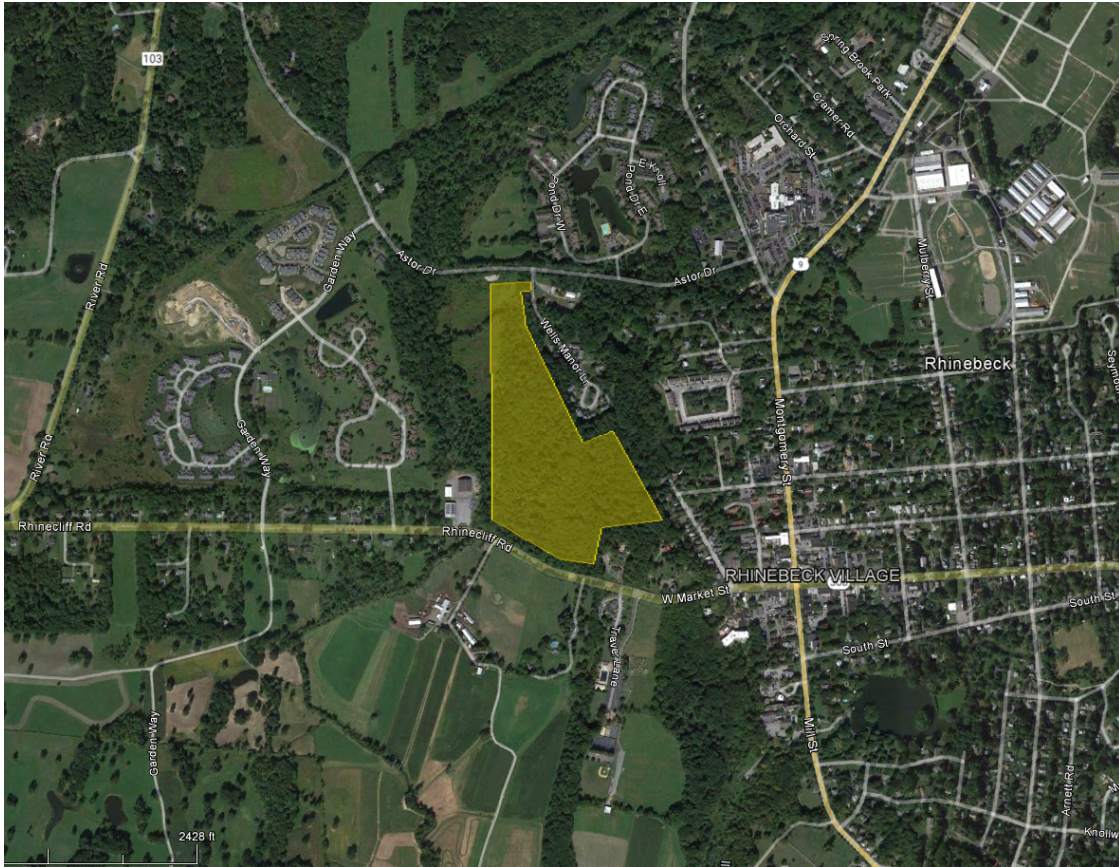


Traffic Impact Study

for

The Hamlet at Rhinebeck

Town of Rhinebeck, New York



August 2022

Prepared by:



Table of Contents

1.0	INTRODUCTION	Page 2
2.0	SITE DESCRIPTION	Page 2
3.0	EXISTING TRAFFIC CONDITIONS	Page 4
4.0	PROJECTED FUTURE CONDITIONS	Page 12
5.0	CAPACITY ANALYSIS	Page 13
6.0	GAP ANALYSIS	Page 17
7.0	CRASH HISTORY INVESTIGATION	Page 18
8.0	TURN LANE WARRANT ANALYSIS	Page 21
9.0	CONCLUSIONS AND RECOMMENDATIONS	Page 23

Appendices

APPENDIX A	Existing Traffic Counts
APPENDIX B	Existing Data Analysis
APPENDIX C	Site Traffic Distribution
APPENDIX D	Volume Diagrams
APPENDIX E	Synchro Reports
APPENDIX F	Gap Data and Calculations
APPENDIX G	Crash Data and Calculations
APPENDIX H	NYSDOT Traffic Signal Record Plans

1.0 INTRODUCTION

The Hamlet at Rhinebeck is a development proposed in the Town and the Village of Rhinebeck, within Dutchess County, New York. The development is located on a parcel of undeveloped land between Rhinecliff Rd and Astor Dr on the Village border. The multi-family housing development is proposed to have 80 dwelling units with associated parking and all required utility connections.

The purpose of this report is to analyze the impacts of traffic anticipated to be generated from the new development at the proposed driveway connections to Rhinecliff Rd and on Wells Manor Ln. Included are analyses of the level of service for Existing conditions, future No-Build conditions, and future Build conditions.

2.0 SITE DESCRIPTION

The proposed site will have a driveway passing through the parcel that connects with Astor Dr on the north end and Rhinecliff Rd on the south end. At the north, a new connection to Wells Manor Lane will be constructed which will allow access to Astor Dr through the existing intersection. A new driveway entrance will be constructed directly on Rhinecliff Rd approximately 4/10 of a mile west of the intersection with US Rte 9. Rhinecliff Rd is designated as a NYS Road and known as NY Rte 928M. The name of the road transitions from Rhinecliff Rd west of the Village line to W Market St east of the Village line which is also where the speed limit changes from 45mph to 30mph within the Village limits. This road is functionally classified as a Rural Major Collector. As part of this study, five (5) existing intersections near the site, and one (1) proposed driveway location, were evaluated.

- Location 1 – Astor Dr & Wells Manor Ln: This three-legged intersection is partially stop controlled with a stop sign on Wells Manor Ln only. The speed limit on both roads is 30mph. All approaches have a single lane for all turning movements. A new driveway for the development is proposed to be built on Wells Manor Ln and will use this existing intersection.
- Location 2 – Astor Dr & Montgomery St: This three-legged intersection is partially stop controlled with a stop sign on Astor Dr. only. The speed limit on both roads is 30mph. All approaches have a single lane for all turning movements.
- Location 3 – Montgomery St & US Rte 9 (Spring Brook Ave/Montgomery St): This three-legged intersection is partially stop controlled with a stop sign on the southeast Montgomery approach only. The northbound Montgomery and southwest bound Springbrook Ave are not stop controlled. That route is designated as US Rte 9. The southeast Montgomery St. approach consists of two lanes, one for right-turns and one for the left-turns. The approaches on both northbound Montgomery St. and southwest bound Spring Brook Ave. have a single lane for all turning movements.
- Location 4 – US Rte 9 (Mill St/Montgomery St) & E/W Market St (NY Rte 928M / NY Rte 308): This is a four-legged signalized intersection. The speed limit is 30mph. All

approaches have a single lane for all turning movements. Traffic signal record plans and signal timing data sheets have been provided by NYSDOT.

- Location 5 – W Market St (NY Rte 928M) & Traver Ln: This three-legged intersection is partially stop controlled with a stop sign on Traver Ln only. The speed limit on both roads is 30mph. All approaches have a single lane for all turning movements. The Town library, Town pool, and Starr Park with athletic fields and playground are located on Traver Ln.
- Location 6 – Rhinecliff Rd (NY Rte 928M) & Proposed Driveway #1: This is intersection is the proposed driveway location for the development. It will be a three leg stop controlled intersection with a stop sign on the proposed driveway only. Rhinecliff Rd west of the Village line has a speed limit of 45mph.

