N-S):	Entergy Main E Broadway	Driveway		
SURVEY PERIOD:	SATURDAY PEAK	PERIOD	12:00 PM	то _	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time F	Period		Eastb	ound			Westl	ound			North	bound		Southbound				
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
SATURDAY P	FAK PERIOD																	
12:00 PM -		0		0	0				0	1	28		29		16	1	17	
12:15 PM -	12:30 PM	0		0	0				0	0	29		29		17	1	18	
12:30 PM -	12:45 PM	2		0	2				0	0	25		25		11	4	15	
12:45 PM -	1:00 PM	1		0	1				0	1	30		31		29	0	29	
1:00 PM -	1:15 PM	0		0	0				0	0	31		31		19	1	20	
1:15 PM -	1:30 PM	2		0	2				0	0	25		25		23	0	23	
1:30 PM -	1:45 PM	0		0	0				0	0	20		20		21	0	21	
1:45 PM -	2:00 PM	0		0	0				0	0	34		34		23	0	23	
						Ge	neralized	Saturday F	Peak Hour	Only								
12:30 PM -	12:45 PM	2	0	0	2	0	0	0	0	0	25	0	25	0	11	4	15	
12:45 PM -	1:00 PM	1	0	0	1	0	0	0	0	1	30	0	31	0	29	0	29	
1:00 PM -	1:15 PM	0	0	0	0	0	0	0	0	0	31	0	31	0	19	1	20	
1:15 PM -	1:30 PM	2	0	0	2	0	0	0	0	0	25	0	25	0	23	0	23	
	eak Hour Total	5	0	0	5	0	0	0	0	1	111	0	112	0	82	5	87	
	k 15 Minute Vol	2	0	0	2	0	0	0	0	1	31	0	31	0	29	4	29	
	Calculated PHF	0.63	N/A	N/A	0.63	N/A	N/A	N/A	N/A	0.25	0.90	N/A	0.90	N/A	0.71	0.31	0.75	

PROJECT NAME: PROJECT NO: DATE: ANALYST: Port Cortlandt 190365 September 10, 2020 AA

INTERSECTION INFORMATION

SURVEY DATE: August 1, 2020

STREET (E-W): STREET (N-S): INTERSECTION:

Welcher Avenue Route 9A/Route 9 Southbound Off-Ramp

SURVEY PERIOD: SATURDAY PEAK PERIOD 12:00 PM TO 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Tin Begin	ne Period End	Eastbound Left Thru Right Total			Westbound Left Thru Right Total			Northbound Left Thru Right Total				Left	Southbound Left Thru Right Total				
0.471100.4	V DE 41/ DEDIGE																
	Y PEAK PERIOD																
12:00 PM			11	14	25	40	21		61	7		50	57	8	51	7	66
12:15 PM			15	15	30	48	30		78	6		66	72	9	61	9	79
12:30 PM	- 12:45 PM		12	13	25	41	25		66	8		61	69	11	55	8	74
12:45 PM	- 1:00 PM		13	11	24	37	24		61	9		51	60	7	47	9	63
1:00 PM	- 1:15 PM		17	12	29	36	22		58	11		55	66	11	53	10	74
1:15 PM	- 1:30 PM		11	9	20	41	21		62	12		56	68	13	50	3	66
1:30 PM	- 1:45 PM		9	13	22	40	26		66	11		49	60	9	47	7	63
1:45 PM	- 2:00 PM		13	14	27	39	32		71	11		49	60	9	48	7	64
						Ge	eneralized	Saturday I	Peak Hour	Only							
12:30 PM	- 12:45 PM	0	12	13	25	41	25	0	66	8	0	61	69	11	55	8	74
12:45 PM	- 1:00 PM	0	13	11	24	37	24	0	61	9	0	51	60	7	47	9	63
1:00 PM	- 1:15 PM	0	17	12	29	36	22	0	58	11	0	55	66	11	53	10	74
1:15 PM	- 1:30 PM	0	11	9	20	41	21	0	62	12	0	56	68	13	50	3	66
	Peak Hour Total	0	53	45	98	155	92	0	247	40	0	223	263	42	205	30	277
P	Peak 15 Minute Vol	0	17	13	29	41	25	0	66	12	0	61	69	13	55	10	74
	Calculated PHF	N/A	0.78	0.87	0.84	0.95	0.92	N/A	0.94	0.83	N/A	0.91	0.95	0.81	0.93	0.75	0.94

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Welcher Avenue Route 9 Northbound Ramps

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time	Period		Eastb	ound			Westl	oound			North	bound		Southbound			
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
CATUDDAY	PEAK PERIOD																
	- 12:15 PM	30	39		69		50	10	60	11	0	7	18				0
	- 12:30 PM	33	57		90		66	10	77	12	0	8	20				0
12:15 PM							53	11			0	-	20				Ü
12:30 PM	- 12:45 PM	36	48		84			15	68	13	0	11					Ü
12:45 PM	- 1:00 PM	41	30		71		47	13	60	14	0	13	27				0
1:00 PM	- 1:15 PM	41	42		83		45	10	55	13	0	10	23				0
1:15 PM	- 1:30 PM	42	38		80		50	7	57	12	0	11	23				0
1:30 PM	- 1:45 PM	37	30		67		53	8	61	13	0	13	26				0
1:45 PM	- 2:00 PM	41	30		71		51	1	52	14	0	10	24				0
						Ge	neralized	Saturday F	Peak Hour (Only							
12:30 PM	- 12:45 PM	36	48	0	84	0	53	15	68	13	0	11	24	0	0	0	0
12:45 PM	- 1:00 PM	41	30	0	71	0	47	13	60	14	0	13	27	0	0	0	0
1:00 PM	- 1:15 PM	41	42	0	83	0	45	10	55	13	0	10	23	0	0	0	0
1:15 PM	- 1:30 PM	42	38	0	80	0	50	7	57	12	0	11	23	0	0	0	0
F	Peak Hour Total	160	158	0	318	0	195	45	240	52	0	45	97	0	0	0	0
Pea	k 15 Minute Vol	42	48	0	84	0	53	15	68	14	0	13	27	0	0	0	0
	Calculated PHF	0.95	0.82	N/A	0.95	N/A	0.92	0.75	0.88	0.93	N/A	0.87	0.90	N/A	N/A	N/A	N/A

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Belock Ave./Route 9 Southbound On-Ramp Route 9A

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time	Period		Eastl	ound			Westl	oound			North	bound		Southbound				
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
CATUDDAY	PEAK PERIOD																	
12:00 PM	- 12:15 PM	4	0	4	2				0	0	56	10	66	8	96	4	105	
		!	U		2				0	U				0		1		
12:15 PM	- 12:30 PM	1	1	1	3				0	0	71	9	80		117	0	124	
12:30 PM	- 12:45 PM	0	0	1	1				0	0	69	8	77	8	101	0	109	
12:45 PM	- 1:00 PM	0	0	0	0				0	1	60	11	72	7	88	0	95	
1:00 PM	- 1:15 PM	3	0	1	4				0	1	63	11	75	10	90	1	101	
1:15 PM	- 1:30 PM	0	1	0	1				0	0	68	10	78	11	89	0	100	
1:30 PM	- 1:45 PM	0	0	0	0				0	0	60	6	66	6	94	0	100	
1:45 PM	- 2:00 PM	1	0	1	2				0	0	59	13	72	3	98	0	101	
									-									
		•				Ge	neralized	Saturday F	Peak Hour	Only			•					
12:30 PM	- 12:45 PM	0	0	1	1	0	0	0	0	0	69	8	77	8	101	0	109	
12:45 PM	- 1:00 PM	0	0	0	0	0	0	0	0	1	60	11	72	7	88	0	95	
1:00 PM	- 1:15 PM	3	0	1	4	0	0	Ó	0	1	63	11	75	10	90	1	101	
1:15 PM	- 1:30 PM	0	1	0	1	0	0	0	0	0	68	10	78	11	89	0	100	
	Peak Hour Tota	3	1	2	6	0	0	0	0	2	260	40	302	36	368	1	405	
Pea	ak 15 Minute Vo	3	1	1	4	0	0	0	0	1	69	11	78	11	101	1	109	
	Calculated PHI	0.25	0.25	0.50	0.38	N/A	N/A	N/A	N/A	0.50	0.94	0.91	0.97	0.82	0.91	0.25	0.93	

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Route 9 (Jans Peeck Bridge) Route 9 / Bear Mountain Parkway

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time	Period		Easth	ound			Westl	oound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY	PEAK PERIOD																
	- 12:15 PM	47		137	184				0	150	47		197		46	41	87
12:15 PM	- 12:30 PM	53		141	194				0	160	49		209		55	43	98
12:30 PM	- 12:45 PM	58		161	219				0	170	55		225		70	50	120
12:45 PM	- 1:00 PM	63		135	198				0	240	67		307		46	55	101
1:00 PM	- 1:15 PM	55		141	196				0	197	68		265		66	53	119
1:15 PM	- 1:30 PM	47		155	202				0	213	66		279		70	47	117
1:30 PM	- 1:45 PM	59		161	220				0	171	71		242		55	46	101
1:45 PM	- 2:00 PM	60		141	201				0	165	61		226		53	51	104
						Ge	neralized	Saturday F	eak Hour (Only							
12:30 PM	- 12:45 PM	58	0	161	219	0	0	0	0	170	55	0	225	0	70	50	120
12:45 PM	- 1:00 PM	63	0	135	198	0	0	0	0	240	67	0	307	0	46	55	101
1:00 PM	- 1:15 PM	55	0	141	196	0	0	0	0	197	68	0	265	0	66	53	119
1:15 PM	- 1:30 PM	47	0	155	202	0	0	0	0	213	66	0	279	0	70	47	117
	Peak Hour Total	223	0	592	815	0	0	0	0	820	256	0	1,076	0	252	205	457
	ak 15 Minute Vol	63	0	161	219	0	0	0	0	240	68	0	307	0	70	55	120
	Calculated PHF	0.88	N/A	0.92	0.93	N/A	N/A	N/A	N/A	0.85	0.94	N/A	0.88	N/A	0.90	0.93	0.95

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

 SURVEY DATE:
 August 1, 2020

 INTERSECTION:
 STREET (E-W): STREET (N-S):
 Route 9 Southbound Ramps Route 6

 SURVEY PERIOD:
 SATURDAY PEAK PERIOD
 12:00 PM
 TO
 2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time I	Period		Eastb	ound			Westl	oound			North	bound			South	bound	
Begin	End	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
CATURDAY	PEAK PERIOD																
	- 12:15 PM				0	20		2	22		4	12	16	5	4		0
	- 12:30 PM				0	11		2	13		5	17	22	1	3		4
12:30 PM	- 12:45 PM				0	12		3	15		3	14	17	1	2		3
12:45 PM	- 1:00 PM				Ö	11		4	15		2	19	21	3	3		6
1:00 PM	- 1:15 PM				0	9		1	10		4	27	31	3	4		7
1:15 PM	- 1:30 PM				Ö	13		Ö	13		4	23	27	4	1		5
1:30 PM	- 1:45 PM				0	10		4	14		5	20	25	1	1		2
1:45 PM	- 2:00 PM				0	10		5	15		6	20	26	4	4		8
						Ge	neralized	Saturday F	Peak Hour (Only							
12:30 PM	- 12:45 PM	0	0	0	0	12	0	3	15	0	3	14	17	1	2	0	3
12:45 PM	- 1:00 PM	0	0	0	0	11	0	4	15	0	2	19	21	3	3	0	6
1:00 PM	- 1:15 PM	0	0	0	0	9	0	1	10	0	4	27	31	3	4	0	7
1:15 PM	- 1:30 PM	0	0	0	0	13	0	0	13	0	4	23	27	4	1	0	5
	Peak Hour Total	0	0	0	0	45	0	8	53	0	13	83	96	11	10	0	21
	k 15 Minute Vol	0	0	0	0	13	0	4	15	0	4	27	31	4	4	0	7
(Calculated PHF	N/A	N/A	N/A	N/A	0.87	N/A	0.50	0.88	N/A	0.81	0.77	0.77	0.69	0.63	N/A	0.75

PROJECT NAME:	Port Cortlandt
PROJECT NO:	190365
DATE:	September 10, 2020
ANALYST:	AA

INTERSECTION INFORMATION

SURVEY DATE:	August 1, 2020				
INTERSECTION:	STREET (E-W): STREET (N-S):	Route 6 Route 9 North	bound Ramps		
SURVEY PERIOD:	SATURDAY PEAK	PERIOD	12:00 PM	то _	2:00 PM

NOTES:

- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

Time	Period			Easth	ound			Westl	oound			North	oound			South	bound	
Begin	Er	nd	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total
SATURDAY	DEAK DE	BIOD																
	- 12:15		6	18		24		16	13	29				0	21		0	21
12:00 PM	- 12:30		6	0		14		23	11	34				0	17		0	17
12:30 PM	- 12:45		5 4	10		14		23 15	17	32				0	20		0	20
			4	10						-				0			U	
12:45 PM	- 1:00		3	11		14		20	16	36				0	23		3	26
1:00 PM	- 1:15		2	11		13		30	15	45				0	15		3	18
1:15 PM	- 1:30		1	13		14		27	11	38				0	30		0	30
1:30 PM	- 1:45		3	8		11		21	10	31				0	11		0	11
1:45 PM	- 2:00	PM	1	13		14		21	11	32				0	19		0	19
									0-1		3t							
10.00 011	40.4	- D14		- 10			GE			Peak Hour (Jniy							
12:30 PM	- 12:45		4	10	0	14	0	15	17	32	0	0	0	0	20	0	0	20
12:45 PM	- 1:00		3	11	0	14	0	20	16	36	0	0	0	0	23	0	3	26
1:00 PM	- 1:15		2	11	0	13	0	30	15	45	0	0	0	0	15	0	3	18
1:15 PM	- 1:30		1	13	0	14	0	27	11	38	0	0	0	0	30	0	0	30
	Peak Hou		10	45	0	55	0	92	59	151	0	0	0	0	88	0	6	94
Pea	ak 15 Mini	ute Vol	4	13	0	14	0	30	17	45	0	0	0	0	30	0	3	30
	Calculate	d PHF	0.63	0.87	N/A	0.98	N/A	0.77	0.87	0.84	N/A	N/A	N/A	N/A	0.73	N/A	0.50	0.78

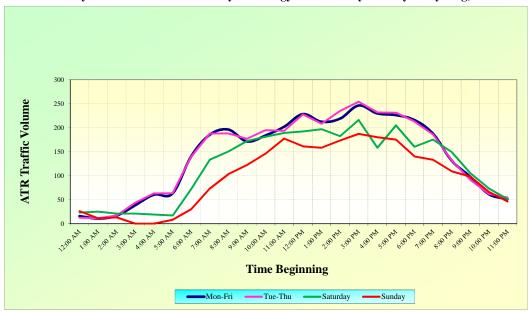
3. Automatic Traffic Recorders (ATRs)

Broadway from Continental Driveway to Entergy W. Driveway - 2-Way - July-Aug, 2020

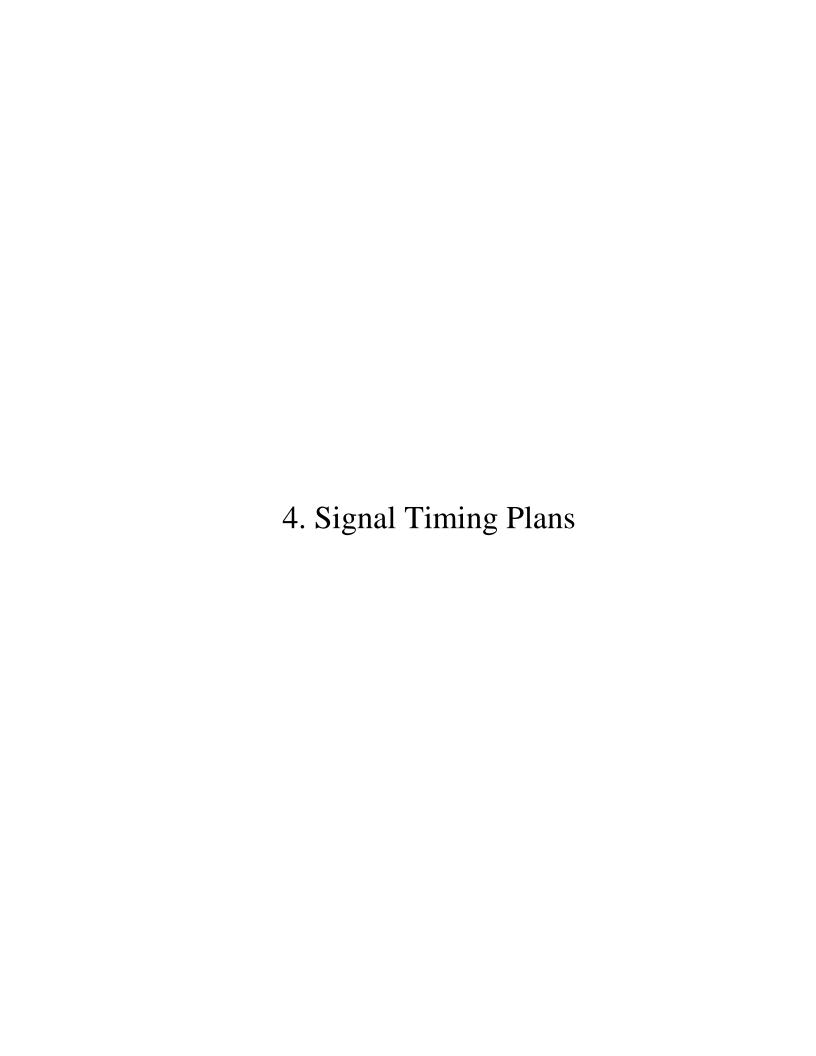
	1	1	- 2	2	3		4	1	5	5	(í	7	7	8	}
TIME	Mon	7/27	Tue	7/28	Wed	7/29	Thu	7/30	Fri '	7/31	Sat	8/01	Sun	8/02	Mon	8/03
ENDING	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
0:15	0	0	2	70	7	59	5	59	10	61	4	43	10	41	5	58
0:30	0	0	4	58	5	46	2	48	4	45	9	44	6	33	5	57
0:45	0	0	1	44	1	70	1	46	7	56	3	55	5	41	2	0
1:00	0	32	1	55	4	68	4	60	6	68	7	50	5	46	3	0
1:15	0	55	1	44	4	49	2	61	4	64	8	59	4	42	4	0
1:30	0	57	2	42	3	53	2	64	2	60	7	47	5	36	0	0
1:45	0	36	5	37	2	62	2	64	1	64	2	55	1	41	3	0
2:00	0	51	4	41	4	47	3	61	2	50	8	36	1	39	9	0
2:15	0	58	4	63	4	61	1	45	1	45	2	38	1	47	5	0
2:30	0	41	3	55	5	56	0	58	5	47	3	59	3	34	2	0
2:45	0	42	5	60	2	64	4	63	2	51	7	49	4	44	2	0
3:00	0	52	6	53	5	67	2	60	10	53	9	36	5	48	6	0
3:15	0	53	10	69	10	60	8	61	7	67	10	56	5	60	2	0
3:30	0	69	5	64	12	80	9	90	14	61	7	59	3	44	2	0
3:45	0	58	12	54	11	68	12	53	8	50	2	47	4	45	7	0
4:00	0	39	8	64	19	50	15	49	17	72	2	54	0	38	5	0
4:15	0	57	22	57	13	63	13	55	9	44	8	37	2	43	7	0
4:30	0	49	12	63	13	51	11	49	18	52	3	31	4	34	9	0
4:45	0	55	14	70	26	63	16	55	10	51	4	45	0	68	15	0
5:00	0	77	9	62	23	52	17	56	19	67	4	45	1	35	26	0
5:15	0	57	30	55	9	58	14	64	11	53	4	47	2	53	18	0
5:30	0	48	9	58	16	66	11	58	18	43	3	52	1	47	13	0
5:45	0	55	23	68	21	65	20	50	13	57	7	58	1	42	22	0
6:00	0	65	15	37	16	44	6	71	14	59	3	48	4	33	16	0
6:15	0	51	19	52	15	53	18	58	25	52	12	39	3	30	19	0
6:30	0	55	23	55	22	49	35	43	30	57	14	31	2	38	34	0
6:45	0	49	42	50	54	55	43	62	31	61	19	42	10	34	44	0
7:00	0	57	49	58	49 34	56	49	48	45	58	27	48	15	38	55 44	0
7:15	0	42	43 52	48 60	53	59 47	34 53	35 44	42	49	26	65	13	28	44	0
7:30	0	35 40	46	44	40	53		32	48 45	47 55	32	45	14	42 35	51	0
7:45 8:00	0	56	56	49	55	49	46 51	37	43	55	42	35 30	25 21	28	53	0
8:15	0	29	58	38	56	55	47	43	60	44	37	30	17	27	46	0
8:30	0	28	45	30	39	42	51	25	49	41	44	35	30	25	48	0
8:45	0	30	32	36	44	27	53	25	49	35	31	41	29	26	63	0
9:00	0	35	49	25	45	25	45	22	52	21	38	43	27	31	49	0
9:15	0	38	42	32	49	31	35	24	35	34	37	25	17	36	36	0
9:30	0	18	52	23	33	27	50	14	35	36	51	28	38	18	46	0
9:45	0	21	55	25	36	22	27	22	34	27	45	22	30	27	50	0
10:00	0	19	55	21	53	10	43	23	51	22	39	30	37	17	39	0
10:15	0	13	44	9	43	20	49	21	39	26	49	17	43	20	44	0
10:30	0	10	51	12	36	15	40	15	33	16	42	19	33	19	46	0
10:45	0	13	45	17	47	12	53	17	45	12	41	16	38	12	54	0
11:00	0	17	53	20	66	18	58	10	47	14	49	21	32	15	26	0
11:15	0	18	44	19	41	19	49	20	51	19	54	20	42	13	50	0
11:30	0	15	41	14	46	17	44	17	68	11	47	16	37	10	54	0
11:45	0	7	58	5	54	20	52	11	45	8	49	12	55	13	53	0
12:00	0	7	43	3	58	8	50	10	53	7	39	3	43	10	56	0
TOTAL	-	1,809	1,304	2,088	1,303	2,211	1,255	2,078	1,265	2,147	1.023	1,863	728	1,626	1,288	115
-0-1111		1,809	1,501	3,392	1,505	3,514	1,200	3,333	1,200	3,412	1,023	2,886	,20	2,354	1,200	1,403

			Ro	lling Peak H	Iour Summai	ry			
AM (Begin)	Mon-Fri	Tue-Thu	Saturday	Sunday	PM (Begin)	Mon-Fri	Tue-Thu	Saturday	Sunday
12:00 AM	16	12	23	26	12:00 PM	228	228	192	161
12:15 AM	13	10	27	20	12:15 PM	221	216	208	162
12:30 AM	11	9	25	19	12:30 PM	226	219	211	165
12:45 AM	11	11	24	15	12:45 PM	219	220	211	165
1:00 AM	11	11	25	11	1:00 PM	212	208	197	158
1:15 AM	11	12	19	8	1:15 PM	212	213	176	163
1:30 AM	15	16	15	6	1:30 PM	208	217	188	161
1:45 AM	15	16	20	9	1:45 PM	212	225	182	164
2:00 AM	17	17	21	13	2:00 PM	219	235	182	173
2:15 AM	21	23	29	17	2:15 PM	226	242	200	186
2:30 AM	25	26	33	17	2:30 PM	248	264	200	196
2:45 AM	32	34	28	17	2:45 PM	248	260	198	197
3:00 AM	39	44	21	0	3:00 PM	246	254	216	187
3:15 AM	44	50	19	0	3:15 PM	239	249	197	170
3:30 AM	48	54	15	0	3:30 PM	219	225	169	160
3:45 AM	54	61	17	0	3:45 PM	222	230	167	183
4:00 AM	60	63	19	0	4:00 PM	230	232	158	180
4:15 AM	64	65	15	0	4:15 PM	232	233	168	190
4:30 AM	65	65	15	0	4:30 PM	234	239	189	203
4:45 AM	68	67	18	5	4:45 PM	234	237	202	177
5:00 AM	63	63	17	8	5:00 PM	226	231	205	175
5:15 AM	66	63	25	9	5:15 PM	222	227	197	152
5:30 AM	81	78	36	10	5:30 PM	219	215	176	143
5:45 AM	104	103	48	19	5:45 PM	216	210	160	135
6:00 AM	140	139	72	30	6:00 PM	216	213	160	140
6:15 AM	160	159	86	40	6:15 PM	209	206	186	138
6:30 AM	181	185	104	52	6:30 PM	204	207	200	142
6:45 AM	184	183	118	67	6:45 PM	193	195	193	143
7:00 AM	185	188	133	73	7:00 PM	187	186	175	133
7:15 AM	199	204	144	77	7:15 PM	182	184	140	132
7:30 AM	197	197	156	93	7:30 PM	169	166	130	115
7:45 AM	199	196	154	97	7:45 PM	155	152	136	106
8:00 AM	196	188	150	103	8:00 PM	131	131	149	109
8:15 AM	182	176	150	103	8:15 PM	121	115	144	118
8:30 AM	179	176	157	111	8:30 PM	112	104	137	111
8:45 AM	171	173	171	112	8:45 PM	104	97	118	112
9:00 AM	171	177	172	122	9:00 PM	98	91	105	98
9:15 AM	176	180	184	148	9:15 PM	84	79	97	82
9:30 AM	174	177	175	143	9:30 PM	74	72	88	83
9:45 AM	182	186	171	151	9:45 PM	65	64	82	68
10:00 AM	184	195	181	146	10:00 PM	61	62	73	66
10:15 AM	187	194	186	145	10:15 PM	63	65	76	59
10:30 AM	196	196	191	149	10:30 PM	64	67	73	50
10:45 AM	200	202	199	166	10:45 PM	60	63	69	51
11:00 AM	202	193	189	177	11:00 PM	51	54	51	46
11:15 AM	216	211	178	176					
11:30 AM	217	218	175	172	Day Total	3,390	3,416	2,886	2,335
11:45 AM	217	217	181	158					

Broadway from Continental Driveway to Entergy W. Driveway - 2-Way - July-Aug, 2020



AKRF Inc.





Phase 2:

Phase 3:

35"G

30 16 5" Y+AR

5" YHAR

Cycle=1'35

PHYSICAL INVENTORY SHEET:

JRAPDATA.com jrapassoc@aol.com 845.392.7105 32794 Dionis Drive Lewes, Delaware 19958 914.393.3099

TRAFFIC & TRANSPORTATION CONSULTANTS

1/2

Phase 2:

Project:	Port Cortland t	Loc	ation: See Below	Date: 7/20
Project#:	20-25	Worker:	Surveyo	r's Name:
Sketch:	BMP #10)'	tersection: (t	BLAY 4
Peeck Bridge	R+c9			closed Bleakky Hersy Ave

Phase 2:

Phasing:	Signal Timing: X Change 120d Free Right To	سرءر
	- Charafier	
,		

Cycle=50"



JRAPDATA.com jrapassoc@aol.com 845.392.7105 32794 Dionis Drive Lewes, Delaware 19958 914.393.3099

TRAFFIC & TRANSPORTATION CONSULTANTS

2/2

roject:	POA Cort	laud + Location:	Sce Below Date: 7/20
roject#:	20-25	Worker:	Surveyor's Name:
Sketch: (#	121 4	#728	4
Blenkley Ave ISMI PARKI	3 N RHEAA	20 E	30 & Welcher Ave
Phased:	S"YHAR 10"G C"YHAR	Phase 2:	9 NB RAMPS. "G Phase 1; 30"G "YHAR "G "YHAR "YHAR "YHAR "YHAR "YHAR "YHAR
hasing:	XNTOR 3 XX BUSSTOP	Phase 4: Signa 19"(Triming: Phase 3:

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC ENGINEERING & SAFETY DIVISION TRAFFIC CONTROL SPECIFICATIONS

Study:

Contract: D256618

8390.52.321

PIN:

W-192	WESTCHESTER		,	PAGE	File: 55.03-9 1 OF 20 PAGES
SIGNAL NO(S)	COUNTY			PAGE	1 OF 20 PAGES
INTERSECTION	ROUTE 6/9/202 AT BEAR MOUN	TAIN PARKV	VAY		
·					
∑ CIT	Y - VILLAGE TO	WN OF	PE	EKSKILL .	
Departme	ent Order filed 8/8/67	as Sect	tion 2055.0	3 Subdivision	(a) <u>.</u>
Prior spe	cifications hereby superseded	None	⊠	May 19, 1995	***
Purpose	: REINSTALLATION OF TRAFFIC	SIGNAL UNI	DER CONTRA	CT D256618	
		•	•	·	State of the state
These sp the neces of Uniforr	ecifications will be effective upon the ssary traffic control device(s) reguire n Traffic Control Devices	e Insta ed by and cor	llation M forming to the	odification of State Manual	The state of the s
I. This	Signal shall				· · · · · · · · · · · · · · · · · · ·
Α. (Operate in accordance with the Tab shown on page(s) 2 as a :	le of Operation	ons and / of Ch	ange intervals as	
	3. 2 d3 a	\	Pretimed Si	gnal/	
	Ň		Semi-traffic	actuated signal	÷
		· . [Full-traffic a	ctuated signal	- on the state of
	,	/ [Pedestrian	actuated signal	
		<u> </u>	Other CO	nverted to	2070
В.	Display vehicular indica	ations			7-12-10- CAM
	Display pedestrian indi	Į.		52.2	And State of the S
•	Be equipped with vehic	le detectors		0 000	03
	Be equipped with Pede		uttons		
•	as shown in the	chematic	scale	ed drawing on page	3
	Be equipped with property prop	re-emption	inter	connection and / or	coordination
	Willett are described as follow	v S	•		manage **
	••	•-		•	·.
					*** *** ******************************
cc: () .	Main Office		·		RTE
(1)	Region 8 Traffic Engineer		Date	. Sign:	ature Title

D.SYWYK

(2)

(1)

Installation Date

Modification Date

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC AND SAFETY DIVISION

TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

DATE

STUDY: CONTRACT: D256618

PIN:8390.27.321 FILE: 55.03-9

W-192 SIGNAL NO(S) **WESTCHESTER** COUNTY

PAGE

20 PAGES

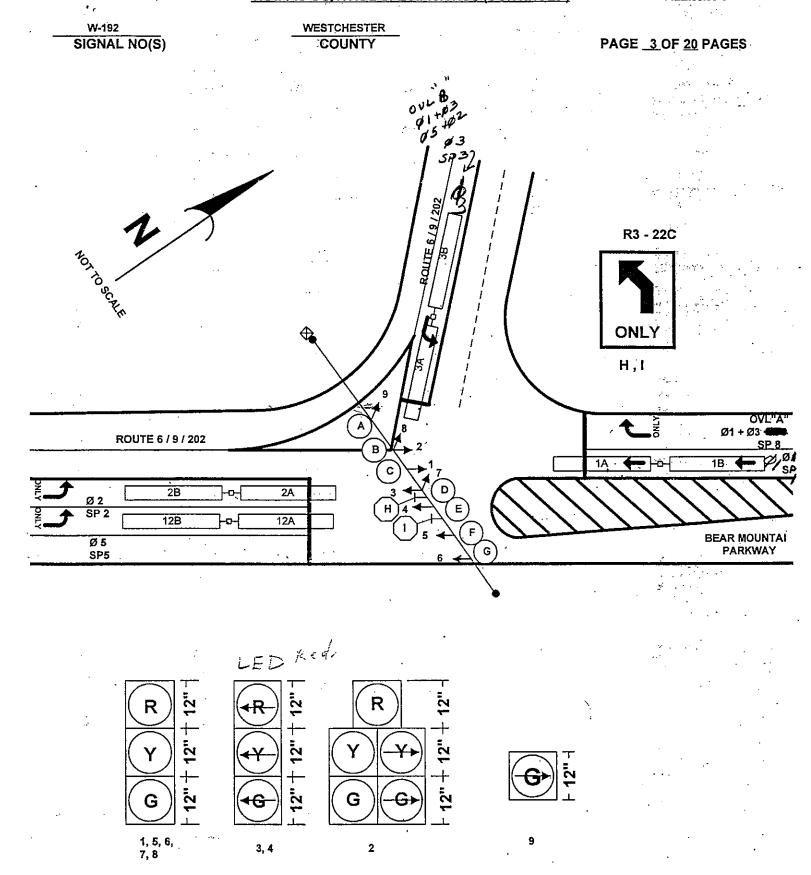
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	= Y/
←	GREEN ARROW
⊕	YELLOW ARROW
4	RED ARROW

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC AND SAFETY DIVISION TRAFFIC CONTROL SPECIFICATIOS (CONTINUED)

STUDY: CONTRACT: D256618 PIN: 8390.52.321 FILE:55.03-6



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US RTE 9 @ BEAR MTN STATE PARKWAY (ID 7192) (Permanent File)8 | Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misd WWI Batem Page 1

Overlap 1-16 Program Parms & Parm+ [1.5.2.1] [1.5.2.2]	gram Parms	& Parm	+ [1.5.2.	1] [1.5.2.			Coord Transit	\sim 1		
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IIS RTE 9 @ REAR MTN STATE PARKWAY (ID 7192) (Permanent File)	MTN STATE	PARKWA	V (ID 71	32) (Perm		07/12/10 Page 2				
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<u>이</u>	į							ln I I 0 =	. 0 I	1 0 I	Security Access Levels [8.2]	1 SWLOAI	3 NONE		5 NONE				NONE NONE				14 NONE		16 NONE	17	200	TIS NOW		ŀ	2070 IP 1 A	Add	Mask	Brdcst	GtWay	Port	1 4	2070 Port B	<u>~</u>	ASYNC1 O	+-	+	H	Н	
D1-USER IO Map [1.8.9.2 Out		2 115 Not Used	_	115	-			C11S-USER IO Map [1.8.9.1 II	-				1 189 Unused	189	189	189	183	189	189	109 Officed		189	↤	-	-		. <u>.</u> . -	-1 115 Not Used	_		115	-6 115 Not Used													
		Ī	ed 07-3						reen I4-1	ed I4-2			ed 1/-1		ed I7-4				\-	10-1	<u> </u>				 	1		Ch12 Yellow O8-1	<u> </u>	_			00°-0		gob	pes	pes	Red	Yellow	Green	Ch14 Yellow	Green			
SER	- [4 9	01-3 2 Ch2 Red	3 %	က	27	01-8 51 Ch3 Green	02-1 4 Ch4 Red	02-2 52 Ch4 Green			23	02-6 6 Ch6 Ked	\$	03-1 7 Ch7 Red	22	8	32	26	O3-0 3 Cho Vellow	27	10	04-2 58 Ch10 Green		33	65	12	04-71 36 Ch12 Yellow	3 8	용	25	34	05-5 115 Not Used		05-8 114 Watchdog	115	115	13	37	06-5 61 Ch13 Green	± %	62			
		Ven Call 2	6	_			189 Unused	189 Unused	189 Unused	189 Unused	(I2 Veh Call 12	189 Unused	189 Unused		189 Unused			189 Unused	189 Unused	109 Ullused	189 Unused		C418 Connecto	2 201116010			189 Unused	229 33xCMUStop			_		189 Unused	189 Unused				189 Unused	189 Unused	189 Unused	180 Uniced	189 Unused			
<u></u>	4	4	11-3	+	-	-	11-8 18	12-1	12-2 18	12-3	-	_	12-6 18	+	-	13-2 18	_	-	_	+	13-8 1	┿	14-2	I4-3	14 4	_	-	14-7	-	-	15-3 18		15.6	-	+	I6-1 18	-	-+	_	_	0-01	+-	4		0

Stop Timing TS1 Cabinet Door Coordination Failure External Alarm # 1		3	hases	Phases Called By	% ⊗	Fron	To Fron	⊢	o Fron	٥	Fron	To		1 2	က	4	5	9	7 8	6	19	1,	12	13	<u>4</u>	15 16
abinet Door ination Failure al Alarm #1	1 1	<u>_</u>																-	_		 					-
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nal Alarm # 1	1	က			د						\dashv		က													
	1	4			4								4													
External Alarm #2	1	က			5								Ω													
External Alarm #3		ပ			9								9													
External Alarm #4		<u></u>			_								7													
Closed Loop Disabled	11	Φ			80						-		ထ						ļ							
External Alarm # 5		တ			6	*********							တ				ļ									
External Alarm # 6		10			9								9				 									_
Manual Control Enab	4	=			<u>+</u>							- 	<u>+</u>	-				_	<u> </u>	_	_					┢
Coord Free Input		12			12			-	_			1	12	-			T	_			_				+	-
Local Flash Input	1	33			13		-	<u> </u>				1	13	-			-	-								-
MMU Flash		14			1 4			_	_			<u> </u>	4	<u> </u>				_	_	_	_				+	╀
CMU Flash		5	_		15		-	_				<u> </u>	15		_		T	-	-						-	┢
Cycle Fault	-	16			16		ļ	_			ļ	<u> </u>	16		<u> </u>				-	_					+	╀
Cycle Failure	-]¥	Alt Call & Redirect # 1 [1.1.6.3]	edirec	# 1	116		-			-	1	Alt	hibit	Alt Inhibit Phases	" #	7	1.6.31	_	_	_		-			-
Coordination Fault	-	5	Ø Pha	Phases Called By	- Pa	2	┢	To Fron	7	Fron	F	Frod To	`1—	\ -	~	:	۱,] ¤	٥	1	+	12	73	2	15 16
Controller Eault		} <u>-</u>		- See	<u> </u>	<u>, </u>		<u>-</u>			2			`		r	,	<u>_</u>	_		2	=	7	2	-	ļ
Failtir	- _	- 0	-		-	- ^	+	+	-		-		- 0	-	-		\dagger	_	-	-	_				+	+
MAMIL SOLD Epiling	+	1 u			-	1 (-	-		-	1	1 c	-			\parallel	-	-	-	_				+	+
Critical SDI C Egilura	1	, <u>_</u>	-	1		, , <		1	_	1	-	-) <	-	-		1		-	-	-				+	+
Chilical SDLC Fallure	+	+ 4	1	1	+	+ 14		-	-		-	-	<u> </u>	+	-		1	+	-	-					+	+
CEDED M CDC Equit	7) (d	<u> </u>) (c		-	-		\dagger) «	-	-		\dagger	+	-	-	1				╁	+
OWI CAC L'ault	+	_ > ^			-	 1 C		-	-		+	-	1 1 c	-	1		-	+	-	-	_				+	+
Detector Diagnostic F		<u> </u>			+			-	_		+			_			1		_	4	4				\dashv	-
BIU Detector Failure	1	8			•	8		-					 &					-								
Queue detector alarm	1	Alt Call		& Redirect #2	1#2	116	\Box						Alt In	hibit	Alt Inhibit Phases	# səs		2 [1.1.6.3]								
Ped Detector Fault	1	ਣ	Ø Pha	Phases Called By Ø	₃d By Ø		From 1	To From	n To	From	To	From To		1 2	3	4	2	9	7 8	6	10	17	12	13	14	15 16
Coord Diagnostic Fau	#	_			****	-							_													
TempAlert Probe Ch.	م	2			*******	7							2						<u> </u>	ļ	_					
TempAlert Probe Ch.	西	60				က		_					က	_						ļ	_				<u> </u>	
Coord Active	-	4				4					ļ		4	<u> </u>												
Preempt Active		ಬ				Ŋ							5	<u> </u>					ļ	ļ 				:		
Preempt 1 Input	1	9				ဖ							9	<u> </u>	_		ļ		<u> </u>							_
Preempt 2 Input	-	_	 -				<u> </u>							_	_		-		_						-	_
Preempt 3 Input	-	ω		_		∞.		_	_		_		<u>8</u>						ļ						_	
Preempt 4 Input	1	Coo	Coord, CIC Plans [2.3]	Plans	[2.3]					Unit	Para	Unit Parameters [1.2.1	s [1.2	Ξ							Adv	ance	Advanced Warning	ning [1	1,1,9]	
Preempt 5 Input	-	ပ္ပင္ပ	CIC Cod Grow	× 1	2 3	4	5	2 9	∞	Allo V	V Skip	Allow Skip Yellow OFF	HH.	×	Max Cycle Time	e Tirl	<u>و</u>		Γ-				Phase Time	Time		
Preempt 6 Input	-	7	OFF.	_			<u> </u>			5	Dim E	TOD Dim Enable	OFF	ि	Cycle Fault Action	ult Ac	tion	ALARM	5		Aux	Out 1	0			
Preempt 7 Input	-	7	OFF.		<u> </u>				<u> </u>	Tone	Tone Disable	je	OFF	<u> </u>							Aux	Aux Out 20		0		
Preempt 8 Input	-	<u>ი</u>	FF							Diam	Diamond Mode	ode	4Ph				\vdash		Γ.							
Preempt 9 Input	-	4	PF.		<u> </u>			_		Back	Backup Time (s)	ī	900						Γ							
Preempt 10 Input	1	Auto	Auto Flash Phase/Olap Settings [1	Phase	/Olap	Sett	ngs	1.4.2		Disat	Disable Init Ped		OFF	<u> </u>					<u> </u>							
In Transition	-	Yel Ø			_]	_	_	CVC	3 Fault	Cycle Fault ActionALARM	ALAR	Σ					Γ						711.	7/12/2010
FIO Status Alarm		(apple) loy	1000	<u> </u>	 	Ī	-							4			1									

TE 262-12 (7/91)

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

TAPS				
STUDY				_
FILE#_	5	5.03	3-9	_
PAGE	18	OF	20	

SIGNAL # _ W-192_

COUNTY _____

WEST_

DATE ____

SWITCH	FUNCTION	INDICATIONS	EACE	TERMINA	L WIRING BOARD	FACE	TERMINA	L WIRING BOARD
PACK	FUNCTION	INDICATIONS	FACE	TERMINAL	WIRE COLOR CODE	FACE	TERMINAL	WIRE COLOR CODE
	 	Red		SP 1 R	14 / 5C - C - R		SP1R	14 / 15C - B - R / B
		Yellow		SP 1 Y	-0	2	SP1Y	-0/B
1	Ø 1	Green	1	SP 1 G	- G	2	SP1G	-G/B
		Ground Wire		Grnd Bus	-W		Grnd Bus	-W/B
		4		SP 2 R	14/10C-D-R/B		SP 2 R	14 / 5C - E - R
				SP 2 Y	-0/B	1 .	SP 2 Y	-0
2	Ø 2	-	3	SP 2 G	- G / B	4	SP 2 G	- G
		Ground Wire		Grnd Bus	-W/B	i	Grnd Bus	W
	 	Red		SP3R	14 / 10C - D - R		SP 3 R	14 / 15C - B - R
_		Yellow	_	SP 3 Y	-0	1 _ :	SP 3 Y	-0
3	Ø 3	Green	7	SP 3 G	- G	8	. SP 3 G	- G
	1 .	Ground Wire	,	Grnd Bus	- 	1	Grnd Bus	- W
		Ground wife		SP 4 R	11	 	SP 4 R	-
		· · · · · · · · · · · · · · · · · · ·		SP 4 Y			SP 4 Y	
4		· ·	İ	SP 4 G		1	SP 4 G	
]	Canada Mila				4		ļ
	<u> </u>	Ground Wire		Grnd Bus	MA / 50 5 D	 	Grnd Bus SP 5 R	14 / 5C - G - R
	1	Red	1	SP.5 R	14 / 5C - F - R	-		14/5C-G-R
5	Ø 5	Yellow	5	SP 5 Y	-0	6	SP 5 Y	1
•	~ ~	Green		SP 5 G	G	1	SP 5 G	- G
		Ground Wire		Grnd Bus	- W	ļ —	Grnd Bus	- W
				SP 6 R		<u> </u>	SP 6 R	
6				SP 6 Y		1	SP 6 Y	
J			Į	SP 6 G	:	1	SP 6 G	
	<u>.</u>	Ground Wire		Grnd Bus	<u></u>		Grnd Bus	<u></u>
			•	SP 7 R]	SP7R	
7	1 .			SP 7 Y		<u> </u>	SP7Y	
] .	SP7G			SP7G	<u> </u>
	·	Ground Wire		Grnd Bus			Grnd Bus	
	OVL"A"			SP 8 R			SP8R	
8	Ø1 + Ø3		2	SP 8 Y	14 / 15C - B - BL / W]	SP 8 Y	
o	,	—	1 4	SP 8 G	-G/W	7	SP 8 G	
	Ø1G	Ground Wire		Grnd Bus	-B/W	1	Grnd Bus	
	OVL"B"			SP 9 R			SP 9 R	
9	Ø3 +Ø1+		9	SP 9 Y		1 .	SP 9 Y	
9	l .		1 9	SP 9 G	14 / 5C - A - G	1	SP 9 G	
	02 + 05	Ground Wire	1	Grnd Bus	- W	1	Grnd Bus	
		<u> </u>	i'''	SP 10 R	,		SP 10 R	
40		,	1	SP 10 Y		1	SP 10 Y	The second second
10			1	SP 10 G		7	SP 10 G	
		Ground Wire	1 .	Grnd Bus		1	Grnd Bus	
		<u> </u>	 	SP 11 R		1	SP 11 R	
2.4			1	SP 11 Y		1 .	SP 11 Y	
11			1	SP 11 G		1	SP 11 G	
•		Ground Wire	1	Grnd Bus		-	Grnd Bus	
	1	1		SP 12 R	<u>'</u>	1	SP 12 R	
	İ	<u></u>	1	SP 12 Y		1	SP 12 Y	
12			1	SP 12 G	 	4	SP 12 G	
		Ground Wire	-	Grnd Bus	 	1	Grnd Bus	
`	+	Oloulu Hile		SP 13 R	+	- 	SP 13 R	-
2			1	SP 13 Y	·	-	SP 13 Y	
13			1		 	- ·		
		Ground Miss	{	SP 13 G	 	-	SP 13 G	ļ
		Ground Wire	 	Grnd Bus	1		Grnd Bus	· · · · · · · · · · · · · · · · · · ·
			4	SP 14 R	1	4	SP 14 R	
14		ļ	1	SP 14 Y	<u> </u>	4	· SP 14 Y	
• •	1		1	SP 14 G		1	SP14 G	
	ļ .	Ground Wire		Grnd Bus	•		Grnd Bus	And hand help high a lift of states in .

