

Appendix F

Traffic Impact Study



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Technical Memorandum

To: Village of Croton-on-Hudson Board of Trustees
From: AKRF, Inc.
Date: July 6, 2022
Re: HSRG Overlay and LI District Zoning Amendments – Traffic Impact Study (Full Buildout)

This Traffic Impact Study (TIS) presents the detailed traffic analysis that was completed to assess the potential traffic and transportation impacts related to the theoretical maximum buildout projected under the proposed Harmon/South Riverside Gateway (HSRG) Overlay and Light Industrial (LI) District zoning amendments in the Village of Croton-on-Hudson (the “Proposed Action”).

Prior to the preparation of the TIS, AKRF prepared preliminary trip generation numbers (summarized in the attached February 25, 2022 memorandum, see **Attachment A**), to determine if the incremental trip generation numbers associated with the theoretical maximum buildout would exceed the 100 vehicle-trip threshold for any given peak hour that would require a quantified traffic analysis in order to satisfy the State Environmental Quality Review Act (SEQRA) requirements. As this threshold of 100-vehicle trips was found to be exceeded during at least one peak hour, the quantified analysis, as presented in this memorandum, was conducted to assess the potential for traffic impacts, under SEQRA, as assumed through the conservative buildout calculations.

The theoretical maximum buildout scenario for the HSRG Overlay parcels resulted in a total of 383 residential units and 583 off-street parking spaces. The theoretical maximum buildout scenario for the LI district parcels resulted in a total of 87 residential units, 21,831 square feet of ground floor commercial space, and 142 off-street parking spaces (55 spaces for commercial uses and 87 spaces for residential uses). Complete lists of assumptions utilized to complete the buildout and parking calculations, which have been vetted through the Village, is included in the FEAF Part 3 Supplemental Narrative prepared by AKRF. Based on the maximum theoretical buildout scenarios presented in Tables 3 and 4 of the FEAF Part 3 Supplemental Narrative, up to 470 residential units, 21,831 sf of commercial floor area, and 725 off-street parking spaces could theoretically be developed within the overall Project Area as a result of the Proposed Action. As previously discussed, the chance of either scenario fully occurring, even over a long period of time, is highly unlikely.

This TIS describes traffic operations for existing conditions within the Study Area and for conditions in the future with the Proposed Action (the “Build” analysis).

A. TRAFFIC ANALYSIS

DATA COLLECTION

Turning Movement Counts (TMCs) and Vehicle Classification Counts (VCC) were collected at the following locations for the weekday AM (6:30 to 9:30 AM) and PM (4:00 to 6:00 PM) periods in April, 2022:

1. Croton Point Ave. and Veterans Plaza (signalized)
2. Croton Point Ave. and Rt. 9/9A Southbound Ramps (signalized)
3. Croton Point Ave. and Rt. 9/9A Northbound Ramps (signalized)
4. Croton Point Ave. and S. Riverside Ave. (signalized)
5. S. Riverside Ave. and Benedict Blvd. (signalized)
6. S. Riverside Ave. and Clinton St. (unsignalized)

Field inventories of the intersection roadway geometries were conducted and signal timing plans were obtained from the New York State Department of Transportation (NYSDOT) and the Village of Croton-on-Hudson. Descriptions of the study area roadways and agency signal timing plans are provided in **Attachment A**.

PRELIMINARY SCREENING

Prior to conducting the traffic analysis, a preliminary screening analysis was completed to estimate the likelihood of traffic impacts occurring at any of the six intersections where traffic counts were counted and proposed for analysis (summarized in the attached May 27, 2022 memorandum, see **Attachment A**). This screening was based on an assessment of the collected traffic volumes and proposed trip assignments. Based on the results of this screening, the number of intersections analyzed as part of the TIS was reduced from six to five (with the intersection of South Riverside Ave. and Clinton Street screening out). As a result, the following five signalized intersections have been selected for quantified analysis in the TIS:

1. Croton Point Ave. and Veterans Plaza
2. Croton Point Ave. and Rt. 9/9A Southbound Ramps
3. Croton Point Ave. and Rt. 9/9A Northbound Ramps
4. Croton Point Ave. and S. Riverside Ave.
5. S. Riverside Ave. and Benedict Blvd.

TRAFFIC VOLUME DEVELOPMENT

2022 EXISTING VOLUMES

The 2022 Existing conditions traffic volumes are based on the TMC data collected at the study area intersection in April 2022 during the weekday AM (6:30 AM – 9:30 AM) and PM (4:00 PM – 6:00 PM) peak periods. Data collection sheets are provided in **Appendix A**.

2042 BUILD CONDITIONS

For the purposes of this analysis, it was conservatively assumed that the future design year (i.e., the future year by which the full theoretical buildout from the Proposed Action would occur) would be 2042 (2022 + 20 years). Applying this assumption is consistent with the methodology utilized for the assessment of potential traffic impacts from the 2010-2011 HSRG Overlay zoning amendments.

Future 2042 grown traffic volumes were developed by increasing the Existing 2022 traffic volumes in the study by a 1 percent per year compounded growth rate. This growth rate reflected increases in background traffic growth that would be expected to occur with or without the rezoning. 2042 Future Build traffic

volumes were developed by adding the trips estimated to be generated by the Proposed Action (“Project Generated trips”) to the 2042 grown traffic volumes.

The Existing 2022, 2042 Grown, Project Generated, and 2042 Build traffic volumes are illustrated in **Figures 1 through 8**.

The trip generation (as presented in AKRF’s February 25, 2022 memorandum to the Village, see **Attachment A**) was based on data presented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. Assumptions regarding potential driveway locations were utilized to develop trip assignments for the Proposed Action’s theoretical maximum buildout for the weekday AM and PM peak periods. Individual trip assignments were developed for groups of parcels (“zones”) assumed to share common driveways/access points. **Figures 9 and 10** illustrate the zone locations and reference the parcels included in each zone. The cumulative trip assignments were then utilized to estimate the increase in traffic that would pass through each study area intersection as a result of the Proposed Action (see **Attachment A** for tables which illustrate the development of the parcel trip assignments for the HSRG Overlay and LI District).

CAPACITY ANALYSIS

Potential impacts of the Proposed Action were analyzed using methodologies based on the Highway Capacity Manual, 6th Edition (HCM 6) methodology (Synchro 11 software) to calculate existing and future traffic operating conditions (Level of Service (“LOS”) and total delay) at each of the Study Area intersections. LOS is based on a grading scale of “A” through “F” with “A” representing optimum traffic conditions and “F” representing poor traffic conditions (LOS D or better is typically considered acceptable operating conditions). Further descriptions of the capacity analysis methodology are provided in **Attachment B**.

For the purpose of this analysis, traffic impacts are identified as: (1) any change from LOS D or better to LOS E or F; (2) any change from LOS E to LOS F; or (3) any increase of 10 percent or greater in delay for LOS F between Existing and Build conditions. The significant impact criteria are applied to the approach/lane group LOS for signalized intersections and approach/movement group LOS for unsignalized intersections.

Table 1 presents a comparison of the 2022 Existing and 2042 Build LOS conditions for the Proposed Action. Synchro 11 outputs for the 2042 Build condition are provided in **Appendix B**.

Under the 2042 Build condition, absent any additional improvements, there would be impacts expected at the following locations;

- Croton Point Avenue and Veterans Plaza—the southbound approach would deteriorate from LOS E to LOS F during the Weekday AM peak hour and within LOS F during the Weekday PM peak hour.
- Croton Point Avenue and Route 9/9A Southbound Ramps—the northbound approach would deteriorate within LOS F during the Weekday AM and PM peak hours.
- South Riverside Avenue and Benedict Boulevard—the westbound approach would deteriorate from LOS D to LOS E during the Weekday PM peak hour. The southbound approach would deteriorate within LOS F during the Weekday AM and PM peak hours.

POTENTIAL MITIGATION MEASURES

For the impacted locations described above, recommended potential mitigation measures are as follows:

- Croton Point Avenue and Veterans Plaza—Signal timing adjustments
- Croton Point Avenue and Route 9/9A Southbound Ramps—Signal timing adjustments
- South Riverside Avenue and Benedict Boulevard—Signal timing adjustments and pavement/lane restriping and/or narrowing of the median of Benedict Boulevard to provide two lanes at each approach to South Riverside Avenue.

Table 1

HSRG Overlay and LI District Zoning Amendments
2022 Existing Conditions vs. 2042 Build Conditions LOS Analysis

Approach		Weekday AM								Weekday PM								
		2022 Existing Conditions				2042 Build Conditions				2022 Existing Conditions				2042 Build Conditions				
		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
1	Croton Point Avenue and Veterans Plaza																	
	Croton Point Avenue	Eastbound	LTR	0.10	4.4	A	LTR	0.15	8.8	A	LTR	0.12	4.5	A	LTR	0.19	12.2	B
		Westbound	L	0.20	2.8	A	L	0.29	4.6	A	L	0.11	2.6	A	L	0.19	7.3	A
			LTR	0.20	4.5	A	LTR	0.28	7.6	A	LTR	0.09	3.8	A	LTR	0.17	9.0	A
	Veterans Plaza	Northbound	LTR	0.50	30.2	C	LTR	0.57	36.1	D	LTR	0.70	27.9	C	LTR	0.53	13.3	B
			R	0.25	14.0	B	R	0.23	10.0	A	R	0.47	13.3	B	R	0.40	7.1	A
		Southbound	LTR	0.16	79.5	E	LTR	0.65	110.4	F	LTR	0.33	90.0	F	LTR	1.26	226.3	F
			Intersection		8.0	A	Intersection		14.4	B	Intersection		12.9	B	Intersection		36.3	D
2	Croton Point Avenue and Route 9/9A SB On-Ramp																	
	Croton Point Avenue	Eastbound	TR	0.30	45.4	D	TR	0.44	49.1	D	TR	0.42	40.2	D	TR	0.58	43.5	D
		Westbound	LT	0.23	5.2	A	LT	0.37	8.5	A	LT	0.20	2.4	A	LT	0.32	4.9	A
	Route 9/9A SB On-Ramp	Southbound	LTR	0.77	85.1	F	LTR	0.84	87.7	F	LTR	0.59	85.7	F	LTR	0.71	86.2	F
			R	0.78	87.1	F	R	0.83	87.6	F	R	0.51	81.9	F	R	0.50	73.2	E
			Intersection		38.0	D	Intersection		38.3	D	Intersection		28.4	C	Intersection		30.8	C
3	Croton Point Avenue and Route 9/9A NB Ramps																	
	Croton Point Avenue	Eastbound	LTR	0.09	5.8	A	LTR	0.15	5.1	A	LTR	0.16	8.9	A	LTR	0.27	10.5	B
		Westbound	LTR	0.20	6.8	A	LTR	0.34	8.8	A	LTR	0.24	7.3	A	LTR	0.38	9.2	A
	Route 9/9A NB Ramps	Northbound	LTR	0.97	104.4	F	LTR	1.30	203.9	F	LTR	1.59	318.1	F	LTR	2.24	597.1	F
		Southbound	LTR	-	-	-	LTR	0.06	30.3	C	LTR	-	-	-	LTR	0.02	35.0	C
			Intersection		36.3	D	Intersection		61.5	E	Intersection		125.8	F	Intersection		226.9	F
4	Croton Point Avenue and S. Riverside Avenue																	
	Croton Point Avenue	Eastbound	LR	0.24	8.9	A	LR	0.34	10.1	B	LR	0.43	9.4	A	LR	0.61	12.9	B
	S Riverside Avenue	Northbound	LT	0.08	10.9	B	LT	0.13	11.2	B	LT	0.34	13.2	B	LT	0.45	14.5	B
		Southbound	T	0.06	10.9	B	T	0.09	11.1	B	T	0.16	11.8	B	T	0.21	12.2	B
			R	0.26	0.4	A	R	0.59	4.2	A	R	0.26	3.0	A	R	0.22	0.3	A
			Intersection		5.4	A	Intersection		7.5	A	Intersection		9.7	A	Intersection		11.0	B
5	S. Riverside Avenue and Benedict Boulevard																	
	Benedict Boulevard	Eastbound	LTR	0.29	17.4	B	LTR	0.36	18.4	B	LTR	0.42	19.9	B	LTR	0.60	24.5	C
		Westbound	LTR	0.37	17.3	B	LTR	0.52	20.2	C	LTR	0.80	29.1	C	LTR	1.05	73.5	E
	S Riverside Avenue	Northbound	LT	0.26	12.2	B	LT	0.44	14.8	B	LT	0.49	15.2	B	LT	0.72	21.3	C
			R	0.04	2.1	A	R	0.08	3.5	A	R	0.04	2.1	A	R	0.08	3.6	A
		Southbound	LTR	0.79	25.1	C	LTR	1.16	110.2	F	LTR	0.57	17.0	B	LTR	1.11	97.3	F
			Intersection		19.7	B	Intersection		59.6	E	Intersection		21.0	C	Intersection		57.8	E
Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.																		
Yellow highlights denote potential traffic impact locations.																		

Because the Proposed Action represents a proposed Local Law (rezoning) as opposed to a specific development proposal, assumptions were made to evaluate potential impacts should the Local Law be adopted. As noted elsewhere in the SEQRA documents for the Proposed Action, should the Local Law be adopted, individual development proposals that come before the Village would be subject to site-specific environmental reviews pursuant to SEQRA. Specifically, a special permit approval process would subject individual development proposals on the study area parcels to a site-specific environmental review (including site-specific traffic studies) under SEQRA in connection with discretionary land use approvals and public hearings through the Village Board of Trustees, Village Planning Board, Village Waterfront Advisory Committee (WAC), and other involved agencies. Any future special permit for new development on Village-owned parcels would not be able to proceed without the Village's selection of a developer through a competitive request for proposals (RFP) process. Within each site-specific traffic study, any impacts and mitigation, if required, for that specific project will be identified and addressed on a case-by-case basis.

PUBLIC TRANSIT

Public rail and bus service is offered in the study area. The Metropolitan Transportation Authority's (MTA) Metro-North Railroad offers commuter rail service in the study area via its Hudson Line. Amtrak offers regional passenger rail service via its Empire Corridor Line. The Croton-Harmon train station is the stop located in the immediate vicinity of the study area and is accessible via Veterans Plaza.

The Westchester County Bee-Line Bus System operates the following bus routes within the study area: Routes 10 ("Croton Commuter"), 11 ("Croton Express"), and 14 ("Peekskill-Ossining-White Plains"). These bus routes offer service to several other Westchester County municipalities. Routes 10 and 11 make stops at the Croton-Harmon train station.

No significant changes are expected in public transit conditions by the Build year 2042. However, it is the policy of the mass transit agencies (Metro-North Commuter Railroad and the Bee-Line Bus System) to adjust their operating schedules to reflect demand as needed.

PEDESTRIAN AND BICYCLE CONDITIONS

Pedestrian volumes were observed to be low to moderate in the study area. Sidewalks exist along the following study area roadways: Croton Point Avenue, South Riverside Avenue, and the Metro-North parking lot driveways/Veterans Plaza. Observations conducted during field visits showed low to moderate levels of pedestrian activity at the study area intersections. Sidewalks are present along Croton Point Avenue, South Riverside Avenue, Veterans Plaza, and Benedict Boulevard. Crosswalks and pedestrian signals are present at each of the five study area intersections. Many of the pedestrian facilities along Croton Point Avenue were recently improved or installed as part of the Croton Point Avenue Improvement project.

Bicycle volumes were observed to be low in the study area. Bike lanes were recently installed along both sides of Croton Point Avenue as part of the Croton Point Avenue Improvement project.

PARKING

Estimated parking supply numbers associated with the Proposed Action were calculated based on the buildout assumptions included in the FEAF Part 3 Supplemental Narrative which yield an estimated parking supply requirement of 725 spaces.

B. OVERALL CONCLUSIONS

Assuming the full theoretical maximum buildout under the proposed rezoning occurs by 2042, it is anticipated that traffic impacts could be experienced at the following three intersections studied:

- Croton Point Avenue and Veterans Plaza
- Croton Point Avenue and Route 9/9A Southbound Ramps
- South Riverside Avenue and Benedict Boulevard

Potential mitigation measures include traffic signal timing adjustments, pavement/lane restriping, and narrowing roadway medians.

Should the Proposed Action be approved and the Project Area rezoned, the Village's special permit approval process would subject individual development proposals throughout the Project Area to a site-specific environmental review under SEQRA in connection with discretionary land use approvals and public hearings through the Village Board of Trustees, Village Planning Board, Village WAC, and other involved agencies. Through this discretionary approval process, potential traffic and parking impacts, as well as any mitigation measures, would be analyzed on a case-by-case basis.

TRAFFIC IMPACT STUDY FIGURES

Figure V-1
Existing 2022 AM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

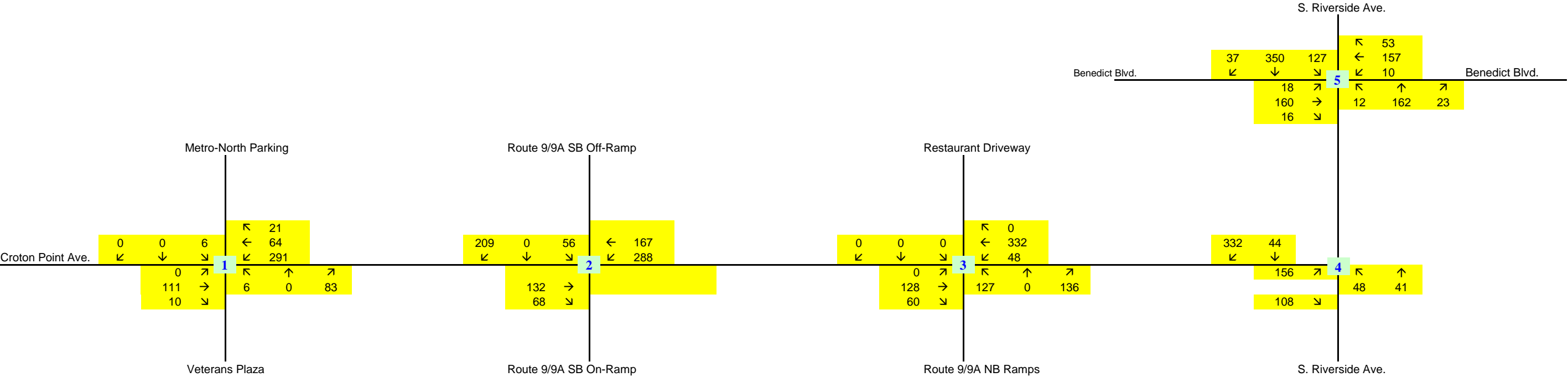


Figure V-2
Existing 2022 PM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

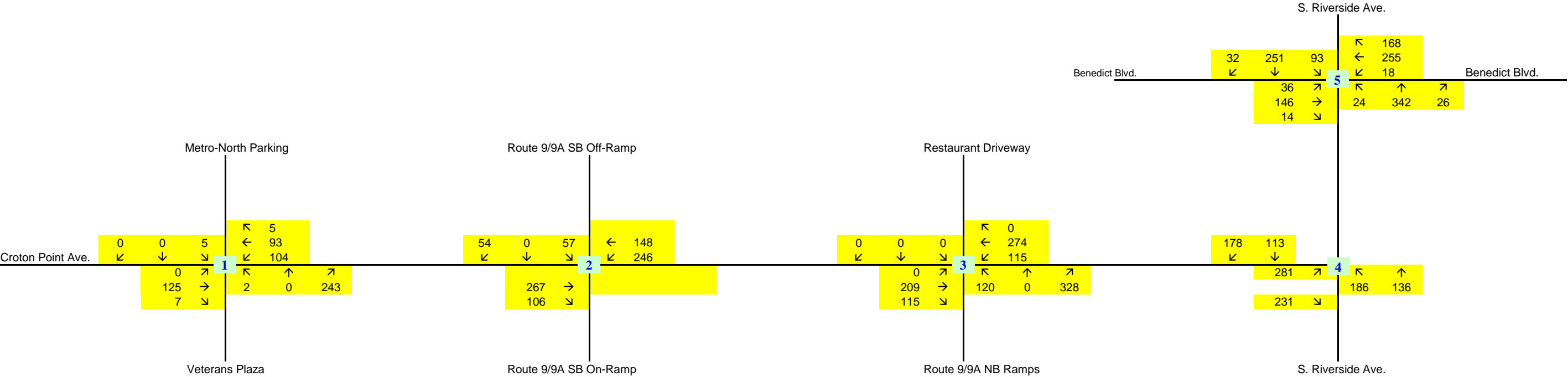


Figure V-3
2042 Grown AM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

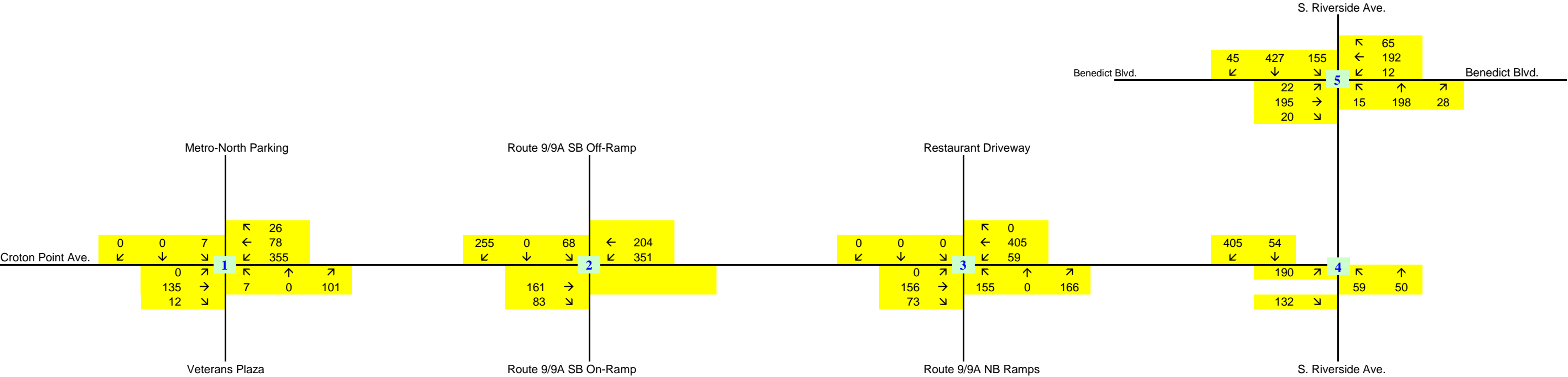


Figure V-4
2042 Grown PM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

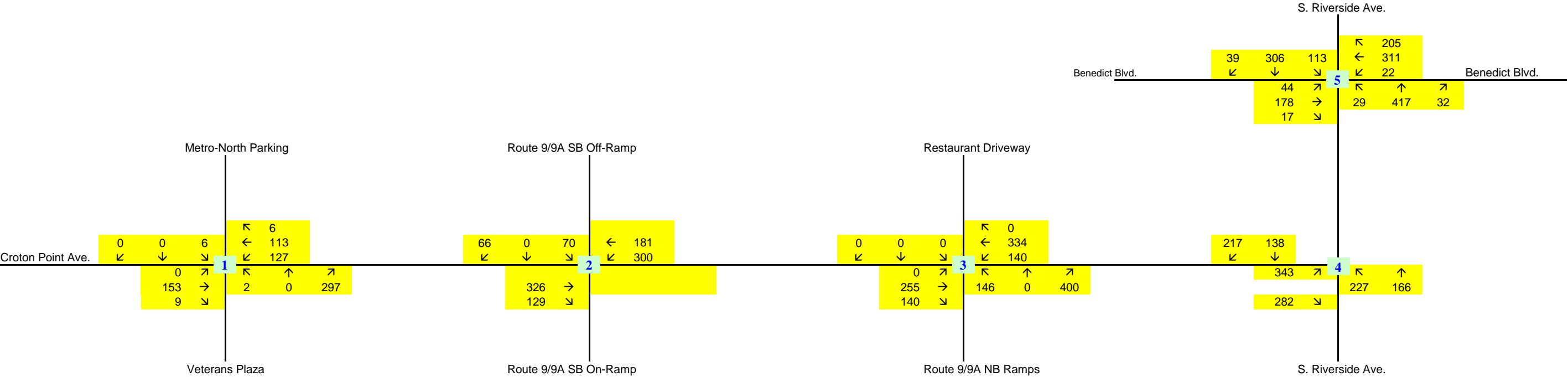


Figure V-5
Project Generated AM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

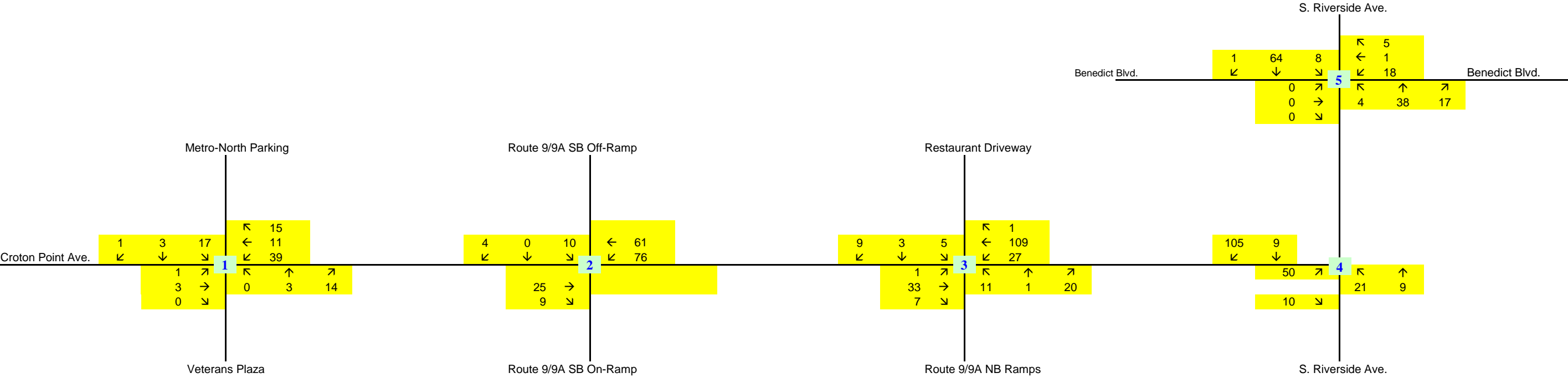


Figure V-6
Project Generated PM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

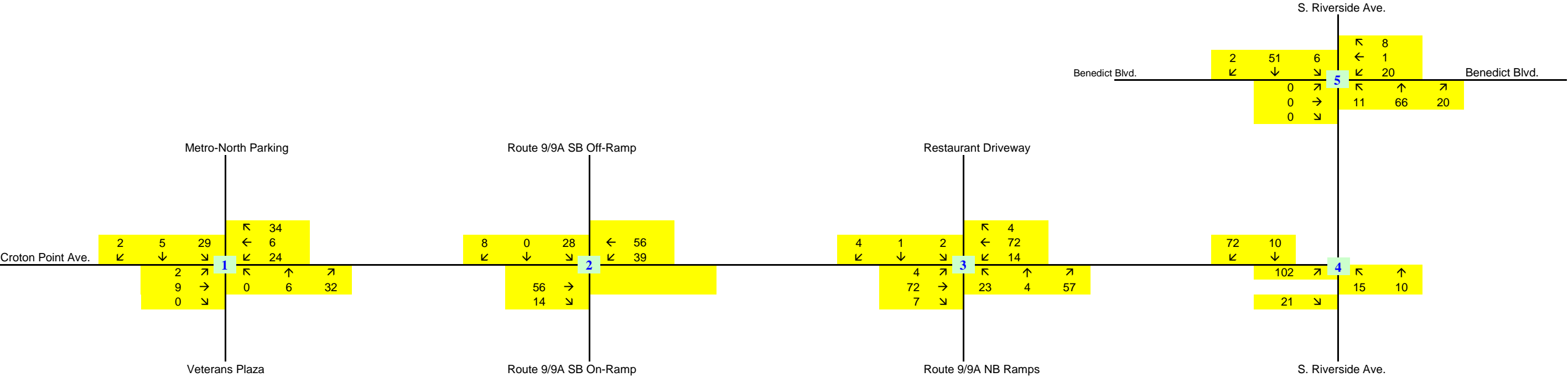


Figure V-7
2042 Build AM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments

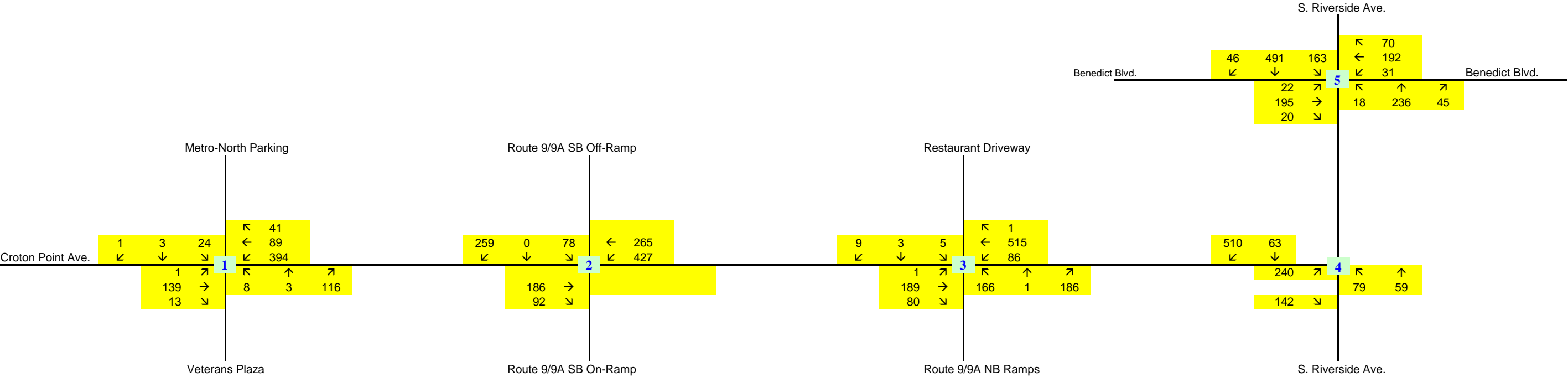
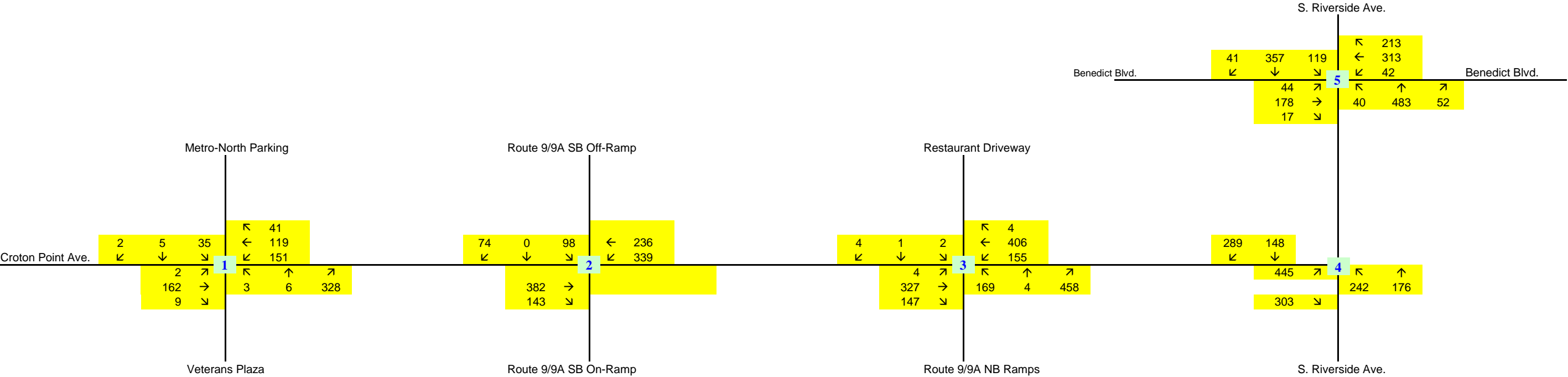


Figure V-8
2042 Build PM Peak Hour Volumes
HSRG Overlay and LI District Zoning Amendments



ATTACHMENT A

- Study Area Intersection Roadway Descriptions and Jurisdiction Map
- Agency Traffic Signal Timing Plans
- Turning Movement Count (TMC) Data
- Trip Generation Backup
 - Trip Assignment Zone Maps
 - Zone Trip Generation Tables
 - Zone Trip Assignment Detail Tables
- Previous AKRF Memorandums
 - Trip Generation Memorandum (2/25/2022)
 - Traffic Screening Memorandum (5/27/2022)

Study Area Intersection Roadway Descriptions
and Jurisdiction Map

ROADWAY CHARACTERISTICS

The following is a brief description of the major roadways within the study area. **Figure A-1** shows the maintenance jurisdictions of each of the roadways as sourced from NYSDOT.