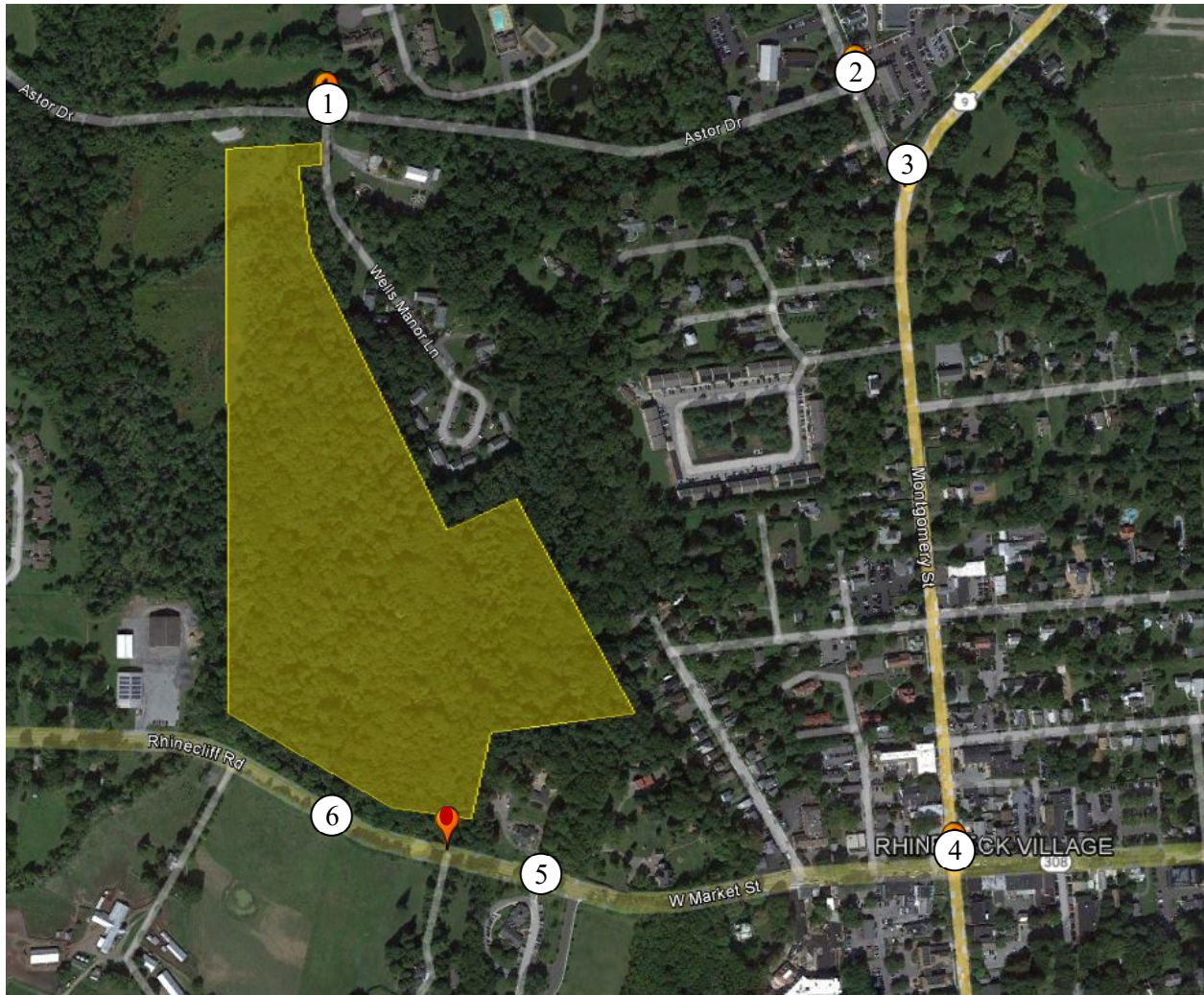


Figure 1 – Location Map

3.0 EXISTING TRAFFIC CONDITIONS

3.1 Data Collection

November 2021 Data

Traffic data was originally collected in November 2021. Turning movement counts were collected on Tuesday, November 16, 2021 for four (4) existing intersections located near the area of the proposed project. These 4 locations are identified as Locations 1 through 4 with information provided in Section 2 of this report. The counts were obtained during two peak hour periods, in the morning and evening from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM, respectively, to correlate with anticipated peak movements associated with existing traffic and the proposed site.

There is not an existing intersection at the location for the proposed driveway on Rhinecliff Rd, Location 5. To obtain traffic volumes at this location, tube counts were collected using an Automatic Traffic Recorder (ATR), which collects volume, class, and speed data. The recorder was placed in the approximate location of the proposed driveway for three full days beginning Tuesday, November 16, 2021.

July 2022 Data

To follow up on this study, additional data has been collected in July 2022 to capture summer volumes. Both weekday and weekend volumes were capture. Turning movement counts were collected on Wednesday, July 20, 2022 and Saturday, July 23, 2022 between the hours of 7:00 AM to 10:00 AM and from 3:00 PM to 6:00 PM. Turning movement counts were collected at Location 4 so that they can be compared to the volumes previously collected. New turning movement counts were collected at Location 6, the intersection of W Market St with Traver Ln to capture traffic using the library, pool, and park. Additionally, tube counts were collected at the same location as before to allow for comparison of data. The ATR was left in place to collect data for 7 full days from Wednesday, July 20, 2022 through to Tuesday July 26, 2022 which captures both weekday and weekend volumes.

Historic 2016 Data

Daily hourly traffic volumes on Rhinecliff Rd are available on the NYSDOT Traffic Data Viewer website. The most recent data was collected in April 2016 which is representative of volumes prior to the onset of the COVID-19 pandemic. This data can be used to compare to the 2021 and 2022 traffic volumes collected on Rhinecliff Rd.

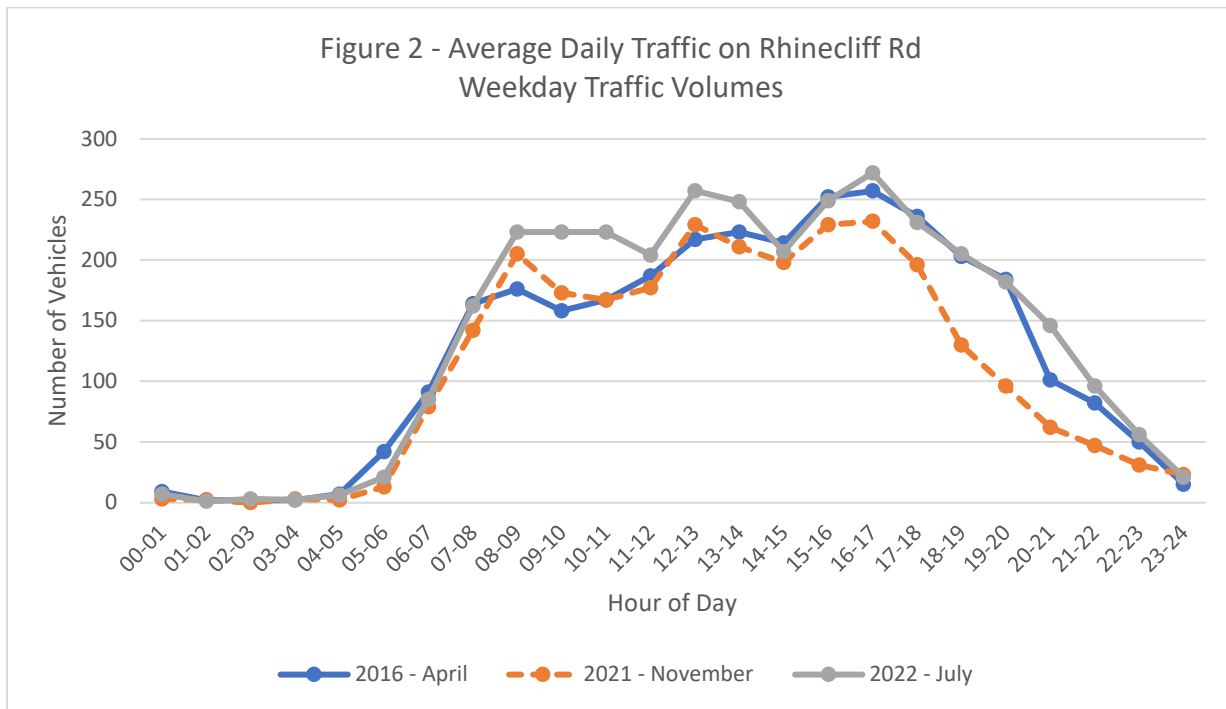
All traffic data is supplied in Appendix A.

3.2 Data Analysis

Comparison of 2016, 2021, and 2022 Traffic volumes on Rhinecliff Rd

The three sources of traffic volume data on Rhinecliff Rd (NY Rte 928M) are compared side by side to determine how the Average Daily Traffic (ADT) and Average Annual Daily Traffic (AADT) volumes match up. ADT is the average daily volume of vehicles during the time of data collection. AADT is a calculated measure that represents the volume of daily traffic average over an entire year to adjust for seasonal variations in traffic volumes. AADT is the standard measurement for traffic volumes used to compare road volumes from year to year. Table 1 presents the actual traffic volumes, the seasonal adjustment factors supplied by NYSDOT, and the calculated AADT. Additional data and the seasonal adjustment factors are presented in Appendix B.