TE 262-12 (7/91)

NOTES:

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

PAGE_	19	_ OF	20
FILE#			
STUDY	#		
TAPS_			

COUNTY# WEST DATE

CONFLICT / CURRENT MONITOR **PROGRAMMING**

CONFLICT	MONITOR DIODE	S TO BE CUT	CONFLICT MONITOR YELL JUMPERS TO BE INSTALL	OW ED	CURRENT	MONITOR DIODES
SP 1 - SP 5				:		4, 6 - 14
SP 1 - SP 8			•.			·
SP 1 - SP 9		-				
				٠.		
SP 2 - SP5				•		
SP 2 - SP 9					·	
					··	
SP 3 - SP 8		·				
SP 3 - SP 9				17%		
					,	
SP 5 - SP 8	:::::::::::::::::::::::::::::::::::::::		ne. V			,
SP 5 - SP 9						
				- 1		
SP 8 - SP 9						
						••
	· · · · · · · · · · · · · · · · · · ·					

 				
				· · · · · · · · · · · · · · · · · · ·
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TE 232-12 (7/91)

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

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STUDY#		
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		192
GN		

CO	U	١N	ıT	٦

WEST

DATE

TABLE OF INPUT WIRING

				1	
TERM. NUMBER	FUNCTION	DET. NO.	DET. TYPE	DET. AN OVER	REMARKS
1A, 1B	. Ø1	1A, 1B	NORMAL	-	PRESENCE LOOP
2A, 2B	Ø2	2A, 2B	NORMAL		PRESENCE LOOP
3A, 3B	Ø3	3A, 3B	. NORMAL		PRESENCE LOOP
4A, 4B			• .		
5A, 5B					
6A, 6B					
7A, 7B					
8A, 8B					
9A, 9B	7 tu-		•		
10A, 10B					
11A, 11B	,				
12A, 12B	Ø2	12A, 12B	NORMAL		PRESENCE LOOP .
13A, 13B					
14A, 14B			- '		
15A, 15B					
16A, 16B				·	,
17A, 17B					
18A, 18B	• .				
19A, 19B				·	· · ·
20A, 20B				·	
21A, 21B			.,		•
22A, 22B					
23A, 23B					
24A, 24B	•		•	· Sept	
25A, 25B			,		
26A, 26B					
27A, 27B			· ·		
28A, 28B					
				1	· · · · · · · · · · · · · · · · · · ·

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC ENGINEERING & SAFETY DIVISION TRAFFIC CONTROL SPECIFICATIONS

Study:

Contract:

PIN: 8103.23,12

File: 55,03,91

CC:

PAGE / OF 20 PAGES

SIGNAL NO(S)		
NTERSECTION	ROUTE 9 AT WELCHER AVE/ROUTE 9A	
∑ CITY	VILLAGE TOWN OF PERKENCIUL	····
Departmer	as Section 2055.03 Subdivision	(c)
Prior speci	ifications hereby superseded None	
Purpose :	INSTALLATION UNDER CONTRACT DOOROGE	3
the necess	ecifications will be effective upon the Installation Modification of sary traffic control device(s) reguired by and conforming to the State Manual Traffic Control Devices	· · · · · · · · · · · · · · · · · · ·
. I. This S	Signal shall	
A. O	Operate in accordance with the Table of Operations and / of Change intervals as hown on page(s) 2 as a:	
	Pretimed Signal	
	Semi-traffic actuated signal	
	Full-traffic actuated signal	
	Pedestrian actuated signal	
•	Other .	
В.	$i\overline{\chi_i}$ Display vehicular indications	1 Aug
	Display pedestrian indications	
	Be equipped with vehicle detectors	
	Be equipped with Pedestrian pushbuttons	
,	as shown in the scaled drawing on page	3
C.	Be equipped with pre-emption interconnection and / or of which are described as follows	coordination
		·+**
	•	•
	Wm. D. FiTz	PATRICK

	WILL D. I TIZE MINION	111
Date	Signature	Title
Installation Dat	in a	
ii istaliation Dai	ie.	
Modification Da	ate	
	Installation Dat	Date Signature Installation Date Modification Date

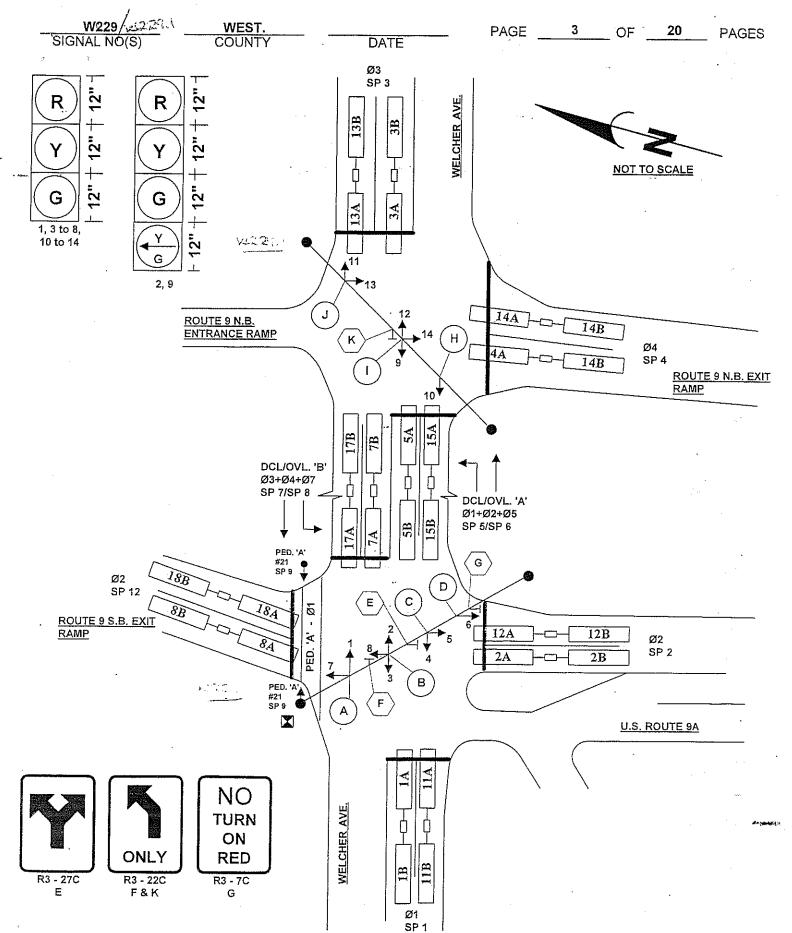
STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC AND SAFETY DIVISION

TRAFFIC CONTROL SIGNAL SPECIFICATIONS (CONTINUED)

STUDY: CONTRACT: 8103.23.121

PIN:

FILE: 55.30.9A



CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:04:16

TE 261 (11/95)

PHASE TIMING DATA/TIMER INTERVALS

Tatenanazaz	PHASE/	T 1							
INTERVAL	INT. #	F1	F2	F3	F4	F5	F6	F7	F8
MEMORY/RECALL	00	000	000	000	000	000	000	000	000
WALK	01	007						MUNICIPALITY	
PEDESTRIAN CLEARANCE	02	015							
INITIAL	03	005	003	005	003	003		003	
VARIABLE INITIAL	04		*			•_			
VARIABLE INIT. LIMIT	05	050	050	050	050	050	050	050	050
TIME BEFOR REDUCTION	06								
TIME TO REDUCE	07								
MAXIMUM GAP	08	05.0	02.0	05.0	02.0	02.0	00.1	02.0	00.1
MINIMUM GAP	09			·_		·	············		·_
GAP CLOCK	10	USED	WITH	DAA	ONLY	USED	WITH	DBB	ONLY
MAXIMUM GREEN 1	11	030	030	030	030	010		010	
MAXIMUM GREEN 2	12	040	040	040	040				
MAXIMUM GREEN 3	13		***************************************			<u></u>			
RECALL GREEN	14	020	020	020	020	010		010	
YELLOW CLEARANCE	15	04.0	04.0	04.0	04.0	04.0		04.0	
RED CLEARANCE	16	01.0	01.0	01.0	01.0	01.0	•	01.0	*
THIRD CLEARANCE	17	•_	04.0	•_	04.0				
FOURTH CLEARANCE	18	•	01.0	*	01.0	*		·_	
		F1	F2	F3	.F4	F5	F6	F7	F8

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:04:52

TE 262-3A (11/95)	MASTI	ER TIMECLOCK E	PROGRAMMABLE DATA		
001-012 001-012	21EC 21ED	004 010			
001=FIRST	BEGIN DAT	YLIGHT SAVINGS	TIME WEEK OF MONTH	21EE	001
002=SECOND 003=THIRD 004=FOURTH 005=LAST OR FIFTH	21EF	005			
001 - 012 001 - 031 000 - 099 000 - 023 000 - 059 000 - 059 001 - 007 001 - 053 (READ ON	LY)	*Use "C8" and "C9" commands to display	*MONTH OF YEAR *DAY OF MONTH *YEAR *HOUR OF DAY *MINUTE OF HOUR *SECOND OF MINUTE DAY OF WEEK WEEK OF YEAR	21F0 21F1 21F2 21F3 21F4 21F5 21F6 21F7	XXX XXX XXX XXX XXX XXX
001 = To portable 002 = From portable	21F8	xxx			

^{* * * 21}F0-21F8 NOT IMPLEMENTED. USE CLOCK DOWNLOAD FUNCTION. * * *

CCS = 87B Signal # = 229P DATE: 12/08/02 TIME: 01:05:06

Rte = 9 Rte Seq # = 495

TE 262-4 (11/95)

PROGRAMMABLE FEATURES

						P								
	FUNC	TION		8	4	2	1		8	4	2	1	LOC.	CODE
VEHICLE PHASES PERMITTED PEDESTRIAN PHASES PERMITTED			φ φ	1 1	φ 2 φ 2	φ 5 φ 5	φ 6 φ 6	Ш	φ 3 φ 3	φ 4 φ 4	φ 7 φ 7	φ 8 φ 8	2200 2201	EE 80
			S	P	SP	SP	SP		SP	SP	SP	SP		
STARTUP STARTUP STARTUP STARTUP STARTUP STARTUP	A A A A A	OUTPUT OUTPUT OUTPUT OUTPUT OUTPUT OUTPUT	6	_	3Y 6Y 9Y 12Y -	3R 6R 9R 12R - 14R	5G 8G 11G -		2Y 5Y 8Y 11Y 7Y 13Y	2R 5R 8R 11R 1Y 13R	1G 4G 7G 10G 10Y	1R 4R 7R 10R 4Y	2202 2203 2204 2205 2206 2207	26 91 25 —
STARTUP STARTUP STARTUP STARTUP STARTUP	B B B B	OUTPUT OUTPUT OUTPUT OUTPUT OUTPUT	3 6 9 12 -	G G	3Y 6Y 9Y 12Y - 14Y	3R 6R 9R 12R - 14R	2G 5G 8G 11G - 13G		2Y 5Y 8Y 11Y 7Y 13Y	2R 5R 8R 11R 1Y 13R	1G 4G 7G 10G 10Y	1R 4R 7R 10R 4Y -	2208 2209 220A 220B 220C 220D	
STARTUP	PHASES		φ	1	φ 2	φ 5	φ 6		ф 3	φ 4	φ 7	φ 8	220E	

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495
DATE: 12/08/02 TIME: 01:05:23

TE 262-5 (11/95) DETECTOR INPUT WORDS

INPUT NUMBER		1/95/ 1	ARTECION	INPOL WORDS			INPUT FUNC CODES
INPUT # 1		LOC.	l: i		LOC.		PED BUTTON = X2
TNAOT #12 7777 28	INPUT # 2 INPUT # 3 INPUT # 4 INPUT # 5 INPUT # 6 INPUT # 7 INPUT # 8 INPUT # 9 INPUT # 10 INPUT # 11 INPUT # 12 INPUT # 13	2215 2216 2217 2218 2218 221A 221B 221C 221D 221E 221F 2220	28 38 48 58 78 28 12 — 18 28 38	INPUT #17 INPUT #18 INPUT #19 INPUT #20 INPUT #21 INPUT #22 INPUT #23 INPUT #24 INPUT #25 INPUT #26 INPUT #27	2224 2225 2226 2227 2228 2229 222A 222B 222C 222D 222E	28 — —	NORMAL DET = X8 EX PED = 02 PREEMPT C = 21 PREEMPT B = 41 PREEMPT A = 81 ϕ SLCT OMT A = B1 ϕ SLCT OMT C = B4 ϕ SLCT OMT D = B8 CYCLE 1 = C8 CYCLE 2 = C9 CYCLE 3 = CA SYNC = CB OFFSET 1 = CC OFFSET 2 = CD

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:05:40

TE 262-7 (10/96) OUTPUT CONTROL WORDS COMBINE FUNCTION (X) AND SPECIFIER (Y) TO FORM CODE WORD (XY)

FUNCTION (X)	SPECIFIER (Y)	SWITCH PACK	LOC.	CODE
0 = PHASE	1-8 = PHASE	GD1	0.07.0	0.1
1 = PED ***	1 (9) = PEDA 4 (C) = PEDD 2 (A) = PEDB 5 (D) = PEDE 3 (B) = PEDC 6 (E) = PEDF	SP1 SP2 SP3 SP4	2270 2271 2272 2273	01 02 03 04
2 = OVERLAP	1 = OVLA	SP5 SP6 SP7	2274 2275 2276	61 61 62
4 = DOUBLE CLR	1 = DCA 2 = DCB 3 = DCC 4 = DCD 5 = DCE 6 = DCF	SP8 SP9* SP10	2277 2278 2279	62 11 —
6 = DC/OVL	1 = DC/OVLA 2 = DC/OVLB	SP11**	227A	
C = MASTER OUTPUTS (R/Y/G)	0 = UNUSED/OFF2/OFF3 C = CYC1/CYC2/CYC3 F = FREE/SYNC/OFF1	SP12 SP13 SP14	227B 227C 227D	02 — —

NOTES: * SP9 (YELLOW) Outputs Aux Output by Timeclock ** SP11 (YELLOW) Outputs Blue Light

^{***} Choose value in () for solid yellow output during DON'T WALK

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:05:47

TE 262-7A (11/95)

OVERLAPS

	PHASE WORD	
FUNCTION	8 4 2 1 8 4 2 1 LOC.	CODE
OVERLAP A GREEN PHASE WORD OVERLAP B GREEN PHASE WORD OVERLAP C GREEN PHASE WORD OVERLAP D GREEN PHASE WORD OVERLAP E GREEN PHASE WORD OVERLAP F GREEN PHASE WORD		
OVERLAP A CLEARANCE PHASE OVERLAP B CLEARANCE PHASE OVERLAP C CLEARANCE PHASE OVERLAP D CLEARANCE PHASE OVERLAP E CLEARANCE PHASE OVERLAP F CLEARANCE PHASE	φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2284 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2285 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2286 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2287 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2288 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2288 φ 1 φ 2 φ 5 φ 6 φ 3 φ 4 φ 7 φ 8 2288	
DC/OVL A DBL. CLEAR PHASE DC/OVL B DBL. CLEAR PHASE DC/OVL A OVL GREEN PHASES DC/OVL B OVL GREEN PHASES DC/OVL A CLEARANCE PHASES DC/OVL B CLEARANCE PHASES	\$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228A \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228B \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228C \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228D \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228E \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228E \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228E \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 \$\phi\$ 8 228E \$\phi\$ 1 \$\phi\$ 2 \$\phi\$ 5 \$\phi\$ 6 \$\phi\$ 3 \$\phi\$ 4 \$\phi\$ 7 <td< td=""><td>40 04 E0 0E C0 0C</td></td<>	40 04 E0 0E C0 0C

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:05:52

TE 262-8 (11/95)

OUTPUT CONTROL WORDS

						PI	IAS	SE	WC	DRI)							
FUNCTION		8		4		2		1		8		4		2		1	LOC.	CODE
PEDESTRIAN																	····	
PEDESTRIAN A PHASE WORD PEDESTRIAN B PHASE WORD PEDESTRIAN C PHASE WORD PEDESTRIAN D PHASE WORD PEDESTRIAN E PHASE WORD PEDESTRIAN F PHASE WORD FLASHING WALK PHASE WORD PEDESTRIAN PHASE REST N WALK EXTENDED PED CLEARANCE WORD	ффффф ффф	1 1 1 1 1 1	ф ф ф ф ф ф ф	2 2 2 2 2 2 2 2 2	ффффф ффф	5555555555	ффффф ффф	6666666666	ф ф ф ф ф ф ф	თ თ თ თ თ თ თ თ	ффффф ффф	4 4 4 4 4 4 4 4	ффффф ффф	7 7 7 7 7 7 7 7 7	ффффф ффф	88888888	2290 2291 2292 2293 2294 2295 2296 2297 2298	80
DOUBLE CLEARANCE			<u> </u>		•		<u> </u>		<u> </u>		<u> </u>		-		•			
DOUBLE CLEARANCE A PHASE DOUBLE CLEARANCE C PHASE DOUBLE CLEARANCE C PHASE DOUBLE CLEARANCE D PHASE DOUBLE CLEARANCE E PHASE DOUBLE CLEARANCE F PHASE	ф ф ф ф ф	1 1 1 1	$\phi \phi \phi \phi \phi \phi$	2 2 2 2 2 2	$\phi \phi \phi \phi \phi \phi$	១១១១១	ϕ ϕ ϕ ϕ ϕ	66666	ϕ ϕ ϕ ϕ	333333	ϕ ϕ ϕ ϕ ϕ	4 4 4 4 4	ϕ ϕ ϕ ϕ ϕ	7 7 7 7 7	ϕ ϕ ϕ ϕ ϕ	888888	2299 229A 229B 229C 229D 229E	

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495 DATE: 12/08/02 TIME: 01:06:15

TE 262-10 (11/95)

TIMECLOCK FUNCTIONS

	FUNCTION		8	4		2	1	}	В	4	2	1	LOC.	CODE
•••				SP	5	3P		SI	P	SP	SP	SP		
F F F	LASH OUTPUT LASH OUTPUT LASH OUTPUT LASH OUTPUT LASH OUTPUT LASH OUTPUT	-		3Y 6Y 9Y 12Y - 14Y	6		1	2 \ 5 \ 8 \ 11 \ 7 \ 13 \	Y Y Y Y	2R 5R 8R 11R 1Y 13R	- - - 10Y	1R 4R 7R 10R 4Y -	22D0 22D1	
O R M	MIT A PHASE WORD MIT B PHASE WORD EST IN RED AX GRN II PHASE WORD AX GRN III PHASE WORD	φ : φ : φ :	l L L	φ 2 φ 2 φ 2 φ 2 φ 2	$\phi \phi \phi \phi \phi$	55555	ф ф ф ф ф ф	φ 3 3 3 4 φ 4 3 3 4 4 4 4 4 4 4 4 4 4 4	3	φ 4 φ 4 φ 4 φ 4 φ 4	φ 7 φ 7 φ 7 φ 7 φ 7	φ 8 φ 8 φ 8 φ 8 φ 8	22D4 22D5 22D6 22D7 22D8	
	NPUT 1-16 BY TIMECLOCK NPUT 17-28 BY TIMECLOCK	1 ° 1 8	7	3 4 19 20		5 6 1 2	7 8 23 24	10 25 26	5	11 12 27 28	13 14	15 16	22D9 22DA	

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495
DATE: 12/08/02 TIME: 01:06:35

TE 263-3 (11/95)

COORDINATION MODE PROGRAMMABLE FEATURES

PROGRAMMING MODE WORD	00 = SECONDARY, 21 = PRIMARY	2300	
MANUAL PATTERN SELECT	ENTER TIMING PLAN NUMBER (HEX) (NOTE: FF = FREE)	2301	
COORDINATION BACK-UP	00 = FREE 01 = T.B.C.	2302	
COORDINATION MODES (MAY NOT BE COMBINED)	00 = TBC 01 = SPARE 02 = 7 WIRE INPUT VIA DETECTOR FILE 04 = 9 WIRE INPUT VIA DETECTOR FILE 08 = SPARE 10 = PATT. ID/SYNC INPUT VIA MODEM 20,40 = SPARES 80 = TBC MASTER OUTPUT	2303	
RETURN TO ARTERY WORD/ ARTERY PED RECYCLE WORD	00 = RETURN AFTER FORCE OFF #1 /NO EARLY ARTERY PED RECYCLE 01 = RETURN TO ARTERY EARLY 10 = EARLY ARTERY PED RECYCLE	2304	

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495

TE 264-1 (11/95) MODEL 179 TIMECLOCK EVENT TABLE Page 1 of 16

	A	В	С	D		A	В	С	D
EVENT #	DAY PROG. #	PATT.	TIME CLOCK FUNCT	TIME HR : MIN.	EVENT #	DAY PROG. #	PATT.	TIME CLOCK FUNCT	TIME HR : MIN.
E001	001	000	008	06:3	E007	***************************************			:_
E002	001	000	000	09:0	E008				·
E003	001	000	008	15:3	E009				:_
E004	001	000	000	18:0	E010				_:_
E005	:			: _	E011				:_
E006				;_	E012			Parameter Company of the Company of	:_

CCS = 87B Signal # = 229P Rte = 9 Rte Seq # = 495
DATE: 12/08/02 TIME: 01:06:52

TE 264-2 (11/95) TABLE OF WEEK PROGRAMS

WEE	К #	001	002	003	004	005	006	007	008	009	010
DAY	CODE	d01	d02	d03	d04	d05	d06	d07	d08	d09	d10
SUN	1	002									
MON	2	001									
TUES	3	001									
WED	4	001									<u></u>
THUR	5	001						#14************************************			
FRI	6	001		***************************************							
SAT	7	001						P			

TE 262-12 (7/91)

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

TAPS_			
STUDY	#		
FILE#	55	5.03.9	A
PAGE	18	OF	20

COUNTY# WEST. DATE

SWITCH	FUNCTION	INDICATIONS	FACE	TERMINA	TERMINAL WIRING BOARD		TERMINA	TERMINAL WIRING BOARD		
PACK	FUNCTION	INDICATIONS	PACE	TERMINAL	WIRE COLOR CODE	FACE	TERMINAL	WIRE COLOR CODE		
		RED		SP1R	14 / 19C - B - R/B		SP1R	14/10C-C-R		
	ai.	YELLOW	3	SP 1 Y	- O/B	ا ر ا	SP 1 Y	-0		
1	Ø1	GREEN	১	SP 1 G	- G/B	4	SP1G			
		Ground Wire		Grnd Bus	- W/B		Grnd Bus	- W		
	 	RED		SP 2 R	14 / 10C - C - R/B		SP 2 R	14 / 5C - D - R		
_		YELLOW	_	SP 2 Y	- O/B		SP 2 Y	-0		
2	Ø2	GREEN	5	SP 2 G	- G/B	6	SP 2 G	- G		
		Ground Wire	ì	Grnd Bus	- W/B		Grnd Bus	- W		
		RED		SP 3 R	14 / 10C - J - R		SP 3 R	14 / 19C - I - R/B		
_		YELLOW		SP 3 Y	-0		SP 3 Y	- O/B		
3	Ø3	GREEN	11	SP 3 G	- G	12	SP 3 G	- G/B		
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W/B		
		RED		SP 4 R	14 / 10C - J - R/B		SP 4 R	14 / 19C - I - B/R		
				SP 4 Y			SP 4 Y	- O/R		
4	Ø4	YELLOW	13	SP 4 G	- O/B - G/B	14	SP 4 T	- 0/R - BL/R		
		GREEN								
		Ground Wire		Grnd Bus	- W/B	<u> </u>	Grnd Bus	- W/R		
	DCL/OVL	RED	ļ	SP 5 R	14 / 19C - I - R		SP 5 R	14 / 5C - H - R		
5	'A'	YELLOW	9	SP 5 Y	-0	10	SP 5 Y	-,0		
Ū	Ø1+Ø2+Ø5	GREEN		SP 5 G	- G		SP 5 G	- G		
	שנדשבדשט	Ground Wire		Grnd Bus	- W		Grnd Bus	W		
	DCL/OVL			SP 6 R			SP 6 R			
6	'A'	\bigcirc	9	SP 6 Y	14 / 19C - I - BL/W		SP 6 Y			
U	1	←	ا	SP 6 G	- G/W		SP 6 G	<u> </u>		
	Ø1+Ø2+Ø5	Ground Wire		Grnd Bus	- B/W		Grnd Bus			
	DCL/OVL	RED		SP 7 R	14 / 10C - A - R	_	SP7R	14 / 19C - B - R		
7		YELLOW	1	SP7Y	-0	2	SP7Y	-0		
1	'B'	GREEN		SP 7 G	<i>-</i> G		SP7G	- G		
	Ø3+Ø4+Ø7	Ground Wire	Ī	Grnd Bus	- W	ĺ	Grnd Bus	- W		
	DCL/OVL		Ì	SP 8 R			SP 8 R			
0	!!		, ~ [SP8Y	14 / 19C - B - BL/W	Ì	SP 8 Y			
8	'B'	4	2	SP 8 G	- G/W		SP 8 G	-12		
	Ø3÷Ø4+Ø7	Ground Wire	ļ	Grnd Bus	- B/W		Grnd Bus			
		DONT WALK		SP 9 R	14 / 5C - 1P - R		SP 9 R	-		
_	PED 'A'			SP 9 Y	gr 465 yr 47 49 49 44 64 64 64 65 65 65 65 65 65 65 65 65 65 65 65 65		SP 9 Y			
9	Ø1	WALK `	21	SP 9 G	- G	Ì	SP 9 G			
	ושו	Ground Wire	-	Grnd Bus	- w	}	Grnd Bus			
	 	2.022 17110		SP 10 R			SP 10 R			
	, · · · · 		L	SP 10 Y	<u> </u>	ŀ	SP 10 Y			
10	-		}	SP 10 G		}	SP 10 G	~		
	" 	Ground Wire	}	Grnd Bus		·	Grnd Bus			
		Croana Wife		SP 11 R			SP 11 R			
	-		ŀ	SP 11 Y		}	SP 11 Y	•		
11	.		-	SP 11 G		}	SP 11 G			
	ļ. <u></u>	Cua um d Minn	-			}	Grnd Bus			
		Ground Wire		Grnd Bus	14 / 10C - A - R/B		SP 12 R	14 / 19C - B - B/R		
	<u> </u>		-	SP 12 R		}				
12	Ø2		7	SP 12 Y	- O/B	8	SP 12 Y	- O/R		
			·	SP 12 G.	- G/B		SP 12 G	- BL/R		
		Ground Wire		Grnd Bus	- W/B		Grnd Bus	-"W/R		
-	_		L	SP 13 R		1	SP 13 R			
13	į.		L	SP 13 Y	<u></u>		SP 13 Y			
10			[SP 13 G		[SP 13 G			
		Ground Wire		Grnd Bus			Grnd Bus			
				SP 14 R			SP 14 R			
41	Ī		Ī	SP 14 Y		Ī	SP 14 Y			
14		·····	Ī	SP 14 G		Ī	SP14 G	· · · · · · · · · · · · · · · · · · ·		
		Ground Wire		Grnd Bus		}-	Grnd Bus			

TE 262-13 (7/91)

NOTES:_

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

TAPS_			
STUDY	#		
FILE#_	5	5.03.9	PΑ
PAGE	19	OF	20

	1,000.1	
SIGNAL#	_W229/W229 COUNTY#	WEST.

DATE _____

CONFLICT/CURRENT MONITOR PROGRAMMING

	CONFLICT MONITOR TO BE CUT	DIODES	CONFLICT MO YELLOW JUMI TO BE INSTAL	CURRENT MONITOR DIODES TO BE CUT	
SP1 - SP5	SP6 - SP12		SP9		6, 8 to 11, 13, 14
SPI - SP6	5P5-SP6				
SP1 - SP9	3P7-5P8				
SP2 - SP5					
SP2 - SP6				1.00	
SP2 - SP12					
SP3 - SP7					
SP3 - SP8			_	-	, and the second
SP4 - SP7					
SP4 - SP8		-	*		*. ·
SP5 - SP9					
SP5 - SP12					· · · · · · · · · · · · · · · · · · ·
SP6 - SP9					- 4

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^ TE 262-14 (7/91)

MODEL 179 SIGNAL OPERATION PROGRAMMABLE FEATURES SIGNAL OPERATION SPECIFICATION

TAPS_			<u> </u>
STUDY	#_		
FILE#_	55	5.03.9	A(
PAGE	20	OF	20

SIGNAL #		پر ^{کر کرد} COUNTY#	WEST.	DA
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TABLE OF INPUT WIRING

Г			1		
TERM NUMBER	FUNCTION	DET. NO.	DET, TYPE	DET. AN OVER	REMARKS
1A, 1B	Ø1	1A, 1B	NORMAL		PRESENCE LOOPS
2A, 2B	Ø2	2A, 2B	NORMAL		PRESENCE LOOPS
3A, 3B	Ø3	3A, 3B	NORMAL		PRESENCE LOOPS
4A, 4B	Ø4	4A, 4B	NORMAL	ν.	PRESENCE LOOPS
5A, 5B	ø5	5A, 5B	NORMAL		PRESENCE LOOPS
6A, 6B					
7A, 7B	Ø7	7A, 7B	NORMAL		PRESENCE LOOPS
8A, 8B	Ø2	8A, 8B	NORMAL		PRESENCE LOOPS
9A, 9B	PED. 'A' - Ø1	21	PUSH BUTTONS		PEDESTRIAN BUTTONS (2)
10A, 10B	•				
11A, 11B	.Ø1	11A, 11B	NORMAL		PRESENCE LOOPS
12A, 12B	Ø2	12A, 12B	NORMAL		PRESENCE LOOPS
13A, 13B	Ø3	13A, 13B	NORMAL		PRESENCE LOOPS
14A, 14B	Ø4	14A, 14B	NORMAL		PRESENCE L'OOPS
15A, 15B	Ø5	15A, 15B	NORMAL		PRESENCE LOOPS
16A, 16B					
17A, 17B	Ø7	17A, 17B	NORMAL		PRESENCE LOOPS
18A, 18B	Ø2	18A, 18B	NORMAL		PRESENCE LOOPS
19A, 19B					
20A, 20B				•	
21A, 21B	No.				
22A, 22B					
23A, 23B					
24A, 24B				z .	1
25A, 25B			_		.902
26A, 26B				-	
27A, 27B					
28A, 28B					

5. StreetLight Methodology / Volume Adjustment Factors

STREETLIGHT DATA METHODOLOGY

OVERVIEW

StreetLight is a web-based software product that allows planners, modelers and engineers in the US and Canada to dynamically and flexibly run core transportation analytics based on billions of bits of travel information gathered from multiple sources (referred to as Big Data). It allows transportation experts to design, generate, visualize, and download customized Travel Metrics such as origin-destination matrices, trip time, trip length, and more in minutes. These analytics are based on billions of trips derived from archival, anonymous, trace data generated by millions of mobile devices, such as smart phones, in-car navigation systems, and truck fleet management systems.

The following two attached White Papers from StreetLight provide an overview of the technical methodologies utilized within the StreetLight platform to derive traffic volume data:

- "StreetLight Volume Methodology & Validation White Paper" (August, 2019)
- "Turning Movement Validation White Paper" (December, 2018)

In order to develop a comparison ratio between pre-pandemic and summer 2020 traffic volumes, turning movement count (TMC) data was obtained from the StreetLight platform from a 4-month period (the recommended data timespan by StreetLight) of 2019 count data and from the then-available summer months (June and July) of 2020. This data was obtained for the Route 9 (Jans Peeck Bridge)/Bear Mountain Parkway intersection. Based on the algorithms utilized by StreetLight, the data at this location was anticipated to be the least susceptible to stray data points would could potentially skew the data due to its isolated location. Additionally, this intersection also carries some of the highest traffic volumes in the study area which also reduces the margin of error.

The summer 2020 AKRF traffic volumes at this intersection were compared with the StreetLight summer 2020 traffic volumes and the AKRF volumes were found to be comparable or lower than the StreetLight data for the peak periods examined. Therefore, the ratio between the StreetLight 2019 and AKRF summer 2020 volumes would be higher than the ratio between the StreetLight 2019 and StreetLight 2020 volumes, and can be considered as conservative.

To further validate the StreetLight data, a comparison of the turning movement percentages of vehicles in each direction (left, through, right) between the two data sets were compared for each of the peak periods examined and were found to generally be comparable.

Table A.5-1 shows the factors that were applied to the study area AKRF summer 2020 volumes to approximate 2020 pre-pandemic baseline conditions based on the volume comparisons outlined above.

Table A.5-1 StreetLight versus AKRF Traffic Volume Summary Route 9 (Jans Peeck Bridge) / Bear Mountian Parkway Intersection

	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Midday (Weekend) Peak Hour
StreetLight 2019 Data ¹	3,898	4,020	4,057
StreetLight Summer 2020 Data ¹	2,679	3,162	3,343
AKRF Summer 2020 Data	2,227	2,873	2,348
Ratio - StreetLight 2019 versus AKRF Summer 2020 Volume Data	1.75	1.40	1.73

Notes:

- 1. StreetLight data only provides on-hour volume data (e.g. 7-8 AM, 4-5 PM). Data was further calibrated to coincide with off-hour (e.g. 7:30 8:30 AM, 4:45 5:45 PM) peak hours established from the AKRF data.
- 2. Factors applied to the AKRF Summer 2020 data for the respective peak hours to establish the 2020 Existing Conditions Baseline traffic volumes.





This white paper provides technical detail about the methodology, algorithm development, validation, and data sources used in StreetLight Data's Volume output. This white paper was first published in August 2019 and is updated periodically as new validation is performed.

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Estimated Volume for Areas	5
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Origin-Destination Volume for Roads	
Data Sources and Methods	
Validation Results: Origin-Destination Volume	12
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Introduction

StreetLight's underlying data sample varies month to month, and the resulting trip counts and normalized Index values, while valuable for cross zone or cross project comparison, do not represent estimated trip counts. The goal of the new StreetLight Volume output is to provide an estimate of average daily traffic, and to allow for time-series analysis, or comparison of actual traffic changes over time. This Volume output provides a quick, easy, and cost-effective way to measure traffic at the yearly, monthly, daily, and even hourly level. Volume estimates can be derived for any location, such as a road, park, TAZ or user-defined special area. It can also be used to estimate zone-to-zone traffic, providing accurate estimates for work like turning movement studies and travel demand models. StreetLight Volume is available for analyses in the U.S., and soon for Canada.

Methodology

Estimated Volume for Roads

DATA SOURCES

In order to create an estimate of the actual number of cars on the road at a variety of points in time, the analysis combined multiple models to create optimal results. At a high level: StreetLight's machine-learning models predict expected seasonal changes at a location over time, and use the Streetlight Data AADT (annual average daily traffic) to calibrate seasonal changes to an estimated volume.

Following is a brief overview of StreetLight AADT methodology and data sources. To get more detailed information, please refer to the StreetLight AADT white paper.

The StreetLight AADT blends together the following data sources to provide the best prediction of annual average daily traffic at a given location:

- 1. Location-Based Services trips.
- 2. Navigation GPS trips personal and commercial.
- 3. U.S. Census and Manifold super demographics which are derived from Statistics
- 4. Open Street Maps data reflecting road classification, density of commercial activity, and more
- 5. Weather data.
- 6. AADT counts, derived from permanent traffic recorders, including a mix of small and large, urban and rural locations. StreetLight uses 11,000+ counts across the U.S. and Canada to develop and validate AADT.



Using a combination of the features described above, the analysis applied a Random Forest model to estimate AADT at each location. It then performed several types of cross-validation to ensure the model worked well in different scenarios (across states, road types etc.) The validation work proved that the actual and estimated AADT values through the cross validation were correlated with a very high R² (.96) which indicates that the performance of the model is excellent without bias.

In order to estimate variation in traffic volume across time, analysis relied on permanent traffic recorders (PTR) deployed on roads across the U.S. which count the number of cars constantly. This constant counting allows StreetLight to evaluate monthly average daily traffic (MADT) metrics to assess monthly variation in trip volume at a particular location.

Creating a monthly traffic model demanded promptly published data on how many cars were historically present on a road each month. Quality data at the monthly level is not readily available from all states, thus StreetLight had to narrow PTR counters to those that met a high standard of frequency and quality. This left 474 counters across eight states: Colorado, Georgia, Indiana, Michigan, Massachusetts, Montana, Ohio, and Rhode Island. This is a subset of those used in the AADT calibration process.

ALGORITHM DETAILS

With the MADT data derived from counter locations across the county, a distinct linear model was trained and generated for each month of the year. Using a series of spatial and temporal features, the linear model predicts a seasonal factor for the expected change in traffic for that month relative to the yearly average for 2018 (AADT). Seasonal factors are represented as a percent change from the yearly average, so a month with more traffic than the yearly average will have a positive seasonal factor (say +10%), while a month with less traffic than the yearly average will have a negative seasonal factor (say -15%).

The resulting model allows us to ingest monthly data samples that vary in size, and then predict monthly trip volumes that correspond with seasonal variation. In Figure 1, LBS trips at a single location are translated into "seasonal change" in LBS across months (left, green). Each dot represents data from a different month at a specified location. In running the model, the seasonal factor can be translated into MADT (right, blue).



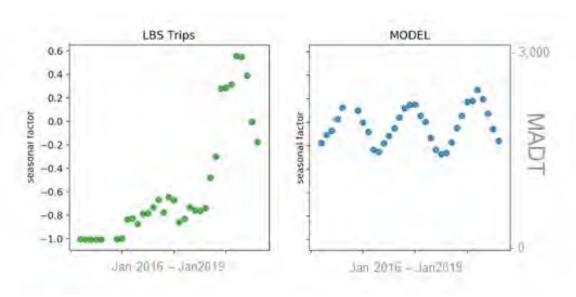


Figure 1: Unadjusted LBS sample trip counts (left) show sample growth over time vs. MADT model output, which corrects and normalizes the input data.

Estimated Volume for Areas

DATA SOURCES

Calibrating LBS data to the volume of large areas is less straightforward than calibrating to expected road volume without reliable "truth" data representing the real-world number of trips that start or end in large areas. The most consistent and reliable validation and training data available is for roads. Thus, StreetLight used its well-validated method of estimating traffic on roads to infer expected volume to areas.

In order to estimate trips to or from an area, the process followed this high-level method:

- 1. Sample nearby roads with trips in the zone area.
- 2. Obtain an estimate of MADT for the sampled road, as described previously.
- 3. Use the estimated MADTs from the roads near the area to calibrate and generate an estimate of volume in the area.

ALGORITHM DETAILS

In order to estimate volume for a specified area, the algorithm selects a subset of roads with trips that start, end, or pass through the zone area. See Figure 2 for an example, where a specified area (shaded) is accompanied by a subset of randomly sampled roads (orange gates) in the surrounding area. The number of sample roads will depend on the size and location of the area zone.



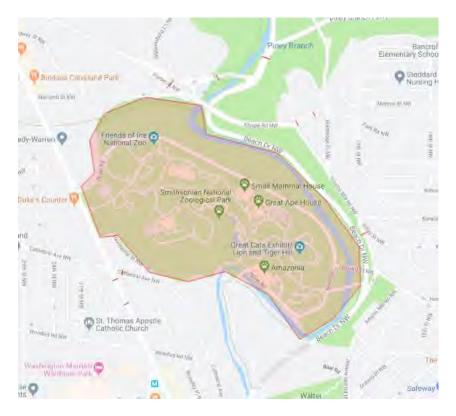


Figure 2: Example area zone with selected gates (red lines) used to calculate MADT for trip starts and stops to the area.

For each sampled road, the system will do the following:

- 1. Run a pass-through Zone Activity analysis for an estimate of MADT from each sampled road.
- 2. Use the ratio of LBS through the road, and LBS trips through the zone area to estimate zone area volume. This is based on the assumption that: LBS road/LBS area = actual road/actual area.
- Calculate the weighted average volume estimate from all the sub-sampled roads to choose a final estimated StreetLight Volume.

Based on seasonal factors associated with the months included in the analysis, this results in an estimated volume for the defined area based on trip starts and ends.

Estimated Volume for Origin-Destination Analyses

Once Volume outputs were estimated for individual zones (both pass-through and area zones) these were applied to origin-destination analyses, which allowed for evaluating how many trips span between locations. The goal is to generate an O-D Volume that allows for comparisons across time, and provides a number that represents a reasonable estimate of the real-world number of trips.



This was accomplished via the following approach:

- 1. Calculate the total Zone Activity Volume for each O-D zone (described in the previous sections).
- 2. Return the LBS trip counts between each O-D zone.
- 3. Use Iterative Proportional Fitting (IPF) to scale the LBS O-D counts to Volume based on the estimated volume at each O-D.

Iterative Proportional Fitting is a technique used to adjust the counts in a table so that they add up to specified totals (or "marginal totals") for both columns and rows. In this case, the adjusted data (called "seed" cells) is the LBS trip counts between each O-D pair. Using an adjusted Zone Activity Volume for each O-D as the marginal totals, then scaling the LBS trip counts with IPF adds up to the expected Zone Activity Volumes. This approach follows well-established practices in the transportation industry.¹

In addition to a two-dimensional matrix used in an O-D project, the IPF technique can also be applied to a three-dimensional matrix to derive volume estimates for an Origin-Destination with Middle Filter (ODMF) zone configuration.

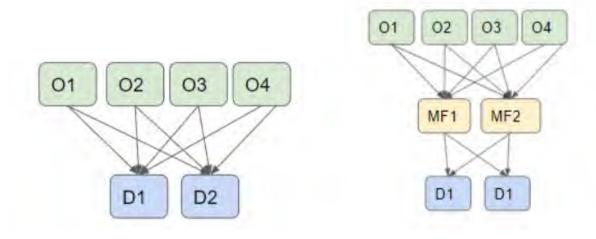


Figure 3: Example Origin-Destination analysis configuration (left) and Origin-Destination analysis with Middle Filter configuration (right) used in IPF calculations.

¹ CDM Smith, A. Horowitz, T. Creasey, R. Pendyalam, and M. Chen. NCHRP Report 765: *Highway Traffic Data for Urbanized Area Project Planning and Design*. TRB, National Research Council, Washington, D.C., 2014. Pg 161



Validation

Zone Activity Volume for Roads

DATA SOURCES AND METHODS

In order to validate monthly Volume output, we created a zone set that contained 495 permanent counter locations across the continental U.S. These locations were not used to train the original model, but had sufficient MADT data reported across time so they could be used as a direct point of comparison. These locations, obtained from state DOTs, included counters dispersed across 15 U.S. states, including urban, suburban, and rural locations, as well as a variety of road sizes and classifications. Figure 4 shows those zone locations.



Figure 4: Counter locations across the U.S. used for MADT validation.

Validation was performed using these 495 counter zones in a series of Zone Activity Volume analyses within StreetLight InSight® for each calendar month in 2018. StreetLight Volume results were directly compared to the MADT values for accuracy. In total there were 5074 data points for comparison (each counter included data for a subset of months with 2018, but not necessarily all months within the calendar year).

VALIDATION RESULTS: ZONE ACTIVITY VOLUME

Directly comparing the StreetLight Volume results to the reported MADT, there is a very high correlation. With no outlier deletion, the R² value is 0.979, indicating a strong relationship between StreetLight Volume estimates and real-world counts.



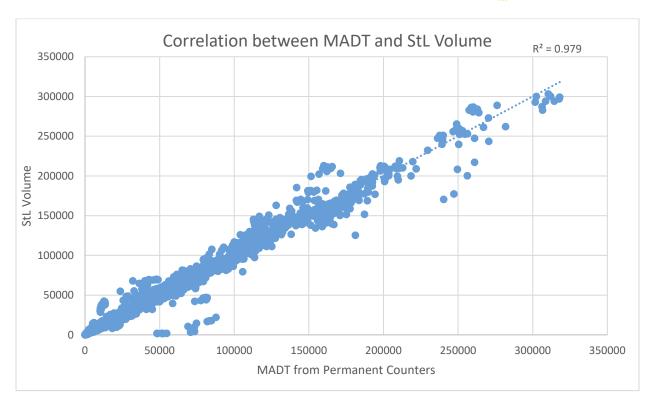


Figure 5: StreetLight Volume compared to published MADT values.

In addition to correlation, we also evaluated the mean absolute percentage error (MAPE) and root means square error as percent of average MADT (RMSE as %) by road size, expecting to have more accurate estimations on larger roads with higher MADT values. Table 1 compares the MAPE and RMSE to published target errors. The results fall within the target error range across all road sizes.

Road Size	Count	Target MAPE	MAPE	Target RMSE/Average MADT	RMSE/Average MADT
<2.5K	594	Not available	31%	47%	37%
2.5K-5K	586	Not available	12%	36%	17%
5K-10K	1011	20%	15%	29%	20%
10K-25K	1336	20%	13%	25%	25%
25K-50K	647	16%	10%	22%	17%
50K+	900	12%	8%	21%	13%

² See Table 2 in: Gadda, S., A. Mangoon, and K. Kockelman. Estimates of AADT: Quantifying the Uncertainty. 11th World Conference on Transport Research, Berkeley CA, 6-24-2007 to 6-28-2007.



VALIDATION RESULTS: SEASONALITY

In addition to evaluating the direct comparison between StreetLight Volume output and MADT across all locations, the analysis also examined some specific locations to validate the model's ability to accurately capture seasonal trends. Counter locations were randomly selected that had 11 or 12 monthly counts in 2018. In comparing results, trend lines reflected a similar seasonal pattern, while also being closely aligned in volume.

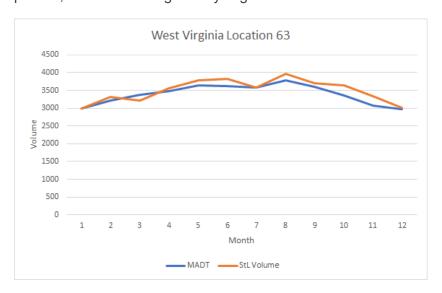


Figure 6: Monthly variation in StreetLight Volume and MADT across 2018 – sample mid-volume West Virginia location.

Testing both high- and low-volume roads confirmed the ability to report seasonal trends across all types of locations. Figure 7 below shows a higher volume road (~20K MADT). In this case, the StreetLight Volume estimate aligns very closely with the MADT values.

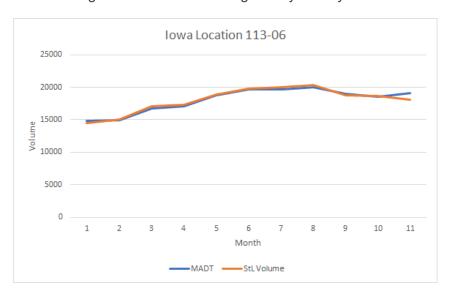


Figure 7: Monthly variation in StreetLight Volume and MADT across 11 months in 2018 – sample high-volume lowa location.



Figure 8 depicts a very low-volume rural road in Montana with an MADT range between 200 and 1000 across the year. In this case, while slightly less extreme than the reported MADT numbers, the StreetLight Volume is still able to capture the seasonal peaks very accurately, with lows in the winter months and clear peak in July. These results give confidence in the model's ability to accurately predict seasonal trends, even when locations experience low-traffic volumes.

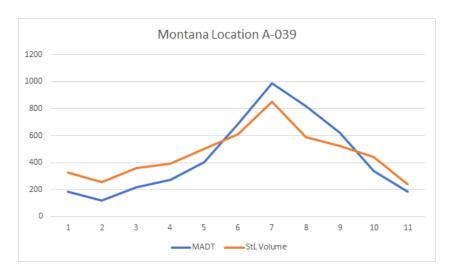


Figure 8: Monthly variation in StreetLight Volume and MADT across 11 months in 2018 – sample low-volume rural Montana location.

Origin-Destination Volume for Roads

DATA SOURCES AND METHODS

For validating Volume performance in an O-D analysis, StreetLight Volume results were compared to turning-movement counts published by Hennepin County in Minnesota³. A turning movement is an O-D study where each inbound road is the origin and each outbound road is the destination. Turning movements were chosen because validation data for turning movement studies is far more readily available than other types of O-D data.

The validation used data from five locations throughout the county, all of which were gathered on different dates in 2017. For each location, trips were manually counted between 6:00 a.m. and 6:00 p.m.

In order to perform a direct comparison between the Hennepin County locations and the StreetLight Volume output, we created zones in the *StreetLight InSight* platform that mirrored these five intersections. Then the platform ran an O-D analysis for the calendar year, structuring the query to match the specific weekday and hourly period from which the data were collected.

http://hennepin.maps.arcgis.com/apps/webappviewer/index.html?id=14c650982d904132a4854f 399c71e1f2

³



For example, if site A used a Tue-Thu 8:00 a.m. to 10:00 a.m. definition of peak, the validation also used this definition of peak. The analysis closely mirrored the original study for direct comparison of turning movement counts and ratios.

VALIDATION RESULTS: ORIGIN-DESTINATION VOLUME

At each of the five locations, data was evaluated for eastbound, westbound, northbound, and southbound traffic as the origin, with left, right, and thru traffic as the destination. In total, this created 60 data points for comparison.

Without deleting any outliers, there was a high correlation between StreetLight Volume and the Hennepin turning movement counts, with an R² value of 0.947.

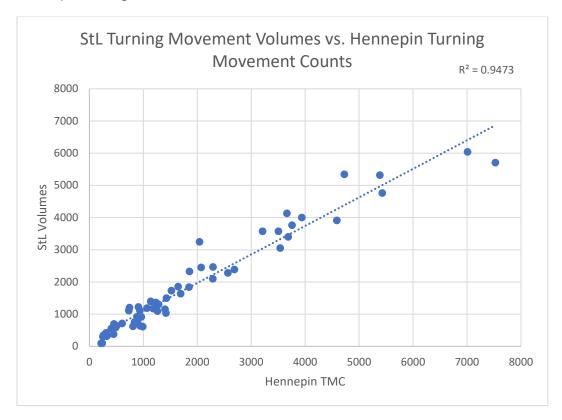


Figure 9: Correlation between Hennepin turning movement counts and StreetLight Volume.

In addition to the turning movement counts, the analysis also directly compared the turning movement ratios, represented as percentages of total origin zone traffic that traveled left, right, or directly through the intersection. The correlation for turning movement ratios was even higher, with an R² value of 0.976.



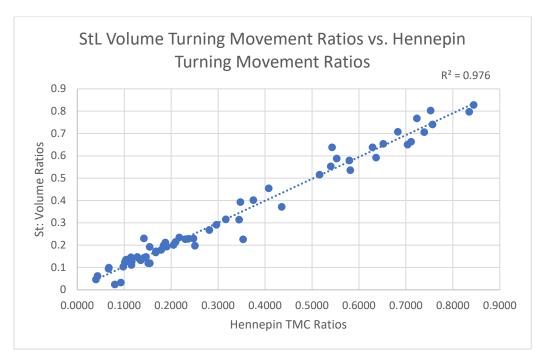


Figure 10: Correlation between Hennepin turning movement counts and StreetLight Volume.

The image below illustrates an individual intersection and the comparison between StreetLight Volume and turning movement counts along with turning movement ratios. Turning movement counts are very close, while turning movement ratios are nearly identical.



Figure 11: Southbound turning movement counts and ratios at location 4538.



Overall, these results are very promising and suggest that StreetLight Volume reliably captures seasonal trends, as well as O-D patterns.

In future iterations of the validation study, StreetLight will incorporate Zone Activity and O-D results for area zones, looking at validating trip counts that start or stop in the area (not pass-through). StreetLight welcomes any partner who has empirically measured counts for area zones that would like to share them for the purposes of validation.

About StreetLight Data

StreetLight Data pioneered the use of Big Data analytics to help transportation professionals solve their biggest problems. Applying proprietary machine-learning algorithms to over four trillion spatial data points, StreetLight measures diverse travel patterns and makes them available on-demand via the world's first SaaS platform for mobility, StreetLight InSight®. From identifying sources of congestion to optimizing new infrastructure to planning for autonomous vehicles, StreetLight powers more than 3,000 global projects every month.







Validation of Turning Movement Accuracy with StreetLight InSight[®] Metrics

This white paper provides technical detail about use of *StreetLight InSight* to calculate turning movement ratios. It focuses on validation of these unique, Big-Data derived travel pattern analytics against publicly available turning movement ratios derived from traffic counts. This paper assumes the reader has basic familiarity with StreetLight methodology and Metrics. This and other background can be found at streetlightdata.com.

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Overview and Motivation

This white paper describes the results of an accuracy validation study comparing Metrics derived from *StreetLight InSight* to public, external data sources. For this white paper, we validated link to link origin-destination data from *StreetLight InSight* for intersections against publicly available intersection turning movement counts from the Champaign County Regional Planning Commission's Champaign Urbana Urbanized Area Transportation Study (CUUTAS) in Illinois and the Maryland State Highway Administration (MDSHA).

Turning movement counts are performed regularly by many throughout the transportation industry. They are a key input to signal timing or retiming efforts, traffic impact studies, corridor studies, and more. Traditionally, they require temporary set up and maintenance of specialized



video or other equipment, which can cost ~\$1,200/intersection to measure for a two-day count.¹ Collection costs can be so high that many agencies only collect data for a few hours (e.g. only from 4 to 5 PM). This leaves agencies blind to travel patterns at a time when peak periods are expanding and congestion occurs over several hours during the day. In addition, the temporary sampling requires "expanding" the sample to represent an entire year, which creates inaccuracies and is not sensitive to variation from seasons or special events. Finally, collecting these counts can put staff in harm's way near busy roads.

Deriving intersection turning movements from Big Data can save the industry money and time while reducing risk of injury to staff. In addition, when turning counts are easily and readily available, they can be utilized for more studies and ultimately enable better transportation decisions.

Data Sources and Methods

CUUTAS Intersection Counts

CUUTAS provides an open data portal that includes vehicle turning movement counts for particular intersections in Champaign and Urbana.² The turning movement counts are provided at each intersection for three select hours of the day during the AM, noon, and PM periods. For this white paper, we used intersections with relatively recent counts (2015 or 2016).

Maryland State Highway Administration Intersection Counts

MDSHA provided 15-minute turning movement counts for intersections located along Maryland State Highways and U.S. Highways.³ The counts were collected for 24 hours on a Tuesday, Wednesday, or Thursday. To compare against StreetLight's analytics, we aggregated Maryland SHA's 15-minute counts to hourly counts for one full day.

¹ http://www.mikeontraffic.com/traffic-data-inc-2016-price-list/

² https://ccrpc.org/data/vehicle-turning-movement-counts/

³ http://maps.roads.maryland.gov/itms_public/



StreetLight InSight Origin-Destination Analysis

For this validation work, we ran StreetLight InSight Origin-Destination Analyses (which allows calculation of turning movements) twice for each intersection in order to utilize two different data sources: Location-Based Services (LBS) data, which is created by smartphone apps, and Navigation-GPS data, which is created by connected cars and trucks as well as turn-by-turn navigation tools. StreetLight's Origin-Destination Analysis describes relative trip volumes between designated Zones. As described below, it can be used to calculate turning movements. For a full description of StreetLight data sources and methodology, see the detailed documentation available on the StreetLight website.4

Both Navigation-GPS and LBS data have strengths and weaknesses. Known sources of error, differences, and methods to deal with them include:

- 1. Potential demographic bias and other sampling issues with the LBS data: For LBS data used to derive turning movements and other metrics, StreetLight normalizes for bias using the US Census. There are details of this method in other resources on the StreetLight Data website. 5 In short, if ten devices "live" on a block with 100 people, each of those devices is scaled up by a factor of 10. If ten devices "live" on a block with 50 people, each is scaled by a factor of 5. This adjusts for variation in geographic distribution of mobile devices captured, which is correlated with demographic factors such as income.
- 2. GPS sample size and bias For Navigation-GPS data from personal devices, the sample size is smaller and we cannot follow a device for more than one trip. Therefore, we cannot normalize it as described above for the LBS data. Thus, we expect to find more demographic and geographic bias with the navigation-GPS data.
- 3. Short sampling window for CUUTAS & MDSHA data MDSHA and CUUTAS only collected turning movement data for a few hours on one day. We mitigated this source of difference by matching the time-of-day window. However, since StreetLight's data was for several months, we cannot mitigate bias that comes from any irregularities on that single-day when CUUTAS and MDSHA counts were collected. This may introduce bias if that particular day was unusual, that year had dramatic seasonal variations, etc.
- 4. Different years: All StreetLight analytics covered 2017, whereas MDSHA and CUUTAS data covered 2015-2017. Since conditions at the intersections may have changed during this time, this may introduce some error.

⁴ https://www.streetlightdata.com/methodology-data-sources-white-paper

⁵ https://www.streetlightdata.com/methodology-data-sources-white-paper



In short, none of the sources can be called "ground truth" since all are samples. Thus, we do not speak of "error" when comparing one source to another, instead we speak in terms of "difference". We do not expect the results to be exactly the same. We consider the validation successful if the results are highly correlated and the mean difference is relatively small.

Data Collection and Analysis: Single Intersection at University / Goodwin

In this section, we present a detailed look at the methodology for one intersection. We repeated the process 11 additional intersections for this validation study.

We performed an Origin-Destination analysis within the *StreetLight InSight* platform to create a turning movement analysis. Four zones were drawn for each intersection, one for each leg of the intersection, and marked as both an origin and destination, as shown below in Figure 1. A vehicle driving through the intersection will be seen on the inbound road as the origin, and on the outbound road as the destination. The Origin-Destination Analysis results can then easily be reorganized as hourly intersection turning movements.