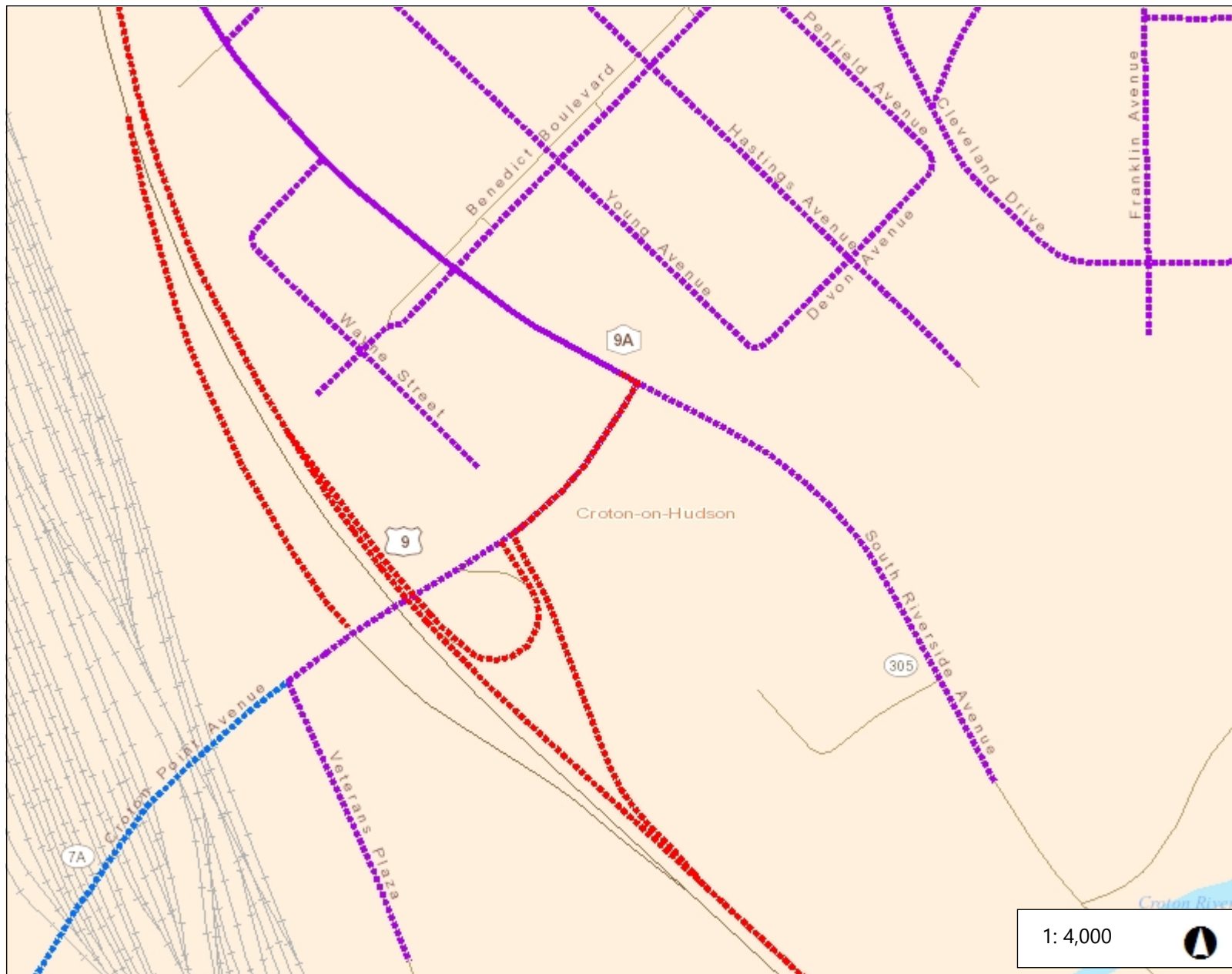
U.S. Route 9. U.S. Route 9 is a divided highway that generally runs in a north-south direction and provides 2 to 3 moving lanes in each direction within the study area. U.S. Route 9 is under the jurisdiction of the New York State Department of Transportation (NYSDOT). South of Croton Point Avenue, U.S. Route 9 is also designated as NYS Route 9A. Based on field observations, the pavement for the U.S. Route 9 ramps at Croton Point Avenue is generally in excellent condition.

Croton Point Avenue. Croton Point Avenue is a local arterial that generally runs in an east-west direction within the study area and is under the jurisdiction of NYSDOT, Westchester County Department of Public Works, and the Village of Croton-on-Hudson. Croton Point Avenue generally provides one to two moving lanes in each direction and varies in width from approximately 28 to 50 feet within the study area. Between the northbound U.S. Route 9 ramps and South Riverside Avenue, Croton Point Avenue is also designated as NYS Route 9A. Based on field observations, the pavement along Croton Point Avenue within the study area varies between good-to-excellent condition. Sidewalks and bike lanes are provided on both sides of Croton Point Avenue within the study area.

South Riverside Avenue. South Riverside Avenue is a local arterial that generally traverses in a north-south direction and is maintained by the Village of Croton-on-Hudson. South Riverside Avenue generally provides two moving lanes in each direction and varies in width from 40 to 48 feet within the study area. South Riverside Avenue is also designated as NYS Route 9A north of its intersection with Croton Point Avenue. Based on field observations, the pavement along South Riverside Avenue within the study area is generally in fair condition. Sidewalks are provided on both sides of South Riverside Avenue within the study area.

Veterans Plaza/Metro-North Train Station Parking Lot Driveway. There are two parking lots provided for Metro-North Commuter Railroad riders at the Croton-Harmon station. The main lot is located on the south side of Croton Point Avenue and a smaller auxiliary lot is located on the north side of Croton Point Avenue. The driveway to the main lot is also designated as Veterans Plaza and is a local roadway maintained by the Village of Croton-on-Hudson. Veterans Plaza generally provides one to two moving lanes in each direction and is approximately 29 feet wide at its intersection with Croton Point Avenue. The driveway to the northern lot is a curb cut entrance with one entrance lane and one exit lane, approximately 34 feet in total width. Based on field observations, the pavement along the Veterans Plaza and the northern Metro-North parking lot driveway is generally in good condition.

Benedict Boulevard. Benedict Boulevard is a major collector roadway that generally traverses in an east-west direction and is maintained by the Village of Croton-on-Hudson. Benedict Boulevard generally provides one moving lane in each direction with a landscaped median within the study area. Based on field observations, the pavement along Benedict Boulevard is generally in good condition. Sidewalks are provided on both sides of Benedict Boulevard within the study area.



Legend

Maintenance Jurisdiction

- 01 NYSDOT
- 02 County
- 03 Town
- 04 City or village
- 31 NYS Thruway

- Interstate
- 900 Route
- US Highway
- State Highway
- County Touring
- County Highway

- StateShoreline_Lines
- Cities_Towns_Shore
- Towns_Shoreline
- NYS_Background

FIGURE A-1

0.1 0 0.06 0.1 Miles

NAD_1983_UTM_Zone_18N
© Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Agency Traffic Signal Timing Plans

790

Phase Times [1.1.1]								Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]																				790								
1	2	3	4	5	6	7	8	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq									
Min Green					5	5	5	5	1	0	0	1	1	13	0	0	13	1	25	0	0	0	1	37	0	0	0	1	Ring/Startup [1.1.4]							
Gap, Ext					2	2	2	2	2	0	0	2	1	14	0	0	14	1	26	0	0	0	1	38	0	0	0	1					Phs	Ring	Start	Enable
Max 1					35	35	35	35	3	0	0	3	1	15	0	0	15	1	27	0	0	0	1	39	0	0	0	1					1	1	RED	Off
Max 2									4	0	0	4	1	16	0	0	16	1	28	0	0	0	1	40	0	0	0	1					2	1	RED	Off
Yel Clearance	3.5	3.5	3.5	3.5	4	4	4	4	5	0	0	5	1	17	0	0	17	1	29	0	0	0	1	41	0	0	0	1	3	1	RED	Off				
Red Clearance	1.5	1.5	1.5	1.5	2	2	2	2	6	80	0	6	4	18	0	0	18	1	30	0	0	0	1	42	0	0	0	1	4	1	RED	Off				
Walk					7	7	7		7	90	0	7	4	19	0	0	19	1	31	0	0	0	1	43	0	0	0	1	5	2	GREEN	On				
Ped Clearance					18	15	16		8	110	105	8	4	20	0	0	20	1	32	0	0	0	1	44	0	0	0	1	6	2	RED	On				
Red Revert									9	0	0	9	1	21	0	0	21	1	33	0	0	0	1	45	0	0	0	1	7	2	RED	On				
Add Initial									10	0	0	10	1	22	0	0	22	1	34	0	0	0	1	46	0	0	0	1	8	2	RED	On				
Max Initial									11	0	0	11	1	23	0	0	23	1	35	0	0	0	1	47	0	0	0	1								
Time B4 Reduct									12	0	0	12	1	24	0	0	24	1	36	0	0	0	1	48	0	0	0	1								
Cars B4 Reduct									Split		1	2	3	4	5	6	7	8	Split		1	2	3	4	5	6	7	8	8	2	RED	On				
Time To Reduce									1	Coor	0	0	0	0	0	0	0	0	13	Coor	0	0	0	0	0	0	0	0	Coord Modes [2.1]							
Reduce By										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON	Test OpMode	0			
Min Gap									2	Coor	0	0	0	0	0	0	0	0	14	Coor	0	0	0	0	0	0	0	0	Correction	SHRT/LNG						
DyMaxLim										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	Maximum	MAX 1						
Max Step									3	Coor	0	0	0	0	0	0	0	0	15	Coor	0	0	0	0	0	0	0	0	Force-Off	FLOAT						
Options [1.1.2]	1	2	3	4	5	6	7	8			NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	Closed Loop	ON						
Enable					On	On	On	On	4	Coor	0	0	0	0	0	0	0	0	16	Coor	0	0	0	0	0	0	0	0	Stop-in-Walk	ON						
Min Recall										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	Auto Reset	ON							
Max Recall									5	Coor	50	0	30	0	35	15	15	15	17	Coor	0	0	0	0	0	0	0	0	Expand Split	OFF						
Ped Recall									6	NON	NON	NON	NON	NON	MAX	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	Ped Recycle	NO_RECYCLE						
Soft Recall									6	Coor	56	0	24	0	38	18	13	11	18	Coor	0	0	0	0	0	0	0	0	Before	TIMED						
Lock Calls									6	NON	NON	NON	NON	NON	MAX	MAX	NON	NON			NON	NON	NON	NON	NON	NON	NON	After	TIMED							
Auto Flash Entry									7	Coor	66	0	24	0	48	18	13	11	19	Coor	0	0	0	0	0	0	0	0	Auto Flash [1.4.1]							
Auto Flash Exit									6	NON	NON	NON	NON	NON	MAX	MAX	NON	NON			NON	NON	NON	NON	NON	NON	NON	Auto Flash	PH OVER							
Dual Entry									8	Coor	0	65	0	45	25	40	15	30	20	Coor	0	0	0	0	0	0	0	0	Flash Yel	45						
Enable Simul Gap	On	On	On	On	On	On	On	On	6	NON	NON	NON	NON	MIN	MAX	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	Flash Red	20							
Gaurantee Passage									9	Coor	0	0	0	55	25	20	15	50	21	Coor	0	0	0	0	0	0	0	0	Unit Params [1.2.1]							
Rest In Walk									6	NON	NON	NON	NON	NON	MAX	NON	NON			NON	NON	NON	NON	NON	NON	NON	NON	Phase Mode	STD8							
Conditon Service									10	Coor	0	0	0	0	0	0	0	0	22	Coor	0	0	0	0	0	0	0	0	IO Mode	USER						
Non-Actuated 1										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	Loc Flash Start	ON							
Non-Actuated 2									11	Coor	0	0	0	0	0	0	0	0	23	Coor	0	0	0	0	0	0	0	0	Start Flash(s)	0						
Add Init Calc										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	Start AllRed(s)	0							
Options+ [1.1.3]	1	2	3	4	5	6	7	8	12	Coor	0	0	0	0	0	0	0	0	24	Coor	0	0	0	0	0	0	0	0	Yellow < 3"	OFF						
Reservice										NON	NON	NON	NON	NON	NON	NON	NON	NON			NON	NON	NON	NON	NON	NON	NON	Display Time	20							
PedClr Thru Yel									Page#																					Red Revert	3					
Skip Red No Call									1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param																				MCE Timeout	0					
Red Rest									1A&1B	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param																				Feature Profile	0					
Max II									2	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)																				Free Ring Seq	1					
Call Phase									3	Detection; Sample Time and Unit Parameters related to detection																				Auxswitch	STOPTM					
Conflicting Phase									4	Preemption and Alternate Phase Time and Phase Options																				SDLC Retry	0					
Omit Yellow									5	Annual Schedule																					TS2 Det Faults	ON				
Ped Delay									6	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)																					Auto Ped Clear	OFF				
Grn/Ped Delay									7	Communications; Secutiry; I/O Setup																					SDLC Retry	0				
790 Croton Train Station LOCAL								8	Misc - Events/Alarms; Call/Inhibit/Redirect; P/OLAP Auto Flash; CIC; Misc Unit Param																				07/30/21		Page 1					

Overlap 1-16 Program Params & Param+ [1.5.2.1] [1.5.2.2]

Overlap Conflict Lock		OFF	Overlap Lock Inhibit	OFF	Parent Ph Clearance		OFF	Extra Included Ph	ON								
1	Included Ø	5	8		Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	4						Yel	3.5				
	Conflict Olap				Red	2						Red	1.5				
	Conflict Ped				LG							LG					
2	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
3	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
4	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
5	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
6	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
7	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					
8	Included Ø				Type	NORMAL						Type	NORMAL				
	Modifier Ø				Gm							Gm					
	Conflict Ø				Yel	3.5						Yel	3.5				
	Conflict Olap				Red	1.5						Red	1.5				
	Conflict Ped				LG							LG					

Channel Settings [1.8.1]

Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	5	7	6	5	7	8	8				5	6	7	6	1									
Channel Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	PED	PED	PED	VEH	OLP	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
Channel Flash	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								

Channel+ Settings [1.8.4]

Channel ->>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash Red+																								
Flash Yellow+																								
Flash Green+																								
Flash Inh Red+																								
Olap Ovrd																								

Coord Transition, CoordPhs [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø	E-Yld	Offset	RetHld	Float	Min Veh Perm	Min Ped Perm
1	12	22				EndGRN	On			On
2	12	22				EndGRN	On			On
3	12	22				EndGRN	On			On
4	12	22				EndGRN	On			On
5	12	22				EndGRN				
6	12	22	8			EndGRN				
7	12	22	8			EndGRN				
8	12	22				EndGRN				
9	12	22				EndGRN				
10	12	22				EndGRN				
11	12	22				EndGRN				
12	12	22				EndGRN				
13	12	22				EndGRN				
14	12	22				EndGRN				
15	12	22				EndGRN				
16	12	22				EndGRN				
17	12	22				EndGRN				
18	12	22				EndGRN				
19	12	22				EndGRN				
20	12	22				EndGRN				
21	12	22				EndGRN				
22	12	22				EndGRN				
23	12	22				EndGRN				
24	12	22				EndGRN				
25						BegGRN				
26						BegGRN				
27						BegGRN				
28						BegGRN				
29						BegGRN				
30						BegGRN				
31						BegGRN				
32						BegGRN				
33						BegGRN				
34						BegGRN				
35						BegGRN				
36						BegGRN				
37						BegGRN				
38						BegGRN				
39						BegGRN				
40						BegGRN				
41						BegGRN				
42						BegGRN				
43						BegGRN				
44						BegGRN				
45						BegGRN				
46						BegGRN				
47						BegGRN				
48						BegGRN				

Channel Params[1.8.3]

C1 IO Mode USER Single BIU Map SINGLE Invert Rail Input OFF

Veh Par 1-64 [5.1]										Veh Par 1-64 [5.1]										Vehicle Options 1-64 [5.2]										Vehicle Options 1-64 [5.2]										Parameters+ 1-64 [5.3]									
Det #	Call Ø	Swi Ø	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call Ø	Swi Ø	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol	Det #	Call	Ext	Que	Add AdgIni	Red Lock	Yell Lock	occ	vol	Det #	oc G	oc Y	oc R	Day 1	Day 2	Type	Src				
1							45	50	2	33							45	50		1	On	On		On					33	On	On		On													NORM			
2	5						45	50	20	34							45	50		2	On	On		On					34	On	On		On													NORM			
3							45	50	2	35							45	50		3	On	On		On					35	On	On		On													NORM			
4							45	50	2	36							45	50		4	On	On		On					36	On	On		On													NORM			
5	6						45	50	15	37							45	50		5	On	On		On					37	On	On		On													NORM			
6	5						45	50	20	38							45	50		6	On	On		On					38	On	On		On													NORM			
7	7			3			45	50	20	39							45	50		7	On	On		On					39	On	On		On													NORM			
8	5	8		2			45	50	20	40							45	50		8	On	On		On					40	On	On		On														NORM		
9							45	50	2	41							45	50		9	On	On		On					41	On	On		On														NORM		
10							45	50	2	42							45	50		10	On	On		On					42	On	On		On													NORM			
11							45	50	2	43							45	50		11	On	On		On					43	On	On		On														NORM		
12	5						45	50	20	44							45	50		12	On	On		On					44	On	On		On													NORM			
13							45	50	2	45							45	50		13	On	On		On					45	On	On		On														NORM		
14							45	50		46							45	50		14	On	On		On					46	On	On		On														NORM		
15	6						45	50	15	47							45	50		15	On	On		On					47	On	On		On													NORM			
16	5						45	50	15	48							45	50		16	On	On		On					48	On	On		On													NORM			
17							45	50	2	49							45	50		17	On	On		On					49	On	On		On														NORM		
18	8			10			45	50	20	50							45	50		18	On	On		On					50	On	On		On													NORM			
19	8			3			45	50	20	51							45	50		19	On	On		On					51	On	On		On														NORM		
20	8			3			45	50		52							45	50		20	On	On		On					52	On	On		On													NORM			
21							45	50		53							45	50		21	On	On		On					53	On	On		On														NORM		
22							45	50		54							45	50		22	On	On		On					54	On	On		On														NORM		
23							45	50		55							45	50		23	On	On		On					55	On	On		On														NORM		
24							45	50		56							45	50		24	On	On		On					56	On	On		On														NORM		
25							45	50		57							45	50		25	On	On		On					57	On	On		On														NORM		
26							45	50		58							45	50		26	On	On		On					58	On	On		On														NORM		
27							45	50		59							45	50		27	On	On		On					59	On	On		On														NORM		
28							45	50		60							45	50		28	On	On		On					60	On	On		On														NORM		
29	8			20			45	50		61							45	50		29	On	On		On					61	On	On		On													NORM	8		
30							45	50		62							45	50		30	On	On		On					62	On	On		On														NORM		
31							45	50		63							45	50		31	On	On		On					63	On	On		On														NORM		
32							45	50		64							45	50		32	On	On		On					64	On	On		On														NORM		

Parameters+ 1-64 [5.3]

Det #	occ Gm	occ Yell	occ Red	Day 1	Day 2	Type	Src	Det #	occ Gm	occ Yell	occ Red	Day 1	Day 2	Type	Src	Det #	occ Gm	occ Yell	occ Red	Day 1	Day 2	Type	Src
33						NORM	44							NORM	55								NORM
34						NORM	45							NORM	56								NORM
35						NORM	46							NORM	57								NORM
36						NORM	47							NORM	58								NORM
37						NORM	48							NORM	59								NORM
38						NORM	49							NORM	60								NORM
39						NORM	50							NORM	61								NORM
40						NORM	51							NORM	62								NORM
41						NORM	52							NORM	63								NORM
42						NORM	53							NORM	64								NORM
43						NORM	54							NORM									

Ped Det Parm [5.4]

Det #	Call Ø	No Act	Max Pres	Err Cnt
1	5		15	
2	6		15	
3	7		15	
4			15	
5			15	
6			15	
7			15	
8			15	

Unit Parameters [1.2.1]

TS2 Det Faults		ON
Vol/Occ Report Parm [1.5.8]		
Vol/Occ Period Minutes		0
Vol/Occ Period Minutes		15

Pre #	Enable	Type	Output	Delay	MinDura
1	ON	RAIL	DWELL		
2	ON	RAIL	DWELL		
3	ON	EMERG	DWELL		
4	ON	EMERG	DWELL		
5	ON	EMERG	DWELL		
6	ON	EMERG	DWELL		

Pre #	MaxPres	MinGm	MinWlk	PedClr	Co+Pre
1					ON
2					ON
3					ON
4					ON
5					ON
6					ON

Pre #	Track Grm	Min Dwell	Ext Dwell	PedClr+	Yel
1		2			
2		2			
3		2			
4		2			
5		2			
6		2			

Pre #	Red	Pattern	Skip
1			OFF
2			OFF
3			OFF
4			OFF
5			OFF
6			OFF

Pre #	Type	Min	Max
7	OFF		
8	OFF		
9	OFF		
10	OFF		

Stop Timer Over Preempt	OFF
Preempt or Ext Output	PRE
Max Seek Track Time	
Max Seek Dwell Time	

D Conn Mappings	NONE
Pre Invert Rail Input	OFF

[illegible][illegible]

Exit Phases [3.2]				Pre #	Lock	Override		Override		Flash	Dwell	Lin
Pre #	Exit Phase					Auto Flash		Higher				
1				1	ON	ON		ON	OFF			
2				2	ON	ON		ON	OFF			
3				3	ON	ON		ON	OFF			
4				4	ON	ON		ON	OFF			
5				5	ON	ON		ON	OFF			
6				6	ON	ON		ON	OFF			

Annual Schedule [4.3]	Month of Year	Day of Week	Date	Day Link Plan To
1	J F M A M J J A S O N D On On On On On On On On On On On On	S M T W T F S On On On On On	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 On	1
2	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
3	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
4	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
5	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
6	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
7	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
8	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
9	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
10	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
11	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
12	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
13	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
14	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
15	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
16	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
17	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
18	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
19	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
20	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
21	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
22	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
23	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1
24	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1

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[illegible]

C1-USER IO Map [1.8.9.1 In]

I1-1	189	Unused
I1-2	2	Veh Call 2
I1-3	189	Unused
I1-4	189	Unused
I1-5	5	Veh Call 5
I1-6	6	Veh Call 6
I1-7	7	Veh Call 7
I1-8	8	Veh Call 8
I2-1	189	Unused
I2-2	189	Unused
I2-3	189	Unused
I2-4	12	Veh Call 12
I2-5	189	Unused
I2-6	189	Unused
I2-7	15	Veh Call 15
I2-8	16	Veh Call 16
I3-1	189	Unused
I3-2	18	Veh Call 18
I3-3	19	Veh Call 19
I3-4	20	Veh Call 20
I3-5	189	Unused
I3-6	129	Ped Call 1
I3-7	130	Ped Call 2
I3-8	131	Ped Call 3
I4-1	189	Unused
I4-2	189	Unused
I4-3	189	Unused
I4-4	189	Unused
I4-5	179	Door Open
I4-6	189	Unused
I4-7	229	33xCMUStop
I4-8	228	33xFlashSns
I5-1	189	Unused
I5-2	189	Unused
I5-3	189	Unused
I5-4	189	Unused
I5-5	189	Unused
I5-6	189	Unused
I5-7	189	Unused
I5-8	189	Unused
I6-1	189	Unused
I6-2	189	Unused
I6-3	189	Unused
I6-4	189	Unused
I6-5	189	Unused
I6-6	189	Unused
I6-7	189	Unused
I6-8	189	Unused

C1-USER IO Map [1.8.9.2 Out]

O1-1	1	Ch1 Red
O1-2	49	Ch1 Green
O1-3	2	Ch2 Red
O1-4	26	Ch2 Yellow
O1-5	50	Ch2 Green
O1-6	3	Ch3 Red
O1-7	27	Ch3 Yellow
O1-8	51	Ch3 Green
O2-1	4	Ch4 Red
O2-2	52	Ch4 Green
O2-3	5	Ch5 Red
O2-4	29	Ch5 Yellow
O2-5	53	Ch5 Green
O2-6	6	Ch6 Red
O2-7	30	Ch6 Yellow
O2-8	54	Ch6 Green
O3-1	7	Ch7 Red
O3-2	55	Ch7 Green
O3-3	8	Ch8 Red
O3-4	32	Ch8 Yellow
O3-5	56	Ch8 Green
O3-6	9	Ch9 Red
O3-7	33	Ch9 Yellow
O3-8	57	Ch9 Green
O4-1	10	Ch10 Red
O4-2	58	Ch10 Green
O4-3	11	Ch11 Red
O4-4	35	Ch11 Yellow
O4-5	59	Ch11 Green
O4-6	12	Ch12 Red
O4-7	36	Ch12 Yellow
O4-8	60	Ch12 Green
O5-1	28	Ch4 Yellow
O5-2	34	Ch10 Yellow
O5-3	25	Ch1 Yellow
O5-4	31	Ch7 Yellow
O5-5	39	Ch15 Yellow
O5-6	63	Ch15 Green
O5-7	115	Not Used
O5-8	114	Watchdog
O6-1	115	Not Used
O6-2	115	Not Used
O6-3	13	Ch13 Red
O6-4	37	Ch13 Yellow
O6-5	61	Ch13 Green
O6-6	14	Ch14 Red
O6-7	38	Ch14 Yellow
O6-8	62	Ch14 Green

C1-USER IO Map [1.8.9.2 Out]

O7-1	40	Ch16 Yellow
O7-2	16	Ch16 Red
O7-3	64	Ch16 Green
O7-4	115	Not Used
O7-5	115	Not Used
O7-6	115	Not Used
O7-7	115	Not Used
O7-8	15	Ch15 Red

C11S-USER IO Map [1.8.9.1 In]

I4-1		
I4-2		
I4-3		
I4-4		
I7-1	189	Unused
I7-2	189	Unused
I7-3	189	Unused
I7-4	189	Unused
I7-5	189	Unused
I7-6	189	Unused
I7-7	189	Unused
I7-8	189	Unused
I8-1	189	Unused
I8-2	189	Unused
I8-3	189	Unused
I8-4	189	Unused
I8-5	189	Unused
I8-6	189	Unused
I8-7	189	Unused
I8-8	189	Unused

C11S-USER IO Map [1.8.9.2 Out]

O8-1	115	Not Used
O8-2	115	Not Used
O8-3	115	Not Used
O8-4	115	Not Used
O8-5	115	Not Used
O8-6	115	Not Used
O8-7	115	Not Used
O8-8	115	Not Used

IO Logic [1.8.7]

Op1	Result	O1Fcn	Inv1	IO1	Opn1	O2Fcn	Inv2	IO2	Opn2	O3Fcn	Inv3	IO3	Opn3	Dly	Sec
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0
I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY 0

Security Access Levels [8.2]

1	SWLOAD	22	NONE
2	SECURE	23	NONE
3	NONE	24	NONE
4	NONE	25	NONE
5	NONE	26	NONE
6	NONE	27	NONE
7	NONE	28	NONE
8	NONE	29	NONE
9	NONE	30	NONE
10	NONE	31	NONE
11	NONE	32	NONE
12	NONE	33	NONE
13	NONE	34	NONE
14	NONE	35	NONE
15	NONE	36	NONE
16	NONE	37	NONE
17	NONE	38	NONE
18	NONE	39	NONE
19	NONE	40	NONE
20	NONE	41	NONE
21	NONE	42	NONE

43	NONE
44	NONE
45	NONE
46	NONE
47	NONE
48	NONE
49	NONE
50	NONE
51	NONE
52	NONE
53	NONE
54	NONE
55	NONE
56	NONE
57	NONE
58	NONE
59	NONE
60	NONE
61	NONE
62	NONE
63	NONE
64	NONE

Com Parameters [6.1]

Station ID	790
Group ID	
Master ID	0
Backup Time	0
SysUp Modem [6.1]	
Enable Modem	OFF
Idle Time	0
Dial Time	0
Tel:	
Alt:	

2070 Port Params [6.2]

Port	Baud Rate	FCM
SP1	9600	MODE 6
SP2	9600	MODE 6
SP3	19200	MODE 6
SP4	38400	MODE 6
SP5	1200	AUTO
SP6	1200	AUTO
SP7	1200	AUTO
SP8	1200	AUTO

2070 IP 1 Addressing [6.5]

Addressing				
Addr	0	0	0	0
Mask	0	0	0	0
Brdcst	0	0	0	0
GtWay	0	0	0	0
Port	0			

2070 IP 2 Addressing [6.5]

Addressing				
Addr	0	0	0	0
Mask	0	0	0	0
Brdcst	0	0	0	0
GtWay	0	0	0	0
Port	0			

2070 Port Binding Ports [6.6]

	Port	Echo	Mode
ASYN1	SP1	OFF	0
ASYN2	SP2	OFF	0
ASYN3	SP3	OFF	0
ASYN4	SP4	OFF	0
SYN1	SP5	SYN3	OFF
SYN2	OFF	SYN4	OFF

2070 Port Binding Functions [6.6]

Function	Channel	Function	Channel
TS2/CVM	NONE	SYSUp	ASYN2
CMU/MMU	NONE	SYSDown	ASYN1
Opticom	NONE	Shell	NONE
Loop Del.	NONE		
GPS	-		

#	Event / Alarm	Ev	Alr
1	Power Up Alarm.	On	On
2	Stop Timing	On	On
3	TS1 Cabinet Door		
4	Coordination Failure	On	On
5	External Alarm # 1	On	On
6	External Alarm # 2	On	On
7	External Alarm # 3		
8	External Alarm # 4		
9	Closed Loop Disabled	On	On
10	External Alarm # 5		
11	External Alarm # 6		
12	Manual Control Enable	On	On
13	Coord Free Input		
14	Local Flash Input	On	On
15	MMU Flash		
16	CMU Flash		
17	Cycle Fault	On	On
18	Cycle Failure	On	On
19	Coordination Fault	On	On
20	Controller Fault	On	On
21	Detector SDLC Failure		
22	MMU SDLC Failure		
23	Critical SDLC Failure		
24	Reserved		
25	EEPROM CRC Fault	On	On
26	Detector Diagnostic Failure		
27	BIU Detector Failure	On	On
32	Queue detector alarm	On	On
29	Ped Detector Fault	On	On
30	Coord Diagnostic Fault		
41	TempAlert Probe Ch. A		
42	TempAlert Probe Ch. B		
47	Coord Active		
48	Preempt Active	On	On
49	Preempt 1 Input	On	On
50	Preempt 2 Input	On	On
51	Preempt 3 Input	On	On
52	Preempt 4 Input	On	On
53	Preempt 5 Input	On	On
54	Preempt 6 Input	On	On
55	Preempt 7 Input	On	On
56	Preempt 8 Input	On	On
57	Preempt 9 Input	On	On
58	Preempt 10 Input	On	On
61	In Transition	On	On
81	FIO Status Alarm		

Call Phases[1.1.5]

Ø	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To
1			1							
2			2							
3			3							
4			4							
5			5							
6			6							
7			7							
8			8							
9			9							
10			10							
11			11							
12			12							
13			13							
14			14							
15			15							
16			16							

Redirect Phases[1.1.5]

Inhibit Phases[1.1.5]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																

Alt Call & Redirect # 1 [1.1.6.3]

Col	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To
1			1							
2			2							
3			3							
4			4							
5			5							
6			6							
7			7							
8			8							

Alt Inhibit Phases # 1 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Alt Call & Redirect # 2 [1.1.6.3]

Col	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To
1			1							
2			2							
3			3							
4			4							
5			5							
6			6							
7			7							
8			8							

Alt Inhibit Phases # 2 [1.1.6.3]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																

Coord. CIC Plans [2.3]

CIC	CoØ	Grow	1	2	3	4	5	6	7	8
1	OFF									
2	OFF									
3	OFF									
4	OFF									

Unit Parameters [1.2.1]

Allow Skip Yellow	OFF	Max Cycle Time	
TOD Dim Enable	OFF	Cycle Fault Action	ALARM
Tone Disable	OFF		
Diamond Mode	4Ph		
Backup Time (s)	900		
Disable Init Ped	OFF		
Cycle Fault Action	ALARM		
Enable Run Timer	ON		

Auto Flash Phase/Olap Settings [1.4.2]

Yel Ø										
Yel (olaps)										

W-636/W-637

Signal #

STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION TRAFFIC AND SAFETY DIVISION in the Village of CROTON-ON-HUDSON

Signal: **W-636/W-637**

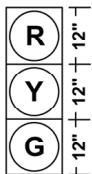
File: 55.11-9

D/HWP: D26xxxx

PIN: 8780.41

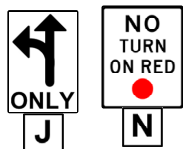
W-636

W-636 FACES



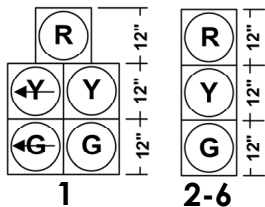
7-14

SIGNS



W-637

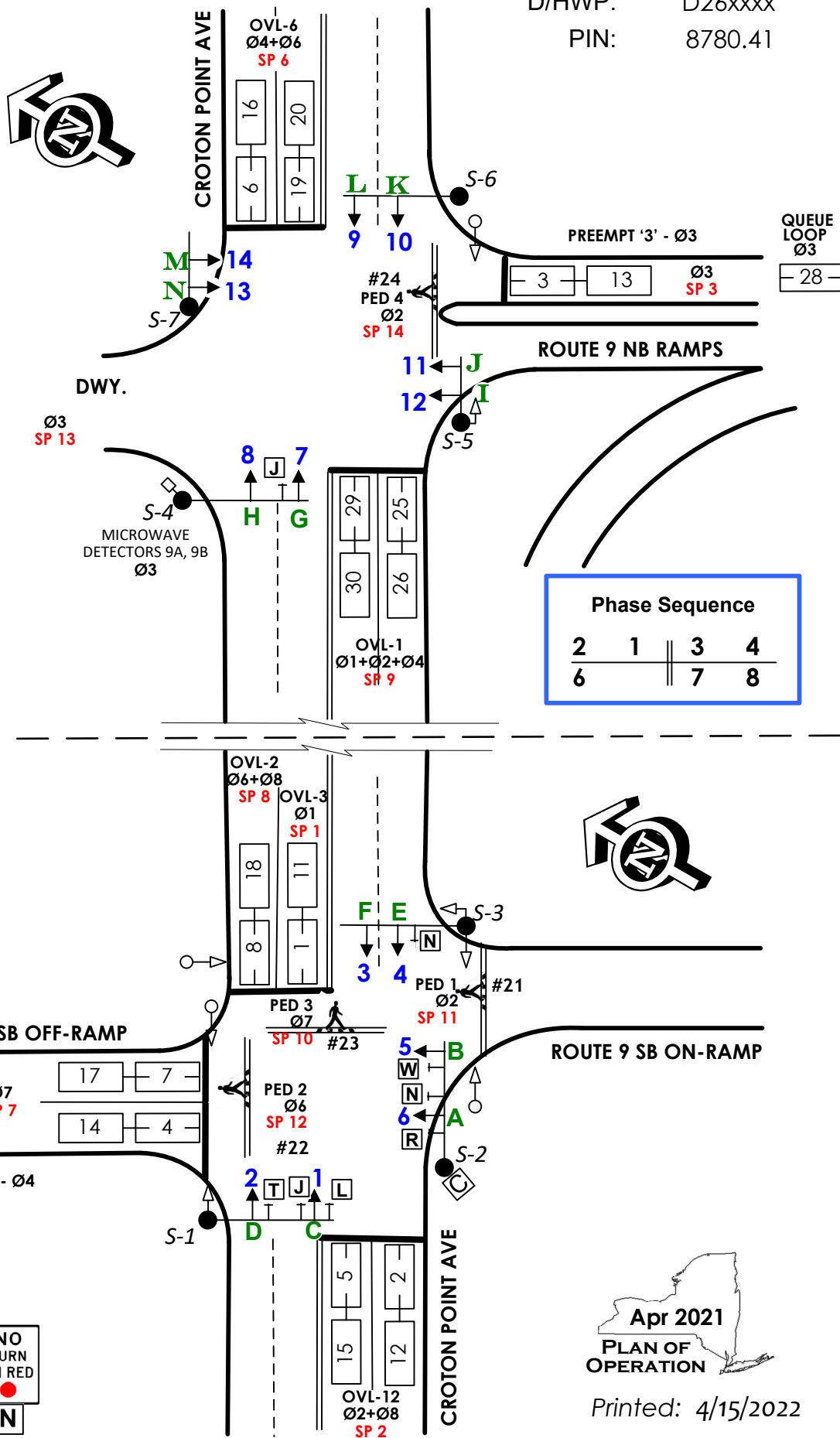
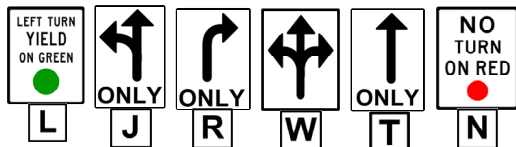
W-637 FACES