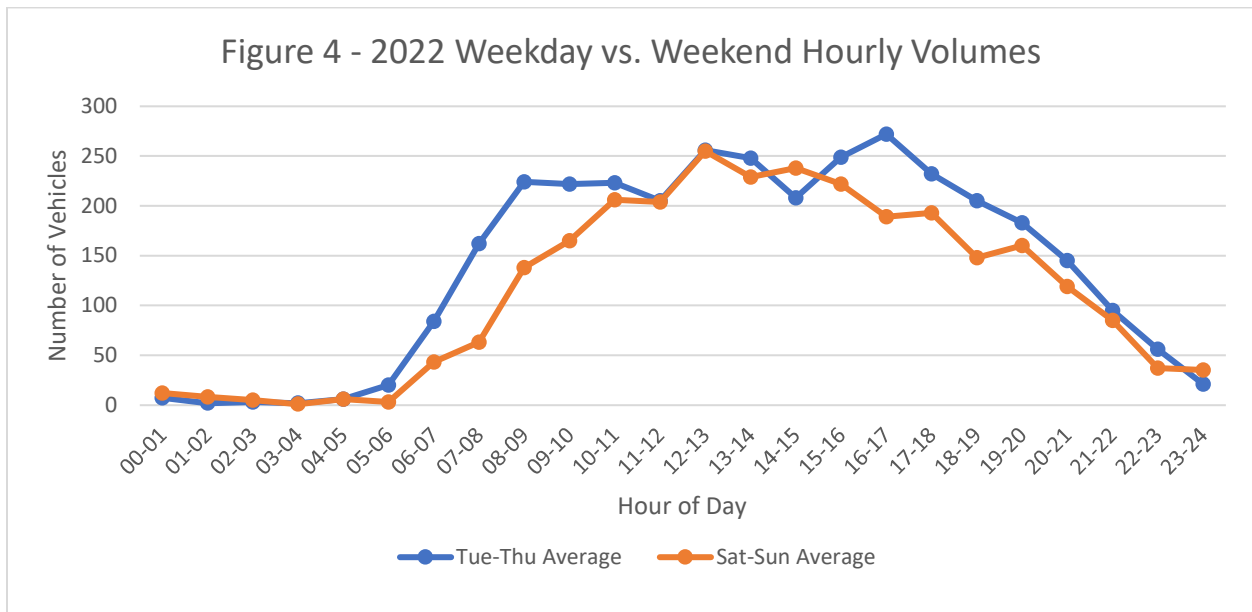
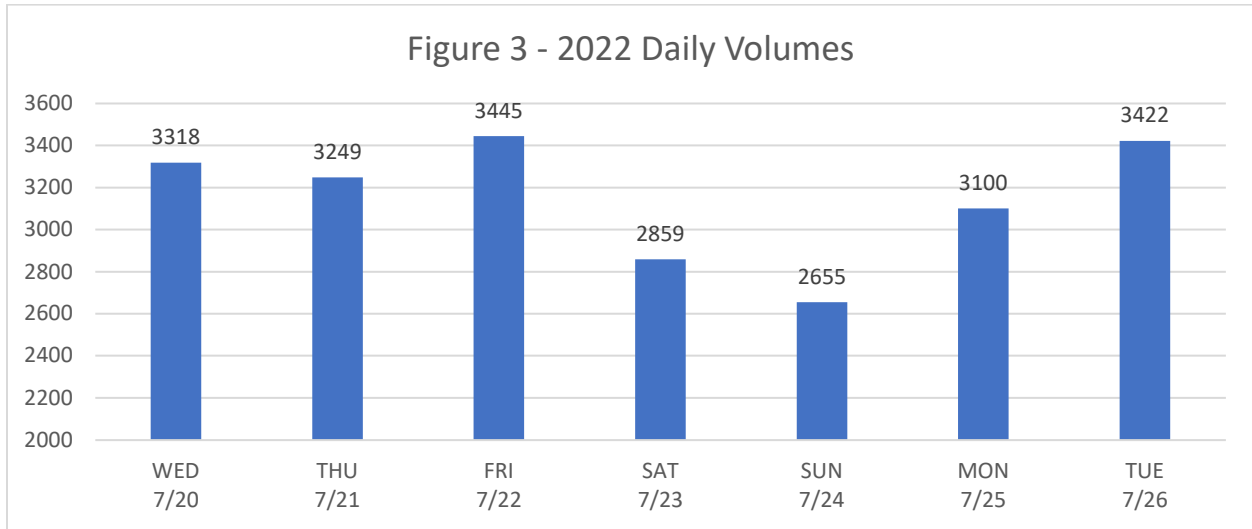
Table 1 Average Daily Traffic on Rhinecliff Rd			
	2016 April	2021 November	2022 July
ADT	3,041	2,650	3,330
Seasonal Factor	1.052	1.039	1.112
AADT	2,891	2,551	2,995



This comparison shows that the data collected in November 2021 is approximately 12% lower than the 2016 data while the data collected in July 2022 is 4% higher than the 2016 data. The analysis confirms that 2022 data is most representative of typical traffic volumes with no adjustments necessary.

2022 Weeklong Traffic Data on Rhinecliff Rd

The tube counts collected on Rhinecliff Rd have been shown to be the best representative of the available data. To evaluate the difference between weekday versus weekend traffic volumes, the weeklong daily volumes are compared. The daily volumes are plotted on the chart in Figure 3. The graph in Figure 4 shows the hourly distribution of traffic of midweek volumes compared to weekend volumes.



These charts and graphs show that mid-week traffic volumes are higher than weekend volumes on Rhinecliff Rd. Additional data is available in Appendix B.

Turning Movement Comparison at Intersection of US Rte 9 & E/W Market St

Turning movement counts at this intersection have been collected on three separate days as part of this study. A midweek collection in November 2021, a midweek collection in July 2022, and a Saturday collection in July 2022. The data is included in Appendix A and summarized for review in Table 2.

Table 2													
Peak Hour Turning Movement Volumes													
At Intersection of US Rte 9 & E/W Market St													
AM Peak Hour													
Peak Hour	NB US Rte 9			SB US Rte 9			EB W Market St			WB E Market St			TOT
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
2021-11-16 Tuesday	51	291	14	29	256	43	33	47	30	28	67	60	949
2022-07-20 Wednesday	48	287	26	50	234	65	50	85	51	32	104	62	1094
2022-07-23 Saturday	27	178	17	59	135	39	42	51	26	29	62	73	738
PM Peak Hour													
Peak Hour	NB US Rte 9			SB US Rte 9			EB W Market St			WB E Market St			TOT
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
2021-11-16 Tuesday	35	291	36	56	332	39	58	86	57	47	73	81	1191
2022-07-20 Wednesday	49	287	29	78	283	57	81	91	67	40	92	98	1252
2022-07-23 Saturday	45	187	29	79	202	70	61	95	54	42	74	64	1002

The data presented in Table 2 shows that the volumes collected midweek on July 20, 2022 are the highest traffic volumes passing through this intersection. This correlates with the ADT data collected on Rhinecliff Rd indicating that midweek traffic volumes are larger than weekends.

Pedestrian Volume Comparison at Intersection of US Rte 9 & E/W Market St

Pedestrian volumes are collected as part of the turning movement counts data. Pedestrian volumes for each location where data was collected were evaluated. Only one intersection had a volume of pedestrians with any significance. The intersection of US Rte 9 & E/W Market St is located in the heart of the Village of Rhinebeck with many businesses surrounding it. This signalized intersection has pedestrian signals to accommodate the large volume of pedestrians. At this intersection, counts have been collected on three separate days as part of this study. A midweek collection in November 2021, a midweek collection in July 2022, and a Saturday collection in July 2022. The data is included in Appendix A and summarized for review in Table 3.

Table 3									
Weekday Existing (2021) Peak Hour Volumes									
AM Peak Hour									
Peak Hour	North Leg US Rte 9		South Leg US Rte 9		East Leg E Market St		West Leg W Market St		TOT
	EB	WB	EB	WB	NB	SB	NB	SB	
2021-11-16 Tuesday	6	5	7	7	4	6	1	1	37
2022-07-20 Wednesday	5	10	5	4	7	3	13	5	52
2022-07-23 Saturday	28	15	14	13	13	21	9	15	128
PM Peak Hour									
Peak Hour	North Leg US Rte 9		South Leg US Rte 9		East Leg E Market St		West Leg W Market St		TOT
	EB	WB	EB	WB	NB	SB	NB	SB	
2021-11-16 Tuesday	13	17	18	25	12	10	10	12	117
2022-07-20 Wednesday	23	31	17	8	40	22	6	15	162
2022-07-23 Saturday	61	59	65	60	66	76	33	44	464

Although traffic volumes are higher on a weekday, pedestrian volumes are found to be higher at this intersection on the weekend. It is worth considering this data at this intersection for analysis to determine what impacts this volume of pedestrians has on traffic at this particular location.

Turning Movement Comparison at Intersection of W Market St & Traver Ln

Turning movement counts at this intersection have been collected on two separate days, a Wednesday and Saturday collection in July 2022. The data is included in Appendix A and summarized for review in Table 4.

Table 4													
Weekday Existing (2021) Peak Hour Volumes													
AM Peak Hour													
Peak Hour	NB Traver Ln			SB Driveway			EB W Market St			WB W Market St			TOT
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
2022-07-20 Wednesday	10	0	45	0	0	0	0	135	7	48	118	0	363
2022-07-23 Saturday	4	0	13	0	0	0	0	82	5	10	80	1	195
PM Peak Hour													
Peak Hour	NB Traver Ln			SB Driveway			EB W Market St			WB W Market St			TOT
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
2022-07-20 Wednesday	18	0	80	0	0	1	0	113	12	77	102	0	403
2022-07-23 Saturday	10	0	38	0	0	0	0	108	6	28	119	0	309

The data presented in Table 4 shows that the volumes collected midweek on July 20, 2022 are the highest traffic volumes passing through this intersection. The traffic volumes entering and exiting Traver Ln are higher on the weekday than the weekend this correlates with the overall traffic volumes.

Data Analysis Conclusion

Overall, this analysis shows that midweek traffic volumes appear to be the largest and most representative of typical conditions. Of the data that was collected, midweek July 2022 volumes are the most conservative volumes for all intersections evaluated. This is the data that will be used for traffic models. As an additional consideration, the Saturday afternoon traffic and pedestrian volumes will be evaluated for the intersection of US Rte 9 and E/W Market St.

3.3 Existing Data

Table 5												
Weekday Existing (2022) Peak Hour Volumes												
Location 1 - Astor Dr & Wells Manor Ln												
Peak Hour	NB (Wells Manor Ln)			SB			EB (Astor Dr)			WB (Astor Dr)		
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	1	-	8	-	-	-	-	25	1	8	31	-
PM	2	-	3	-	-	-	-	33	0	11	22	-
Location 2 – Astor Dr & Montgomery St												
Peak Hour	NB (Montgomery St)			SB (Montgomery St)			EB (Astor Dr)			WB (Astor Dr)		
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	55	209	-	-	208	16	15	-	30	-	-	-
PM	33	190	-	-	239	9	10	-	39	-	-	-
Location 3 - Montgomery St & US Rte 9 (Spring Brook Ave/Montgomery St)												
Peak Hour	NB (US Rte 9)			SB (US Rte 9)			EB (Montgomery St)			WB		
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	193	266	-	-	261	39	39	-	188	-	-	-
PM	183	343	-	-	339	39	52	-	240	-	-	-
Location 4 – US Rte 9 (Mill St/Montgomery St) & E/W Market St (NY Rte 928M)												
Peak Hour	NB (US Rte 9)			SB (US Rte 9)			EB (W Market St)			WB (E Market St)		
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	48	287	26	50	234	65	50	85	51	32	104	62
PM	49	287	29	78	283	57	81	91	67	40	92	98
Weekend*	45	187	29	79	202	70	61	95	54	42	74	64
Location 5 – W Market St (NY Rte 928M) & Traver Ln												
Peak Hour	NB (Traver Ln)			SB (Driveway)			EB (W Market St)			WB (W Market St)		
	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	10	0	45	0	0	0	0	135	7	48	118	0
PM	18	0	80	0	0	1	0	113	12	77	102	0

* Location 4 weekend data being evaluated to account for larger pedestrian volumes.