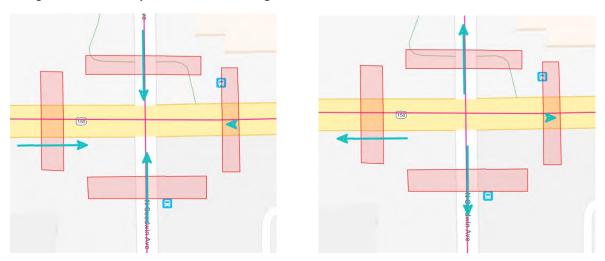


Figure 1: Left - Origin Zones for University Ave/Goodwin Ave. Right - Destination Zones for University Ave/Goodwin Ave

The StreetLight InSight Origin-Destination Analyses were run using 10 months of data in 2017; data was segmented by type of day (weekday vs weekend) and by each hour of the day.

StreetLight InSight can provide estimated trip counts for each turning movement if an analysis is calibrated with existing count data for intersection legs or StreetLight AADT Metrics. If no calibration is used, the output is a normalized index describing the relative volume of trips is given for each Origin-Destination pair. As this volume estimation process would introduce a second potential



source of error, the validation was completed by using turning ratios to compare CUUTAS and StreetLight's data. More information about StreetLight AADT is available online⁶, as are detailed instructions on calibrating Origin-Destination analyses using StreetLight AADT or local traffic count data.

After running the Origin-Destination Analysis for each intersection in *StreetLight InSight*, we calculated a turning ratio for each turning movement on an inbound road for each hour. The ratio is equal to the StreetLight index for that movement, divided by the sum of all indices for that road during that hour. This is described by the equation:

$$Ratio = \frac{T_l}{\sum T_{l,r,s}}$$

where T is the indexed value of the vehicles making each turn, and the subscripts "I, r, s" designate all possible left-turn, right-turn, and straight-ahead movements.

We repeated this process for the CUUTAS counts to obtain turning ratios, and compared these ratios for the hours of 7 AM, 12 PM, and 5 PM (when CUUTAS took measurements) against the StreetLight ratios for the same hours.

Each analysis had a different sample size. In general, LBS data had 25x the sample size as the CUUTAS counts, and GPS Data had 2-3x the sample size, as reflected in the University Ave example shown in Table 1:

Table 1: Sample Size for Three Data Sources for University Ave/Goodwin Ave

Source	Sample Trips Analyzed (counts/hour * hours * days)	Time Period Analyzed
O-D with Navigation-GPS (Personal) via StreetLight InSight	41,910	January - December 2017
O-D with LBS via StreetLight InSight	375,654	January - October 2017
CUUTAS	14,941	1 day, 2017

Results: University / Goodwin

Location- Based Services data showed a strong, positive correlation ($R^2 = 0.94$) between the intersection Origin-Destination Analysis and CUUTAS turning movement ratios, as shown in Figure 2

⁶ https://www.streetlightdata.com/aadt-white-paper



below. We calculated R² as follows: Each turning movement for each time period studied creates a point. For example, northbound turning left between 7 and 8 AM is one point and northbound turning right between 7 and 8AM is a second point.

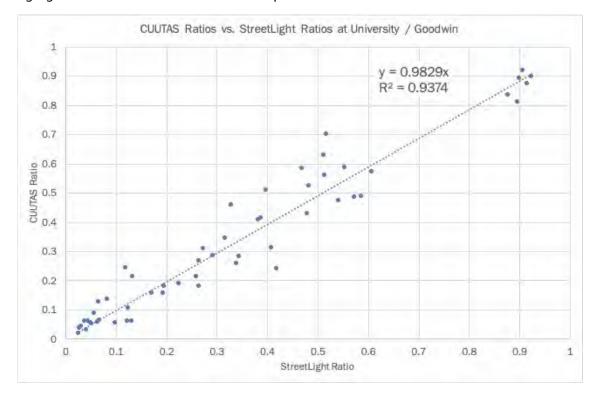


Figure 2: Correlation between StreetLight LBS OD and CUUTAS Turning Ratios for University and Goodwin Avenue. Each dot represents a turning movement ratio for an hour. For example "NB turning left, 7-8AM."

In addition, we calculated the Route Mean Square Difference (RMSD) between the CUUTAS ratios and the StreetLight ratios. The equation for this is:

$$RMSD = \sqrt{\frac{\sum_{i=1}^{n} (S_i - MC_i)^2}{n}}$$

where S_i is the StreetLight measured ratio, and MC_i is the ratio measured by MDSHA or CUUTAS.

The result for this intersection is 0.066. This means that the average difference between CUUTAS and StreetLight for an individual turning ratio is +/- 0.066 (Note that turning ratios range between 0 and 1). The average turning ratio is 0.34 for both sources. This does not mean that StreetLight has an average error or 6.6%, as we do not know which source is more correct, StreetLight or CUUTAS. Instead, it indicates that, in general, the two results are quite close.

Note that the GPS turning ratios had worse results with an R² of 0.63 and an RMSD of 0.19. This performance was similar to that for other intersections, especially smaller intersections where the



low GPS sample size became more of a constraint. Therefore, we do not include GPS results for the remainder of the paper and recommend LBS data when doing generalized turning movements.

Expanding the Sample of Intersections

For further validation, we ran Origin–Destination Analyses on three more CUUTAS intersections and on seven intersections in Maryland. Next, we compared the turning ratios for each turning movement-day part combination. As each intersection had an average of twelve turning movements, and between three and twenty-four comparison hours, in total, this covered over 2,480 points of comparison.⁷

Again, as shown in Figure 3, the correlation is very strong with an R^2 of 0.9.

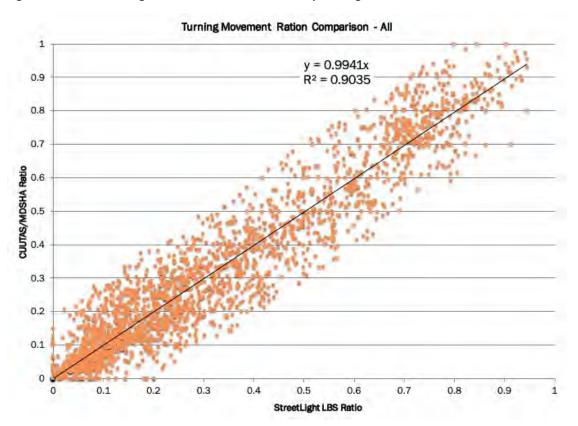


Figure 3: Correlation between StreetLight LBS OD and CUUTAS/MDSHA Turning Ratios for eleven intersections. Each dot represents a turning movement ratio for an hour. For example, "NB turning left, 7-8AM."

⁷ NB: In the course of running all intersection, some missing or inaccurate data was detected. For example, left-turn ratios were reported by MDSHA and CUUTAS where no left turn was possible. We carefully removed these intersections from comparison where possible, since they were probably mis-labeled. Because it is not possible to check each movement within a reasonable time frame, we also eliminated the top and bottom 2% of differences from our comparison as outliers probably resulting from human error.



The RMSD for all points is 0.079, similar to the result for University/Goodwin. As shown in Table 2, below, the results are reasonably consistent for Maryland and CUUTAS data.

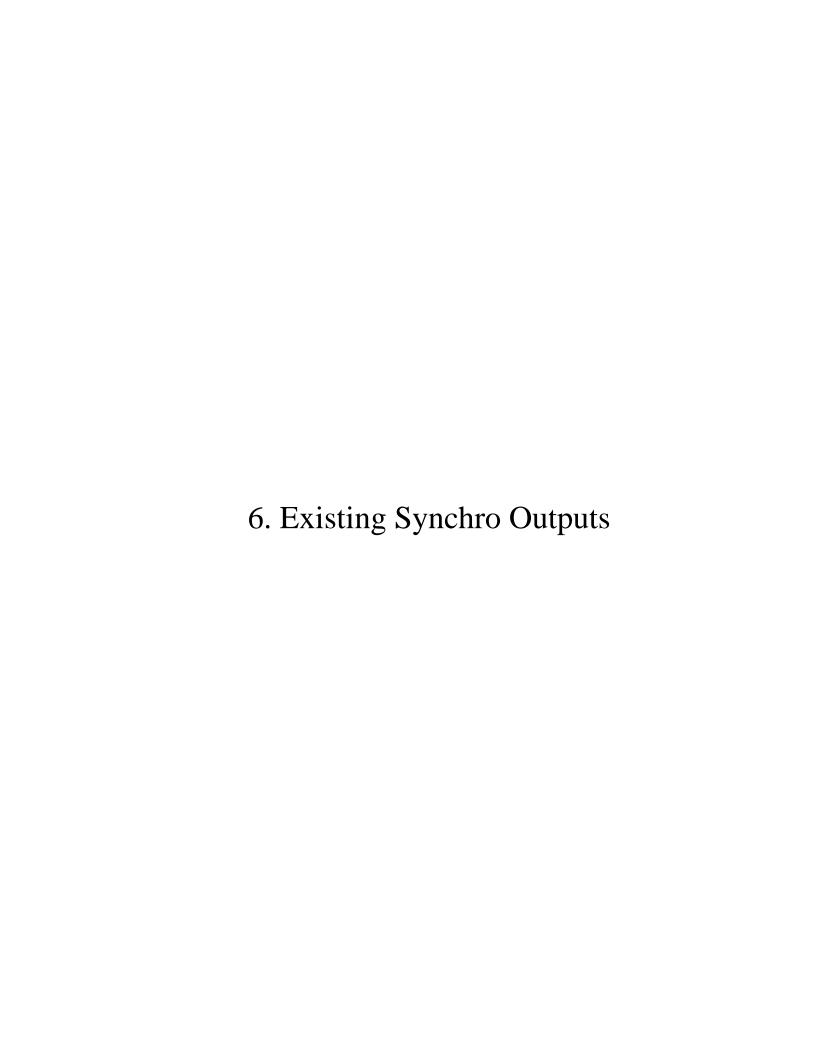
Table 2 – R2 and RMSD broken out by comparison source data.

	Turning Movement/Day Part Combinations	RMSD	R2
Maryland	2187	0.078	0.91
CUUTAS	171	0.086	0.88
ALL	2358	0.079	0.90

Conclusions

We conclude that *StreetLight InSight's* Origin-Destination Analysis with LBS data is a good method for finding intersection turning movement ratios. It delivers additional value because practitioners can gather the information using an entire year of travel data with only a few minutes of set-up. This makes it a good alternative to temporary turning ratio data collection, especially when combined with local AADT/traffic count data or with StreetLight AADT to generate turning counts. Using LBS data for the O-D Analysis produces better results than with GPS personal data, as was expected due to LBS' larger and better normalized sample.

Please contact us at <u>info@streetlightdata.com</u> if you have questions or suggestions for further validation work.



Intersection													
Int Delay, s/veh	11.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ane Configurations		4			4			स	7		4	05.1	
Traffic Vol, veh/h	1	2	2	263	2	14	2	5	483	2	9	1	
uture Vol, veh/h	1	2	2	263	2	14	2	5	483	2	9	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	Ó	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None	Отор	Отор	None	-	Olop -	None	
torage Length	-	-	-		L.			-	0			110110	
eh in Median Storage	.# -	0	_	_	0			0	-		0	-	
Grade, %	-	0	_	_	0		_	0	-		0		
Peak Hour Factor	50	50	50	67	67	67	78	78	78	50	50	50	
Heavy Vehicles, %	2	3	3	33	3	2	3	2	21	2	2	2	
Mvmt Flow	2	4	4	393	3	21	3	6	619	4	18	2	
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lajor/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	24	0	0	8	0	0	820	820	6	1123	812	14	
Stage 1			-	-	1+	-	10	10	*	800	800	17	
Stage 2				-		- 6	810	810			12		
ritical Hdwy	4.12		-	4.43	4	- 4	7.13	6.52	6.41	5.4	5.5	6.22	
ritical Hdwy Stg 1	1.12			7.70			6.13	5.52	0.41	6.12	5.52	0.22	
ritical Hdwy Stg 2	-			-			6.13	5.52		6.12	5.52	- 2	
ollow-up Hdwy	2.218			2.497			3.527	4.018	3.489	3.518	4.018	3.318	
ot Cap-1 Maneuver	1591		_	1432			293	310	1024	313	394	1066	
Stage 1	-			1102			1008	887	1021		397	1000	
Stage 2						-	372	393			886		
latoon blocked, %			-		-	4	012	000		000	000		
ov Cap-1 Maneuver	1591	- 1		1432	-0	-	219	223	1024	95	284	1066	
ov Cap-2 Maneuver	_				-		219	223	-	95	284		
Stage 1	_						1007	886		379	286	_	
Stage 2	-	- 1		-			251	283	_	270	885		
Approach	EB			WB			NB			SB			
ICM Control Delay, s	1.5			8			13.8			23			
ICM LOS							В			С			
inor Lane/Major Mvm	itI	NBLn11	VBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
apacity (veh/h)		222	1024	1591	-	-	1432	-	-	224			
CM Lane V/C Ratio		0.04	0.605	0.001	-	-	0.274	-	-	0.107			
CM Control Delay (s)		21.9	13.7	7.3	0		8.5	0	- 0				
ICM Lane LOS		С	В	Α	A	1	Α	A	19.	С			
ICM 95th %tile Q(veh)		0.1	4.2	0	_		1.1						

Intersection							
Intersection Delay, s/veh	10.6						
Intersection LOS	В						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7			र्स			
Traffic Vol, veh/h	235	0	170	5	0	0	
Future Vol, veh/h	235	0	170	5	0	0	
Peak Hour Factor	0.82	0.82	0.83	0.83	0.92	0.92	
Heavy Vehicles, %	10	2	15	5	2	2	
Mvmt Flow	287	0	205	6	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				
Opposing Approach							
Opposing Lanes	0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	10.9		10.3				
HCM LOS	В		В				
Lane		NBLn1	EBLn1				
Voi Left, %		97%	100%				
Vol Thru, %		3%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		175	235				
LT Vol		170	235				
Through Vol		5	0				
RT Vol		0	0				
Lane Flow Rate		211	287				
Geometry Grp		1	1				
Degree of Util (X)		0.297	0.385				
Departure Headway (Hd)		5.078	4.83				
Convergence, Y/N		Yes	Yes				
		708	745				
Cap							
Cap Service Time		3,109	2.856				
Service Time		3.109 0.298	2.856 0.385				
Service Time HCM Lane V/C Ratio		0.298	0.385				
Service Time							

	٠	→	*	1	-	1	1	1	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4ि			4T >			र्स	7		ની	7
Traffic Volume (vph)	28	550	9	40	319	5	35	18	14	53	40	18
Future Volume (vph)	28	550	9	40	319	5	35	18	14	53	40	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.998				0.850			0.850
Flt Protected		0.998			0.995			0.968			0.972	0.000
Satd. Flow (prot)	0	3146	0	0	3110	0	0	1786	1463	0	1733	1516
Flt Permitted		0.922			0.844			0.810		Ů	0.829	1010
Satd. Flow (perm)	0	2906	0	0	2638	0	0	1494	1463	0	1478	1516
Right Turn on Red			Yes			Yes	v		Yes	Ū	1110	Yes
Satd. Flow (RTOR)		4			3	, 00			44			44
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.79	0.79	0.79	0.83	0.83	0.83
Heavy Vehicles (%)	3%	11%	3%	3%	17%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	31	611	10	45	358	6	44	23	18	64	48	22
Shared Lane Traffic (%)	01	011	10	10	000	U	7.7	20	10	04	40	22
Lane Group Flow (vph)	0	652	0	0	409	0	0	67	18	0	112	22
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		20.1	0	1 (19/11	2010	0	rugiit	Lon	0	rugin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					10			10			10	
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15	7.00	9	15	1.00	9	15	1.01	9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	1 01111
Permitted Phases	4			8			2	_	2	6	· ·	6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	2.0	2.0
Lost Time Adjust (s)		0.0		2.0	0.0		2.0	0.0	0.0	2.0	0.0	0.0
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Lead/Lag		0.0			0.0			0.0	0.0		0.0	0.0
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	J	20.0		J	20.0		U	20.0	20.0	U	20.0	20.0
7.0. 210. 010011 (8)		20.0			20.0			20.0	20.0		20.0	20.0

	•	-	*	-	-	1	1	†	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.56			0.39			0.11	0.03		0.19	0.03
Control Delay		13.8			11.9			10.1	1.6		10.9	2.0
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		13.8			11.9			10.1	1.6		10.9	20
LOS		В			В			В	А		В	Α
Approach Delay		13.8			11.9			8.3			9.4	
Approach LOS		В			В			А			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50 Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

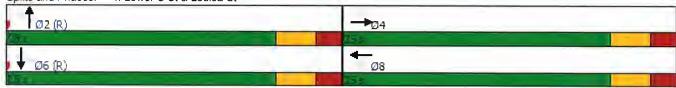
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.56 Intersection Signal Delay: 12.4

Intersection Signal Delay: 12.4
Intersection Capacity Utilization 50.6%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	1	*	†	1	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	*yf		f _a	, vDi (301	4
Traffic Volume (vph)	18	67	126	140	35	123
Future Volume (vph)	18	67	126	140	35	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	16	1300	12	12	
Lane Util. Factor	1.00					12
		1.00	1.00	1.00	1.00	1.00
Frt	0.894		0.929			0.000
Flt Protected	0.989		,			0.989
Satd. Flow (prot)	1740	0	1456	0	0	1401
Flt Permitted	0.989					0.883
Satd. Flow (perm)	1740	0	1456	0	0	1251
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	100					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.67	0.67	0.84	0.84	0.73	0.73
Heavy Vehicles (%)	3%	3%	50%	3%	3%	43%
Adj. Flow (vph)	27	100	150	167	48	168
Shared Lane Traffic (%)	21	100	100	107	40	100
Lane Group Flow (vph)	127	0	317	0	0	040
					0	216
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2		1 01111	6
Permitted Phases					6	U
Minimum Split (s)	23.0		23.0		23.0	23.0
	25.0					
Total Split (s)			35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0		U	
						30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.20		0.44			0.35
Control Delay	6.0		12.0			11.1

5: Broadway & Bleakley Ave

	•	•	1	1	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0			0.0
Total Delay	6.0		12.0			11.1
LOS	А		В			В
Approach Delay	6.0		12.0			11.1
Approach LOS	А		В			В

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

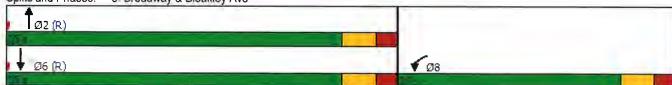
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.44 Intersection Signal Delay: 10.5

Intersection Capacity Utilization 41.2%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



			1		*	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M.	LDI	INDL	4	↑	7100
Traffic Volume (vph)	191	53	18	397	513	86
Future Volume (vph)	191	53	18	397	513	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	1900	1900	1900	1300	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971	1.00	1.00	1.00	1.00	
Fit Protected				0.000		0.850
	0.962	0	0	0.998	4004	4.400
Satd. Flow (prot)	1781	0	0	1714	1801	1463
Flt Permitted	0.962		_	0.965	1001	4.400
Satd, Flow (perm)	1781	0	0	1657	1801	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	29					
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.76	0.76	0.88	0.88	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	11%	9%	3%
Adj. Flow (vph)	251	70	20	451	675	113
Shared Lane Traffic (%)						
Lane Group Flow (vph)	321	0	0	471	675	113
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13	Night	Len	0	0	Night
Link Offset(ft)	0				0	
				0		
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	0.00	4.00	4.00	4.00	0.00	4.00
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0	0	0
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OI · LX		O) · LX	O) · LX	OI LX	O) · LX
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
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2			6
Detector Phase	4		2	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	*	*	4	†	Ţ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25_0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		30	3.0	3.0	3.0	
All-Red Time (s)	2.0		20	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?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	13.3			25.9	25.9	49.3	
Actuated g/C Ratio	0.27			0.53	0.53	1.00	
v/c Ratio	0.64			0.54	0.71	0.08	
Control Delay	20.1			11.9	16.6	0.1	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	20.1			11.9	16.6	0.1	
LOS	С			В	В	Α	
Approach Delay	20.1			11.9	14.3		
Approach LOS	С			В	В		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 49.	3						
Natural Cycle: 60							
Control Type: Semi Act-Und	coord						
Maximum v/c Ratio: 0.71							
Intersection Signal Delay: 14.7					ersection		
Intersection Capacity Utiliza	ation 57.7%			IC	U Level o	of Service	В
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ey Ave					
					1		
Ø2		_				04	
♥ Ø6							

-							
Intersection							
Int Delay, s/veh	0.8						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	T	LDIN.	IADE	4	1 ₀	ODIN	
Traffic Vol, veh/h	21	1	1	240	107	18	
Future Vol, veh/h	21	1	1	240	107	18	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	1100	None	1100	None	
Storage Length	0	150	4	-	-	+	
Veh in Median Storage		*		0	0	-	
Grade, %	0			0	0	-	
Peak Hour Factor	75	75	82	82	81	81	
Heavy Vehicles, %	75	3	3	20	37	75	
Mvmt Flow	28	1	1	293	132	22	
Majou/Mina	Mina		NA-: 4		VI-1 0		
	Minor2		Major1		Major2		
Conflicting Flow All	438	143	154	0	-	0	
Stage 1	143		4	(1)	1.5	-	
Stage 2	295	0.00	1.10		- *	*	
Critical Hdwy	7.15	6.23	4.13				
Critical Hdwy Stg 1	6.15	*			-	*	
Critical Hdwy Stg 2	6.15	2 207	0.007	-	-	-	
Follow-up Hdwy	4.175	3.327				-	
Pot Cap-1 Maneuver	461	902	1420				
Stage 1	733	-			8		
Stage 2	615	18	-	- 1	-7	*	
Platoon blocked, %	404	000	4.400		-		
Mov Cap-1 Maneuver	461	902	1420				
Mov Cap-2 Maneuver	461	-	-	-	19	-	
Stage 1	732	-	-	-	-		
Stage 2	615	-	_	- 0	- 5		
Approach	EB		NB		SB		
HCM Control Delay, s	13.1		0		0		
HCM LOS	В						
Miner Long /Maire A.A		NDI	NOT	EDL : 4 1	EDL C	ODT	000
Minor Lane/Major Mvn	π	NBL		EBLn1 I		SBT	SBR
Capacity (veh/h)		1420	-	461	902	~	
HCM Lane V/C Ratio		0.001		0.061		9	-
HCM Control Delay (s)		7.5	0	13.3	9		
HCM Lane LOS	,	A	Α	В	A	2	121
HCM 95th %tile Q(veh)	0	-	0.2	0	141	- 1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M			र्स	ĵ.	
Traffic Vol, veh/h	7	2	2	259	123	18
Future Vol, veh/h	7	2	2	259	123	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized		None	- 4	None		None
Storage Length	0		-	14	-	4
Veh in Median Storage	e, # 0	- 4	- 4	0	0	- 4
Grade, %	0	-		0	0	-
Peak Hour Factor	42	42	85	85	80	80
Heavy Vehicles, %	3	3	3	24	43	3
Mvmt Flow	17	5	2	305	154	23
Major/Minor	Minor2		Major1	1	Major2	
Conflicting Flow All		166	177			
· ·	475 166		1//	0	(*	0
Stage 1		- 5	- :		-	-
Stage 2	309		4.40	÷	Œ	~
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	-	-	- 4	*	
Critical Hdwy Stg 2	5.43	2 227	0.007	-	7	- 5
Follow-up Hdwy	3.527	3.327		*		
Pot Cap-1 Maneuver	546	876	1393		-	
Stage 1	861		-	- 3		-
Stage 2	742	-		14	+	- 6
Platoon blocked, %	545	070	4000	i÷.		
Mov Cap-1 Maneuver	545	876	1393			-
Mov Cap-2 Maneuver	545	-	-	14.	16	18
Stage 1	859	-	-	1.5	7	
Stage 2	742	-	-	7.		
Approach	EB		NB		SB	
HCM Control Delay, s	11.3		0.1		0	
HCM LOS	В		5. 1			
Minor Lane/Major Mus	nt.	NBL	NDT	CDI n1	SBT	CPD
Minor Lane/Major Mvm	IL .			EBLn1	ODI	SBR
Capacity (veh/h)		1393	-	000		
HCM Lane V/C Ratio		0.002		0.036		10
)	7.6	0	11.3		
HCM Control Delay (s)			٨	Б		
HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh		A 0	A	B 0.1		

	۶	→	*	1	←	*	4	†	-	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑ Ъ		75	†			4	7		414	
Traffic Volume (vph)	0	42	39	371	49	0	4	0	418	91	424	77
Future Volume (vph)	0	42	39	371	49	0	4	0	418	91	424	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		·
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.928					,,,,,,	0.853	0.850		0.980	0,00
FIt Protected				0.950				0.999	0.000		0.992	
Satd. Flow (prot)	0	3144	0	1646	1845	0	0	1378	1468	0	3342	0
FIt Permitted				0.681			_	,,,,	,,,,,	· ·	0.798	· ·
Satd. Flow (perm)	0	3144	0	1180	1845	0	0	1379	1468	0	2689	0
Right Turn on Red			Yes			Yes	•		No	•		Yes
Satd. Flow (RTOR)		54									15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.72	0.72	0.72	0.76	0.76	0.76	0.84	0.84	0.84	0.90	0 90	0.90
Heavy Vehicles (%)	2%	3%	3%	6%	3%	2%	3%	2%	8%	5%	5%	5%
Adj. Flow (vph)	0	58	54	488	64	0	5	0	498	101	471	86
Shared Lane Traffic (%)			•	, 00				J	49%		.,,,	00
Lane Group Flow (vph)	0	112	0	488	64	0	0	249	254	0	658	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)		11	•		11	J		12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1,00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0,0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom		custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations	100			
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
FIt Protected				
Satd. Flow (prot)				
Fit 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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Type Detector 2 Channel				
Detector 2 Channel				

	*	-	7	•	←	*	4	1	-	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		7.1		22.1	27.2			46.2	21.2		20.0	
Actuated g/C Ratio		0.09		0.26	0.33			0.55	0.25		0.24	
v/c Ratio		0.35		1.23	0.11			0.33	0.68		1.00	
Control Delay		23.9		161.6	37.4			11.7	38.7		68.8	
Queue Delay		0.0		0.0	0.0			0.0	0.0		33.8	
Total Delay		23.9		161.6	37.4			11.8	38.7		102.6	
LOS		С		F	D			В	D		F	
Approach Delay		23.9			147.2			25.4			102.6	
Approach LOS		С			F			С			F	

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 83.4

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

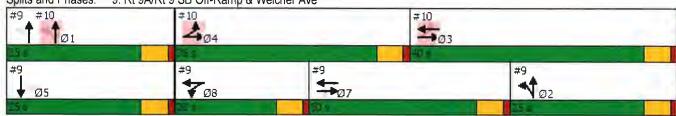
Maximum v/c Ratio: 1.23 Intersection Signal Delay: 90.0 Intersection Capacity Utilization 65.4%

Analysis Period (min) 15

Intersection LOS: F
ICU Level of Service C

100 2010

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4	
Protected Phases	1	3	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Minimum Split (s)	23.0	23.0	23.0	
Total Split (s)	25.0	40.0	35.0	
Total Split (%)	25%	40%	35%	
Maximum Green (s)	20.0	35.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)			- 100	
Total Lost Time (s)				
_ead/Lag		Lag	Lead	
_ead-Lag Optimize?		Yes	Yes	
/ehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	Max	None	None	
Walk Time (s)	34595	A-0.2-0.2-0	(6,500,000	
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
//c Ratio				
Control Delay				
Queue Delay				
Total Delay				
.os				
Approach Delay				
Approach LOS				
Intersection Summary				

	۶	-	*	1	←	*	1	1	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			1			सी	7			
Traffic Volume (vph)	336	215	0	0	338	124	82	0	77	0	0	0
Future Volume (vph)	336	215	0	0	338	124	82	0	77	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		Ĭ
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.960				0.850	1100	1.00	1.00
Flt Protected	0.950				0.000			0.950	0.000			
Satd. Flow (prot)	1646	1613	0	0	3081	0	0	1719	1538	0	0	0
FIt Permitted	0.356	1010		Ů	0001		v	0.950	1000	U	v	U
Satd. Flow (perm)	617	1613	0	0	3081	0	0	1719	1538	0	0	0
Right Turn on Red	017	1010	Yes	· ·	0001	Yes	U	1710	Yes	U	U	Yes
Satd. Flow (RTOR)			100		58	103			185			103
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79	0.71	0.71	0.71	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	2%	2%	5%	5%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	378	242	0	0	428	157	115	0	108	0		
Shared Lane Traffic (%)	370	242	U	U	420	157	115	U	100	U	0	0
Lane Group Flow (vph)	378	242	0	0	585	0	0	115	108	0	٥	۸
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	0 No	0 No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left		Left		
Median Width(ft)	Leit	11	Rigit	Leit	11	Right	Leit	Len 0	Right	Leit	Left	Right
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			0 16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	4.00	4.00	4.00
Turning Speed (mph)	1.04	1.14	9	1.00	1.09		1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	13	2	Э	10	2	9	15	0	9	15		9
		2 Thru			2 Thank		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+Ex			
Detector 1 Channel	0.0	0.0										
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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7	Ø8	
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					
	_	_			

	*	→	7	1	—		4	†	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	48.3	53.3			32.0			20.0	20.0			
Actuated g/C Ratio	0.58	0.64			0.38			0.24	0.24			
v/c Ratio	0.68	0.23			0.48			0.28	0.21			
Control Delay	26.8	6.4			19.9			29.0	1.3			
Queue Delay	0.2	0.6			0.4			2.6	0.0			
Total Delay	27.0	7.0			20.3			31.5	1.3			
LOS	С	Α			С			С	Α			
Approach Delay		19.2			20.3			16.9				
Approach LOS		В			C			В				
Interception Comments												

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 83.4

Natural Cycle: 95

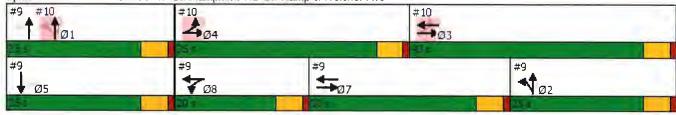
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.23 Intersection Signal Delay: 19.3 Intersection Capacity Utilization 49.0%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	Ø5	Ø7	Ø8
Protected Phases	2	5	7	8
Permitted Phases		-		
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	27.0	20.0
Total Split (s)	25.0	25.0	30.0	20.0
Total Split (%)	25%	25%	30%	20%
Maximum Green (s)	20.0	20.0	25.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	11.0	11.0	110	11.50
Total Lost Time (s)				
Lead/Lag			Lag	Lead
Lead-Lag Optimize?			Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	None	None
Walk Time (s)	THE STATE OF THE S	Misser	7.0	Holle
Flash Dont Walk (s)			15.0	
Pedestrian Calls (#/hr)			0	
Act Effet Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

						_							
Int Delay, s/veh	2.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					Ť	14		ħ	↑ ↑		
Traffic Vol, veh/h	4	2	11	0	0	0	7	418	163	245	589	0	
Future Vol, veh/h	4	2	11	0	0	0	7	418	163	245	589	0	
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	-		10	-		-	50			160	-	-	
Veh in Median Storage	e,# -	0	- 2	-	16979	4		0	- 1		0		
Grade, %	-	0	4		0	(4)	-	0			0	_	
Peak Hour Factor	75	75	75	92	92	92	81	81	81	82	82	82	
Heavy Vehicles, %	3	5	3	2	2	2	3	8	7	5	7	3	
Mvmt Flow	5	3	15	0	0	0	9	516	201	299	718	0	
									-				
Major/Minor	Minor2					N	/lajor1		N	/lajor2			
Conflicting Flow All	1592	2051	359				718	0	0	717	0	0	
Stage 1	1316	1316	-				710	-	4	117	4	-	
Stage 2	276	735					- 1		1		a.		
Critical Hdwy	6.86	6.6	6.96				4.16		- 4	4.2			
Critical Hdwy Stg 1	5.86	5.6	0.00				7.10			7.2		- 6	
Critical Hdwy Stg 2	5.86	5.6	-						140		-		
follow-up Hdwy	3.53	4.05	3.33				2.23		-	2.25		543	
ot Cap-1 Maneuver	97	53	635				872		4	860			
Stage 1	213	220	-				012		- 7	-			
Stage 2	743	416					-	-	2			-	
Platoon blocked, %	, 40	710									ũ		
Nov Cap-1 Maneuver	63	0	635				872	16	14	860	- 3		
Mov Cap-1 Maneuver	63	0	- 000				012	-	10	000	- 0		
Stage 1	211	0					-	-				81	
Stage 2	484	0	*					-	7		- 3		
Staye 2	404	U	-				14	7	(4)	*			
Approach	EB						NB			SB			
HCM Control Delay, s	27											_	
1CM LOS	27 D						0.1			3.3			
IOWI LOG	U												
/linor Lane/Major Mvn	nt	NBL	NBT	NBR E	RI n1	SBL	SBT	SBR					
Capacity (veh/h)	IL	872		ואטוז נ			ומט		-				
HCM Lane V/C Ratio			*	*	186	860		-					
		0.01	(*)		0.122			+					
HCM Control Delay (s)		9.2	-	-	27	11.4	*	7					
HCM Lane LOS HCM 95th %tile Q(veh	,	A 0	σ	-	D 0.4	B 1.6	*						
		- 11	*		11/1	1 6	-	(4)					

	*	7	1	1	ļ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T	EDIN	ሻሻ			JOK 7
Traffic Volume (vph)	203		844	101	↑	
Future Volume (vph)	203	1500		494	557	301
, , ,		1500	844	494	557	301
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	11	12	11	12
Storage Length (ft)	0	0	240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3224	1845	1783	1568
FIt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3224	1845	1783	1568
Right Turn on Red	1702	Yes	0227	1040	1100	Yes
Satd. Flow (RTOR)		103				28
Link Speed (mph)	30			20	20	28
				30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1	_		11.3	16.2	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.89	0.89
Heavy Vehicles (%)	3%	3%	5%	3%	3%	3%
Adj. Flow (vph)	216	1596	981	574	626	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	216	1596	981	574	626	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	- deline	Loit	22	22	ragnt
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16				16	
, ,	10			16	16	
Two way Left Turn Lane	4 00	0.00	4.04	4.00	4.5.	
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	OITEX	OITEX	OFFEX	OLITEX	CITEX	CITEX
	0.0	0.0	0.0	0.0	0.0	0.0
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	custom	Prot	NA		pm+ov
	1 101	Justonii	1 101	INA	IVA	ріптоу

Lane Group EBL EBR NBL NBT SBT SBR
Protected Phases 4 24! 5 2 6! 4
Permitted Phases 4 6
Detector Phase 4 2 4 5 2 6 4
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0 5.0
Minimum Split (s) 20.0 11.0 24.0 24.0 20.0
Total Split (s) 25.0 35.0 55.0 20.0 25.0
Total Split (%) 31.3% 43.8% 68.8% 25.0% 31.3%
Maximum Green (s) 20.0 29.0 49.0 14.0 20.0
Yellow Time (s) 4.0 5.0 5.0 5.0 4.0
All-Red Time (s) 1.0 1.0 1.0 1.0
Lost Time Adjust (s) 0.0 0.0 0.0 0.0
Total Lost Time (s) 5.0 6.0 6.0 6.0 5.0
Lead/Lag Lead Lag
Lead-Lag Optimize? Yes Yes
Vehicle Extension (s) 3.0 3.0 3.0 3.0
Recall Mode None None C-Max C-Min None
Act Effct Green (s) 20.0 80.0 27.8 49.0 15.2 41.2
Actuated g/C Ratio 0.25 1.00 0.35 0.61 0.19 0.52
v/c Ratio 0.49 0.99 0.88 0.51 1.85 0.41
Control Delay 30.2 22.4 34.7 10.7 416.6 13.1
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0
Total Delay 30.2 22.4 34.7 10.7 416.6 13.1
LOS C C C B F B
Approach Delay 23.3 25.8 275.1
Approach LOS C F

Area Type: Other

Cycle Length: 80
Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

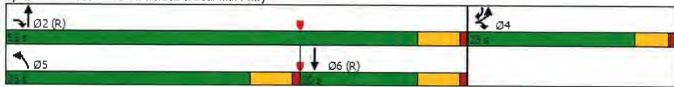
Maximum v/c Ratio: 1.85 Intersection Signal Delay: 80.3 Intersection Capacity Utilization 132.2%

Intersection LOS: F
ICU Level of Service H

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 12: Rt 6/9/202 & Bear Mtn Pkwy



Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	N/		ĵ.			4
Traffic Vol, veh/h	74	16	32	259	14	32
Future Vol, veh/h	74	16	32	259	14	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Olop -	None	- 100	None	1100	None
Storage Length	0	110110	_	110110		-
Veh in Median Storage			0			0
Grade, %	0	10	0			0
Peak Hour Factor	91	91	92	92	59	59
Heavy Vehicles, %	5	5	5	5		5
					5	
Mvmt Flow	81	18	35	282	24	54
Major/Minor N	Minor1	N.	//ajor1		Viajor2	
Conflicting Flow All	278	176	0	0	317	0
Stage 1	176		-		-	-
Stage 2	102	-	- 2		-	- 2
Critical Hdwy	6.45	6.25		-	4.15	4
Critical Hdwy Stg 1	5.45	0.20			4.10	
Critical Hdwy Stg 2	5.45		74			
Follow-up Hdwy		3.345			2.245	
Pot Cap-1 Maneuver	705	859			1226	
			-	-	1226	
Stage 1	847	- 7	*	-	7	
Stage 2	915					
Platoon blocked, %			-			
Mov Cap-1 Maneuver	691	859	-	-	1226	-
Mov Cap-2 Maneuver	691	-	-		7	- 3
Stage 1	847	-	-		+	
Stage 2	897	-	-	P	(4)	140
Approach	WB		NID		CD	
Approach			NB		SB	
HCM Control Delay, s	10.8		0		2.4	
HCM LOS	В					
Minor Lane/Major Mvm	t	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		- 2	14		1226	- 4
HCM Lane V/C Ratio		14	- 2	0.138		_
HCM Control Delay (s)		-		10.8	8	0
HCM Lane LOS		-		В	A	A
				0.5	0.1	
HCM 95th %tile Q(veh)				() 5	11.7	-

Intersection	^^						
Int Delay, s/veh	6.9						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	þ		7	7	
Traffic Vol, veh/h	37	69	287	107	215	4	
Future Vol, veh/h	37	69	287	107	215	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None		None	-	None	
Storage Length	-		- 5		0	0	
Veh in Median Storage	.# -	0	0		0		
Grade, %	_	0	0	-	0	_	
Peak Hour Factor	79	79	91	91	87	87	
Heavy Vehicles, %	5	5	5	5	5	5	
Mymt Flow	47	87	315	118	247	5	
	- 11	01	010	, 10		J	
	Major1		Major2		Minor2		
Conflicting Flow All	433	0		0	555	374	
Stage 1	-			-	374		
Stage 2	-	+		-	181		
Critical Hdwy	4.15			-	6.45	6.25	
Critical Hdwy Stg 1	-		*	-	5.45	-	
Critical Hdwy Stg 2	-		- 12	-	5.45		
Follow-up Hdwy	2.245	dep	- 4	-	3.545	3.345	
Pot Cap-1 Maneuver	1111	- 3	- 1	-	488	666	
Stage 1	-	*		-	689		
Stage 2	-			-	843	-	
Platoon blocked, %							
Mov Cap-1 Maneuver	1111	- 2	- 4	- 2	467	666	
Mov Cap-2 Maneuver	-				467	-	
Stage 1	-				659		
Stage 2		-	14		843		
					5.0		
Approach	EB		WB		SB		
HCM Control Delay, s	2.9		0		20.8		
HCM LOS					С		
Minor Lane/Major Mvm	ıt	EBL	EBT	MPT	MPD	SBLn1	CDI no
			ÇD I				
Capacity (veh/h)		1111	-	-	-	467	666
HCM Lane V/C Ratio		0.042	-	*	-	0.529	
HCM Control Delay (s)		8.4	0			21	10.4
HCM Lane LOS		A	Α	- 7	-	С	В
HCM 95th %tile Q(veh)		0.1	-	-	-	3	0

Intersection												
Int Delay, s/veh	9.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4	7		4	
Traffic Vol, veh/h	1	1	1	236	1	6	1	6	270	7	4	1
Future Vol, veh/h	1	1	1	236	1	6	1	6	270	7	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-		None		-	None
Storage Length	14	12	+:	-	-	1.0	6		0		-	-
Veh in Median Storage	e,# -	0		-	0			0	-		0	-
Grade, %		0		-	0		-	0		-	0	-
Peak Hour Factor	50	50	50	82	82	82	86	86	86	67	67	67
Heavy Vehicles, %	2	3	3	37	3	2	3	2	32	2	2	2
Mvmt Flow	2	2	2	288	1	7	1	7	314	10	6	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	8	0	0	4	0	0	591	591	3	749	589	5
Stage 1	_	4	- 8	4	- 4	Ė	7	7		581	581	
Stage 2		2			- 4	_	584	584		168	8	
Critical Hdwy	4.12			4.47		-	7.13	6.52	6.52	5.4	5.5	6.22
Critical Hdwy Stg 1	_		14	-	- 21	_	6.13	5.52	0.02	6.12	5.52	0.22
Critical Hdwy Stg 2		-	,41	12	-		6.13	5.52	-	6.12	5.52	
Follow-up Hdwy	2.218			2.533			3.527	4.018	3.588	3.518	4.018	3.318
Pot Cap-1 Maneuver	1612		-	1416	-	_	417	420	999	469	497	1078
Stage 1		-	- 4	-	-	_	1012	890	200	499	500	1010
Stage 2		- 4	6	12	4	_	496	498		834	889	
Platoon blocked, %		-	14.		-	- 1	,00	100		301	300	
Mov Cap-1 Maneuver	1612			1416	-		347	333	999	266	395	1078
Mov Cap-2 Maneuver	-		- 4		- 4	1-4	347	333	-	266	395	
Stage 1		-	- 41				1011	889	_	499	398	
Stage 2	_				-		388	396		567	888	
21.50 =							300	555		301	300	
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			8			10.3			16.9		
HCM LOS							В			C		
Minor Lane/Major Mvm	nt	NBLn11	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1		
Capacity (veh/h)		335	999	1612	-		1416	-	1/2	321		
HCM Lane V/C Ratio				0.001			0.203	_	_	0.056		
HCM Control Delay (s)		16	10.2	7.2	0		8.2	0		400		
HCM Lane LOS		C	В	A	A	- 1	A	A		C		
HCM 95th %tile Q(veh))	0.1	1.4	0	-		0.8	-	- 4	0.2		
2041 //410 04/1011	,	0.1	17	0			0.0			0,2		

Intersection							
Intersection Delay, s/veh	10						
Intersection LOS	Α						
Movement E	BL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7			बी			
Traffic Vol., veh/h	42	0	130	0	0	0	
	42	0	130	0	0	0	
Peak Hour Factor 0	92	0.92	0.78	0.78	0.92	0.92	
Heavy Vehicles, %	12	2	17	5	2	2	
	63	0	167	0	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				
Opposing Approach			413				
Opposing Lanes	0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		1				
•	NΒ		~				
Conflicting Lanes Right	1		0				
	0.3		9.6				
HCM LOS	В		Α				
	_						
Lane	N	BLn1	EBLn1				
Vol Left, %		100%	100%				
Vol Thru, %		0%					
		0 70	0%				
VOI RIGHT, 76		0%	0%				
Vol Right, % Sign Control			0%				
Sign Control		0%	0%				
Sign Control Traffic Vol by Lane		0% Stop	0% Stop				
Sign Control Traffic Vol by Lane LT Vol		0% Stop 130	0% Stop 242				
Sign Control Traffic Vol by Lane		0% Stop 130 130	0% Stop 242 242				
Sign Control Traffic Vol by Lane LT Vol Through Vol		0% Stop 130 130 0	0% Stop 242 242 0				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate		0% Stop 130 130 0	0% Stop 242 242 0				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp		0% Stop 130 130 0 0 167	0% Stop 242 242 0 0 263				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X)		0% Stop 130 130 0 0 167 1	0% Stop 242 242 0 0 263 1 0.347				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd)		0% Stop 130 130 0 0 167 1 0.234 5.052	0% Stop 242 242 0 0 263 1 0.347 4.748				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N		0% Stop 130 130 0 0 167 1 0.234 5.052 Yes	0% Stop 242 242 0 0 263 1 0.347 4.748 Yes				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap	1	0% Stop 130 130 0 0 167 1 0.234 5.052 Yes 712	0% Stop 242 242 0 0 263 1 0.347 4.748 Yes 760				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time	;	0% Stop 130 0 0 167 1 0.234 5.052 Yes 712 3.074	0% Stop 242 242 0 0 263 1 0.347 4.748 Yes 760 2.766				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time HCM Lane V/C Ratio	;	0% Stop 130 0 0 167 1 0.234 5.052 Yes 712 3.074 0.235	0% Stop 242 242 0 0 263 1 0.347 4.748 Yes 760 2.766 0.346				
Sign Control Traffic Vol by Lane LT Vol Through Vol RT Vol Lane Flow Rate Geometry Grp Degree of Util (X) Departure Headway (Hd) Convergence, Y/N Cap Service Time	;	0% Stop 130 0 0 167 1 0.234 5.052 Yes 712 3.074	0% Stop 242 242 0 0 263 1 0.347 4.748 Yes 760 2.766				

,	٠	→	*	•	+	•	4	†	~	1	 	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		सी कि			4 P			र्स	7		सी	71
Traffic Volume (vph)	50	315	13	22	246	27	53	49	17	36	22	43
Future Volume (vph)	50	315	13	22	246	27	53	49	17	36	22	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.986				0.850			0.850
FIt Protected		0.993			0.996			0.975			0.970	
Satd. Flow (prot)	0	3097	0	0	3026	0	0	1799	1463	0	1730	1516
Flt Permitted		0.863			0.908			0.848			0.825	
Satd. Flow (perm)	0	2692	0	0	2758	0	0	1564	1463	0	1471	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			26				44			45
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.96	0.96	0.96
Heavy Vehicles (%)	3%	13%	3%	3%	20%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	54	339	14	28	315	35	58	54	19	38	23	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	407	0	0	378	0	0	112	19	0	61	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	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?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		20.0			20.0			20.0	20.0		20.0	20.0

	•	→	1	6	-	*	•	†	1	1	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.38			0.34			0.18	0.03		0.10	0.07
Control Delay		11.7			10.7			10.7	1.7		10.1	4.0
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		11.7			10.7			10.7	1.7		10.1	4.0
LOS		В			В			В	Α		В	А
Approach Delay		11.7			10.7			9.4			7.5	
Approach LOS		В			В			Α			Α	

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

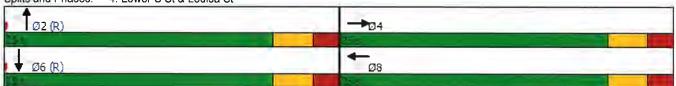
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.38

Intersection Signal Delay: 10.6
Intersection Capacity Utilization 43.6%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	-	4	†	-	1	1
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	₩.	VVDI	10D1	ווטוו	ODL	4
Traffic Volume (vph)	45	32	115	112	22	105
Future Volume (vph)	45 45	32	115	112	22	105
Ideal Flow (vphpl)	1900	1900	1900	1900		1900
Lane Width (ft)	1900	1900	1900	1900	1900 12	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.944		0.933			
Flt Protected	0.972	_				0.991
Satd. Flow (prot)	1805	0	1524	0	0	1343
Flt Permitted	0.972					0.931
Satd. Flow (perm)	1805	0	1524	0	0	1261
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	37					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.86	0.86	0.96	0.96	0.73	0.73
Heavy Vehicles (%)	3%	3%	37%	3%	3%	48%
Adj. Flow (vph)	52	37	120	117	30	144
Shared Lane Traffic (%)	52	31	120	117	30	144
	89	0	237	0	0	174
Lane Group Flow (vph)				0	0	
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA	_	Perm	NA
Protected Phases	8		2		. 5/11/	6
Permitted Phases					6	J
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3:0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0		U	30.0
. ,	0.33					
Actuated g/C Ratio			0.50			0.50
v/c Ratio	0.14		0.31			0.28
Control Delay	10.0		10.3			10.2

5: Broadway & Bleakley Ave

-	*	1	-	1	+	
WBL	WBR	NBT	NBR	SBL	SBT	
0.0		0.0			0.0	
10.0		10.3			10.2	
A		В			В	
10.0		10.3			10.2	
A		В			В	
	0.0 10.0 A 10.0	0.0 10.0 A 10.0	0.0 0.0 10.0 10.3 A B 10.0 10.3	0.0 0.0 10.0 10.3 A B 10.0 10.3	0.0 0.0 10.0 10.3 A B 10.0 10.3	0.0 0.0 0.0 10.0 10.3 10.2 A B B 10.0 10.3 10.2

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.31

Intersection Signal Delay: 10.2 Intersection Capacity Utilization 36.6% Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	1	*	1	†	↓	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		,,,,,,	4	<u> </u>	7
Traffic Volume (vph)	95	21	17	638	610	50
Future Volume (vph)	95	21	17	638	610	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	12	12	12	13	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt Frt	0.976	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.961			0.999		0.000
Satd. Flow (prot)	1788	0	0	1809	1852	1463
Flt Permitted		U	U	0.980	1002	1403
	0.961	0	0		1050	1400
Satd. Flow (perm)	1788	0	0	1774	1852	1463
Right Turn on Red	00	Yes				Yes
Satd. Flow (RTOR)	22					
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.80	0.80	0.83	0.83	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	6%	3%
Adj. Flow (vph)	119	26	20	769	670	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	0	789	670	55
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13	J		0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	1.00	1.00	0.50	9
Number of Detectors	10	9	10	0	0	
			•	U	U	0
Detector Template	Left		Left	^	^	^
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases	•		2	_	V	6
Detector Phase	4		2	2	6	4
Switch Phase	7		2	2	U	4
	E 0		E 0	F 0	۲.0	.
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	*	*	1	1	+	4	
_ane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25_0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	
Total Lost Time (s)	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	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	8.4		, i	30.6	30.6	45.9	
Actuated g/C Ratio	0.18			0.67	0.67	1.00	
v/c Ratio	0.42			0.67	0.54	0.04	
Control Delay	17.4			12.1	8.3	0.0	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	17.4			12.1	8.3	0.0	
LOS	В			В	Α	Α.	
Approach Delay	17.4			12.1	7.7	П	
Approach LOS	В			В	A		
.,							
Intersection Summary Area Type:	Other						
Cycle Length: 60	Other						
Actuated Cycle Length: 45.	0						
Actuated Cycle Length, 45. Natural Cycle: 60	.9						
Natural Cycle. 60 Control Type: Semi Act-Un	aaard						
Control Type. Seriii Act-off Maximum v/c Ratio: 0.67	COOLG						
	10.7			14		1.00. D	
Intersection Signal Delay: 1					ersection		
Intersection Capacity Utiliza	ation 62.1%			IU	U Level o	of Service B	
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ey Ave					
T _{Ø2}					25	3 4	
1 2/Z	-				100	UT	

Intersection							
Int Delay, s/veh	0.7						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	*			4	7>	7211	
Traffic Vol, veh/h	14	1	1	206	128	13	
Future Vol, veh/h	14	1	1	206	128	13	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None		None	
Storage Length	0	150	-	-		14	
Veh in Median Storag	e,# 0	-	-	0	0		
Grade, %	0	-	-	0	0	+	
Peak Hour Factor	63	63	94	94	77	77	
Heavy Vehicles, %	75	3	3	16	31	75	
Mvmt Flow	22	2	1	219	166	17	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	396	175	183	0	Majurz	0	
Stage 1	175	170	103	-		0	
Stage 2	221						
Critical Hdwy	7.15	6.23	4.13				
Critical Hdwy Stg 1	6.15	0.23	4.13	7		*	
Critical Hdwy Stg 2	6.15		- 3				
Follow-up Hdwy	4.175	3.327			*	*	
Pot Cap-1 Maneuver	4.175	866	1386				
	707		1300	+	*	- 1	
Stage 1 Stage 2	670						
Platoon blocked, %	0/0			- +		- 1	
	400	000	1200	*	-	-	
Mov Cap-1 Maneuver		866	1386	+			
Mov Cap-2 Maneuver		- 0	-	7			
Stage 1	706						
Stage 2	670			*	-		
Approach	ĒΒ		NB		SB		
HCM Control Delay, s	12.5		0		0		
HCM LOS	В						
Minor Lane/Major Mvr	nt	NBL	NOT	EBLn1 I	EDI no	SBT	SBR
Capacity (veh/h)	iit		NDII			ا تان	SDR
HCM Lane V/C Ratio		1386	-	490	866		
	,	0.001	_	0.045			-
HCM Control Delay (s HCM Lane LOS)	7.6	0	12.7	9.2		+
		Α	Α	В	A		14
HCM 95th %tile Q(veh	1)	0	-	0.1	0		