ROUTE 9 SB OFF-RAMP

PREEMPT '4' - Ø4

SIGNS



[illegible]

Overlap 1-16 Program Parm's & Parm+ [1.5.2.1] [1.5.2.2]

Overlap Conflict Lock		OFF		Overlap Lock Inhibit		OFF		Parent Ph Clearance		OFF		Extra Included Ph		ON	
1	Included Ø	1	2	4				Type	NORMAL	9	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø	3						Yel	4		Conflict Ø			Yel	3.5
	Conflict Olap							Red	2		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
2	Included Ø	6	8					Type	NORMAL	10	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	4		Conflict Ø			Yel	3.5
	Conflict Olap							Red	2		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
3	Included Ø	1						Type	NORMAL	11	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	4		Conflict Ø			Yel	3.5
	Conflict Olap							Red	2		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
4	Included Ø							Type	NORMAL	12	Included Ø	2	8	Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	3.5		Conflict Ø			Yel	4
	Conflict Olap							Red	1.5		Conflict Olap			Red	2
	Conflict Ped							LG			Conflict Ped			LG	
5	Included Ø							Type	NORMAL	13	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	3.5		Conflict Ø			Yel	3.5
	Conflict Olap							Red	1.5		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
6	Included Ø	4	6					Type	NORMAL	14	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	4		Conflict Ø			Yel	3.5
	Conflict Olap							Red	2		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
7	Included Ø							Type	NORMAL	15	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	3.5		Conflict Ø			Yel	3.5
	Conflict Olap							Red	1.5		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	
8	Included Ø							Type	NORMAL	16	Included Ø			Type	NORMAL
	Modifier Ø							Gm			Modifier Ø			Gm	
	Conflict Ø							Yel	3.5		Conflict Ø			Yel	3.5
	Conflict Olap							Red	1.5		Conflict Olap			Red	1.5
	Conflict Ped							LG			Conflict Ped			LG	

Channel Settings [1.8.1]

.....Channel -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	3	12	3			6	7	2	1	7	2	6	3	2										
Channel Type	OLP	OLP	VEH	VEH	VEH	OLP	VEH	OLP	OLP	PED	PED	PED	VEH	PED	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
Channel Flash	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz																								

Channel+ Settings [1.8.4]

.....Channel -->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Flash Red+																								
Flash Yellow+																								
Flash Green+																								
Flash Inh Red+																								
Olap Ovrd																								

Coord Transition, CoordPhs [2.5]

Pat#	Short	Long	Dwell	No Shortway Ø		E-Yld	Offset	RetHld	Float	Min Veh Perm	Min Ped Perm
1	12	22		4	8		EndGRN	ON			ON
2	12	22		4	8		EndGRN	ON			ON
3	12	22		4	8		EndGRN				
4	12	22					EndGRN				
5	12	22					EndGRN				
6	12	22					EndGRN				
7	12	22		4	8		EndGRN	ON			ON
8	12	22		4	8		EndGRN	ON			ON
9	12	22					EndGRN				
10	12	22					EndGRN				
11	12	22					EndGRN				
12	12	22					EndGRN				
13	12	22					EndGRN				
14	12	22					EndGRN				
15	12	22					EndGRN				
16	12	22					EndGRN				
17	12	22					EndGRN				
18	12	22					EndGRN				
19	12	22					EndGRN				
20	12	22					EndGRN				
21	12	22					EndGRN				
22	12	22					EndGRN				
23	12	22					EndGRN				
24	12	22					EndGRN				
25							BegGRN				
26							BegGRN				
27							BegGRN				
28							BegGRN				
29							BegGRN				
30							BegGRN				
31							BegGRN				
32							BegGRN				
33							BegGRN				
34							BegGRN				
35							BegGRN				
36							BegGRN				
37							BegGRN				
38							BegGRN				
39							BegGRN				
40							BegGRN				
41							BegGRN				
42							BegGRN				
43							BegGRN				
44							BegGRN				
45							BegGRN				
46							BegGRN				
47							BegGRN				
48							BegGRN				

Channel Params[1.8.3]

C1 IO Mode User Single BIU Ma SINGLE Invert Rail Input OFF

Veh Par 1-64 [5.1]										Veh Par 1-64 [5.1]										Vehicle Options 1-64 [5.2]										Vehicle Options 1-64 [5.2]										Parameters+ 1-64 [5.3]									
Det #	Call Ø	Swi Ø	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call Ø	Swi Ø	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol	Det #	Call	Ext	Que	Add Addlni	Red Lock	Yell Lock	occ	vol	Det #	oc G	oc Y	oc R	Day 1	Day 2	Type	Src				
1	6						45	50	13	33	8		3				45	50		1	ON	ON		ON					33	ON	ON		ON					1								NORM			
2	2						45	50	40	34	8		3				45	50		2	ON	ON		ON					34	ON	ON		ON					2								NORM			
3	3						45	50	20	35	4		3				45	50		3	ON	ON		ON					35	ON	ON		ON					3								NORM			
4	7						45	50	20	36	4		3				45	50		4	ON	ON		ON					36	ON	ON		ON					4								NORM			
5	2						45	50	40	37	4		2				45	50		5	ON	ON		ON					37	ON	ON		ON					5								NORM			
6	6						45	50	40	38	4		2				45	50		6	ON	ON		ON					38	ON	ON		ON					6								NORM			
7	7						45	50	20	39							45	50		7	ON	ON		ON					39	ON	ON		ON					7								NORM			
8	6						45	50	40	40							45	50		8	ON	ON		ON					40	ON	ON		ON					8								NORM			
9	3						45	50	2	41							45	50		9	ON	ON		ON					41	ON	ON		ON					9								NORM			
10							45	50	2	42							45	50		10	ON	ON		ON					42	ON	ON		ON					10								NORM			
11	1	2	8				45	50	40	43							45	50		11	ON	ON		ON					43	ON	ON		ON					11								NORM			
12	2						45	50	40	44							45	50		12	ON	ON		ON					44	ON	ON		ON					12								NORM			
13	3						45	50	2	45							45	50		13	ON	ON		ON					45	ON	ON		ON					13								NORM			
14	7						45	50	2	46							45	50		14	ON	ON		ON					46	ON	ON		ON					14								NORM			
15	2						45	50	40	47							45	50		15	ON	ON		ON					47	ON	ON		ON					15								NORM			
16	6						45	50	40	48							45	50		16	ON	ON		ON					48	ON	ON		ON					16								NORM			
17	7						45	50	2	49							45	50		17	ON	ON		ON					49	ON	ON		ON					17								NORM			
18	6						45	50	2	50							45	50		18	ON	ON		ON					50	ON	ON		ON					18								NORM			
19	6						45	50		51							45	50		19	ON	ON		ON					51	ON	ON		ON					19								NORM			
20	6						45	50		52							45	50		20	ON	ON		ON					52	ON	ON		ON					20								NORM			
21							45	50		53							45	50		21	ON	ON		ON					53	ON	ON		ON					21								NORM			
22							45	50		54							45	50		22	ON	ON		ON					54	ON	ON		ON					22								NORM			
23							45	50		55							45	50		23	ON	ON		ON					55	ON	ON		ON					23								NORM			
24							45	50		56							45	50		24	ON	ON		ON					56	ON	ON		ON					24								NORM			
25	2						45	50	40	57							45	50		25	ON	ON		ON					57	ON	ON		ON					25								NORM			
26	2						45	50	40	58							45	50		26	ON	ON		ON					58	ON	ON		ON					26								NORM			
27							45	50		59							45	50		27	ON	ON		ON					59	ON	ON		ON					27								NORM			
28							45	50		60							45	50		28	ON	ON		ON					60	ON	ON		ON					28								NORM			
29	1		2				45	50	13	61							45	50		29	ON	ON		ON					61	ON	ON		ON					29								NORM	1		
30	1		2				45	50	8	62							45	50		30	ON	ON		ON					62	ON	ON		ON					30								NORM	11		
31	2						45	50		63							45	50		31	ON	ON		ON					63	ON	ON		ON					31								NORM	1		
32	2						45	50		64							45	50		32	ON	ON		ON					64	ON	ON		ON					32								NORM	11		
Parameters+ 1-64 [5.3]										Ped Det Parms [5.4]										Unit Paramters [1.2.1]																													
Det #	occ Grn	occ Yell	occ Red	Day 1	Day 2	Type	Src	Det #	occ Grn	occ Yell	occ Red	Day 1	Day 2	Type	Src	Det #	Call Ø	No Act	Max Pres	Err Cnt	TS2 Det Faults										Vol/Occ Report Parm [1.5.8]																		
33						NORM	3	44						NORM	55						ON										Vol/Occ Period Minutes 0																		
34						NORM	13	45						NORM	56																Vol/Occ Period Minutes 15																		
35						NORM	4	46						NORM	57																																		
36						NORM	7	47						NORM	58																																		
37						NORM	14	48						NORM	59																																		
38						NORM	17	49						NORM	60																																		
39						NORM		50						NORM	61																																		
40						NORM		51						NORM	62																																		
41						NORM		52						NORM	63																																		
42						NORM		53						NORM	64																																		
43						NORM		54						NORM		### RT 9 RAMPS @ CROTON POINT AVE										4/7/2022 Page 3																							

RT 9 RAMPS @ CROTON POINT AVE

Preemption Times [3.1], Options+ [3.6]

Pre #	Enable	Type	Output	Delay	MinDura
1	ON	RAIL	Dwell		
2	ON	RAIL	Dwell		
3	ON	EMERG	Dwell	10	
4	ON	EMERG	Dwell	10	
5	ON	EMERG	Dwell		
6	ON	EMERG	Dwell		

Pre #	MaxPres	MinGrn	MinWlk	PedClr	Co+Pre
1					ON
2					ON
3	40				ON
4	40			18	ON
5					ON
6					ON

Pre #	Track Grn	Min Dwell	Ext Dwell	PedClr+	Yel
1		2			
2		2			
3		25		18	4
4		25		18	4
5		2			
6		2			

Pre #	Red	Pattern	Skip
1			OFF
2			OFF
3	2		OFF
4	2		OFF
5			OFF
6			OFF

Low Priority Preempts

Pre #	Type	Min	Max
7	OFF		
8	OFF		
9	OFF		
10	OFF		

Unit Parameters [1.2.1]

Stop Timer Over Preempt	OFF
Preempt or Ext Output	PRE
Max Seek Track Time	
Max Seek Dwell Time	

Channel Parameters [1.8.3]

D Conn Mappings	None
Pre Invert Rail Input	OFF

Track Clear Phases [3.2], Track Clear Overlaps+ [3.5]

Pre #	Track Phases	Track Overlaps
1		
2		
3		
4		
5		
6		

Dwell Phases [3.2] and Overlaps+ [3.5]

Pre #	Phases	Overlap	Peds
1			
2			
3			
4			
5			
6			

Preemption Options+ [3.6]

Exit Phases [3.2]	Pre #	Lock	Override Auto Flsh	Override Higher	Flsh Dwell	Link
1						
2						
3						
4						
5						
6						

Alt# 1 Times Table [1.1.6.1.2]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 2 Times Table [1.1.6.1.2]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 3 Times Table [1.1.6.1.3]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 1 Options Table [1.1.6.2.1]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	ON	ON	ON	ON	ON	ON	ON	ON
Soft Recall								
Dual Enrty								
Enabl SimGap	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Alt# 1 Veh Parameters [5.5.1.1]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Call																
Switch																
Delay																
Extend																
Queue																
No Activity																
Max Presence																
Erratic Count																
Fail Time																

Alt# 1 Veh Options [5.5.1.2]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Call																
Extend																
Queue																
Added Initial																
Red Lock																
Yellow Lock																
Occupancy																
Volume																

Alt# 1 Veh Parameters+ [5.5.1.3]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Occ-on-green																
Occ-on-yellow																
Occ-on-red																
Delay Phase 1																
Delay Phase 2																
Detector Mode	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
Source																

Alt# 1 Ped Parameters+ [5.5.1.4]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Det#								
Call								
No Activity								
Max Presence								
Erratic Count								

Alt# 2 Options Table [1.1.6.2.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	ON	ON	ON	ON	ON	ON	ON	ON
Soft Recall								
Dual Enrty								
Enabl SimGap	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Alt# 3 Options Table [1.1.6.2.3]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	ON	ON	ON	ON	ON	ON	ON	ON
Soft Recall								
Dual Enrty								
Enabl SimGap	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Alt# 4 Options Table [1.1.6.2.4]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø								
Lock Calls	ON	ON	ON	ON	ON	ON	ON	ON
Soft Recall								
Dual Enrty								
Enabl SimGap	ON	ON	ON	ON	ON	ON	ON	ON
Guar Passage								
Rest In Walk								
Cond Service								
Reservice								
Non-Act 1								
Red Rest								
Max2								
Ped Delay								
Conflicting Ø1								

Alt# 2 Veh Parameters [5.5.2.1]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Call																
Switch																
Delay																
Extend																
Queue																
No Activity																
Max Presence																
Erratic Count																
Fail Time																

Alt# 2 Veh Options [5.5.2.2]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Call																
Extend																
Queue																
Added Initial																
Red Lock																
Yellow Lock																
Occupancy																
Volume																

Alt# 2 Veh Parameters+ [5.5.2.3]

Column#..... ->	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assign Det#																
Occ-on-green																
Occ-on-yellow																
Occ-on-red																
Delay Phase 1																
Delay Phase 2																
Detector Mode	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
Source																

Alt# 2 Ped Parameters+ [5.5.2.4]

Column#..... ->	1	2	3	4	5	6	7	8
Assign Det#								
Call								
No Activity								
Max Presence								
Erratic Count								

Annual Schedule [4.3]	Month of Year	Day of Week	Date	Day Plan	Link To
1	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
2	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
3	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
4	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
5	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
6	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
7	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
8	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
9	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
10	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
11	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
12	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
13	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
14	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
15	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
16	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
17	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
18	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
19	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
20	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
21	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
22	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
23	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
24	J F M A M J J A S O N D	S M T W T F S	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	
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[illegible]

C1-USER IO Map [1.8.9.1 In]			C1-USER IO Map [1.8.9.2 Out]			C1-USER IO Map [1.8.9.2 Out]			IO Logic [1.8.7]																		
I1-1	1	Veh Call 1	O1-1	1	Ch1 Red	O7-1	40	Ch16 Yellow	Op1	Result	O1Fcn	Inv1	IO1	Opn1	O2Fnc	Inv2	IO2	Opn2	O3Fnc	Inv3	IO3	Opn3	Dly	Sec			
I1-2	2	Veh Call 2	O1-2	49	Ch1 Green	O7-2	16	Ch16 Red	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-3	3	Veh Call 3	O1-3	2	Ch2 Red	O7-3	64	Ch16 Green	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-4	4	Veh Call 4	O1-4	26	Ch2 Yellow	O7-4	115	Not Used	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-5	5	Veh Call 5	O1-5	50	Ch2 Green	O7-5	115	Not Used	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-6	6	Veh Call 6	O1-6	3	Ch3 Red	O7-6	115	Not Used	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-7	7	Veh Call 7	O1-7	27	Ch3 Yellow	O7-7	115	Not Used	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I1-8	8	Veh Call 8	O1-8	51	Ch3 Green	O7-8	15	Ch15 Red	I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I2-1	9	Veh Call 9	O2-1	4	Ch4 Red	C11S-USER IO Map [1.8.9.1 In]								I	0	=	----	-	I	0	----	-	I	0	DLY	0	
I2-2	189	Unused	O2-2	52	Ch4 Green	I4-1			I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I2-3	11	Veh Call 11	O2-3	5	Ch5 Red	I4-2			I	0	=	----	-	I	0	----	-	I	0	----	-	I	0	DLY	0		
I2-4	12	Veh Call 12	O2-4	29	Ch5 Yellow	I4-3			Security Access Levels [8.2]																		
I2-5	13	Veh Call 13	O2-5	53	Ch5 Green	I4-4			1	SWLOAD			22	None			43	None	Com Parameters [6.1]								
I2-6	14	Veh Call 14	O2-6	6	Ch6 Red	I7-1	189	Unused	2	SECURE			23	None			44	None	Station ID	7637							
I2-7	15	Veh Call 15	O2-7	30	Ch6 Yellow	I7-2	189	Unused	3	None			24	None			45	None	Group ID								
I2-8	16	Veh Call 16	O2-8	54	Ch6 Green	I7-3	189	Unused	4	None			25	None			46	None	Master ID	0							
I3-1	17	Veh Call 17	O3-1	7	Ch7 Red	I7-4	189	Unused	5	None			26	None			47	None	Backup Time	0							
I3-2	18	Veh Call 18	O3-2	55	Ch7 Green	I7-5	189	Unused	6	None			27	None			48	None	SysUp Modem [6.1]								
I3-3	19	Veh Call 19	O3-3	8	Ch8 Red	I7-6	189	Unused	7	None			28	None			49	None	Enable Modem	OFF							
I3-4	20	Veh Call 20	O3-4	32	Ch8 Yellow	I7-7	189	Unused	8	None			29	None			50	None	Idle Time	0							
I3-5	129	Ped Call 1	O3-5	56	Ch8 Green	I7-8	189	Unused	9	None			30	None			51	None	Dial Time	0							
I3-6	130	Ped Call 2	O3-6	9	Ch9 Red	I8-1	189	Unused	10	None			31	None			52	None	Tel:								
I3-7	131	Ped Call 3	O3-7	33	Ch9 Yellow	I8-2	189	Unused	11	None			32	None			53	None	Alt:								
I3-8	132	Ped Call 4	O3-8	57	Ch9 Green	I8-3	189	Unused	12	None			33	None			54	None	2070 Port Parms [6.2]								
I4-1	189	Unused	O4-1	10	Ch10 Red	I8-4	189	Unused	13	None			34	None			55	None	Port	Baud Rate	FCM						
I4-2	189	Unused	O4-2	58	Ch10 Green	I8-5	189	Unused	14	None			35	None			56	None	SP1	9600	MODE 6						
I4-3	189	Unused	O4-3	11	Ch11 Red	I8-6	189	Unused	15	None			36	None			57	None	SP2	9600	MODE 6						
I4-4	189	Unused	O4-4	35	Ch11 Yellow	I8-7	189	Unused	16	None			37	None			58	None	SP3	19200	MODE 6						
I4-5	179	Door Open	O4-5	59	Ch11 Green	I8-8	189	Unused	17	None			38	None			59	None	SP4	38400	MODE 6						
I4-6	189	Unused	O4-6	12	Ch12 Red	C11S-USER IO Map [1.8.9.2 Out]			18	None			39	None			60	None	SP5	1200	AUTO						
I4-7	229	33xCMUStop	O4-7	36	Ch12 Yellow	O8-1	115	Not Used	19	None			40	None			61	None	SP6	1200	AUTO						
I4-8	228	33xFlashSns	O4-8	60	Ch12 Green	O8-2	115	Not Used	20	None			41	None			62	None	SP7	1200	AUTO						
I5-1	25	Veh Call 25	O5-1	28	Ch4 Yellow	O8-3	115	Not Used	21	None			42	None			63	None	SP8	1200	AUTO						
I5-2	26	Veh Call 26	O5-2	34	Ch10 Yellow	O8-4	115	Not Used	2070 IP 1 Addressing [6.5]																		
I5-3	201	Pre 4 In	O5-3	25	Ch1 Yellow	O8-5	115	Not Used		Addressing									Addr	0	0	0	0				
I5-4	200	Pre 3 In	O5-4	31	Ch7 Yellow	O8-6	115	Not Used	Addr	192	168	0	100	2070 IP 2 Addressing [6.5]													
I5-5	189	Unused	O5-5	39	Ch15 Yellow	O8-7	115	Not Used	Mask	255	255	255	0		Addressing												
I5-6	189	Unused	O5-6	63	Ch15 Green	O8-8	115	Not Used	Brdcst	0	0	0	0	Addr	0	0	0	0	Mask	0	0	0	0				
I5-7	189	Unused	O5-7	115	Not Used	GtWay	192	168	0	1	2070 Port Binding Ports [6.6]																
I5-8	189	Unused	O5-8	114	Watchdog	Port	5001							Function	Channel	Function	Channel	GtWay	0	0	0	0					
I6-1	189	Unused	O6-1	115	Not Used	2070 Port Binding Functions [6.6]																					
I6-2	189	Unused	O6-2	115	Not Used	ASYNC1	SP1	OFF	0	CMU/MMU	None	SYSUp	ASYNC2	Opticom	None	Shell	None	CMU/MMU	None								
I6-3	189	Unused	O6-3	13	Ch13 Red	ASYNC2	SP2	OFF	0	Loop Det.	None			GPS	-			Opticom	None								
I6-4	189	Unused	O6-4	37	Ch13 Yellow	ASYNC3	SP3	OFF	0																		
I6-5	189	Unused	O6-5	61	Ch13 Green	ASYNC4	SP4	OFF	0																		
I6-6	189	Unused	O6-6	14	Ch14 Red	SYNC1	SP5S	SYNC3	OFF																		
I6-7	189	Unused	O6-7	38	Ch14 Yellow	SYNC2	OFF	SYNC4	OFF																		
I6-8	189	Unused	O6-8	62	Ch14 Green																						

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#	Event / Alarm	Ev	Alr
1	Power Up Alarm.	ON	ON
2	Stop Timing	ON	ON
3	TS1 Cabinet Door		
4	Coordination Failure	ON	ON
5	External Alarm # 1	ON	ON
6	External Alarm # 2	ON	ON
7	External Alarm # 3		
8	External Alarm # 4		
9	Closed Loop Disabled	ON	ON
10	External Alarm # 5		
11	External Alarm # 6		
12	Manual Control Enable	ON	ON
13	Coord Free Input		
14	Local Flash Input	ON	ON
15	MMU Flash		
16	CMU Flash		
17	Cycle Fault	ON	ON
18	Cycle Failure	ON	ON
19	Coordination Fault	ON	ON
20	Controller Fault	ON	ON
21	Detector SDLC Failure		
22	MMU SDLC Failure		
23	Critical SDLC Failure		
24	Reserved		
25	EEPROM CRC Fault	ON	ON
26	Detector Diagnostic Failure		
27	BIU Detector Failure	ON	ON
29	Queue detector alarm	ON	ON
32	Ped Detector Fault	ON	ON
30	Coord Diagnostic Fault		
41	TempAlert Probe Ch. A		
42	TempAlert Probe Ch. B		
47	Coord Active		
48	Preempt Active	ON	ON
49	Preempt 1 Input	ON	ON
50	Preempt 2 Input	ON	ON
51	Preempt 3 Input	ON	ON
52	Preempt 4 Input	ON	ON
53	Preempt 5 Input	ON	ON
54	Preempt 6 Input	ON	ON
55	Preempt 7 Input	ON	ON
56	Preempt 8 Input	ON	ON
57	Preempt 9 Input	ON	ON
58	Preempt 10 Input	ON	ON
61	In Transition	ON	ON
81	FIO Status Alarm		

Call Phases[1.1.5]					Redirect Phases[1.1.5]								Inhibit Phases[1.1.5]															
Ø	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To		
1			1																									
2			2																									
3	8		3																									
4			4																									
5			5																									
6			6																									
7	4		7																									
8			8																									
9			9																									
10			10																									
11			11																									
12			12																									
13			13																									
14			14																									
15			15																									
16			16																									

Alt Call & Redirect # 1 [1.1.6.3]					Alt Inhibit Phases # 1 [1.1.6.3]																					
Col	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
1			1																							
2			2																							
3			3																							
4			4																							
5			5																							
6			6																							
7			7																							
8			8																							

Alt Call & Redirect # 2 [1.1.6.3]					Alt Inhibit Phases # 2 [1.1.6.3]																					
Col	Ø	Phases Called By Ø	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To	From	To
1			1																							
2			2																							
3			3																							
4			4																							
5			5																							
6			6																							
7			7																							
8			8																							

Coord, CIC Plans [2.3]										Unit Parameters [1.2.1]				
CIC	CoØ	Grow	1	2	3	4	5	6	7	8	Allow Skip Yellow	OFF	Max Cycle Time	
1	OFF										TOD Dim Enable	OFF	Cycle Fault Action	Alarm
2	OFF										Tone Disable	OFF		
3	OFF										Diamond Mode	4Ph		
4	OFF										Backup Time (s)	900		
Auto Flash Phase/Olap Settings [1.4.2]											Disable Init Ped	OFF		
Yel Ø											Cycle Fault Action	Alarm		
Yel (olaps)											Enable Run Timer	ON	### RT 9 RAMPS @ CROTON POINT AVE 04/07/22	

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W-636/W-637

Signal #

**MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION**

Signal: **W-636/W-637**



File: 55.11-9

D/HWP: D26xxxx

PIN: 8780.41

Date: 4/12/2022

TABLE OF SWITCH PACKS

SWITCH PACK	FUNCTION	INDICATIONS	FACE	TERMINAL	WIRE COLOR CODE	FACE	TERMINAL	WIRE COLOR CODE
1	OVL-3 Ø1	----- 	1	SP 1 R	-----		SP 1 R	
				SP 1 Y	14 / 10C - C - O		SP 1 Y	
		Ground Wire		SP 1 G	- G		SP 1 G	
				Grnd Bus	- W		Grnd Bus	
2	OVL-12 Ø2+Ø8	Red	3	SP 2 R	14 / 05C - F - R	4	SP 2 R	14 / 05C - E - R
		Yellow		SP 2 Y	- O		SP 2 Y	- O
		Green		SP 2 G	- G		SP 2 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
3	Ø3	Red	13	SP 3 R	14 / 05C - N - R	14	SP 3 R	14 / 05C - M - R
		Yellow		SP 3 Y	- O		SP 3 Y	- O
		Green		SP 3 G	- G		SP 3 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
4.				SP 4 R			SP 4 R	
				SP 4 Y			SP 4 Y	
				SP 4 G			SP 4 G	
		Ground Wire		Grnd Bus			Grnd Bus	
5.				SP 5 R			SP 5 R	
				SP 5 Y			SP 5 Y	
				SP 5 G			SP 5 G	
		Ground Wire		Grnd Bus			Grnd Bus	
6.	OVL-6 Ø4+Ø6	Red	7	SP 6 R	14 / 05C - G - R	8	SP 6 R	14 / 05C - H - R
		Yellow		SP 6 Y	- O		SP 6 Y	- O
		Green		SP 6 G	- G		SP 6 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
7.	Ø7	Red	5	SP 7 R	14 / 05C - B - R	6	SP 7 R	14 / 05C - A - R
		Yellow		SP 7 Y	- O		SP 7 Y	- O
		Green		SP 7 G	- G		SP 7 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
8	OVL-2 Ø6+Ø8	Red	1	SP 8 R	14 / 10C - C - R	2	SP 8 R	14 / 05C - D - R
		Yellow		SP 8 Y	- O		SP 8 Y	- O
		Green		SP 8 G	- G		SP 8 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
9	OVL-1 Ø1+Ø2+Ø4	Red	9	SP 9 R	14 / 05C - L - R	10	SP 9 R	14 / 05C - K - R
		Yellow		SP 9 Y	- O		SP 9 Y	- O
		Green		SP 9 G	- G		SP 9 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
10	PED-3 Ø7	HAND	23	SP 10 R	14 / 05C - 3P - R		SP 10 R	
		-----		SP 10 Y	-----		SP 10 Y	
		MAN		SP 10 G	- G		SP 10 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
11.	PED-1 Ø2	HAND	21	SP 11 R	14 / 05C - 1P - R		SP 11 R	
		-----		SP 11 Y	-----		SP 11 Y	
		MAN		SP 11 G	- G		SP 11 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
12.	PED-2 Ø6	HAND	22	SP 12 R	14 / 05C - 2P - R		SP 12 R	
		-----		SP 12 Y	-----		SP 12 Y	
		MAN		SP 12 G	- G		SP 12 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
13	Ø3	Red	11	SP 13 R	14 / 05C - J - R	12	SP 13 R	14 / 05C - I - R
		Yellow		SP 13 Y	- O		SP 13 Y	- O
		Green		SP 13 G	- G		SP 13 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
14.	PED-4 Ø2	HAND	24	SP 14 R	14 / 05C - 4P - R		SP 14 R	
		-----		SP 14 Y	-----		SP 14 Y	
		MAN		SP 14 G	- G		SP 14 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
15				SP 15 R			SP 15 R	
				SP 15 Y			SP 15 Y	
				SP 15 G			SP 15 G	
		Ground Wire		Grnd Bus			Grnd Bus	
16				SP 16 R			SP 16 R	
				SP 16 Y			SP 16 Y	
				SP 16 G			SP 16 G	
		Ground Wire		Grnd Bus			Grnd Bus	

W-636/W-637

Signal #

**MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION**

Signal: **W-636/W-637**

File: 55.11-9

D/HWP: D26xxxx

PIN: 8780.41

Date: 4/12/2022

TRAFFIC SIGNAL MONITOR PROGRAMMING

CONFLICT MONITOR DIODES TO BE CUT (SWITCH PACKS TO RUN TOGETHER)			YELLOW DISABLE: WIRE JUMPERS TO BE INSTALLED FOR PEDS		210NYR MONITOR BOARD (SWITCH PACKS TO MONITOR)	
1 - 6	6 - 8	9 - 11	1			
1 - 8	6 - 9	9 - 12	2			
1 - 9	6 - 11	9 - 14	3			
	6 - 12		4			
2 - 6	6 - 14	10 - 13	5			
2 - 8			6			
2 - 9	7 - 10	11 - 12	7			
2 - 11	7 - 13	11 - 14	8			
2 - 12			9			
2 - 14	8 - 9	12 - 14	10	X		
	8 - 11		11	X		
3 - 7	8 - 12		12	X		
3 - 10	8 - 14		13			
3 - 13			14	X		
			15			
			16			

**CURRENT MONITOR BOARD
(IF USED)**

CURRENT MONITOR DIODES
TO BE CUT
(SWITCH PACKS TO NOT MONITOR)

1, 4-5, 10-12, 14-16

Notes:

W-636/W-637

Signal #

**MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION**

Signal: **W-636/W-637**

File: 55.11-9

D/HWP: D26xxxx

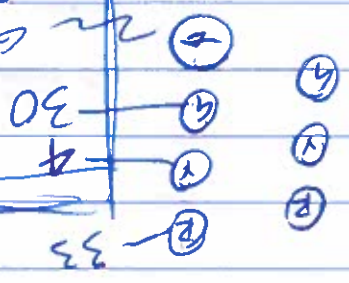
PIN: 8780.41

Date: 4/12/2022

TABLE OF INPUT WIRING

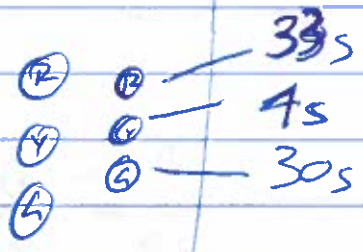
TERM. NUMBER	FUNCTION	DET. NO.	DET. TYPE	DET. AN OVER	REMARKS
1A, 1B	Ø 1	1	QUADRAPOLE		PRESENCE LOOP
2A, 2B	Ø 2	2	QUADRAPOLE		PRESENCE LOOP
3A, 3B	Ø 3	3	QUADRAPOLE		PRESENCE LOOP
4A, 4B	Ø 7	4	QUADRAPOLE		PRESENCE LOOP
5A, 5B	Ø 2	5	QUADRAPOLE		PRESENCE LOOP
6A, 6B	Ø 6	6	QUADRAPOLE		PRESENCE LOOP
7A, 7B	Ø 7	7	QUADRAPOLE		PRESENCE LOOP
8A, 8B	Ø 6	8	QUADRAPOLE		PRESENCE LOOP
9A, 9B	Ø 3	9AB	MICROWAVE		MICROWAVE
10A, 10B					
11A, 11B	Ø 1	11	NORMAL		PRESENCE LOOP
12A, 12B	Ø 2	12	NORMAL		PRESENCE LOOP
13A, 13B	Ø 3	13	NORMAL		PRESENCE LOOP
14A, 14B	Ø 7	14	NORMAL		PRESENCE LOOP
15A, 15B	Ø 2	15	NORMAL		PRESENCE LOOP
16A, 16B	Ø 6	16	NORMAL		PRESENCE LOOP
17A, 17B	Ø 7	17	NORMAL		PRESENCE LOOP
18A, 18B	Ø 6	18	NORMAL		PRESENCE LOOP
19A, 19B	Ø 6	19	QUADRAPOLE		PRESENCE LOOP
20A, 20B	Ø 6	20	NORMAL		PRESENCE LOOP
21A, 21B	PED 1 - Ø 2	21	BUTTON		PEDESTRIAN
22A, 22B	PED 2 - Ø 6	22	BUTTON		PEDESTRIAN
23A, 23B	PED 3 - Ø 7	23	BUTTON		PEDESTRIAN
24A, 24B	PED 4 - Ø 2	24	BUTTON		PEDESTRIAN
25A, 25B	Ø 2		QUADRAPOLE		PRESENCE LOOP
26A, 26B	Ø 2		NORMAL		PRESENCE LOOP
27A, 27B	Ø 7		NORMAL		QUEUE LOOP
28A, 28B	Ø 3		NORMAL		QUEUE LOOP

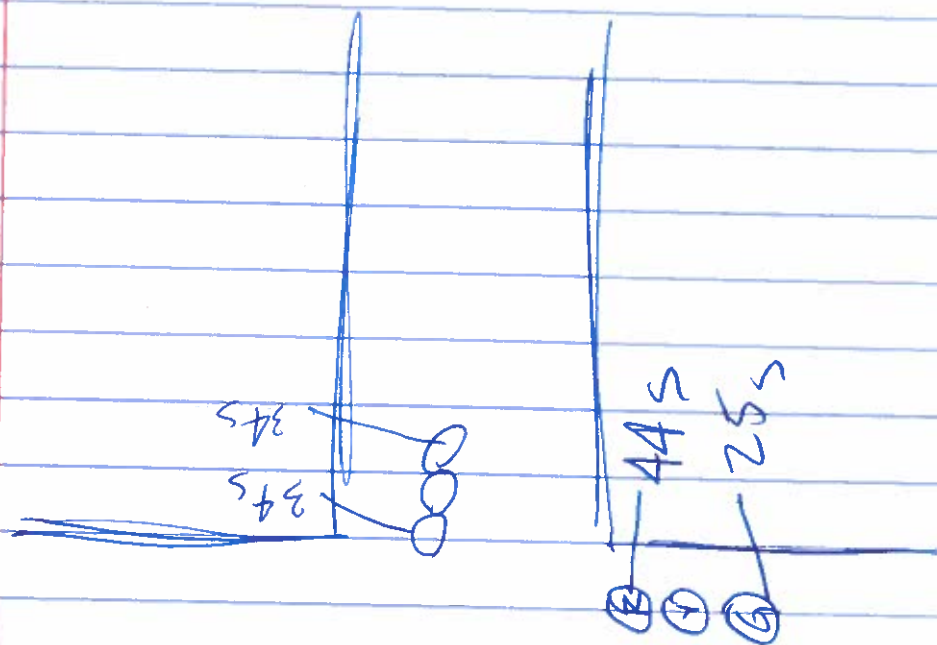
25 s driving
green light



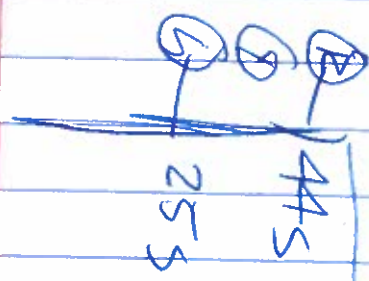
OTON

POINT
AVE

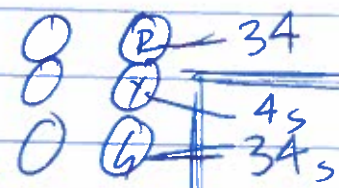




BEND IN RIVER



RIVER SIDE



FIRE
HOUSE

Turning Movement Count (TMC) Data

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Croton PT Avenue
 STREET (N-S): Parking Lot/ Veterans Plaza

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD TO
 PM PEAK PERIOD 4:00 PM TO 7:00 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 cell(s).