Locations 4 and 5 have data that were collected in July 2022. As shown in Section 3.2 of this report, there is data at Location 4 for both November 2021 and July 2022. This data was compared to determine the percent changes in volumes. Locations 1, 2, and 3 have data that were collected in November 2022 and was increased by the percent changes calculated from Location 4. Calculations are provided in Appendix B.

Tube counts were collected using an Automatic Traffic Recorder (ATR), which collects volume, class, and speed data on Rhinecliff Rd and Astor Dr. Data is summarized in Tables 6 and 7. Existing tube count data can be found in Appendix A.

Table 6 Existing Traffic Data on Rhinecliff Road (NY Rte 928M)				
Direction	AADT	Heavy Veh. (%)	Avg. Speed (mph)	85th % Speed (mph)
Eastbound	1,562	-	39	44
Westbound	1,589	-	39	44
Total	3,151	1.0%	39	44

Table 7 Existing Traffic Data on Astor Dr				
Direction	ADT	Heavy Veh. (%)	Avg. Speed (mph)	85th % Speed (mph)
Eastbound	473	-	32	38
Westbound	441	-	34	41
Total	914	0%	33	39

3.4 Growth Rate

Historical traffic data for the area available from NYSDOT was analyzed to determine how traffic volumes have been changing over the last ten years. Additionally, census data was reviewed to determine how regional population volumes have changed over the last few decades. This data was aggregated to determine a growth rate. The Hudson Valley area has generally seen an overall growth in population over the last few decades, and an estimated steady increase over the last 10 years. Historical Average Annual Daily Traffic (AADT) data for locations adjacent to the site shows the volume of vehicles passing through these roadways has grown slowly year over year for the last few years. For this study, the annual growth rate is established as 1.0%.

The growth rate was applied to the 2022 existing traffic volumes to establish future No-Build volumes. The new trips expected to be generated by the proposed housing project were added to the future No-Build volumes to then establish the Build volumes. Figures showing these volumes can be found in Appendix D.

4.0 PROJECTED FUTURE CONDITIONS

As previously noted, the proposed housing development is anticipated to contain 80 dwelling units. Since this is residential, most site generated traffic will be concentrated around the AM and PM peak hours with less off-peak traffic volumes. The site will have two (2) access points. There will be a new driveway connection directly to Rhinecliff Rd constructed as a three-leg intersection identified as Location 6 (Driveway #1) in Section 2 of this report. This will serve as the primary entrance and exit for the development. A secondary driveway will be constructed on Wells Manor Lane which will then have direct access to Astor Drive through the existing intersection identified as Location 1. This driveway will function as an exit only. Wells Manor Ln has no outlet, therefore all site generated traffic exiting through the secondary driveway will pass through the existing intersection with Astor Dr.

4.1 Trip Generation

Estimated new trips generated by the housing development were determined using Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. The development is categorized as land use code (LUC) 220 for Multifamily Housing (Low-Rise). Trips were calculated based on the number of proposed dwellings in the project. The results are summarized in Table 8. Calculations are supplied in Appendix C.

Table 8 Projected Trip Generations					
Description	ITE Land Use Code	Dwelling Units	Peak Hour	Entering	Exiting
Multifamily Housing (Low-Rise)	220	80	AM	9	30
			PM	31	18
			Saturday	27	27

4.2 Trip Distribution

Since this development is residential, the distribution of traffic is expected to travel to/from sources of employment, services, shopping, and/or entertainment. The surrounding land uses are primarily residential as well. Therefore, it is expected that the new site generated traffic will largely follow the same travel patterns as existing traffic. Existing data collected as part of this study was analyzed to determine approximately what directions traffic appears to be coming or going. Those patterns were applied to the distribution of new traffic. The primary driveway on Rhinecliff Road will handle most traffic as it enters and exits the site. The secondary driveway on Wells Manor Ln is exit only and is expected to handle a small percentage of the site traffic. Figures showing the trip distributions can be found in Appendix C.

5.0 CAPACITY ANALYSIS

The purpose of this report is to analyze the existing traffic conditions, future No-Build conditions, and future Build conditions. Capacity analyses performed in this report are consistent with the most recent version of the Highway Capacity Manual (HCM). The software used to perform the analyses was Synchro 11. The weekday morning and evening peak hours were used for analysis.

The HCM quantifies the traffic flow in terms of levels of service (LOS). There are six levels of service, with LOS A being the highest and best level of service, indicating very low levels of delays, and LOS F being the lowest and worst level of service, indicating high levels of delays associated with congestion. These represent a qualitative measure of operational conditions within a traffic stream, and the perception of conditions by motorists and/or passengers. Levels of service and capacity for signalized intersections are calculated for each lane group (a lane group may be one or more movements), each intersection approach, and the intersection as a whole. The intersection level of service is merely a weighted average of the individual approaches and may not be considered a valid measure of the quality or acceptability of an intersection design since it can conceal poor operating conditions on individual approaches.

Levels of service at unsignalized intersections are only calculated for minor movements since the through movement on the major street is not affected by intersection traffic control. Delay descriptions for each level of service can be seen in Table 9 below. Generally, a LOS of D or better indicates an acceptable level of delay.

Table 9 Level of Service Delays		
LOS	Signalized Intersections Control Delay (s/veh)	Non-Signalized Intersections Control Delay (s/veh)
A	≤10	≤10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

5.1 Traffic Models

The future No-Build conditions assume that the road network remains unchanged from that of existing conditions and that the only change to traffic volumes and turning movements is due to the increase due to general growth over time. Therefore, the No-Build volumes were derived using the constant growth rate discussed in Section 3.4 of this report over a period from the existing year 2022 to the future year 2025.

The future Build conditions also assumed a constant growth rate to build year 2025, and includes the derived trips generated by the proposed development as discussed in Section 4.0 of this report. In the analyses for the build conditions, all of the intersections were modeled as two-way stop controlled (TWSC) intersections, with the exception of the signalized intersection at Location 4 in the Village. Signal timings and phases were modeled based on record plans and signal timing data sheets provided by NYSDOT through a Freedom of Information Law (FOIL) request. Synchro models maintain the same operations from the Existing Condition through to the Build condition with no changes.

In addition to the weekday AM and PM peak hour traffic models for the entire road network, Saturday volumes were analyzed for Location 4, US Rte 9 & E/W Market St. Although traffic volumes are lower on Saturday compared to midweek, pedestrian volumes are higher. This intersection is the only one observed to have any significant pedestrian volumes so the other intersections are ignored for Saturday modeling. The Existing, No-Build, and Build conditions were modeled for the Saturday data at Location 4.

The volume diagrams for the No-Build and Build conditions can be seen in Appendix D. The related Synchro reports for these conditions can be found in Appendix E.

5.2 Capacity Analysis Results

The results of all the analyses are summarized in Tables 10, 11, and 12. When reviewing the results, the Build condition is compared to the No-Build condition to determine what impacts the additional site generated trips have on the LOS and delay of each intersection. The results indicate that for all the conditions analyzed, (Existing, No-Build, and Build), all intersections studied operate at acceptable levels of service. There is no additional delay due to added traffic imparted on the existing road network. The road network will operate with the same levels of service after the development. This is due to the fact that existing peak hour volumes are well within the capacity of the roadways. The number of trips generated by this development are also expected to be low which will not add much to the overall volumes.

Table 10
AM Peak Hour
LOS and Delay (in seconds)

Intersection		Control	Lane		Existing	No Build	Build
1	Astor Dr & Wells Manor Ln	Two Way Stop	EB	TR	A (0.0)	A (0.0)	A (0.0)
			WB	TL	A (1.5)	A (1.5)	A (1.5)
			NB	LR	A (8.5)	A (8.5)	A (8.6)
2	Astor Dr & Montgomery St	Two Way Stop	EB	LR	B (11.1)	B (11.2)	B (11.3)
			NB	LT	A (1.6)	A (1.6)	A (1.6)
			SB	TR	A (0.0)	A (0.0)	A (0.0)
3	US Rte 9 & Montgomery St	Two Way Stop	EB	LR	B (14.3)	B (14.7)	B (14.9)
			NB	LT	A (3.6)	A (3.6)	A (3.6)
			SB	TR	A (0.0)	A (0.0)	A (0.0)
4	US Rte 9 & E/W Market St	Signal	EB	LT/TR	B (10.9)	B (11.3)	B (11.5)
			WB	LTR	B (14.1)	B (14.5)	B (14.7)
			NB	LTR	A (9.8)	A (10.0)	B (10.1)
			SB	LTR	A (9.9)	B (10.1)	B (10.2)
			Overall		B (10.8)	B (11.1)	B (11.2)
5	W Market St & Traver Ln	Two Way Stop	EB	TR	A (0.0)	A (0.0)	A (0.0)
			WB	LT	A (2.2)	A (2.2)	A (2.2)
			NB	LR	A (9.7)	A (9.8)	B (10.0)
6	Rhinecliff Rd & Driveway #1	Two Way Stop	EB	LT	-	-	A (0.1)
			WB	TR	-	-	A (0.0)
			SB	LR	-	-	B (10.5)