Intersection						
Int Delay, s/veh	0.5					
_		EDD	MOL	NDT	CDT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	NA.			4	1	40
Traffic Vol, veh/h	11	1	4	216	140	10
Future Vol, veh/h	11	1	4	216	140	10
Conflicting Peds, #/hr	0	0	_ 0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	+	None		None
Storage Length	0	Ų.				*
Veh in Median Storag	e,# 0			0	0	- 1
Grade, %	0	-	-	0	0	14
Peak Hour Factor	75	75	98	98	79	79
Heavy Vehicles, %	3	3	3	19	36	3
Mvmt Flow	15	1	4	220	177	13
		·	·			
B.4 1 (B.4)						
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	184	190	0	-	0
Stage 1	184	9	-	-	-	
Stage 2	228	10	1.7	- 4		
Critical Hdwy	6.43	6.23	4.13	- 4		-
Critical Hdwy Stg 1	5.43	14		-	4	-
Critical Hdwy Stg 2	5.43		-			
Follow-up Hdwy		3.327	2.227	-		
Pot Cap-1 Maneuver	594	856	1378		-	
Stage 1	845		1.0	-		
Stage 2	808			-	-	
Platoon blocked, %	000		-	- 2		
Mov Cap-1 Maneuver	592	856	1378			
		000	13/0	-8	- 1	
Mov Cap-2 Maneuver		118		-	7	- 7
Stage 1	842	15	12	- 0	- 2	
Stage 2	808					
Approach	EB		NB		SB	
HCM Control Delay, s			0.1		0	
			0.1		U	
HCM LOS	В					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1378			- 10	
HCM Lane V/C Ratio		0.003		0.026		-
HCM Control Delay (s	١.	7.6	0	11.1	-	-
HCM Lane LOS	7)		A	В		
	. \	A	A			
HCM 95th %tile Q(veh	1)	0	-	0.1		-

	*	→	*	•	+	4	1	†	-	1	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		1		ħ	↑			4	7		413-	
Traffic Volume (vph)	0	116	35	321	80	0	6	0	652	67	351	74
Future Volume (vph)	0	116	35	321	80	0	6	0	652	67	351	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0	·-	250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.965				1,00	.,	0.853	0.850	0.00	0.977	0.00
Flt Protected		0.000		0.950				0.999	0.000		0.993	
Satd. Flow (prot)	0	3269	0	1662	1845	0	0	1417	1510	0	3336	0
Flt Permitted		0_00		0.622	1010		Ü		1010		0.665	U
Satd. Flow (perm)	0	3269	0	1088	1845	0	0	1418	1510	0	2234	0
Right Turn on Red		0200	Yes	1000	1010	Yes	U	1410	No	U	2204	Yes
Satd. Flow (RTOR)		38	100			103			140		18	163
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.73	0.73	0.73	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Heavy Vehicles (%)	2%	3%	3%	5%	3%	2%	3%	2%	5%	5%	5%	5%
Adj. Flow (vph)	0	159	48	345	86	0	7	0	776	77	403	
Shared Lane Traffic (%)	U	109	40	343	00	U	- 1	U	49%	11	403	85
Lane Group Flow (vph)	0	207	0	345	86	0	0	387		0	ECE	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No.	396 No		565 No.	0
Lane Alignment	Left	Left		Left						No	No	No
Median Width(ft)	Leit	11	Right	Len	Left 11	Right	Left	Left	Right	Left	Left	Right
Link Offset(ft)		0			0			12			12	
Crosswalk Width(ft)		16			16			0			0	
` ,		10			10			16			16	
Two way Left Turn Lane Headway Factor	1.00	1.04	1.00	4.04	4.00	4.00	1.00	4.04	0.00	4.00	4.00	4.00
•	1.00	1.04		1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	10	2	9	15	0	9	15	0	9	15	0	9
Number of Detectors		2 Th		1	2		1	2	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel		0.0										
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom	NA	custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
FIt Protected				
Satd. Flow (prot)				
Fit 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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s) Turn Type				

	1	-	7	1	-	1	4	†	-	-	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	1 2	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		10.0		24.7	29.7			46.8	21.7		20.1	
Actuated g/C Ratio		0.12		0.29	0.34			0.54	0.25		0.23	
v/c Ratio		0.50		0.85	0.14			0.50	1.05		1.06	
Control Delay		33.8		58.9	32.9			15.9	93.3		90.3	
Queue Delay		0.0		0.0	0.0			0.7	10.0		18.3	
Total Delay		33.8		58.9	32.9			16.6	103.3		108.5	
LOS		С		E	С			В	F		F	
Approach Delay		33.8			53.7			60.5			108.5	
Approach LOS		С			D			E			F	
Intersection Cummers												_

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 86.5

Natural Cycle: 105

Control Type: Actuated-Uncoordinated

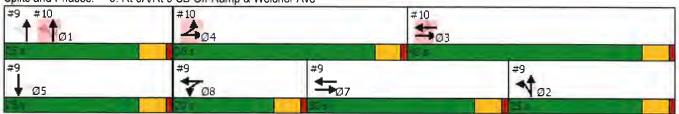
Maximum v/c Ratio: 1.06 Intersection Signal Delay: 69.9

Intersection Capacity Utilization 66.6%

Analysis Period (min) 15

Intersection LOS: E ICU Level of Service C

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4
Protected Phases	1	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0
Total Split (s)	25.0	40.0	35.0
Total Split (%)	25%	40%	35%
Maximum Green (s)	20.0	35.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	7.5		-0.4
Total Lost Time (s)			
Lead/Lag		Lag	Lead
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Max	None	None
Walk Time (s)			87111111
Flash Dont Walk (s)			
Pedestrian Calls (#/hr)			
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			-

10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave

	1	→	*	1	+	*	1	1	-	1	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	↑			1			सी	7			
Traffic Volume (vph)	454	381	0	0	282	141	119	0	171	0	0	0
Future Volume (vph)	454	381	0	0	282	141	119	0	171	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.950				0.850			
Flt Protected	0.950							0.950				
Satd. Flow (prot)	1678	1644	0	0	3068	0	0	1736	1538	0	0	0
Flt Permitted	0.379							0.950				
Satd. Flow (perm)	669	1644	0	0	3068	0	0	1736	1538	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					96				222			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.77	0.77	0.77	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	2%	2%	4%	5%	4%	5%	5%	2%	2%	2%
Adj. Flow (vph)	540	454	0	0	336	168	155	0	222	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	540	454	0	0	504	0	0	155	222	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7	Ø8	
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
_ane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
-rt					
FIt Protected					
Satd. Flow (prot)					
Flt Permitted					
Satd. Flow (perm)					
Right Turn on Red					
Satd. Flow (RTOR)					
_ink Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Peak Hour Factor					
Heavy Vehicles (%)					
Adj. Flow (vph)					
Shared Lane Traffic (%)					
ane Group Flow (vph)					
Enter Blocked Intersection					
ane Alignment					
Median Width(ft)					
_ink Offset(ft)					
Crosswalk Width(ft)					
Two way Left Turn Lane					
leadway Factor					
Furning Speed (mph)					
Number of Detectors					
Detector Template					
eading Detector (ft)					
Frailing 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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Furn Type					
ин туро					

10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave

	۶	-	*	-	-	*	4	†	-	1	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	51.4	56.4			27.6			20.1	20.1			
Actuated g/C Ratio	0.59	0.65			0.32			0.23	0.23			
v/c Ratio	0.80	0.42			0.48			0.39	0.42			
Control Delay	31.2	8.3			21.6			32.7	7.2			
Queue Delay	8.5	0.7			0.1			2.9	0.0			
Total Delay	39.7	9.0			21.7			35.7	7.2			
LOS	D	Α			С			D	Α			
Approach Delay		25.6			21.7			18.9				
Approach LOS		С			С			В				
Intersection Summary												_

Intersection Summary

Area Type: Other

Cycle Length: 100 Actuated Cycle Length: 86.5

Natural Cycle: 105

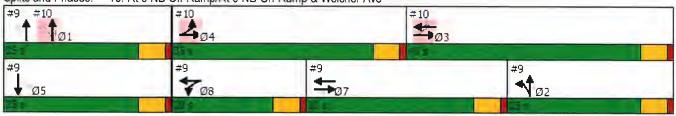
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06 Intersection Signal Delay: 23.2 Intersection Capacity Utilization 56.6%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					7	†		7	↑ 1>		
Traffic Vol, veh/h	3	1	3	0	0	0	6	655	74	49	658	0	
Future Vol, veh/h	3	1	3	0	0	0	6	655	74	49	658	0	
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	- 2	-	None	
Storage Length	1 4	-	14	-	-	-	50	-		160	-	-	
Veh in Median Storage	, # -	0	- 6	-	16979	-		0	*	- 4	0	-	
Grade, %	-	0	- 6		0	-	-	0	-	-	0	-	
Peak Hour Factor	63	63	63	92	92	92	86	86	86	90	90	90	
Heavy Vehicles, %	3	5	3	2	2	2	3	5	5	5	5	3	
Mvmt Flow	5	2	5	0	0	0	7	762	86	54	731	0	
Major/Minor N	/linor2					1	Najor1		N	Major2			
Conflicting Flow All	1234	1701	366				731	0	0	848	0	0	
Stage 1	839	839	-				- 4	-	+	14		-	
Stage 2	395	862	-				12	9.	12.	- 12	- 4	- 4	
Critical Hdwy	6.86	6.6	6.96				4.16	-	++	4.2	-		
Critical Hdwy Stg 1	5.86	5.6	*				-	1-	(4)	- 4		~	
Critical Hdwy Stg 2	5.86	5.6	-				-	-	~	- 5			
Follow-up Hdwy	3.53	4.05	3.33				2.23	1.7		2.25			
Pot Cap-1 Maneuver	167	88	628				863	100	14	766	10		
Stage 1	382	372	9				-	- 0	14	18	*	18	
Stage 2	647	363					-			3	-	-	
Platoon blocked, %								54	1-		-	الغا	
Mov Cap-1 Maneuver	154	0	628				863	10		766	- 2	7-1	
Mov Cap-2 Maneuver	154	0	*				191	100	9			- 8	
Stage 1	379	0	7					-	*	1,5	1.5	(-)	
Stage 2	602	0					- 1	-		•			
Approach	EB						NB			SB			
HCM Control Delay, s	20.3						0.1			0.7			
HCM LOS	С												
Minor Lane/Major Mvm	t	NBL	NBT	NBR E	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)		863	- 4		247	766	-	- 1					
HCM Lane V/C Ratio		0.008		- 41	0.045								
HCM Control Delay (s)		9.2			20.3	10.1							
HCM Lane LOS		Α			С	В							
HCM 95th %tile Q(veh)		0	- 0	2	0.1	0.2	- 1						

	۶	*	4	†	↓	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T T	7	ሻሻ	<u> </u>		7 do
Traffic Volume (vph)	381	1222	1210	T 554	T 546	109
, , ,	381					
Future Volume (vph)		1222	1210	554	546	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	11	12	11	12
Storage Length (ft)	0	0	240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3286	1845	1783	1568
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3286	1845	1783	1568
Right Turn on Red	1102	Yes	5200	1040	1703	Yes
Satd. Flow (RTOR)		169				8
, ,	20			20	20	ð
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.90	0.90	0.93	0.93	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	423	1358	1301	596	600	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	423	1358	1301	596	600	120
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	, wgiit	LOIL	22	22	ragni
Link Offset(ft)	0			0	0	
1 /						
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	4.00	0.00	4.07	4.55	4.5:	
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
	CITEX	CITEX	CITEX	CITEX	CITEX	CITEX
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
	Drot	auatam	Drot			nm lou
Turn Type	Prot	custom	Prot	NA	NA	pm+ov

	*	7	1	†	↓	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	20.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.97	0.84	1.09	0.53	1.92	0.15
Control Delay	67.5	5.8	81.8	11.0	451.0	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.5	5.8	81.8	11.0	451.0	10.7
LOS	E	Α	F	В	F	В
Approach Delay	20.5			59.5	377.6	
Approach LOS	С			Е	F	
latana atian Common any						

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.92 Intersection Signal Delay: 95.8

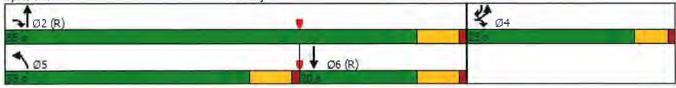
Intersection Capacity Utilization 114.4%

Analysis Period (min) 15

! Phase conflict between lane groups.

Intersection LOS: F
ICU Level of Service H

Splits and Phases: 12: Rt 6/9/202 & Bear Mtn Pkwy



Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1			4
Traffic Vol, veh/h	76	15	24	80	13	24
Future Vol, veh/h	76	15	24	80	13	24
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	4	None
Storage Length	0			_		
Veh in Median Storag		100	0		4	0
Grade, %	0	-	0	_		0
Peak Hour Factor	90	90	87	87	65	65
Heavy Vehicles, %	5	5	5	5	5	5
Mymt Flow	84	17	28	92	20	37
IVIVIIIL I SOVV	04	17	20	92	20	37
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	151	74	0	0	120	0
Stage 1	74			- 14		
Stage 2	77	-	194	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.15	-
Critical Hdwy Stg 1	5.45	-	-			
Critical Hdwy Stg 2	5.45					
Follow-up Hdwy	3.545				2.245	
Pot Cap-1 Maneuver	834	979		_	1449	-
Stage 1	941	373	-		1445	
Stage 2	938	-		-		
Platoon blocked, %	930	- 3				
	000	070	14		1110	13
Mov Cap-1 Maneuver		979	(4)	-	1449	- 3
Mov Cap-2 Maneuver			7	*		-
Stage 1	941	-				-
Stage 2	925	-	4	2	-	-
Approach	WB		NB		SB	
HCM Control Delay, s	9.8		0	-	2.6	_
			U		2.0	
HCM LOS	Α					
Minor Lane/Major Mvr	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-			1449	
HCM Lane V/C Ratio					0.014	
HCM Control Delay (s)			9.8	7.5	0
HCM Lane LOS	,			Α.	Α.5	A
HCM 95th %tile Q(veh	1			0.4	0	-
TION JOHN JOHN Q(VEI	7		- 3	0.4	U	

Intersection							
Int Delay, s/veh	6.3						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	1		7	7	
Traffic Vol, veh/h	18	82	94	77	199	10	
Future Vol, veh/h	18	82	94	77	199	10	
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	0	
Veh in Median Storage	e,# -	0	0	-	0	+	
Grade, %	-	0	0	-	0	4	
Peak Hour Factor	85	85	90	90	79	79	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	21	96	104	86	252	13	
Major/Minor	Major1	N	Major2		Minor2		
Conflicting Flow All	190	0	-	0		147	
Stage 1	-	*	-	-	147	-	
Stage 2	-	-			138		
Critical Hdwy	4.15	-		-	6.45	6.25	
Critical Hdwy Stg 1	-				5.45	-	
Critical Hdwy Stg 2		- 2	4	-	5.45	- 4	
Follow-up Hdwy	2.245	-			3.545	3.345	
Pot Cap-1 Maneuver	1366	- 4		-	699	892	
Stage 1	-	-	4	-	873	-	
Stage 2	-		-	-	881	- 6	
Platoon blocked, %							
Mov Cap-1 Maneuver	1366			(3)	688	892	
Mov Cap-2 Maneuver	-		~	1	688	-	
Stage 1	-	- 2	+	-	859	-	
Stage 2	-	- 1		-	881	-	
Approach	EB		WB		SB		
HCM Control Delay, s	1.4		0		13		
HCM LOS					В		
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WBR :	SBLn1	SBI n2
Capacity (veh/h)		1366	-	,	-	688	892
HCM Lane V/C Ratio		0.016	_	4		0.366	
HCM Control Delay (s)		7.7	0	4	-	13.2	9.1
HCM Lane LOS		A	Ā	-		В	A
HCM 95th %tile Q(veh)		0					0
						1.1	J

Int Delay, s/veh	9.2											
iiit Delay, siveii												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			4	7		4	
Traffic Vol, veh/h	1	2	2	273	2	9	2	12	266	9	5	1
Future Vol, veh/h	1	2	2	273	2	9	2	12	266	9	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized			None		-	None			None	_		None
Storage Length	-	-	144	- 4	-	- 4		114	0	_	-	
Veh in Median Storage	,# -	0	-	2	0			0	-	-	0	
Grade, %	-	0	1.0	-	0	+	-	0	-	_	0	
Peak Hour Factor	50	50	50	91	91	91	81	81	100	50	50	50
Heavy Vehicles, %	2	3	3	29	3	2	3	2	25	2	2	2
Mvmt Flow	2	4	4	300	2	10	2	15	266	18	10	2
												_
3.4 ' (5.4'				4 1 0								
	Major1			Major2			Minor1			Vinor2		
Conflicting Flow All	12	0	0	8	0	0	623	622	6	758	619	7
Stage 1	+	-	-	4	-	•	10	10	7	607	607	
Stage 2	- 10		-	*	÷,	-	613	612		151	12	
Critical Hdwy	4.12	-	10	4.39	+	•	7.13	6.52	6.45	5.4	5.5	6.22
Critical Hdwy Stg 1	-	-	-	9	(4)	-	6.13	5.52	15	6.12	5.52	7
Critical Hdwy Stg 2	16	7	7	7	31		6.13	5.52	14	6.12	5.52	
Follow-up Hdwy	2.218	-	-	2.461	*	-	3.527	4.018	3.525	3.518	4.018	3.318
Pot Cap-1 Maneuver	1607		-	1453	5	-	397	403	1013	465	482	1075
Stage 1	104		-		(ii)	-	1008	887	-	483	486	1/2
Stage 2	-		-	-	- 9	-	478	484		851	886	
Platoon blocked, %		*			(9)							
Mov Cap-1 Maneuver	1607		-	1453	9	-	326	319	1013	278	381	1075
Mov Cap-2 Maneuver	*		*	*	*	-	326	319	-	278	381	-
Stage 1	-	7		+1	(3)	-	1007	886	-	483	385	-
Stage 2	16	•	19	e		-	368	383	-	616	885	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			7.8			10.2	_		17.3		_
HCM LOS				7.0			В			C		
										Ŭ		
0.41		NIDL 4	NIDI O	EDI	EDT	EDD	LUGI	MOT	14100	001 4		
Minor Lane/Major Mvm		NBLn1		EBL	EBT	EBR	WBL	WBT	WBR :		_	
Capacity (veh/h)			1013	1607	-		1453			323		
HCM Lane V/C Ratio				0.001	-	-	0.206	-		0.093		
HCM Control Delay (s)		16.9	9.8	7.2	0	-	8.1	0				
HCM Lane LOS		С	Α	Α	Α	-	Α	Α	14	С		
HCM 95th %tile Q(veh)		0.2	11	0	-		0.8	-	10	0.3		

ntersection							
ntersection Delay, s/veh	9.4						
ntersection LOS	Α						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	7			भी			
raffic Vol. veh/h	195	0	135	9	0	0	
ulure Vol. veh/h	195	0	135	9	0	ő	
eak Hour Factor	0.91	0.91	0.85	0.85	0.92	0.92	
eavy Vehicles, %	10	2	14	5	2	2	
lvmt Flow	214	0	159	11	ō	0	
umber of Lanes	1	0	0	1	0	0	
pproach	EB		NB				
pposing Approach							
pposing Lanes	0		0				
Conflicting Approach Left			EB				
onflicting Lanes Left	0		1				
onflicting Approach Right	NB						
onflicting Lanes Right	1		0				
CM Control Delay	9.5		9.3				
CM LOS	Α		A				
ane		NBLn1	EBLn1				
l Left, %		94%	100%				
l Thru, %		6%	0%				
ol Right, %		0%	0%				
gn Control		Stop	Stop				
affic Vol by Lane		144	195				
Vol		135	195				
rough Vol		9	0				
「Vol		Q	Ŏ.				
ane Flow Rate		169	214				
eometry Grp		1	1				
egree of Util (X)		0.229	0.28				
eparture Headway (Hd)		4.862	4.706				
onvergence, Y/N		Yes	Yes				
ip q		740	765				
ervice Time		2.878	2.722				
CM Lane V/C Ratio		0.228	0.28				
CM Control Delay		9.3	9.5				
CM Lane LOS		Α	Α				
CM 95th-tile Q		0.9	1.1				

	*	-	*	•	←	*	4	†	1	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		€ 1}			414			4	7		स	7
Traffic Volume (vph)	28	338	10	10	336	14	22	17	28	35	10	24
Future Volume (vph)	28	338	10	10	336	14	22	17	28	35	10	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0,95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.994				0.850			0.850
Fit Protected		0.996			0.999			0.972			0.963	0,000
Satd. Flow (prot)	0	3116	0	0	3139	0	0	1793	1463	0	1717	1516
FIt Permitted		0.908			0.942			0.875		_	0.819	
Satd. Flow (perm)	0	2841	0	0	2960	0	0	1614	1463	0	1460	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			10				44			44
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	3%	12%	3%	3%	15%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	29	348	10	11	373	16	25	19	31	42	12	29
Shared Lane Traffic (%)		0.0	,,,		0.0		20	10	01		12	20
Lane Group Flow (vph)	0	387	0	0	400	0	0	44	31	0	54	29
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	9		0	J		0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	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								0.0	0.0		0.0	0.0
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)	_	20.0		J	20.0			20.0	20.0	J	20.0	20.0

Saturday Midday (Weekend) Peak Hour

	1	→	1	1	—	1	1	†	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	ŞBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.34			0.34			0.07	0.05		0.09	0.05
Control Delay		11.3			11.1			9.7	3.1		10.0	2.9
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		11.3			11.1			9.7	3.1		10.0	2.9
LOS		В			В			Α	Α		Α	Α
Approach Delay		11.3			11.1			7.0			7.5	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50
Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

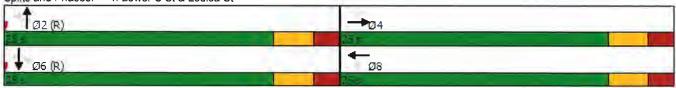
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.34 Intersection Signal Delay: 10.5

Intersection Signal Delay: 10.5
Intersection Capacity Utilization 42.1%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	1	4	†	~	1	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	VVDL	VVDI	1 Ta	NOR	JOL	SD1
Traffic Volume (vph)	24	36	128	73	19	127
Future Volume (vph)	24	36	128	73	19	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1900	1900	1300	12	12	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919	1.00		1.00	1.00	1.00
			0.951			0.004
Fit Protected	0.980	_	4500	_	^	0.994
Satd. Flow (prot)	1772	0	1530	0	0	1405
Flt Permitted	0.980		4500			0.954
Satd. Flow (perm)	1772	0	1530	0	0	1349
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	49					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.73	0.73	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	3%	3%	33%	3%	3%	39%
Adj. Flow (vph)	33	49	136	78	23	157
Shared Lane Traffic (%)	00	70	100	, 0	20	107
Lane Group Flow (vph)	82	0	214	0	0	180
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.33		0.28			0.30
Control Delay	8.1		10.0			10.0
Control Delay	0.1		10.0			10.0



Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

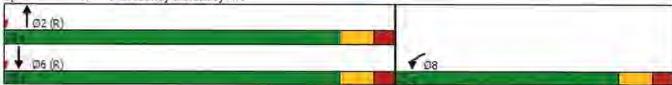
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.28 Intersection Signal Delay: 9.7

Intersection Capacity Utilization 35.2%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	*	*	1	1	ţ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	me last 1	.100	4	†	T T
Traffic Volume (vph)	73	93	10	450	602	38
Future Volume (vph)	73	93	10	450	602	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	12	12	12	1300	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924	1.00	1.00	1.00	1.00	0.850
				0.000		0.850
Flt Protected	0.979	_	^	0.999	4050	4.400
Satd. Flow (prot)	1724	0	0	1759	1852	1463
Flt Permitted	0.979			0.986		
Satd. Flow (perm)	1724	0	0	1736	1852	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	101					
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	8%	6%	3%
Adj. Flow (vph)	79	101	11	479	662	42
Shared Lane Traffic (%)	- 10	101		.,,	002	
Lane Group Flow (vph)	180	0	0	490	662	42
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment			Left	Left	Left	
	Left	Right	Leit			Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	15			9
Number of Detectors	1		1	0	0	0
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	CITEX		CITEX	CITEX	CITEX	CIFLX
	0.0		0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2			6
Detector Phase	4		2	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	1	1	4	†	Ţ	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	
Total Lost Time (s)	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	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	7.8			30.0	30.0	44.7	
Actuated g/C Ratio	0.17			0.67	0.67	1.00	
//c Ratio	0.47			0.42	0.53	0.03	
Control Delay	12.2			6.7	7.9	0.0	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	12.2			6.7	7.9	0.0	
_OS	В			Α	Α	Α	
Approach Delay	12.2			6.7	7.4		
Approach LOS	В			Α	Α		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 44	.7						
Natural Cycle: 55							
Control Type: Semi Act-Un	ncoord						
Maximum v/c Ratio: 0.53							
ntersection Signal Delay:	7.8			Int	tersection	LOS: A	
ntersection Capacity Utiliz	ation 49.8%			IC	U Level o	of Service A	4
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakl	ey Ave					
↑ _{Ø2}					1	73.4	
1.92					10-	34	
▼ Ø6							

Intersection							
Int Delay, s/veh	0.2						_
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	1			4	7⇒	ODIN	
Traffic Vol, veh/h	3				130	12	
Future Vol, veh/h	3		1		130	12	
Conflicting Peds, #/hr	0	0	0		0	0	
Sign Control	Stop	Stop	Free		Free	Free	
RT Channelized	-		-	None		None	
Storage Length	0		-			· +1	
Veh in Median Storag			-	0	0		
Grade, %	0		-	•	0	σ	
Peak Hour Factor	50	50	89	89	71	71	
Heavy Vehicles, %	75		3	21	32	75	
Mvmt Flow	6	2	1	215	183	17	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	409	192	200	0	Major Z	0	
Stage 1	192	102	200			-	
Stage 2	217	i e		- 1	-	-	
Critical Hdwy	7.15	6.23	4.13	10		-0	
Critical Hdwy Stg 1	6.15	14	da.	-	-		
Critical Hdwy Stg 2	6.15						
Follow-up Hdwy	4.175	3.327	2.227	-		-	
Pot Cap-1 Maneuver	481	847	1366		4		
Stage 1	693					(-)	
Stage 2	673	- 4				-	
Platoon blocked, %				4	- 4	4	
Mov Cap-1 Maneuver	481	847	1366	-	+	+	
Mov Cap-2 Maneuver	481		-				
Stage 1	692	-	-		-	-	
Stage 2	673	-	-	3	4	-	
Approach	EB		NB		SB		
HCM Control Delay, s	11.8		0		0		
HCM LOS	В		U		U		
NA' Livering Arrives							
Minor Lane/Major Mvm	it	NBL	NBT E	EBLn1 E		SBT	SBR
Capacity (veh/h)		1366	-	481	847	15	14
HCM Lane V/C Ratio		0.001	-	0.012		14	-
HCM Control Delay (s)		7.6	0	12.6	9.3	W.	-
HCM Lane LOS		Α	Α	В	Α	6	1
HCM 95th %tile Q(veh)		0	-	0	0		1

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	₽	
Traffic Vol, veh/h	9	0	2	192	142	9
Future Vol, veh/h	9	0	2	192	142	9
Conflicting Peds, #/hr	0		0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Slop	None	1166	None	1166	None
		None		None		None
Storage Length	0		-	_	-	
Veh in Median Storage		*		0	0	
Grade, %	0	-	-	_	0	*1
Peak Hour Factor	63	63	90	90	75	75
Heavy Vehicles, %	3	3	3	22	35	3
Mvmt Flow	14	0	2	213	189	12
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	195	201	0	viajorz	0
Stage 1	195	-	-	-	9	- 1
Stage 2	217	0.00	4.40	-	*	-
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	~	*	-	-	2
Critical Hdwy Stg 2	5.43	-	-	+1	18	-
Follow-up Hdwy	3.527	3.327		(*)	19	- 5
Pot Cap-1 Maneuver	594	844	1365			
Stage 1	836	÷	- 4		(é)	- 41
Stage 2	817	12	ă.	141	- 4	4
Platoon blocked, %					19	-
Mov Cap-1 Maneuver	593	844	1365		-	- 4
Mov Cap-2 Maneuver		-	1000			Į.
	834			-		
Stage 1				-	-	
Stage 2	817	-	•			
Approach	EB		NB		SB	
HCM Control Delay, s	11.2		0.1		0	
HCM LOS	В		0.1		Ū	
TOW LOO						
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1365	-	593	-	- 4
HCM Lane V/C Ratio		0.002	_	0.024	141	-
HCM Control Delay (s)	7.6	0	11.2		
HCM Lane LOS		Α	A	В	-	- 4
HCM 95th %tile Q(veh	1	0	-	0.1	- 0	
HOW SOUL WINE WIVE	1	U	-	0.1		

	*	→	*	•	+	•	1	1	-	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑ ↑		T	^			4	7		413	
Traffic Volume (vph)	0	92	78	268	159	0	69	0	386	73	355	52
Future Volume (vph)	0	92	78	268	159	0	69	0	386	73	355	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0	·-	0	0		0	0	'-	250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		_
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.931						0.897	0.850		0.984	0,00
Flt Protected				0.950				0.985	0.000		0.992	
Satd. Flow (prot)	0	3154	0	1646	1845	0	0	1448	1468	0	3333	0
Flt Permitted			Ť	0.624				0.807	1100	· ·	0.815	· ·
Satd. Flow (perm)	0	3154	0	1081	1845	0	0	1187	1468	0	2738	0
Right Turn on Red		0101	Yes	1001	1010	Yes		1101	No	J	2100	Yes
Satd. Flow (RTOR)		93				100			140		12	100
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.84	0.84	0.84	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	2%	3%	3%	6%	3%	2%	3%	2%	8%	5%	6%	5%
Adj. Flow (vph)	0	110	93	285	169	0	73	0	406	78	378	55
Shared Lane Traffic (%)	V	110	00	200	100	U	70	U	40%	70	370	00
Lane Group Flow (vph)	0	203	0	285	169	0	0	235	244	0	511	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)	Lon	11	ragin	LOIL	11	ragiit	LOIL	12	rtigit	Leit	12	ragin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	1.00	1.04	9	15	1.00	9	1.00	1.04	9	1.00	1.00	9
Number of Detectors	10	2	J	1	2	3	13	2	1	1	2	9
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel		OILL		OITEX	OITEX		OITEX	CITEX	CITEX	CITEX	CITEX	
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94		0.0	94		0.0	94	0.0	0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			Cl+Ex	
Detector 2 Channel		OI, LX			OITEX			OITEX			OFEX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom		custom	Perm	NA	
		INA		יו.ע יר	INA		ousiOIII	IVA	GUSTOITI	1.61111	INA	

Lane Group	Ø1	Ø3	Ø4		
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

	1	→	*	1	←	4	4	1	~	1	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)	;	30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		8.7		22.9	27.9			40.1	20.0		20.0	
Actuated g/C Ratio		0.10		0.28	0.34			0.48	0.24		0.24	
v/c Ratio		0.49		0.73	0.27			0.37	0.69		0.76	
Control Delay		23.3		51.4	36.0			13.2	41.4		38.1	
Queue Delay		0.0		0.0	0.2			0.0	0.0		0.0	
Total Delay		23.3		51.4	36.2			13.2	41.4		38.1	
LOS		С		D	D			В	D		D	
Approach Delay		23.3			45.8			27.6			38.1	
Approach LOS		С			D			С			D	

Intersection Summary

Area Type: Other

Cycle Length: 100 Actuated Cycle Length: 83 Natural Cycle: 95

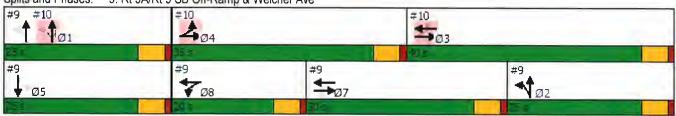
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76 Intersection Signal Delay: 35.3 Intersection Capacity Utilization 61.9%

Intersection LOS: D ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4		
Protected Phases	1	3	4		
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0		
Minimum Split (s)	23.0	23.0	23.0		
Total Split (s)	25.0	40.0	35.0		
Total Split (%)	25%	40%	35%		
Maximum Green (s)	20.0	35.0	30.0		
Yellow Time (s)	4.0	4.0	4.0		
All-Red Time (s)	1.0	1.0	1.0		
Lost Time Adjust (s)	1.0	110	110		
Total Lost Time (s)					
Lead/Lag		Lag	Lead		
Lead-Lag Optimize?		Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0		
Recall Mode	Max	None	None		
Walk Time (s)	mare	110110	110110		
Flash Dont Walk (s)					
Pedestrian Calls (#/hr)					
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Approach LOO					
Intersection Summary					

	1	-	7	1	+	4	4	†	~	1	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ň	1			†			4	1			
Traffic Volume (vph)	278	273	0	0	337	78	90	0	78	0	0	0
Future Volume (vph)	278	273	0	0	337	78	90	0	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0	, ,	0	0	'-	325	0	'-	0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		·
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.972	0.00	1.00	1.00	0.850	1.00	1.00	1.00
Flt Protected	0.950				0.012			0.950	0.000			
Satd. Flow (prot)	1662	1629	0	0	3143	0	0	1752	1538	0	0	0
Flt Permitted	0.444	1020	· ·	Ū	0140	U	U	0.950	1000	U	U	U
Satd. Flow (perm)	777	1629	0	0	3143	0	0	1752	1538	0	0	0
Right Turn on Red	111	1020	Yes	U	0140	Yes	U	1132	Yes	U	U	Yes
Satd. Flow (RTOR)			163		31	163			185			res
Link Speed (mph)		30			30			30	100		20	
Link Distance (ft)		270			670			740			30	
Travel Time (s)		6.1			15.2						577	
Peak Hour Factor	0.95		0.95	0.00		0.00	0.00	16.8	0.00	0.00	13.1	0.00
	5%	0.95		0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)		5%	2%	2%	4%	5%	3%	5%	5%	2%	2%	2%
Adj. Flow (vph)	293	287	0	0	383	89	100	0	87	0	0	0
Shared Lane Traffic (%)	000	007	0	0	470	0	•	400	07			
Lane Group Flow (vph)	293	287	0	0	472	0	0	100	87	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	4.04	4.4.4	4.00	4.00								
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Defector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7	Ø8	
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpi)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Fit Protected					
Satd. Flow (prot)					
Fit 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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

	1	→	7	1	+	1	1	†	-	1	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1			-	
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag			0.0	0.0			
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)					110110		Max	Max	Max			
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	47.9	52.9			34.6			20.0	20.0			
Actuated g/C Ratio	0.58	0.64			0.42			0.24	0.24			
v/c Ratio	0.50	0.28			0.36			0.24	0.17			
Control Delay	14.6	6.8			16.9			28.3	0.7			
Queue Delay	0.0	0.8			0.0			0.2	0.0			
Total Delay	14.6	7.5			16.9			28.5	0.7			
LOS	В	A			В			C	Α			
Approach Delay		11.1			16.9			15.6	71			
Approach LOS		В			В			В				
- FF - 2011 - 201												

Intersection Summary

Area Type: Other

Cycle Length: 100 Actuated Cycle Length: 83 Natural Cycle: 95

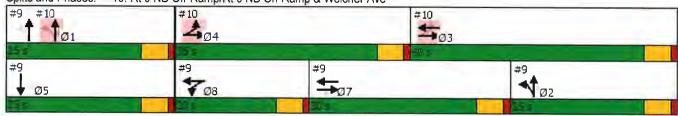
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76 Intersection Signal Delay: 14.0 Intersection Capacity Utilization 44.7%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	Ø5	Ø7	Ø8			
Protected Phases	2	5	7	8			
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0			
Minimum Split (s)	23.0	23.0	27.0	20.0			
Total Split (s)	25.0	25.0	30.0	20.0			
Total Split (%)	25%	25%	30%	20%			
Maximum Green (s)	20.0	20.0	25.0	15.0			
Yellow Time (s)	4.0	4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)		1000					
Total Lost Time (s)							
Lead/Lag			Lag	Lead			
Lead-Lag Optimize?			Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0			
Recall Mode	Max	Max	None	None			
Walk Time (s)		1311.35	7.0				
Flash Dont Walk (s)			15.0				
Pedestrian Calls (#/hr)			0				
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Intersection Summary							
in section summary							

Int Delay, s/veh	0.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					ħ	↑ Ъ		7	14		
Traffic Vol, veh/h	5	2	3	0	0	0	3	450	69	62	637	2	
Future Vol, veh/h	5	2	3	0	0	0	3	450	69	62	637	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		- 0	None	-	-	None	
Storage Length	-	-			-	-	50	~	(e	160		-	
Veh in Median Storage	,# -	0	+		16979	-	-	0			0		
Grade, %	_	0			0	-	-	0	14	_	0	_	
Peak Hour Factor	38	38	38	92	92	92	97	97	97	93	93	93	
Heavy Vehicles, %	3	5	3	2	2	2	3	7	7	5	5	3	
Mvmt Flow	13	5	8	0	0	0	3	464	71	67	685	2	
					J			107	, ,	01	000		
Major/Minor N	/linor2					ı	Major1		1	Major2			
Conflicting Flow All	1058	1361	344				687	0	0	535	0	0	
Stage 1	820	820					9	-	-	-	-	-	
Stage 2	238	541	-									4.	
Critical Hdwy	6.86	6.6	6.96				4.16	-		4.2	_		
Critical Hdwy Stg 1	5.86	5.6	0.00				7,10			4.2	,		
Critical Hdwy Stg 2	5.86	5.6	-						i i		-		
Follow-up Hdwy	3.53	4.05	3.33				2.23		100	2.25	-		
Pot Cap-1 Maneuver	218	143	649				896			1008	-	- 1	
Stage 1	391	380	-				030			1000	-		
Stage 2	776	511	- 1					-0		-0			
Platoon blocked, %	110	UII					35)	- 0	- 1		*	- 1	
Mov Cap-1 Maneuver	203	0	649				896			1008		-	
Mov Cap-1 Maneuver	203	0	049					- 3			-		
Stage 1	390	0						- 2		-	(4)	-	
	725	0					170	-10/	- *			-	
Stage 2	120	U					- 5	-	-	-	21		
Approach	ĒВ						NB			SB			
HCM Control Delay, s	19.6							-	_				
HCM LOS	19.0 C						0.1			8.0			
IOIVI LOS	C												
Minor Lane/Major Mvmt		NBL	NBT	NBR E	-Bl n1	SBL	SBT	SBR				_	
Capacity (veh/h)		896	NOT	NON	273	1008	001	SDR				-	
HCM Lane V/C Ratio		0.003	-	3.50	0.096								
HCM Control Delay (s)								7					
HCM Lane LOS		9	-	+	19.6	8.8							
		A	*		С	A	-	121					
HCM 95th %tile Q(veh)		0		10	0.3	0.2		+					

	1	*	1	†	↓	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7		177		100	JOH
Traffic Volume (vph)	386		1419	443	436	355
Future Volume (vph)	386	1024	1419	443	436	355
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	1300	11	1900	1900	1900
Storage Length (ft)	0		240	12	- ''	125
Storage Lanes						120
Taper Length (ft)	1 25	1	1 25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	1.00		0.97	1.00	1.00	1.00
	0.050	0.850	0.050			0.850
Flt Protected	0.950	4000	0.950	4005	4=00	4=
Satd. Flow (prot)	1752	1620	3319	1863	1783	1568
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3319	1863	1783	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						2
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.95	0.95
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	415	1101	1613	503	459	374
Shared Lane Traffic (%)	,,,	1101	1010	000	100	011
Lane Group Flow (vph)	415	1101	1613	503	459	374
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	Ngnt	Leit	22	22	Rigit
Link Offset(ft)	0					
, ,				0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	4.00	0.55				5
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						J. L/
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
Detector 2 Position(ft)	0.0	0.0	0.0	94	94	0_0
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel					-1	
Detector 2 Extend (s)	_			0.0	0.0	
Turn Type	Prof	custom	Prot	NA	NA	pm+ov

12: Rt 6/9/202 & Bear Mtn Pkwy

	•	*	4	†	↓	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	24.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.95	0.68	1.34	0.44	1.47	0.48
Control Delay	63.7	2.3	184.6	9.7	257.2	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.7	2.3	184.6	9.7	257.2	15.6
LOS	Е	Α	F	Α	F	В
Approach Delay	19.1			143.0	148.8	
Approach LOS	В			F	F	
Intersection Summary						

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

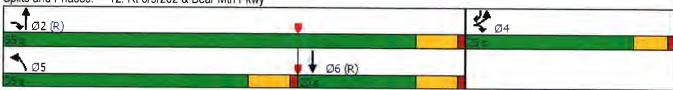
Maximum v/c Ratio: 1.47 Intersection Signal Delay: 102.0 Intersection Capacity Utilization 99.0%

Intersection LOS: F
ICU Level of Service F

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 12: Rt 6/9/202 & Bear Mtn Pkwy



Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	**	1,101,1	1	1,511	004	4
Traffic Vol, veh/h	78	14	22	147	19	17
Future Vol, veh/h	78	14	22	147	19	17
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	1100			None
Storage Length	0	į.		(3)	4	110110
Veh in Median Storag			0	- 8	- 4	0
Grade, %	0	14	0	- 0		0
Peak Hour Factor	88	88	77	77	75	75
Heavy Vehicles, %	5	5	5	5	5	5
Mymt Flow	89	16	29	191	25	23
in thirt low	00	10	20	101	20	23
	Minor1		//ajor1		Major2	
Conflicting Flow All	198	125	0	0	220	0
Stage 1	125	-				
Stage 2	73		- 14	-	14	(4)
Critical Hdwy	6.45	6.25		-	4.15	
Critical Hdwy Stg 1	5.45	-	9	- 3		,
Critical Hdwy Stg 2	5.45			(a)		
Follow-up Hdwy	3.545	3.345		-	2.245	2
Pot Cap-1 Maneuver	784	918		-	1332	5
Stage 1	893					- 0
Stage 2	942		14			
Platoon blocked, %				-		4
Mov Cap-1 Maneuver	769	918	1	_	1332	- 141
Mov Cap-2 Maneuver	769	-				
Stage 1	893	-				-
Stage 2	924					1
Olugo Z	027		- 17			
A	1.6.700					
Approach	WB		NB		SB	
HCM Control Delay, s	10.3		0		4.1	
HCM LOS	В					
Minor Lane/Major Mvn	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)			. (2) (4	788	1332	
HCM Lane V/C Ratio		- 2		0.133		
HCM Control Delay (s)	\			10.3	7.8	0
HCM Lane LOS	,			10.3 B	7.8 A	A
HCM 95th %tile Q(veh	1			0.5	0.1	
HOW JOHN JOHN CHI VEH	1	-	-	0.5	U. I	-

Intersection							
Int Delay, s/veh	4.7						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	LDL	4	VVD1	VVDR	ODL	SDK 7	
Traffic Vol, veh/h	17	€1 78	159	102	152	10	
Future Vol, veh/h	17	78	159	102	152	10	
Conflicting Peds, #/hr		0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-			None	стор		
Storage Length	_	-		- 6	0	0	
Veh in Median Storag	ie,# -	0	0		0		
Grade, %	_	0	0	-	0	-	
Peak Hour Factor	98	98	84	84	78	78	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	17	80	189	121	195	13	
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	310	0	viajoi z		364	250	
Stage 1	010	-	-	-	250	-	
Stage 2	-				114		
Critical Hdwy	4.15		- 4		6.45	6.25	
Critical Hdwy Stg 1	-		-		5.45	0.20	
Critical Hdwy Stg 2		-	-		5.45		
Follow-up Hdwy	2.245					3.345	
Pot Cap-1 Maneuver	1234	-6			629	781	
Stage 1	-	*	-		785	- 2	
Stage 2	4		-		903	-	
Platoon blocked, %			(+)				
Mov Cap-1 Maneuver	1234	-	- 4		620	781	
Mov Cap-2 Maneuver		=		-	620	-	
Stage 1	-	-	*	*	774	-	
Stage 2					903	-	
Approach	EB		WB		SB		
HCM Control Delay, s		_	0	_	13.2		_
HCM LOS			J		В		
NAire and the arthur NA - the Administration	4	ED!	- C - T	MDT	1455	0DL 4	OD 1 O
Minor Lane/Major Mvr	πτ	EBL	EBT	WBT	WBR S	SBLn1	
Capacity (veh/h)		1234		-		620	781
HCM Cantral Dalay (,	0.014	-	- 1.5		0.314	
HCM Control Delay (s)	8	0	-			9.7
HCM CEAR OF A COURT		A	Α		*	В	A
HCM 95th %tile Q(veh	1)	0	-		- 0	1.3	0.1

7. Pending Development Projects Lists and Trip Generation

Table A.7-1
Town of Cortlandt Pending Development Projects (through 2023)*

Development	Location	Size	Туре	Status	Anticipated Completion Year	Growth Factor or Discrete Trips ¹	Notes ²
Cortlandt Crossing	Rt. 6	130,000 sq. ft.	Commercial	Partially constructed. Small tenant spaces still to be backfilled. 1 approved retail outparcel of 8,000 sq. ft. is approved but not yet constructed.	2021	Growth Factor	Distant from Port Cortlandt Study Area Intersections
The Sentinel	Rt. 6 at 3441 Lexington Ave.	Renovation and expansion - 38 new beds and 30,000 new sq. ft. to an existing 63,000 sq. ft., 150 bed assisted living facility	Assisted Living	Under Construction	2021	Growth Factor	Distant from Port Cortlandt Study Area Intersections
Pondview Commons	Rt. 6 and Regina Ave.	56 units	Apartment Units - 1&2 bedrooms	Under Construction	2021	Growth Factor	Distant from Port Cortlandt Study Area Intersections
Medical Oriented District (MOD)	Rt. 202 between Dayton Ln. & Conklin Ave.	366 Apts Studios/1 & 2 beds. 85,000 sq. ft. new medical office 60,000 sq. ft. retail 120 unit assisted living 100 room hotel	Apt. Units Studios/1 & 2 beds. Medical Office Retail Assisted Living Hotel	DEIS completed, public hearings held. Applicants working on FEIS, project scope revisions likely	2021	Discrete Trips	Discrete Trips sourced from MOD Traffic Impact Study and carried through to Port Cortland study area intersections
Lexington Ave. Classic Car Storage	3451 Lexington Ave. near Rt. 6	56,000 sq.ft. car storage bldg.	Storage for 350 cars, Members Lounge	Pending	2021	Growth Factor	Distant from Port Cortlandt Study Area Intersections
Palisades Fuel/Sinclair	Rt. 6 near Bear Mountain Parkway	2,940 sq. ft. gas station/convenience store with 6 fuel pumps	Commercial	Pending	2021	Growth Factor	Distant from Port Cortlandt Study Area Intersections
Crystal Clean Car Wash / Cortlandt Car Care	Route 9, north of Annsville Circle	4,672 square-foot (sf) car care facility consisting of three (3) self-serve wash stations, two (2) automatic wash stations and two (2) quick-lube oil change stations with 6 vehicle vacuum stations	Commercial	Partially constructed, On-hold	2021	Discrete Trips	Discrete Trips sourced from Car Wash Traffic Impact Study and carried through to Port Cortland study area intersections

Notes:

^{*} Source: Town of Cortlandt Planning Department

^{1.} Indicates whether trips from the development project was accounted for with the background growth factor or with discrete trips that were added to the Port Cortlandt traffic network.

^{2.} Provides reasoning for selecting the background growth factor to account for pending development projects and sources of discrete trips.

Table A.7-2 City of Peekskill Pending Development Projects (through 2023)*

Development/Location	Size	Туре	Status	Estimated Opening	Growth Factor or Discrete Trips ¹	Notes ²
1 Park Place	181 units	Market rate rental apartments	Under construction	2021	Growth Factor	Traffic Impact Study shows low trip generation.
216 S. Division St	22 units	Market rate rental apartments	Under construction	2021	Growth Factor	Low trip generator
1847 Crompond Rd	52 units	Affordable Senior rental apartments	Under construction	2021	Growth Factor	Low trip generator
645 Main St	82 units	Affordable rental apartments	Under construction	2022	Growth Factor	EAF shows low trip generation
505 South St	51 units	Market rate condominium building	All approvals granted	2022	Growth Factor	EAF states no significant increase in traffic
653 Central Ave	78 units	Market rate rentals with 5% workforce & 5% affordable units	Purchase and Sale Agreement with City. Approvals TBD	2022-2023	Growth Factor	Low trip generator

Notes:

^{*} Source: City of Peekskill Planning Department

^{1.} Indicates whether trips from the development project was accounted for with the background growth factor or with discrete trips that were added to the Port Cortlandt traffic network.

^{2.} Provides reasoning for selecting the background growth factor to account for pending development projects.