TRAFFIC VOLUMES

Time Period Begin End	Eastbound				Westbound				Northbound				Southbound			
	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	0	23	2	25	69	15	2	86	0	0	22	22	2	0	0	2
7:15 AM - 7:30 AM	0	21	4	25	71	16	3	90	0	0	17	17	1	0	0	1
7:30 AM - 7:45 AM	0	19	4	23	74	10	4	88	2	0	18	20	1	0	0	1
7:45 AM - 8:00 AM	0	27	1	28	61	17	3	81	1	0	17	18	1	0	0	1
8:00 AM - 8:15 AM	0	33	1	34	49	13	8	70	3	0	23	26	2	0	0	2
8:15 AM - 8:30 AM	0	27	1	28	41	17	3	61	0	0	17	17	1	0	0	1
8:30 AM - 8:45 AM	0	20	2	22	30	11	2	43	0	0	15	15	2	0	0	2
8:45 AM - 9:00 AM	0	20	3	23	28	9	1	38	1	0	14	15	4	0	0	4
9:00 AM - 9:15 AM	0	17	1	18	20	11	2	33	1	0	11	12	0	0	0	0
9:15 AM - 9:30 AM	0	18	1	19	21	12	1	34	0	0	12	12	1	0	0	1
9:30 AM - 9:45 AM	0	14	5	19	17	15	0	32	0	0	13	13	0	0	0	0
9:45 AM - 10:00 AM	0	14	1	15	22	13	2	37	0	0	12	12	0	0	0	0
Generalized AM Peak Hour Only																
7:15 AM - 7:30 AM	0	21	4	25	71	16	3	90	0	0	17	17	1	0	0	1
7:30 AM - 7:45 AM	0	19	4	23	74	10	4	88	2	0	18	20	1	0	0	1
7:45 AM - 8:00 AM	0	27	1	28	61	17	3	81	1	0	17	18	1	0	0	1
8:00 AM - 8:15 AM	0	33	1	34	49	13	8	70	3	0	23	26	2	0	0	2
Peak Hour Total	0	100	10	110	255	56	18	329	6	0	75	81	5	0	0	5
Peak 15 Minute Vol	0	33	4	34	74	17	8	90	3	0	23	26	2	0	0	2
Calculated PHF	N/A	0.76	0.63	0.81	0.86	0.82	0.56	0.91	0.50	N/A	0.82	0.78	0.63	N/A	N/A	0.63
PM PEAK PERIOD																
4:00 PM - 4:15 PM	0	51	3	54	16	30	2	48	0	0	39	39	2	0	0	2
4:15 PM - 4:30 PM	0	40	3	43	24	21	1	46	0	0	47	47	0	0	0	0
4:30 PM - 4:45 PM	0	40	2	42	22	26	1	49	0	0	55	55	0	0	0	0
4:45 PM - 5:00 PM	0	20	1	21	30	22	0	52	1	0	51	52	0	0	0	0
5:00 PM - 5:15 PM	0	30	2	32	23	21	2	46	0	0	60	60	1	0	0	1
5:15 PM - 5:30 PM	0	33	2	35	29	24	2	55	1	0	72	73	4	0	0	4
5:30 PM - 5:45 PM	0	27	4	31	27	18	1	46	1	0	63	64	1	0	0	1
5:45 PM - 6:00 PM	0	28	4	32	22	19	0	41	3	0	61	64	1	0	0	1
6:00 PM - 6:15 PM	0	18	1	19	20	11	3	34	1	0	41	42	0	0	0	0
6:15 PM - 6:30 PM	0	17	1	18	17	10	0	27	0	0	27	27	1	0	0	1
6:30 PM - 6:45 PM	0	18	2	20	14	13	1	28	1	0	21	22	0	0	0	0
6:45 PM - 7:00 PM	0	17	1	18	17	9	1	27	0	0	20	20	1	0	0	1
Generalized PM Peak Hour Only																
4:30 PM - 4:45 PM	0	40	2	42	22	26	1	49	0	0	55	55	0	0	0	0
4:45 PM - 5:00 PM	0	20	1	21	30	22	0	52	1	0	51	52	0	0	0	0
5:00 PM - 5:15 PM	0	30	2	32	23	21	2	46	0	0	60	60	1	0	0	1
5:15 PM - 5:30 PM	0	33	2	35	29	24	2	55	1	0	72	73	4	0	0	4
Peak Hour Total	0	123	7	130	104	93	5	202	2	0	238	240	5	0	0	5
Peak 15 Minute Vol	0	40	2	42	30	26	2	55	1	0	72	73	4	0	0	4
Calculated PHF	N/A	0.77	0.88	0.77	0.87	0.89	0.63	0.92	0.50	N/A	0.83	0.82	0.31	N/A	N/A	0.31

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Croton Pt Ave
 STREET (N-S): 9/9A SB Ramp

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD 12:00 AM TO 12:00 AM
 PM PEAK PERIOD 4:00 PM TO 7:00 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 cell(s).

TRAFFIC VOLUMES

Time Period Begin End	Eastbound				Westbound				Northbound				Southbound			
	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	0	13	11	24	60	31	0	91	0	0	0	0	10	0	55	65
7:15 AM - 7:30 AM	0	27	14	41	61	25	0	86	0	0	0	0	9	0	65	74
7:30 AM - 7:45 AM	0	22	18	40	55	37	0	92	0	0	0	0	12	0	51	63
7:45 AM - 8:00 AM	0	18	19	37	50	29	0	79	0	0	0	0	11	0	52	63
8:00 AM - 8:15 AM	0	35	17	52	41	29	0	70	0	0	0	0	11	0	41	52
8:15 AM - 8:30 AM	0	34	17	51	43	24	0	67	0	0	0	0	11	0	37	48
8:30 AM - 8:45 AM	0	26	18	44	41	5	0	46	0	0	0	0	15	0	38	53
8:45 AM - 9:00 AM	0	26	12	38	33	8	0	41	0	0	0	0	11	0	30	41
9:00 AM - 9:15 AM	0	20	11	31	21	12	0	33	0	0	0	0	14	0	21	35
9:15 AM - 9:30 AM	0	16	14	30	23	11	0	34	0	0	0	0	12	0	23	35
9:30 AM - 9:45 AM	0	19	12	31	20	12	0	32	0	0	0	0	11	0	20	31
9:45 AM - 10:00 AM	0	13	13	26	31	16	0	47	0	0	0	0	10	0	21	31
Generalized AM Peak Hour Only																
7:15 AM - 7:30 AM	0	27	14	41	61	25	0	86	0	0	0	0	9	0	65	74
7:30 AM - 7:45 AM	0	22	18	40	55	37	0	92	0	0	0	0	12	0	51	63
7:45 AM - 8:00 AM	0	18	19	37	50	29	0	79	0	0	0	0	11	0	52	63
8:00 AM - 8:15 AM	0	35	17	52	41	29	0	70	0	0	0	0	11	0	41	52
Peak Hour Total	0	102	68	170	207	120	0	327	0	0	0	0	43	0	209	252
Peak 15 Minute Vol	0	35	19	52	61	37	0	92	0	0	0	0	12	0	65	74
Calculated PHF	N/A	0.73	0.89	0.82	0.85	0.81	N/A	0.89	N/A	N/A	N/A	N/A	0.90	N/A	0.80	0.85
PM PEAK PERIOD																
4:00 PM - 4:15 PM	0	23	18	41	55	37	0	92	0	0	0	0	18	0	11	29
4:15 PM - 4:30 PM	0	79	19	98	63	38	0	101	0	0	0	0	20	0	8	28
4:30 PM - 4:45 PM	0	68	27	95	60	38	0	98	0	0	0	0	15	0	11	26
4:45 PM - 5:00 PM	0	69	22	91	71	42	0	113	0	0	0	0	17	0	10	27
5:00 PM - 5:15 PM	0	51	30	81	60	29	0	89	0	0	0	0	14	0	17	31
5:15 PM - 5:30 PM	0	79	27	106	55	39	0	94	0	0	0	0	11	0	16	27
5:30 PM - 5:45 PM	0	71	26	97	68	31	0	99	0	0	0	0	10	0	15	25
5:45 PM - 6:00 PM	0	68	21	89	47	30	0	77	0	0	0	0	12	0	11	23
6:00 PM - 6:15 PM	0	52	17	69	39	22	0	61	0	0	0	0	10	0	12	22
6:15 PM - 6:30 PM	0	27	19	46	39	19	0	58	0	0	0	0	6	0	8	14
6:30 PM - 6:45 PM	0	21	17	38	31	20	0	51	0	0	0	0	8	0	8	16
6:45 PM - 7:00 PM	0	20	19	39	30	18	0	48	0	0	0	0	8	0	9	17
Generalized PM Peak Hour Only																
4:30 PM - 4:45 PM	0	68	27	95	60	38	0	98	0	0	0	0	15	0	11	26
4:45 PM - 5:00 PM	0	69	22	91	71	42	0	113	0	0	0	0	17	0	10	27
5:00 PM - 5:15 PM	0	51	30	81	60	29	0	89	0	0	0	0	14	0	17	31
5:15 PM - 5:30 PM	0	79	27	106	55	39	0	94	0	0	0	0	11	0	16	27
Peak Hour Total	0	267	106	373	246	148	0	394	0	0	0	0	57	0	54	111
Peak 15 Minute Vol	0	79	30	106	71	42	0	113	0	0	0	0	17	0	17	31
Calculated PHF	N/A	0.84	0.88	0.88	0.87	0.88	N/A	0.87	N/A	N/A	N/A	N/A	0.84	N/A	0.79	0.90

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Croton Pt Ave
 STREET (N-S): 9A NB Ramp

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD 12:00 AM TO 12:00 AM
 PM PEAK PERIOD 4:00 PM TO 7:00 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 cell(s).

TRAFFIC VOLUMES

Time Period		Eastbound				Westbound				Northbound				Southbound			
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		0	23	17	40	11	73	0	84	45	0	35	80	0	0	0	0
7:15 AM - 7:30 AM		0	30	17	47	10	74	0	84	36	0	30	66	0	0	0	0
7:30 AM - 7:45 AM		0	27	14	41	11	81	0	92	30	0	31	61	0	0	0	0
7:45 AM - 8:00 AM		0	38	15	53	12	93	0	105	30	0	37	67	0	0	0	0
8:00 AM - 8:15 AM		0	33	14	47	15	84	0	99	31	0	38	69	0	0	0	0
8:15 AM - 8:30 AM		0	42	11	53	13	68	0	81	22	0	41	63	0	0	0	0
8:30 AM - 8:45 AM		0	35	10	45	14	61	0	75	21	0	40	61	0	0	0	0
8:45 AM - 9:00 AM		0	34	10	44	13	53	0	66	19	0	42	61	0	0	0	0
9:00 AM - 9:15 AM		0	29	11	40	10	44	0	54	21	0	40	61	0	0	0	0
9:15 AM - 9:30 AM		0	41	11	52	9	51	0	60	17	0	30	47	0	0	0	0
9:30 AM - 9:45 AM		0	30	9	39	9	47	0	56	17	0	27	44	0	0	0	0
9:45 AM - 10:00 AM		0	30	9	39	9	45	0	54	17	0	29	46	0	0	0	0
Generalized AM Peak Hour Only																	
7:15 AM - 7:30 AM		0	30	17	47	10	74	0	84	36	0	30	66	0	0	0	0
7:30 AM - 7:45 AM		0	27	14	41	11	81	0	92	30	0	31	61	0	0	0	0
7:45 AM - 8:00 AM		0	38	15	53	12	93	0	105	30	0	37	67	0	0	0	0
8:00 AM - 8:15 AM		0	33	14	47	15	84	0	99	31	0	38	69	0	0	0	0
Peak Hour Total		0	128	60	188	48	332	0	380	127	0	136	263	0	0	0	0
Peak 15 Minute Vol		0	38	17	53	15	93	0	105	36	0	38	69	0	0	0	0
Calculated PHF		N/A	0.84	0.88	0.89	0.80	0.89	N/A	0.90	0.88	N/A	0.89	0.95	N/A	N/A	N/A	N/A
PM PEAK PERIOD																	
4:00 PM - 4:15 PM		0	20	21	41	30	51	0	81	22	0	90	112	0	0	0	0
4:15 PM - 4:30 PM		0	71	28	99	31	41	0	72	21	0	96	117	0	0	0	0
4:30 PM - 4:45 PM		0	56	27	83	37	57	0	94	20	0	81	101	0	0	0	0
4:45 PM - 5:00 PM		0	55	31	86	30	52	0	82	25	0	77	102	0	0	0	0
5:00 PM - 5:15 PM		0	35	30	65	24	62	0	86	30	0	83	113	0	0	0	0
5:15 PM - 5:30 PM		0	63	27	90	24	62	0	86	27	0	87	114	0	0	0	0
5:30 PM - 5:45 PM		0	50	31	81	26	61	0	87	29	0	70	99	0	0	0	0
5:45 PM - 6:00 PM		0	45	35	80	20	61	0	81	36	0	72	108	0	0	0	0
6:00 PM - 6:15 PM		0	22	40	62	20	64	0	84	31	0	60	91	0	0	0	0
6:15 PM - 6:30 PM		0	15	37	52	17	67	0	84	30	0	66	96	0	0	0	0
6:30 PM - 6:45 PM		0	18	31	49	18	59	0	77	30	0	56	86	0	0	0	0
6:45 PM - 7:00 PM		0	19	30	49	18	61	0	79	27	0	59	86	0	0	0	0
Generalized PM Peak Hour Only																	
4:30 PM - 4:45 PM		0	56	27	83	37	57	0	94	20	0	81	101	0	0	0	0
4:45 PM - 5:00 PM		0	55	31	86	30	52	0	82	25	0	77	102	0	0	0	0
5:00 PM - 5:15 PM		0	35	30	65	24	62	0	86	30	0	83	113	0	0	0	0
5:15 PM - 5:30 PM		0	63	27	90	24	62	0	86	27	0	87	114	0	0	0	0
Peak Hour Total		0	209	115	324	115	233	0	348	102	0	328	430	0	0	0	0
Peak 15 Minute Vol		0	63	31	90	37	62	0	94	30	0	87	114	0	0	0	0
Calculated PHF		N/A	0.83	0.93	0.90	0.78	0.94	N/A	0.93	0.85	N/A	0.94	0.94	N/A	N/A	N/A	N/A

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Croton Pt Ave
 STREET (N-S): S Riverside Ave

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD 12:00 AM TO 12:00 AM
 PM PEAK PERIOD 4:00 PM TO 7:00 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 cell(s).

TRAFFIC VOLUMES

Time Period Begin End	Eastbound				Westbound				Northbound				Southbound			
	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	37	0	21	58	0	0	0	0	12	8	0	20	0	9	72	81
7:15 AM - 7:30 AM	37	0	23	60	0	0	0	0	14	9	0	23	0	11	70	81
7:30 AM - 7:45 AM	31	0	27	58	0	0	0	0	11	10	0	21	0	10	81	91
7:45 AM - 8:00 AM	48	0	27	75	0	0	0	0	12	11	0	23	0	12	93	105
8:00 AM - 8:15 AM	40	0	31	71	0	0	0	0	11	11	0	22	0	11	88	99
8:15 AM - 8:30 AM	46	0	37	83	0	0	0	0	11	10	0	21	0	11	70	81
8:30 AM - 8:45 AM	43	0	32	75	0	0	0	0	15	17	0	32	0	15	60	75
8:45 AM - 9:00 AM	45	0	31	76	0	0	0	0	16	10	0	26	0	11	50	61
9:00 AM - 9:15 AM	33	0	36	69	0	0	0	0	10	17	0	27	0	13	44	57
9:15 AM - 9:30 AM	37	0	34	71	0	0	0	0	17	18	0	35	0	12	43	55
9:30 AM - 9:45 AM	30	0	27	57	0	0	0	0	10	11	0	21	0	14	46	60
9:45 AM - 10:00 AM	32	0	27	59	0	0	0	0	13	11	0	24	0	19	41	60
Generalized AM Peak Hour Only																
7:15 AM - 7:30 AM	37	0	23	60	0	0	0	0	14	9	0	23	0	11	70	81
7:30 AM - 7:45 AM	31	0	27	58	0	0	0	0	11	10	0	21	0	10	81	91
7:45 AM - 8:00 AM	48	0	27	75	0	0	0	0	12	11	0	23	0	12	93	105
8:00 AM - 8:15 AM	40	0	31	71	0	0	0	0	11	11	0	22	0	11	88	99
Peak Hour Total	156	0	108	264	0	0	0	0	48	41	0	89	0	44	332	376
Peak 15 Minute Vol	48	0	31	75	0	0	0	0	14	11	0	23	0	12	93	105
Calculated PHF	0.81	N/A	0.87	0.88	N/A	N/A	N/A	N/A	0.86	0.93	N/A	0.97	N/A	0.92	0.89	0.90
PM PEAK PERIOD																
4:00 PM - 4:15 PM	52	0	46	98	0	0	0	0	43	31	0	74	0	26	38	64
4:15 PM - 4:30 PM	41	0	41	82	0	0	0	0	41	30	0	71	0	27	31	58
4:30 PM - 4:45 PM	58	0	53	111	0	0	0	0	50	37	0	87	0	29	44	73
4:45 PM - 5:00 PM	51	0	50	101	0	0	0	0	41	31	0	72	0	20	41	61
5:00 PM - 5:15 PM	56	0	38	94	0	0	0	0	41	30	0	71	0	31	45	76
5:15 PM - 5:30 PM	57	0	41	98	0	0	0	0	46	38	0	84	0	33	40	73
5:30 PM - 5:45 PM	50	0	41	91	0	0	0	0	37	31	0	68	0	17	50	67
5:45 PM - 6:00 PM	50	0	30	80	0	0	0	0	40	27	0	67	0	18	41	59
6:00 PM - 6:15 PM	51	0	27	78	0	0	0	0	40	29	0	69	0	19	44	63
6:15 PM - 6:30 PM	55	0	26	81	0	0	0	0	41	35	0	76	0	17	43	60
6:30 PM - 6:45 PM	47	0	27	74	0	0	0	0	37	30	0	67	0	17	40	57
6:45 PM - 7:00 PM	50	0	28	78	0	0	0	0	38	27	0	65	0	17	41	58
Generalized PM Peak Hour Only																
4:30 PM - 4:45 PM	58	0	53	111	0	0	0	0	50	37	0	87	0	29	44	73
4:45 PM - 5:00 PM	51	0	50	101	0	0	0	0	41	31	0	72	0	20	41	61
5:00 PM - 5:15 PM	56	0	38	94	0	0	0	0	41	30	0	71	0	31	45	76
5:15 PM - 5:30 PM	57	0	41	98	0	0	0	0	46	38	0	84	0	33	40	73
Peak Hour Total	222	0	182	404	0	0	0	0	178	136	0	314	0	113	170	283
Peak 15 Minute Vol	58	0	53	111	0	0	0	0	50	38	0	87	0	33	45	76
Calculated PHF	0.96	N/A	0.86	0.91	N/A	N/A	N/A	N/A	0.89	0.89	N/A	0.90	N/A	0.86	0.94	0.93

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Clinton Street
 STREET (N-S): S Riverside Ave

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD 12:00 AM TO 12:00 AM
 PM PEAK PERIOD 4:00 PM TO 7:00 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 cell(s).

TRAFFIC VOLUMES

Time Period Begin End	Eastbound				Westbound				Northbound				Southbound			
	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	2	0	2	4	0	0	0	0	2	58	0	60	0	118	3	121
7:15 AM - 7:30 AM	2	0	2	4	0	0	0	0	1	58	0	59	0	114	0	114
7:30 AM - 7:45 AM	3	0	1	4	0	0	0	0	2	45	0	47	0	116	2	118
7:45 AM - 8:00 AM	1	0	1	2	0	0	0	0	1	66	0	67	0	148	1	149
8:00 AM - 8:15 AM	1	0	0	1	0	0	0	0	1	59	0	60	0	132	2	134
8:15 AM - 8:30 AM	2	0	0	2	0	0	0	0	2	70	0	72	0	113	2	115
8:30 AM - 8:45 AM	1	0	1	2	0	0	0	0	0	78	0	78	0	115	1	116
8:45 AM - 9:00 AM	1	0	1	2	0	0	0	0	2	74	0	76	0	97	2	99
9:00 AM - 9:15 AM	2	0	0	2	0	0	0	0	2	69	0	71	0	89	1	90
9:15 AM - 9:30 AM	3	0	1	4	0	0	0	0	2	72	0	74	0	84	3	87
9:30 AM - 9:45 AM	1	0	1	2	0	0	0	0	1	61	0	62	0	84	1	85
9:45 AM - 10:00 AM	2	0	1	3	0	0	0	0	1	57	0	58	0	89	1	90
Generalized AM Peak Hour Only																
7:15 AM - 7:30 AM	2	0	2	4	0	0	0	0	1	58	0	59	0	114	0	114
7:30 AM - 7:45 AM	3	0	1	4	0	0	0	0	2	45	0	47	0	116	2	118
7:45 AM - 8:00 AM	1	0	1	2	0	0	0	0	1	66	0	67	0	148	1	149
8:00 AM - 8:15 AM	1	0	0	1	0	0	0	0	1	59	0	60	0	132	2	134
Peak Hour Total	7	0	4	11	0	0	0	0	5	228	0	233	0	510	5	515
Peak 15 Minute Vol	3	0	2	4	0	0	0	0	2	66	0	67	0	148	2	149
Calculated PHF	0.58	N/A	0.50	0.69	N/A	N/A	N/A	N/A	0.63	0.86	N/A	0.87	N/A	0.86	0.63	0.86
PM PEAK PERIOD																
4:00 PM - 4:15 PM	1	0	0	1	0	0	0	0	2	117	0	119	0	92	1	93
4:15 PM - 4:30 PM	2	0	1	3	0	0	0	0	2	107	0	109	0	85	1	86
4:30 PM - 4:45 PM	2	0	1	3	0	0	0	0	3	133	0	136	0	99	2	101
4:45 PM - 5:00 PM	1	0	1	2	0	0	0	0	1	120	0	121	0	98	2	100
5:00 PM - 5:15 PM	1	0	0	1	0	0	0	0	0	126	0	126	0	90	1	91
5:15 PM - 5:30 PM	3	0	1	4	0	0	0	0	3	130	0	133	0	86	1	87
5:30 PM - 5:45 PM	2	0	1	3	0	0	0	0	4	107	0	111	0	81	1	82
5:45 PM - 6:00 PM	1	0	1	2	0	0	0	0	3	108	0	111	0	78	0	78
6:00 PM - 6:15 PM	2	0	1	3	0	0	0	0	3	105	0	108	0	80	0	80
6:15 PM - 6:30 PM	0	0	1	1	0	0	0	0	3	113	0	116	0	71	2	73
6:30 PM - 6:45 PM	2	0	2	4	0	0	0	0	2	103	0	105	0	69	2	71
6:45 PM - 7:00 PM	1	0	1	2	0	0	0	0	1	111	0	112	0	70	1	71
Generalized PM Peak Hour Only																
4:30 PM - 4:45 PM	2	0	1	3	0	0	0	0	3	133	0	136	0	99	2	101
4:45 PM - 5:00 PM	1	0	1	2	0	0	0	0	1	120	0	121	0	98	2	100
5:00 PM - 5:15 PM	1	0	0	1	0	0	0	0	0	126	0	126	0	90	1	91
5:15 PM - 5:30 PM	3	0	1	4	0	0	0	0	3	130	0	133	0	86	1	87
Peak Hour Total	7	0	3	10	0	0	0	0	7	509	0	516	0	373	6	379
Peak 15 Minute Vol	3	0	1	4	0	0	0	0	3	133	0	136	0	99	2	101
Calculated PHF	0.58	N/A	0.75	0.63	N/A	N/A	N/A	N/A	0.58	0.96	N/A	0.95	N/A	0.94	0.75	0.94

GENERAL INFORMATION

PROJECT NAME: HSRG Overlay and LI District Zoning Amendments
 PROJECT NO: 210197
 DATE: July 5, 2022
 ANALYST: Haley Hutson

INTERSECTION INFORMATION

SURVEY DATE: April 20, 2022

INTERSECTION: STREET (E-W): Benedict Blvd
 STREET (N-S): S Riverside Ave

SURVEY PERIOD: AM PEAK PERIOD 7:00 AM TO 10:00 AM
 MIDDAY PEAK PERIOD 12:00 AM TO 12:00 AM
 PM PEAK PERIOD 4:00 PM TO 7:00 PM

NOTES:

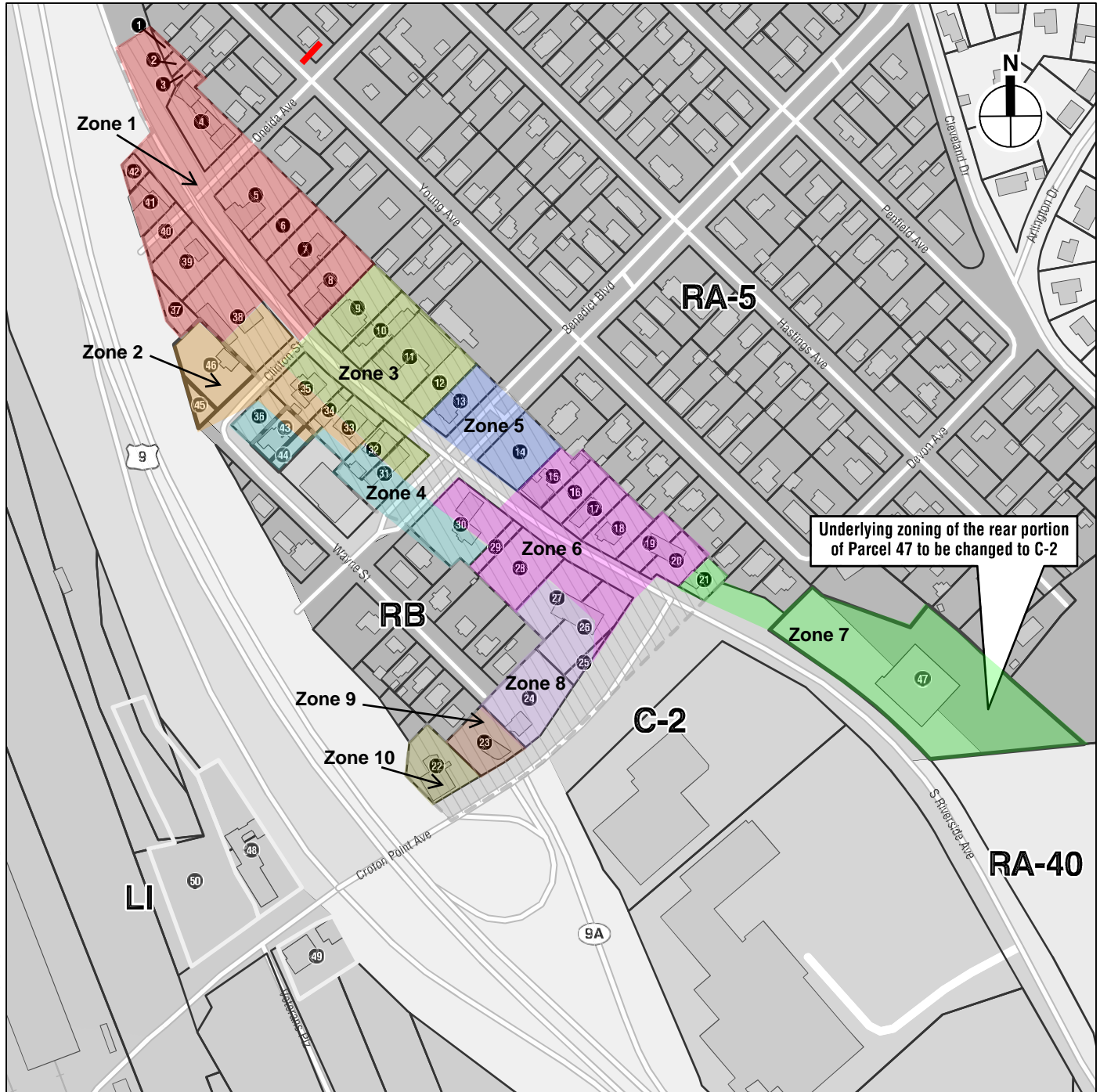
- 1.) 15 minute values should be input by the user.
- 2.) Time values should be entered in military time.
- 3.) If there is no volume for a movement or time period, a zero should be entered in the appropriate cell(s).