Table 11 PM Peak Hour LOS and Delay (in seconds)							
Intersection		Control	Lane		Existing	No Build	Build
1	Astor Dr & Wells Manor Ln	Two Way Stop	EB	TR	A (0.0)	A (0.0)	A (0.0)
			WB	TL	A (2.4)	A (2.4)	A (2.4)
			NB	LR	A (8.7)	A (8.7)	A (8.7)
2	Astor Dr & Montgomery St	Two Way Stop	EB	LR	B (10.9)	B (11.0)	B (11.0)
			NB	LT	A (1.2)	A (1.2)	A (1.2)
			SB	TR	A (0.0)	A (0.0)	A (0.0)
3	US Rte 9 & Montgomery St	Two Way Stop	EB	LR	C (18.0)	C (19.0)	C (19.8)
			NB	LT	A (3.1)	A (3.1)	A (3.1)
			SB	TR	A (0.0)	A (0.0)	A (0.0)
4	US Rte 9 & E/W Market St	Signal	EB	LT/TR	B (13.8)	B (14.2)	B (14.8)
			WB	LTR	B (19.0)	B (19.8)	C (20.4)
			NB	LTR	B (12.4)	B (12.8)	B (13.3)
			SB	LTR	B (15.1)	B (15.6)	B (16.0)
			Overall		B (14.8)	B (15.3)	B (15.8)
5	W Market St & Traver Ln	Two Way Stop	EB	TR	A (0.0)	A (0.0)	A (0.0)
			WB	LT	A (3.3)	A (3.3)	A (3.3)
			NB	LR	B (10.0)	B (10.1)	B (10.3)
6	Rhinecliff Rd & Driveway #1	Two Way Stop	EB	LT	-	-	A (0.3)
			WB	TR	-	-	A (0.0)
			SB	LR	-	-	B (10.3)

Table 12 SATURDAY Peak Hour LOS and Delay (in seconds)							
Intersection		Control	Lane		Existing	No Build	Build
4	US Rte 9 & E/W Market St	Signal	EB	LT/TR	B (12.1)	B (12.3)	B (13.4)
			WB	LTR	B (16.2)	B (16.5)	B (18.2)
			NB	LTR	A (9.1)	A (9.3)	B (10.8)
			SB	LTR	B (10.9)	B (11.2)	B (14.2)
			Overall		B (11.6)	B (11.9)	B (13.9)

6.0 GAP ANALYSIS

At Location 5, the intersection of W Market St & Traver Ln, a gap study was performed to verify that new traffic on W Market St generated by the proposed development would not negatively impact traffic associated with Traver Ln. The Town library, pool and Starr Park are accessed using Traver Ln. Data from July 2022 is used for this analysis to capture the peak usage of these Town amenities. Data analysis presented in Section 3.2 of this report identifies that traffic volumes on Traver Ln are highest during the week rather than the weekend. Data collected on Wednesday July 20, 2022 is used for this gap analysis.

Traffic data at the intersection was collected to physically measure the how often gaps occur in the travel stream for entering and exiting traffic. A gap is the distance between two vehicles on the main road that allows for an entering/exiting vehicle from the side street to maneuver into the traffic stream. The Highway Capacity Manual (HCM) provides data relative to gap sizes that motorists find acceptable to execute the required maneuvers. Table 13 indicates the acceptable gap size. Follow up gap requirements are longer than initial gap lengths to allow for follow up traffic to pull up to the stop line before assessing the safety of pulling out into the roadway. Gap analysis and data can be found in Appendix F.

Table 13 Gap Analysis at Traver Ln				
Movement	Acceptable Gap Size (sec)	Acceptable Follow Up Gap Size (sec)	Existing Available Gaps (vph)	
			AM	PM
Left Turn from Traver Ln	7.1	10.6	344	360
Right Turn from Traver Ln	6.2	9.5	391	369
Left Turn from WB Market St	4.1	6.3	476	464

The gap analysis focuses on the time frame that matches the peak hour volumes in the morning and afternoon at the intersection of Traver Ln and W Market St. The results show there are ample gaps in the traffic stream during each peak hour for traffic on Traver Ln to utilize. Traffic volumes associated with this development total less than 50 vehicles in a peak hour on W Market St. There is no possibility of site generated traffic obstructing the free flow of traffic in and out of Traver Ln.

7.0 CRASH HISTORY INVESTIGATION

A crash analysis was performed to identify abnormal patterns and clusters of crashes. A crash cluster is an abnormal occurrence of similar crash types which happen at approximately the same location or involve the same geometric feature. A cluster could indicate an issue with said geometric feature that could be modified to mitigate crashes, rather than a random occurrence such as driver inattention or an accident involving an animal. Reportable (non-injury, injury, and fatal injury) type crashes are defined as damage to one person's property in the amount of \$1,001 or more. The Non-Reportable type crashes result in property damage of \$1,000 or less.

Rhinecliff Rd

A Freedom of Information Law (FOIL) request was made to NYSDOT to obtain information from the Accident Location Information System (ALIS) database documenting all reported vehicular incidents within the study area on Rhinecliff Rd. This is a 0.6 mile stretch of NYS Rte 928M directly in front of the proposed site, in the vicinity of Driveway #1. Crash data was analyzed for a three-year period from October 2018 to November 2021. All data can be found in Appendix G.

Within this 0.6 mile stretch of road in front of the proposed site, there were 7 crashes, numbered 1-7 in Figure 5 and Table 14. Five of the incidents were collisions with deer or other animals, one was a collision with another motor vehicle without injury, and the last was a single vehicle collision with a pedestrian that resulted in one injury. All incidents were determined to be caused by driver inattention or animal collisions and are not indicative of geometric or safety deficiencies on Rhinecliff Rd adjacent to the proposed site driveway.

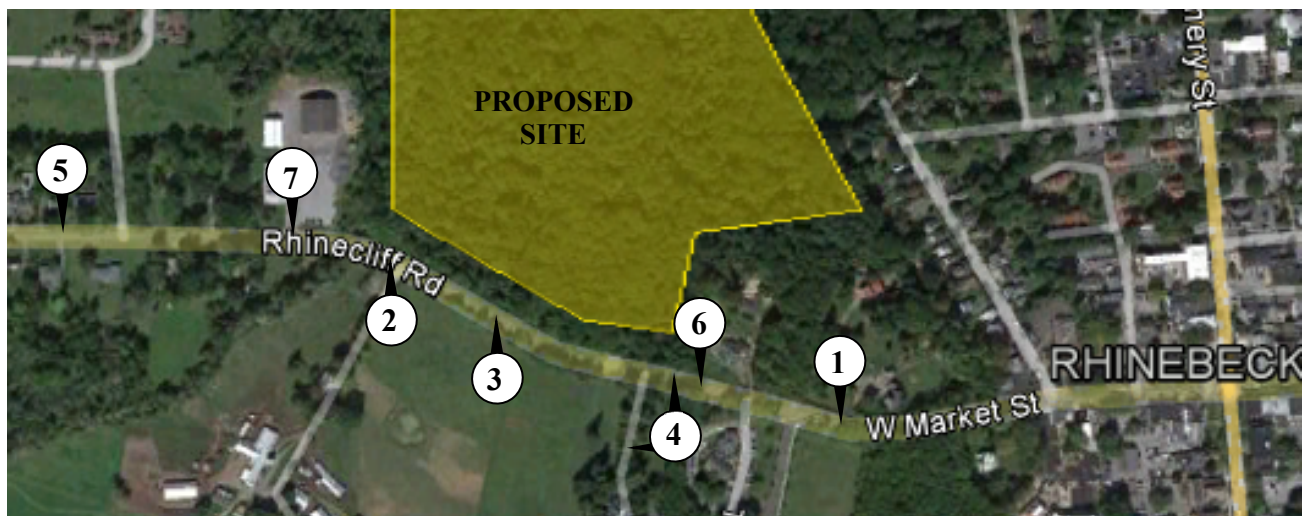


Figure 5 – Crash Locations

Table 14 Summary of Crashes						
ID	Date	Location	Inj.	Fatal	Type	Notes
1	6/24/2019	Route 85 Fronting Site	0	0	Collision w/ Motor Vehicle	Traffic control device disregarded.
2	7/27/2019	Route 85 Fronting Site	0	0	Collision w/ Animal	Driver struck a deer.
3	11/20/2019	Route 85 Fronting Site	0	0	Collision w/ Animal	Driver struck a deer.
4	10/5/2020	Route 85 Fronting Site	0	0	Collision w/ Animal	Driver struck an animal.
5	11/16/2020	Route 85	0	0	Collision w/ Animal	Driver struck a deer.
6	12/13/2020	Route 85 Fronting Site	1	0	Collision w/ Pedestrian	Improper passing or lane usage, failure to keep right.
7	5/15/2021	Route 85	0	0	Collision w/ Animal	Driver struck a deer.

Astor Dr

A Freedom of Information Law (FOIL) request was made to NYSDOT to obtain information from the Accident Location Information System (ALIS) database documenting all reported vehicular incidents on Astor Dr for its entire length from Montgomery St to River Rd. Astor Dr is a 1.25 mile roadway that resides within the Village and Town of Rhinebeck. Crash data was made available for the most recent three year period from May 2019 to May 2022. All data can be found in Appendix G.