DISCRETE PENDING DEVELOPMENT PROJECT TRIPS

					COR	LANDT		PE	EEKSKILL (all Peekskill projects accounted for	DISCE		DEVELOPMENT
	Traffic Intersections	Approach	Lane Group		RTLANDT MOD Wkday PM Sat. MD	CRYSTAL O	LEAN CAR WASH kday PM Sat.	MD 1	Wkday AM Wkday PM Sat. MD	Wkday A	PROJECT TRII	PS - TOTAL PM Sat. MD
1	Louisa St & John Walsh Blvd.	EB	L							0	0	0
			T R							0	0	0
		WB	L							0	0	0
			T R							0	0	0
		NB	L							0	0	0
			T R							0	0	0
		SB	L							0	0	0
			T R							0	0	0
2	Louisa St & Route 9 Southbound Ramps	EB	T							0	0	0
		WB	R T							0	0	0
		SB	R							0	0	0
3	Louisa St & Route 9 Northbound Ramps	EB NB	L L							0	0	0
			T							0	0	0
4	Louisa St & Lower S. Street	EB	L T							0	0	0
			R							0	0	0
		WB	L T							0	0	0
			R							0	0	0
		NB	L T							0	0	0
			R							0	0	0
		SB	L T							0	0	0
			R							0	0	0
5	Broadway & Bleakley Ave.	WB	L R							0	0	0
		NB	T							0	0	0
		SB	R L							0	0	0
			T							0	0	0
6	Route 9A & Bleakley Ave.	EB	L R							0	0	0
		NB	L							0	0	0
		SB	T T							0	0	0
			R							0	0	0
7	Broadway & Continental Driveway	EB	L R							0	0	0
		NB	L							0	0	0
		SB	T T							0	0	0
			R							0	0	0
8	Broadway & Entergy Main Driveway	EB	L R							0	0	0
		NB	L							0	0	0
		SB	T T							0	0	0
			R							0	0	0
9	Welcher Ave. & Rt. 9 SB Off-Ramp/Route 9A	EB	T R							0	0	0
		WB	L							0	0	0
		NB	T L							0	0	0
			R							0	0	0
		SB	L T							0	0	0
			R							0	0	0
10	Welcher Ave. & Rt. 9 Northbound Ramps	EB	L T							0	0	0
		WB	T R							0	0	0
		NB	K L							0	0	0
			T							0	0	0
11	Route 9A & Belock Ave./Rt. 9A SB On-Ramps	EB	R L							0	0	0
			T							0	0	0
		NB	R L							0	0	0
			T							0	0	0
		SB	R L							0	0	0
			T R							0	0	0
12	Route 6/9/202 @ Bear Mountain Parkway	EB	L				1 6			0	1	6
		NB	R L	11 13	18 35		5 14 5 14			11 13	23 40	
			T	13	33		J 14	•		0	0	0
		SB	T R				1 4			0	0	0
13	Route 6 (Main Street) @ Route 9 SB Ramps	WB	L	11	18		. 4			11	18	0
		NB	R T							0	0	0
			R	30	35					30	35	0
		SB	L T							0	0	0
14	Route 6 (Main Street) @ Route 9 NB Ramps	EB	L							0	0	0
		WB	T T	11 30	18 35					11 30	18 35	
			R	13	35					13	35	0
		SB	L R	32	42					32 0	42 0	0
Ц			n	1		1				U	U	U

8. Existing versus Future without the Proposed Project Level of Service Analysis Table

Table A.8-1

2020 Existing and 2023 Future without the Proposed Project Conditions Level of Service Analysi

	2020 Existing and 2023 Future without the Proposed Project Conditions Level of Service And Weekday PM Weekday AM Weekday PM Saturday Midday (Weekend)														ervice A	nalysis								
				Week	day AM							Week	day PM											
Intersection		2020	Existing		2023	3 Future w/o	Proposed P	roject		2020	Existing		2023	Future w/o	Proposed P	roject		2020 I	Existing		202	3 Future w/o	Proposed P	roject
intersection	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	103	Group	Ratio	(sec)	103	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS
											SIGNALIZED	NTERSECTI	ONS											
										Lo	ouisa Street a	nd Lower S.	Street											
Eastbound	LTR	0.56	13.8	В	LTR	0.57	14.0	В	LTR	0.38	11.7	В	LTR	0.38	11.7	В	LTR	0.34	11.3	В	LTR	0.35	11.4	В
Westbound	LTR	0.39	11.9	В	LTR	0.40	12.0	В	LTR	0.34	10.7	В	LTR	0.34	10.8	В	LTR	0.34	11.1	В	LTR	0.34	11.2	В
Northbound	LT	0.11	10.1	В	LT	0.12	10.2	В	LT	0.18	10.7	В	LT	0.18	10.7	В	LT	0.07	9.7	Α	LT	0.07	9.7	Α
	R	0.03	1.6	Α	R	0.03	1.6	Α	R	0.03	1.7	Α	R	0.03	1.7	Α	R	0.05	3.1	Α	R	0.05	3.3	Α
Southbound	LT	0.19	10.9	В	LT	0.19	10.9	В	LT	0.10	10.1	В	LT	0.11	10.1	В	LT	0.09	10.0	Α	LT	0.09	10.0	Α
	R	0.03	2.0	Α	R	0.03	2.0	Α	R	0.07	4.0	Α	R	0.07	4.0	Α	R	0.05	2.9	Α	R	0.05	2.9	Α
	Inter	rsection	12.4	В	Inter	rsection	12.5	В	Inter	rsection	10.6	В	Inter	section	10.6	В	Inter	section	10.5	В	Inte	rsection	10.6	В
	Broadway and Bleakley Avenue																							
Westbound	LR	0.20	6.0	Α	LR	0.20	6.0	Α	LR	0.14	10.0	Α	LR	0.15	10.0	Α	LR	0.13	8.1	Α	LR	0.13	7.9	Α
Northbound	TR	0.44	12.0	В	TR	0.45	12.1	В	TR	0.31	10.3	В	TR	0.32	10.4	В	TR	0.28	10.0	Α	TR	0.29	10.0	В
Southbound	LT	0.35	11.1	В	LT	0.35	11.2	В	LT	0.28	10.2	В	LT	0.28	10.3	В	LT	0.27	10.0	В	LT	0.27	10.1	В
	Inter	rsection	10.5	В	Inter	rsection	10.6	В	Inter	rsection	10.2	В		section	10.3	В	Inter	section	9.7	Α	Inte	rsection	9.7	Α
Route 9A and Bleakley Avenue																								
Eastbound	LR	0.64	20.1	С	LR	0.64	20.2	С	LR	0.42	17.4	В	LR	0.42	17.4	В	LR	0.47	12.2	В	LR	0.47	12.1	В
Northbound	LT	0.54	11.9	В	LT	0.55	12.3	В	LT	0.67	12.1	В	LT	0.68	12.7	В	LT	0.42	6.7	Α	LT	0.43	6.8	Α
Southbound	Т	0.71	16.6	В	Т	0.73	17.5	В	Т	0.54	8.3	Α	Т	0.56	7.9	Α	Т	0.53	7.9	Α	Т	0.54	8.1	Α
	R	80.0	0.1	Α	R	0.08	0.1	Α	R	0.04	0.0	Α	R	0.04	0.0	Α	R	0.03	0.0	Α	R	0.03	0.0	Α
	Inter	Intersection 14.7 B Intersection 15.3 B Intersection 10.7 B Intersection 11.0 B Intersection 7.8 A Intersection Welcher Avenue and Route 9A/Route 9 Southbound Off-Ramp									7.9	Α												
																		1	1					
Eastbound	TR	0.35	23.9	c	TR	0.36	24.2	C	TR	0.50	33.8	C	TR	0.51	34.1	C	TR	0.49	23.3	C	TR	0.49	23.0	C
Westbound	L	1.23	161.6	F	L	1.26	173.1	F	L	0.85	58.9	E	L	0.87	61.0	E	L	0.73	51.4	D	L	0.73	51.6	D
Northbound	T LR	0.11	37.4 11.8	D B	T LR	0.11	37.7 11.7	D B	T LR	0.14	32.9 16.6	C B	T LR	0.14	33.0 17.0	СВ	T LR	0.27	36.2 13.2	D B	T LR	0.28	35.9 13.6	D B
Northbound	R R	0.68	38.7	D	R	0.33	38.5	D	R R	1.05	103.3	F	R	1.06	109.9	F	R R	0.69	41.4	D	R	0.38	42.6	D
Southbound	LTR	1.00	102.6	F	LTR	1.03	102.1	F	LTR	1.06	103.5	F	LTR	1.10	108.9	F	LTR	0.76	38.1	D	LTR	0.71	39.7	D
Southbound	_	rsection	90.0	F		rsection	92.8	F		rsection	69.9	E		section	71.7	E		section	35.3	D	-	rsection	36.0	D
				1				1			Avenue and Ro													'
Eastbound	L	0.68	27.0	С	L	0.69	27.9	С	L	0.80	39.7	D	L	0.82	53.9	D	L	0.50	14.6	В	L	0.51	15.5	В
	т	0.23	7.0	A	т	0.24	6.8	A	Т	0.42	9.0	А	т	0.43	9.0	Α	т	0.28	7.5	А	т	0.28	7.7	А
Westbound	TR	0.48	20.3	С	TR	0.49	20.9	С	TR	0.48	21.7	с	TR	0.50	22.2	С	TR	0.36	16.9	В	TR	0.36	17.0	В
Northbound	LT	0.28	31.5	С	LT	0.29	32.4	С	LT	0.39	35.7	D	LT	0.39	36.4	D	LT	0.24	28.5	С	LT	0.24	28.8	С
I	R	0.21	1.3	Α	R	0.22	1.5	Α	R	0.42	7.2	Α	R	0.43	7.3	Α	R	0.17	0.7	Α	R	0.17	0.8	А
	Inter	rsection	19.3	В	Inter	rsection	19.8	В	Inter	rsection	23.2	С	Inter	section	27.6	С	Inter	section	14.0	В	Inte	rsection	14.3	В
										Route 9/Bear	Mountain Pa	rkway and J	lans Peeck I	Bridge*										
Eastbound	L	0.49	30.2	С	L	0.50	30.5	С	L	0.97	67.5	E	L	0.99	72.9	E	L	0.95	63.7	E	L	0.98	71.2	E
I	R	0.99	22.4	С	R	1.01	29.3	С	R	0.84	5.8	Α	R	0.87	7.7	Α	R	0.68	2.3	Α	R	0.70	2.6	Α
Northbound	L	0.88	34.7	С	L	0.90	36.3	D	L	1.09	81.8	F	L	1.15	104.2	F	L	1.34	184.6	F	L	1.38	201.6	F
I	Т	0.51	10.7	В	т	0.52	10.9	В	T	0.53	11.0	В	т	0.54	11.2	В	Т	0.44	9.7	Α	Т	0.45	9.9	А
Southbound	Т	1.85	416.6	F	Т	1.93	452.6	F	Т	1.92	451.0	F	Т	1.96	467.7	F	Т	1.47	257.2	F	Т	1.50	269.3	F
	R	0.41	13.1	В	R	0.42	13.6	В	R	0.15	10.7	В	R	0.16	11.0	В	R	0.48	15.6	В	R	0.49	15.9	В
	Inter	rsection	80.3	F	Inter	rsection	88.1	F	Inter	rsection	95.8	F	Inter	section	105.2	F	Inter	section	102.0	F	Inte	rsection	110.0	F

Table A.8-1

2020 Existing and 2023 Future without the Proposed Project Conditions Level of Service Analysis

Weekday AM												Week	day PM				Saturday Midday (Weekend)							
Intersection		2020	Existing		2023	Future w/o	Proposed Pr	roject		2020	Existing		2023	Future w/o	Proposed P	roject		2020 I	Existing		2023	Future w/o	Proposed P	roject
intersection	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
	Group	Ratio	(sec)	103	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LO3
										ı	UNSIGNALIZE	INTERSEC	TIONS											
										Louisa Street	and John Wal	sh Boulevar	rd/Park Enti	ance**										
Eastbound	LTR	0.00	7.3	Α	LTR	0.00	7.3	Α	LTR	0.00	7.2	Α	LTR	0.00	7.2	Α	LTR	0.00	7.2	Α	LTR	0.00	7.2	Α
Westbound	LTR	0.27	8.5	Α	LTR	0.28	8.5	Α	LTR	0.20	8.2	Α	LTR	0.21	8.2	Α	LTR	0.21	8.1	Α	LTR	0.21	8.1	Α
Northbound	LT	0.04	22.0	С	LT	0.04	22.4	С	LT	0.02	16.0	С	LT	0.03	16.3	С	LT	0.05	16.9	С	LT	0.06	17.1	С
	R	0.61	13.7	В	R	0.62	14.0	В	R	0.31	10.2	В	R	0.32	10.3	В	R	0.26	9.8	Α	R	0.27	9.8	Α
Southbound	LTR	0.11	23.0	С	LTR	0.11	23.8	С	LTR	0.06	16.9	С	LTR	0.06	17.2	С	LTR	0.09	17.3	С	LTR	0.10	17.6	С
	Louisa Street and Route 9 Southbound Ramps																							
	-No Conflicting or Merging Movements for Analysis-																							
	Louisa Street and Route 9 Northbound Ramps***																							
Eastbound	L	0.39	10.9	В	L	0.39	11.0	В	L	0.35	10.3	В	L	0.35	10.4	В	L	0.28	9.5	Α	L	0.29	9.6	Α
Northbound	LT	0.30	10.3	В	LT	0.30	10.4	В	LT	0.24	9.6	Α	LT	0.24	9.7	Α	LT	0.23	9.3	Α	LT	0.23	9.4	Α
	Broadway and Continental Driveway																							
Eastbound	L	0.06	13.3	В	L	0.06	13.4	В	L	0.05	12.7	В	L	0.05	12.8	В	L	0.05	12.6	В	L	0.01	12.7	В
	R	0.00	9.0	Α	R	0.00	9.0	Α	R	0.00	9.2	Α	R	0.00	9.2	Α	R	0.00	9.3	Α	R	0.00	9.3	Α
Northbound	LT	0.00	7.5	Α	LT	0.00	7.5	Α	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.7	Α
										Bro	adway and Ent	tergy Main	Driveway											
Eastbound	LR	0.04	11.3	В	LR	0.04	11.3	В	LR	0.03	11.1	В	LR	0.03	11.1	В	LR	0.02	11.2	В	LR	0.03	11.1	В
Northbound	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.6	Α	LT	0.00	7.7	Α
											Belock Avenue	_												
Eastbound	LTR	0.12	27.0	D	LTR	0.13	28.9	D	LTR	0.05	20.3	С	LTR	0.05	20.8	С	LTR	0.10	19.6	С	LTR	0.10	20.1	С
Northbound	L	0.01	9.2	Α	L	0.01	9.2	Α	L	0.01	9.2	Α	L	0.01	9.3	Α	L	0.00	9.0	Α	L	0.00	9.1	Α
Southbound	L	0.35	11.4	В	L	0.36	11.6	В	L	0.07	10.1	В	L	0.07	10.1	В	L	0.07	8.8	Α	L	0.07	8.9	Α
											e 6 and Route													
Westbound	LR	0.14	10.8	В	LR	0.16	11.2	В	LR	0.12	9.8	A	LR	0.15	10.2	В	LR	0.13	10.3	В	LR	0.14	10.3	В
Southbound	LT	0.02	8.0	Α	LT	0.02	8.1	Α	LT	0.01	7.5	A	LT	0.01	7.6	Α	LT	0.02	7.8	Α	LT	0.02	7.8	Α
											e 6 and Route		·				г .							
Eastbound	L	0.04	8.4	A	L .	0.05	8.6	A	L	0.02	7.7	A	L .	0.02	7.9	A	L	0.01	8.0	A	L .	0.01	8.0	A
Southbound	L	0.53	21.0	С	L	0.68	29.6	D	L	0.37	13.2	В .	L	0.51	16.8	C .	L	0.31	13.4	В .	L	0.32	13.6	В
	R	0.01	10.4	В	R	0.01	10.8	В	R	0.01	9.1	Α	R	0.02	9.4	Α	R	0.02	9.7	A	R	0.02	9.7	Α
Notes:																								

^{*}The traffic signal at this intersection provides continuous green signal time for the eastbound right turn movement.

^{*} Coded as a Two-Way Stop Controlled intersection in Synchro due to limitations in the Synchro software

^{**} Coded as an All-Way Stop Controlled intersection in Synchro due to limitations in the Synchro software

9. Future without the Proposed Project Synchro Outputs

Intersection													
Int Delay, s/veh	11.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			स	7		4		
Traffic Vol, veh/h	1	2	2	268	2	14	2	5	493	2	9	1	
Future Vol, veh/h	1	2	2	268	2	14	2	5	493	2	9	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None		_	None	-		None			None	
Storage Length	34	-	(4)	-	-	-	-	-	0		G.	16	
Veh in Median Storage	e, # -	0	16		0	- 4	-	0	-	1	0	114	
Grade, %	-	0	. 7	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	50	50	50	67	67	67	78	78	78	50	50	50	
Heavy Vehicles, %	2	3	3	33	3	2	3	2	21	2	2	2	
Mvmt Flow	2	4	4	400	3	21	3	6	632	4	18	2	
Major/Minor	Major1			Major2			M nor1			Minor2			
Conflicting Flow All	24	0	0	8	0	0	834	834	6	1143	826	14	
Stage 1					-	-	10	10	- 4	814	814	- 4	
Stage 2		14	(4)	140		-	824	824	4	329	12	-	
Critical Hdwy	4.12	15	- 8	4.43	*		7.13	6.52	6.41	5.4	5.5	6.22	
Critical Hdwy Stg 1		-	17)			-	6.13	5.52	-	6.12	5.52	12	
Critical Hdwy Stg 2		-	4		-		6.13	5.52	-	6.12	5.52	16	
Follow-up Hdwy	2.218	14	-	2.497		_	3.527	4.018	3.489	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1591	- 4		1432	1	-	286	304	1024	306	388	1066	
Stage 1	1.2	- 4	L,	ų.		-	1008	887		372	391		
Stage 2				- 4	- 4	-	366	387	- 1	684	886	-	
Platoon blocked, %		14	4		4	J.							
Mov Cap-1 Maneuver	1591	15	-	1432		-	212	217	1024	89	277	1066	
Mov Cap-2 Maneuver	-						212	217	-	89	277	12	
Stage 1	-		19			-	1007	886	-	372	280	-	
Stage 2	-		*	+	-	-	245	277	-	260	885	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.5			8			14.1			23.8			
HCM LOS							В			С			
Minor Lane/Major Mvm	ntl	NBLn11	VBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		216	1024	1591	-		1432		-	215			
HCM Lane V/C Ratio			0.617				0.279	-	-	0.112			
HCM Control Delay (s)		22.4	14	7.3	0		8.5	0	-				
HCM Lane LOS		С	В	Α	A	-	Α	Α	-	С			
HCM 95th %tile Q(veh)		0.1	4.4	0			1.2			0.4			

Intersection							
Intersection Delay, s/veh	10.7						
Intersection LOS	В						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	-
Lane Configurations	7			ब			
Traffic Vol, veh/h	240	0	173	5	0	0	
Future Vol, veh/h	240	0	173	5	0	0	
Peak Hour Factor	0.82	0.82	0.83	0.83	0.92	0.92	
Heavy Vehicles, %	10	2	15	5	2	2	
Mymt Flow	293	0	208	6	D.	0	
Number of Lanes	1	0	0	1	.0	0	
Approach	EB		NB				
Opposing Approach			1.02				
Opposing Lanes	.0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB		U.S.				
Conflicting Lanes Right	1		0				
HCM Control Delay	11		10.4				
HCM LOS	В		В				
TIOM EOO	J						
Lane		NBLn1	EBLM				
Vol Left, %		97%	100%				
Vol Thru, %		3%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		178	240				
LT Vol		173	240				
Through Vol		5	240				
RT Vol		0	0				
Lane Flow Rate		214	293				
Geometry Grp		1	1 0 204				
Degree of Util (X)		0.304	0.394				
Departure Headway (Hd)		5.095	4.842				
Convergence, Y/N		Yes	Yes				
Cap		706	743				
Service Time		3.127	2.87				
HCM Lane V/C Ratio		0.303	0,394				
HCM Control Delay		10.4	11				
HCM Lane LOS		В	В				
HCM 95th-tile Q		1.3	1.9				

	1	-	*	1	-	*	1	†	1	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		414			414			स	7		4	7
Traffic Volume (vph)	29	561	9	41	325	5	36	18	14	54	41	18
Future Volume (vph)	29	561	9	41	325	5	36	18	14	54	41	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.998				0.850			0.850
FIt Protected		0.998			0.995			0.968			0.972	
Satd. Flow (prot)	0	3146	0	0	3110	0	0	1786	1463	0	1733	1516
Flt Permitted		0.921	_		0.841			0.804			0.827	
Satd. Flow (perm)	0	2903	0	0	2629	0	0	1483	1463	0	1475	1516
Right Turn on Red			Yes			Yes		1100	Yes		1110	Yes
Satd. Flow (RTOR)		4	100		3	100			44			44
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.79	0.79	0.79	0.83	0.83	0.83
Heavy Vehicles (%)	3%	11%	3%	3%	17%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	32	623	10	46	365	6	46	23	18	65	49	22
Shared Lane Traffic (%)	ŲŽ.	020	10	40	000	0	40	20	10	00	70	22
Lane Group Flow (vph)	0	665	0	0	417	0	0	69	18	0	114	22
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)	Loit	0	ragin	LOIL	0	ragin	Lon	0	rtigitt	LOIL	0	ragin
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15	1.04	9	1.00	1.00	9	1.00	1.00	9	1.00	1.07	9
Turn Type	Perm	NA	J	Perm	NA	J	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 Gilli	4		T CITI	8		1 CIIII	2	1 Citi	1 CIIII	6	i Giiii
Permitted Phases	4	•		8	U		2	2	2	6	U	6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	2.0	2.0
Lost Time Adjust (s)	2.0	0.0		2.0	0.0		2.0	0.0	0.0	2.0	0.0	0.0
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Lead/Lag		5.0			5.0			5.0	5.0		5.0	5.0
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0		
Pedestrian Calls (#/hr)	0	0		0							11.0	11.0
Act Effet Green (s)	U			U	20.0		0	20.0	20.0	0	20.0	20.0
ACCENCE OFFER (8)		20.0			20.0			20.0	20.0		20.0	20.0

Weekday AM Peak Hour

	*		*	1	-	1	4	1	-	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40		-	0.40	0.40		0.40	0.40
v/c Ratio		0.57			0.40			0.12	0.03		0.19	0.03
Control Delay		14.0			12.0			10.2	1.6		10.9	2.0
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		14.0			12.0			10.2	1.6		10.9	2.0
LOS		В			В			В	Α		В	Α
Approach Delay		14.0			12.0			8.4			9.5	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type:

Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.57 Intersection Signal Delay: 12

Intersection Signal Delay: 12.5
Intersection Capacity Utilization 51.3%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	1	*	1	-	1	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	VVDI	1	HOIL	ODL	4
Traffic Volume (vph)	18	68	129	143	36	125
Future Volume (vph)	18	68	129	143	36	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	16	1300	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.893	1.00	0.929	1.00	1.00	1.00
			0.929			0.000
Fit Protected	0.990	^	4.455	0	^	0.989
Satd. Flow (prot)	1740	0	1455	0	0	1401
FIt Permitted	0.990	_	4.455	0	^	0.880
Satd. Flow (perm)	1740	0	1455	0	0	1247
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	101					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.67	0.67	0.84	0.84	0.73	0.73
Heavy Vehicles (%)	3%	3%	50%	3%	3%	43%
Adj. Flow (vph)	27	101	154	170	49	171
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	0	324	0	0	220
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14	Ngiit	0	Mgm	Leit	0
Link Offset(ft)	0		0			0
	16		16			
Crosswalk Width(ft)	10		10			16
Two way Left Turn Lane	0.00	0.05	0.00	4.00	4.00	4.00
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		2.0	0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag	0.0		0.0			5.0
Lead-Lag Optimize?	7.0		7.0		7.0	7.0
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.20		0.45			0.35
Control Delay	6.0		12.1			11.2

Weekday AM Peak Hour

	1	•	†	-	1	1
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0			0.0
Total Delay	6.0		12.1			11.2
LOS	.A		В			В
Approach Delay	6.0		12.1			11.2
Approach LOS	A		В			В

Intersection Summary

Area Type: Other

Cycle Length: 60 Actuated Cycle Length: 60

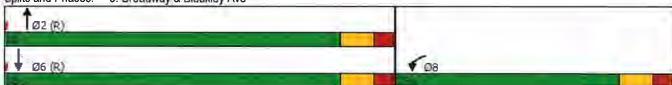
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.45

Intersection Signal Delay: 10.6 Intersection LOS: B
Intersection Capacity Utilization 41.8% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	1	*	4	†	Ţ	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	LDIN	HUL	4	<u>↑</u>	7
Traffic Volume (vph)	195	54	18	405	523	88
Future Volume (vph)	195	54	18	405	523	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	1300	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971	1.00	1.00	1.00	1.00	0.850
Fit Protected	0.962			0.998		0.000
Satd. Flow (prot)	1781	0	0	1713	1801	1463
Fit Permitted	0.962	U	U	0.965	1001	1403
		0	0	1657	1001	1463
Satd. Flow (perm)	1781		U	1007	1801	
Right Turn on Red	00	Yes				Yes
Satd. Flow (RTOR)	28			00	0.0	
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.76	0.76	0.88	0.88	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	11%	9%	3%
Adj. Flow (vph)	257	71	20	460	688	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	328	0	0	480	688	116
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	1.00	1.00	0.30	9
Number of Detectors	1	9	1	0	0	0
				U	U	U
Detector Template	Left		Left	0	0	0
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases	'		2			6
Detector Phase	4		2	2	6	4
Switch Phase	4		2	2	U	4
	ΕΛ		ΕΛ	E 0	ΕO	ΕO
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	1	*	1	†	1	1	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0		25.0	25.0	25.0	25.0	
Yellow Time (s)	30		3.0	3.0	3.0	3.0	
All-Red Time (s)	2,0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0.0	0.0	
Total Lost Time (s)	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	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	13.6			25.8	25.8	49.4	
Actuated g/C Ratio	0.28			0.52	0.52	1.00	
v/c Ratio	0.64			0.55	0.73	0.08	
Control Delay	20.2			12.3	17.5	0.1	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	20.2			12.3	17.5	0.1	
_OS	С			В	В	Α	
Approach Delay	20.2			12.3	15.0		
Approach LOS	С			В	В		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 49	.4						
Natural Cycle: 60							
Control Type: Semi Act-Un	coord						
Maximum v/c Ratio: 0.73							
ntersection Signal Delay:	15.3			Int	ersection	n LOS: B	
ntersection Capacity Utiliz	ation 58.4%			IC	U Level	of Service I	В
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ey Ave					
					124		
Ø2					3	Ø4	
30 e					100		

Intersection							
Int Delay, s/veh	0.8						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	ħ	7		4			
Traffic Vol, veh/h	21	1	1	245	109	18	
Future Vol, veh/h	21	1	1	245	109	18	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	19	None		None	
Storage Length	0	150	7	*			
Veh in Median Storage			*	-	0	-	
Grade, %	0	,	- 2	0	0	-	
Peak Hour Factor	75	75	82	82	81	81	
Heavy Vehicles, %	75	3	3	20	37	75	
Mvmt Flow	28	1	1	299	135	22	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	447	146	157	0	-	0	
Stage 1	146		9			-	
Stage 2	301					-	
Critical Hdwy	7.15	6.23	4.13	- 4	3		
Critical Hdwy Stg 1	6.15	- 4	- 5-	4	-	-	
Critical Hdwy Stg 2	6.15				61	- 4	
Follow-up Hdwy	4.175	3.327	2.227				
Pot Cap-1 Maneuver	455	898	1417	- 4	-		
Stage 1	730	3	8	-		-	
Stage 2	611						
Platoon blocked, %							
Mov Cap-1 Maneuver	455	898	1417	- 2	- 2		
Mov Cap-2 Maneuver		-	-	(2)			
Stage 1	729	-	-			-	
Stage 2	611	-	-	-			
Approach	EB		NB		SB		
HCM Control Delay, s			0		0		
HCM LOS	В		_		-		
Minor Lane/Major Mvr	nt	NBL	NIDT	EBLn1	EDI no	SBT	SBR
	in					- 301	SDR
Capacity (veh/h)		1417	-	100	898	-	
HCM Cantrol Doloy (s	1	0.001		0.062		3.47	
HCM Control Delay (s HCM Lane LOS)	7.5	0	13.4	9	-	- 1
HCM 95th %tile Q(veh	.)	A 0	Α	B 0.2	A 0		-
TION SOUT WITE Q(VEI	1)	U	•	0.2	U		- 1

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	¥		,,,,,,,	4	1→	UDIT
Traffic Vol, veh/h	7	2	2	264	125	18
Future Vol, veh/h	7	2	2	264	125	18
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	- 100	None	-	None
Storage Length	0	-		-		-
Veh in Median Storag			-	0	0	
Grade, %	0, 11 0			0	Ô	
Peak Hour Factor	42	42	85	85	80	80
Heavy Vehicles, %	3	3	3	24	43	3
Mymt Flow	17	5	2	311	156	23
MALLE	17	5	2	311	100	23
Major/Minor	Minor2	1	Major1		Major2	
Conflicting Flow All	483	168	179	0	+	0
Stage 1	168		+	31		
Stage 2	315					
Critical Hdwy	6.43	6.23	4.13		-	
Critical Hdwy Stg 1	5.43	-	(4)	- 2	- 1	
Critical Hdwy Stg 2	5.43	-		-		
Follow-up Hdwy	3.527	3.327	2.227	-		0.4
Pot Cap-1 Maneuver	541	874	1391	- 2	4	
Stage 1	859		-	140	4	-
Stage 2	738			*		
Platoon blocked, %	100					
Mov Cap-1 Maneuver	540	874	1391	-	2	
Mov Cap-2 Maneuver		014	1001			- 1
Stage 1	857					
	738		(2)	-	- 1	
Stage 2	130	-		•	•	-
Approach	EB		NB		SB	
HCM Control Delay, s	11.3		0.1		0	
HCM LOS	В					
		MIDI		= - 4	ADT	000
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1391	-	590	-	
HCM Lane V/C Ratio		0.002	-	0.036	41	19.
HCM Control Delay (s	i)	7.6	0	11.3		7 -
HCM Lane LOS		Α	Α	В	(4)	100
HCM 95th %tile Q(veh	1)	0	-	0.1	-	-

	1	-	•	•	←	*	4	†	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑ ⊅		7	1			4	7		413	
Traffic Volume (vph)	0	43	40	378	50	0	4	0	426	93	432	79
Future Volume (vph)	0	43	40	378	50	0	4	0	426	93	432	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt	1.00	0.928	0.00	1.00	1.00	1.00	1.00	0.853	0.850	0.00	0.980	0.00
Flt Protected		0.020		0.950				0.999	0.000		0.992	
Satd. Flow (prot)	0	3144	0	1646	1845	0	0	1378	1468	0	3342	0
Flt Permitted	U	0177	0	0.679	10-10	U	V	1070	1400	U	0.794	U
Satd. Flow (perm)	0	3144	0	1177	1845	0	0	1379	1468	0	2675	0
Right Turn on Red	U	3177	Yes	11//	1043	Yes	U	1075	No	U	2010	Yes
Satd. Flow (RTOR)		56	163			163			NO		15	163
Link Speed (mph)		25			25			25			25	
		556			270			315			565	
Link Distance (ft)					7.4			8.6			15.4	
Travel Time (s) Peak Hour Factor	0.70	15.2	0.70	0.70		0.70	0.04		0.04	0.00		0.00
	0.72	0.72	0.72	0.76	0.76	0.76	0.84	0.84	0.84	0.90	0.90	0.90
Heavy Vehicles (%)	2%	3%	3%	6%	3%	2%	3%	2%	8%	5%	5%	5%
Adj. Flow (vph)	0	60	56	497	66	0	5	0	507	103	480	88
Shared Lane Traffic (%)	0	440	0	407	00		•	050	49%	•	074	
Lane Group Flow (vph)	0	116	0	497	66	0	0	253	259	0	671	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)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom		custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
Storage Length (ft)				
Storage Lanes				
Taper Length (ft)				
Lane Util. Factor				
Frt				
Fit Protected				
Satd. Flow (prot)				
FIt 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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

	1	→	*	1	+	4	1	†	<i>></i>	1	ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	7 8		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		7.2		22.2	27.3			46.8	21.7		20.1	
Actuated g/C Ratio		0.09		0.26	0.32			0.56	0.26		0.24	
v/c Ratio		0.36		1.26	0.11			0.33	0.68		1.03	
Control Delay		24.2		173.1	37.7			11.7	38.5		77.4	
Queue Delay		0.0		0.0	0.0			0.0	0.0		24.8	
Total Delay		24.2		173.1	37.7			11.7	38.5		102.1	
LOS		С		F	D			В	D		F	
Approach Delay		24.2			157.2			25.3			102.1	
Approach LOS		С			F			С			F	

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 84.1

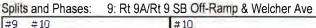
Natural Cycle: 95

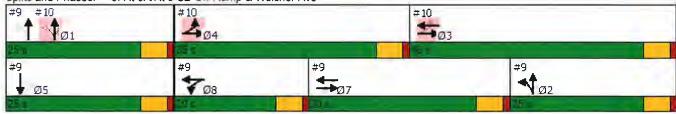
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.26 Intersection Signal Delay: 92.8 Intersection Capacity Utilization 66.3%

Analysis Period (min) 15

Intersection LOS: F ICU Level of Service C





Lane Group	01	Ø3	Ø4
Protected Phases	1	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0
Total Split (s)	25.0	40.0	35.0
Total Split (%)	25%	40%	35%
Maximum Green (s)	20.0	35.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)		11.2	
Total Lost Time (s)			
Lead/Lag		Lag	Lead
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Max	None	None
Walk Time (s)			
Flash Dont Walk (s)			
Pedestrian Calls (#/hr)			
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

	1	→	*	1	+	4	1	1	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	†			↑ ↑			4	7			
Traffic Volume (vph)	343	219	0	0	345	126	84	0	79	0	0	0
Future Volume (vph)	343	219	0	0	345	126	84	0	79	0	0	0
ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0	·-	325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25		•	25		ŭ
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.960	0.00	1.00	1.00	0.850	1.00	1.00	1.00
Flt Protected	0.950				0.000			0.950	0.000			
Satd. Flow (prot)	1646	1613	0	0	3081	0	0	1719	1538	0	0	0
Flt Permitted	0.347	1010	U	U	0001	U	U	0.950	1000	U	U	U
Satd. Flow (perm)	601	1613	0	0	3081	0	0	1719	1538	0	0	0
Right Turn on Red	001	1010	Yes	U	3001	Yes	U	1713	Yes	U	U	Yes
Satd. Flow (RTOR)			163		57	169			185			165
		30			30			30	100		20	
Link Speed (mph) Link Distance (ft)		270			670						30	
								740			577	
Travel Time (s)	0.00	6.1	0.00	0.70	15.2	0.70	0.74	16.8	0.74	0.00	13.1	0.00
Peak Hour Factor	0.89	0.89	0.89	0.79	0.79	0.79	0.71	0.71	0.71	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	2%	2%	5%	5%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	385	246	0	0	437	159	118	0	111	0	0	0
Shared Lane Traffic (%)				_								
Lane Group Flow (vph)	385	246	0	0	596	0	0	118	111	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	11	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			Cl+Ex				
Detector 2 Channel		J. L A			J. LA			J. L.				
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			
типт туро	רי וים	INA			INA		ı Cilli	INA	ı Cilli			

Lane Group	Ø2	Ø5	Ø7	Ø8	
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
FIt 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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

	٠	-	*	1	-	*	1	†	~	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	4			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	49.0	54.0			32.1			20.1	20.1			
Actuated g/C Ratio	0.58	0.64			0.38			0.24	0.24			
v/c Ratio	0.69	0.24			0.49			0.29	0.22			
Control Delay	27.6	6.1			20.4			29.7	1.5			
Queue Delay	0.3	0.7			0.5			2.7	0.0			
Total Delay	27.9	6.8			20.9			32.4	1.5			
LOS	С	Α			С			С	А			
Approach Delay		19.6			20.9			17.4				
Approach LOS		В			С			В				

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 84.1

Natural Cycle: 95

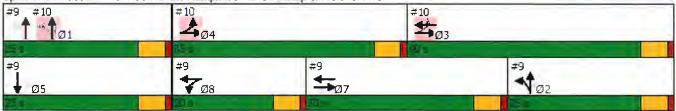
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.26 Intersection Signal Delay: 19.8 Intersection Capacity Utilization 49.7%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	Ø5	Ø7	Ø8
Protected Phases	2	5	7	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	27.0	20.0
Total Split (s)	25.0	25.0	30.0	20.0
Total Split (%)	25%	25%	30%	20%
Maximum Green (s)	20.0	20.0	25.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)				10.20
Total Lost Time (s)				
Lead/Lag			Lag	Lead
Lead-Lag Optimize?			Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	None	None
Walk Time (s)		100000	7.0	1,45002
Flash Dont Walk (s)			15.0	
Pedestrian Calls (#/hr)			0	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Name and Address of the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, where the Owner, which is the Owner, which i				
Intersection Summary				

Intersection													
Int Delay, s/veh	2.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					7	ħβ		ሻ	†		
Traffic Vol, veh/h	4	2	11	0	0	0	7	426	166	250	601	1	
Future Vol, veh/h	4	2	11	0	0	0	7	426	166	250	601	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	-	16	None		-	None	
Storage Length	-	-	+	÷	-	-	50	-	-	160	-	9	
Veh in Median Storage	,# -	0		-	16979	-	-	0	-	- 2	0	- 00	
Grade, %	-	0	-	-	0	-	-	0	-		0	-	
Peak Hour Factor	75	75	75	92	92	92	81	81	81	82	82	82	
Heavy Vehicles, %	3	5	3	2	2	2	3	8	7	5	7	3	
Mvmt Flow	5	3	15	0	0	0	9	526	205	305	733	1	
Major/Minor 1	Minor2					٨	/lajor1		ı	Major2			
Conflicting Flow All	1625	2093	367				734	0	0	731	0	0	
Stage 1	1344	1344	-				704	-	141	701		9	
Stage 2	281	749						- 4	14	14		-	
Critical Hdwy	6.86	6.6	6.96				4.16			4.2		,	
Critical Hdwy Stg 1	5.86	5.6	0.00				4.10	-		7.2			
Critical Hdwy Stg 2	5.86	5.6					16	4	(4)	-		-	
Follow-up Hdwy	3.53	4.05	3.33				2.23	- 1	/E	2.25			
Pot Cap-1 Maneuver	92	50	627				860			850		*	
Stage 1	206	213	-				000			000		-	
Stage 2	738	410					-	3	12		- 3		
Platoon blocked, %	700	410						1	1			L	
Mov Cap-1 Maneuver	58	0	627				860		4	850			
Mov Cap-1 Maneuver	58	0	021				000		2	- 000	- 0	-	
Stage 1	204	0					- 2		170	4	- 0		
Stage 2	473	0	-					- 40					
Olage 2	470	v						- 7	7			-	
Approach	EB						NB			SB			
HCM Control Delay, s	28.9						0.1			3.4			
HCM LOS	D						0.1			0.1			
110111 200													
Minor Lane/Major Mvm	ıt	NBL	NBT	NBR I	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)		860	-		173	850	- 1	14.					
HCM Lane V/C Ratio		0.01			0.131			-					
HCM Control Delay (s)		9.2		-	28.9	11.6							
HCM Lane LOS		A	-	-	D	В		-					
HCM 95th %tile Q(veh)		0	3.		0.4	1.6							

Lane Group Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	207 207 1900 12	1541 1541 1900	NBL 11 874	NBT	SBT	SBR
Lane Configurations Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	207 207 1900 12	1541 1541	ሻሻ 874			
Traffic Volume (vph) Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	207 207 1900 12	1541 1541	874	T.		7
Future Volume (vph) Ideal Flow (vphpl) Lane Width (ft)	207 1900 12	1541		504	↑ 568	307
Ideal Flow (vphpl) Lane Width (ft)	1900 12		07/	504		
Lane Width (ft)	12	10111	874		568	307
			1900	1900	1900	1900
		13	11	12	11	12
Storage Length (ft)	0	0	240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
FIt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3224	1845	1783	1568
FIt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3224	1845	1783	1568
Right Turn on Red	1102	Yes	JLL	1040	1700	Yes
Satd. Flow (RTOR)		103				24
	20			20	20	24
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.94	0.94	0.86	0.86	0.89	0.89
Heavy Vehicles (%)	3%	3%	5%	3%	3%	3%
Adj. Flow (vph)	220	1639	1016	586	638	345
Shared Lane Traffic (%)						
Lane Group Flow (vph)	220	1639	1016	586	638	345
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	9		22	22	3
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
				1.00	1.04	
Turning Speed (mph)	15	9	15		_	9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel				J	J. L A	J
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
()	0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	custom	Prot	NA		pm+ov

Lane GroupEBLEBRNBLNBTSBTSBRProtected Phases424!526!4
Permitted Phases 4
Detector Phase 4 24 5 2 6 4
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0 5.0
Minimum Split (s) 20.0 11.0 24.0 20.0 20.0
Total Split (s) 25.0 35.0 55.0 20.0 25.0
Total Split (%) 31.3% 43.8% 68.8% 25.0% 31.3%
Maximum Green (s) 20.0 29.0 49.0 14.0 20.0
Yellow Time (s) 4.0 5.0 5.0 5.0 4.0
All-Red Time (s) 1.0 1.0 1.0 1.0
Lost Time Adjust (s) 0.0 0.0 0.0 0.0
Total Lost Time (s) 5.0 6.0 6.0 5.0
Lead/Lag Lead Lag
Lead-Lag Optimize? Yes Yes
Vehicle Extension (s) 3.0 3.0 3.0 3.0
Recall Mode None None C-Max C-Min None
Act Effct Green (s) 20.0 80.0 28.1 49.0 14.9 40.9
Actuated g/C Ratio 0.25 1.00 0.35 0.61 0.19 0.51
v/c Ratio 0.50 1.01 0.90 0.52 1.93 0.42
Control Delay 30.5 29.3 36.3 10.9 452.6 13.6
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0
Total Delay 30.5 29.3 36.3 10.9 452.6 13.6
LOS C C D B F B
Approach Delay 29.4 27.0 298.5
Approach LOS C F

Area Type: Other

Cycle Length: 80 Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

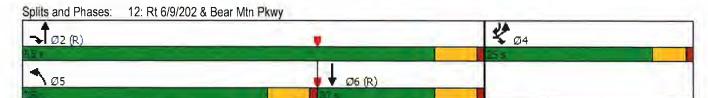
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.93

Intersection Signal Delay: 88.1 Intersection Capacity Utilization 135.3% Intersection LOS: F
ICU Level of Service H

Analysis Period (min) 15

! Phase conflict between lane groups.



Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		ĵ.			4
Traffic Vol, veh/h	86	16	33	294	14	33
Future Vol, veh/h	86	16	33	294	14	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Olop -	None	-	None	1100	None
Storage Length	0	110116		HOHE		MOLIC
Veh in Median Storage			0		-	0
	9, # 0		0			0
Grade, %				-	-	
Peak Hour Factor	91	91	92	92	59	59
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	95	18	36	320	24	56
Major/Minor	Minor1	N	/lajor1		Major2	
Conflicting Flow All	300	196	0	0	356	0
Stage 1	196				300	
	104	- 1	+	*		- :
Stage 2			*			
Critical Hdwy	6.45	6.25	*		4.15	
Critical Hdwy Stg 1	5.45	×	-	1.0	-	-
Critical Hdwy Stg 2	5.45	100			6	- 1
Follow-up Hdwy	3.545			-	2.245	10-1
Pot Cap-1 Maneuver	685	838	-	•	1186	
Stage 1	830	-	-	(4)	*	W-54
Stage 2	913		*		*	-
Platoon blocked, %						
Mov Cap-1 Maneuver	671	838		4	1186	- 5
Mov Cap-2 Maneuver	671	-			1	-
Stage 1	830		-	4	- 4	- 2
Stage 2	894					
Stage 2	034			-		-
Approach	WB		NB		SB	
HCM Control Delay, s	11.2		0		2.4	
HCM LOS	В		-			
Minor Lane/Major Mvn	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)			- 4	693	1186	- 2
HCM Lane V/C Ratio		(A)	_	0.162	0.02	_
HCM Control Delay (s))			11.2	8.1	0
HCM Lane LOS		141	-	В	A	A
HCM 95th %tile Q(veh)	-		0.6	0.1	
TION JOHN JOHN WINE CALACIN	1		110	0.0	0.1	_

Intersection							
Int Delay, s/veh	9.6						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	EDL	4	VVD1	VVDR	ODL 1	SDR.	
Traffic Vol, veh/h	38	81	323	122	251	4	
Future Vol, veh/h	38	81	323	122	251	4	
Conflicting Peds, #/hr		0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None	
Storage Length	-		-	-	0	0	
Veh in Median Storag	e,# -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	79	79	91	91	87	87	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	48	103	355	134	289	5	
						-	
Major/Minor	Major1	n.	Ania-2		Macro		
	Major1		//ajor2		Minor2	400	
Conflicting Flow All	489	0	٠.	0	621	422	
Stage 1 Stage 2	-		*	-	422	-	
Critical Hdwy	4.15		-		199 6.45	6.25	
Critical Hdwy Stg 1	4.15	T	-	-	5.45	6.25	
Critical Hdwy Stg 2			-		5.45		
Follow-up Hdwy	2.245	•		-		3.345	
Pot Cap-1 Maneuver	1059				446	625	
Stage 1	1009	-			655	025	
Stage 2					827		
Platoon blocked, %			-	(4)	021		
Mov Cap-1 Maneuver	1059	-	- 1	-	425	625	
Mov Cap-1 Maneuver					425	020	
Stage 1	-		-		624		
Stage 2				0.0	827		
Olaye Z					021		
Approach	EB		WB		SB		
HCM Control Delay, s	2.7		0		29.3		
HCM LOS					D		
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WRR	SBLn1 S	RI n2
Capacity (veh/h)		1059		1701		425	625
HCM Lane V/C Ratio		0.045	7	-	- 3	0.679	
HCM Control Delay (s	:)	8.6	0	2			10.8
HCM Lane LOS	7)	Α	A	_		29.0 D	В
HCM 95th %tile Q(veh	1)	0.1	۸.			4.9	0
TOM JOHT WHIE GIVE	'/	0.1	-		-	7.3	U

Intersection													
Int Delay, s/veh	9.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			4	7		4		
Traffic Vol, veh/h	1	1	1	241	1	6	1	6	275	7	4	1	
Future Vol, veh/h	1	1	1	241	1	6	1	6	275	7	4	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None		-	None	u		None			None	
Storage Length	-	-	-	-	-	- 9	-	-	0	ę.	-	-	
Veh in Median Storage	.,# -	0	- 4		0	-		0	-		0		
Grade, %		0	-	-	0	12		0	-		0	-	
Peak Hour Factor	50	50	50	82	82	82	86	86	86	67	67	67	
Heavy Vehicles, %	2	3	3	37	3	2	3	2	32	2	2	2	
Mvmt Flow	2	2	2	294	1	7	1	7	320	10	6	1	
	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	8	0	0	4	0	0	603	603	3	764	601	5	
Stage 1	-	.9	-	-	-	-	7	7	-	593	593		
Stage 2	-	2				-	596	596		171	8		
Critical Hdwy	4.12	4	- 4	4.47			7.13	6.52	6.52	5.4	5.5	6.22	
Critical Hdwy Stg 1	-	-	- 2	-	14	-	6.13	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.52	-	6.12	5.52		
Follow-up Hdwy	2.218		-	2.533			3.527	4.018	3.588	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1612	+	-	1416		-	409	413	999	462	491	1078	
Stage 1	-	-	- 4	12	4	-	1012	890	*	492	493	340	
Stage 2	-	8		-	-	-	488	492		831	889	191	
Platoon blocked, %						(4)							
Mov Cap-1 Maneuver	1612	*	-	1416		5	339	326	999	259	388	1078	
Mov Cap-2 Maneuver	-	2	4	-	-	4	339	326	-	259	388	-	
Stage 1	-			-	-	+	1011	889	-	492	390	-	
Stage 2	-		,	-		(F	380	389	-	560	888	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	2.4			8			10.4			17.2			
HCM LOS							В			С			
Minor Lane/Major Mvm	nt I	NBLn11	VRI n2	EBL	EBT	EBR	WBL	WBT	WRR	SBLn1			
Capacity (veh/h)		328	999	1612	LD1	LDIN	1000	1101	**DI\	314			
HCM Lane V/C Ratio		0.025		0.001			0.208			0.057			
HCM Control Delay (s)		16.3	10.32	7.2	0	7.	8.2	0	-	17.2			
HCM Lane LOS		10.3 C	10.3 B			3.0				17.2 C			
				A	Α	-	A	A	-				
HCM 95th %tile Q(veh))	0.1	1.4	0	-		8.0	10	-5	0.2			

Intersection							
Intersection Delay, s/veh	10.1						
Intersection LOS	В						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	7			4			
Traffic Vol, veh/h	247	0	133	0	0	0	
Future Vol. veh/h	247	0	133	0	0	0	
Peak Hour Factor	0.92	0.92	0.78	0.78	0.92	0.92	
Heavy Vehicles, %	12	2	17	5	2	2	
Mymt Flow	268	0	171	0	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				-
Opposing Approach			,,,,,				
Opposing Lanes	0		0				
Conflicting Approach Left	0		EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	10.4		9.7				
HCM LOS	В		A				
110111 200	Ų		.0				
Lane		NBLn1	EBLn1				
Vol Left, %		100%	100%				
Vol Thru, %		0%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		133	247				
LT Vol		133	247				
Through Vol		0	0				
RT Vol		0	0				
Lane Flow Rate		171	268				
Geometry Grp		1	1				
Degree of Util (X)		0.24	0.355				
Departure Headway (Hd)		5.066	4.758				
Convergence, Y/N		Yes	Yes				
Cap		709	757				
Service Time		3.09	2.777				
HCM Lane V/C Ratio		0.241	0.354				
10110 1 10 1		9.7	10.4				
HCM Control Delay		3.1	10.7				
HCM Control Delay HCM Lane LOS		9.1 A	В				

	1	-	7	1	←	1	4	†	-	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		413			414			4	7		4	7
Traffic Volume (vph)	51	321	13	22	251	28	54	50	17	37	22	44
Future Volume (vph)	51	321	13	22	251	28	54	50	17	37	22	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.986				0.850			0.850
Flt Protected		0.993			0.996			0.975			0.970	
Satd. Flow (prot)	0	3097	0	0	3025	0	0	1799	1463	0	1730	1516
Flt Permitted		0.861			0.909			0.847			0.821	
Satd. Flow (perm)	0	2685	0	0	2761	0	0	1562	1463	0	1464	1516
Right Turn on Red			Yes		2.0.	Yes			Yes			Yes
Satd. Flow (RTOR)		8			26				44			46
Link Speed (mph)		25			25			25			25	10
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.96	0.96	0.96
Heavy Vehicles (%)	3%	13%	3%	3%	20%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	55	345	14	28	322	36	59	55	19	39	23	46
Shared Lane Traffic (%)	00	040	17	20	OLL	30	00	00	13	00	20	40
Lane Group Flow (vph)	0	414	0	0	386	0	0	114	19	0	62	46
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)	LOIL	0	ragin	Loit	0	ragin	LON	0	rtigitt	LOIL	0	ragiit
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15	1.04	9	1.00	1,00	9	1.00	1.00	9	1.00	1.04	9
Turn Type	Perm	NA	J	Perm	NA	3	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	1 Cilii	4		1 Cilli	8		1 Cilli	2	I GIIII	I CIIII	6	Cilli
Permitted Phases	4			8	U		2	2	2	6	U	6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	2.0	2.0
Lost Time Adjust (s)	2.0	0.0		2.0	0.0		2.0	0.0	0.0	2.0	0.0	0.0
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Lead/Lag		5.0			5.0			5.0	5.0		5.0	5.0
_												
Lead-Lag Optimize?	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Walk Time (s)	7.0	7.0		7.0			7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		20.0			20.0			20.0	20.0		20.0	20.0

	1	-	*	-	-	*	1	†	-	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.38			0.34			0.18	0.03		0.11	0.07
Control Delay		11.7			10.8			10.7	1.7		10.1	4.0
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		11.7			10.8			10.7	1.7		10.1	4.0
LOS		В			В			В	Α		В	Α
Approach Delay		11.7			10.8			9.4			7.5	
Approach LOS		В			В			Α			Α	

Area Type: Other

Cycle Length: 50
Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

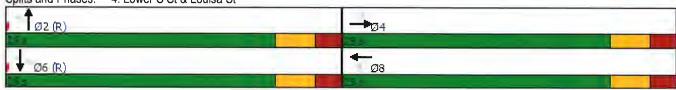
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.38

Intersection Signal Delay: 10.6
Intersection Capacity Utilization 44.0%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	•	4	1	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
	WAL	VVDR		NDR	SDL	SD1
Lane Configurations Traffic Volume (vph)	46	33	1 →	114	22	€ 107
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	46	33	117	114	22	107
Future Volume (vph)						
Ideal Flow (vphpl)	1900	1900	1900 13	1900 12	1900 12	1900 12
Lane Width (ft)	14	16				
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.944		0.933			0.000
Fit Protected	0.972		4501			0.992
Satd. Flow (prot)	1805	0	1524	0	0	1343
FIt Permitted	0.972					0.931
Satd. Flow (perm)	1805	0	1524	0	0	1260
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	38					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.86	0.86	0.96	0.96	0.73	0.73
Heavy Vehicles (%)	3%	3%	37%	3%	3%	48%
Adj. Flow (vph)	53	38	122	119	30	147
Shared Lane Traffic (%)	00	30	144	110	00	171
Lane Group Flow (vph)	91	0	241	0	0	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
` ,	3.0		3.0		3.0	3.0
Yellow Time (s)						
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.15		0.32			0.28
Control Delay	10.0		10.4			10.3
Control Delay	10.0		10.4			10.3