TRAFFIC VOLUMES

Time Period Begin End	Eastbound				Westbound				Northbound				Southbound			
	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	47	3	55	3	33	17	53	3	38	4	45	33	75	12	120
7:15 AM - 7:30 AM	5	40	3	48	3	37	16	56	3	38	5	46	31	75	10	116
7:30 AM - 7:45 AM	4	37	5	46	4	30	11	45	4	32	5	41	27	82	8	117
7:45 AM - 8:00 AM	5	42	4	51	1	41	10	52	1	52	6	59	39	100	10	149
8:00 AM - 8:15 AM	4	41	4	49	2	49	16	67	4	40	7	51	30	93	9	132
8:15 AM - 8:30 AM	4	27	2	33	2	40	17	59	1	51	4	56	25	77	11	113
8:30 AM - 8:45 AM	6	29	4	39	1	36	17	54	4	55	1	60	30	70	16	116
8:45 AM - 9:00 AM	6	21	2	29	1	39	19	59	1	51	3	55	29	58	11	98
9:00 AM - 9:15 AM	8	30	3	41	1	31	17	49	3	46	1	50	25	53	11	89
9:15 AM - 9:30 AM	7	27	3	37	0	30	18	48	3	49	3	55	21	52	12	85
9:30 AM - 9:45 AM	8	26	4	38	1	27	20	48	5	34	2	41	22	55	8	85
9:45 AM - 10:00 AM	7	25	3	35	1	27	11	39	1	40	2	43	21	56	13	90
Generalized AM Peak Hour Only																
7:15 AM - 7:30 AM	5	40	3	48	3	37	16	56	3	38	5	46	31	75	10	116
7:30 AM - 7:45 AM	4	37	5	46	4	30	11	45	4	32	5	41	27	82	8	117
7:45 AM - 8:00 AM	5	42	4	51	1	41	10	52	1	52	6	59	39	100	10	149
8:00 AM - 8:15 AM	4	41	4	49	2	49	16	67	4	40	7	51	30	93	9	132
Peak Hour Total	18	160	16	194	10	157	53	220	12	162	23	197	127	350	37	514
Peak 15 Minute Vol	5	42	5	51	4	49	16	67	4	52	7	59	39	100	10	149
Calculated PHF	0.90	0.95	0.80	0.95	0.63	0.80	0.83	0.82	0.75	0.78	0.82	0.83	0.81	0.88	0.93	0.86
PM PEAK PERIOD																
4:00 PM - 4:15 PM	10	33	3	46	5	40	35	80	4	74	5	83	26	56	10	92
4:15 PM - 4:30 PM	11	37	6	54	5	41	37	83	6	61	4	71	27	47	12	86
4:30 PM - 4:45 PM	12	38	5	55	4	55	41	100	7	83	5	95	25	64	11	100
4:45 PM - 5:00 PM	12	44	5	61	4	60	40	104	6	69	7	82	30	52	17	99
5:00 PM - 5:15 PM	6	31	2	39	6	90	47	143	6	73	7	86	20	68	2	90
5:15 PM - 5:30 PM	6	33	2	41	4	50	40	94	3	87	5	95	18	67	2	87
5:30 PM - 5:45 PM	5	40	1	46	4	50	31	85	2	75	4	81	17	62	3	82
5:45 PM - 6:00 PM	7	31	0	38	2	41	31	74	1	73	3	77	20	57	2	79
6:00 PM - 6:15 PM	5	35	0	40	2	50	28	80	3	75	2	80	16	61	4	81
6:15 PM - 6:30 PM	4	40	1	45	3	41	27	71	3	85	2	90	15	56	1	72
6:30 PM - 6:45 PM	7	30	1	38	2	37	26	65	2	72	3	77	14	54	3	71
6:45 PM - 7:00 PM	7	27	0	34	2	37	30	69	1	75	1	77	13	56	2	71
Generalized PM Peak Hour Only																
4:30 PM - 4:45 PM	12	38	5	55	4	55	41	100	7	83	5	95	25	64	11	100
4:45 PM - 5:00 PM	12	44	5	61	4	60	40	104	6	69	7	82	30	52	17	99
5:00 PM - 5:15 PM	6	31	2	39	6	90	47	143	6	73	7	86	20	68	2	90
5:15 PM - 5:30 PM	6	33	2	41	4	50	40	94	3	87	5	95	18	67	2	87
Peak Hour Total	36	146	14	196	18	255	168	441	22	312	24	358	93	251	32	376
Peak 15 Minute Vol	12	44	5	61	6	90	47	143	7	87	7	95	30	68	17	100
Calculated PHF	0.75	0.83	0.70	0.80	0.75	0.71	0.89	0.77	0.79	0.90	0.86	0.94	0.78	0.92	0.47	0.94

Trip Generation Backup

- Trip Assignment Zone Maps
- Zone Trip Generation Tables
- Zone Trip Assignment Detail Tables



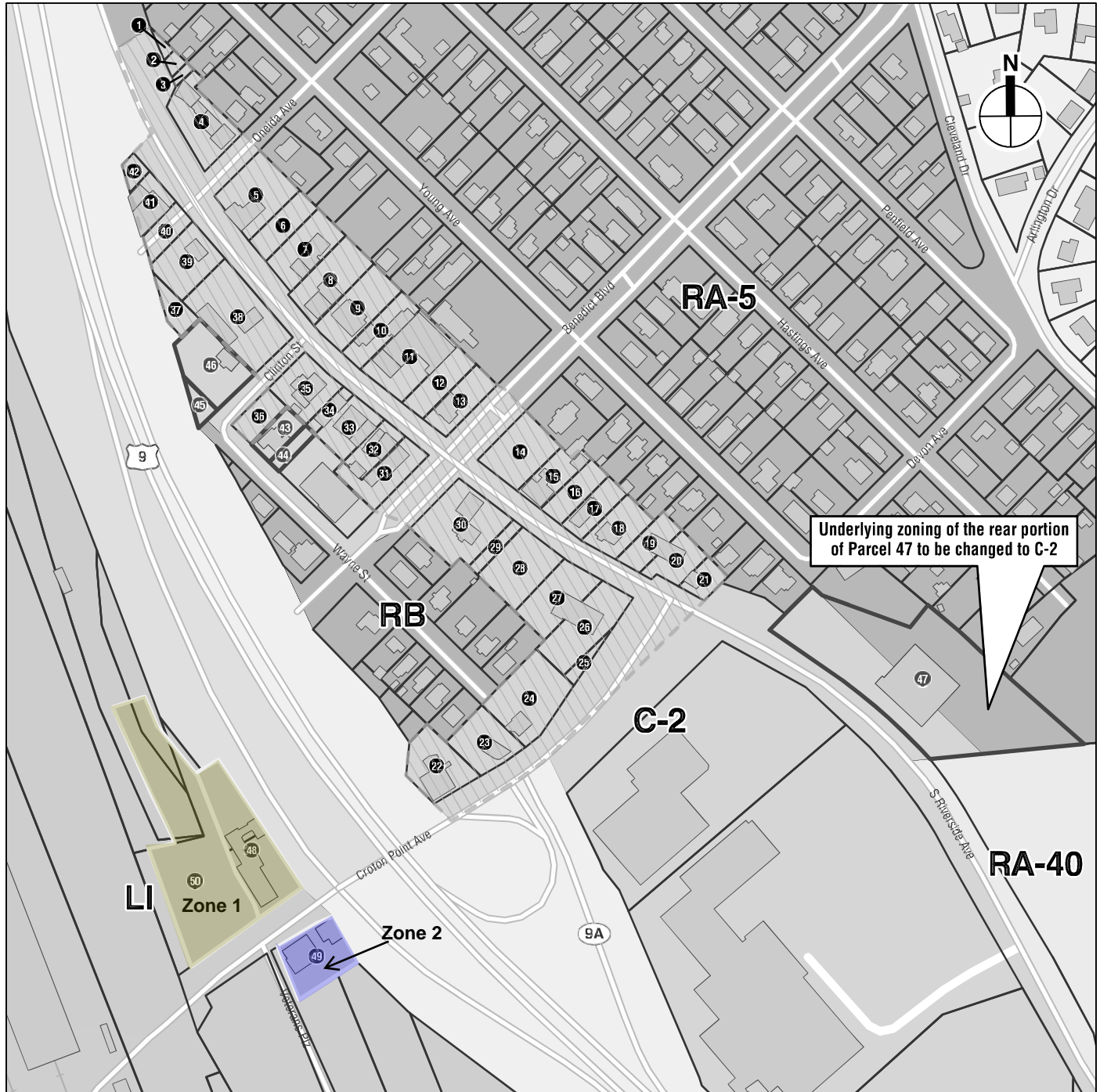
- Harmon/South Riverside Gateway Overlay District
- Harmon/South Riverside Gateway Overlay District – Proposed Expansion
- Proposed Transit Oriented Development (TOD) Special Permit Parcel

Zone Groups	
Zone	Parcel(s) Map ID
1	1-8, 37-42
2	33-36, 38, 43-46
3	9-12, 31-34
4	30-32, 43, 44
5	13, 14
6	15-20, 25-29
7	21, 47
8	24-27
9	23
10	22

Note:
Parcels with assumed multiple access points may be included in multiple zones.

Note: Boundary shown for parcel 50 is based on interpretation of paper survey provided by the Village and is approximate. All other boundaries were exported from the Westchester County GIS database.

Zones (Parcel Groups) for Trip Assignments - HSRG
Figure 1



- Harmon/South Riverside Gateway Overlay District
- Harmon/South Riverside Gateway Overlay District – Proposed Expansion
- Proposed Transit Oriented Development (TOD) Special Permit Parcel

Zone Groups		
Zone	Parcel(s)	Map ID
1	48, 50	
2	49	

0 500 FEET

Note: Boundary shown for parcel 50 is based on interpretation of paper survey provided by the Village and is approximate. All other boundaries were exported from the Westchester County GIS database.

Zones (Parcel Groups) for Trip Assignments - LI TOD
Figure 1

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	0 Units									
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	74 Units	5	16	21	18	11	29	15	15	30
	Subtotal Residential				74 Units	5	16	21	18	11	29	15	15	30
	Internal Trips ⁽⁶⁾					-1	-1	-2	-2	-1	-3	-2	-1	-3
	Mass Transit Credit ⁽⁷⁾					0	-2	-2	-2	-1	-3	-1	-2	-3
	Total Residential				74 Units	4	13	17	14	9	23	12	12	24
Commercial	Office	712 / 710	Small Office Building (AM, PM) / General Office Building (Sat.) ⁽³⁾	6.304 kSF ⁽⁸⁾	9	2	11	5	9	14	2	1	3	
				Internal Trips ⁽⁶⁾	-1	0	-1	-1	0	-1	0	0	0	
				Mass Transit Credit ⁽⁷⁾	-1	0	-1	0	-1	-1	0	0	0	
				Total Office	7	2	9	4	8	12	2	1	3	
	Retail	822	Strip Retail Plaza (<40k) ⁽⁴⁾	6.675 kSF ⁽⁸⁾	10	6	16	22	22	44	22	22	44	
				Internal Trips ⁽⁶⁾	-1	-1	-2	-2	-2	-4	-2	-2	-4	
				Mass Transit Credit ⁽⁷⁾	-1	0	-1	-2	-2	-4	-2	-2	-4	
				Pass-by Trips ⁽⁹⁾	-2	-1	0	-6	-6	-12	-5	-5	-9	
				Total Retail	6	4	13	12	12	24	13	13	27	
				5.562 kSF ⁽⁸⁾	2	2	4	29	14	43	35	24	59	
				Internal Trips ⁽⁶⁾	0	0	0	-3	-1	-4	-4	-2	-6	
				Mass Transit Credit ⁽⁷⁾	0	0	0	-3	-1	-4	-3	-2	-5	
	Restaurant	931	Fine Dining Restaurant ⁽⁵⁾	Pass-by Trips ⁽¹⁰⁾	0	0	-1	-10	-5	-15	-16	-11	-27	
				Total Restaurant	2	2	3	13	7	20	12	9	21	
Total Commercial				18.541 kSF	15	8	25	29	27	56	27	23	51	
TOTAL TRIP GENERATION						19	21	42	43	36	79	39	35	75

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (3) ITE rate of 1.67 trips/1,000 SF (82% entering, 18% exiting) was used for the Weekday AM Peak Hour
ITE rate of 2.16 trips/1,000 SF (34% entering, 66% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.53 trips/1,000 SF (54% entering, 46% exiting) was used for the Saturday Midday Peak Hour. ITE Rates unavailable for the "Small Office Building" land use for the Saturday Midday Peak Hour, therefore, "General Office Building" land use rates were utilized instead.
- (4) ITE rate of 2.36 trips/1,000 SF (60% entering, 40% exiting) was used for the Weekday AM Peak Hour
ITE rate of 6.59 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday PM Peak Hour
ITE rate of 6.57 trips/1,000 SF (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour
- (5) ITE rate of 0.73 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday AM Peak Hour
ITE rate of 7.80 trips/1,000 SF (67% entering, 33% exiting) was used for the Weekday PM Peak Hour
ITE rate of 10.68 trips/1,000 SF (59% entering, 41% exiting) was used for the Saturday Midday Peak Hour
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.
- (8) The commercial square footage was assumed to be 34% office, 36% retail, and 30% restaurant.
- (9) Pass-by trip percentage of 34% utilized for the Weekday PM peak hour and 26% utilized for the Saturday Midday peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 820 "Shopping Center". ITE Pass-by trip percentage unavailable for Land Use 820 for the Weekday AM peak hour and was developed from the ratio of Weekday AM to Weekday PM peak hour trips yielding a pass-by trip percentage of 20%.
- (10) Pass-by trip percentage of 44% utilized for the Weekday PM peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 931 "Quality Restaurant". ITE Pass-by trip percentages unavailable for Land Use 931 for the Weekday AM and Saturday Midday peak hours and were developed from the ratio of Weekday AM and Saturday Midday to Weekday PM peak hour trips yielding pass-by trip percentages of 24% and 57% for the Weekday AM and Saturday Midday peak hours, respectively.

***Source:** ITE *Trip Generation Manual, 11th Edition*

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	0 Units									
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	13 Units	3	7	10	3	2	5	3	2	5
	Subtotal Residential				13 Units	3	7	10	3	2	5	3	2	5
	Internal Trips ⁽⁶⁾					0	-1	-1	0	-1	-1	0	-1	-1
	Mass Transit Credit ⁽⁷⁾					0	-1	-1	0	0	0	0	0	0
	Total Residential				13 Units	3	5	8	3	1	4	3	1	4
Commercial	Office	712 / 710	Small Office Building (AM, PM) / General Office Building (Sat.) ⁽³⁾	1.119 kSF ⁽⁸⁾	2	0	2	1	1	2	1	0	1	
				Internal Trips ⁽⁶⁾	0	0	0	0	0	0	0	0	0	
				Mass Transit Credit ⁽⁷⁾	0	0	0	0	0	0	0	0	0	
				Total Office	2	0	2	1	1	2	1	0	1	
	Retail	822	Strip Retail Plaza (<40k) ⁽⁴⁾	1.185 kSF ⁽⁸⁾	2	1	3	4	4	8	4	4	8	
				Internal Trips ⁽⁶⁾	0	0	0	0	-1	-1	0	-1	-1	
				Mass Transit Credit ⁽⁷⁾	0	0	0	0	-1	-1	0	-1	-1	
				Pass-by Trips ⁽⁹⁾	0	0	0	-1	-1	-2	-1	-1	-2	
				Total Retail	2	1	3	3	1	4	3	1	4	
				0.987 kSF ⁽⁸⁾	1	0	1	5	3	8	6	5	11	
	Restaurant	931	Fine Dining Restaurant ⁽⁵⁾	Internal Trips ⁽⁶⁾	0	0	0	-1	0	-1	-1	0	-1	
				Mass Transit Credit ⁽⁷⁾	0	0	0	0	-1	-1	-1	0	-1	
				Pass-by Trips ⁽¹⁰⁾	0	0	0	-2	-1	-3	-2	-3	-5	
				Total Restaurant	1	0	1	2	1	3	2	2	4	
Total Commercial				3.291 kSF	5	1	6	6	3	9	6	3	9	
TOTAL TRIP GENERATION					8	6	14	9	4	13	9	4	13	

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.32(X) + 5.84$ (26% entering, 74% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (3) ITE rate of 1.67 trips/1,000 SF (82% entering, 18% exiting) was used for the Weekday AM Peak Hour
ITE rate of 2.16 trips/1,000 SF (34% entering, 66% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.53 trips/1,000 SF (54% entering, 46% exiting) was used for the Saturday Midday Peak Hour. ITE Rates unavailable for the "Small Office Building" land use for the Saturday Midday Peak Hour, therefore, "General Office Building" land use rates were utilized instead.
- (4) ITE rate of 2.36 trips/1,000 SF (60% entering, 40% exiting) was used for the Weekday AM Peak Hour
ITE rate of 6.59 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday PM Peak Hour
ITE rate of 6.57 trips/1,000 SF (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour
- (5) ITE rate of 0.73 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday AM Peak Hour
ITE rate of 7.80 trips/1,000 SF (67% entering, 33% exiting) was used for the Weekday PM Peak Hour
ITE rate of 10.68 trips/1,000 SF (59% entering, 41% exiting) was used for the Saturday Midday Peak Hour
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.
- (8) The commercial square footage was assumed to be 34% office, 36% retail, and 30% restaurant.
- (9) Pass-by trip percentage of 34% utilized for the Weekday PM peak hour and 26% utilized for the Saturday Midday peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 820 "Shopping Center". ITE Pass-by trip percentage unavailable for Land Use 820 for the Weekday AM peak hour and was developed from the ratio of Weekday AM to Weekday PM peak hour trips yielding a pass-by trip percentage of 20%.
- (10) Pass-by trip percentage of 44% utilized for the Weekday PM peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 931 "Quality Restaurant". ITE Pass-by trip percentages unavailable for Land Use 931 for the Weekday AM and Saturday Midday peak hours and were developed from the ratio of Weekday AM and Saturday Midday to Weekday PM peak hour trips yielding pass-by trip percentages of 24% and 57% for the Weekday AM and Saturday Midday peak hours, respectively.

***Source:** ITE *Trip Generation Manual, 11th Edition*

HSRG Overlay and LI District Zoning Amendments - HSRG ZONE 1

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	80 Units	12	36	48	35	20	55	17	16	33
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				80 Units	12	36	48	35	20	55	17	16	33
	Internal Trips ⁽⁶⁾					-1	-4	-5	-4	-2	-6	-2	-1	-3
						11	32	43	31	18	49	15	15	30
	Mass Transit Credit ⁽⁷⁾					-1	-3	-4	-3	-2	-5	-2	-1	-3
	Total Residential				80 Units	10	29	39	28	16	44	13	14	27
TOTAL TRIP GENERATION						10	29	39	28	16	44	13	14	27

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Middyay Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Middyay Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

*Source: ITE Trip Generation Manual, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	42 Units	9	27	36	25	14	39	9	8	17
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				42 Units	9	27	36	25	14	39	9	8	17
	Internal Trips ⁽⁶⁾					-1	-3	-4	-3	-1	-4	-1	-1	-2
						8	24	32	22	13	35	8	7	15
	Mass Transit Credit ⁽⁷⁾					-1	-2	-3	-2	-2	-4	-1	-1	-2
	Total Residential				42 Units	7	22	29	20	11	31	7	6	13
TOTAL TRIP GENERATION						7	22	29	20	11	31	7	6	13

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	47 Units	9	28	37	26	15	41	10	9	19
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				47 Units	9	28	37	26	15	41	10	9	19
	Internal Trips ⁽⁶⁾					-1	-3	-4	-3	-1	-4	-1	-1	-2
						8	25	33	23	14	37	9	8	17
	Mass Transit Credit ⁽⁷⁾					-1	-2	-3	-2	-2	-4	-1	-1	-2
	Total Residential				47 Units	7	23	30	21	12	33	8	7	15
TOTAL TRIP GENERATION						7	23	30	21	12	33	8	7	15

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	17 Units	7	21	28	18	10	28	4	3	7
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				17 Units	7	21	28	18	10	28	4	3	7
	Internal Trips ⁽⁶⁾					-1	-2	-3	-2	-1	-3	0	-1	-1
						6	19	25	16	9	25	4	2	6
	Mass Transit Credit ⁽⁷⁾					-1	-2	-3	-2	-1	-3	0	-1	-1
	Total Residential				17 Units	5	17	22	14	8	22	4	1	5
TOTAL TRIP GENERATION						5	17	22	14	8	22	4	1	5

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	17 Units	7	21	28	18	10	28	4	3	7
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				17 Units	7	21	28	18	10	28	4	3	7
	Internal Trips ⁽⁶⁾					-1	-2	-3	-2	-1	-3	0	-1	-1
						6	19	25	16	9	25	4	2	6
	Mass Transit Credit ⁽⁷⁾					-1	-2	-3	-2	-1	-3	0	-1	-1
	Total Residential				17 Units	5	17	22	14	8	22	4	1	5
TOTAL TRIP GENERATION						5	17	22	14	8	22	4	1	5

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

HSRG Overlay and LI District Zoning Amendments - HSRG ZONE 6

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	66 Units	10	33	43	31	18	49	14	13	27
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				66 Units	10	33	43	31	18	49	14	13	27
	Internal Trips ⁽⁶⁾					-1	-3	-4	-3	-2	-5	-1	-2	-3
						9	30	39	28	16	44	13	11	24
	Mass Transit Credit ⁽⁷⁾					-1	-3	-4	-3	-1	-4	-1	-1	-2
	Total Residential				66 Units	8	27	35	25	15	40	12	10	22
TOTAL TRIP GENERATION						8	27	35	25	15	40	12	10	22

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Middyay Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Middyay Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

*Source: ITE Trip Generation Manual, 11th Edition

Trip Generation*

HSRG Overlay and LI District Zoning Amendments - HSRG ZONE 7

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	70 Units	11	34	45	32	19	51	15	14	29
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				70 Units	11	34	45	32	19	51	15	14	29
	Internal Trips ⁽⁶⁾					-1	-4	-5	-3	-2	-5	-2	-1	-3
						10	30	40	29	17	46	13	13	26
	Mass Transit Credit ⁽⁷⁾					-1	-3	-4	-3	-2	-5	-1	-2	-3
	Total Residential				70 Units	9	27	36	26	15	41	12	11	23
TOTAL TRIP GENERATION						9	27	36	26	15	41	12	11	23

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

*Source: ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	26 Units	7	24	31	20	12	32	6	5	11
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				26 Units	7	24	31	20	12	32	6	5	11
	Internal Trips ⁽⁶⁾					-1	-2	-3	-2	-1	-3	-1	0	-1
						6	22	28	18	11	29	5	5	10
	Mass Transit Credit ⁽⁷⁾					-1	-2	-3	-2	-1	-3	-1	0	-1
	Total Residential				26 Units	5	20	25	16	10	26	4	5	9
TOTAL TRIP GENERATION						5	20	25	16	10	26	4	5	9

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	9 Units	6	20	26	15	9	24	2	2	4
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				9 Units	6	20	26	15	9	24	2	2	4
	Internal Trips ⁽⁶⁾					-1	-2	-3	-2	0	-2	0	0	0
						5	18	23	13	9	22	2	2	4
	Mass Transit Credit ⁽⁷⁾					-1	-1	-2	-1	-1	-2	0	0	0
	Total Residential				9 Units	4	17	21	12	8	20	2	2	4
TOTAL TRIP GENERATION						4	17	21	12	8	20	2	2	4

Notes:

- (1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.
- (2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.
- (6) Internal trips calculated utilizing an internal trip credit of 10%.
- (7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

Trip Generation*

HSRG Overlay and LI District Zoning Amendments - HSRG ZONE 10

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	10 Units	6	20	26	16	9	25	2	2	4
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	0 Units									
	Subtotal Residential				10 Units	6	20	26	16	9	25	2	2	4
	Internal Trips ⁽⁶⁾					-1	-2	-3	-2	-1	-3	0	0	0
						5	18	23	14	8	22	2	2	4
	Mass Transit Credit ⁽⁷⁾					-1	-1	-2	-1	-1	-2	0	0	0
	Total Residential				10 Units	4	17	21	13	7	20	2	2	4
TOTAL TRIP GENERATION						4	17	21	13	7	20	2	2	4

Notes:

(1) ITE equation $T = 0.31(X) + 22.85$ (24% entering, 76% exiting) was used for the Weekday AM Peak Hour

ITE equation $T = 0.43(X) + 20.55$ (63% entering, 37% exiting) was used for the Weekday PM Peak Hour

ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.

(2) ITE equation $T = 0.44(X) - 11.61$ (23% entering, 77% exiting) was used for the Weekday AM Peak Hour

ITE equation $T = 0.39(X) + 0.34$ (61% entering, 39% exiting) was used for the Weekday PM Peak Hour

ITE Equation $\ln(T) = 1.00 \ln(x) - 0.91$ (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.

(6) Internal trips calculated utilizing an internal trip credit of 10%.

(7) Mass Transit credit calculated utilizing a 10% mass transit credit.

***Source:** ITE *Trip Generation Manual*, 11th Edition

HSRG Overlay and LI District Zoning Amendments

HSRG Build Projects - Trip Generation Assignments

	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
	Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6		Zone 7		Zone 8		Zone 9		Zone 10	
AM	10	29	7	22	7	23	5	17	5	17	8	27	9	27	5	20	4	17	4	17
PM	28	16	20	11	21	12	14	8	14	8	25	15	26	15	16	10	12	8	13	7

INTERSECTIONS			HSRG BUILD INCREMENT		
			RESIDENTIAL PROJECT TRAFFIC		
			AM	PM	
1. Croton Point Avenue & Veterans Plaza	EB	L	0	0	
	T		3	9	
	R		0	0	
	WB	L	32	17	
	T		11	6	
	R		0	0	
	NB	L	0	0	
	T		0	0	
	R		10	28	
	SB	L	0	0	
	T		0	0	
	R		0	0	
	2. Croton Point Avenue & Route 9/9A SB Ramps	EB	T	13	38
	R		0	0	
	WB	L	76	39	
	T		43	22	
	SB	L	10	28	
	T		0	0	
	R		0	0	
	3. Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.	EB	L	1	4
		T		25	60
R			3	1	
WB		L	27	14	
T			101	56	
R			1	4	
NB		L	1	5	
T			1	4	
R			20	57	
SB		L	5	2	
T			3	1	
R			9	4	
4. South Riverside Avenue/Croton Point Avenue		EB	L	43	92
	R		9	19	
	NB	L	20	13	
	T		9	10	
	SB	T	9	10	
	R		98	59	
	5. South Riverside Avenue/Benedict Blvd.	EB	L	0	0
	T		0	0	
	R		0	0	
	WB	L	16	15	
	T		1	1	
	R		5	8	
	NB	L	4	11	
	T		34	60	
	R		15	16	
	SB	L	8	6	
	T		60	43	
	R		1	2	

[illegible]

HSRG Overlay and LI District Zoning Amendments

LI TOD Resid. Build Projects

Trip Generation Assignments

	IN	OUT	IN	OUT
	Zone 1		Zone 2	
AM	4	13	3	5
PM	14	9	3	1

INTERSECTIONS			LI TOD BUILD INCREMENT	
			RESIDENTIAL PROJECT TRAFFIC	
			AM	PM
1. Croton Point Avenue & Veterans Plaza				
	EB	L	0	1
		T	0	0
		R	0	0
	WB	L	2	2
		T	0	0
		R	3	11
	NB	L	0	0
		T	1	2
		R	4	1
	SB	L	10	7
		T	2	1
		R	1	0
2. Croton Point Avenue & Route 9/9A SB Ramps				
	EB	T	8	5
		R	6	4
	WB	L	0	0
		T	5	11
	SB	L	0	0
		T	0	0
		R	1	3
3. Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.				
	EB	L	0	0
		T	5	3
		R	3	2
	WB	L	0	0
		T	2	5
		R	0	0
	NB	L	2	6
		T	0	0
		R	0	0
	SB	L	0	0
		T	0	0
		R	0	0
4. South Riverside Avenue/Croton Point Avenue				
	EB	L	5	3
		R	1	1
	NB	L	0	1
		T	0	0
	SB	T	0	0
		R	2	4
5. South Riverside Avenue/Benedict Blvd.				
	EB	L	0	0
		T	0	0
		R	0	0
	WB	L	1	2
		T	0	0
		R	0	0
	NB	L	0	0
		T	3	2
		R	2	1
	SB	L	0	0
		T	1	3
		R	0	0

Zone 1		Zone 2	
IN	OUT	IN	OUT
5%			
		5%	
		80%	
80%			
			5%
15%			80%
80%			
15%			
5%			
45%			45%
35%			35%
65%		65%	
15%		15%	
	30%		30%
	15%		15%
30%		30%	
35%		35%	
	25%		25%
	5%		5%
5%		5%	
25%		25%	
10%		10%	
	15%		15%
	10%		10%
15%		15%	

HSRG Overlay and LI District Zoning Amendments

LI TOD Comm. Build Projects

Trip Generation Assignments

	IN	OUT	IN	OUT
	Zone 1		Zone 2	
AM	15	8	5	1
PM	29	27	6	3

INTERSECTIONS		LI TOD BUILD INCREMENT	
		COMMERCIAL PROJECT TRAFFIC	
		AM	PM
1. Croton Point Avenue & Veterans Plaza			
	EB L	1	1
	T	0	0
	R	0	0
	WB L	4	5
	T	0	0
	R	12	23
	NB L	0	0
	T	2	4
	R	1	2
	SB L	6	22
	T	1	4
	R	0	1
2. Croton Point Avenue & Route 9/9A SB Ramps			
	EB T	4	14
	R	3	11
	WB L	0	0
	T	13	23
	SB L	0	0
	T	0	0
	R	3	5
3. Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.			
	EB L	0	0
	T	3	9
	R	1	5
	WB L	0	0
	T	6	11
	R	0	0
	NB L	7	12
	T	0	0
	R	0	0
	SB L	0	0
	T	0	0
	R	0	0
4. South Riverside Avenue/Croton Point Avenue			
	EB L	2	8
	R	0	2
	NB L	1	2
	T	0	0
	SB T	0	0
	R	5	9
	EB L	0	0
	T	0	0
	R	0	0
	WB L	2	4
	T	0	0
	R	0	0
	NB L	0	0
	T	1	5
	R	1	3
	SB L	0	0
	T	3	5
	R	0	0
5. South Riverside Avenue/Benedict Blvd.			

Zone 1		Zone 2	
IN	OUT	IN	OUT
5%			
		5%	
		80%	
80%			5%
15%			80%
	80%		
	15%		
	5%		
	45%		45%
	35%		35%
65%		65%	
15%		15%	
	30%		30%
	15%		15%
30%		30%	
35%		35%	
	25%		25%
	5%		5%
5%		5%	
25%		25%	
10%		10%	
	15%		15%
	10%		10%
15%		15%	

Previous AKRF Memorandums

- Trip Generation Memorandum (2/25/2022)
- Traffic Screening Memorandum (5/27/2022)



Environmental, Planning, and Engineering Consultants

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White Plains, NY 10601
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www.akrf.com

Memorandum

To: Village of Croton-on-Hudson
From: AKRF, Inc.
Date: February 25, 2022
Re: Trip Generation Summary – Proposed HSRG Overlay and LI District Zoning Amendments

AKRF has completed trip generation calculations for the theoretical maximum buildout projected under the proposed HSRG Overlay and LI District zoning amendments. The calculations are based on trip generation rates and data provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition (the most recent edition available at this time). The results of the trip generation calculations are presented in **Table 1**.

To generate a theoretical maximum buildout scenario for the HSRG Overlay area, it was assumed that all parcels within the existing HSRG Overlay district and proposed expansion area would be redeveloped with multifamily residential buildings with a floor area ratio (FAR) of 0.8, a maximum height of three stories/35 feet, and compliance with on-site (off-street) parking requirements as per the proposed zoning amendments. The theoretical maximum buildout scenario for the HSRG Overlay resulted in a total of 383 residential units and 583 off-street parking spaces.

To generate a theoretical maximum buildout scenario for the LI district parcels, the calculations assumed that each of the three parcels (48, 49, and 50) would be redeveloped with a 1.2 FAR mixed-use building containing ground floor commercial space with residential space above, at a maximum height of five stories, while also meeting the on-site parking requirements as per the proposed zoning amendments. The theoretical maximum buildout scenario for the LI district parcels resulted in a total of 87 residential units, 21,831 square feet of ground floor commercial space, and 142 off-street parking spaces (55 spaces for commercial uses and 87 spaces for residential uses).

Off-street parking requirements for any new multifamily residential uses in the HSRG Overlay area are expected to be the same as what is currently permitted for mixed-use buildings through Section 230-20.3(d) of the Village Zoning Code (one parking space per unit, plus one additional parking space for each bedroom in the unit in excess of one bedroom). However, because the buildout calculations did not account for bedrooms and assumed each residential unit would be

1,000 square feet in area, a ratio of 1.5 parking spaces per projected unit was applied for the HSRG Overlay, which is considered conservative. Due to the Village's desire to introduce a Transit-Oriented Development (TOD) concept to the LI district parcels included in the study, which are within close proximity to public transit and municipal parking lots, off-street parking requirements for mixed-use development on the three LI district parcels was assumed to be 1 parking space per residential unit and 1 parking space per 400 square feet of commercial floor area. For context, the Village's C-2 (General Commercial) district currently permits the greater of 1 space per 300 square feet of office floor area or 1 space per 250 square feet of retail/service area.

For both the HSRG Overlay and LI district parcels included in the study, projected uses were assumed to be accommodated within one building per parcel, with the projected amount of required parking accommodated on each parcel as well. The area calculation for the required number of parking spaces assumed that one space requires 325 sf. This was calculated by adding the area of a typical parking space (10 ft. x 20 ft. = 200 sf) to the area equal to half the circulation aisle (10 ft. x 12.5 ft = 125 sf).

The complete lists of assumptions utilized to complete the buildout and parking calculations, which have been vetted through the Village, will be included in the FEAF Part 3 Supplemental Narrative being prepared by AKRF.

Trip generation calculations were performed for the Weekday AM, Weekday PM, and Saturday Midday peak hours. Credits were taken account for internal trips between the land uses (i.e., pedestrian trips between land uses that would not generate additional vehicle trips) within the Project Area, and for mass transit usage. In addition, pass-by trip¹ credits were taken for the retail and restaurant land uses. As shown in **Table 1**, the total trip generation numbers would be 165, 241, and 216 trips for the Weekday AM, Weekday PM, and Saturday Midday peak hours.

Since the number of trips for each peak hour examined exceeds 100 trips, it is anticipated that a quantified analysis at key intersections will be required. The quantified analysis would assist the Village in assessing the potential for traffic impacts, in the unlikely event that the entirety of the Project Area is fully redeveloped under the parameters of the proposed zoning amendments, as assumed through the conservative buildout calculations. Selection of any intersections to be included in the analysis would be determined based on consultation with the Village.

Figure 1 shows the nine intersections proposed for quantified analysis and also illustrates the general trip distribution pattern percentages to and from the Project Area. **Figures 2, 3, and 4** illustrate the estimated net trips (i.e., less any trip credits such as pass-by or transit credits) that would be distributed across the roadway network based on the percentages shown in **Figure 1**. It is important to note that the illustrated study area intersections, trip distribution patterns, and trip assignments are for preliminary discussion purposes only and are subject to modification based on consultation with the Village and any traffic data that would be collected in support of the quantified analysis (e.g., traffic counts).

¹ A pass-by trip is a trip already present in the traffic stream and is made as an intermediate stop on the way from an origin to a separate primary trip destination without a route diversion. Pass-by trips are not considered as new trips to the overall roadway network.

Table 1
Trip Generation*
Croton Zoning Study

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	383 Units	34	108	142	117	68	185	79	78	157
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	87 Units	6	21	27	21	13	34	18	17	35
	Subtotal Residential				470 Units	40	129	169	138	81	219	97	95	192
	Internal Trips ⁽⁶⁾					-4	-13	-17	-14	-8	-22	-10	-9	-19
	Mass Transit Credit ⁽⁷⁾					-4	-11	-15	-12	-8	-20	-9	-8	-17
	Total Residential				470 Units	32	105	137	112	65	177	78	78	156
Commercial	LI TOD	Office	712 / 710	Small Office Building (AM, PM) / General Office Building (Sat.) ⁽³⁾	7.423 kSF ⁽⁸⁾	10	2	12	5	11	16	2	2	4
					Internal Trips ⁽⁶⁾	-1	0	-1	-1	-1	-2	0	0	0
					Mass Transit Credit ⁽⁷⁾	-1	0	-1	0	-1	-1	0	0	0
					Total Office	8	2	10	4	9	13	2	2	4
		Retail	822	Strip Retail Plaza (<40k) ⁽⁴⁾	7.859 kSF ⁽⁸⁾	11	8	19	26	26	52	27	25	52
					Internal Trips ⁽⁶⁾	-1	-1	-2	-3	-2	-5	-3	-2	-5
					Mass Transit Credit ⁽⁷⁾	-1	-1	-2	-2	-3	-5	-2	-3	-5
					Pass-by Trips ⁽⁹⁾	-2	-1	0	-7	-7	-14	-6	-5	-11
					Total Retail	7	5	15	14	14	28	16	15	31
		Restaurant	931	Fine Dining Restaurant ⁽⁵⁾	6.549 kSF ⁽⁸⁾	3	2	5	34	17	51	41	29	70
					Internal Trips ⁽⁶⁾	0	-1	-1	-3	-2	-5	-4	-3	-7
					Mass Transit Credit ⁽⁷⁾	0	0	0	-3	-2	-5	-4	-2	-6
					Pass-by Trips ⁽¹⁰⁾	-1	0	-1	-12	-6	-18	-19	-14	-32
					Total Restaurant	2	1	3	16	7	23	14	10	25
	Total Commercial				21.831 kSF	17	8	28	34	30	64	32	27	60
TOTAL TRIP GENERATION						49	113	165	146	95	241	110	105	216

Notes:

(1) ITE equation T = 0.31(X) + 22.85 (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation T = 0.43(X) + 20.55 (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.

(2) ITE equation T = 0.44(X) - 11.61 (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation T = 0.39(X) + 0.34 (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation Ln(T) = 1.00 Ln(x) - 0.91 (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.