Within this 1.25 mile roadway, there were 10 crashes, numbered 1 through 10 in Table 15. Of the 10 crashes, none were at the intersection with Wells Manor Ln. There were 4 crashes at the intersection with Montgomery St, 5 at the intersection with River Rd, and only one that was in the middle of Astor Dr near Garden Way. All incidents are related to driver inattention or animal collisions and are not indicative of geometric or safety deficiencies on Astor Dr.

**Table 15
Summary of Crashes**

ID	Date	Location	Inj.	Fatal	Type	Notes
1	5/31/2019	Intersection of Astor Dr & Montgomery St	2	0	Collision w/ Motor Vehicle	Driver Turned Improperly.
2	11/13/2019	Intersection of Astor Dr & River Rd	0	0	Collision w/ Motor Vehicle	Driver Failed to Yield Right of Way.
3	1/02/2020	Intersection of Astor Dr & Montgomery St	0	0	Collision w/ Motor Vehicle	Driver Failed to Yield Right of Way.
4	1/03/2020	Astor Dr near Garden Way	0	0	Collision w/ Fixed Object	Driver Traveling at an Unsafe Speed.
5	5/13/2020	Intersection of Astor Dr & River Rd	0	0	Collision w/ Motor Vehicle	Driver Following Too Closely.
6	10/13/2020	Intersection of Astor Dr & River Rd	1	0	Collision w/ Motor Vehicle	Driver Failed to Yield Right of Way.
7	6/11/2021	Intersection of Astor Dr & River Rd	0	0	Collision w/ Motor Vehicle	Driver Failed to Yield Right of Way.
8	7/14/2021	Intersection of Astor Dr & Montgomery St	0	0	Collision w/ Animal	Animal's Action Caused Collision.
9	1/05/2022	Intersection of Astor Dr & River Rd	1	0	Collision w/ Motor Vehicle	Driver Failed to Yield Right of Way.
10	5/23/2022	Intersection of Astor Dr & Montgomery St	0	0	Collision w/ Motor Vehicle	Driver Following Too Closely.

8.0 TURN LANE WARRANT ANALYSIS

8.1 Left Turn Lane Warrant Analysis

The addition of left-turning eastbound traffic on Rhinecliff Rd at the site driveway warrants studying the cost/benefit of adding exclusive turn lanes. Guidance on evaluating and implementing additional lanes on an existing roadway can be found in the NYSDOT Highway Design Manual under Chapter 5, Section 5.9.8 for Intersection Widening. This chapter provides additional guidance to refer to AASHTO's Policy on Geometric Design of Highways and Streets, 2018 (7th Edition) under Chapter 9, Section 9.7 for Auxiliary Lanes.

NYSDOT guidance indicates that the decision to construct left-turn lanes should consider:

1. The volume of left-turning traffic versus the volume of opposing traffic.
2. The crash history.
3. The crash potential and anticipated operating speeds. (Possible severity of crashes)
4. Sight distance on the mainline affecting the ability to see turning vehicles.
5. Construction costs.
6. Right-of-way (ROW) impacts.

Point 1: The AASHTO manual includes traffic volume criteria to be considered in determining the need for left turn lanes along two-lane highways, at a three-legged intersection, in a rural area. Figure 9-36 within the AASHTO manual is the appropriate graph for this intersection type to establish a threshold for warranting a left turn lane and is presented as Figure 6.

Point 2: The crash history evaluated for the corridor in front of the site shows that there is no existing issue with crashes along the roadway based on existing traffic volumes.

Point 3: The existing speed limit is 45 mph at the location of the proposed driveway on Rhinecliff Rd. The potential for crashes is dependent on the volume of left-turning vehicles that would conflict with oncoming traffic. This decision will be tied to evaluating volumes as noted in point one.

Point 4: Sight distance is not considered an issue for the driveway as the exact location and grading plan will be established as part of the site planning process.

Points 5 and 6: Recommendations for left turns lanes needs to be made with care and consideration as construction costs are to be borne by the Developer for this facility as part of the site plan. If widening is determined as necessary, ROW impacts should be able to be limited to the parcel(s) being developed.

Table 16 Left Turn Lane Warrant Volumes		
	AM Peak Hour	PM Peak Hour
Left Turn Volume	1	5
Opposing Volume	132	124

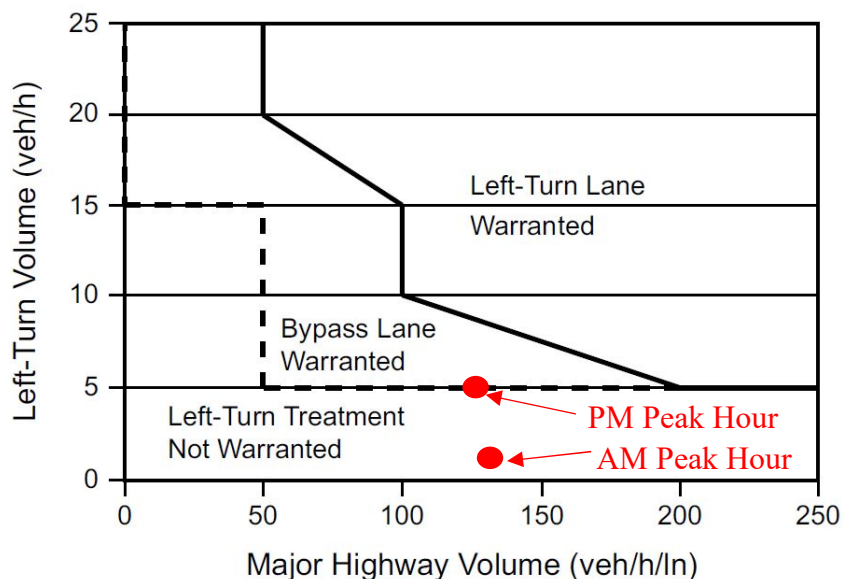


Figure 6 – Suggested Left-Turn Treatment Warrants (AASHTO Figure 9-36)

Summary:

The AM and PM peak hour volumes are shown to be below the threshold as identified on the graph. The site is not expected to generate any significant amount of left turning traffic. Most traffic is expected to be coming and going from the Village. Additionally, volumes on Rhinecliff Rd are low enough to not cause undue delay on trailing vehicles. It is concluded that a left turn lane is not required for Rhinecliff Rd at the site driveway.

8.2 Right Turn Lane Warrant Analysis

At unsignalized intersections, exclusive right turn lanes may be used on high-speed roadways to provide deceleration for right-turning vehicles clear of the through lanes. There is little guidance as to thresholds to meet a warrant. Engineering judgement is to be used to evaluate the volume of right turning traffic, the volume of through traffic, speed, and any other relevant data. Volume diagrams showing the estimated peak hour traffic volumes for the Build condition can be found in Appendix D. Right-turn and through traffic volumes at the site driveway on Rhinecliff Rd are summarized in Table 17.

Table 17		
Right Turn Lane Warrant Volumes		
	AM Peak Hour	PM Peak Hour
Right Turn Volume	8	26
Through Volume	132	124

Summary:

Right turn volumes are low. It averages to less than one vehicle turning into the driveway every two minutes. The types of vehicles making these turns are expected to be primarily passenger vehicles as this is a residential development. Considering the low volumes of turning traffic and through traffic, it is not anticipated that there would be a safety concern for through moving traffic. It is not recommended to require an exclusive right turn lane on Rhinecliff Rd for this development.

9.0 CONCLUSIONS AND RECOMMENDATIONS

Data for this study was collected in fall and summer conditions on both weekdays and weekends. The extent of data collection and subsequent evaluation provides confidence that the data used for traffic analysis is conservatively representative of typical traffic volumes. Under all three conditions analyzed in this report (Existing, No-Build, and Build) for weekday AM & PM as well as Saturday scenarios, all intersections operate at an acceptable level of service. The additional traffic generated by the project will have a negligible impact on traffic operations within the study area. Gap data analyzed at Traver Ln shows that there is ample capacity for Rhinecliff Rd to support the traffic generated by this development. The crash data analysis did not show present any issues or concerns. Turn lane warrant analysis does not indicate that traffic volumes warrant additional lanes at the site driveway.

The conclusion reached is that this development has no impact on the road network and no improvements or mitigation measures are needed.