5: Broadway & Bleakley Ave

	+
Lane Group WBL WER NET NER SEL	:SBT
Queue Delay 0.0 0.0	0.0
Total Delay 10.0 10.4	
LOS A B	10.3 B
Approach Delay 10,0 10.4	10,3
Approach LOS A B	В
Intersection Summary	
Area Type! Other	
Cycle Length: 60	
Actuated Cycle Length: 60	1

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.32 Intersection Signal Delay: 10.3

Intersection LOS: B Intersection Capacity Utilization 37.0% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	۶	*	1	†	ļ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	↑	7
Traffic Volume (vph)	97	21	17	651	622	51
Future Volume (vph)	97	21	17	651	622	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	12	12	12	1300	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976	1.00	1.00	1.00	1.00	0.850
Fit Protected	0.960			0.999		0.000
Satd. Flow (prot)	1786	0	0	1809	1852	1463
Fit Permitted	0.960	U	U	0.980	1002	1403
		0	0	1774	1852	1463
Satd. Flow (perm)	1786		U	1774	1602	
Right Turn on Red	00	Yes				Yes
Satd. Flow (RTOR)	22				0.0	
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.80	0.80	0.83	0.83	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	6%	3%
Adj. Flow (vph)	121	26	20	784	684	56
Shared Lane Traffic (%)						
Lane Group Flow (vph)	147	0	0	804	684	56
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13	3 -		0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	15	1.00	0.50	9
Number of Detectors	1	3	1	0	0	0
	Left		Left	U	U	U
Detector Template				0	٥	0
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2		_	6
Detector Phase	4		2	2	6	4
Switch Phase	7		_	_	J	
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
	23.0		23.0	23.0		
Minimum Split (s)					23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	1	*	4	†	1	4	
_ane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25,0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
_ost Time Adjust (s)	0.0			0.0	0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	5.0	
_ead/Lag							
_ead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	8.5			30.5	30.5	45.9	
Actuated g/C Ratio	0.19			0.66	0.66	1.00	
//c Ratio	0.42			0.68	0.56	0.04	
Control Delay	17.4			12.7	8.6	0.0	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	17.4			12.7	8.6	0.0	
_OS	В			В	Α	A	
Approach Delay	17.4			12.7	7.9	Л	
Approach LOS	В			В	Α.		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 45.	.9						
Natural Cycle: 60							
Control Type: Semi Act-Un	coord					-	
Maximum v/c Ratio: 0.68							
ntersection Signal Delay:	11.0			Inf	ersection	LOS: B	
ntersection Capacity Utiliz						of Service B	
Analysis Period (min) 15							
Splits and Phases: 6: Rt	OA 9 Disable	Αν.α					
philis and Phases. 6; Rt	9A & Bleakle	ey Ave			1.14		
Tø2					20	74	
					_		

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	7	7		स	1	
Traffic Vol, veh/h	14	1	1	210	131	13
Future Vol, veh/h	14	1	1	210	131	13
Conflicting Peds, #/hr		0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	None
Storage Length	0	150	÷			
Veh in Median Storag				0	0	
Grade, %	0		-	0	0	14
Peak Hour Factor	63	63	94	94	77	77
Heavy Vehicles, %	75	3	3	16	31	75
Mymt Flow	22	2	1	223	170	17
WHITE TOW			1	220	170	- 17
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	404	179	187	0	-	0
Stage 1	179	-	- 8	-		-
Stage 2	225	19			- 4	*
Critical Hdwy	7.15	6.23	4.13		-	+
Critical Hdwy Stg 1	6.15	-		-	-	77
Critical Hdwy Stg 2	6.15			-		
Follow-up Hdwy	4.175	3.327	2.227			
Pot Cap-1 Maneuver	484	861	1381		-	4
Stage 1	703		-	-	-	12
Stage 2	667	.9	4		- 4	3
Platoon blocked, %						
Mov Cap-1 Maneuver	484	861	1381		- 4	4
Mov Cap-2 Maneuver		_		-	-	- 9
Stage 1	702	-				-
Stage 2	667		4			4
Jugo L	307					
Approach	EB		NB		SB	
HCM Control Delay, s	12.6		0		0	
HCM LOS	В					
Minor Lane/Major Mvr	mt	NBL	MRT	EBLn1	ERI n2	SBT
	TIL .					
Capacity (veh/h)		1381		484	861	+
HCM Cantal Dalay (,	0.001		0.046		(7)
HCM Control Delay (s	5)	7.6	0	12.8	9.2	
HCM Lane LOS	,	A	Α	В	Α	3
HCM 95th %tile Q(veh	1)	0	-	0.1	0	-

Intersection						
Intersection Int Delay, s/veh	0.5					
			:			
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	A			4	1→	
Traffic Vol, veh/h	11	1	4	220	143	10
Future Vol, veh/h	11	1	4	220	143	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0	rie.	(4)	-	141	31
Veh in Median Storage		- 8		0	0	7
Grade, %	0	_	-	0	0	71
Peak Hour Factor	75	75	98	98	79	79
Heavy Vehicles, %	3	3	3	19	36	3
Mvmt Flow	15	1	4	224	181	13
NA = i = = /N Ai = = u	Min and		M=!=4		4-10	
	Minor2		Major1		Major2	
Conflicting Flow All	420	188	194	0		0
Stage 1	188	-			*	-
Stage 2	232	1.5	-	(4)	9	9
Critical Hdwy	6.43	6.23	4.13	- 2	*	*
Critical Hdwy Stg 1	5.43					
Critical Hdwy Stg 2	5.43		-	-	- 6	-
Follow-up Hdwy	3.527	3.327	2.227	×	160	*
Pot Cap-1 Maneuver	588	851	1373			
Stage 1	842		leg.			-
Stage 2	804				-	(4)
Platoon blocked, %				~	-	-
Mov Cap-1 Maneuver	586	851	1373	-		
Mov Cap-2 Maneuver	586	_				
Stage 1	839	_		-	-	-
Stage 2	804	_				
Olago Z	004					
Approach	EB		NB		SB	
	_	_				
HCM Control Delay, s	11.1		0.1		0	
HCM LOS	В					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1373		602		
HCM Lane V/C Ratio		0.003	_	0.027		
HCM Control Delay (s)	١	7_6	0	11.1	- 1	1
HCM Lane LOS		A	A	В		
HCM 95th %tile Q(veh)	0	-	0.1		
HOW Sour Wille Q(Ven)	U	_	U. I		

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

Weekday PM Peak Hour

	۶	→	*	•	4	*	1	1	-	1	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	7 8		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		10.2		24.8	29.9			47.0	21.9		20.1	
Actuated g/C Ratio		0.12		0.29	0.34			0.54	0.25		0.23	
v/c Ratio		0.51		0.87	0.14			0.51	1.06		1.10	
Control Delay		34.1		61.0	33.0			16.2	97.2		104.1	
Queue Delay		0.0		0.0	0.0			0.8	12.7		4.8	
Total Delay		34.1		61.0	33.0			17.0	109.9		108.9	
LOS		С		Е	С			В	F		F	
Approach Delay		34.1			55.4			64.0			108.9	
Approach LOS		С			Е			Е			F	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 86.9

Natural Cycle: 115

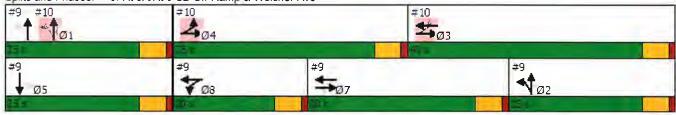
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.10 Intersection Signal Delay: 71.7 Intersection Capacity Utilization 67.5%

Intersection LOS: E ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4	
Protected Phases	1	3	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Minimum Split (s)	23.0	23.0	23.0	
Total Split (s)	25.0	40.0	35.0	
Total Split (%)	25%	40%	35%	
Maximum Green (s)	20.0	35.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)			4-9	
Total Lost Time (s)				
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	Max	None	None	
Walk Time (s)		10.30	31.4.5	
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

	*	→	*	1	4-	4	1	1	-	1	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	- 1	^			↑ ↑			4	7			
Traffic Volume (vph)	463	389	0	0	288	144	121	0	174	0	0	0
Future Volume (vph)	463	389	0	0	288	144	121	0	174	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1,00		,,,,,		0.950				0.850			
Flt Protected	0.950							0.950				
Satd. Flow (prot)	1678	1644	0	0	3068	0	0	1736	1538	0	0	0
FIt Permitted	0.370							0.950				
Satd. Flow (perm)	653	1644	0	0	3068	0	0	1736	1538	0	0	0
Right Turn on Red			Yes			Yes	_		Yes			Yes
Satd. Flow (RTOR)					95	100			226			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.77	0.77	0.77	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	2%	2%	4%	5%	4%	5%	5%	2%	2%	2%
Adj. Flow (vph)	551	463	0	0	343	171	157	0	226	0	0	0
Shared Lane Traffic (%)	001	100			010		101	•	220	·	·	U
Lane Group Flow (vph)	551	463	0	0	514	0	0	157	226	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		- 10						- 10			10	
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15	1,00	9
Number of Detectors	1	2			2		1	2	1	, ,		Ū
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	Ő	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+Ex			
Detector 1 Channel	O. 2.	OI EX			O. LA		OI EX	O, Ex	OI LX			
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			
Detector 2 Position(ft)	0,0	94			94		0.0	94	0.0			
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel		OI LX			OI LA			OI LA				
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			
	D.1 11	INA			INO		1 01111	INA	I UIIII			

Lane Group	Ø2	Ø5	Ø7	Ø8
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
PARAMETER PARAMETER (G)				
Turn Type				

	1	-	*	1	-	1	1	1	-	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	10				1.0		1.0	1.0	1.0			
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							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	51.8	56.8			27.5			20.1	20.1			
Actuated g/C Ratio	0.60	0.65			0.32			0.23	0.23			
v/c Ratio	0.82	0.43			0.50			0.39	0.43			
Control Delay	32.4	8.3			22.1			33.2	7.3			
Queue Delay	21.6	0.7			0.1			3.2	0.0			
Total Delay	53.9	9.0			22.2			36.4	7.3			
LOS	D	Α			С			D	Α			
Approach Delay		33.4			22.2			19.2				
Approach LOS		С			С			В				

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 86.9

Natural Cycle: 115

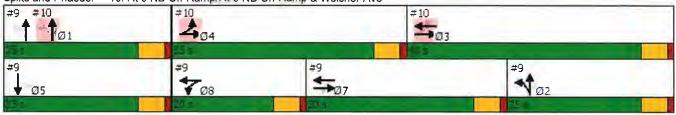
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.10 Intersection Signal Delay: 27.6 Intersection Capacity Utilization 57.4%

Intersection LOS: C ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	Ø5	Ø7	Ø8
Protected Phases	2	5	7	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	27.0	20.0
Total Split (s)	25.0	25.0	30.0	20.0
Total Split (%)	25%	25%	30%	20%
Maximum Green (s)	20.0	20.0	25.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	110	Week		4.4
Total Lost Time (s)				
Lead/Lag			Lag	Lead
Lead-Lag Optimize?			Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	None	None
Walk Time (s)	1000	10,500	7.0	104116
Flash Dont Walk (s)			15.0	
Pedestrian Calls (#/hr)			0	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Intersection													
nt Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					7	↑ ↑		7	1		
Traffic Vol, veh/h	3	1	3	0	0	0	6	668	75	50	671	1	
Future Vol, veh/h	3	1	3	0	0	0	6	668	75	50	671	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		2	None	
Storage Length		-	÷	1 15	14.	1.6	50	-	-	160	-	(4)	
Veh in Median Storage	,# -	0			16979	-		0	*	-	0		
Grade, %	-	0		-	0	-	-	0		-	0	9	
Peak Hour Factor	63	63	63	92	92	92	86	86	86	90	90	90	
Heavy Vehicles, %	3	5	3	2	2	2	3	5	5	5	5	3	
Mvmt Flow	5	2	5	0	0	0	7	777	87	56	746	1	
Major/Minor N	Minor2					N	/lajor1			/lajor2			
Conflicting Flow All	1262	1737	374				747	0	0	864	0	0	
Stage 1	859	859	- 017				171	-	-	00+	-	(4)	
Stage 2	403	878						I H	- 0		- 1	-	
Critical Hdwy	6.86	6.6	6.96				4.16			4.2			
Critical Hdwy Stg 1	5.86	5.6	0.30				4.10			4.2			
Critical Hdwy Stg 2	5.86	5.6							- 0		-		
Follow-up Hdwy	3.53	4.05	3.33				2.23			2.25	į.		
Pot Cap-1 Maneuver	161	84	621				851		- 1	756		(9)	
Stage 1	373	364	021				001		-	730		191	
Stage 2	641	357						72	-				
Platoon blocked, %	041	337	-					-	-	_	-1	-	
	148	0	621				851	- 10		756	-	(*)	
Mov Cap-1 Maneuver	148	0	021				001		-	750			
Mov Cap-2 Maneuver		0	-							-		-	
Stage 1	370	0	-				- 1	-	-	-	-	-	
Stage 2	594	0	-				17	(*		-	5.	*	
1	- ED						ND			CD			
Approach	EB		_	_			NB	_		SB			=
HCM Control Delay, s	20.8						0.1			0.7			
HCM LOS	С												
Minor Long (Marine Marine		NDI	NDT	NDD 1	-DL -4	CDI	CDT	CDD					
Minor Lane/Major Mvm	ι	NBL	NBT		EBLn1	SBL	SBT	SBR					
Capacity (veh/h)		851	(31)	*		756	-	*					
HCM Lane V/C Ratio		0.008	+	4	0.046		-	-					
HCM Control Delay (s)		9,3			20.8	10.1	- 1						
HCM Lane LOS		Α	(+)	•	С	В		*					
HCM 95th %tile Q(veh)		0	120	21	0.1	0.2	1.0	- 2					

	•	*	1	†	+	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	EDL	T T	NO.	†	<u> </u>	JOHN 7
Traffic Volume (vph)	390	1269	1274	T 565	5 57	112
Future Volume (vph)	390	1269	1274	565	557	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	1900	1900	11	1900
Storage Length (ft)	0		240	12	- 11	125
		0				
Storage Lanes	1	1	1			1
Taper Length (ft)	25	1.00	25	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.000	0.850	0.050			0.850
Flt Protected	0.950	1000	0.950	45.5	.=	
Satd. Flow (prot)	1752	1620	3286	1845	1783	1568
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3286	1845	1783	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						6
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.90	0.90	0.93	0.93	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	433	1410	1370	608	612	123
Shared Lane Traffic (%)	700	1710	1070	300	012	120
Lane Group Flow (vph)	433	1410	1370	608	612	123
Enter Blocked Intersection	433 No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			22	22	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	0.96	1.04	1,00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex	Cl+Ex	Cl+Ex	CI+Ex	
The state of the s	CITEX	CITEX	OI+EX	CITEX	UI+EX	CI+Ex
Detector 1 Channel	0.0	0.0	0.0	0.0	0.0	0.0
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	custom	Prot	NA		pm+ov
	1100	34510111	1 101	14/1	1477	biii.o4

	1	7	1	1	+	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	20.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.99	0.87	1.15	0.54	1.96	0.16
Control Delay	72.9	7.7	104.2	11.2	467.7	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	7.7	104.2	11.2	467.7	11.0
LOS	E	Α	F	В	F	В
Approach Delay	23.0			75.6	391.3	
Approach LOS	С			Е	F	

Intersection Summary

Area Type: Other

Cycle Length: 80 Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

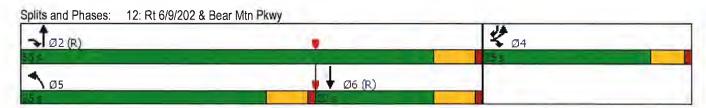
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.96

Intersection Signal Delay: 105.2 Intersection Capacity Utilization 117.9% Intersection LOS: F ICU Level of Service H

Analysis Period (min) 15

! Phase conflict between lane groups.



Intersection						
Int Delay, s/veh	4.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W					4
Traffic Vol, veh/h	96	15	24	117	13	24
Future Vol, veh/h	96	15	24	117	13	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0	-	_	110110		110110
Veh in Median Storage		-	0	4	- 5	0
Grade, %	0	Q.	0			
Peak Hour Factor	90	90	87	87	65	65
Heavy Vehicles, %	5	5	5	5	5	5
Mymt Flow	107	17	28	134	20	37
IVIVIIILI IOVV	107	17	20	134	20	31
	Minor1		//ajor1		Major2	
Conflicting Flow All	172	95	0	0	162	0
Stage 1	95			4	-	
Stage 2	77				-	
Critical Hdwy	6.45	6.25	-	- 6	4.15	
Critical Hdwy Stg 1	5.45				-	
Critical Hdwy Stg 2	5.45		- 4			1.5
Follow-up Hdwy	3.545	3.345				
Pot Cap-1 Maneuver	811	953	(4)		1399	
Stage 1	921	-	-		1000	
Stage 2	938		2			
Platoon blocked, %	300		4		-	
	700	0E0		-	1200	-
Mov Cap-1 Maneuver	799	953	-		1399	
Mov Cap-2 Maneuver	799	-	-	*	-	-
Stage 1	921	-	-			
Stage 2	924	-	-	4	7	17
Approach	WB		NB		SB	
HCM Control Delay, s	10.2		0		2.7	
HCM LOS	10.2 B		U		2.1	
I IOIVI LOG	D					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		(2)	*	817	1399	14
HCM Lane V/C Ratio				0.151	0.014	-
HCM Control Delay (s)		- 4	- 4	10.2	7.6	0
HCM Lane LOS		÷	/ - (В	Α	Α
HCM 95th %tile Q(veh)		9		0.5	0	

Intersection							
Int Delay, s/veh	7.5						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	1		7	T T	
Traffic Vol, veh/h	18	102	131	114	245	10	
Future Vol, veh/h	18	102	131	114	245	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	÷	None		None	
Storage Length	-	-	-	121	0	0	
Veh in Median Storage	e,# -	0	0	7	0	-	
Grade, %	-	0	0	15	0		
Peak Hour Factor	85	85	90	90	79	79	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	21	120	146	127	310	13	
Major/Minor	Major1	F	Major2		Minor2		
Conflicting Flow All	273	0	(2)	0	372	210	
Stage 1			-	-	210	- 5	
Stage 2	-	7	9	-	162		
Critical Hdwy	4.15				6.45	6.25	
Critical Hdwy Stg 1		*	-	-	5.45	-	
Critical Hdwy Stg 2	-		- +	-	5.45	- 2	
Follow-up Hdwy	2.245	3	6	-	3.545		
Pot Cap-1 Maneuver	1273			-	623	823	
Stage 1	-	*	-	-	818	1.0	
Stage 2		- *	(4)		860	- 1	
Platoon blocked, %		7	-				
Mov Cap-1 Maneuver	1273	*			612	823	
Mov Cap-2 Maneuver	-	-	196	÷	612	-	
Stage 1	-		- 12	-	803	-	
Stage 2	-	*		- 19	860	-	
Approach	EB		WB		SB		
HCM Control Delay, s	1.2		0		16.5		
HCM LOS					С		
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WRR	SBLn1	SBI n2
Capacity (veh/h)	п	1273		VVDI	VVDIX .	612	823
HCM Lane V/C Ratio		0.017	-			0.507	
HCM Control Delay (s)		7.9	0				9.4
HCM Lane LOS		Α	A			C	3.4 A
HCM 95th %tile Q(veh))	0.1	-	91	- 1	2.9	0
	,	0.1				2.0	U

Intersection													
Int Delay, s/veh	9.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			स	7		4		
Traffic Vol, veh/h	1	2	2	278	2	9	2	12	271	9	5	1	
Future Vol, veh/h	1	2	2	278	2	9	2	12	271	9	5	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop		Stop	Stop	Stop	Stop	
RT Channelized	-		None		-	None	- 14	-	None	-	-	None	
Storage Length	-	-	. 4	K 10-0	-	4	1/4	_	0			110110	
Veh in Median Storage	# -	0	4		0			0		-	0	*	
Grade, %	-	0	4	_	0	4	14	0		-	0	_	
Peak Hour Factor	50	50	50	91	91	91	81	81	100	50	50	50	
Heavy Vehicles, %	2	3	3	29	3	2	3	2	25	2	2	2	
Mvmt Flow	2	4	4	305	2	10	2	15	271	18	10	2	
					_	.,	_	,,,		10	10		
Major/Minor	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	12	0	0	8	0	0	633	632	6	770	629	7	
Stage 1			-		=	-	10	10	-	617	617	-	
Stage 2	-			12	-		623	622	-	153	12		
Critical Hdwy	4.12	1		4.39	-		7.13	6.52	6.45	5.4	5.5	6.22	
Critical Hdwy Stg 1	-			1,00	1.4		6.13	5.52	0.40	6.12	5.52	0.22	
Critical Hdwy Stg 2							6.13	5.52	-	6.12	5.52		
Follow-up Hdwy	2.218			2.461			3.527	4.018	3.525	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1607			1453	- 4		391	398	1013	459	4.016	1075	
Stage 1	-		- 1	1 700			1008	887	1013	477	481	1075	
Stage 2	_				- 1	-	472	479	-	849	886	-	
Platoon blocked, %					-		712	413		049	000		
Mov Cap-1 Maneuver	1607	-		1453	-		320	313	1013	271	375	1075	
Mov Cap-2 Maneuver	-			1700			320	313	1013	271	375	1075	
Stage 1			-			,	1007	886	-	477	379	-	
Stage 2					Ý	Š	361	377		611	885	-	
2.000 2							501	JII	_	011	000	_	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	1.4			7.8			10.2			17.6			
HCM LOS				7.0			В			C			
Minor Lane/Major Mvm	tN	NBLn11	VBLn2	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)		314	1013	1607	- 3	-	1453	- 4	-	316			
HCM Lane V/C Ratio		0.055		0.001	4		0.21			0.095			
HCM Control Delay (s)		17.1	9.8	7.2	0	-	8.1	0		17.6			
HCM Lane LOS		С	Α	Α	Ā		Α	A	- 1	C			

Intersection	0.5						
Intersection Delay, s/veh	9.5 A						
intersection COS	A						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	F			4			
Traffic Vol, veh/h	199	0	138	9	0	0	
Future Vol., veh/h	199	0	138	9	0	0	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.92	0.92	
Heavy Vehicles, %	10	2	14	5	2	2	
Mymt Flow	219	0	162	11	0	ō	
Number of Lanes	1	0	0	1	0	0	
					ņ	U	
Approach	EB		NB				-
Opposing Approach	^		_				
Opposing Lanes	0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		- 1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	9.6		9.4				
HCM LOS	Α		Α				
Lane		NBLn1	EBLn1				
Vol Left, %		94%	100%				
Vol Thru, %		6%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		147	199				
LT Vol		138	199				
Through Vol		9	0				
RT Vol		0	0				
Lane Flow Rate		173	219				
Geometry Grp		1	1				
Degree of Util (X)		0.234	0.286				
Departure Headway (Hd)		4.874	4.716				
Convergence, Y/N		Yes	Yes				
Cap		738	763				
Service Time		2.89	2.731				
		0.234	0.287				
HCM Lane V/C Ratio		U.4U4	0.407				
HCM Control Delay		9.4	9.6				
HCM Lane V/C Ratio HCM Control Delay HCM Lane LOS HCM 95th-tile Q							

	*	→	+	-	←	•	4	†	-	1		1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		413			414			स	7		4	7
Traffic Volume (vph)	29	345	10	10	343	14	22	17	29	36	10	24
Future Volume (vph)	29	345	10	10	343	14	22	17	29	36	10	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25		, i	25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.00	0.996	0.00	0.00	0.994	0.00	1.00	1.00	0.850	1.00	1.00	0.850
Flt Protected		0.996			0.999			0.972	0.000		0.962	0.000
Satd. Flow (prot)	0	3116	0	0	3139	0	0	1793	1463	0	1715	1516
Flt Permitted	U	0.906	U	U	0.942	U	U	0.874	1403	U	0.817	1310
Satd. Flow (perm)	0	2835	0	0	2960	0	0	1612	1463	0	1457	1516
Right Turn on Red	U	2000	Yes	U	2300	Yes	0	1012	Yes	U	1401	Yes
Satd. Flow (RTOR)		6	163		10	163			44			44
Link Speed (mph)		25			25			25	44		25	44
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9							
Peak Hour Factor	0.07	0.97	0.07	0.00		0.00	0.00	10.4	0.00	0.00	14.0	0.00
	0.97		0.97	0.90	0.90	0.90	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	3%	12%	3%	3%	15%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	30	356	10	11	381	16	25	19	33	43	12	29
Shared Lane Traffic (%)	^	000	0	0	400	0	0		00			00
Lane Group Flow (vph)	0	396	0	0	408	0	0	44	33	0	55	29
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	4.00	4.04	4.00	4.00								
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		_	2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	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?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	Ő	0
Act Effct Green (s)		20.0			20.0			20.0	20.0		20.0	20.0

Saturday Midday (Weekend) Peak Hour

	*	-	*	1	-	1	4	1	1	1	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.35			0.34			0.07	0.05		0.09	0.05
Control Delay		11.4			11.2			9.7	3.3		10.0	2.9
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		11.4			11.2			9.7	3.3		10.0	2.9
LOS		В			В			Α	Α		Α	Α
Approach Delay		11.4			11.2			7.0			7.5	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50
Actuated Cycle Length: 50

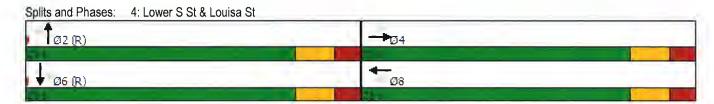
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.35

Intersection Signal Delay: 10.6 Intersection Capacity Utilization 42.6%

Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A



	-	1	1	~	-	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W/	**DIX	13	NDIN	ODL	4
Traffic Volume (vph)	24	37	131	74	19	130
Future Volume (vph)	24	37	131	74	19	130
	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)						
Lane Width (ft)	14	16	13	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.918		0.951			
Flt Protected	0.981					0.994
Satd. Flow (prot)	1772	0	1529	0	0	1404
FIt Permitted	0.981					0.954
Satd. Flow (perm)	1772	0	1529	0	0	1348
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	51					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.73	0.73	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	3%	3%	33%	3%	3%	39%
Adj. Flow (vph)	33	51	139	79	23	160
Shared Lane Traffic (%)	33	Ü	138	19	23	100
1 ,	0.4	0	040	0	0	400
Lane Group Flow (vph)	84	0	218	0	0	183
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	·
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.13		0.29			0.30
Control Delay	7.9		10.0			10.1

Saturday Midday (Weekend) Peak Hour

	-	*	1	~	1	+	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Queue Delay	0.0		0.0			0.0	
Total Delay	7.9		10.0			10.1	
LOS	A		В			В	
Approach Delay	7.9		10.0			10.1	
Approach LOS	A		В			В	

Intersection Summary

Area Type: Other

Cycle Length: 60
Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

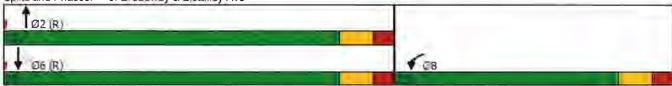
Natural Cycle: 50.
Control Type: Pretimed
Maximum v/c Ratio: 0.29
Intersection Signal Delay: 9.7

Intersection Capacity Utilization 35.4%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	*	*	1	†	+	4
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		1,00	4	<u> </u>	7
Traffic Volume (vph)	74	95	10	459	614	39
Future Volume (vph)	74	95	10	459	614	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	12	12	12	1300	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.979			0.999		0.030
Satd. Flow (prot)	1724	0	0	1759	1852	1463
Flt Permitted		U	U	0.986	1002	1403
	0.979	0	0		1050	1400
Satd. Flow (perm)	1724	0	0	1736	1852	1463
Right Turn on Red	400	Yes				Yes
Satd. Flow (RTOR)	103			0.0		
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	8%	6%	3%
Adj. Flow (vph)	80	103	11	488	675	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	0	0	499	675	43
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	9	1.00	1.00	0.90	
. , , ,	15	9		0	0	9
Number of Detectors			1	0	0	0
Detector Template	Left		Left	^		
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0,0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4		. 31111	2	6	4
Permitted Phases			2		J	6
Detector Phase	4		2	2	6	4
Switch Phase	4		2	2	0	4
	F 0		F 0	F 0	E 0	
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	1	*	1	†	↓	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0,0	0.0	
Total Lost Time (s)	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	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	7.8			29.9	29.9	44.7	
Actuated g/C Ratio	0.17			0.67	0.67	1.00	
v/c Ratio	0.47			0.43	0.54	0.03	
Control Delay	12.1			6.8	8.1	0.0	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	12.1			6.8	8.1	0.0	
LOS	В			Α	Α	Α	
Approach Delay	12.1			6.8	7.6		
Approach LOS	В			Α	Α		
Intersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 44.	.7						
Natural Cycle: 55							
Control Type: Semi Act-Un	coord						
Maximum v/c Ratio: 0.54							
Intersection Signal Delay: 7				Int	tersection	LOS: A	
Intersection Capacity Utilization	ation 50.6%			IC	U Level	of Service A	
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ev Ave					
	o, roc broate	277110		_	1		
ØZ						34	

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	ሻ	7		सी	1		
Traffic Vol, veh/h	3	1	1	195	133	12	
Future Vol, veh/h	3	1	1	195	133	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None		None		None	
Storage Length	0	150	*		14		
Veh in Median Storage			*	0	0	- 1	
Grade, %	0	*	-	0	0		
Peak Hour Factor	50	50	89	89	71	71	
Heavy Vehicles, %	75	3	3	21	32	75	
Mvmt Flow	6	2	1	219	187	17	
Major/Minor	Minor2		Major1		Major2		
Conflicting Flow All	417	196	204	0		0	
Stage 1	196	-	-		- 4		
Stage 2	221	- U		4		-	
Critical Hdwy	7.15	6.23	4.13				
Critical Hdwy Stg 1	6.15						
Critical Hdwy Stg 2	6.15	-				-	
Follow-up Hdwy	4.175	3.327	2.227	4	- 12	-	
Pot Cap-1 Maneuver	475	843	1362	- 4		- 4	
Stage 1	690			-	(4)	14	
Stage 2	670			- 4			
Platoon blocked, %				4		-	
Mov Cap-1 Maneuver	475	843	1362	4	-		
Mov Cap-2 Maneuver						-	
Stage 1	689	-	-	- 31		4	
Stage 2	670	-		-		- 2	
Approach	EB		NB		SB		
HCM Control Delay, s			0		0		
HCM LOS	В		0				
	J						
Minor Lane/Major Mvr	nt	NBL	NRT	EBLn1	FRI n2	SBT	SBR
Capacity (veh/h)		1362	-		843	- 201	- 100
HCM Lane V/C Ratio		0.001		0.013			- i
HCM Control Delay (s	1	7.6	0	12.7	9.3		- 1
HCM Lane LOS	J	7.6 A	A	12.7 B	9.3 A		
HCM 95th %tile Q(veh	1	0	А	0	0	-	
TOWN JOHN JOHN W(VEI	7	U	-	U	U	-	

Intersection						
Int Delay, s/veh	0.4					
•		EDD	NDI	NOT	CDT	CDD
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	M		0	4	f)	0
Traffic Vol, veh/h	9	1	2	196	145	9
Future Vol, veh/h	9	1	2	196	145	9
Conflicting Peds, #/hr	0	0	_ 0	0	0	_ 0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	*	None	-	None
Storage Length	0		,	(+)		
Veh in Median Storage	e,# 0		- 4	0	0	
Grade, %	0	-		0	0	
Peak Hour Factor	63	63	90	90	75	75
Heavy Vehicles, %	3	3	3	22	35	3
Mymt Flow	14	2	2	218	193	12
		_	_		.00	
NA -i/NAi	Mina		M = ! = .4		4-1	
	Minor2		Major1		Major2	
Conflicting Flow All	421	199	205	0	10	0
Stage 1	199					
Stage 2	222		*	(4)	-	121
Critical Hdwy	6.43	6.23	4.13	- 4	161	
Critical Hdwy Stg 1	5.43			7		
Critical Hdwy Stg 2	5.43					
Follow-up Hdwy	3.527	3.327	2.227	-		- 41
Pot Cap-1 Maneuver	587	839	1360	12	- 4	
Stage 1	832	-			-	4
Stage 2	813				4	-
Platoon blocked, %	010			(2)	-	
Mov Cap-1 Maneuver	586	839	1360	141		
		039	1300		101	
Mov Cap-2 Maneuver	586	-	-	7		
Stage 1	830	-	-			
Stage 2	813	-	-	je!	÷	
Approach	EB		NB		SB	
HCM Control Delay, s	11.1		0.1		0	
HCM LOS	В		0.1		U	
TION LOS	D					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1360	-	604	4	
HCM Lane V/C Ratio		0.002		0.026		
HCM Control Delay (s)	7.7	0	11.1	(4)	20
HCM Lane LOS		Α	A	В	4	1.0
HCM 95th %tile Q(veh	1	0	-	0.1	*	
HOW JOHN JOHN GUILD ON AGE	1	U		U, I	-	

	1	→	*	1	+	*	1	†	-	1	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		∱ Љ		7	1			4	7		414	
Traffic Volume (vph)	0	94	80	273	162	0	70	0	394	74	362	53
Future Volume (vph)	0	94	80	273	162	0	70	0	394	74	362	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.931						0.896	0.850		0.984	
Fit Protected				0.950				0.985	0.000		0.992	
Satd. Flow (prot)	0	3154	0	1646	1845	0	0	1447	1468	0	3333	0
FIt Permitted				0.622				0.803		_	0.807	
Satd. Flow (perm)	0	3154	0	1078	1845	0	0	1179	1468	0	2711	0
Right Turn on Red			Yes			Yes			No	_	_,	Yes
Satd. Flow (RTOR)		95				, 00					12	. 00
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.84	0.84	0.84	0.94	0.94	0.94	0.95	0.95	0.95	0.94	0.94	0.94
Heavy Vehicles (%)	2%	3%	3%	6%	3%	2%	3%	2%	8%	5%	6%	5%
Adj. Flow (vph)	0	112	95	290	172	0	74	0	415	79	385	56
Shared Lane Traffic (%)		.,_	00	200	1,12		• •	v	40%	,,	000	00
Lane Group Flow (vph)	0	207	0	290	172	0	0	240	249	0	520	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)		11			11	7.13.11		12		2011	12	,g
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	Ť	1	2	•	1	2	1	1	2	Ū
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	Cl+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94		2.0	94		5.0	94	5.0	0.0	94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		O. LA			OI LA			OI. LX			OI LX	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom		custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4		
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s) Turn Type					

9. KI 9A/KI 9 3B C	A.	<u> </u>	101101	, 110		_	_				Rend) Fea	
		→	1	1	-	-	1	T		-	¥	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		9.0		23.2	28.2			40.1	20.0		20.0	
Actuated g/C Ratio		0.11		0.28	0.34			0.48	0.24		0.24	
v/c Ratio		0.49		0.73	0.28			0.38	0.71		0.79	
Control Delay		23.0		51.6	35.7			13.6	42.6		39.7	
Queue Delay		0.0		0.0	0.2			0.0	0.0		0.0	
Total Delay		23.0		51.6	35.9			13.6	42.6		39.7	
LOS		С		D	D			В	D		D	
Approach Delay		23.0			45.7			28.4			39.7	
Approach LOS		С			D			С			D	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 83.3

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79 Intersection Signal Delay: 36.0

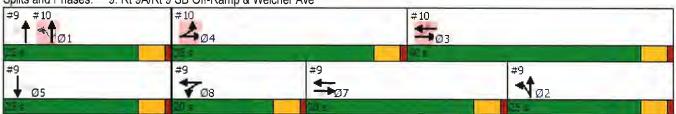
Intersection Capacity Utilization 62.8%

Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service B

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4	
Protected Phases	1	3	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Vinimum Split (s)	23.0	23.0	23.0	
Total Split (s)	25.0	40.0	35.0	
Total Split (%)	25%	40%	35%	
Maximum Green (s)	20.0	35.0	30.0	
/ellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
ost Time Adjust (s)			277	
Total Lost Time (s)				
.ead/Lag		Lag	Lead	
ead-Lag Optimize?		Yes	Yes	
/ehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	Max	None	None	
Valk Time (s)				
lash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
/c Ratio				
Control Delay				
Queue Delay				
otal Delay				
.OS				
approach Delay				
Approach LOS				
ntersection Summary				

	*	-	*	-	+	4	1	†	<i>></i>	1	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	1			↑ 1>			सी	7			
Traffic Volume (vph)	284	278	0	0	344	80	92	0	80	0	0	0
Future Volume (vph)	284	278	0	0	344	80	92	0	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25		·	25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.972	0.00	,,,,,		0.850			
Flt Protected	0.950							0.950	0.000			
Satd. Flow (prot)	1662	1629	0	0	3143	0	0	1752	1538	0	0	0
Fit Permitted	0.436	.020			0110			0.950	1000	Ŭ	Ū	
Satd. Flow (perm)	763	1629	0	0	3143	0	0	1752	1538	0	0	0
Right Turn on Red	, 00	.020	Yes	·	0110	Yes		1102	Yes	v	v	Yes
Satd. Flow (RTOR)			100		31	100			185			103
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	2%	2%	4%	5%	3%	5%	5%	2%	2%	2%
Adj. Flow (vph)	299	293	0	0	391	91	102	0	89	0	0	0
Shared Lane Traffic (%)	200	233	U	U	331	91	102	U	03	U	U	U
Lane Group Flow (vph)	299	293	0	0	482	0	0	102	89	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	Leit	11	Ngni	Leit	11	Nigit	Len	0	ragnt	Leit	0	Right
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	1.04	1.14	9	1.00	1.05	9	1.00	1.00	9	1.00	1.00	9
Number of Detectors	13	2	9	10	2	Э	1	2	1	10		J
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+Ex			
Detector 1 Channel	CITEX	CITEX			CITEX		CITEX	CITEX	CITEX			
	0.0	0.0			0.0		0.0	0.0	0.0			
Detector 1 Extend (s)	0.0						0.0	0.0	0.0			
Detector 1 Queue (s)		0.0			0.0		0.0	0.0	0.0			
Detector 1 Delay (s)	0.0	0.0			0.0 94		0.0	0.0	0.0			
Detector 2 Position(ft)		94						94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel		0.0			^ ^			2.2				
Detector 2 Extend (s)	D D : D	0.0			0.0			0.0	_			
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7	Ø8	
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
Storage Length (ft)					
Storage Lanes					
Taper Length (ft)					
Lane Util. Factor					
Frt					
Flt Protected					
Satd. Flow (prot)					
FIt 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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

Saturday Midday (Weekend) Peak Hour

	*	→	7	1	←	*	1	†	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	48.2	53.2			34.7			20.0	20.0			
Actuated g/C Ratio	0.58	0.64			0.42			0.24	0.24			
v/c Ratio	0.51	0.28			0.36			0.24	0.17			
Control Delay	15.4	6.9			17.0			28.6	0.8			
Queue Delay	0.0	0.8			0.0			0.2	0.0			
Total Delay	15.5	7.7			17.0			28.8	0.8			
LOS	В	Α			В			С	Α			
Approach Delay		11.6			17.0			15.7				
Approach LOS		В			В			В				
Interposition Cummery												

Intersection Summary

Other Area Type:

Cycle Length: 100

Actuated Cycle Length: 83.3

Natural Cycle: 95

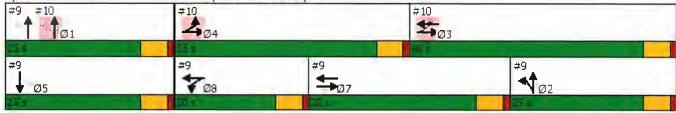
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.79 Intersection Signal Delay: 14.3 Intersection Capacity Utilization 45.4%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave Splits and Phases:



Lane Group	Ø2	Ø5	Ø7	Ø8
Protected Phases	2	5	7	8
Permitted Phases		-		
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	27.0	20.0
Total Split (s)	25.0	25.0	30.0	20.0
Total Split (%)	25%	25%	30%	20%
Maximum Green (s)	20.0	20.0	25.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1.0	1,0	1.0	1.0
Total Lost Time (s)				
Lead/Lag			Lag	Lead
Lead-Lag Optimize?			Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	None	None
Walk Time (s)	IVIAA	IVIGA	7.0	MOUR
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)			15.0	
Act Effot Green (s)			0	
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Approact EOS				
Intersection Summary				

Intersection													
Int Delay, s/veh	0.9									_			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					ħ	↑ ↑		7	1		
Traffic Vol, veh/h	5		3	0	0	0	3	459	70	63	650	2	
Future Vol, veh/h	5	2	3	0	0	0	3	459	70	63	650	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	-	12	None	
Storage Length	74	-	1.9	-	÷		50			160		- 4	
Veh in Median Storage	e,# -	0	*	-	16979			0	- 2	-	0		
Grade, %	1.5	0	-	-	0			0	_		0		
Peak Hour Factor	38	38	38	92	92	92	97	97	97	93	93	93	
Heavy Vehicles, %	3	5	3	2	2	2	3	7	7	5	5	3	
Mvmt Flow	13	5	8	0	0	0	3	473	72	68	699	2	
Major/Minor I	Minor2						Major1		N	Major2			
Conflicting Flow All	1079	1387	351				701	0	0	545	0	0	
Stage 1	836	836	4				141		i e.	121	- 2	6	
Stage 2	243	551	7				1.6		- 1	14	-		
Critical Hdwy	6.86	6.6	6.96				4.16	-	- 2	4.2		- 45	
Critical Hdwy Stg 1	5.86	5.6	*					12	- 4	-		طا	
Critical Hdwy Stg 2	5.86	5.6	- 1				- 12	-	- 2		4		
Follow-up Hdwy	3.53	4.05	3.33				2.23	(*)	_	2.25	-		
Pot Cap-1 Maneuver	211	138	642				885	- 0	_	1000	-		
Stage 1	383	374	-						-	4	- 2		
Stage 2	772	506	-						-		12	-	
Platoon blocked, %								0	4		- 0	-	
Mov Cap-1 Maneuver	196	0	642				885	12	_	1000			
Mov Cap-2 Maneuver	196	0					4	6	- 4	-	21	-	
Stage 1	382	0	- 1				- 4	-		- 4	-		
Stage 2	720	0	- 3					-	9	-			
Approach	EB						NB			SB			
HCM Control Delay, s	20.1						0.1			0.8			
HCM LOS	С												
Minor Lane/Major Mvm	+	NBL	NBT	NDD	DI n4	CDI	CDT	CDD					
Capacity (veh/h)				NBR E		SBL	SBT	SBR					
HCM Lane V/C Ratio		885			265	1000	7	*					
		0.003		-	0.099			- 30					
HCM Control Delay (s)		9.1	*	-	20.1	8.9	*	-					
CM Cane LOS		A		-	С	A	*	175					
ICM 95th %tile Q(veh)		0	- 3	.9	0.3	0.2	2						

	*	-	1	†	ļ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T T		NDL TT			
Traffic Volume (vph)				450	115	266
	400		1461	452	445	366
Future Volume (vph)	400		1461	452	445	366
Ideal Flow (vphpl)	1900		1900	1900	1900	1900
Lane Width (ft)	12		11	12	11	12
Storage Length (ft)	0		240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3319	1863	1783	1568
Flt Permitted	0.950		0.950	. 500	.,,	.000
Satd. Flow (perm)	1752	1620	3319	1863	1783	1568
Right Turn on Red	1702	Yes	0013	1003	1703	
		res				Yes
Satd. Flow (RTOR)	00			0.0	0.0	2
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.95	0.95
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	430	1138	1660	514	468	385
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	1138	1660	514	468	385
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12	rugiit	LOIL	22	22	right
Link Offset(ft)	0			0		
					0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				4		,
Headway Factor	1.00	0.96	1.04	1,00	1,04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex				
	OITEX	CITEX	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	0.0	0.0	0.0	0.0		
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	custom	Prot	NA		nm±ov
тип туре	FIOL	CuSiOIII	PIOL	NA	IVA	pm+ov

	•	7	1	1	1	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	24.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.98	0.70	1.38	0.45	1.50	0.49
Control Delay	71.2	2.6	201.6	9.9	269.3	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	2.6	201.6	9.9	269.3	15.9
LOS	Е	Α	F	Α	F	В
Approach Delay	21.4			156.2	154.9	
Approach LOS	С			F	F	
Internation Comment		_				

Intersection Summary

Area Type: Other

Cycle Length: 80 Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.50

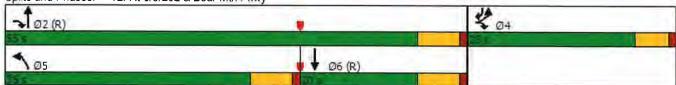
Intersection Signal Delay: 110.0 Intersection Capacity Utilization 101.4%

Intersection LOS: F ICU Level of Service G

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 12: Rt 6/9/202 & Bear Mtn Pkwy



Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1>			4
Traffic Vol, veh/h	80	14	22	150	19	17
Future Vol, veh/h	80	14	22	150	19	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	1100		-	
Storage Length	0	110110		-	-	TTOTIC
Veh in Median Storage		- 40	0	19	-	0
Grade, %	0	-	0		- 1	0
Peak Hour Factor	88	88	77	77	75	75
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	91	16	29	195	25	23
Major/Minor	Minor1	1	Major1		Major2	
Conflicting Flow All	200	127	0	0	224	0
Stage 1	127	-			-	- 2
Stage 2	73					4
Critical Hdwy	6.45	6.25			4.45	-
Critical Hdwy Stg 1	5.45	0.20			7.10	
Critical Hdwy Stg 1	5.45					
		2 245				
Follow-up Hdwy	3.545		-		2.245	181
Pot Cap-1 Maneuver	782	915	-	•	1327	
Stage 1	891	-	-	*	-	
Stage 2	942	-			-	-
Platoon blocked, %				7		180
Mov Cap-1 Maneuver	767	915		-	1327	1.00
Mov Cap-2 Maneuver	767		- 05		*	-
Stage 1	891	100				
Stage 2	924	-	2	- 5	-	- 9,
, and the second						
Approach	WB		NB		SB	
HCM Control Delay, s			0		4.1	_
HCM LOS			U		4.1	
HOW LOS	В					
Minor Lane/Major Mvn	nt	NBT	NBRV	WBLn1	SBL	SBT
Capacity (veh/h)		*		786	1327	- 91
HCM Lane V/C Ratio		14		0.136		
HCM Control Delay (s))	-	-	10.3	7.8	0
HCM Lane LOS	,		-	В	A	A
HCM 95th %tile Q(veh	1			0.5	0.1	-
TOWN JOHN JOHN GILACIN	7			0.5	0.1	_

Interconting							
Intersection Int Delay, s/veh	4.7						
•		EST	MOT	14/55	071	055	
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	47	4	162	404	155	7	
Traffic Vol, veh/h Future Vol, veh/h	17 17	80	162 162	104 104	155 155	10 10	
Conflicting Peds, #/hr	0	0	162	104			
Sign Control	Free	Free	Free	Free	0 Stop	O Ctop	
RT Channelized	-	None	riee	None	Stop	Stop None	
Storage Length		None		None	0	0	
		0	0				
Veh in Median Storage Grade, %				- 1	0		
	-	0	0	0.4	0	70	
Peak Hour Factor	98	98	84	84	78	78	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	17	82	193	124	199	13	
Major/Minor	Major1	l l	Major2		Minor2		
Conflicting Flow All	317	0			371	255	
Stage 1			-		255	-	
Stage 2	-	-	7		116	-	
Critical Hdwy	4.15	-	-		6.45	6.25	
Critical Hdwy Stg 1	-				5.45	(4)	
Critical Hdwy Stg 2	-	-			5.45	-	
Follow-up Hdwy	2.245	4	9	-		3.345	
Pot Cap-1 Maneuver	1226		-		624	776	
Stage 1	-			-	781	191	
Stage 2	-	- 4	-		902	-	
Platoon blocked, %		- 7	-	+			
Mov Cap-1 Maneuver	1226		-		615	776	
Mov Cap-2 Maneuver					615	-	
Stage 1	-		-		769	-	
Stage 2	_	4	- 1	-	902	_	
J							
Annroach	ED		IAID		00		
Approach	EB		WB		SB		
HCM Control Delay, s	1.4		0		13.4		
HCM LOS					В		
Minor Lane/Major Mvr	nt	EBL	EBT	WBT	WBR:	SBLn1 S	BLn2
Capacity (veh/h)		1226				615	776
HCM Lane V/C Ratio		0.014				0.323	
HCM Control Delay (s)	8	0	7		400	9.7
HCM Lane LOS		Ä	A	-		В	A
HCM 95th %tile Q(veh)	0	-	*		1.4	0.1
John John W. Mon	7					1.7	0, 1

10. Future with the Proposed Project Synchro Outputs

Intersection													
Int Delay, s/veh	12.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			सी	7		4		
Traffic Vol, veh/h	1		2	341	2	14	2	5	532	2	9	1	
Future Vol, veh/h	1	2	2	341	2	14	2	5	532	2	9	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	-	None			None	-	-	None	
Storage Length		-	- 4			- 2	+	-	0	-	-	-	
Veh in Median Storage	,# -	0		-	0	-		0	-	-	0	-	
Grade, %	-	0		-	0			0	-	-	0	_	
Peak Hour Factor	50	50	50	67	67	67	78	78	78	50	50	50	
Heavy Vehicles, %	2	3	3	33	3	2	3	2	21	2	2	2	
Mvmt Flow	2	4	4	509	3	21	3	6	682	4	18	2	
NA sia s/NAis as	4-: 4			14.1									
	Major1			Major2			Minor1			Minor2			
Conflicting Flow All	24	0	0	8	0	0	1052	1052	6	1386	1044	14	
Stage 1	-		*	9		-	10	10	-	1032	1032		
Stage 2	-	8		- 6	- 4	-	1042	1042	-	00.	12		
Critical Hdwy	4.12	- 4	*	4.43	18.	-	7.13	6.52	6.41	5.4	5.5	6.22	
Critical Hdwy Stg 1	-					-	6.13	5.52	-	6.12	5.52	-	
Critical Hdwy Stg 2	-		-			-	6.13	5.52		6.12	5.52		
	2.218	19	-	2.497	7	-	3.527	4.018	3.489	3.518	4.018	3.318	
Pot Cap-1 Maneuver	1591	19	-	1432		-	204	227	1024	234	308	1066	
Stage 1	-	1.4			- 4	-	1008	887	-	281	310	-	
Stage 2	-	14				-	276	307	- 4	663	886	-	
Platoon blocked, %		1,40	-		14	- 1							
Mov Cap-1 Maneuver	1591		-	1432	- 6	-	137	145	1024	55	197	1066	
Mov Cap-2 Maneuver	-	-		- 00	- 8	-	137	145	-	55	197	-	
Stage 1	-	10		-	-	-	1007	886	-	281	198	-	
Stage 2	-		٠	+	-	- 7	160	196	-	220	885	-	
0 n n n n n n h				LATE			p. 1 ==						
Approach	EB			WB			NB			SB			-
HCM Control Delay, s	1.5			8.5			15.4			34.7			
HCM LOS							С			D			
Minor Lane/Major Mvm	t	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR .	SBLn1			
Capacity (veh/h)			1024	1591			1432	-	-	145			
HCM Lane V/C Ratio			0.666				0.355	-		0.166			
HCM Control Delay (s)		31.9	15.2	7.3	0	41	8.9	0		34.7			
HCM Lane LOS		D	C	A	A		Α	A	-	D D			
				, ,	, ,		11	/ \					