(3) ITE rate of 1.67 trips/1,000 SF (82% entering, 18% exiting) was used for the Weekday AM Peak Hour
ITE rate of 2.16 trips/1,000 SF (34% entering, 66% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.53 trips/1,000 SF (54% entering, 46% exiting) was used for the Saturday Midday Peak Hour. ITE Rates unavailable for the "Small Office Building" land use for the Saturday Midday Peak Hour, therefore, "General Office Building" land use rates were utilized instead.

(4) ITE rate of 2.36 trips/1,000 SF (60% entering, 40% exiting) was used for the Weekday AM Peak Hour
ITE rate of 6.59 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday PM Peak Hour
ITE rate of 6.57 trips/1,000 SF (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour

(5) ITE rate of 0.73 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday AM Peak Hour
ITE rate of 7.80 trips/1,000 SF (67% entering, 33% exiting) was used for the Weekday PM Peak Hour
ITE rate of 10.68 trips/1,000 SF (59% entering, 41% exiting) was used for the Saturday Midday Peak Hour

(6) Internal trips calculated utilizing an internal trip credit of 10%.

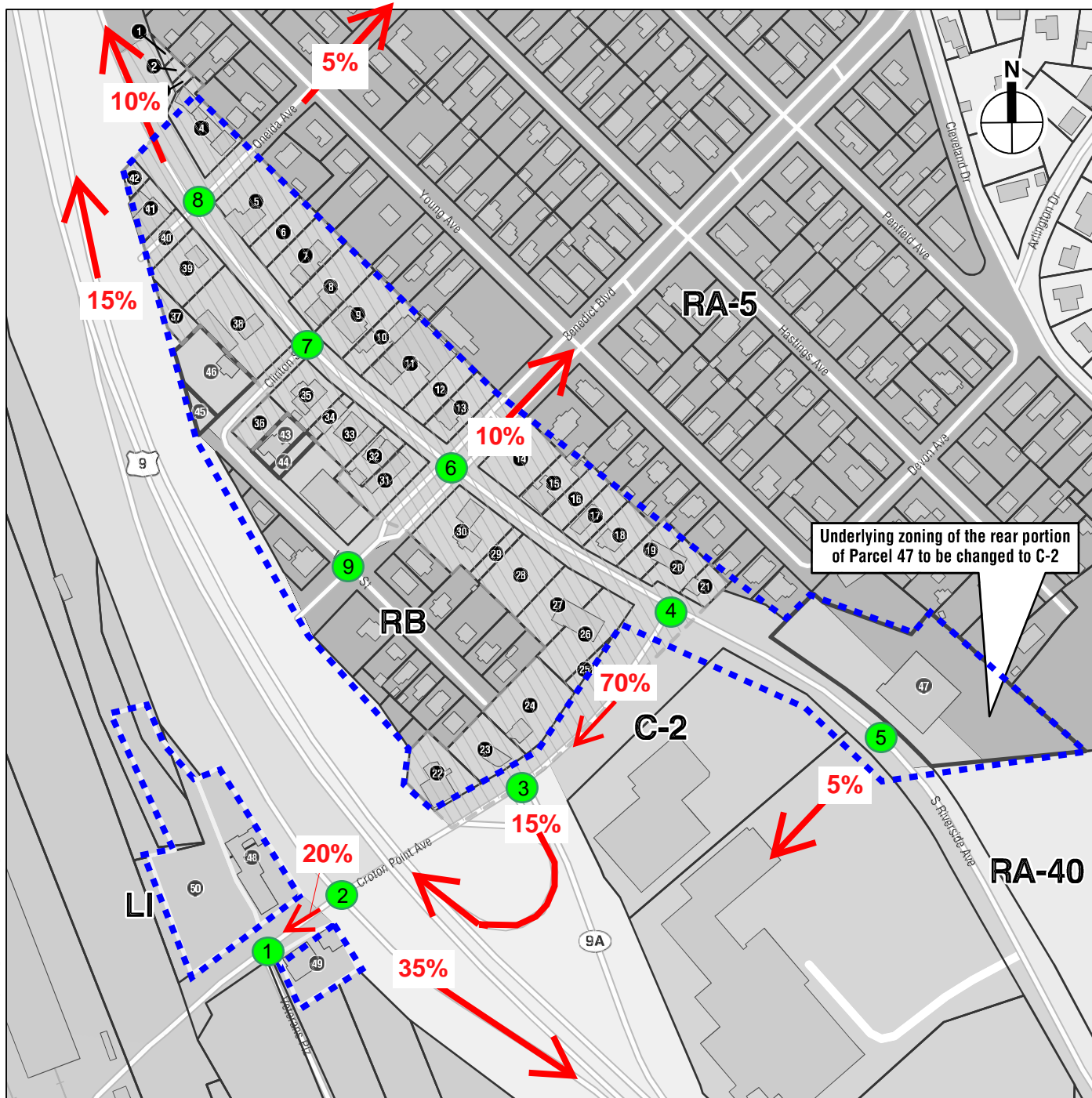
(7) Mass Transit credit calculated utilizing a 10% mass transit credit.

(8) The commercial square footage was assumed to be 34% office, 36% retail, and 30% restaurant.

(9) Pass-by trip percentage of 34% utilized for the Weekday PM peak hour and 26% utilized for the Saturday Midday peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 820 "Shopping Center". ITE Pass-by trip percentage unavailable for Land Use 820 for the Weekday AM peak hour and was developed from the ratio of Weekday AM to Weekday PM peak hour trips yielding a pass-by trip percentage of 20%.

(10) Pass-by trip percentage of 44% utilized for the Weekday PM peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 931 "Quality Restaurant". ITE Pass-by trip percentages unavailable for Land Use 931 for the Weekday AM and Saturday Midday peak hours and were developed from the ratio of Weekday AM and Saturday Midday to Weekday PM peak hour trips yielding pass-by trip percentages of 24% and 57% for the Weekday AM and Saturday Midday peak hours, respectively.

***Source:** ITE Trip Generation Manual, 11th Edition

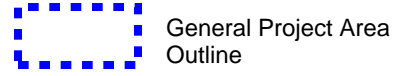
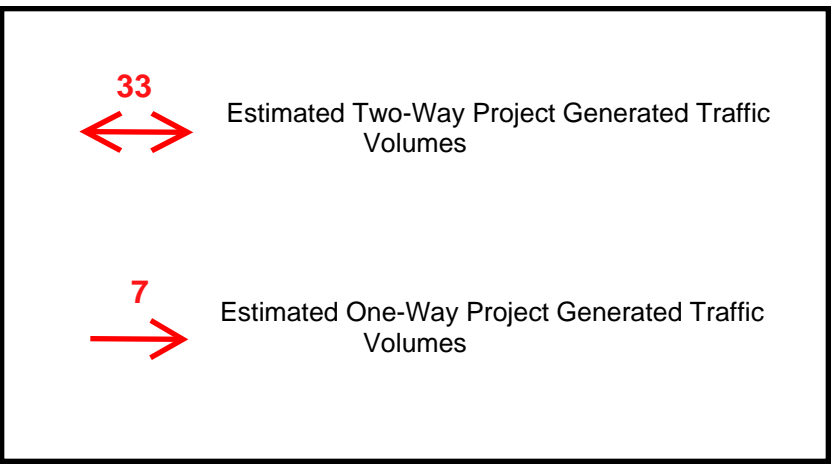
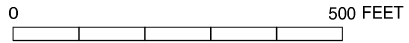
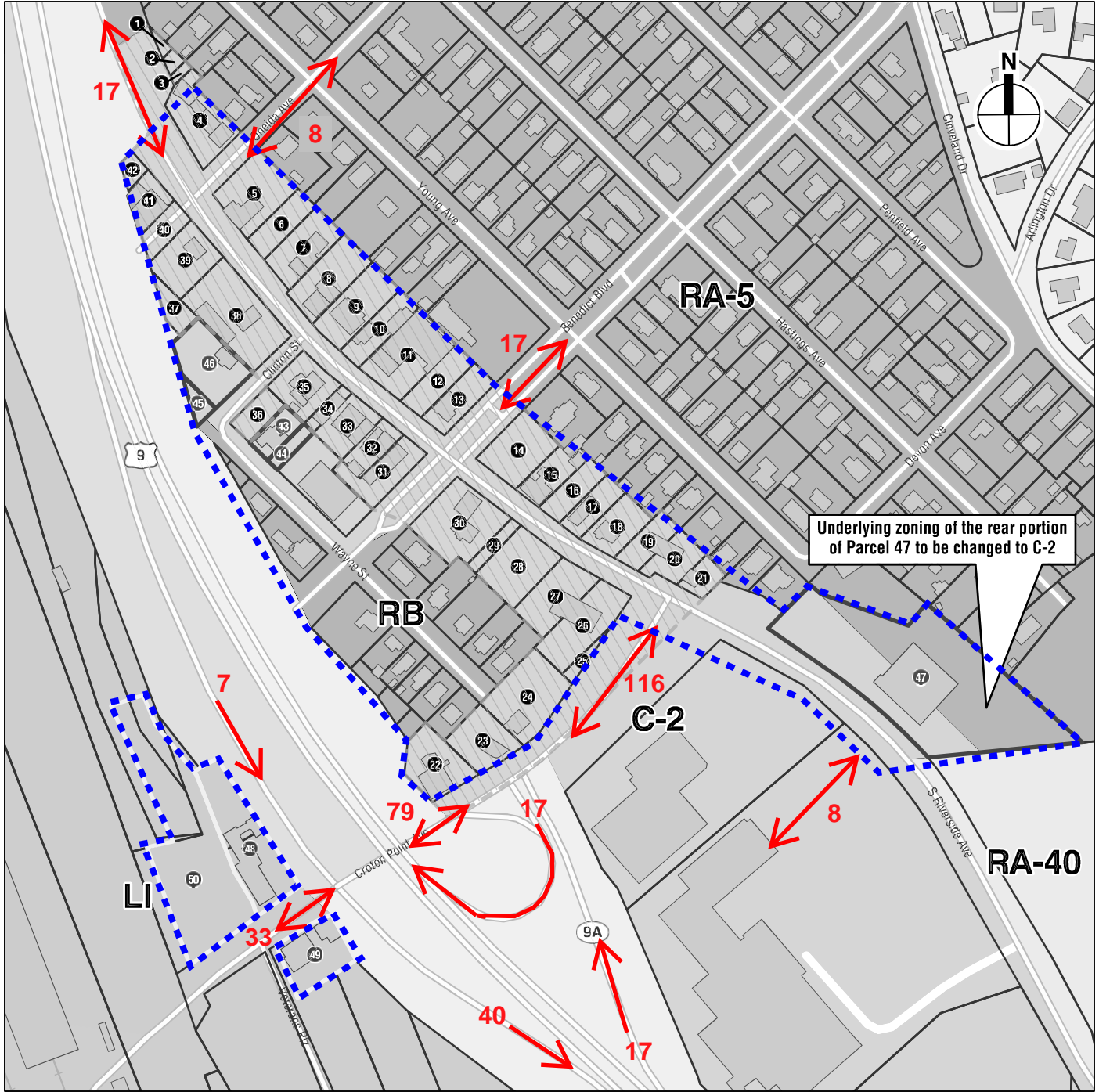


Proposed Study Area Intersections

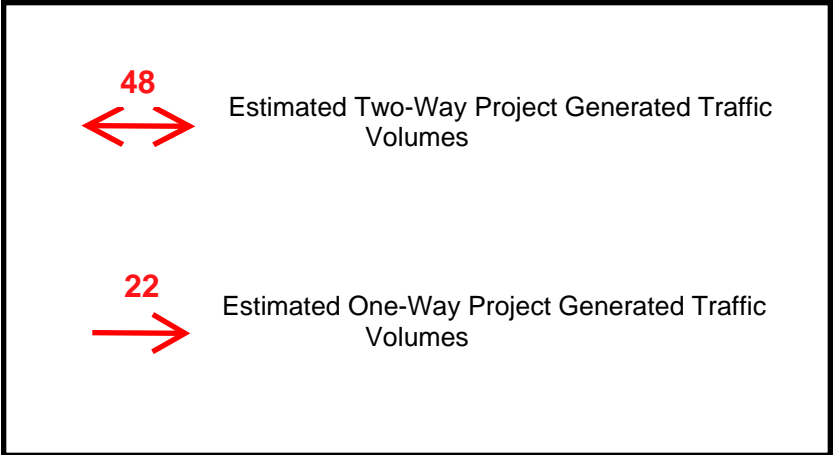
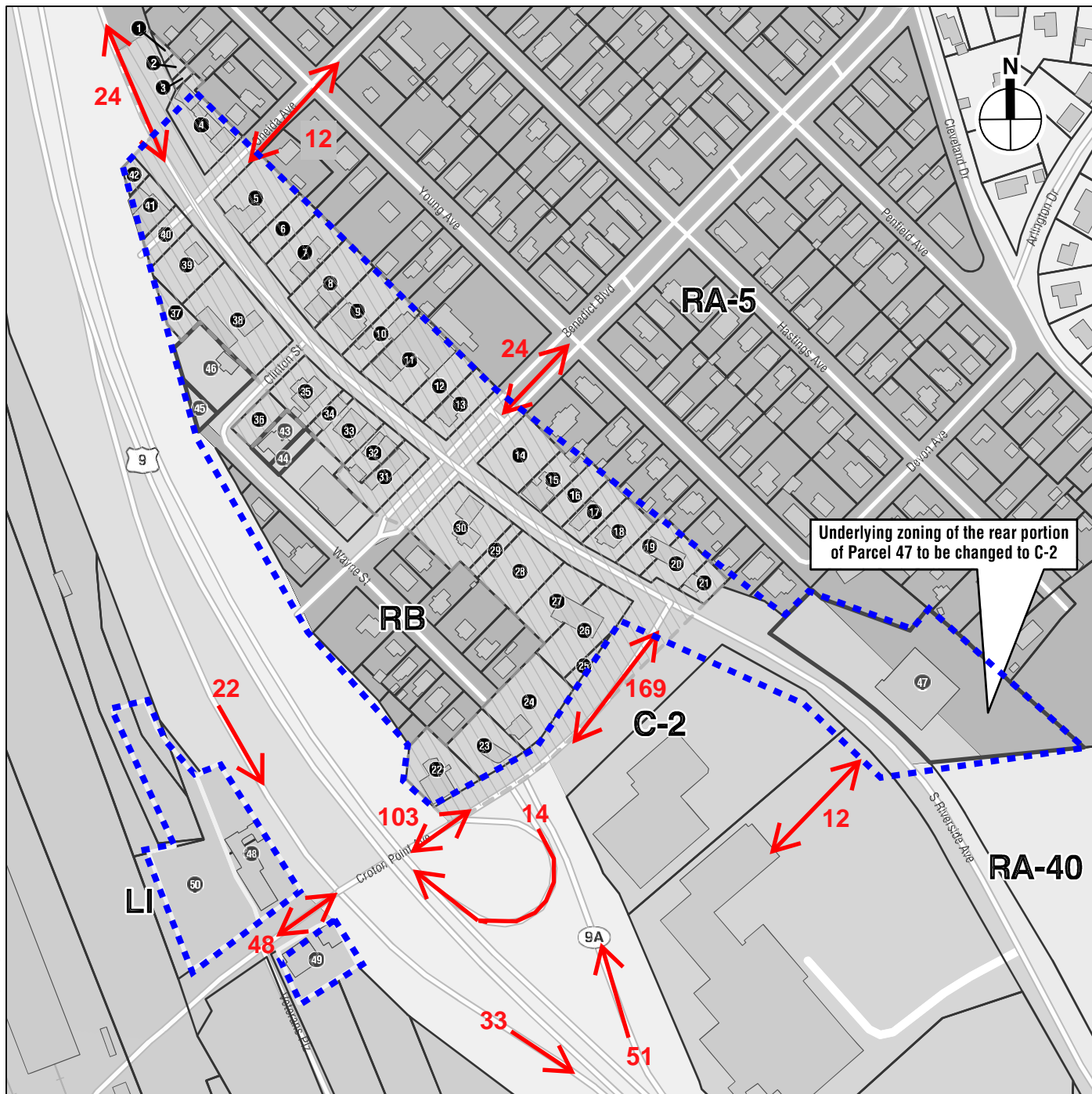
1. Croton Point Ave. and Veterans Plaza
2. Croton Point Ave. and Rt. 9/9A Southbound Ramps
3. Croton Point Ave. and Rt. 9/9A Northbound Ramps
4. Croton Point Ave. and S. Riverside Ave.
5. S. Riverside Ave. and Shopping Center Driveway
6. S. Riverside Ave. and Benedict Blvd.
7. S. Riverside Ave. and Clifton St.
8. S. Riverside Ave. and Oneida Ave.
9. Benedict Blvd. and Wayne St.

Proposed Turning Movement Count (TMC) Time Periods


Weekday AM: 7:00 AM - 10:00 AM
 Weekday PM: 4:00 PM - 7:00 PM
 Saturday Midday: 11:00 AM - 2:00 PM



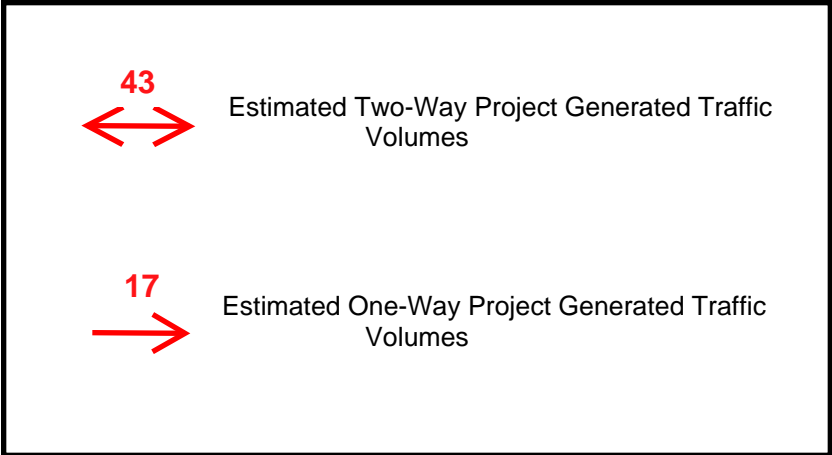
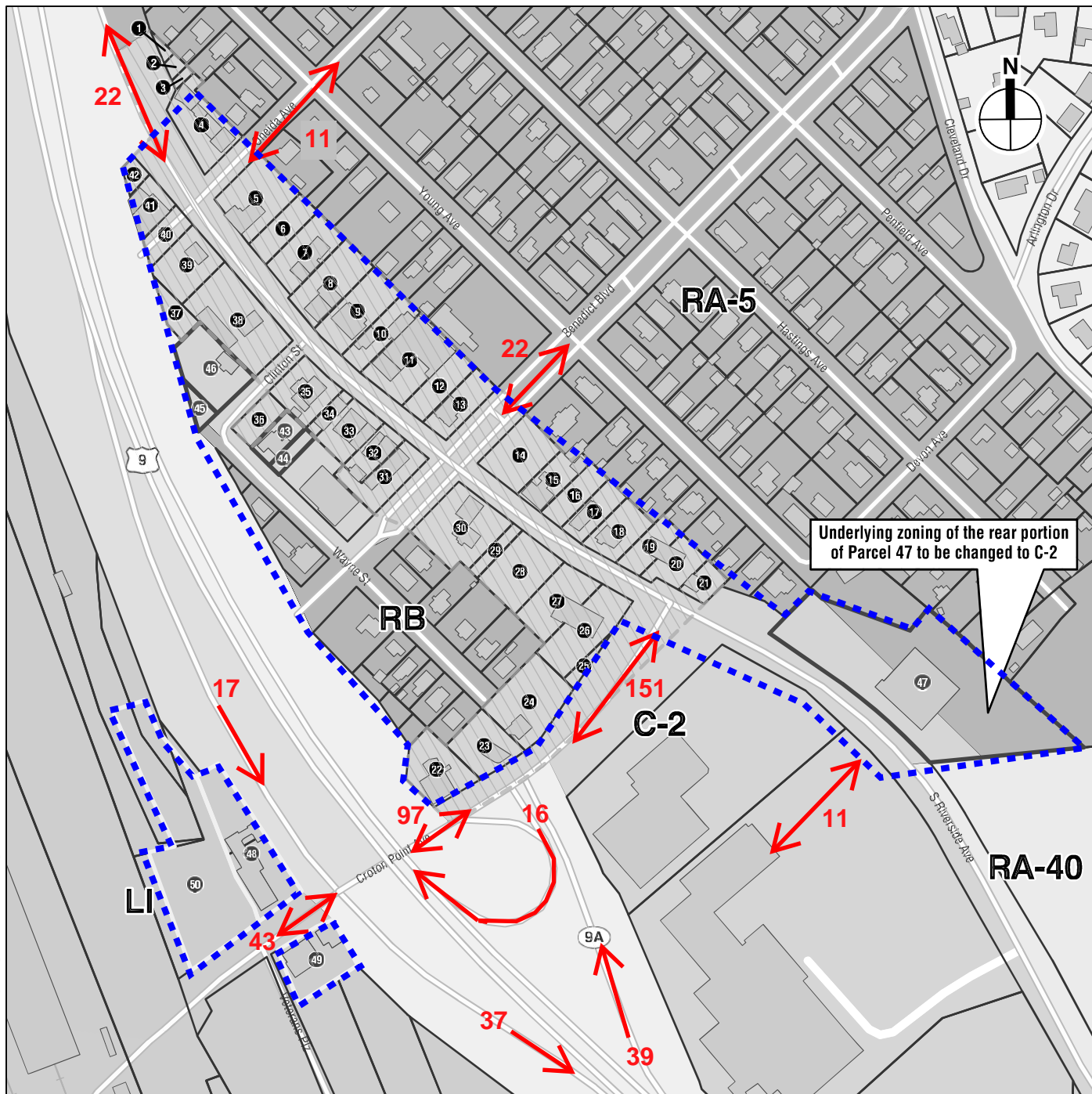
**ESTIMATED NET TRIP
ASSIGNMENT VOLUMES -
WEEKDAY AM PEAK HOUR**



0 500 FEET

 General Project Area Outline

**ESTIMATED NET TRIP
ASSIGNMENT VOLUMES -
WEEKDAY PM PEAK HOUR**



**ESTIMATED NET TRIP
ASSIGNMENT VOLUMES -
SATURDAY PEAK HOUR**



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Technical Memorandum

To: Village of Croton-on-Hudson
From: AKRF, Inc.
Date: May 27, 2022
Re: Traffic Screening Analysis – Proposed HSRG Overlay and LI District Zoning Amendments

This memorandum presents the results of the preliminary screening analysis that was conducted in advance of the preparation of the Traffic Impact Study (TIS) related to the theoretical maximum buildout projected under the proposed Harmon/South Riverside Gateway (HSRG) Overlay and Light Industrial (LI) District zoning amendments.

As indicated in the scope of work dated March 21, 2022, the following six intersections were proposed for analysis in the TIS:

1. Croton Point Ave. and Veterans Plaza
2. Croton Point Ave. and Rt. 9/9A Southbound Ramps
3. Croton Point Ave. and Rt. 9/9A Northbound Ramps
4. Croton Point Ave. and S. Riverside Ave.
5. S. Riverside Ave. and Benedict Blvd.
6. S. Riverside Ave. and Clinton St.

The preliminary screening analysis was conducted to estimate the likelihood of traffic impacts occurring at any of the intersections listed above. Any intersections determined to “screen-out” based on the criteria outlined below would be removed from the TIS study area list of intersections for quantified analysis.

A. SCREENING PROCEDURES

ASSESSMENT OF PROJECT GENERATED TRIPS

The first step of the screening process involved estimating the increase in traffic through each of the six intersections as a result of the proposed zoning amendments. The trip generation (as presented in AKRF’s February 25, 2022 memorandum to the Village, see **Attachment A**) was based on data presented in the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition*. Assumptions regarding potential driveway locations were utilized to develop trip assignments for the theoretical maximum buildout for the weekday AM and PM peak periods. Individual trip assignments were developed for groups of parcels

assumed to share common driveways/access points. The cumulative trip assignments were then utilized to estimate the increase in traffic that would pass through each intersection as a result of the proposed zoning amendments (see **Attachment A** for the cumulative parcel trip assignments for the HSRG Overlay and LI District).

Table 1 summarizes the anticipated increase in traffic as a result of the proposed zoning amendments for the six intersections examined. The increases are shown for individual vehicle movements (left, through, right) as well as for the overall intersection.

As shown in Table 1 each of the six intersections are anticipated to experience an overall increase in traffic in excess of 100 vehicles during both the weekday AM and PM peak periods. A threshold of a 100 vehicle increase through a given intersection during a peak hour is not uncommon for consideration of a quantified analysis. However, the increases in traffic for individual vehicle movements were also reviewed.

In examining the increase in traffic for individual vehicle movements, the following four intersections contain at least one movement which would experience an increase of greater than 50 vehicles:

- Croton Point Ave. and Rt. 9/9A Southbound Ramps
- Croton Point Ave. and Rt. 9/9A Northbound Ramps
- Croton Point Ave. and S. Riverside Ave.
- S. Riverside Ave. and Benedict Blvd.

As the common threshold increases for both overall intersection (100 vehicles) and intersection movements (50 vehicles) would be met at these locations, it is recommended that a quantified analysis is conducted as part of the TIS for the four intersections listed above.

Since only the increase in traffic for individual vehicle movements would be less than 50 vehicles for the other two intersections (Croton Point Avenue/Veterans Plaza and S. Riverside Avenue/Clinton Street), further examination was conducted to determine if a quantified analysis would be warranted.

CROTON POINT AVENUE AND VETERANS PLAZA

As Veterans Plaza provides a direct link to the parking facilities for the Croton-Harmon station of the Metro-North Railroad and is a major trip origin/destination location in the area, the intersection of Croton Point Avenue and Veterans Plaza is recommended for quantified analysis.

S. RIVERSIDE AVENUE AND CLINTON STREET

At the intersection of S. Riverside Avenue and Clinton Street, the highest increases in traffic are anticipated to occur on the Riverside Avenue through movements (all less than 50 vehicles). In order to estimate the potential effects of these increases, a preliminary capacity analysis was performed for this intersection.

Table 2 presents the preliminary capacity analysis results for the S. Riverside Avenue and Clinton Street intersection. The Existing Conditions traffic volumes were derived from traffic counts collected in April 2022. A comparison of future No Build (i.e., without the proposed zoning) with future Build (i.e., with the proposed zoning) was made. For the purposes of this analysis, it was conservatively assumed that the future design year (i.e., the future year by which the full theoretical buildout from the rezoning would occur) would be 2042 (2022 + 20 years).

Future No Build traffic volumes were developed by increasing the Existing 2022 traffic volumes in the study by a 1 percent per year compounded growth rate. This reflected increases in background traffic growth that would be expected to occur with or without the rezoning. Future Build traffic volumes were developed by adding the trips that were generated by the rezoning to the No Build network. The weekday AM and PM peak-hour models of the S. Riverside Avenue and Clinton Street intersection were then evaluated with the 2042 No Build and Build volumes.

Table 1

Croton Zoning Generated Trips - By Movement & Intersection

			AM PEAK HOUR		PM PEAK HOUR	
			Movement	Intersection	Movement	Intersection
Traffic Intersections						
1	Croton Point Avenue & Veterans Plaza	EB L	1	108	2	150
		T	3		9	
		R	0		0	
		WB L	39		24	
		T	11		6	
2	Croton Point Avenue & Route 9/9A SB Ramps	R	15	184	34	200
		NB L	0		0	
		T	3		6	
		R	14		32	
3	Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.	SB L	17	228	29	265
		T	3		5	
		R	1		2	
		EB T	25		56	
4	South Riverside Avenue & Croton Point Avenue	R	9	203	14	230
		WB L	76		39	
		T	61		56	
		SB L	10		28	
5	Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.	T	0	228	0	265
		R	4		8	
		EB L	1		4	
		T	33		72	
6	South Riverside Avenue & Benedict Blvd.	R	7	156	7	185
		WB L	27		14	
		T	109		72	
		R	1		4	
7	South Riverside Avenue & Croton Point Avenue	NB L	11	203	23	230
		T	1		4	
		R	20		57	
		SB L	5		2	
8	South Riverside Avenue & Benedict Blvd.	T	3	156	1	185
		R	9		4	
		EB L	50		102	
		T	9		10	
9	South Riverside Avenue & Croton Point Avenue	R	105	203	72	230
		NB L	21		15	
		T	9		10	
		SB T	9		10	
10	South Riverside Avenue & Benedict Blvd.	R	0	156	0	185
		T	0		0	
		R	0		0	
		WB L	18		20	
11	South Riverside Avenue & Benedict Blvd.	T	1	156	1	185
		R	5		8	
		NB L	4		11	
		T	38		66	
12	South Riverside Avenue & Clinton St.	R	17	102	20	116
		SB L	8		6	
		T	64		51	
		R	1		2	
13	South Riverside Avenue & Clinton St.	EB L	3	102	2	116
		T	19		9	
		NB L	6		17	
		T	37		42	
14	South Riverside Avenue & Clinton St.	SB T	36	102	43	116
		R	1		3	

Notes:
EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound; L = Left, T = Through, R = Right

Table 2
Preliminary Level of Service Analysis
S. Riverside Avenue & Clinton Street

Peak Hour	Approach	Lane Group	2022 Existing			2042 No Build			2042 Build		
			v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS	v/c Ratio	Delay (sec)	LOS
Weekday AM Peak Hour	EB (Clinton)	LR	0.05	16.0	C	0.08	19.5	C	0.18	20.2	C
	NB (S. Riverside)	L	0.01	8.9	A	0.01	9.3	A	0.02	9.5	A
Weekday PM Peak Hour	EB (Clinton)	LR	0.05	17.3	C	0.09	21.8	C	0.15	21.8	C
	NB (S. Riverside)	L	0.01	8.3	A	0.01	8.5	A	0.03	8.8	A
Notes: v/c = Volume to Capacity; LOS = Level of Service EB = Eastbound, NB = Northbound; L = Left, R=Right											

The capacity analysis was performed using methodologies based on the Highway Capacity Manual, 6th Edition (HCM 6) methodology (Synchro 11 software) to calculate existing and future traffic operating conditions (Level of Service (“LOS”) and total delay) at each of the Study Area intersections. LOS is based on a grading scale of “A” through “F” with “A” representing optimum traffic conditions and “F” representing poor traffic conditions (LOS D or better is typically considered acceptable operating conditions).

A comparison of the No Build and Build analysis results indicates that all intersection movements would continue to operate at acceptable Level of Service (LOS) ‘C’ or better during the peak hours analyzed and there would be no degradation to unacceptable LOS E or F under 2042 Build conditions with the proposed rezoning. Therefore, due to the unlikely potential for this intersection to experience impacts with the proposed rezoning, it is proposed that the intersection of S. Riverside Avenue and Clinton Street not be included as part of the TIS study area for a quantified analysis.

B. CONCLUSION

Based on the screening outlined above, one intersection has been screened-out of quantified analysis, and the following five intersections are proposed for quantified analysis in the TIS:

1. Croton Point Ave. and Veterans Plaza
2. Croton Point Ave. and Rt. 9/9A Southbound Ramps
3. Croton Point Ave. and Rt. 9/9A Northbound Ramps
4. Croton Point Ave. and S. Riverside Ave.
5. S. Riverside Ave. and Benedict Blvd.

ATTACHMENT A

- Trip Generation Table from AKRF's February 25, 2022
memorandum to the Village**
- Cumulative trip assignment volumes for the HSRG
Overlay and LI District**

Table 1
Trip Generation*
Croton Zoning Study

Building Component	Zoning Component	Land Use Description	ITE Land Use		Size	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Midday Peak Hour		
			Code #	Land Use		In	Out	Total	In	Out	Total	In	Out	Total
Residential	HSRG	Multifamily Housing (3 story max.)	220	Multifamily Housing (Low-Rise) - Not Close to Rail Transit ⁽¹⁾	383 Units	34	108	142	117	68	185	79	78	157
	LI TOD	Multifamily Housing (5 story max.)	221	Multifamily Housing (Mid-Rise) - Not Close to Rail Transit ⁽²⁾	87 Units	6	21	27	21	13	34	18	17	35
	Subtotal Residential				470 Units	40	129	169	138	81	219	97	95	192
	Internal Trips ⁽⁶⁾					-4	-13	-17	-14	-8	-22	-10	-9	-19
	Mass Transit Credit ⁽⁷⁾					-4	-11	-15	-12	-8	-20	-9	-8	-17
	Total Residential				470 Units	32	105	137	112	65	177	78	78	156
Commercial	LI TOD	Office	712 / 710	Small Office Building (AM, PM) / General Office Building (Sat.) ⁽³⁾	7.423 kSF ⁽⁸⁾	10	2	12	5	11	16	2	2	4
					Internal Trips ⁽⁶⁾	-1	0	-1	-1	-1	-2	0	0	0
					Mass Transit Credit ⁽⁷⁾	-1	0	-1	0	-1	-1	0	0	0
					Total Office	8	2	10	4	9	13	2	2	4
		Retail	822	Strip Retail Plaza (<40k) ⁽⁴⁾	7.859 kSF ⁽⁸⁾	11	8	19	26	26	52	27	25	52
					Internal Trips ⁽⁶⁾	-1	-1	-2	-3	-2	-5	-3	-2	-5
					Mass Transit Credit ⁽⁷⁾	-1	-1	-2	-2	-3	-5	-2	-3	-5
					Pass-by Trips ⁽⁹⁾	-2	-1	0	-7	-7	-14	-6	-5	-11
					Total Retail	7	5	15	14	14	28	16	15	31
					6.549 kSF ⁽⁸⁾	3	2	5	34	17	51	41	29	70
		Restaurant	931	Fine Dining Restaurant ⁽⁵⁾	Internal Trips ⁽⁶⁾	0	-1	-1	-3	-2	-5	-4	-3	-7
					Mass Transit Credit ⁽⁷⁾	0	0	0	-3	-2	-5	-4	-2	-6
					Pass-by Trips ⁽¹⁰⁾	-1	0	-1	-12	-6	-18	-19	-14	-32
					Total Restaurant	2	1	3	16	7	23	14	10	25
	Total Commercial				21.831 kSF	17	8	28	34	30	64	32	27	60
TOTAL TRIP GENERATION						49	113	165	146	95	241	110	105	216

Notes:

(1) ITE equation T = 0.31(X) + 22.85 (24% entering, 76% exiting) was used for the Weekday AM Peak Hour
ITE equation T = 0.43(X) + 20.55 (63% entering, 37% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.41 trips/dwelling unit (50% entering, 50% exiting) was used for the Saturday Midday Peak Hour.