APPENDIX A
Existing Traffic Counts

National Data & Surveying Services Intersection Turning Movement Count

Location: Wells Manor Ln & Astor Dr
City: Rhinebeck
Control: 1-Way Stop(NB)

Project ID: 21-380017-003
Date: 11/16/2021

Data - Total

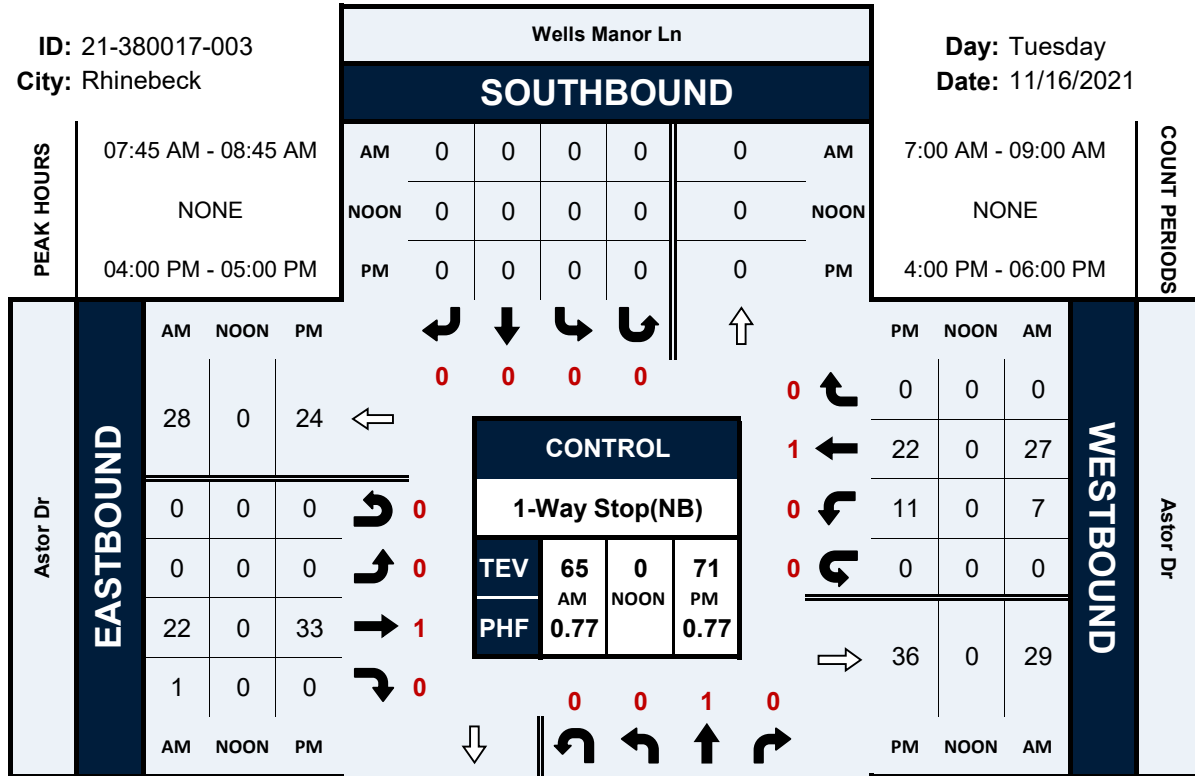
NS/EW Streets:	Wells Manor Ln				Wells Manor Ln				Astor Dr				Astor Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	0	9
7:30 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	3	0	0	11
7:45 AM	0	0	1	0	0	0	0	0	0	6	0	0	2	5	0	0	14
8:00 AM	0	0	1	0	0	0	0	0	0	7	0	0	2	2	0	0	12
8:15 AM	0	0	1	0	0	0	0	0	0	4	0	0	1	15	0	0	21
8:30 AM	1	0	4	0	0	0	0	0	0	5	1	0	2	5	0	0	18
8:45 AM	1	0	0	0	0	0	0	0	0	5	0	0	2	2	0	0	10
TOTAL VOLUMES :	2	0	7	0	0	0	0	0	0	39	1	0	9	39	0	0	97
APPROACH %'s :	22.22%	0.00%	77.78%	0.00%					0.00%	97.50%	2.50%	0.00%	18.75%	81.25%	0.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																
PEAK HR VOL :	1	0	7	0	0	0	0	0	0	22	1	0	7	27	0	0	65
PEAK HR FACTOR :	0.250	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.786	0.250	0.000	0.875	0.450	0.000	0.000	0.774
	0.400								0.821				0.531				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	0	0	0	8	0	0	1	7	0	0	16
4:15 PM	0	0	1	0	0	0	0	0	0	6	0	0	3	5	0	0	15
4:30 PM	2	0	1	0	0	0	0	0	0	10	0	0	3	7	0	0	23
4:45 PM	0	0	1	0	0	0	0	0	0	9	0	0	4	3	0	0	17
5:00 PM	0	0	2	0	0	0	0	0	0	8	0	0	2	3	0	0	15
5:15 PM	0	0	0	0	0	0	0	0	0	6	0	0	2	6	0	0	14
5:30 PM	0	0	0	0	0	0	0	0	0	7	0	0	2	5	0	0	14
5:45 PM	0	0	1	0	0	0	0	0	0	4	0	0	0	5	0	0	10
TOTAL VOLUMES :	2	0	6	0	0	0	0	0	0	58	0	0	17	41	0	0	124
APPROACH %'s :	25.00%	0.00%	75.00%	0.00%					0.00%	100.00%	0.00%	0.00%	29.31%	70.69%	0.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																
PEAK HR VOL :	2	0	3	0	0	0	0	0	0	33	0	0	11	22	0	0	71
PEAK HR FACTOR :	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.825	0.000	0.000	0.688	0.786	0.000	0.000	0.772
	0.417								0.825				0.825				

Wells Manor Ln & Astor Dr

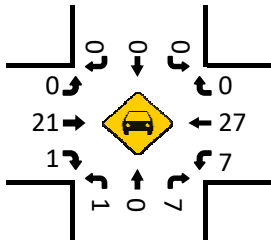
Peak Hour Turning Movement Count

ID: 21-380017-003
City: Rhinebeck

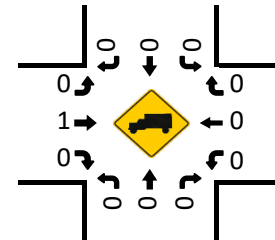
Day: Tuesday
Date: 11/16/2021



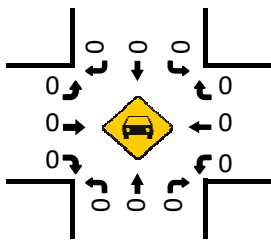
Cars (AM)



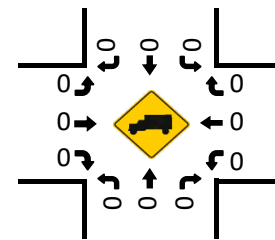
HT (AM)



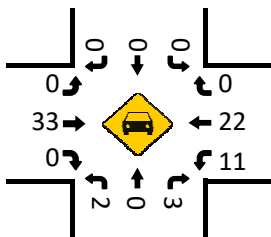
Cars (NOON)



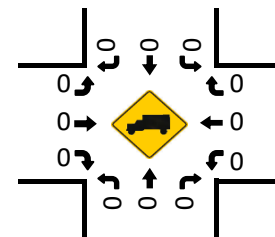
HT (NOON)



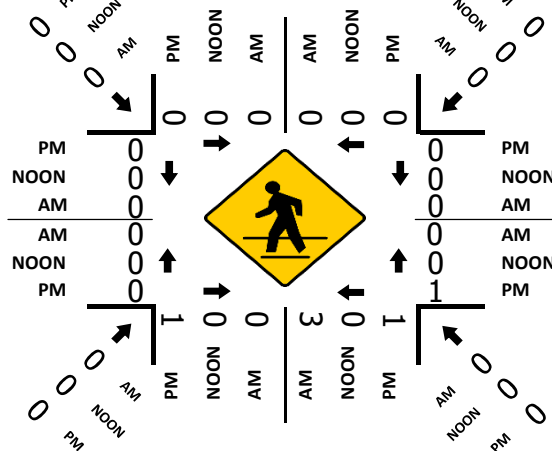
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Montgomery St & Astor Dr
City: Rhinebeck
Control: 1-Way Stop(EB)