Intersection							
Intersection Delay, s/veh	11.3						
Intersection LOS	В						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	ħ			र्स			
Traffic Vol, veh/h	272	0	176	5	0	0	
Future Vol, veh/h	272	0	176	5	0	0	
Peak Hour Factor	0.82	0.82	0.83	0.83	0.92	0.92	
Heavy Vehicles, %	10	2	15	5	2	2	
Wymt Flow	332	0	212	6	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				
Opposing Approach							
Opposing Lanes	0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	11.8		10.6				
HCM LOS	В		В				
Lane.		NBLn1	EBLit				
Vol Left, %		97%	100%				
Vol Thru, %		3%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		181	272				
T Vol		176	272				
Through Vol		5	0				
RT Vol		0	0				
ane Flow Rate		218	332				
Geometry Grp		1	1				
Degree of Util (X)		0.315	0.448				
Departure Headway (Hd)		5.196	4.86				
Convergence, Y/N		Yes	Yes				
Cap		691	740				
Service Time		3.234	2.891				
HCM Lane V/C Ratio		0.315	0.449				
HCM Control Delay		10.6	11.8				
			D				
HCM Lane LOS HCM 95th-tile Q		В	B 2.3				

	*	→	7	•	+	1	1	†	~	/	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4 1₽			414			र्स	7		ની	7
Traffic Volume (vph)	33	596	9	41	389	5	36	18	14	54	41	26
Future Volume (vph)	33	596	9	41	389	5	36	18	14	54	41	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25		_	25			25		•
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998	0.00	0.00	0.998	0.00	1100		0.850	1.00	1.00	0.850
Flt Protected		0.997			0.995			0.968	0.000		0.972	0.000
Satd. Flow (prot)	0	3143	0	0	3103	0	0	1786	1463	0	1733	1516
Flt Permitted	U	0.910	U	U	0.847	U	U	0.804	1700	U	0.827	1010
Satd. Flow (perm)	0	2869	0	0	2642	0	0	1483	1463	0	1475	1516
Right Turn on Red	U	2000	Yes	0	2072	Yes	U	1400	Yes	U	1473	Yes
Satd. Flow (RTOR)		3	103		3	103			44			44
Link Speed (mph)		25			25			25	44		25	44
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.90	0.90	0.90	0.89	0.89	0.89	0.79	0.79	0.70	0.00		0.00
Heavy Vehicles (%)	3%	11%	3%	3%	17%	3%	3%		0.79	0.83	0.83	0.83
	370	662	10	46				3%	3%	3%	3%	3%
Adj. Flow (vph)	37	002	10	46	437	6	46	23	18	65	49	31
Shared Lane Traffic (%)	0	700	0	0	400	0	0	00	40	^	444	0.4
Lane Group Flow (vph)	0	709	0	0	489	0	0	69	18	0	114	31
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane	4.00	4.04	4.00	4.00	4.00	4.00						
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	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?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		20.0			20.0			20.0	20.0		20.0	20.0

4: Lower S St & Louisa St

Weekday AM Peak Hour

	→	-	7	1	—	*	4	†	-	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.62			0.46			0.12	0.03		0.19	0.05
Control Delay		14.8			12.8			10.2	1.6		10.9	3.2
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		14.8			12.8			10.2	1.6		10.9	3.2
LOS		В			В			В	Α		В	Α
Approach Delay		14.8			12.8			8.4			9.2	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50 Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

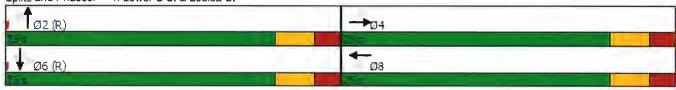
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.62 Intersection Signal Delay: 13.1

Intersection Capacity Utilization 54.1%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	-	1	†	-	1	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W.D.L	TIDI	1	HUIN	ODL	4
Traffic Volume (vph)	110	68	168	189	36	198
Future Volume (vph)	110	68	168	189	36	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	16	13	1300	12	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt actor	0.949	1.00	0.929	1.00	1.00	1.00
Flt Protected			0.929			0.000
	0.970	0	1450	0	0	0.992
Satd. Flow (prot)	1811	0	1458	0	0	1377
Fit Permitted	0.970	^	4.450	^	_	0.897
Satd. Flow (perm)	1811	0	1458	0	0	1245
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	55					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.67	0.67	0.84	0.84	0.73	0.73
Heavy Vehicles (%)	3%	3%	50%	3%	3%	43%
Adj. Flow (vph)	164	101	200	225	49	271
Shared Lane Traffic (%)		101	250		10	_, ,
Lane Group Flow (vph)	265	0	425	0	0	320
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left		Left	Left
	14	Nigiti		Right	Leit	
Median Width(ft)			0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.41		0.58			0.51
Control Delay	14.5		14.7			13.8
- John Dolay	טידו		17.7			10.0

5: Broadway & Bleakley Ave

	1	•	1	-	1	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0			0.0
Total Delay	14.5		14.7			13.8
LOS	В		В			В
Approach Delay	14.5		14.7			13.8
Approach LOS	В		В			В

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.58

Intersection Signal Delay: 14.3
Intersection Capacity Utilization 55.6%

Intersection LOS: B
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	•	*	1	†	+	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		,,,,,,	4	†	7
Traffic Volume (vph)	237	58	26	405	523	172
Future Volume (vph)	237	58	26	405	523	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	13	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.961			0.997		0.650
		0	0		1001	1462
Satd. Flow (prot)	1784	U	0	1714	1801	1463
Flt Permitted	0.961	^		0.919	4004	4.400
Satd. Flow (perm)	1784	0	0	1580	1801	1463
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	25					
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.76	0.76	0.88	0.88	0.76	0.76
Heavy Vehicles (%)	3%	3%	3%	11%	9%	3%
Adj. Flow (vph)	312	76	30	460	688	226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	388	0	0	490	688	226
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	, agair
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
				1.00	0.96	
Turning Speed (mph)	15	9	15	0	0	9
Number of Detectors	1		1	0	0	0
Detector Template	Left		Left			
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4		1 Cilli	2	6	4
Permitted Phases	7		2	2	0	6
Detector Phase	4		2	2	G	
	4		2	2	6	4
Switch Phase	5.0		5.0	5 0	5.0	5.0
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	1	*	1	†	↓	1	
ane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0		25.0	25.0	25.0	25.0	
rellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
ost Time Adjust (s)	0.0			0.0	0.0	0.0	
Total Lost Time (s)	5.0			5.0	5.0	5.0	
_ead/Lag							
_ead-Lag Optimize?							
/ehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	15.7			25.2	25.2	51.0	
Actuated g/C Ratio	0.31			0.49	0.49	1.00	
//c Ratio	0.69			0.63	0.77	0.15	
Control Delay	20.9			16.1	20.9	0.2	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	20.9			16.1	20.9	0.2	
OS	С			В	С	Α	
Approach Delay	20.9			16.1	15.8		
Approach LOS	С			В	В		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 51							
Natural Cycle: 60							
Control Type: Semi Act-Un	coord						
Maximum v/c Ratio: 0.77							
ntersection Signal Delay:						n LOS: B	
ntersection Capacity Utiliz	ation 67.6%			IC	U Level	of Service C	
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ev Ave					
+	712000	-			1		
Ø2					1	34	
200					237.4		

Intersection							
Int Delay, s/veh	0.7						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	14	7	1 1 200 20	स	1>	2011	
Traffic Vol. veh/h	21	1	1	330	274	18	
Future Vol, veh/h	21	1	1	330	274	18	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None		None	-	None	
Storage Length	0	150	-	-	-	-	
Veh in Median Storage		-	•	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	75	75	82	82	81	81	
Heavy Vehicles, %	75	3	3	20	37	75	
Mvmt Flow	28	1	1	402	338	22	
Major/Minor	Minor2	= 3,	VajorT		Vlajor2		
Conflicting Flow All	753	349	360	0	-	0	
Stage 1	349	-	-		-	-	
Stage 2	404	÷	~	-	751	-	
Critical Hdwy	7.15	6.23	4.13	-	-		
Critical Hdwy Stg 1	6.15	1+	-	-			
Critical Hdwy Stg 2	6.15		-		- 4	- 1	
Follow-up Hdwy		3.327	2.227	- 2	5	- 2	
Pot Cap-1 Maneuver	290	692	1193		- 3	- 4	
Stage 1	578	4	-	1,41	- 4-	10.5	
Stage 2	542		-	-	-	1	
Platoon blocked, %				- 7	7	- 7	
Mov Cap-1 Maneuver	290	692	1193	-		- 1	
Mov Cap-2 Maneuver	290	÷	-		- 3	-	
Stage 1	577	19	-		- 9	6	
Stage 2	542	8		- 3	- 2	- 1	
Approach	EB		NB		SB		
HCM Control Delay, s			0		0		
HCM LOS	C				-		
	_						
Minor Lane/Major Myn	n#	NBL	NET	EBLn1	EBI -0	SBT	SBR
	II.	1193	ND.I	290	692		SOR
Capacity (veh/h)			-			-	
HCM Control Doloy (c)		0.001	13.1	0.097	10.2		- 1
HCM Control Delay (s) HCM Lane LOS		8	0	C	10.2 B	-	
	\	A 0	Α	0.3	0		
HCM 95th %tile Q(veh)	U	- 1	0,3	Ü	-	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	LDI	1100	4	1≯	CDIT
Traffic Vol, veh/h	7	2	2	349	290	18
Future Vol, veh/h	7	2	2	349	290	18
Conflicting Peds, #/hr	Ó	0	0	0	290	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- Olop	None	- 100		-	None
Storage Length	0	None	-6	NONE	-	INOITE
Veh in Median Storage		į.	- 1	0	0	
	0		-	0	0	
Grade, %						-
Peak Hour Factor	42	42	85	85	80	80
Heavy Vehicles, %	3	3	3	24	43	3
Mvmt Flow	17	5	2	411	363	23
Major/Minor	Minor2		Major1	ı	Major2	
Conflicting Flow All	790	375	386	0	viajoi z	0
Stage 1	375	373	500	-	- 4	-
Stage 2	415				2	
Critical Hdwy	6.43	6.23	4.13			
Critical Hdwy Stg 1	5.43	0.25	4.13	-		
Critical Hdwy Stg 2	5.43		-	(3)		
Follow-up Hdwy		3.327	2.227		-	
				_	-	
Pot Cap-1 Maneuver	358	669	1167	+		
Stage 1	693	-	-	•	- 0	1.0
Stage 2	664	-			-	
Platoon blocked, %				-	4	-
Mov Cap-1 Maneuver	357	669	1167	+	(3)	
Mov Cap-2 Maneuver	357	-		(*)		
Stage 1	692	-	. +			-
Stage 2	664	-	-	180	(4)	1.5
Approach	EB		NB		SB	
		_	0		0	
HCM Control Delay, s	14.6		U		U	
HCM LOS	В					
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1167		398		- 1
HCM Lane V/C Ratio		0.002		0.054		
HCM Control Delay (s))	8.1	0	14.6	- 4	-
HCM Lane LOS	,	Α	A	В		
HCM 95th %tile Q(veh	1	0	-	0.2		
HOW SOME WINE WINE	1	U	•	U.Z		

	۶	→	*	•	+	4	1	†	-	1		1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑ 1>		T	1			44	7		414	
Traffic Volume (vph)	0	43	40	403	50	0	4	0	459	93	490	79
Future Volume (vph)	0	43	40	403	50	0	4	0	459	93	490	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.928						0.853	0.850		0.982	
Flt Protected				0.950				0.999			0.993	
Satd. Flow (prot)	0	3144	0	1646	1845	0	0	1378	1468	0	3353	0
Fit Permitted		0	ŭ	0.679	1010		Ū	1010	1100	Ū	0.781	
Satd. Flow (perm)	0	3144	0	1177	1845	0	0	1379	1468	0	2637	0
Right Turn on Red		0111	Yes		1010	Yes		1010	No	J	2007	Yes
Satd. Flow (RTOR)		56	100			100			110		13	103
Link Speed (mph)		25			25			25			25	
Link Opeca (mpn) Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.72	0.72	0.72	0.76	0.76	0.76	0.84	0.84	0.84	0.90		0.00
	2%	3%	3%	6%	3%	2%		2%			0.90	0.90
Heavy Vehicles (%)							3%		8%	5%	5%	5%
Adj. Flow (vph)	0	60	56	530	66	0	5	0	546	103	544	88
Shared Lane Traffic (%)	0	440	0	500	0.0	0	0	070	49%	0	705	•
Lane Group Flow (vph)	0	116	0	530	66	0	0	273	278	0	735	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)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel		- /-						J			U. L.	
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
		NA		D,P+P	NA		custom		custom	Perm	0.0	

Lane Group	Ø1	Ø3	Ø4		
Lane Configurations					
Traffic Volume (vph)					
Future Volume (vph)					
Ideal Flow (vphpl)					
Lane Width (ft)					
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)					
Detector 2 Position(ft)					
Detector 2 Size(ft)					
Detector 2 Type					
Detector 2 Channel					
Detector 2 Extend (s)					
Turn Type					

	•	→	*	•	←	*	4	†	1	-	1	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		7.2		22.3	27.3			47.6	22.4		20.1	
Actuated g/C Ratio		0.08		0.26	0.32			0.56	0.26		0.24	
v/c Ratio		0.36		1.35	0.11			0.35	0.72		1.16	
Control Delay		24.7		209.6	36.2			11.9	39.8		120.0	
Queue Delay		0.0		0.0	0.0			0.1	0.0		1.1	
Total Delay		24.7		209.6	36.2			12.0	39.8		121.1	
LOS		С		F	D			В	D		F	
Approach Delay		24.7			190.4			26.0			121.1	
Approach LOS		С			F			С			F	

Area Type: Other

Cycle Length: 100 Actuated Cycle Length: 85 Natural Cycle: 115

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.35 Intersection Signal Delay: 109.9 Intersection Capacity Utilization 69.9% Analysis Period (min) 15

Intersection LOS: F
ICU Level of Service C

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave

7Ø8

Ø5

Lane Group Ø1 Ø3 Ø4 Protected Phases 1 3 4
Permitted Phases
Detector Phase
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0
Minimum Split (s) 23.0 23.0 23.0
Total Split (s) 25.0 40.0 35.0
Total Split (%) 25% 40% 35%
Maximum Green (s) 20.0 35.0 30.0
Yellow Time (s) 4.0 4.0 4.0
All-Red Time (s) 1.0 1.0 1.0
Lost Time Adjust (s)
Total Lost Time (s)
Lead/Lag Lead
Lead-Lag Optimize? Yes Yes
Vehicle Extension (s) 3.0 3.0 3.0
Recall Mode Max None None
Walk Time (s)
Flash Dont Walk (s)
Pedestrian Calls (#/hr)
Act Effot Green (s)
Actuated g/C Ratio
v/c Ratio
Control Delay
Queue Delay
Total Delay
LOS
Approach Delay
Approach LOS
Intersection Summary

	1	→	7	1	+	1	1	†	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ				↑ ↑			4	7			
Traffic Volume (vph)	372	223	0	0	353	126	101	0	79	0	0	0
Future Volume (vph)	372	223	0	0	353	126	101	0	79	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0	·-	325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25		_	25			25			25		Ĭ
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1,00	1,00	1.00	1.00	0.961	0.00	1.00	1.00	0.850	1.00	7.00	1.00
Fit Protected	0.950				0.001			0.950	0.000			
Satd. Flow (prot)	1646	1613	0	0	3084	0	0	1719	1538	0	0	0
FIt Permitted	0.332	1010	· ·	v	000+	U	U	0.950	1000	U	U	U
Satd. Flow (perm)	575	1613	0	0	3084	0	0	1719	1538	0	0	0
Right Turn on Red	010	1010	Yes	U	3004	Yes	U	1713	Yes	U	U	Yes
Satd. Flow (RTOR)			163		55	103			185			163
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2							
` '	0.89		0.00	0.79		0.70	0.74	16.8	0.74	0.00	13.1	0.00
Peak Hour Factor		0.89	0.89		0.79	0.79	0.71	0.71	0.71	0.92	0.92	0.92
Heavy Vehicles (%)	6%	6%	2%	2%	5%	5%	5%	5%	5%	2%	2%	2%
Adj. Flow (vph)	418	251	0	0	447	159	142	0	111	0	0	0
Shared Lane Traffic (%)	440	054	0	0	000	0	0	440	444	•	0	•
Lane Group Flow (vph)	418	251	0	0	606	0	0	142	111	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		11			11			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2			2		1	2	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				

Lane Group	Ø2	Ø5	Ø7	Ø8			
ane Configurations							
Fraffic Volume (vph)							
Future Volume (vph)							
deal Flow (vphpl)							
Lane Width (ft)							
Storage Length (ft)							
Storage Lanes							
Taper Length (ft)							
Lane Util. Factor							
Frt							
FIt Protected							
Satd. Flow (prot)							
FIt Permitted							
Satd. Flow (perm)							
Right Turn on Red							
Satd. Flow (RTOR)							
Link Speed (mph)							
Link Distance (ft)							
Fravel 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							
Furning Speed (mph)							
Number of Detectors							
Detector Template							
eading Detector (ft)							
Frailing 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)							
Detector 2 Position(ft)							
Detector 2 Size(ft)							
Detector 2 Type							
Detector 2 Channel							
Detector 2 Extend (s)							
Turn Type							

	*	→	7	1	+	*	1	†	-	1	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1.		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	49.8	54.8			30.9			20.1	20.1			
Actuated g/C Ratio	0.59	0.64			0.36			0.24	0.24			
v/c Ratio	0.73	0.24			0.52			0.35	0.22			
Control Delay	30.6	6.2			22.3			31.4	1.5			
Queue Delay	0.7	0.6			0.7			4.6	0.0			
Total Delay	31.2	6.8			23.0			36.0	1.5			
LOS	С	Α			С			D	Α			
Approach Delay		22.1			23.0			20.8				
Approach LOS		С			С			С				

Area Type: Other

Cycle Length: 100 Actuated Cycle Length: 85 Natural Cycle: 115

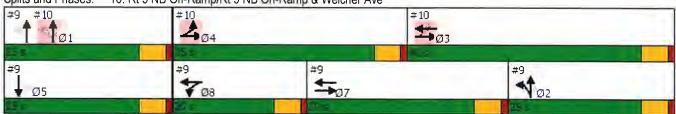
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.35 Intersection Signal Delay: 22.2 Intersection Capacity Utilization 52.5%

Intersection LOS: C
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	05	Ø7	Ø8			
Protected Phases	2	5	7	8			
Permitted Phases							
Detector Phase							
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0			
Minimum Split (s)	23.0	23.0	27.0	20.0			
Total Split (s)	25.0	25.0	30.0	20.0			
Total Split (%)	25%	25%	30%	20%			
Maximum Green (s)	20.0	20.0	25.0	15.0			
Yellow Time (s)	4.0	4.0	4.0	4.0			
All-Red Time (s)	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)	9.60		ore i	0.25			
Total Lost Time (s)							
Lead/Lag			Lag	Lead			
Lead-Lag Optimize?			Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0			
Recall Mode	Max	Max	None	None			
Walk Time (s)			7.0				
Flash Dont Walk (s)			15.0				
Pedestrian Calls (#/hr)			0				
Act Effct Green (s)							
Actuated g/C Ratio							
v/c Ratio							
Control Delay							
Queue Delay							
Total Delay							
LOS							
Approach Delay							
Approach LOS							
Intersection Summary							

Intersection													
Int Delay, s/veh	2.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					7	↑ ↑		ሻ	↑ ↑		
Traffic Vol, veh/h	4	2	11	0	0	0	7	459	174	250	685	1	
Future Vol, veh/h	4	2	11	0	0	0	7	459	174	250	685	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	18	-	None	-	- 4	None	-	*	None	
Storage Length	-		-	- 4		1+1	50		-	160		٠,	
Veh in Median Storage	,# -	0		- 1-	16979			0		14	0		
Grade, %	-	0	~	-	0	-	-	0	1	- 14	0	10	
Peak Hour Factor	75	75	75	92	92	92	81	81	81	82	82	82	
Heavy Vehicles, %	3	5	3	2	2	2	3	8	7	5	7	3	
Mvmt Flow	5	3	15	0	0	0	9	567	215	305	835	1	
											000	•	
Major/Minor 1	Minor2					1	/lajor1		1	//ajor2			
Conflicting Flow All	1748	2246	418				836	0	0	782	0	0	
Stage 1	1446	1446					+		-	102	-		
Stage 2	302	800					-	- 1		14	4	· ·	
Critical Hdwy	6.86	6.6	6.96				4.16	-		4.2			
Critical Hdwy Stg 1	5.86	5.6	0.50				7.10			7.2			
Critical Hdwy Stg 2	5.86	5.6							_				
Follow-up Hdwy	3.53	4.05	3.33				2.23			2.25			
Pot Cap-1 Maneuver	76	40	581				787			812	- Ĉ		
Stage 1	181	190	- 501				101					-	
Stage 2	721	388								3.6			
Platoon blocked, %	121	300									ie.		
	17	0	581				707	14	-	040			
Mov Cap-1 Maneuver	47	0					787		- 7	812			
Mov Cap-2 Maneuver	47	0	-					*			7		
Stage 1	179	0							-		- 5		
Stage 2	450	0								*	1,8	- 4	
Approach	EB						NB			SB			
		_	_	_	_				_		_		
HCM Control Delay, s	34.6						0.1			3.2			
HCM LOS	D												
Minor Lane/Major Mvm	+	NBL	NBT	NBR 8	ERI n1	SBL	SBT	SBR					
									_				
Capacity (veh/h)		787	7	Ť	144	812	-						
HCM Lane V/C Ratio		0.011			0.157		*						
HCM Control Delay (s)		9.6	-		34.6	12.1	*						
HCM Lane LOS		Α	*	-	D	В	-	*					
HCM 95th %tile Q(veh)		0	-	- 4	0.5	1.8	- 6						

	٠	*	1	1	1	4
Lane Group	EBI	EDP.	NIDI	NDT	007	055
Lane Configurations				NBT	SBT	
Traffic Volume (vph)	207					
	207					307
Future Volume (vph)	207			521		307
Ideal Flow (vphpl)	1900			1900		
Lane Width (ft)	12			12	11	12
Storage Length (ft)	(0	240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25	5	25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
FIt Protected	0.950		0.950			0.000
Satd. Flow (prot)	1752		3224	1845	1783	1568
FIt Permitted	0.950		0.950	1040	1703	1500
Satd. Flow (perm)	1752		3224	1015	1700	4500
Right Turn on Red	1732		3224	1845	1783	1568
Satd. Flow (RTOR)		Yes				Yes
	0.0					21
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.94		0.86	0.86	0.89	0.89
Heavy Vehicles (%)	3%	3%	5%	3%	3%	3%
Adj. Flow (vph)	220	1704	1053	606	675	345
Shared Lane Traffic (%)					0.0	010
Lane Group Flow (vph)	220	1704	1053	606	675	345
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left		
Median Width(ft)	12	ragnt	Leit		Left	Right
Link Offset(ft)	0			22	22	
Crosswalk Width(ft)				0	0	
	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0			0
Detector 1 Size(ft)	20	20		0	0	0
Detector 1 Type			20	6	6	20
Detector 1 Channel	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel				O1. LA	OFFER	
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Drot	ouetom.	Dect	0.0	0.0	
тант туро	רוטנ	custom	Prot	NA	NA	pm+ov

	*	7	1	1	↓	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	20.0	20.0
Total Split (s)	25.0		35.0	55.0	20 0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	28.5	49.0	14.5	40.5
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.51
v/c Ratio	0.50	1.05	0.92	0.54	2.09	0.43
Control Delay	30.5	42.4	38.5	11.1	522.2	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	42.4	38.5	11.1	522.2	13.9
LOS	С	D	D	В	F	В
Approach Delay	41.1			28.5	350.2	
Approach LOS	D			С	F	
Internation Overse						

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.09

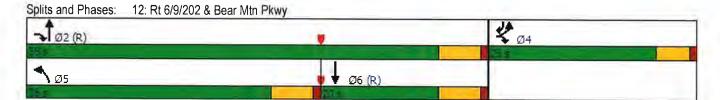
Intersection Signal Delay: 105.1

Intersection Capacity Utilization 140.8%

Intersection LOS: F ICU Level of Service H

Analysis Period (min) 15

! Phase conflict between lane groups.



Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		1	11.211	701	4
Traffic Vol, veh/h	86	16	33	319	14	33
Future Vol, veh/h	86	16	33	319	14	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-		1100			None
Storage Length	0			-	_	110110
Veh in Median Storage		- 2	0		_	0
Grade, %	0		0		-	0
Peak Hour Factor	91	91	92	92	59	59
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	95	18	36	347	24	56
	00	10	00	041	24	00
8 4 - 1/8 4°	1 P 4					
	Minor1		Major1		Major2	
Conflicting Flow All	314	210	0	0	383	0
Stage 1	210	-		~	- 6	-
Stage 2	104	-	-	19	-	17.
Critical Hdwy	6.45	6.25	-		4.15	
Critical Hdwy Stg 1	5,45	-	(*)	14)	2	
Critical Hdwy Stg 2	5.45	-	- 4	+	-	-
Follow-up Hdwy	3.545		~	-	2.245	
Pot Cap-1 Maneuver	673	823	(9)		1159	-
Stage 1	818	-		-	-	-
Stage 2	913	-	- 2	- 4	-	-
Platoon blocked, %			100	- 4		
Mov Cap-1 Maneuver	659	823			1159	16
Mov Cap-2 Maneuver	659	-	4	21	-	14
Stage 1	818	-	4		-	14
Stage 2	894	-	+			*
, i						
Approach	WB		NB		CD	
		-			SB	
HCM Control Delay, s	11.3		0		2.4	
HCM LOS	В					
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)				680	1159	14
HCM Lane V/C Ratio		100	100	0.165	0.02	-
HCM Control Delay (s)			- 4		8.2	0
HCM Lane LOS				В	Α	A
HCM 95th %tile Q(veh)		100	1	0.6	0.1	

Intersection							
Int Delay, s/veh	11.3						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	CUL	4	1	VVDIA	SBL	JDK T	
Traffic Vol, veh/h	38	81	348	122	263	4	
Future Vol, veh/h	38	81	348	122	263	4	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free		Stop	
RT Channelized	-	None	-	None			
Storage Length	- 0	-	-	-	0	0	
Veh in Median Storage	e,# -	0	0	-	0	-	
Grade, %	-	0	0	-	0	-	
Peak Hour Factor	79	79	91	91	87	87	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	48	103	382	134	302	5	
Major/Minor	Major1	A	Major2		Minor2		
Conflicting Flow All	516	0		0	648	449	
Stage 1	-	-		-	449	+	
Stage 2	μ.	-	-	-	199		
Critical Hdwy	4.15			-	6.45	6.25	
Critical Hdwy Stg 1		4		-	5.45	140	
Critical Hdwy Stg 2		- +		-	5.45	+	
Follow-up Hdwy	2.245	+	-	-	3.545	3.345	
Pot Cap-1 Maneuver	1035			-	430	604	
Stage 1			-	-	637	4	
Stage 2		*		-	827	17	
Platoon blocked, %		7		1.0			
Mov Cap-1 Maneuver	1035	100			409	604	
Mov Cap-2 Maneuver	*			-	409	-	
Stage 1	*	-	*		606	-	
Stage 2					827	-	
Approach	EB		WB		SB		
HCM Control Delay, s	2.8		0		34.5		
HCM LOS					D		
Minor Lane/Major Mvm	nt	EBL	EBT	WBT	WRR	SBLn1	SRI n2
Capacity (veh/h)		1035	LDI	AADI	VVDIC .	409	604
HCM Lane V/C Ratio		0.046		50		0.739	
HCM Control Delay (s)		8.6	0	Ţ,		34.9	11
HCM Lane LOS		Α	A			D D	В
HCM 95th %tile Q(veh)		0.1	-	- 4		5.9	0
		9.1				0,0	

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	N/		INDL			SDR
Traffic Vol. veh/h	85		Q	4 245	1 →	165
Future Vol, veh/h	85		8			
	0		8	245	109	165
Conflicting Peds, #/hr			0	0	0	0
Sign Control	Stop		Free	Free	Free	Free
RT Channelized	-	,,,,,,		None		None
Storage Length	0		-	+		- 13
Veh in Median Storage			+	0	0	
Grade, %	0	-	+	0	0	
Peak Hour Factor	92	92	82	82	81	81
Heavy Vehicles, %	3		3	20	37	3
Mvmt Flow	92	4	10	299	135	204
Major/Minor	Minor2		Major1	N	//ajor2	
Conflicting Flow All	556	237	339	0	*	0
Stage 1	237	-	- 4	Ť	*	-
Stage 2	319					*
Critical Hdwy	6.43	6.23	4.13	-	-	-+0
Critical Hdwy Stg 1	5.43	-		-	*	4
Critical Hdwy Stg 2	5.43	(4)			-	
Follow-up Hdwy	3.527	3.327	2.227			
Pot Cap-1 Maneuver	490	800	1215			
Stage 1	800		-	(*)	100	-
Stage 2	735	-		-	-	7
Platoon blocked, %				-		
Mov Cap-1 Maneuver	485	800	1215		-	4
Mov Cap-2 Maneuver	485	_		4		ů.
Stage 1	792	_	- 0	- 4	-	-
Stage 2	735				-	
Olago L	100					
Approach	EB		NB		SB	
HCM Control Delay, s	14.1		0.3		0	
HCM LOS	В					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1215	-	494	3	
HCM Lane V/C Ratio		0.008	-	0.196	4.1	10-0
HCM Control Delay (s)		8	0	14.1	+	
HCM Lane LOS		Α	Α	В		-
HCM 95th %tile Q(veh))	0	-	0.7	4	
		-		2		

Intersection													
Int Delay, s/veh	9.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4			4	7		4		
Traffic Vol, veh/h	1	1	1	280	1	6	1	6	348	7	4	1	
Future Vol, veh/h	1	1	1	280	1	6	1	6	348	7	4	1	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-		None	-	-	None	-	-	None	-	-	None	
Storage Length	-	- 4	+	-	-	-	-	-	0	-	-	-	
Veh in Median Storage	,# -	0	- 4		0	-	-	0		-	0	-	
Grade, %	-	0	- 4	141	0		-	0	-	-	0	-	
Peak Hour Factor	50	50	50	82	82	82	86	86	86	67	67	67	
Heavy Vehicles, %	2	3	3	37	3	2	3	2	32	2	2	2	
Mvmt Flow	2	2	2	341	1	7	1	7	405	10	6	1	
Major/Minor N	/lajor1			Major2		-9	Minor1			Minor2			
Conflicting Flow All	8	0	0	4	0	0	697	697	3	900	695	5	
Stage 1	-				- 2	3	7	7	- 51	687	687	140	
Stage 2			12	-	- 0		690	690	- 1	213	8	1.4	
Critical Hdwy	4.12	14	12	4.47	4	-	7.13	6.52	6.52	5.4	5.5	6.22	
Critical Hdwy Stg 1	-	į.	-	04	i.	- 4	6.13	5.52		6.12	5.52	(-)	
Critical Hdwy Stg 2	_		-			-	6.13	5.52	- 4	6.12	5.52	14	
Follow-up Hdwy	2.218	(4)		2.533		-		4.018	3.588	3.518	4.018		
Pot Cap-1 Maneuver	1612	141		1416		-	354	365	999	399	445	1078	
Stage 1	-	-			. (4)		1012	890	-		447	1010	
Stage 2	_			-			434	446	-	789	889	4	
Platoon blocked, %			102			4	101	110		100	000		
Mov Cap-1 Maneuver	1612	12		1416	12		284	276	999	190	337	1078	
Mov Cap-2 Maneuver	-	į.		1170	G.		284	276	-	190	337	-	
Stage 1	-	- (*)			12	-	1011	889		437	339		
Stage 2	_	4	4		-		323	338		465	888		
Olugo 2							020	000		700	000	_	
Approach	EB			WB			NB		-	SB			
HCM Control Delay, s	2.4			8.1			11.1		_	21.1			
HCM LOS				0.1			В			C			
										Ü			
Minor Lane/Major Mvm	t N	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1			
Capacity (veh/h)		277	999	1612	12		1416		-				
HCM Lane V/C Ratio			0.405				0.241			0.074			
HCM Control Delay (s)		18.4	11	7.2	0		8.3	0		21.1			
HCM Lane LOS		C	В	Α	A		Α	A	-	C C			
TUVI Lane LUS													

Intersection							
Intersection Delay, s/veh	11.1						
Intersection LOS	В						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	M			ef.			
Traffic Vol. veh/h	308	0	136	0	0	0	
Future Vol, veh/h	308	0	136	0	0	0	
Peak Hour Factor	0.92	0.92	:0.78	0.78	0.92	0.92	
Heavy Vehicles, %	12	2	17	5	2	2	
Mvmt Flow	335	0	174	0	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				
Opposing Approach					_		
Opposing Lanes	0		0				
Conflicting Approach Left	-		EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	11.6		10				
HCM LOS	В		А				
	5		1.0				
Lane		NBLn1	EBLn1				
Vol Left, %		100%	100%				
Vol Thru, %		0%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		136	308				
LT Vol		136	308				
Through Vol		0	0				
RT Vol		0	0				
Lane Flow Rate		174	335				
Geometry Grp		1	1				
Degree of Util (X)		0.254	0.444				
Departure Headway (Hd)		5.236	4.779				
Convergence, Y/N		Yes	Yes				
Cap		687	753				
Service Time		3.266	2.805				
HCM Lane V/C Ratio		0.253	0.445				
HCM Control Delay		10	11.6				
HCM Lane LOS		A	B				
HCM 95th-tile Q		1	2.3				
TOW COULTING OF			2.0				

	*	-	*	1	←	*	1	†	1	-	ļ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T }			414			4	7"		सी	7
Traffic Volume (vph)	59	385	13	22	286	28	54	50	17	37	22	48
Future Volume (vph)	59	385	13	22	286	28	54	50	17	37	22	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.987				0.850			0.850
Flt Protected		0.994			0.997			0.975			0.970	
Satd. Flow (prot)	0	3100	0	0	3024	0	0	1799	1463	0	1730	1516
Flt Permitted		0.851		_	0.907	_		0.847			0.821	
Satd. Flow (perm)	0	2654	0	0	2751	0	0	1562	1463	0	1464	1516
Right Turn on Red			Yes			Yes		,,,,,	Yes		1,01	Yes
Satd. Flow (RTOR)		7			23	100			44			50
Link Speed (mph)		25			25			25			25	00
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.93	0.93	0.93	0.78	0.78	0.78	0.91	0.91	0.91	0.96	0.96	0.96
Heavy Vehicles (%)	3%	13%	3%	3%	20%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	414	14	28	367	36	59	55	19	39	23	50
Shared Lane Traffic (%)	00	717	17	20	001	50	00	00	10	00	20	50
Lane Group Flow (vph)	0	491	0	0	431	0	0	114	19	0	62	50
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	Ū		0	3		0	0		0	3
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	2.0	2.0
Lost Time Adjust (s)	2.0	0.0		2.0	0.0		2.0	0.0	0.0	2.0	0.0	0.0
Total Lost Time (s)		5.0			5.0			5.0	5.0		5.0	5.0
Lead/Lag		0.0			0.0			0.0	0.0		0.0	0.0
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effet Green (s)	U	20.0		U	20.0		U	20.0	20.0	U	20.0	20.0
AND END OF COT (3)		20.0			20.0			20.0	20.0		20.0	20.0

4: Lower S St & Louisa St

	1	-	1	-	-		4	1	-	-	Ţ	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.46			0.39			0.18	0.03		0.11	0.08
Control Delay		12.6			11.3			10.7	17		10.1	3.9
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		12.6			11.3			10.7	1.7		10.1	3.9
LOS		В			В			В	Α		В	Α
Approach Delay		12.6			11.3			9.4			7.3	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

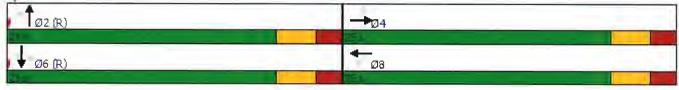
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.46

Intersection Signal Delay: 11.3
Intersection Capacity Utilization 47.0%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	1	*	†	-	1	1
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y	TTOIL	1	14011	ODL	4
Traffic Volume (vph)	92	33	190	206	22	146
Future Volume (vph)	92	33	190	206	22	146
, . ,	1900					
Ideal Flow (vphpl)		1900	1900	1900	1900	1900
Lane Width (ft)	14	16	13	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.965		0.930			
Flt Protected	0.964					0.994
Satd. Flow (prot)	1830	0	1531	0	0	1329
Flt Permitted	0.964					0.925
Satd. Flow (perm)	1830	0	1531	0	0	1237
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	32					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.86	0.86	0.96	0.96	0.73	0.73
	3%					
Heavy Vehicles (%)		3%	37%	3%	3%	48%
Adj. Flow (vph)	107	38	198	215	30	200
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	413	0	0	230
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	0.92	0.85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9	0.00	9	15	1.00
Turn Type	Prot	J	NA	J	Perm	NA
Protected Phases	8		2		I CIIII	
	0		2		0	6
Permitted Phases	00.0		00.0		6	00.0
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0			0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag	0,0		0.0			0.0
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0		7.0	7.0
						7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.23		0.54			0.37
Control Delay	12.5		13.6			11.4

5: Broadway & Bleakley Ave

	1	4	†	<i>></i>	1	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Queue Delay	0.0		0.0			0.0
Total Delay	12.5		13.6			11.4
LOS	В		В			В
Approach Delay	12.5		13.6			11.4
Approach LOS	В		В			В

Intersection Summary

Area Type:

Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.54 Intersection Signal Delay: 12.8 Intersection Capacity Utilization 41.7%

Intersection LOS: B ICU Level of Service A

Analysis Period (min) 15

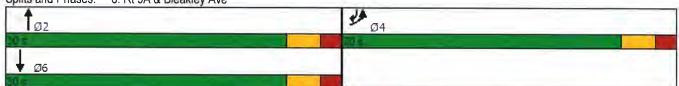
Splits and Phases: 5: Broadway & Bleakley Ave



	*	7	1	1	ļ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		,,,,,,	4	↑	7
Traffic Volume (vph)	181	29	21	651	622	93
Future Volume (vph)	181	29	21	651	622	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	12	12	12	13	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.981			1.00	1.00	0.850
Flt Protected	0.959			0.998		0.000
Satd. Flow (prot)	1793	0	0	1807	1852	1463
FIt Permitted	0.959	, and the second		0.972	,002	, 100
Satd. Flow (perm)	1793	0	0	1760	1852	1463
Right Turn on Red	1700	Yes	v	1,00	1002	Yes
Satd. Flow (RTOR)	16	. 00				103
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.80	0.80	0.83	0.83	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	5%	6%	3%
Adj. Flow (vph)	226	36	25	784	684	102
Shared Lane Traffic (%)	220	30	20	104	004	102
Lane Group Flow (vph)	262	0	0	809	684	102
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13	Ngiit	LOIL	0	0	Ngiit
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
Turning Speed (mph)	15	1.00	1.00	1.00	0.90	1.09
Number of Detectors	15	9	10	0	0	0
Detector Template	Left		Left	U	U	U
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)				0	0	0
Detector 1 Position(ft)	0		0	0	0	0
• /	0			0	0	0
Detector 1 Size(ft)	20 CHEV		20	6 CLLEY	6 CLEV	20
Detector 1 Type	Ci+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel	0.0		0.0	0.0	0.0	0.0
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2			6
Detector Phase	4		2	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

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	•	7	1	†	Ţ	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0		25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0			0.0	0,0	0.0	
Total Lost Time (s)	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	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0		11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	11.9			27.2	27.2	49.1	
Actuated g/C Ratio	0.24			0.55	0.55	1.00	
v/c Ratio	0.59			0.83	0.67	0.07	
Control Delay	20.4			21.4	13.5	0.1	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	20.4			21.4	13.5	0.1	
LOS	C			С	В	Α	
Approach Delay	20.4			21.4	11.7		
Approach LOS	С			С	В		
Intersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 49.	1						
Natural Cycle: 60							
Control Type: Semi Act-Un	coord						
Maximum v/c Ratio: 0.83							
Intersection Signal Delay: 1	7.2			In	tersection	LOS: B	
Intersection Capacity Utiliza	ation 71.3%			IC	U Level	of Service C	
Analysis Period (min) 15							





Intersection							
Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	ሻ	7		4	1>		
Traffic Vol, veh/h	14	1	1	375	216	13	
Future Vol, veh/h	14	1	1	375	216	13	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None		None	*	None	
Storage Length	0	150	-	- 4	-	1.	
Veh in Median Storag		7	-	0	0	-	
Grade, %	0		-	0	0		
Peak Hour Factor	63	63	94	94	77	77	
Heavy Vehicles, %	75	3	3	16	31	75	
Mvmt Flow	22	2	1	399	281	17	
Major/Minor	Minor2		Major1	1	Major2		
Conflicting Flow All	691	290	298	0	-	0	
Stage 1	290		-				
Stage 2	401	-	~	9	-	14	
Critical Hdwy	7.15	6.23	4.13			- 2	
Critical Hdwy Stg 1	6.15			÷	-	- 2	
Critical Hdwy Stg 2	6.15		- 2				
Follow-up Hdwy	4.175	3.327	2.227		- 4	-	
Pot Cap-1 Maneuver	318	747	1258			-	
Stage 1	619		(*)	4	-		
Stage 2	544		- *	- 2		- 1	
Platoon blocked, %				-		-	
Mov Cap-1 Maneuver		747	1258				
Mov Cap-2 Maneuver	318	-	-	17-		10	
Stage 1	618		-	*		-	
Stage 2	544	-	-	•	- 141	8.5	
Approach	EB		NB		SB		
HCM Control Delay, s	16.7		0		0		
HCM LOS	С						
Minor Lane/Major Mvr	nt	NBL	NRTI	EBLn1 I	=Bl n2	SBT	SBR
Capacity (veh/h)	iit.	1258	ND11	318	747	001	JUIN
HCM Lane V/C Ratio		0.001	*		0.002		
HCM Control Delay (s)	7.9	0	17.2	9.8	- 1	
HCM Lane LOS	,	7.5 A	A	C	3.0 A		
HCM 95th %tile Q(veh	1)	0	-	0.2	0		
TOM COULT TOUTO GET VOIT	7	0		0.2	U		

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W	LDIN	IVUL	4	- 3B1 - 1→	ODIV
Traffic Vol, veh/h	11	1	4		228	10
Future Vol, veh/h	11	1	4		228	10
Conflicting Peds, #/hr		0			0	0
Sign Control	Stop		Free		Free	Free
RT Channelized	-	None	-		-	None
Storage Length	0	-	_	-		110110
Veh in Median Storage				0	0	140
Grade, %	0	-	-	0	0	1
Peak Hour Factor	75	75	98	98	79	79
Heavy Vehicles, %	3	3	3		36	3
Mvmt Flow	15	1	4	393	289	13
Major/Minor	Minor2		Major1	N	Major2	
Conflicting Flow All	697	296	302	0	viajoi z	0
Stage 1	296	-	-	-	4	-
Stage 2	401					
Critical Hdwy	6.43	6.23	4.13	-	(4)	4
Critical Hdwy Stg 1	5.43	5	1			
Critical Hdwy Stg 2	5.43		- 4	14		- 140
Follow-up Hdwy		3.327	2.227		6	- 4
Pot Cap-1 Maneuver	406	741	1253	- 2		- 2
Stage 1	752		(4)	-	140	*
Stage 2	674	-		18		(4)
Platoon blocked, %						- 4
Mov Cap-1 Maneuver	404	741	1253		2	
Mov Cap-2 Maneuver	404	-	-	14	14	
Stage 1	749	-	-	3	- 4	
Stage 2	674	-	-		-	
Approach	EB		NB		SB	
HCM Control Delay, s	13.9		0.1		0	
HCM LOS	В					
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1253	-		-	ODIC
HCM Lane V/C Ratio		0.003		0.038	-	140
HCM Control Delay (s)		7.9	0	13.9		14
HCM Lane LOS		A	A	В	2	(2)
HCM 95th %tile Q(veh))	0	-	0.1	-	-
				0.1		

	٠	-	*	•	+	•	1	†	~	-		4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ተ ኈ		1	1			4	7		414	
Traffic Volume (vph)	0	118	36	339	82	0	6	0	732	68	387	75
Future Volume (vph)	0	118	36	339	82	0	6	0	732	68	387	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.965	0.00		11.00	1100	1.00	0.852	0.850	0.00	0.979	0.00
Flt Protected		0.000		0.950				0.999	0.000		0.994	
Satd. Flow (prot)	0	3269	0	1662	1845	0	0	1415	1510	0	3346	0
Flt Permitted		0200		0.615	1010	U	O .	1410	1010	U	0.607	U
Satd. Flow (perm)	0	3269	0	1076	1845	0	0	1416	1510	0	2043	0
Right Turn on Red	v	0200	Yes	1070	10-10	Yes	0	1410	No	U	2040	Yes
Satd. Flow (RTOR)		38	100			103			110		16	163
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.73	0.73	0.73	0.93	0.93	0.93	0.84	0.84	0.84	0.87	0.87	0.87
Heavy Vehicles (%)	2%	3%	3%	5%	3%	2%	3%	2%	5%	5%	5%	5%
Adj. Flow (vph)	0	162	49	365	88	0	7	0	871	78	445	86
Shared Lane Traffic (%)	U	102	43	303	00	U	1	U	50%	70	440	80
Lane Group Flow (vph)	0	211	0	365	88	0	0	443	435	0	600	0
Enter Blocked Intersection	No	No	No	No	No	No	No				609	0
Lane Alignment	Left	Left	Right	Left	Left			No	No	No	No	No
Median Width(ft)	Leit	11	Rigit	Leit	11	Right	Left	Left 12	Right	Left	Left	Right
Link Offset(ft)		0			0						12	
Crosswalk Width(ft)		16			16			0 16			0	
Two way Left Turn Lane		10			10			10			16	
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.06	4.00	1.00	4.00
Turning Speed (mph)	1.00	1.04	9	1.04	1.00	9		1.04	0.96	1.00	1.00	1.00
Number of Detectors	13	2	9		2	9	15	2	9	15	_	9
				1	Z Thank		1	2 Thank	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft) Trailing Detector (ft)		100		20	100		20	100	20	20	100	
• ,		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel		0.0		0.0	0.0		0.0					
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom	NA	custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				

	*	→	*	•	+	•	1	1	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	7 8		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		10.2		25.0	30.0			47.3	22.2		20.1	
Actuated g/C Ratio		0.12		0.29	0.34			0.54	0.25		0.23	
v/c Ratio		0.51		0.90	0.14			0.58	1.14		1.26	
Control Delay		34.3		64.0	32.0			17.6	120.8		165.3	
Queue Delay		0.0		0.0	0.0			3.2	0.7		7.1	
Total Delay		34.3		64.0	32.0			20.8	121.5		172.4	
LOS		С		Е	С			С	F		F	
Approach Delay		34.3			57.8			70.7			172.4	
Approach LOS		С			E			Е			F	

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 87.3

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.26 Intersection Signal Delay: 93.2 Intersection Capacity Utilization 70.4%

Intersection LOS: F
ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 9: Rt 9A/Rt 9 SB Off-Ramp & Welcher Ave



Lane Group	Ø1	Ø3	Ø4	
Protected Phases	1	3	4	
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	
Minimum Split (s)	23.0	23.0	23.0	
Total Split (s)	25.0	40.0	35.0	
Total Split (%)	25%	40%	35%	
Maximum Green (s)	20.0	35.0	30.0	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)			-	
Total Lost Time (s)				
Lead/Lag		Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	
Recall Mode	Max	None	None	
Walk Time (s)				
Flash Dont Walk (s)				
Pedestrian Calls (#/hr)				
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

	۶	-	*	•	+	*	1	†	1	-	+	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	*	1			↑ ↑			स	7			
Traffic Volume (vph)	521	397	0	0	292	144	129	0	174	0	0	0
Future Volume (vph)	521	397	0	0	292	144	129	0	174	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0	-	325	0		0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt				.,	0.951	0.00	1100	1.00	0.850	1.00	1,00	1.00
FIt Protected	0.950							0.950	0.000			
Satd. Flow (prot)	1678	1644	0	0	3071	0	0	1736	1538	0	0	0
FIt Permitted	0.348			· ·	0011			0.950	1000		J	v
Satd. Flow (perm)	615	1644	0	0	3071	0	0	1736	1538	0	0	0
Right Turn on Red	0.10	, , , ,	Yes		0071	Yes	Ū	1700	Yes	v	U	Yes
Satd, Flow (RTOR)			100		93	100			226			103
Link Speed (mph)		30			30			30	220		30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.77	0.77	0.77	0.92	0.92	0.92
Heavy Vehicles (%)	4%	4%	2%	2%	4%	5%	4%	5%	5%	2%	2%	2%
Adj. Flow (vph)	620	473	0	0	348	171	168	0	226	0	0	0
Shared Lane Traffic (%)	020	473	U	U	340	17.1	100	U	220	U	U	U
Lane Group Flow (vph)	620	473	0	0	519	0	0	168	226	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	
Median Width(ft)	Len	11	Night	Leit	11	Night	LEIL	0	Rigitt	Leit		Right
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.04	1.14	1.00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	4.00
-	1.04	1.14	9	1.00 15	1.09		1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph) Number of Detectors	15	2	9	15	0	9	15	0	9	15		9
	-				2 That		1	2 That:	1			
Detector Template	Left	Thru			Thru		Left	Thru	Right			
Leading Detector (ft)	20	100			100		20	100	20			
Trailing Detector (ft)	0	0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7	Ø8		
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (ft)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Fit 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)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Type Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
rum rype						

	1	-	*	1	—	*	1	†	-	-		1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	3 4			3			1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		1	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	1.0				1.0		1.0	1.0	1.0			
Lost Time Adjust (s)	0.0				0.0			0.0	0.0			
Total Lost Time (s)	5.0				5.0			5.0	5.0			
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	52.2	57.2			25.1			20.1	20.1			
Actuated g/C Ratio	0.60	0.66			0.29			0.23	0.23			
v/c Ratio	0.89	0.44			0.55			0.42	0.43			
Control Delay	38.4	8.8			24.2			33.9	7.3			
Queue Delay	51.0	0.7			0.1			4.3	0.0			
Total Delay	89.4	9.5			24.3			38.2	7.3			
LOS	F	Α			С			D	Α			
Approach Delay		54.8			24.3			20.5				
Approach LOS		D			С			С				

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 87.3

Natural Cycle: 125

Control Type: Actuated-Uncoordinated

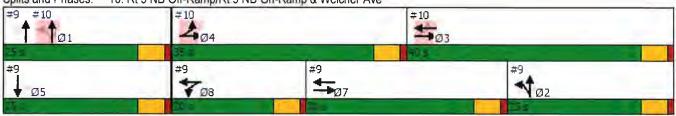
Maximum v/c Ratio: 1.26 Intersection Signal Delay: 40.2

Intersection Capacity Utilization 61.2%

Analysis Period (min) 15

Intersection LOS: D
ICU Level of Service B

Splits and Phases: 10: Rt 9 NB Off-Ramp/Rt 9 NB On-Ramp & Welcher Ave



Lane Group	Ø2	Ø5	Ø7	Ø8
Protected Phases	2	5	7	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	27.0	20.0
Total Split (s)	25.0	25.0	30.0	20.0
Total Split (%)	25%	25%	30%	20%
Maximum Green (s)	20.0	20.0	25.0	15.0
Yellow Time (s)	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	1,14	11.0	1.0	****
Total Lost Time (s)				
Lead/Lag			Lag	Lead
Lead-Lag Optimize?			Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	None	None
Walk Time (s)	TTISATA	1916/7	7.0	110110
Flash Dont Walk (s)			15.0	
Pedestrian Calls (#/hr)			0	
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4					4	14		Ť	↑		
Traffic Vol, veh/h	3	1	3	0	0	0	6	735	92	50	713	1	
Future Vol, veh/h	3	1	3	0	0	0	6	735	92	50	713	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	- 6	-	None	
Storage Length		-		-		1×	50	-	-	160	-	16	
Veh in Median Storage	,# -	0	15	+	16979	3		0	-	4	0	-	
Grade, %	-	0	9		0			0		- 3	0	-	
Peak Hour Factor	63	63	63	92	92	92	86	86	86	90	90	90	
Heavy Vehicles, %	3	5	3	2	2	2	3	5	5	5	5	3	
Mvmt Flow	5	2	5	0	0	0	7	855	107	56	792	1	
Major/Minor I	Minor2					٨	/a cr1		Λ.	10ler2			
		1001	207				Major1	0		Major2			
Conflicting Flow All	1347	1881	397				793	0	0	962	0	0	
Stage 1	905	905	4					+	-	-	-	-	
Stage 2	442	976	0.00				4.40	7	*	4.0		-	
Critical Hdwy	6.86	6.6	6.96				4.16		- *	4.2	-		
Critical Hdwy Stg 1	5.86	5.6	•				- "	(*)	141	-		16	
Critical Hdwy Stg 2	5.86	5.6	2.22				0.00	(2)		0.05	- 1		
Follow-up Hdwy	3.53	4.05 68	3.33				2.23	9		2.25	1.0	7	
Pot Cap-1 Maneuver	141 353	347					817	199	,	693	-	-	
Stage 1 Stage 2	612	321	×				-			-	-		
Platoon blocked, %	012	321					-	140	-	4	- 7	10	
Mov Cap-1 Maneuver	128	0	600				817	(7)	- *	603		-	
Mov Cap-1 Maneuver	128	0					017			693	-	*	
Stage 1	350	0						1-1	20	*		100	
Stage 2	562		- "				-	1-1		- 3		-	
Stage 2	302	0	- 7				-			-		*	
Approach	EB						NB			SB			
HCM Control Delay, s	23						0.1			0.7			
HCM LOS	С												
Minor Long/Marior Nation		NDI	NDT	NDD :	*DL - 4	CDI	ODT	CDD					
Minor Lane/Major Mvm		NBL	NBT	NBR I		SBL	SBT	SBR					
Capacity (veh/h)		817		- 9		693		*					
HCM Lane V/C Ratio		0.009	1127		0.053	0.08		100					
HCM Control Delay (s)		9.4	7	-	23	10.6	- 3	-					
HCM Lane LOS		A			С	В	•						
HCM 95th %tile Q(veh)		0			0.2	0.3		197					

	1	7	1	†	Ţ	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T	EDK 7	NDL NDL			SDR
Traffic Volume (vph)		-		£00	†	
	390	1301	1335	598	574	112
Future Volume (vph)	390	1301	1335	598	574	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	11	12	11	12
Storage Length (ft)	0	0	240			125
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt		0.850				0.850
FIt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3286	1845	1783	1568
FIt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3286	1845	1783	1568
Right Turn on Red	.,, 02	Yes	3200	1010	,,00	Yes
Satd. Flow (RTOR)		100				4
Link Speed (mph)	30			30	30	4
Link Distance (ft)	665			498		
Travel Time (s)					712	
` ,	15.1	0.00	0.00	11.3	16.2	0.04
Peak Hour Factor	0.90	0.90	0.93	0.93	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	433	1446	1435	643	631	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	433	1446	1435	643	631	123
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			22	22	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15	1,00	1.04	9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left		Left	Thru		
		Right			Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel				OI LA	OI LA	
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Drot	custom	Prot	NA		pm+ov
Turn Type	FIOL	Custom	PIOL	NA	INA	pm+ov

	1	7	1	†	1	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	20.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6_0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3 0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.99	0.89	1.20	0.57	2.02	0.16
Control Delay	72.9	9.2	126.6	11.7	494.3	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.9	9.2	126.6	11.7	494.3	11.2
LOS	Е	Α	F	В	F	В
Approach Delay	23.9			91.0	415.5	
Approach LOS	С			F	F	
1.1 (0						

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

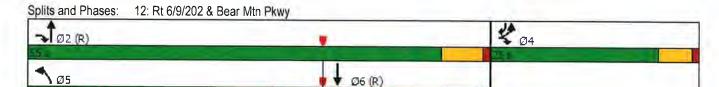
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.02 Intersection Signal Delay: 116.2 Intersection Capacity Utilization 120.8%

Intersection LOS: F
ICU Level of Service H

Analysis Period (min) 15

! Phase conflict between lane groups.



Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	.,	7>		JUL	4
Traffic Vol, veh/h	96	15	24	129	13	24
Future Vol, veh/h	96	15	24	129	13	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	Otop	None	- 1100	None	1166	None
Storage Length	0	TVOILE		NONE		None -
Veh in Median Storage		-	0		-	0
Grade, %	0			-		
		00	0	0.7	-	0
Peak Hour Factor	90	90	87	87	65	65
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	107	17	28	148	20	37
Major/Minor	Minor1	N	/lajor1		Major2	
Conflicting Flow All	179	102	0	0	176	0
Stage 1	102	102	-	U	170	
Stage 2	77	- :		- 3	- 1	
Critical Hdwy	6.45	6.25		-	4.15	
Critical Hdwy Stg 1		0.20		-	4.15	*
, ,	5.45	-		-	- 4	y.
Critical Hdwy Stg 2	5.45			-	0.045	+
Follow-up Hdwy		3.345	-	-	2.245	
Pot Cap-1 Maneuver	804	945		•	1382	
Stage 1	915	-	-		16	÷
Stage 2	938	-	-6		19	
Platoon blocked, %			-			
Mov Cap-1 Maneuver	792	945		-	1382	-
Mov Cap-2 Maneuver	792	-			4	14
Stage 1	915	-		- 4		
Stage 2	924	-	-	÷.	1,5	1.2
Approach	WB		NB		SB	
HCM Control Delay, s	10.2		0		2.7	
HCM LOS	10.2 B		U		2.1	
TOWI LOO	D					
Minor Long (Major M.		NOT	NDD)	UDL A	001	OPT
Minor Lane/Major Mvm	IL	NBT	NBRV		SBL	SBT
Capacity (veh/h)				810	1382	
HCM Lane V/C Ratio		-	*	0.152		-
HCM Control Delay (s)		-	-	10.2	7-6	0
		-		10.2 B 0.5	7-6 A	0 A

Intersection							
int Delay, s/veh	8.5						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		4	1		7	7	
Traffic Vol, veh/h	18	102	143	114	270	10	
Future Vol, veh/h	18	102	143	114	270	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	75	None	- +	None	
Storage Length	-	*	÷	7	0	0	
Veh in Median Storage	e,# -	0	0	-	0		
Grade, %	-	0	0	-	0	(4)	
Peak Hour Factor	85	85	90	90	79	79	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	21	120	159	127	342	13	
Major/Minor	Major1	N	Major2		Vinor2		
Conflicting Flow All	286	0	-	0	385	223	
Stage 1	-	-		-	223		
Stage 2	-	+		-	162		
Critical Hdwy	4.15	4	12	-	6.45	6.25	
Critical Hdwy Stg 1	-	-			5.45	+	
Critical Hdwy Stg 2	-			-	5.45	- 4	
Follow-up Hdwy	2.245	1.6			3.545	3.345	
Pot Cap-1 Maneuver	1259	12	10	-	612	809	
Stage 1	-	-	9	-	807	÷	
Stage 2	-	6		-	860		
Platoon blocked, %							
Mov Cap-1 Maneuver	1259	(9)	-		601	809	
Mov Cap-2 Maneuver	-	14/	1.4	- 2	601	-	
Stage 1		*	-		792	-	
Stage 2	-	4		(*)	860	-	
Approach	EB		WB		SB		
HCM Control Delay, s	1.2		0		18.3		
HCM LOS			-		C		
Minor Lanc/Major Mus	nt.	EDI	CDT	MOT	WED	CDI ~4.0	ים ומי
Minor Lane/Major Mvm	IL	EBL	EBT	WBT	VVBK :	SBLn1 S	
Capacity (veh/h)		1259	-	-	+	601	809
HCM Control Dolay (a)		0.017	-			0.569	
HCM Control Delay (s) HCM Lane LOS		7.9	0			18.6	9.5
HCM 95th %tile Q(veh)	1	Α 0.1	Α	-	-	C	A
TION SOUT MURE CALVEIT		0.1	-	-	-	3.6	0

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	N/			4	1→	
Traffic Vol, veh/h	165	8	4	210	131	85
Future Vol, veh/h	165	8	4	210	131	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None	-	
Storage Length	0		÷	4		1,0
Veh in Median Storage	e,# 0	-	4	0	0	+
Grade, %	0	-	-	0	0	Q.
Peak Hour Factor	92	92	94	94	77	77
Heavy Vehicles, %	3	3	3	16	31	3
Mvmt Flow	179	9	4	223	170	110
Major/Minor	Minaro		Malaud		4-1-40	
	Minor2		Major1		Major2	
Conflicting Flow All	456	225	280	0	-	0
Stage 1	225	-	*		. 4	*
Stage 2	231	_ 0-	1. *	-		
Critical Hdwy	6.43	6.23	4.13		*	1-1
Critical Hdwy Stg 1	5.43	19	15		-	1,7
Critical Hdwy Stg 2	5.43	-	- 3		*	
Follow-up Hdwy	3.527				3	
Pot Cap-1 Maneuver	561	812	1277	14	12	
Stage 1	810		-	-	17	
Stage 2	805	+	*			*
Platoon blocked, %				+	12	-
Mov Cap-1 Maneuver	559	812	1277	-	*	15
Mov Cap-2 Maneuver	559	15	147	14	-	1.8
Stage 1	807	*				
Stage 2	805	1.5			•	
Approach	EB		NB		SB	
HCM Control Delay, s	14.5		0.1		0	
HCM LOS	В					
Minor Lane/Major Mvn	nt	NBL	NRT	EBLn1	SBT	SBR
Capacity (veh/h)		1277	11011	567	051	ODIN
HCM Lane V/C Ratio		0.003	-	0.332	- 17	- 1
HCM Control Delay (s)		7.8	0	14.5		
HCM Lane LOS		7.0 A	A	14.5 B		
HCM 95th %tile Q(veh	1	0	A -	1.4		
HOW BUILD WINE WIVELL)	U	•	1.4	-	

Movement El Lane Configurations Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/hr Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	9.6 EBL 1 1 0 ree - - - 50 2	EBT 2 2 2 0 Free - 0 0 0 50	EBR 2 2 0 Free None	317 317 0 Free	WBT 2 2 0 Free	WBR 9 9 0	NBL 2 2	NBT 12	NBR 310	SBL 9	SBT	SBR	
Lane Configurations Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/hr Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	1 1 0 ree - - - - 50 2	2 2 0 Free	2 2 0 Free None	317 317 0 Free	2 2 2 0	9	2 2	€ 12	310		4		
Traffic Vol, veh/h Future Vol, veh/h Conflicting Peds, #/hr Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	1 0 ree - - - 50 2	2 0 Free 0 0	2 0 Free None	317 0 Free	2 2 0	9	2	12	310	9		1	
Future Vol, veh/h Conflicting Peds, #/hr Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	1 0 ree - - - 50 2	2 0 Free 0 0	2 0 Free None	317 0 Free	2 2 0	9	2	12	310	9		1	
Conflicting Peds, #/hr Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	0 ree - - - - 50 2	0 Free - - 0 0	Free None	0 Free	0			40			0	1	
Sign Control Fr RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	ree - - - 50 2	Free - 0 0 0	Free None	Free		0		12	310	9	5	1	
RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	- - - 50 2	0	None -		Free		0	0	0	0	0	0	
RT Channelized Storage Length Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	50 2	0	÷			Free	Stop	Stop	Stop	Stop	Stop	Stop	
Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	50 2	0	÷		- 2	None	- 2		None		_	None	
Veh in Median Storage, # Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	50 2	0		-		-		-	0	į,	-		
Grade, % Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	50 2	0			0	- 2	-	0	-	-	0		
Peak Hour Factor Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	2	50	(4)	74	0	de	-	0	4	2	0	16	
Heavy Vehicles, % Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	2		50	91	91	91	81	81	100	50	50	50	
Mvmt Flow Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.		3	3	29	3	2	3	2	25	2	2	2	
Major/Minor Major Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	~	4	4	348	2	10	2	15	310	18	10	2	
Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.		7	•	010		10	_	10	010	70	10	_	
Conflicting Flow All Stage 1 Stage 2 Critical Hdwy 4.	or1		1	Major2	-	₁	Minor1	-	f	Minor2			
Stage 1 Stage 2 Critical Hdwy 4.	12	0	0	8	0	0	719	718	6	876	715	7	
Stage 2 Critical Hdwy 4.	2	- 4	4		-		10	10		703	703	- 2	
Critical Hdwy 4.	-	-		(+)		_	709	708		173	12		
•	.12		160	4.39	4	-	7.13	6.52	6.45	5.4	5.5	6.22	
Critical Hdwy Stg 1	40		-	1100	- 1	_	6.13	5.52	-	6.12	5.52	0.22	
Critical Hdwy Stg 2	-	-		-	-		6.13	5.52	-	6.12	5.52		
	218			2.461			3.527	4.018		3.518	4.018	3.318	
	307			1453	-		342	355	1013	409	436	1075	
Stage 1	-			1700			1008	887	1010	428	440	1075	
Stage 2					-		423	438			886		
Platoon blocked, %				- 10		-	420	400	,	023	000		
	607			1453	-	-	272	269	1013	222	330	1075	
•				1455			272	269	1013	222	330	1075	
Mov Cap-2 Maneuver	7	-	-	- 17		. (%							
Stage 1	-	- 1	- 1		-	1.0	1007	886	•	428	334	-	
Stage 2			-	*			311	332	-	565	885	-	
Approach {	EB	_		WB			NB			SB			
	1.4			8			10.6			20.3			
HCM LOS	1			U			10.0 B			20.3 C			
TIOWI LOS							Ь			C			
Minor Lane/Major Mvmt	N	IBLn11	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR :	SBLn1			
Capacity (veh/h)		_	1013			LOIN	1453			265			
HCM Lane V/C Ratio			0.306		_	-	0.24			0.113			
HCM Control Delay (s)			10.1			7	U. 4	-	-	17. 1 1 1 2			
HCM Lane LOS		1 1 4		(')	0			Λ					
HCM 95th %tile Q(veh)		19.3 C	В	7.2 A	0 A		8.3 A	0 A					

Intersection							
Intersection Delay, s/veh	9.9						
Intersection LOS	A						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	M			4			
Traffic Vol, veh/h	231	0	141	9	0	0	
Future Vol., veh/h	231	0	141	9	0	0	
Peak Hour Factor	0.91	0.91	0.85	0.85	0.92	0.92	
Heavy Vehicles, %	10	2	14	5	2	2	
Mvmt Flow	254	0	166	11	0	0	
Number of Lanes	1	0	0	1	0	0	
Approach	EB		NB				
Opposing Approach							
Opposing Lanes	0		0				
Conflicting Approach Left			EB				
Conflicting Lanes Left	0		1				
Conflicting Approach Right	NB						
Conflicting Lanes Right	1		0				
HCM Control Delay	10.1		9.6				
HCM LOS	В		A				
Lane		NBLn1	EBLn1				
Vol Left, %		94%	100%				
Vol Thru, %		6%	0%				
Vol Right, %		0%	0%				
Sign Control		Stop	Stop				
Traffic Vol by Lane		150	231				
LT Vol		141	231				
Through Vol		9	0				
RT Vol		Ö	0				
Lane Flow Rate		176	254				
Geometry Grp		1	1				
Degree of Util (X)		0.243	0.334				
Departure Headway (Hd)		4.963	4.731				
Convergence, Y/N		Yes	Yes				
Cap		725	762				
Service Time		2.985	2.749				
HCM Lane V/C Ratio		0.243	0.333				
HCM Control Delay		9.6	10.1				
HCM Lane LOS			10.1 B				
HCM 95th-tile Q		A	1.5				
HOW BOUT-UIE Q		0.9	1.5				

	*	→	7	1	+	1	4	1	~	1	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		414			414			ર્ન	7		सी	7
Traffic Volume (vph)	33	380	10	10	378	14	22	17	29	36	10	28
Future Volume (vph)	33	380	10	10	378	14	22	17	29	36	10	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	12	12	12	12	10	12	11	11
Storage Length (ft)	0		0	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.995				0.850			0.850
Flt Protected		0.996			0.999			0.972			0.962	
Satd. Flow (prot)	0	3119	0	0	3140	0	0	1793	1463	0	1715	1516
Flt Permitted		0.899			0.942			0.874		_	0.817	
Satd. Flow (perm)	0	2816	0	0	2961	0	0	1612	1463	0	1457	1516
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			9				44			44
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1523			693			383			512	
Travel Time (s)		41.5			18.9			10.4			14.0	
Peak Hour Factor	0.97	0.97	0.97	0.90	0.90	0.90	0.89	0.89	0.89	0.83	0.83	0.83
Heavy Vehicles (%)	3%	12%	3%	3%	15%	3%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	34	392	10	11	420	16	25	19	33	43	12	34
Shared Lane Traffic (%)												0.1
Lane Group Flow (vph)	0	436	0	0	447	0	0	44	33	0	55	34
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	.5		0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.00	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	25.0
Total Split (%)	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Maximum Green (s)	20.0	20.0		20.0	20.0		20.0	20.0	20.0	20.0	20.0	20.0
Yellow Time (s)	3.0	3.0		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	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												0.5
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effct Green (s)		20.0			20.0		-	20.0	20.0		20.0	20.0

4: Lower S St & Louisa St

Saturday Midday (Weekend) Peak Hour

	1	-	1	1	-	*	1	†	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio		0.40			0.40			0.40	0.40		0.40	0.40
v/c Ratio		0.39			0.38			0.07	0.05		0.09	0.05
Control Delay		11.8			11.5			9.7	3.3		10.0	3.4
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		11.8			11.5			9.7	3.3		10.0	3.4
LOS		В			В			Α	Α		Α	Α
Approach Delay		11.8			11.5			7.0			7.4	
Approach LOS		В			В			Α			Α	

Intersection Summary

Area Type: Other

Cycle Length: 50

Actuated Cycle Length: 50

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

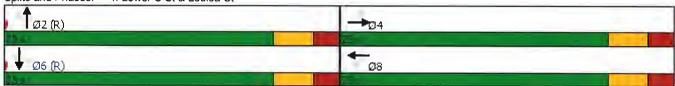
Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.39 Intersection Signal Delay: 10.9

Intersection Capacity Utilization 44.7%

Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 4: Lower S St & Louisa St



	-	1	†	-	-	+
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	M	VVDIC	1001	ושאו	ODL	4
Traffic Volume (vph)	70	37	170	120	19	169
Future Volume (vph)	70	37	170	120	19	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1900	1900	1300	1900	12	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.953	1.00	0.944	1.00	1.00	1.00
Fit Protected			0.944			0.005
	0.968	0	1527	0	0	0.995
Satd. Flow (prot)	1815	0	1537	0	0	1396
Flt Permitted	0.968	^	4507	0	^	0.956
Satd. Flow (perm)	1815	0	1537	0	0	1341
Right Turn on Red		Yes		No		
Satd. Flow (RTOR)	48					
Link Speed (mph)	30		30			30
Link Distance (ft)	568		1853			1085
Travel Time (s)	12.9		42.1			24.7
Peak Hour Factor	0.73	0.73	0.94	0.94	0.81	0.81
Heavy Vehicles (%)	3%	3%	33%	3%	3%	39%
Adj. Flow (vph)	96	51	181	128	23	209
Shared Lane Traffic (%)						
Lane Group Flow (vph)	147	0	309	0	0	232
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	14	ragin	0	ragnt	Lon	0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
. ,	10		10			10
Two way Left Turn Lane	0.00	0.05	0.00	4.00	4.00	4.00
Headway Factor	0.92	0,85	0.96	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Minimum Split (s)	23.0		23.0		23.0	23.0
Total Split (s)	25.0		35.0		35.0	35.0
Total Split (%)	41.7%		58.3%		58.3%	58.3%
Maximum Green (s)	20.0		30.0		30.0	30.0
Yellow Time (s)	3.0		3.0		3.0	3.0
All-Red Time (s)	2.0		2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		2.0	0.0
Total Lost Time (s)	5.0		5.0			5.0
Lead/Lag	5.0		0.0			0.0
-						
Lead-Lag Optimize?	7.0		7.0		7.0	7.0
Walk Time (s)	7.0		7.0		7.0	7.0
Flash Dont Walk (s)	11.0		11.0		11.0	11.0
Pedestrian Calls (#/hr)	0		0		0	0
Act Effct Green (s)	20.0		30.0			30.0
Actuated g/C Ratio	0.33		0.50			0.50
v/c Ratio	0.23		0.40			0.35
Control Delay	11.1		11.4			10.9

5: Broadway & Bleakley Ave

Saturday Midday (Weekend) Peak Hour

	1	*	1	-	-	+		
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT		
Queue Delay	0,0	_	0.0			0.0		
Total Delay	11.1		11.4			10.9		
LOS	8		В			В		
Approach Delay	11,1		11,4			10.9		
Approach LOS	В		В			В		

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

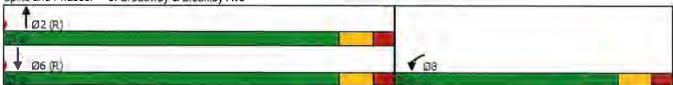
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 50 Control Type: Pretimed Maximum v/c Ratio: 0.40

Intersection Signal Delay: 11.2 Intersection Capacity Utilization 39.2% Intersection LOS: B
ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Broadway & Bleakley Ave



	*	*	1	1	1	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		HOL	4	<u>↑</u>	JUIN T
Traffic Volume (vph)	116	99	14	459	614	81
Future Volume (vph)	116	99	14	459	614	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	1300	12	12	12	1300	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.938	1.00	1.00	1.00	1.00	0.850
Flt Protected	0.936			0.999		0.000
Satd. Flow (prot)	1741	0	0	1760	1852	1463
Flt Permitted		U	U	0.978	1002	1403
Satd. Flow (perm)	0.974	0	0		1050	1460
	1741	0	0	1723	1852	1463
Right Turn on Red	00	Yes				Yes
Satd. Flow (RTOR)	88			- 0.0		
Link Speed (mph)	30			30	30	
Link Distance (ft)	760			501	657	
Travel Time (s)	17.3			11.4	14.9	
Peak Hour Factor	0.92	0.92	0.94	0.94	0.91	0.91
Heavy Vehicles (%)	3%	3%	3%	8%	6%	3%
Adj. Flow (vph)	126	108	15	488	675	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	234	0	0	503	675	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	13			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane	10			10	10	
Headway Factor	0.96	1.00	1.00	1.00	0.96	1.09
•				1.00	0.90	
Turning Speed (mph)	15	9	15	^	^	9
Number of Detectors	1		1	0	0	0
Detector Template	Left		Left	_		
Leading Detector (ft)	20		20	0	0	0
Trailing Detector (ft)	0		0	0	0	0
Detector 1 Position(ft)	0		0	0	0	0
Detector 1 Size(ft)	20		20	6	6	20
Detector 1 Type	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	0.0
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4		1 OIIII	2	6	4
Permitted Phases	7		2	2	U	6
	1		2	2	C	
Detector Phase	4		2	2	6	4
Switch Phase						= 0
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	23.0		23.0	23.0	23.0	23.0
Total Split (s)	30.0		30.0	30.0	30.0	30.0
Total Split (%)	50.0%		50.0%	50.0%	50.0%	50.0%

	•	1	4	†	1	4	
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	
Maximum Green (s)	25.0	EDK	25.0	25.0	25.0	25.0	
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		2.0	0.0	0.0	0.0	
Total Lost Time (s)	5 0			5.0	5.0	5.0	
Lead/Lag	3.0			3.0	5.0	5,0	
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0	
Recall Mode	None		Max	Max	Max	None	
Walk Time (s)	7.0		7.0	7.0	7.0		
Flash Dont Walk (s)	11.0		11.0			7.0	
				11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0		0	0	0	0	
Act Effct Green (s)	9.5			27.8	27 8	47.3	
Actuated g/C Ratio	0.20			0.59	0.59	1.00	
v/c Ratio	0.56			0.50	0.62	0.06	
Control Delay	15.1			8.7	10.6	0.1	
Queue Delay	0.0			0.0	0.0	0.0	
Total Delay	15.1			8.7	10.6	0.1	
LOS	В			Α	В	Α	
Approach Delay	15.1			8.7	9.4		
Approach LOS	В			Α	Α		
ntersection Summary							
Area Type:	Other						
Cycle Length: 60							
Actuated Cycle Length: 47.	.3						
Natural Cycle: 55							
Control Type: Semi Act-Uni	coord						
Maximum v/c Ratio: 0.62							
ntersection Signal Delay: 1	10.0			Int	tersection	LOS: B	
Intersection Capacity Utiliza	ation 56.3%			IC	U Level	of Service B	
Analysis Period (min) 15							
Splits and Phases: 6: Rt	9A & Bleakle	ev Ave					
-4					124		
Ø2						34	
30.5					1225		
↓ Ø6							
			-				

Intersection							
Int Delay, s/veh	0.2						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	ሻ	7		4	1>		
Traffic Vol. veh/h	3	1	1	280	218	12	
Future Vol, veh/h	3	1	1	280	218	12	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	-	None	-	None	
Storage Length	0	150	-	-	-	7	
Veh in Median Storage		-	-	0	0	8	
Grade, %	0	-	-	0	0	18	
Peak Hour Factor	50	50	89	89	71	71	
Heavy Vehicles, %	75	3	3	21	32	75	
Mvmt Flow	6	2	1	315	307	17	
Major/Minor	Minor2		Major1	N	/lajor2		
Conflicting Flow All	633	316	324	0	3	0	
Stage 1	316	- 2	- 4	- 1	- 2	+	
Stage 2	317	- 6.		- 4	y.	(4)	
Critical Hdwy	7.15	6.23	4.13	-	+		
Critical Hdwy Stg 1	6.15	-	- 4	14	(4)	167	
Critical Hdwy Stg 2	6.15		- 6	-	-	7	
Follow-up Hdwy	4.175	3.327	2.227	1.0	*	Te.	
Pot Cap-1 Maneuver	346	722	1230	- 12	+		
Stage 1	600	1	-		- 4	4	
Stage 2	600	- 2	- 4	- 5	14	+	
Platoon blocked, %				1.2		+	
Mov Cap-1 Maneuver	346	722	1230		+	16.	
Mov Cap-2 Maneuver	346	-	19		(2	16	
Stage 1	599	- 1	1	17	12	7	
Stage 2	600		3	- 4	- 9	18	
Approach	EB		NB		SB		
HCM Control Delay, s	14.2		0		0		
HCM LOS	В						
Minor Lane/Major Mvn	nt	NBL	NBT	EBLn1 E	BLn2	SBT	SBR
Capacity (veh/h)		1230	-	346	722		
HCM Lane V/C Ratio		0.001		0.017		-	-
HCM Control Delay (s))	7.9	0	15.6	10		
HCM Lane LOS		Α	A	C	В	540	-
HCM 95th %tile Q(veh	1	0	-	0.1	0		
round de von	,	3		J. 1	J		

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y	EDIT	INDL	4	1	GUIN
Traffic Vol. veh/h	9	1	2	281	230	9
Future Vol, veh/h	9	1	2	281	230	9
	0	0	0.	201	230	0
Conflicting Peds, #/hr Sign Control			Free	Free	Free	Free
RT Channelized	Stop	Stop None	Free	None		None
	0		-	None	-	None
Storage Length	0	-	-	7	-	-
Veh in Median Storage		-	•	0	0	-
Grade, %	0	- 22	-	0	0	-
Peak Hour Factor	63	63	90	90	75	75
Heavy Vehicles, %	3	3	3	22	35	3
Myml Flow	14	2	2	312	30.7	12
Major/Minor.	Minor2		Major1	- 6	Major2	
Conflicting Flow All	629	313	319	0	-	0
Stage 1	313	-	3.0			
Stage 2	316	-	- 2	- 00		
Critical Hdwy	6.43	6.23	4.13			-
Critical Hdwy Stg 1	5.43	Giao	1110			
Critical Hdwy Stg 2	5.43			- 19	-	
Follow-up Hdwy		3.327	2 227	-	-	
Pot Cap-1 Maneuver	445		1235	- 6		- 1
Stage 1	739		1200	1.4		
Stage 2	737		- 1			
Platoon blocked, %	191					
Mov Cap-1 Maneuver	444	725	1235			
Mov Cap-1 Maneuver	444	120	1200			-
Stage 1	738					
•	737	i	- 1		~	
Stage 2	131			- 1-6	*	
Approach	EB		NB		SB	
HCM Control Delay, s	13.1		0.1		0	
HCM LOS	В					
Minor Lane/Major Mvn	nl	NBL	MRT	EBLn1	SBT	SBR
Capacity (veh/h)		1235		100	001	JBR
HCM Lane V/C Ratio			•	Section 1 and 1 an	~	~
	,	0.002		0.034		~
HCM Control Delay (s))	7.9	0	13.1		1.0
HCM Lane LOS	,	A	Α	В	-	
HCM 95th %tile Q(veh	1)	.0		0.1	-	~

	1	→	*	•	←	*	1	†	-	-	+	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		ተ ኈ		ሻ	↑			4	7		414	
Traffic Volume (vph)	0	94	80	285	162	0	70	0	427	74	391	53
Future Volume (vph)	0	94	80	285	162	0	70	0	427	74	391	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	11	12	12	12	11	13	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		250
Storage Lanes	0		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Frt		0.931		1.00	11.00		1,00	0.894	0.850	0.00	0.985	0.00
Flt Protected		0.001		0.950				0.986	0.000		0.993	
Satd. Flow (prot)	0	3154	0	1646	1845	0	0	1444	1468	0	3339	0
Flt Permitted	· ·	0101	U	0.622	10+0	U	U	0.797	1400	U	0.797	U
Satd. Flow (perm)	0	3154	0	1078	1845	0	0	1167	1468	0	2680	0
Right Turn on Red	U	0104	Yes	1070	1040	Yes	U	1107	No	U	2000	Yes
Satd. Flow (RTOR)		95	103			103			140		11	169
Link Speed (mph)		25			25			25			25	
Link Opeed (mpn) Link Distance (ft)		556			270			315			565	
Travel Time (s)		15.2			7.4			8.6			15.4	
Peak Hour Factor	0.84	0.84	0.84	0.94	0.94	0.94	0.95		0.95	0.94		0.04
	2%	3%						0.95			0.94	0.94
Heavy Vehicles (%)			3%	6%	3%	2%	3%	2%	8%	5%	6%	5%
Adj. Flow (vph)	0	112	95	303	172	0	74	0	449	79	416	56
Shared Lane Traffic (%)	0	007	0	200	470	0	0	054	40%	0	554	0
Lane Group Flow (vph)	0	207	0	303	172	0	0	254	269	0	551	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)		11			11			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.04	1.00	1.00	1.00	1.04	0.96	1.00	1.00	1,00
Turning Speed (mph)	15	_	9	15		9	15		9	15		9
Number of Detectors		2		1	2		1	2	1	1	2	
Detector Template		Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)		100		20	100		20	100	20	20	100	
Trailing Detector (ft)		0		0	0		0	0	0	0	0	
Detector 1 Position(ft)		0		0	0		0	0	0	0	0	
Detector 1 Size(ft)		6		20	6		20	6	20	20	6	
Detector 1 Type		CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex			CI+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		D.P+P	NA		custom		custom	Perm	NA	

Lane Group	Ø1	Ø3	Ø4	
Lane Configurations				
Traffic Volume (vph)				
Future Volume (vph)				
Ideal Flow (vphpl)				
Lane Width (ft)				
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)				
Detector 2 Position(ft)				
Detector 2 Size(ft)				
Detector 2 Type				
Detector 2 Type Detector 2 Channel				
Detector 2 Extend (s)				
Turn Type				
Tuni Typo				

	•	→	*	•	+	1	1	1	-	-	↓	1
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		7		8	78		2	12			5	
Permitted Phases				7			1		2	5		
Detector Phase		7		8	78		2	12	2	5	5	
Switch Phase												
Minimum Initial (s)		5.0		5.0			5.0		5.0	5.0	5.0	
Minimum Split (s)		27.0		20.0			23.0		23.0	23.0	23.0	
Total Split (s)		30.0		20.0			25.0		25.0	25.0	25.0	
Total Split (%)		30.0%		20.0%			25.0%		25.0%	25.0%	25.0%	
Maximum Green (s)		25.0		15.0			20.0		20.0	20.0	20.0	
Yellow Time (s)		4.0		4.0			4.0		4.0	4.0	4.0	
All-Red Time (s)		1.0		1.0			1.0		1.0	1.0	1.0	
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		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		3.0		3.0			3.0		3.0	3.0	3.0	
Recall Mode		None		None			Max		Max	Max	Max	
Walk Time (s)		7.0										
Flash Dont Walk (s)		15.0										
Pedestrian Calls (#/hr)		0										
Act Effct Green (s)		9.0		23.3	28.3			40.1	20.0		20.0	
Actuated g/C Ratio		0.11		0.28	0.34			0.48	0.24		0.24	
v/c Ratio		0.49		0.76	0.27			0.41	0.76		0.85	
Control Delay		23.0		55.6	38.5			13.9	46.6		44.2	
Queue Delay		0 0		0.0	0.2			0.0	0.0		0.2	
Total Delay		23.0		55.6	38.7			13.9	46.6		44.4	
LOS		С		E	D			В	D		D	
Approach Delay		23.0			49.4			30.7			44.4	
Approach LOS		С			D			С			D	
Interception Comments												

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 83.4

Natural Cycle: 95

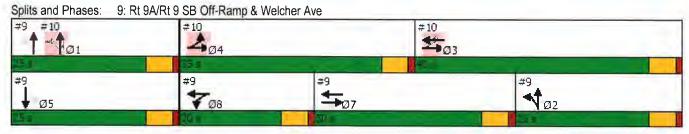
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85 Intersection Signal Delay: 39.2

Intersection Capacity Utilization 64.9%

Analysis Period (min) 15

Intersection LOS: D ICU Level of Service C



Lane Group	Ø1	Ø3	Ø4
Protected Phases	1	3	4
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	5.0	5.0
Minimum Split (s)	23.0	23.0	23.0
Total Split (s)	25.0	40.0	35.0
Total Split (%)	25%	40%	35%
Maximum Green (s)	20.0	35.0	30.0
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	74.		
Total Lost Time (s)			
Lead/Lag		Lag	Lead
Lead-Lag Optimize?		Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	Max	None	None
Walk Time (s)			0,000
Flash Dont Walk (s)			
Pedestrian Calls (#/hr)			
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			
Intersection outlinary			

	*	→	+	•	+	4	1	†	1	/	↓	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7				↑ ↑			4	7			
Traffic Volume (vph)	313	282	0	0	348	80	100	0	80	0	0	0
Future Volume (vph)	313	282	0	0	348	80	100	0	80	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	9	12	12	10	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		325	0	· -	0
Storage Lanes	1		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1,00		.,,,,		0.972	0.00	1,00	1,00	0.850	1.00	1.00	1100
Flt Protected	0.950				0.0.2			0.950	0.000			
Satd. Flow (prot)	1662	1629	0	0	3143	0	0	1752	1538	0	0	0
Flt Permitted	0.430	1020			0110		Ū	0.950	1000	·	v	U
Satd. Flow (perm)	752	1629	0	0	3143	0	0	1752	1538	0	0	0
Right Turn on Red	102	1020	Yes		0110	Yes	Ū	1102	Yes	v	V	Yes
Satd. Flow (RTOR)			100		31	, 00			185			103
Link Speed (mph)		30			30			30	100		30	
Link Distance (ft)		270			670			740			577	
Travel Time (s)		6.1			15.2			16.8			13.1	
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.90	0.90	0.90	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	2%	2%	4%	5%	3%	5%	5%	2%	2%	2%
Adj. Flow (vph)	329	297	0	0	395	91	111	0	89	0	0	0
Shared Lane Traffic (%)	323	231	U	U	393	91	111	U	09	U	U	U
Lane Group Flow (vph)	329	297	0	0	486	0	0	111	89	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left		Left	Left	
Median Width(ft)	LOIL	11	Nigitt	Len	11	Night	Leit	0	Right	Leit	0	Right
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		10			10			10			10	
Headway Factor	1.04	1.14	1,00	1.00	1.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	1.04	1.14	9	1.00	1.09	9	1.00	1.00		1.00	1.00	1.00
Number of Detectors		2	9	15	2	9	10	2	9	15		9
	1 Left						1 0 64	2 Than	Diaht			
Detector Template Leading Detector (ft)		Thru			Thru		Left	Thru	Right			
0 ()	20 0	100			100		20	100	20			
Trailing Detector (ft)		0			0		0	0	0			
Detector 1 Position(ft)	0	0			0		0	0	0			
Detector 1 Size(ft)	20	6			6		20	6	20			
Detector 1 Type	CI+Ex	CI+Ex			CI+Ex		CI+Ex	CI+Ex	CI+Ex			
Detector 1 Channel	0.0	0.0			0.0		0.0	0.0	0.0			
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			
Detector 2 Position(ft)		94			94			94				
Detector 2 Size(ft)		6			6			6				
Detector 2 Type		CI+Ex			CI+Ex			CI+Ex				
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0	_			
Turn Type	D.P+P	NA			NA		Perm	NA	Perm			

Lane Group	Ø2	Ø5	Ø7′	Ø8		
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
deal Flow (vphpl)						
ane Width (ft)						
Storage Length (ft)						
Storage Lanes						
Taper Length (ft)						
ane Util. Factor						
-rt						
FIt Protected						
Satd. Flow (prot)						
FIt Permitted						
Satd. Flow (perm)						
Right Turn on Red						
Satd. Flow (RTOR)						
ink Speed (mph)						
Link Distance (ft)						
Travel Time (s)						
Peak Hour Factor						
Heavy Vehicles (%)						
Adj. Flow (vph)						
Shared Lane Traffic (%)						
ane Group Flow (vph)						
Enter Blocked Intersection						
Lane Alignment						
Median Width(ft)						
_ink Offset(ft)						
Crosswalk Width(ft)						
Two way Left Turn Lane						
Headway Factor						
Turning Speed (mph)						
Number of Detectors						
Detector Template						
eading Detector (ft)						
Frailing 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)						
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						
Detector 2 Extend (s)						
Turn Type						
типт туре						

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	4	34			3			- 1				
Permitted Phases	3				3		1		1			
Detector Phase	4	3 4			3		7	1	1			
Switch Phase												
Minimum Initial (s)	5.0				5.0		5.0	5.0	5.0			
Minimum Split (s)	23.0				23.0		23.0	23.0	23.0			
Total Split (s)	35.0				40.0		25.0	25.0	25.0			
Total Split (%)	35.0%				40.0%		25.0%	25.0%	25.0%			
Maximum Green (s)	30.0				35.0		20.0	20.0	20.0			
Yellow Time (s)	4.0				4.0		4.0	4.0	4.0			
All-Red Time (s)	10				1.0		1.0	1.0	1.0			
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							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Recall Mode	None				None		Max	Max	Max			
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	48.3	53.3			33.8			20.0	20.0			
Actuated g/C Ratio	0.58	0.64			0.41			0.24	0.24			
v/c Ratio	0.55	0.29			0.38			0.26	0.17			
Control Delay	17.8	7.1			17.9			28.9	0.8			
Queue Delay	0.1	0.8			0.0			0.2	0.0			
Total Delay	17.9	7.9			18.0			29.1	0.8			
LOS	В	Α			В			С	Α			
Approach Delay		13.1			18.0			16.5				
Approach LOS		В			В			В				
1.1.												

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 83.4

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85

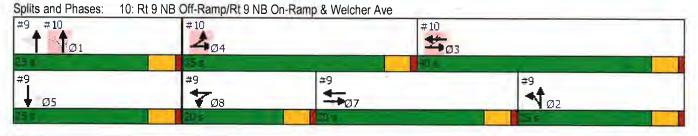
Intersection Signal Delay: 15.4

Intersection Capacity Utilization 47.6%

Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

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Lane Group	Ø2	Ø5	Ø7	Ø8	
Protected Phases	2	5	7	8	
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	
Minimum Split (s)	23.0	23.0	27.0	20.0	
Total Split (s)	25.0	25.0	30.0	20.0	
Total Split (%)	25%	25%	30%	20%	
Maximum Green (s)	20.0	20.0	25.0	15.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		11.0	1.0	110	
Total Lost Time (s)					
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	None	None	
Walk Time (s)	***************************************	them.	7.0	HOILS.	
Flash Dont Walk (s)			15.0		
Pedestrian Calls (#/hr)			0		
Act Effct Green (s)			Ů.		
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
_OS					
Approach Delay					
Approach LOS					
ntersection Summary					

ntersection nt Delay, s/veh	0.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
_ane Configurations		4					7	1		7	↑ ↑		
Traffic Vol, veh/h	5	2	3	0	0	0	3	492	78	63	692	2	
uture Vol, veh/h	5	2	3	0	0	0	3	492	78	63	692	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	8	-	-	-	-		50	-	-	160	-	-	
Veh in Median Storage	,# -	0	-		16979	-	-	0	-	-	0		
Grade, %	-	0	-	-	0	18	-	0	-	-	0	40	
Peak Hour Factor	38	38	38	92	92	92	97	97	97	93	93	93	
Heavy Vehicles, %	3	5	3	2	2	2	3	7	7	5	5	3	
Nvmt Flow	13	5	8	0	0	0	3	507	80	68	744	2	
Major/Minor N	/linor2					N	/lajor1		N	/lajor2			
Conflicting Flow All	1141	1474	373				746	0	0	587	0	0	
Stage 1	881	881	-				740	-	U	307	-	-	
Stage 2	260	593								-	-		
Critical Hdwy	6.86	6.6	6.96				4.16		- 2	4.2			
Critical Hdwy Stg 1	5.86	5.6	0.00				7.10	- 6	-	4.2			
Critical Hdwy Stg 2	5.86	5.6						-	-	_			
Follow-up Hdwy	3.53	4.05	3.33				2.23	3	- 0	2.25	*		
Pot Cap-1 Maneuver	193	122	622							2.25	*	-	
,							851	-	+	964	- 3		
Stage 1	363	356	147					-	-	-			
Stage 2	757	484					-			-			
Platoon blocked, %	470	^	000					-				-	
Mov Cap-1 Maneuver	179	0	622				851	-	-	964		- 3	
Mov Cap-2 Maneuver	179	0	- 4				-	-	- 3	-	7	-	
Stage 1	362	0					- 8		-				
Stage 2	703	0	1+1				- *	-	2/	*		- 5	
Approach	EB						NB			SB			
HCM Control Delay, s	21.5						0			0.8			
HCM LOS	С												
10111 200													
Minor Lane/Major Mvm	t	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR					
Capacity (veh/h)		851	-	*	244	964	- 6	1					
ICM Lane V/C Ratio		0.004			0.108	0.07	5,	190					
ICM Control Delay (s)		9.2			21.5	9	-	-					
HCM Lane LOS		A	-	14	C	A	H.	-					
HCM 95th %tile Q(veh)		0			0.4	0.2							

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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ħ	7	ሻሻ	1	†	7
Traffic Volume (vph)	400	1090	1493	469	462	366
Future Volume (vph)	400	1090	1493	469	462	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	11	12	11	12
Storage Length (ft)	0	0	240	12	- 11	
Storage Lanes	1					125
Taper Length (ft)	25	1	1			1
,		4.00	25	4.00	4.00	4.00
Lane Util. Factor	1.00	1.00	0.97	1.00	1.00	1.00
Frt	0.050	0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1752	1620	3319	1863	1783	1568
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1752	1620	3319	1863	1783	1568
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						1
Link Speed (mph)	30			30	30	
Link Distance (ft)	665			498	712	
Travel Time (s)	15.1			11.3	16.2	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.95	0.95
Heavy Vehicles (%)	3%	3%	2%	2%	3%	3%
Adj. Flow (vph)	430	1172	1697	533	486	385
Shared Lane Traffic (%)	400	1112	1007	000	400	303
Lane Group Flow (vph)	430	1172	1697	522	100	205
Enter Blocked Intersection				533	486	385
	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			22	22	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	0.96	1.04	1.00	1.04	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	CI+Ex			
Detector 1 Channel	CITEX	CITEX	CITEX	CI+Ex	CI+Ex	CI+Ex
	0.0	0.0	0.0	0.0	0.0	0.0
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
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				CI+Ex	CI+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	custom	Prot	NA	NA	pm+ov
7.				,		J 0 1

	*	7	1	†	↓	1
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Protected Phases	4	2 4!	5	2	6!	4
Permitted Phases		4				6
Detector Phase	4	24	5	2	6	4
Switch Phase						
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0
Minimum Split (s)	20.0		11.0	24.0	24.0	20.0
Total Split (s)	25.0		35.0	55.0	20.0	25.0
Total Split (%)	31.3%		43.8%	68.8%	25.0%	31.3%
Maximum Green (s)	20.0		29.0	49.0	14.0	20.0
Yellow Time (s)	4.0		5.0	5.0	5.0	4.0
All-Red Time (s)	1.0		1,0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0		6.0	6.0	6.0	5.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Min	None
Act Effct Green (s)	20.0	80.0	29.0	49.0	14.0	40.0
Actuated g/C Ratio	0.25	1.00	0.36	0.61	0.18	0.50
v/c Ratio	0.98	0.72	1.41	0.47	1.56	0.49
Control Delay	71.2	2.8	215.0	10.1	293.6	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	2.8	215.0	10.1	293.6	15.9
LOS	Е	Α	F	В	F	В
Approach Delay	21.2			166.0	170.9	
Approach LOS	С			F	F	

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.56

Intersection Signal Delay: 117.6

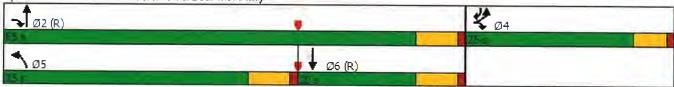
Intersection Capacity Utilization 103.2%

Intersection LOS: F
ICU Level of Service G

Analysis Period (min) 15

! Phase conflict between lane groups.

Splits and Phases: 12: Rt 6/9/202 & Bear Mtn Pkwy



Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	.,,,,,	1>	1,011	JUL	4
Traffic Vol, veh/h	80	14	22	162	19	17
Future Vol, veh/h	80	14	22	162	19	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	1100	None	1100	None
Storage Length	0	110110		110110		110110
Veh in Median Storage		-	0			0
Grade, %	0	14	0	- 2		0
Peak Hour Factor	88	88	77	77	75	75
Heavy Vehicles, %	5	5	5	5	5	5
Mymt Flow	91	16	29	210	25	
MALLE	91	10	29	210	20	23
Major/Minor	Minor1	N	Major1		Major2	
Conflicting Flow All	207	134	0	0	239	0
Stage 1	134	*	*	7		14
Stage 2	73				-	- 2
Critical Hdwy	6.45	6.25		74	4.15	- 5
Critical Hdwy Stg 1	5.45	1.5	4	-		-
Critical Hdwy Stg 2	5.45	- 02	10		- 2	
Follow-up Hdwy	3.545			_	2.245	
Pot Cap-1 Maneuver	775	907	-		1310	-
Stage 1	885	-		-	1010	4
Stage 2	942	-			- 7	-
Platoon blocked, %	342	- 1	-			
Mov Cap-1 Maneuver	760	907			1310	*
			-	•		+
Mov Cap-2 Maneuver	760	•	-	-	*	*
Stage 1	885	-	-			
Stage 2	924	-	-	- 4	- 8	*
Approach	WB		NB		SB	
HCM Control Delay, s	10.4		0		4.1	
HCM LOS	В		U		7.1	
110111 200						
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT
Capacity (veh/h)		-		779	1310	~
HCM Lane V/C Ratio		-	-	0.137	0.019	-
HCM Control Delay (s)			- 4	10.4	7.8	0
HCM Lane LOS		-	-	В	Α	Α
HCM 95th %tile Q(veh)	-	8	0.5	0.1	-
•						

 •	ataro mar aro i ropocoa i rojoct
	Saturday Midday (Weekend) Peak Hour

Intersection							
Int Delay, s/veh	5						
Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations		स			7	7"	
Traffic Vol, veh/h	17	80	174	104	167	10	
Future Vol, veh/h	17	80	174	104	167	10	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	_	None	- 10	None	
Storage Length		-		4	0	0	
Veh in Median Storage	e.# -	0	0	141	0	-	
Grade, %	-	Õ	0	G.	0		
Peak Hour Factor	98	98	84	84	78	78	
Heavy Vehicles, %	5	5	5	5	5	5	
Mvmt Flow	17	82	207	124	214	13	
INTERPRETATION	17	UZ	201	124	214	13	
Major/Minor	Major1		Major2	1	Minor2		
Conflicting Flow All	331	0	14	0	385	269	
Stage 1	-	1	*	-	269	14	
Stage 2			*		116	- 2	
Critical Hdwy	4.15	4	- 2	-	6.45	6.25	
Critical Hdwy Stg 1	-	-	12		5.45		
Critical Hdwy Stg 2		-		_	5.45	- 1	
Follow-up Hdwy	2.245	12				3.345	
Pot Cap-1 Maneuver	1212	4	-		612	762	
Stage 1	-	- 9	-		769	102	
Stage 2	-	-	- (1	-	902		
Platoon blocked, %	- 15	-	- 4		902	-	
Mov Cap-1 Maneuver	1212			-	603	762	
		*			603		
Mov Cap-2 Maneuver	- 3	-	(*	15	603	-	
Stage 1	15	7	7		757	-	
Stage 2	-		+	*	902	-	
Approach	EB		WB		SB		
HCM Control Delay, s	1.4		0		14		
HCM LOS	1,1		U		В		
10111 200					U		
Minor Lane/Major Mvn	nt	EBL	EBT	WBT	WBR S	SBLn1	SBLn2
Capacity (veh/h)		1212	12	1	- 4	603	762
HCM Lane V/C Ratio		0.014		(2)	-		0.017
HCM Control Delay (s))	8	0	14	-	14.2	9.8
HCM Lane LOS		A	A	Į.		В	A
HCM 95th %tile Q(veh	1	0	, ,			1.6	0.1
TUVI 9310 Ville CILVEN							

2023 Future	with t	ine F	roposed	Project
	Saturday	Midda	v /Weekend\	Peak Hour

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Tyl .	LDI	NDL	4	\$ 1 }	ODI
Traffic Vol, veh/h	85	4	4	195	133	85
Future Vol, veh/h	85	4	4	195	133	85
	0	0	0			
Conflicting Peds, #/hr				0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None		None		None
Storage Length	0	- 1	7	-	-	
Veh in Median Storag		- 1	-	0	0	
Grade, %	0	-	-	0	0	
Peak Hour Factor	92	92	89	89	71	71
Heavy Vehicles, %	3	3	3	21	32	3
Mvmt Flow	92	4	4	219	187	120
Major/Minor	Minor		Majort		Ania 2	
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	474	247	307	0	(*)	0
Stage 1	247		17	7	(8	- 1
Stage 2	227		2	- 2		
Critical Hdwy	6.43	6.23	4.13		-	10
Critical Hdwy Stg 1	5.43	12	4	4		-
Critical Hdwy Stg 2	5.43	-	14	-	12	(2)
Follow-up Hdwy	3.527	3.327	2.227			
Pot Cap-1 Maneuver	547	789	1248	(+)		- 60
Stage 1	792	75	4	(4)	- 6	U
Stage 2	808			-	-	
Platoon blocked, %	000		- 13	- 13		- 10
Mov Cap-1 Maneuver	545	789	1248	7.5		
•		109	1248			
Mov Cap-2 Maneuver			-	1.6	1.6	
Stage 1	789	-	•		-	
Stage 2	808	-	-		-	
Approach	EB		NB		SB	
HCM Control Delay, s			0.2		0	
HCM LOS	12.9 B		0.2		U	
TIGIVI LOS	В					
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1248		553	-	
		0.004		0.175		
HCM Lane V/C Ratio		3,301				
HCM Control Delay (s)	7.9	Λ	129		
HCM Control Delay (s)	7.9 Δ	0	12.9		
		7.9 A 0	0 A	12.9 B 0.6	4	-