(2) ITE equation T = 0.44(X) - 11.61 (23% entering, 77% exiting) was used for the Weekday AM Peak Hour
ITE equation T = 0.39(X) + 0.34 (61% entering, 39% exiting) was used for the Weekday PM Peak Hour
ITE Equation Ln(T) = 1.00 Ln(x) - 0.91 (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour.

(3) ITE rate of 1.67 trips/1,000 SF (82% entering, 18% exiting) was used for the Weekday AM Peak Hour
ITE rate of 2.16 trips/1,000 SF (34% entering, 66% exiting) was used for the Weekday PM Peak Hour
ITE rate of 0.53 trips/1,000 SF (54% entering, 46% exiting) was used for the Saturday Midday Peak Hour. ITE Rates unavailable for the "Small Office Building" land use for the Saturday Midday Peak Hour, therefore, "General Office Building" land use rates were utilized instead.

(4) ITE rate of 2.36 trips/1,000 SF (60% entering, 40% exiting) was used for the Weekday AM Peak Hour
ITE rate of 6.59 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday PM Peak Hour
ITE rate of 6.57 trips/1,000 SF (51% entering, 49% exiting) was used for the Saturday Midday Peak Hour

(5) ITE rate of 0.73 trips/1,000 SF (50% entering, 50% exiting) was used for the Weekday AM Peak Hour
ITE rate of 7.80 trips/1,000 SF (67% entering, 33% exiting) was used for the Weekday PM Peak Hour
ITE rate of 10.68 trips/1,000 SF (59% entering, 41% exiting) was used for the Saturday Midday Peak Hour

(6) Internal trips calculated utilizing an internal trip credit of 10%.

(7) Mass Transit credit calculated utilizing a 10% mass transit credit.

(8) The commercial square footage was assumed to be 34% office, 36% retail, and 30% restaurant.

(9) Pass-by trip percentage of 34% utilized for the Weekday PM peak hour and 26% utilized for the Saturday Midday peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 820 "Shopping Center". ITE Pass-by trip percentage unavailable for Land Use 820 for the Weekday AM peak hour and was developed from the ratio of Weekday AM to Weekday PM peak hour trips yielding a pass-by trip percentage of 20%.

(10) Pass-by trip percentage of 44% utilized for the Weekday PM peak hour, based on average of pass-by trip percentages presented in the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition for ITE Land Use Code 931 "Quality Restaurant". ITE Pass-by trip percentages unavailable for Land Use 931 for the Weekday AM and Saturday Midday peak hours and were developed from the ratio of Weekday AM and Saturday Midday to Weekday PM peak hour trips yielding pass-by trip percentages of 24% and 57% for the Weekday AM and Saturday Midday peak hours, respectively.

***Source:** ITE Trip Generation Manual, 11th Edition

Table A-1

Croton Zoning Cumulative Trip Assignment Summary

INTERSECTIONS		HSRG TRIPS		LI TOD TRIPS			
		RESIDENTIAL PROJECT TRAFFIC		RESIDENTIAL PROJECT TRAFFIC		COMMERCIAL PROJECT TRAFFIC	
		AM	PM	AM	PM	AM	PM
1. Croton Point Avenue & Veterans Plaza							
	EB L	0	0	0	1	1	1
	T	3	9	0	0	0	0
	R	0	0	0	0	0	0
	WB L	32	17	2	2	4	5
	T	11	6	0	0	0	0
	R	0	0	3	11	12	23
	NB L	0	0	0	0	0	0
	T	0	0	1	2	2	4
	R	10	28	4	1	1	2
	SB L	0	0	10	7	6	22
	T	0	0	2	1	1	4
	R	0	0	1	0	0	1
2. Croton Point Avenue & Route 9/9A SB Ramps							
	EB L	13	38	8	5	4	14
	R	0	0	6	4	3	11
	WB L	76	39	0	0	0	0
	T	43	22	5	11	13	23
	SB L	10	28	0	0	0	0
	T	0	0	0	0	0	0
	R	0	0	1	3	3	5
3. Croton Point Av & Route 9/9A NB Ramps/Restaurant Drvwy.							
	EB L	1	4	0	0	0	0
	T	25	60	5	3	3	9
	R	3	1	3	2	1	5
	WB L	27	14	0	0	0	0
	T	101	56	2	5	6	11
	R	1	4	0	0	0	0
	NB L	1	5	2	6	7	12
	T	1	4	0	0	0	0
	R	20	57	0	0	0	0
	SB L	5	2	0	0	0	0
	T	3	1	0	0	0	0
	R	9	4	0	0	0	0
4. South Riverside Avenue/Croton Point Avenue							
	EB L	43	92	5	3	2	8
	R	9	19	1	1	0	2
	NB L	20	13	0	1	1	2
	T	9	10	0	0	0	0
	SB T	9	10	0	0	0	0
	R	98	59	2	4	5	9
5. South Riverside Avenue/Benedict Blvd.							
	EB L	0	0	0	0	0	0
	T	0	0	0	0	0	0
	R	0	0	0	0	0	0
	WB L	16	15	1	2	2	4
	T	1	1	0	0	0	0
	R	5	8	0	0	0	0
	NB L	4	11	0	0	0	0
	T	34	60	3	2	1	5
	R	15	16	2	1	1	3
	SB L	8	6	0	0	0	0
	T	60	43	1	3	3	5
	R	1	2	0	0	0	0
6. South Riverside Avenue/Clinton St.							
	EB L	3	2	0	0	0	0
	R	19	9	0	0	0	0
	NB L	6	17	0	0	0	0
	T	33	36	3	2	1	5
	SB T	32	35	1	3	3	5
	R	1	3	0	0	0	0

Notes:

EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound; L = Left, T = Through, R = Right

ATTACHMENT B

- Capacity Analysis Methodology
- Synchro Output Reports

Capacity Analysis Methodology

CAPACITY ANALYSIS METHODOLOGY

SIGNALIZED INTERSECTIONS

AKRF analyzed the operation of Study Area signalized intersections by applying the Percentile Delay Methodology included in the Synchro 10 traffic signal 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. 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 is characterized for the entire intersection, each intersection approach, and/or each lane group. LOS is the only measure of effectiveness provided for the entire intersection operation. 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).

HCM's standard delay criteria for the range of service levels at signalized intersections are shown in **Table A.1-1**.



















Table A.1-1
LOS Criteria for Signalized Intersections

Total Delay Per Vehicle	Level-of-Service (LOS) ⁽¹⁾	
	v/c ratio ≤ 1.0	v/c ratio > 1.0
≤ 10.0 seconds	A	F
>10.0 and ≤ 20.0 seconds	B	F
>20.0 and ≤ 35.0 seconds	C	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. <i>Highway Capacity Manual, 6th Edition</i> .		

Synchro Output Reports

HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	111	10	291	64	21	6	0	83	6	0	0
Future Volume (vph)	0	111	10	291	64	21	6	0	83	6	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	11	11	12	12	10	10	12	15	12
Storage Length (ft)	0		0	0		0	0		30	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.989			0.984			0.871	0.850			
Flt Protected				0.950	0.973			0.993			0.950	
Satd. Flow (prot)	0	1776	0	1609	1588	0	0	1415	1390	0	1947	0
Flt Permitted				0.662	0.757			0.949			0.717	
Satd. Flow (perm)	0	1776	0	1121	1235	0	0	1352	1390	0	1469	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					5			60	60			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			173			172			290	
Travel Time (s)		7.9			3.9			3.9			6.6	
Peak Hour Factor	0.81	0.81	0.81	0.91	0.91	0.91	0.78	0.78	0.78	0.63	0.63	0.63
Heavy Vehicles (%)	2%	10%	2%	3%	10%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	137	12	320	70	23	8	0	106	10	0	0
Shared Lane Traffic (%)				37%					47%			
Lane Group Flow (vph)	0	149	0	202	211	0	0	58	56	0	10	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	1.00	0.96	1.00	1.04	1.04	1.00	1.00	1.09	1.09	1.00	0.88	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	

HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6		5	6		8	7	5	8	7	
Permitted Phases	6			6			7		7	7		
Detector Phase	6	6		5	6		8	7	5	8	7	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Total Split (s)	41.0	41.0		41.0	41.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	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)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead	Lag		Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0			18.0	18.0		18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		132.1		141.1	141.1			7.2	19.9		7.2	
Actuated g/C Ratio		0.81		0.86	0.86			0.04	0.12		0.04	
v/c Ratio		0.10		0.20	0.20			0.50	0.25		0.16	
Control Delay		4.4		1.9	1.8			30.2	14.0		79.5	
Queue Delay		0.0		1.0	2.7			0.0	0.0		0.0	
Total Delay		4.4		2.8	4.5			30.2	14.0		79.5	
LOS		A		A	A			C	B		E	
Approach Delay		4.4			3.7			22.2			79.5	
Approach LOS		A			A			C			E	

Intersection Summary

Area Type: Other

Cycle Length: 164

Actuated Cycle Length: 164

Offset: 0 (0%), Referenced to phase 6:EBWB, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.50

Intersection Signal Delay: 8.0

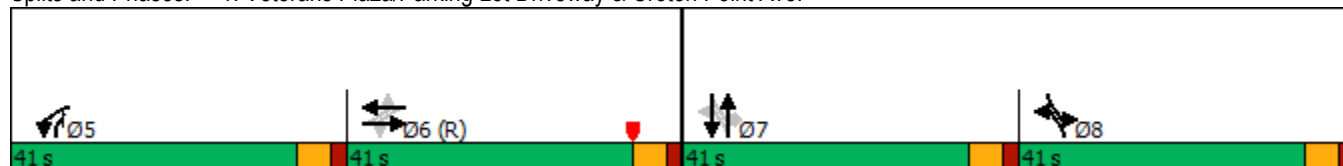
Intersection LOS: A

Intersection Capacity Utilization 36.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.



















HSRG Overlay and LI District Zoning Amendments

2022 Existing Conditions

2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	132	68	288	167	0	0	0	0	56	0	209
Future Volume (vph)	0	132	68	288	167	0	0	0	0	56	0	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		200
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.949									0.912	0.850
Flt Protected					0.969						0.980	
Satd. Flow (prot)	0	3011	0	0	3220	0	0	0	0	0	1536	1461
Flt Permitted					0.656						0.980	
Satd. Flow (perm)	0	3011	0	0	2180	0	0	0	0	0	1536	1461
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			412			431			494	
Travel Time (s)		3.9			9.4			9.8			11.2	
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.92	0.92	0.92	0.85	0.85	0.85
Heavy Vehicles (%)	2%	10%	10%	5%	5%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	161	83	324	188	0	0	0	0	66	0	246
Shared Lane Traffic (%)												38%
Lane Group Flow (vph)	0	244	0	0	512	0	0	0	0	0	159	153
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	1.04	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		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	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)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		custom	NA					Perm	NA	Perm

Lane Group	Ø2	Ø3	Ø4	Ø6	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					

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2 8		1	6 8						7	
Permitted Phases				6						7		7
Detector Phase		2 8		1	6 8					7	7	7
Switch Phase												
Minimum Initial (s)				5.0						5.0	5.0	5.0
Minimum Split (s)				22.0						31.0	31.0	31.0
Total Split (s)				26.0						36.0	36.0	36.0
Total Split (%)				17.6%						24.3%	24.3%	24.3%
Maximum Green (s)				20.0						30.0	30.0	30.0
Yellow Time (s)				4.0						4.0	4.0	4.0
All-Red Time (s)				2.0						2.0	2.0	2.0
Lost Time Adjust (s)											0.0	0.0
Total Lost Time (s)											6.0	6.0
Lead/Lag				Lag						Lead	Lead	Lead
Lead-Lag Optimize?				Yes						Yes	Yes	Yes
Vehicle Extension (s)				1.0						2.0	2.0	2.0
Recall Mode				None						Min	Min	Min
Walk Time (s)										7.0	7.0	7.0
Flash Dont Walk (s)										18.0	18.0	18.0
Pedestrian Calls (#/hr)										0	0	0
Act Effct Green (s)		40.1			116.1						19.9	19.9
Actuated g/C Ratio		0.27			0.78						0.13	0.13
v/c Ratio		0.30			0.23						0.77	0.78
Control Delay		45.4			4.9						85.1	87.1
Queue Delay		0.1			0.3						0.0	0.0
Total Delay		45.4			5.2						85.1	87.1
LOS		D			A						F	F
Approach Delay		45.4			5.2						86.1	
Approach LOS		D			A						F	

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 38.0

Intersection LOS: D

Intersection Capacity Utilization 46.7%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↖ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø2	Ø3	Ø4	Ø6	Ø8
Protected Phases	2	3	4	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	5.0	4.0	10.0	4.0
Minimum Split (s)	39.0	22.0	20.0	29.0	20.0
Total Split (s)	66.0	36.0	20.0	66.0	20.0
Total Split (%)	45%	24%	14%	45%	14%
Maximum Green (s)	60.0	30.0	15.0	60.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	1.5
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	2.0	3.0	2.0	3.0
Recall Mode	Min	None	None	C-Max	None
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	26.0			16.0	
Pedestrian Calls (#/hr)	0			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					

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.













2022 Existing Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	128	60	48	332	0	127	0	136	0	0	0
Future Volume (vph)	0	128	60	48	332	0	127	0	136	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
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		0.952						0.930				
Flt Protected					0.994			0.976				
Satd. Flow (prot)	0	3164	0	0	3304	0	0	1642	0	0	1863	0
Flt Permitted					0.878			0.846				
Satd. Flow (perm)	0	3164	0	0	2918	0	0	1424	0	0	1863	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		67										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			477			589			82	
Travel Time (s)		9.4			10.8			13.4			1.9	
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	5%	5%	5%	2%	5%	2%	5%	2%	2%	2%
Adj. Flow (vph)	0	144	67	53	369	0	134	0	143	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	0	0	422	0	0	277	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	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		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		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)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA				
Protected Phases		1 2 4			4 6			3			3	
Permitted Phases	1 2 4			4 6			3			3		
Detector Phase	1 2 4	1 2 4		4 6	4 6		3	3		3	3	

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (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						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Detector Phase						

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)							5.0	5.0		5.0	5.0	
Minimum Split (s)							22.0	22.0		22.0	22.0	
Total Split (s)							36.0	36.0		36.0	36.0	
Total Split (%)							24.3%	24.3%		24.3%	24.3%	
Maximum Green (s)							30.0	30.0		30.0	30.0	
Yellow Time (s)							4.0	4.0		4.0	4.0	
All-Red Time (s)							2.0	2.0		2.0	2.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								6.0			6.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)							2.0	2.0		2.0	2.0	
Recall Mode							None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	106.3			107.3			29.7					
Actuated g/C Ratio	0.72			0.72			0.20					
v/c Ratio	0.09			0.20			0.97					
Control Delay	5.8			6.8			104.4					
Queue Delay	0.0			0.0			0.0					
Total Delay	5.8			6.8			104.4					
LOS	A			A			F					
Approach Delay	5.8			6.8			104.4					
Approach LOS	A			A			F					
Intersection Summary												
Area Type:	Other											
Cycle Length: 148												
Actuated Cycle Length: 148												
Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.97												
Intersection Signal Delay: 36.3						Intersection LOS: D						
Intersection Capacity Utilization 45.6%						ICU Level of Service A						
Analysis Period (min) 15												

Splits and Phases: 3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↖ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Switch Phase						
Minimum Initial (s)	5.0	10.0	4.0	10.0	5.0	4.0
Minimum Split (s)	22.0	39.0	20.0	29.0	31.0	20.0
Total Split (s)	26.0	66.0	20.0	66.0	36.0	20.0
Total Split (%)	18%	45%	14%	45%	24%	14%
Maximum Green (s)	20.0	60.0	15.0	60.0	30.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	2.0	1.5
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	1.0	3.0	3.0	2.0	2.0	3.0
Recall Mode	None	Min	None	C-Max	Min	None
Walk Time (s)		7.0		7.0	7.0	
Flash Dont Walk (s)		26.0		16.0	18.0	
Pedestrian Calls (#/hr)		0		0	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						

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2022 Existing Conditions
Weekday AM Peak Hour

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT			WT	WT	WT
Traffic Volume (vph)	156	108	48	41	44	332
Future Volume (vph)	156	108	48	41	44	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	10
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	1.00
Frt	0.938					0.850
Flt Protected	0.971			0.974		
Satd. Flow (prot)	3091	0	0	3125	1689	1436
Flt Permitted	0.971			0.826		
Satd. Flow (perm)	3091	0	0	2651	1689	1436
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	123					
Link Speed (mph)	30			30	30	
Link Distance (ft)	477			366	519	
Travel Time (s)	10.8			8.3	11.8	
Peak Hour Factor	0.88	0.88	0.97	0.97	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	177	123	49	42	49	369
Shared Lane Traffic (%)						
Lane Group Flow (vph)	300	0	0	91	49	369
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9	15			9
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2			6
Minimum Split (s)	31.0		36.0	36.0	36.0	31.0
Total Split (s)	31.0		36.0	36.0	36.0	31.0
Total Split (%)	46.3%		53.7%	53.7%	53.7%	46.3%
Maximum Green (s)	25.0		30.0	30.0	30.0	25.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0		23.0	23.0	23.0	18.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effect Green (s)	25.0			30.0	30.0	67.0
Actuated g/C Ratio	0.37			0.45	0.45	1.00
v/c Ratio	0.24			0.08	0.06	0.26
Control Delay	8.9			10.9	10.9	0.4

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2022 Existing Conditions
Weekday AM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	8.9			10.9	10.9	0.4
LOS	A			B	B	A
Approach Delay	8.9			10.9	1.7	
Approach LOS	A			B	A	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

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

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.26

Intersection Signal Delay: 5.4

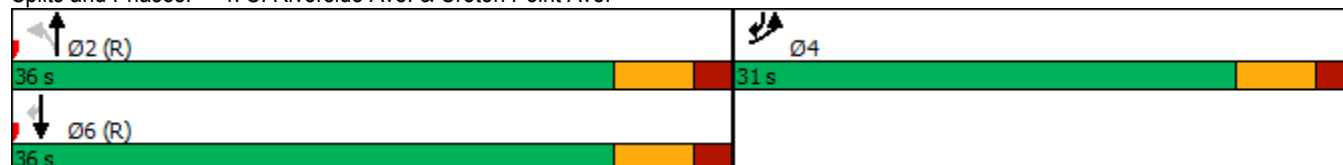
Intersection LOS: A

Intersection Capacity Utilization 33.9%

ICU Level of Service A


















Analysis Period (min) 15

Splits and Phases: 4: S. Riverside Ave. & Croton Point Ave.















HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2022 Existing Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	160	16	10	157	53	12	162	23	127	350	37
Future Volume (vph)	18	160	16	10	157	53	12	162	23	127	350	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	10	9	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.967				0.850		0.990	
Flt Protected		0.995			0.998			0.997			0.988	
Satd. Flow (prot)	0	2077	0	0	2029	0	0	1733	1425	0	1822	0
Flt Permitted		0.957			0.984			0.954			0.851	
Satd. Flow (perm)	0	1998	0	0	2001	0	0	1659	1425	0	1569	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			25				46		8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			342			519			365	
Travel Time (s)		6.2			7.8			11.8			8.3	
Peak Hour Factor	0.95	0.95	0.95	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86
Bus Blockages (#/hr)	0	0	0	1	1	1	0	0	0	0	0	0
Adj. Flow (vph)	19	168	17	12	191	65	14	195	28	148	407	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	0	0	268	0	0	209	28	0	598	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.09	1.14	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	43.7%	43.7%		43.7%	43.7%		56.3%	56.3%	56.3%	56.3%	56.3%	
Maximum Green (s)	25.0	25.0		25.0	25.0		34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		27.0	27.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.0			25.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.35			0.35			0.48	0.48		0.48	
v/c Ratio		0.29			0.37			0.26	0.04		0.79	
Control Delay		17.4			17.3			12.2	2.1		25.1	

HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2022 Existing Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		17.4			17.3			12.2	2.1		25.1	
LOS		B			B			B	A		C	
Approach Delay		17.4			17.3			11.0			25.1	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other

Cycle Length: 71

Actuated Cycle Length: 71

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

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 19.7

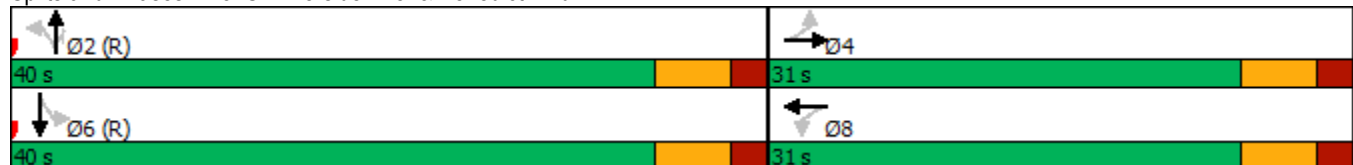
Intersection LOS: B

Intersection Capacity Utilization 68.0%

ICU Level of Service C



















Analysis Period (min) 15

Splits and Phases: 5: S. Riverside Ave. & Benedict Blvd



HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	125	7	104	93	5	2	0	243	5	0	0
Future Volume (vph)	0	125	7	104	93	5	2	0	243	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	11	11	12	12	10	10	12	15	12
Storage Length (ft)	0		0	0		0	0		30	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.993			0.994			0.852	0.850			
Flt Protected				0.950	0.995			0.999			0.950	
Satd. Flow (prot)	0	1779	0	1609	1583	0	0	1392	1390	0	1947	0
Flt Permitted				0.649	0.975			0.996			0.449	
Satd. Flow (perm)	0	1779	0	1099	1551	0	0	1388	1390	0	920	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					2			148	148			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			173			172			290	
Travel Time (s)		7.9			3.9			3.9			6.6	
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.82	0.82	0.82	0.31	0.31	0.31
Heavy Vehicles (%)	2%	10%	2%	3%	10%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	0	162	9	113	101	5	2	0	296	16	0	0
Shared Lane Traffic (%)				10%					50%			
Lane Group Flow (vph)	0	171	0	102	117	0	0	150	148	0	16	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	1.00	0.96	1.00	1.04	1.04	1.00	1.00	1.09	1.09	1.00	0.88	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	

HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6		5	6		8	7	5	8	7	
Permitted Phases	6			6			7		7	7		
Detector Phase	6	6		5	6		8	7	5	8	7	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Total Split (s)	41.0	41.0		41.0	41.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	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)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead	Lag		Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0			18.0	18.0		18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effect Green (s)		130.1		137.1	137.1			8.9	21.9		8.9	
Actuated g/C Ratio		0.79		0.84	0.84			0.05	0.13		0.05	
v/c Ratio		0.12		0.11	0.09			0.70	0.47		0.33	
Control Delay		4.5		2.0	1.9			27.9	13.3		90.0	
Queue Delay		0.0		0.6	1.9			0.0	0.0		0.0	
Total Delay		4.5		2.6	3.8			27.9	13.3		90.0	
LOS		A		A	A			C	B		F	
Approach Delay		4.5			3.3			20.7			90.0	
Approach LOS		A			A			C			F	

Intersection Summary

Area Type: Other

Cycle Length: 164

Actuated Cycle Length: 164

Offset: 0 (0%), Referenced to phase 6:EBWB, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 12.9

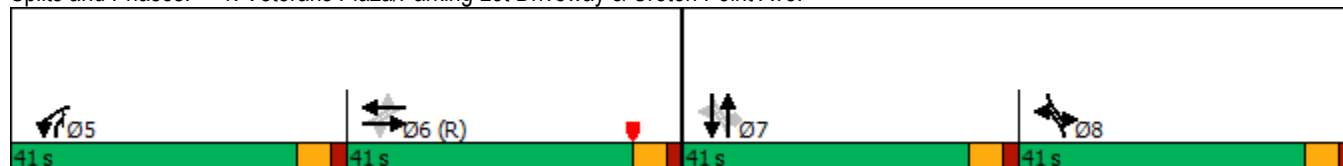
Intersection LOS: B

Intersection Capacity Utilization 36.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.



















HSRG Overlay and LI District Zoning Amendments

2022 Existing Conditions

2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	267	106	246	148	0	0	0	0	57	0	54
Future Volume (vph)	0	267	106	246	148	0	0	0	0	57	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		200
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.957									0.987	0.850
Flt Protected					0.970						0.956	
Satd. Flow (prot)	0	3036	0	0	3224	0	0	0	0	0	1622	1461
Flt Permitted					0.580						0.956	
Satd. Flow (perm)	0	3036	0	0	1928	0	0	0	0	0	1622	1461
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			412			431			494	
Travel Time (s)		3.9			9.4			9.8			11.2	
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	10%	10%	5%	5%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	303	120	283	170	0	0	0	0	63	0	60
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	423	0	0	453	0	0	0	0	0	69	54
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	1.04	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		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	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)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		custom	NA					Perm	NA	Perm

Lane Group	Ø2	Ø3	Ø4	Ø6	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					

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2 8		1	6 8						7	
Permitted Phases				6						7		7
Detector Phase		2 8		1	6 8					7	7	7
Switch Phase												
Minimum Initial (s)				5.0						5.0	5.0	5.0
Minimum Split (s)				22.0						31.0	31.0	31.0
Total Split (s)				26.0						36.0	36.0	36.0
Total Split (%)				17.6%						24.3%	24.3%	24.3%
Maximum Green (s)				20.0						30.0	30.0	30.0
Yellow Time (s)				4.0						4.0	4.0	4.0
All-Red Time (s)				2.0						2.0	2.0	2.0
Lost Time Adjust (s)											0.0	0.0
Total Lost Time (s)											6.0	6.0
Lead/Lag				Lag						Lead	Lead	Lead
Lead-Lag Optimize?				Yes						Yes	Yes	Yes
Vehicle Extension (s)				1.0						2.0	2.0	2.0
Recall Mode				None						Min	Min	Min
Walk Time (s)										7.0	7.0	7.0
Flash Dont Walk (s)										18.0	18.0	18.0
Pedestrian Calls (#/hr)										0	0	0
Act Effct Green (s)		49.7			125.3						10.7	10.7
Actuated g/C Ratio		0.34			0.85						0.07	0.07
v/c Ratio		0.42			0.20						0.59	0.51
Control Delay		40.1			2.1						85.7	81.9
Queue Delay		0.1			0.3						0.0	0.0
Total Delay		40.2			2.4						85.7	81.9
LOS		D			A						F	F
Approach Delay		40.2			2.4						84.0	
Approach LOS		D			A						F	

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.59

Intersection Signal Delay: 28.4

Intersection LOS: C

Intersection Capacity Utilization 43.7%

ICU Level of Service A

Analysis Period (min) 15

















Splits and Phases: 2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↔ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø2	Ø3	Ø4	Ø6	Ø8
Protected Phases	2	3	4	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	5.0	4.0	10.0	4.0
Minimum Split (s)	39.0	22.0	20.0	29.0	20.0
Total Split (s)	66.0	36.0	20.0	66.0	20.0
Total Split (%)	45%	24%	14%	45%	14%
Maximum Green (s)	60.0	30.0	15.0	60.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	1.5
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	2.0	3.0	2.0	2.0
Recall Mode	Min	None	None	C-Max	None
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	26.0			16.0	
Pedestrian Calls (#/hr)	0			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					

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.













2022 Existing Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	209	115	115	274	0	120	0	328	0	0	0
Future Volume (vph)	0	209	115	115	274	0	120	0	328	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
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		0.947						0.901				
Flt Protected					0.985			0.987				
Satd. Flow (prot)	0	3147	0	0	3274	0	0	1609	0	0	1863	0
Flt Permitted					0.724			0.908				
Satd. Flow (perm)	0	3147	0	0	2406	0	0	1480	0	0	1863	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		128										
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			477			589			82	
Travel Time (s)		9.4			10.8			13.4			1.9	
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	5%	5%	5%	2%	5%	2%	5%	2%	2%	2%
Adj. Flow (vph)	0	232	128	124	295	0	128	0	349	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	419	0	0	477	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	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		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		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)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type		NA		Perm	NA		Perm	NA				
Protected Phases		1 2 4			4 6			3			3	
Permitted Phases	1 2 4			4 6			3			3		
Detector Phase	1 2 4	1 2 4		4 6	4 6		3	3		3	3	

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (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						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Detector Phase						

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

2022 Existing Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)							5.0	5.0		5.0	5.0	
Minimum Split (s)							22.0	22.0		22.0	22.0	
Total Split (s)							36.0	36.0		36.0	36.0	
Total Split (%)							24.3%	24.3%		24.3%	24.3%	
Maximum Green (s)							30.0	30.0		30.0	30.0	
Yellow Time (s)							4.0	4.0		4.0	4.0	
All-Red Time (s)							2.0	2.0		2.0	2.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								6.0			6.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)							2.0	2.0		2.0	2.0	
Recall Mode							None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	106.0			107.0			30.0					
Actuated g/C Ratio	0.72			0.72			0.20					
v/c Ratio	0.16			0.24			1.59					
Control Delay	8.9			7.3			318.1					
Queue Delay	0.0			0.0			0.0					
Total Delay	8.9			7.3			318.1					
LOS	A			A			F					
Approach Delay	8.9			7.3			318.1					
Approach LOS	A			A			F					
Intersection Summary												
Area Type:	Other											
Cycle Length: 148												
Actuated Cycle Length: 148												
Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow												
Natural Cycle: 125												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.59												
Intersection Signal Delay: 125.8						Intersection LOS: F						
Intersection Capacity Utilization 61.4%						ICU Level of Service B						
Analysis Period (min) 15												


Splits and Phases: 3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↔ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Switch Phase						
Minimum Initial (s)	5.0	10.0	4.0	10.0	5.0	4.0
Minimum Split (s)	22.0	39.0	20.0	29.0	31.0	20.0
Total Split (s)	26.0	66.0	20.0	66.0	36.0	20.0
Total Split (%)	18%	45%	14%	45%	24%	14%
Maximum Green (s)	20.0	60.0	15.0	60.0	30.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	2.0	1.5
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	1.0	3.0	3.0	2.0	2.0	2.0
Recall Mode	None	Min	None	C-Max	Min	None
Walk Time (s)		7.0		7.0	7.0	
Flash Dont Walk (s)		26.0		16.0	18.0	
Pedestrian Calls (#/hr)		0		0	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						

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2022 Existing Conditions
Weekday PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT			WT	WT	WT
Traffic Volume (vph)	281	231	186	136	113	178
Future Volume (vph)	281	231	186	136	113	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	10
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	1.00
Frt	0.932					0.850
Flt Protected	0.973			0.972		
Satd. Flow (prot)	3077	0	0	3119	1689	1436
Flt Permitted	0.973			0.741		
Satd. Flow (perm)	3077	0	0	2378	1689	1436
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	254					191
Link Speed (mph)	30			30	30	
Link Distance (ft)	477			366	519	
Travel Time (s)	10.8			8.3	11.8	
Peak Hour Factor	0.91	0.91	0.90	0.90	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	309	254	207	151	122	191
Shared Lane Traffic (%)						
Lane Group Flow (vph)	563	0	0	358	122	191
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9	15			9
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Minimum Split (s)	31.0		36.0	36.0	36.0	36.0
Total Split (s)	31.0		36.0	36.0	36.0	36.0
Total Split (%)	46.3%		53.7%	53.7%	53.7%	53.7%
Maximum Green (s)	25.0		30.0	30.0	30.0	30.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0		23.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	25.0			30.0	30.0	30.0
Actuated g/C Ratio	0.37			0.45	0.45	0.45
v/c Ratio	0.43			0.34	0.16	0.26
Control Delay	9.4			13.2	11.8	3.0

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2022 Existing Conditions
Weekday PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	9.4			13.2	11.8	3.0
LOS	A			B	B	A
Approach Delay	9.4			13.2	6.4	
Approach LOS	A			B	A	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

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

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.43

Intersection Signal Delay: 9.7

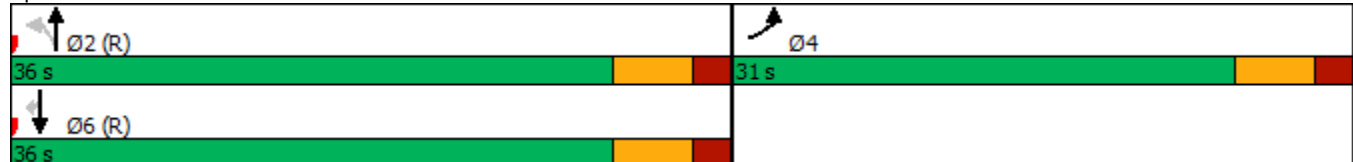
Intersection LOS: A

Intersection Capacity Utilization 42.3%

ICU Level of Service A


















Analysis Period (min) 15

Splits and Phases: 4: S. Riverside Ave. & Croton Point Ave.















HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2022 Existing Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	146	14	18	255	168	24	342	26	93	251	32
Future Volume (vph)	36	146	14	18	255	168	24	342	26	93	251	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	10	9	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.949				0.850		0.989	
Flt Protected		0.991			0.998			0.997			0.988	
Satd. Flow (prot)	0	2071	0	0	1991	0	0	1733	1425	0	1820	0
Flt Permitted		0.785			0.980			0.959			0.787	
Satd. Flow (perm)	0	1641	0	0	1956	0	0	1667	1425	0	1450	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			48				46		9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			342			519			365	
Travel Time (s)		6.2			7.8			11.8			8.3	
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.94	0.94	0.94	0.94	0.94	0.94
Bus Blockages (#/hr)	0	0	0	1	1	1	0	0	0	0	0	0
Adj. Flow (vph)	45	183	18	23	331	218	26	364	28	99	267	34
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	246	0	0	572	0	0	390	28	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.09	1.14	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	43.7%	43.7%		43.7%	43.7%		56.3%	56.3%	56.3%	56.3%	56.3%	
Maximum Green (s)	25.0	25.0		25.0	25.0		34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		27.0	27.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.0			25.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.35			0.35			0.48	0.48		0.48	
v/c Ratio		0.42			0.80			0.49	0.04		0.57	
Control Delay		19.9			29.1			15.2	2.1		17.0	

HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2022 Existing Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		19.9			29.1			15.2	2.1		17.0	
LOS		B			C			B	A		B	
Approach Delay		19.9			29.1			14.3			17.0	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type: Other

Cycle Length: 71

Actuated Cycle Length: 71

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

Natural Cycle: 75

Control Type: Pretimed

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 21.0

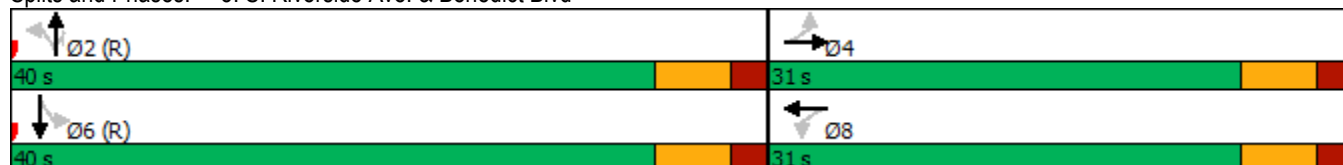
Intersection LOS: C

Intersection Capacity Utilization 80.7%

ICU Level of Service D

Analysis Period (min) 15



















Splits and Phases: 5: S. Riverside Ave. & Benedict Blvd



HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2042 Build Conditions

Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	139	13	394	89	41	8	3	116	24	3	1
Future Volume (vph)	1	139	13	394	89	41	8	3	116	24	3	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	11	11	12	12	10	10	12	15	12
Storage Length (ft)	0		0	0		0	0		30	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.989			0.977			0.875	0.850		0.994	
Flt Protected				0.950	0.975			0.994			0.959	
Satd. Flow (prot)	0	1777	0	1609	1580	0	0	1423	1390	0	1953	0
Flt Permitted		0.999		0.652	0.744			0.960			0.564	
Satd. Flow (perm)	0	1775	0	1104	1206	0	0	1374	1390	0	1149	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					7			69	80		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			173			172			290	
Travel Time (s)		7.9			3.9			3.9			6.6	
Peak Hour Factor	0.81	0.81	0.81	0.91	0.91	0.91	0.78	0.78	0.78	0.63	0.63	0.63
Heavy Vehicles (%)	2%	10%	2%	3%	10%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	1	172	16	433	98	45	10	4	149	38	5	2
Shared Lane Traffic (%)				35%					46%			
Lane Group Flow (vph)	0	189	0	281	295	0	0	83	80	0	45	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	1.00	0.96	1.00	1.04	1.04	1.00	1.00	1.09	1.09	1.00	0.88	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	

HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2042 Build Conditions
Weekday AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6		5	6		8	7	5	8	7	
Permitted Phases	6			6			7		7	7		
Detector Phase	6	6		5	6		8	7	5	8	7	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Total Split (s)	41.0	41.0		41.0	41.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	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)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead	Lag		Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0			18.0	18.0		18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		118.4		136.3	136.3			9.7	33.6		9.7	
Actuated g/C Ratio		0.72		0.83	0.83			0.06	0.20		0.06	
v/c Ratio		0.15		0.29	0.28			0.57	0.23		0.65	
Control Delay		8.8		2.8	2.7			36.1	10.0		110.4	
Queue Delay		0.0		1.8	4.9			0.0	0.0		0.0	
Total Delay		8.8		4.6	7.6			36.1	10.0		110.4	
LOS		A		A	A			D	A		F	
Approach Delay		8.8			6.2			23.3			110.4	
Approach LOS		A			A			C			F	

Intersection Summary

Area Type: Other

Cycle Length: 164

Actuated Cycle Length: 164

Offset: 0 (0%), Referenced to phase 6:EBWB, Start of Yellow

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 14.4

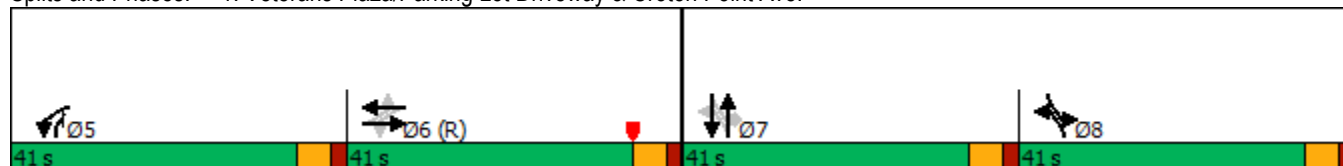
Intersection LOS: B

Intersection Capacity Utilization 45.9%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.



HSRG Overlay and LI District Zoning Amendments
2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.













2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	186	92	427	265	0	0	0	0	78	0	259
Future Volume (vph)	0	186	92	427	265	0	0	0	0	78	0	259
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		200
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.950									0.917	0.850
Flt Protected					0.970						0.978	
Satd. Flow (prot)	0	3014	0	0	3224	0	0	0	0	0	1542	1461
Flt Permitted					0.604						0.978	
Satd. Flow (perm)	0	3014	0	0	2007	0	0	0	0	0	1542	1461
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			412			431			494	
Travel Time (s)		3.9			9.4			9.8			11.2	
Peak Hour Factor	0.82	0.82	0.82	0.89	0.89	0.89	0.92	0.92	0.92	0.85	0.85	0.85
Heavy Vehicles (%)	2%	10%	10%	5%	5%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	227	112	480	298	0	0	0	0	92	0	305
Shared Lane Traffic (%)												37%
Lane Group Flow (vph)	0	339	0	0	778	0	0	0	0	0	205	192
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	1.04	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		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	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)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		custom	NA					Perm	NA	Perm

Lane Group	Ø2	Ø3	Ø4	Ø6	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					

HSRG Overlay and LI District Zoning Amendments
2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2 8		1	6 8						7	
Permitted Phases				6						7		7
Detector Phase		2 8		1	6 8					7	7	7
Switch Phase												
Minimum Initial (s)				5.0						5.0	5.0	5.0
Minimum Split (s)				22.0						31.0	31.0	31.0
Total Split (s)				26.0						36.0	36.0	36.0
Total Split (%)				17.6%						24.3%	24.3%	24.3%
Maximum Green (s)				20.0						30.0	30.0	30.0
Yellow Time (s)				4.0						4.0	4.0	4.0
All-Red Time (s)				2.0						2.0	2.0	2.0
Lost Time Adjust (s)											0.0	0.0
Total Lost Time (s)											6.0	6.0
Lead/Lag				Lag						Lead	Lead	Lead
Lead-Lag Optimize?				Yes						Yes	Yes	Yes
Vehicle Extension (s)				1.0						2.0	2.0	2.0
Recall Mode				None						Min	Min	Min
Walk Time (s)										7.0	7.0	7.0
Flash Dont Walk (s)										18.0	18.0	18.0
Pedestrian Calls (#/hr)										0	0	0
Act Effct Green (s)		37.9			112.5						23.5	23.5
Actuated g/C Ratio		0.26			0.76						0.16	0.16
v/c Ratio		0.44			0.37						0.84	0.83
Control Delay		49.0			8.2						87.7	87.6
Queue Delay		0.1			0.3						0.0	0.0
Total Delay		49.1			8.5						87.7	87.6
LOS		D			A						F	F
Approach Delay		49.1			8.5						87.6	
Approach LOS		D			A						F	

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow

Natural Cycle: 115

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.30

Intersection Signal Delay: 38.3















Intersection LOS: D

Intersection Capacity Utilization 56.6%

ICU Level of Service B

Analysis Period (min) 15

















Splits and Phases: 2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

#2 #3   Ø2	#2 #3   Ø1	#3   Ø3	#3   Ø4
66 s	26 s	36 s	20 s
#2 #3   Ø6 (R)		#2   Ø7	#2   Ø8
66 s		36 s	20 s

Lane Group	Ø2	Ø3	Ø4	Ø6	Ø8
Protected Phases	2	3	4	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	5.0	4.0	10.0	4.0
Minimum Split (s)	39.0	22.0	20.0	29.0	20.0
Total Split (s)	66.0	36.0	20.0	66.0	20.0
Total Split (%)	45%	24%	14%	45%	14%
Maximum Green (s)	60.0	30.0	15.0	60.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	1.5
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	2.0	3.0	2.0	3.0
Recall Mode	Min	None	None	C-Max	None
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	26.0			16.0	
Pedestrian Calls (#/hr)	0			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					

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.













2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	189	80	86	515	1	166	1	186	5	3	9
Future Volume (vph)	1	189	80	86	515	1	166	1	186	5	3	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
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		0.955						0.929			0.925	
Flt Protected					0.993			0.977			0.986	
Satd. Flow (prot)	0	3174	0	0	3300	0	0	1643	0	0	1699	0
Flt Permitted		0.905			0.830			0.841			0.896	
Satd. Flow (perm)	0	2873	0	0	2759	0	0	1414	0	0	1544	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		90										10
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			477			589			82	
Travel Time (s)		9.4			10.8			13.4			1.9	
Peak Hour Factor	0.89	0.89	0.89	0.90	0.90	0.90	0.95	0.95	0.95	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	5%	5%	5%	2%	5%	2%	5%	2%	2%	2%
Adj. Flow (vph)	1	212	90	96	572	1	175	1	196	5	3	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	303	0	0	669	0	0	372	0	0	18	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	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		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		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)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1 2 4			4 6			3			3	
Permitted Phases	1 2 4			4 6			3			3		
Detector Phase	1 2 4	1 2 4		4 6	4 6		3	3		3	3	

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (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						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Detector Phase						

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)							5.0	5.0		5.0	5.0	
Minimum Split (s)							22.0	22.0		22.0	22.0	
Total Split (s)							36.0	36.0		36.0	36.0	
Total Split (%)							24.3%	24.3%		24.3%	24.3%	
Maximum Green (s)							30.0	30.0		30.0	30.0	
Yellow Time (s)							4.0	4.0		4.0	4.0	
All-Red Time (s)							2.0	2.0		2.0	2.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								6.0			6.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)							2.0	2.0		2.0	2.0	
Recall Mode							None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	106.0			107.0			30.0			30.0		
Actuated g/C Ratio	0.72			0.72			0.20			0.20		
v/c Ratio	0.15			0.34			1.30			0.06		
Control Delay	5.1			8.0			203.9			30.3		
Queue Delay	0.0			0.7			0.0			0.0		
Total Delay	5.1			8.8			203.9			30.3		
LOS	A			A			F			C		
Approach Delay	5.1			8.8			203.9			30.3		
Approach LOS	A			A			F			C		
Intersection Summary												
Area Type:	Other											
Cycle Length: 148												
Actuated Cycle Length: 148												
Offset: 95 (64%), Referenced to phase 6:WBTL, Start of Yellow												
Natural Cycle: 115												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.30												
Intersection Signal Delay: 61.5						Intersection LOS: E						
Intersection Capacity Utilization 66.1%						ICU Level of Service C						
Analysis Period (min) 15												











Splits and Phases: 3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↖ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Switch Phase						
Minimum Initial (s)	5.0	10.0	4.0	10.0	5.0	4.0
Minimum Split (s)	22.0	39.0	20.0	29.0	31.0	20.0
Total Split (s)	26.0	66.0	20.0	66.0	36.0	20.0
Total Split (%)	18%	45%	14%	45%	24%	14%
Maximum Green (s)	20.0	60.0	15.0	60.0	30.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	2.0	1.5
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	1.0	3.0	3.0	2.0	2.0	3.0
Recall Mode	None	Min	None	C-Max	Min	None
Walk Time (s)		7.0		7.0	7.0	
Flash Dont Walk (s)		26.0		16.0	18.0	
Pedestrian Calls (#/hr)		0		0	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						

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2042 Build Conditions
Weekday AM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	240	142	79	59	63	510
Future Volume (vph)	240	142	79	59	63	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	10
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	1.00
Frt	0.944					0.850
Flt Protected	0.970			0.972		
Satd. Flow (prot)	3107	0	0	3119	1689	1436
Flt Permitted	0.970			0.788		
Satd. Flow (perm)	3107	0	0	2529	1689	1436
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	161					567
Link Speed (mph)	30			30	30	
Link Distance (ft)	477			366	519	
Travel Time (s)	10.8			8.3	11.8	
Peak Hour Factor	0.88	0.88	0.97	0.97	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	273	161	81	61	70	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	434	0	0	142	70	567
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9	15			9
Turn Type	Prot		Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases			2			6
Minimum Split (s)	31.0		36.0	36.0	36.0	36.0
Total Split (s)	31.0		36.0	36.0	36.0	36.0
Total Split (%)	46.3%		53.7%	53.7%	53.7%	53.7%
Maximum Green (s)	25.0		30.0	30.0	30.0	30.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0		23.0	23.0	23.0	23.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	25.0			30.0	30.0	30.0
Actuated g/C Ratio	0.37			0.45	0.45	0.45
v/c Ratio	0.34			0.13	0.09	0.59
Control Delay	10.1			11.2	11.1	4.2



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	10.1			11.2	11.1	4.2
LOS	B			B	B	A
Approach Delay	10.1			11.2	4.9	
Approach LOS	B			B	A	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

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

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 7.5

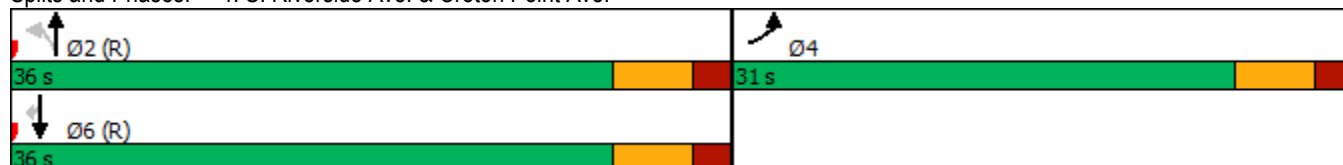
Intersection LOS: A

Intersection Capacity Utilization 46.0%

ICU Level of Service A


















Analysis Period (min) 15

Splits and Phases: 4: S. Riverside Ave. & Croton Point Ave.















HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	195	20	31	192	70	18	236	45	163	491	46
Future Volume (vph)	22	195	20	31	192	70	18	236	45	163	491	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	10	9	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.968				0.850		0.991	
Flt Protected		0.995			0.995			0.996			0.988	
Satd. Flow (prot)	0	2077	0	0	2025	0	0	1558	1425	0	1824	0
Flt Permitted		0.946			0.942			0.924			0.789	
Satd. Flow (perm)	0	1975	0	0	1917	0	0	1446	1425	0	1456	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			24				54		7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			342			519			365	
Travel Time (s)		6.2			7.8			11.8			8.3	
Peak Hour Factor	0.95	0.95	0.95	0.82	0.82	0.82	0.83	0.83	0.83	0.86	0.86	0.86
Bus Blockages (#/hr)	0	0	0	1	1	1	0	0	0	0	0	0
Parking (#/hr)								0				
Adj. Flow (vph)	23	205	21	38	234	85	22	284	54	190	571	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	249	0	0	357	0	0	306	54	0	814	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.25	1.14	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	43.7%	43.7%		43.7%	43.7%		56.3%	56.3%	56.3%	56.3%	56.3%	
Maximum Green (s)	25.0	25.0		25.0	25.0		34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		27.0	27.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.0			25.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.35			0.35			0.48	0.48		0.48	
v/c Ratio		0.36			0.52			0.44	0.08		1.16	

HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2042 Build Conditions
Weekday AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.4			20.2			14.8	3.5		110.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		18.4			20.2			14.8	3.5		110.2	
LOS		B			C			B	A		F	
Approach Delay		18.4			20.2			13.1			110.2	
Approach LOS		B			C			B			F	

Intersection Summary

Area Type: Other

Cycle Length: 71

Actuated Cycle Length: 71

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

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 59.6

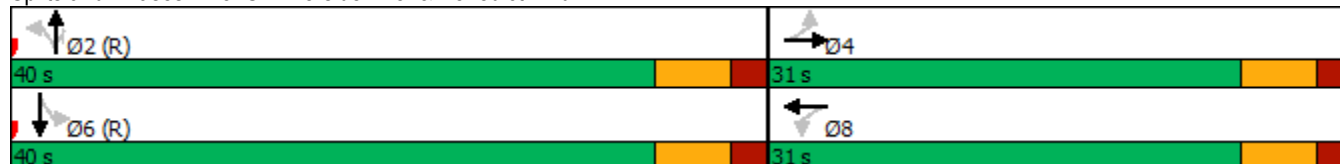
Intersection LOS: E

Intersection Capacity Utilization 88.1%

ICU Level of Service E



















Analysis Period (min) 15

Splits and Phases: 5: S. Riverside Ave. & Benedict Blvd



HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	162	9	151	119	41	3	6	328	35	5	2
Future Volume (vph)	2	162	9	151	119	41	3	6	328	35	5	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	13	12	11	11	12	12	10	10	12	15	12
Storage Length (ft)	0		0	0		0	0		30	0		0
Storage Lanes	0		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00
Frt		0.993			0.964			0.858	0.850		0.994	
Flt Protected		0.999		0.950	0.996			0.999			0.960	
Satd. Flow (prot)	0	1779	0	1609	1558	0	0	1402	1390	0	1955	0
Flt Permitted		0.997		0.619	0.970			0.995			0.319	
Satd. Flow (perm)	0	1776	0	1049	1518	0	0	1396	1390	0	650	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)					12			196	204		2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		348			173			172			290	
Travel Time (s)		7.9			3.9			3.9			6.6	
Peak Hour Factor	0.77	0.77	0.77	0.92	0.92	0.92	0.82	0.82	0.82	0.31	0.31	0.31
Heavy Vehicles (%)	2%	10%	2%	3%	10%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	3	210	12	164	129	45	4	7	400	113	16	6
Shared Lane Traffic (%)				10%					49%			
Lane Group Flow (vph)	0	225	0	148	190	0	0	207	204	0	135	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	1.00	0.96	1.00	1.04	1.04	1.00	1.00	1.09	1.09	1.00	0.88	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	

HSRG Overlay and LI District Zoning Amendments
1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		6		5	6		8	7	5	8	7	
Permitted Phases	6			6			7		7	7		
Detector Phase	6	6		5	6		8	7	5	8	7	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0		11.0	11.0		11.0	11.0	11.0	11.0	11.0	
Total Split (s)	41.0	41.0		41.0	41.0		41.0	41.0	41.0	41.0	41.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		35.0	35.0	35.0	35.0	35.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	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)		6.0		6.0	6.0			6.0	6.0		6.0	
Lead/Lag	Lag	Lag		Lead	Lag		Lag	Lead	Lead	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0			18.0	18.0		18.0	
Pedestrian Calls (#/hr)	0	0		0	0			0	0		0	
Act Effct Green (s)		109.6		119.4	119.4			26.6	42.4		26.6	
Actuated g/C Ratio		0.67		0.73	0.73			0.16	0.26		0.16	
v/c Ratio		0.19		0.19	0.17			0.53	0.40		1.26	
Control Delay		12.2		6.5	6.1			13.3	7.1		226.3	
Queue Delay		0.0		0.8	3.0			0.0	0.0		0.0	
Total Delay		12.2		7.3	9.0			13.3	7.1		226.3	
LOS		B		A	A			B	A		F	
Approach Delay		12.2			8.3			10.2			226.3	
Approach LOS		B			A			B			F	

Intersection Summary

Area Type: Other

Cycle Length: 164

Actuated Cycle Length: 164

Offset: 0 (0%), Referenced to phase 6:EBWB, Start of Yellow

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 36.3

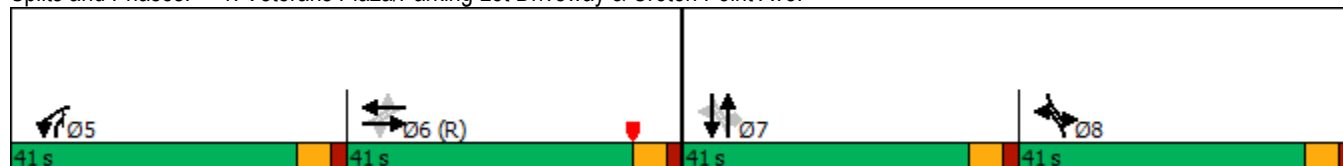
Intersection LOS: D

Intersection Capacity Utilization 41.9%

ICU Level of Service A

















Analysis Period (min) 15

Splits and Phases: 1: Veterans Plaza/Parking Lot Driveway & Croton Point Ave.



HSRG Overlay and LI District Zoning Amendments
2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.













2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	382	143	339	236	0	0	0	0	98	0	74
Future Volume (vph)	0	382	143	339	236	0	0	0	0	98	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		200
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt		0.959									0.990	0.850
Flt Protected					0.971						0.955	
Satd. Flow (prot)	0	3042	0	0	3227	0	0	0	0	0	1625	1461
Flt Permitted					0.529						0.955	
Satd. Flow (perm)	0	3042	0	0	1758	0	0	0	0	0	1625	1461
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		173			412			431			494	
Travel Time (s)		3.9			9.4			9.8			11.2	
Peak Hour Factor	0.88	0.88	0.88	0.87	0.87	0.87	0.92	0.92	0.92	0.90	0.90	0.90
Heavy Vehicles (%)	2%	10%	10%	5%	5%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	434	163	390	271	0	0	0	0	109	0	82
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	597	0	0	661	0	0	0	0	0	117	74
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	1.04	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		2		1	2					1	2	1
Detector Template		Thru		Left	Thru					Left	Thru	Right
Leading Detector (ft)		100		20	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)		6		20	6					20	6	20
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0		0.0	0.0					0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		custom	NA					Perm	NA	Perm

Lane Group	Ø2	Ø3	Ø4	Ø6	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					

HSRG Overlay and LI District Zoning Amendments
2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		2 8		1	6 8						7	
Permitted Phases				6						7		7
Detector Phase		2 8		1	6 8					7	7	7
Switch Phase												
Minimum Initial (s)				5.0						5.0	5.0	5.0
Minimum Split (s)				22.0						31.0	31.0	31.0
Total Split (s)				26.0						36.0	36.0	36.0
Total Split (%)				17.6%						24.3%	24.3%	24.3%
Maximum Green (s)				20.0						30.0	30.0	30.0
Yellow Time (s)				4.0						4.0	4.0	4.0
All-Red Time (s)				2.0						2.0	2.0	2.0
Lost Time Adjust (s)											0.0	0.0
Total Lost Time (s)											6.0	6.0
Lead/Lag				Lag						Lead	Lead	Lead
Lead-Lag Optimize?				Yes						Yes	Yes	Yes
Vehicle Extension (s)				1.0						2.0	2.0	2.0
Recall Mode				None						Min	Min	Min
Walk Time (s)										7.0	7.0	7.0
Flash Dont Walk (s)										18.0	18.0	18.0
Pedestrian Calls (#/hr)										0	0	0
Act Effct Green (s)		49.8			120.9						15.1	15.1
Actuated g/C Ratio		0.34			0.82						0.10	0.10
v/c Ratio		0.58			0.32						0.71	0.50
Control Delay		43.2			4.5						86.2	73.2
Queue Delay		0.3			0.4						0.0	0.0
Total Delay		43.5			4.9						86.2	73.2
LOS		D			A						F	E
Approach Delay		43.5			4.9						81.2	
Approach LOS		D			A						F	

Intersection Summary

Area Type: Other

Cycle Length: 148

Actuated Cycle Length: 148

Offset: 97 (66%), Referenced to phase 6:WBTL, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 2.24

Intersection Signal Delay: 30.8















Intersection LOS: C

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

















Splits and Phases: 2: Rt. 9/9A SB On-Ramp/Rt. 9/9A SB Off-Ramp & Croton Point Ave.

#2 #3   Ø2	#2 #3   Ø1	#3   Ø3	#3   Ø4
66 s	26 s	36 s	20 s
#2 #3   Ø6 (R)		#2   Ø7	#2   Ø8
66 s		36 s	20 s

Lane Group	Ø2	Ø3	Ø4	Ø6	Ø8
Protected Phases	2	3	4	6	8
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)	10.0	5.0	4.0	10.0	4.0
Minimum Split (s)	39.0	22.0	20.0	29.0	20.0
Total Split (s)	66.0	36.0	20.0	66.0	20.0
Total Split (%)	45%	24%	14%	45%	14%
Maximum Green (s)	60.0	30.0	15.0	60.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	1.5
Lost Time Adjust (s)					
Total Lost Time (s)					
Lead/Lag	Lead	Lead	Lag		Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	2.0	3.0	2.0	3.0
Recall Mode	Min	None	None	C-Max	None
Walk Time (s)	7.0			7.0	
Flash Dont Walk (s)	26.0			16.0	
Pedestrian Calls (#/hr)	0			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					

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.













2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	327	147	155	406	4	169	4	458	2	1	4
Future Volume (vph)	4	327	147	155	406	4	169	4	458	2	1	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	12	12	11	12	12	12	12	12	12	12
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		0.954			0.999			0.902			0.923	
Flt Protected					0.986			0.987			0.986	
Satd. Flow (prot)	0	3171	0	0	3274	0	0	1611	0	0	1695	0
Flt Permitted		0.837			0.675			0.906			0.866	
Satd. Flow (perm)	0	2654	0	0	2242	0	0	1479	0	0	1489	0
Right Turn on Red			Yes			Yes			No			Yes
Satd. Flow (RTOR)		120			1						4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		412			477			589			82	
Travel Time (s)		9.4			10.8			13.4			1.9	
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.94	0.94	0.94	0.92	0.92	0.92
Heavy Vehicles (%)	2%	5%	5%	5%	5%	2%	5%	2%	5%	2%	2%	2%
Adj. Flow (vph)	4	363	163	167	437	4	180	4	487	2	1	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	530	0	0	608	0	0	671	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.00	1.00	1.04	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		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		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)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		1 2 4			4 6			3			3	
Permitted Phases	1 2 4			4 6			3			3		
Detector Phase	1 2 4	1 2 4		4 6	4 6		3	3		3	3	

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Lane Configurations						
Traffic Volume (vph)						
Future Volume (vph)						
Ideal Flow (vphpl)						
Lane Width (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						
Protected Phases	1	2	4	6	7	8
Permitted Phases						
Detector Phase						

HSRG Overlay and LI District Zoning Amendments
3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)							5.0	5.0		5.0	5.0	
Minimum Split (s)							22.0	22.0		22.0	22.0	
Total Split (s)							36.0	36.0		36.0	36.0	
Total Split (%)							24.3%	24.3%		24.3%	24.3%	
Maximum Green (s)							30.0	30.0		30.0	30.0	
Yellow Time (s)							4.0	4.0		4.0	4.0	
All-Red Time (s)							2.0	2.0		2.0	2.0	
Lost Time Adjust (s)								0.0			0.0	
Total Lost Time (s)								6.0			6.0	
Lead/Lag							Lead	Lead		Lead	Lead	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)							2.0	2.0		2.0	2.0	
Recall Mode							None	None		None	None	
Walk Time (s)												
Flash Dont Walk (s)												
Pedestrian Calls (#/hr)												
Act Effct Green (s)	106.0			107.0			30.0			30.0		
Actuated g/C Ratio	0.72			0.72			0.20			0.20		
v/c Ratio	0.27			0.38			2.24			0.02		
Control Delay	9.4			8.6			597.1			35.0		
Queue Delay	1.1			0.7			0.0			0.0		
Total Delay	10.5			9.2			597.1			35.0		
LOS	B			A			F			C		
Approach Delay	10.5			9.2			597.1			35.0		
Approach LOS	B			A			F			C		
Intersection Summary												
Area Type:	Other											
Cycle Length: 148												
Actuated Cycle Length: 148												
Offset: 97 (66%), Referenced to phase 6:WBTL, Start of Yellow												
Natural Cycle: 145												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 2.24												
Intersection Signal Delay: 226.9						Intersection LOS: F						
Intersection Capacity Utilization 88.3%						ICU Level of Service E						
Analysis Period (min) 15												







Splits and Phases: 3: Rt. 9/9A NB Ramps/Driveway & Croton Point Ave.

#2 #3 → Ø2	#2 #3 ↖ Ø1	#3 ↕ Ø3	#3 ↔ Ø4
66 s	26 s	36 s	20 s
#2 #3 ↖ Ø6 (R)		#2 ↕ Ø7	#2 ↔ Ø8
66 s		36 s	20 s

Lane Group	Ø1	Ø2	Ø4	Ø6	Ø7	Ø8
Switch Phase						
Minimum Initial (s)	5.0	10.0	4.0	10.0	5.0	4.0
Minimum Split (s)	22.0	39.0	20.0	29.0	31.0	20.0
Total Split (s)	26.0	66.0	20.0	66.0	36.0	20.0
Total Split (%)	18%	45%	14%	45%	24%	14%
Maximum Green (s)	20.0	60.0	15.0	60.0	30.0	15.0
Yellow Time (s)	4.0	4.0	3.5	4.0	4.0	3.5
All-Red Time (s)	2.0	2.0	1.5	2.0	2.0	1.5
Lost Time Adjust (s)						
Total Lost Time (s)						
Lead/Lag	Lag	Lead	Lag		Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes
Vehicle Extension (s)	1.0	3.0	3.0	2.0	2.0	3.0
Recall Mode	None	Min	None	C-Max	Min	None
Walk Time (s)		7.0		7.0	7.0	
Flash Dont Walk (s)		26.0		16.0	18.0	
Pedestrian Calls (#/hr)		0		0	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						

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT			WT	WT	WT
Traffic Volume (vph)	445	303	242	176	148	289
Future Volume (vph)	445	303	242	176	148	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	10	10	10	10
Lane Util. Factor	0.97	0.95	0.95	0.95	1.00	1.00
Frt	0.939					0.850
Flt Protected	0.971			0.972		
Satd. Flow (prot)	3094	0	0	3119	1689	1436
Flt Permitted	0.971			0.726		
Satd. Flow (perm)	3094	0	0	2330	1689	1436
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	294					
Link Speed (mph)	30			30	30	
Link Distance (ft)	477			366	519	
Travel Time (s)	10.8			8.3	11.8	
Peak Hour Factor	0.91	0.91	0.90	0.90	0.93	0.93
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	489	333	269	196	159	311
Shared Lane Traffic (%)						
Lane Group Flow (vph)	822	0	0	465	159	311
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	22			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.04	1.04	1.09	1.09	1.09	1.09
Turning Speed (mph)	15	9	15			9
Turn Type	Prot		Perm	NA	NA	pm+ov
Protected Phases	4			2	6	4
Permitted Phases			2			6
Minimum Split (s)	31.0		36.0	36.0	36.0	31.0
Total Split (s)	31.0		36.0	36.0	36.0	31.0
Total Split (%)	46.3%		53.7%	53.7%	53.7%	46.3%
Maximum Green (s)	25.0		30.0	30.0	30.0	25.0
Yellow Time (s)	4.0		4.0	4.0	4.0	4.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.0			6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	18.0		23.0	23.0	23.0	18.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	25.0			30.0	30.0	67.0
Actuated g/C Ratio	0.37			0.45	0.45	1.00
v/c Ratio	0.61			0.45	0.21	0.22
Control Delay	12.9			14.5	12.2	0.3

HSRG Overlay and LI District Zoning Amendments
4: S. Riverside Ave. & Croton Point Ave.

2042 Build Conditions
Weekday PM Peak Hour



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	12.9			14.5	12.2	0.3
LOS	B			B	B	A
Approach Delay	12.9			14.5	4.4	
Approach LOS	B			B	A	

Intersection Summary

Area Type: Other

Cycle Length: 67

Actuated Cycle Length: 67

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

Natural Cycle: 70

Control Type: Pretimed

Maximum v/c Ratio: 0.61

Intersection Signal Delay: 11.0

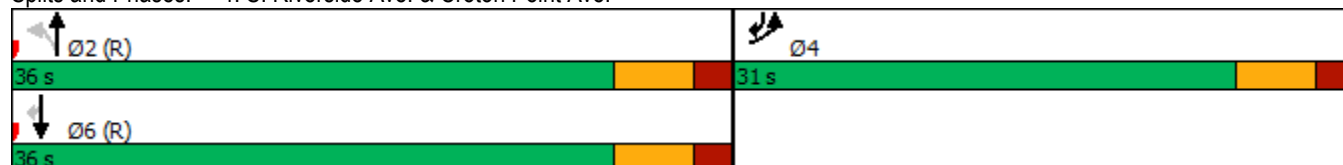
Intersection LOS: B

Intersection Capacity Utilization 58.4%

ICU Level of Service B


















Analysis Period (min) 15

Splits and Phases: 4: S. Riverside Ave. & Croton Point Ave.















HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	178	17	42	313	213	40	483	52	119	357	41
Future Volume (vph)	44	178	17	42	313	213	40	483	52	119	357	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	10	9	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.949				0.850		0.989	
Flt Protected		0.991			0.996			0.996			0.989	
Satd. Flow (prot)	0	2073	0	0	1987	0	0	1732	1425	0	1822	0
Flt Permitted		0.673			0.954			0.929			0.557	
Satd. Flow (perm)	0	1408	0	0	1904	0	0	1615	1425	0	1026	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			47				55		8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			342			519			365	
Travel Time (s)		6.2			7.8			11.8			8.3	
Peak Hour Factor	0.80	0.80	0.80	0.77	0.77	0.77	0.94	0.94	0.94	0.94	0.94	0.94
Bus Blockages (#/hr)	0	0	0	1	1	1	0	0	0	0	0	0
Adj. Flow (vph)	55	223	21	55	406	277	43	514	55	127	380	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	299	0	0	738	0	0	557	55	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)		12			12			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	0.85	1.00	1.00	0.85	1.00	1.00	1.09	1.14	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		6		
Permitted Phases	4			8			2		2	6		
Minimum Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (s)	31.0	31.0		31.0	31.0		40.0	40.0	40.0	40.0	40.0	
Total Split (%)	43.7%	43.7%		43.7%	43.7%		56.3%	56.3%	56.3%	56.3%	56.3%	
Maximum Green (s)	25.0	25.0		25.0	25.0		34.0	34.0	34.0	34.0	34.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		18.0	18.0		27.0	27.0	27.0	27.0	27.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effect Green (s)		25.0			25.0			34.0	34.0		34.0	
Actuated g/C Ratio		0.35			0.35			0.48	0.48		0.48	
v/c Ratio		0.60			1.05			0.72	0.08		1.11	
Control Delay		24.5			73.5			21.3	3.6		97.3	

HSRG Overlay and LI District Zoning Amendments
5: S. Riverside Ave. & Benedict Blvd

2042 Build Conditions
Weekday PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		24.5			73.5			21.3	3.6		97.3	
LOS		C			E			C	A		F	
Approach Delay		24.5			73.5			19.7			97.3	
Approach LOS		C			E			B			F	

Intersection Summary

Area Type: Other

Cycle Length: 71

Actuated Cycle Length: 71

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

Natural Cycle: 90

Control Type: Pretimed

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 57.8

Intersection LOS: E

Intersection Capacity Utilization 105.9%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: S. Riverside Ave. & Benedict Blvd