Project ID: 21-380017-001
Date: 11/16/2021

Data - Total

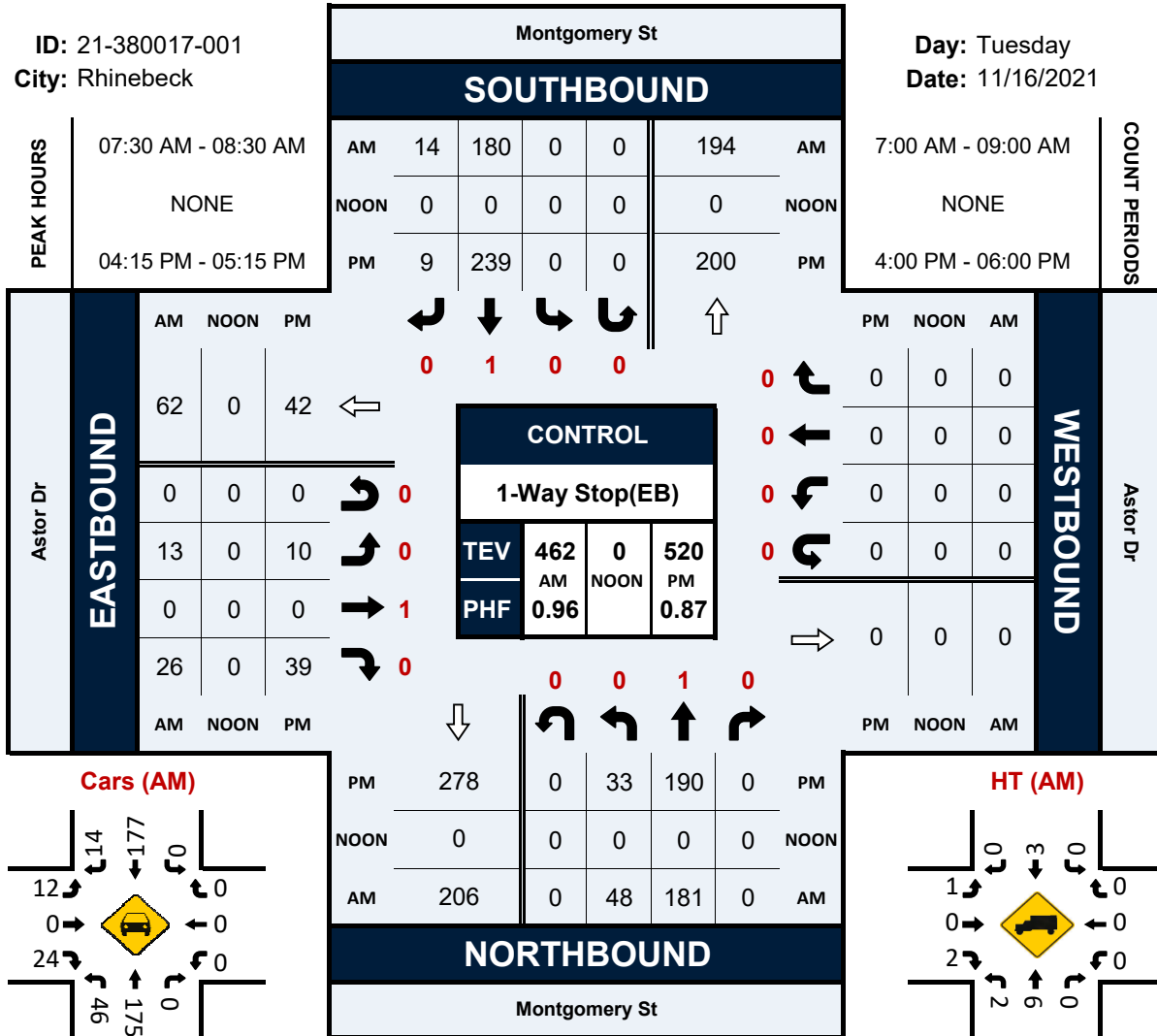
NS/EW Streets:	Montgomery St				Montgomery St				Astor Dr				Astor Dr					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	42
7:15 AM	3	19	0	0	0	14	2	0	1	0	3	0	0	0	0	0	0	101
7:30 AM	7	34	0	0	0	48	5	0	2	0	3	0	0	0	0	0	0	119
7:45 AM	7	55	0	0	0	43	4	0	4	0	6	0	0	0	0	0	0	120
8:00 AM	18	40	0	0	0	50	2	0	3	0	7	0	0	0	0	0	0	112
8:15 AM	7	50	0	0	0	41	3	0	4	0	7	0	0	0	0	0	0	111
8:30 AM	16	36	0	0	0	46	5	0	2	0	6	0	0	0	0	0	0	104
8:45 AM	7	52	0	0	0	33	2	0	3	0	7	0	0	0	0	0	0	123
	9	47	0	0	0	51	5	0	5	0	6	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL
APPROACH %'s :	76	333	0	0	0	326	28	0	24	0	45	0	0	0	0	0		832
	18.58%	81.42%	0.00%	0.00%	0.00%	92.09%	7.91%	0.00%	34.78%	0.00%	65.22%	0.00%						
PEAK HR :	07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :	48	181	0	0	0	180	14	0	13	0	26	0	0	0	0	0	0	462
PEAK HR FACTOR :	0.667	0.823	0.000	0.000	0.000	0.900	0.700	0.000	0.813	0.000	0.929	0.000	0.000	0.000	0.000	0.000	0.000	0.963
	0.923																	
	0.933																	
	0.886																	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	113
4:15 PM	13	44	0	0	0	44	0	0	1	0	11	0	0	0	0	0	0	128
4:30 PM	11	40	0	0	0	63	3	0	2	0	9	0	0	0	0	0	0	129
4:45 PM	7	51	0	0	0	56	2	0	1	0	12	0	0	0	0	0	0	114
5:00 PM	9	38	0	0	0	53	3	0	6	0	5	0	0	0	0	0	0	149
5:15 PM	6	61	0	0	0	67	1	0	1	0	13	0	0	0	0	0	0	125
5:30 PM	11	45	0	0	0	62	2	0	1	0	4	0	0	0	0	0	0	95
5:45 PM	8	35	0	0	0	40	3	0	2	0	7	0	0	0	0	0	0	83
	5	24	0	0	0	48	2	0	0	0	4	0	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL
APPROACH %'s :	70	338	0	0	0	433	16	0	14	0	65	0	0	0	0	0		936
	17.16%	82.84%	0.00%	0.00%	0.00%	96.44%	3.56%	0.00%	17.72%	0.00%	82.28%	0.00%						
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	33	190	0	0	0	239	9	0	10	0	39	0	0	0	0	0	0	520
PEAK HR FACTOR :	0.750	0.779	0.000	0.000	0.000	0.892	0.750	0.000	0.417	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.872
	0.832																	
	0.912																	
	0.875																	

Montgomery St & Astor Dr

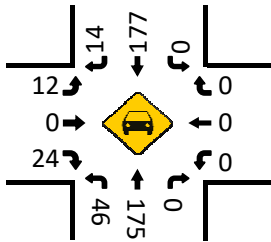
Peak Hour Turning Movement Count

ID: 21-380017-001
City: Rhinebeck

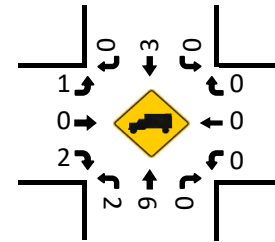
Day: Tuesday
Date: 11/16/2021



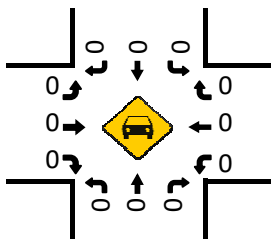
Cars (AM)



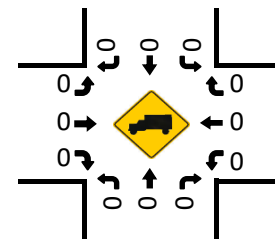
HT (AM)



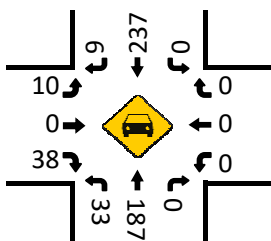
Cars (NOON)



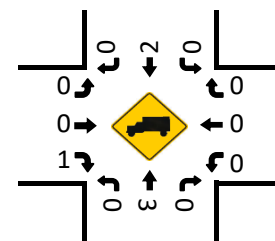
HT (NOON)



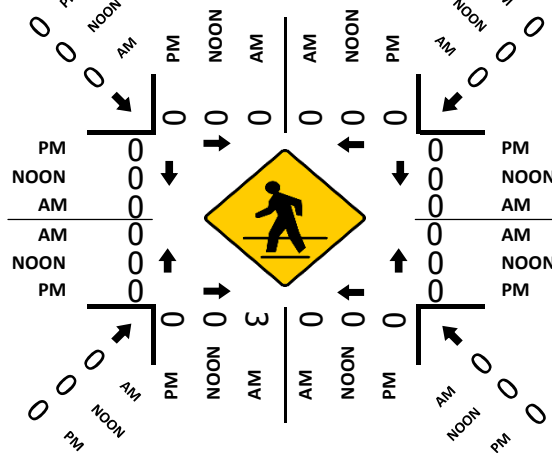
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Montgomery St/Spring Brook Ave & Montgomery St
City: Rhinebeck
Control: 1-Way Stop(EB)

Project ID: 21-380017-002
Date: 11/16/2021

Data - Total

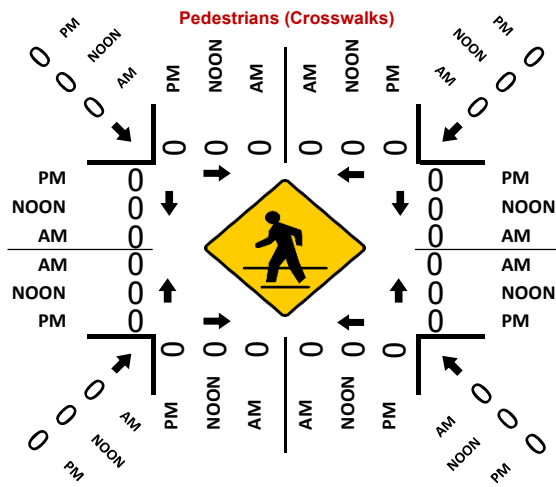
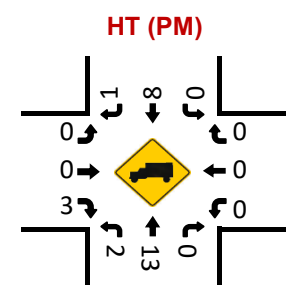
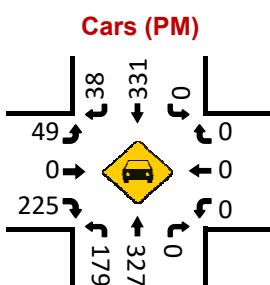
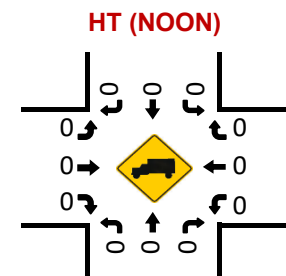
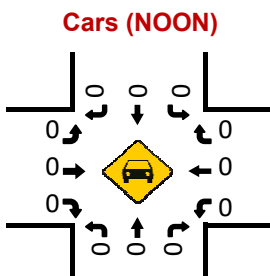
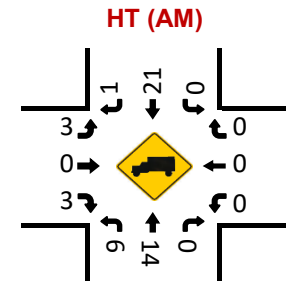
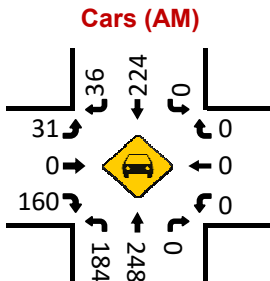
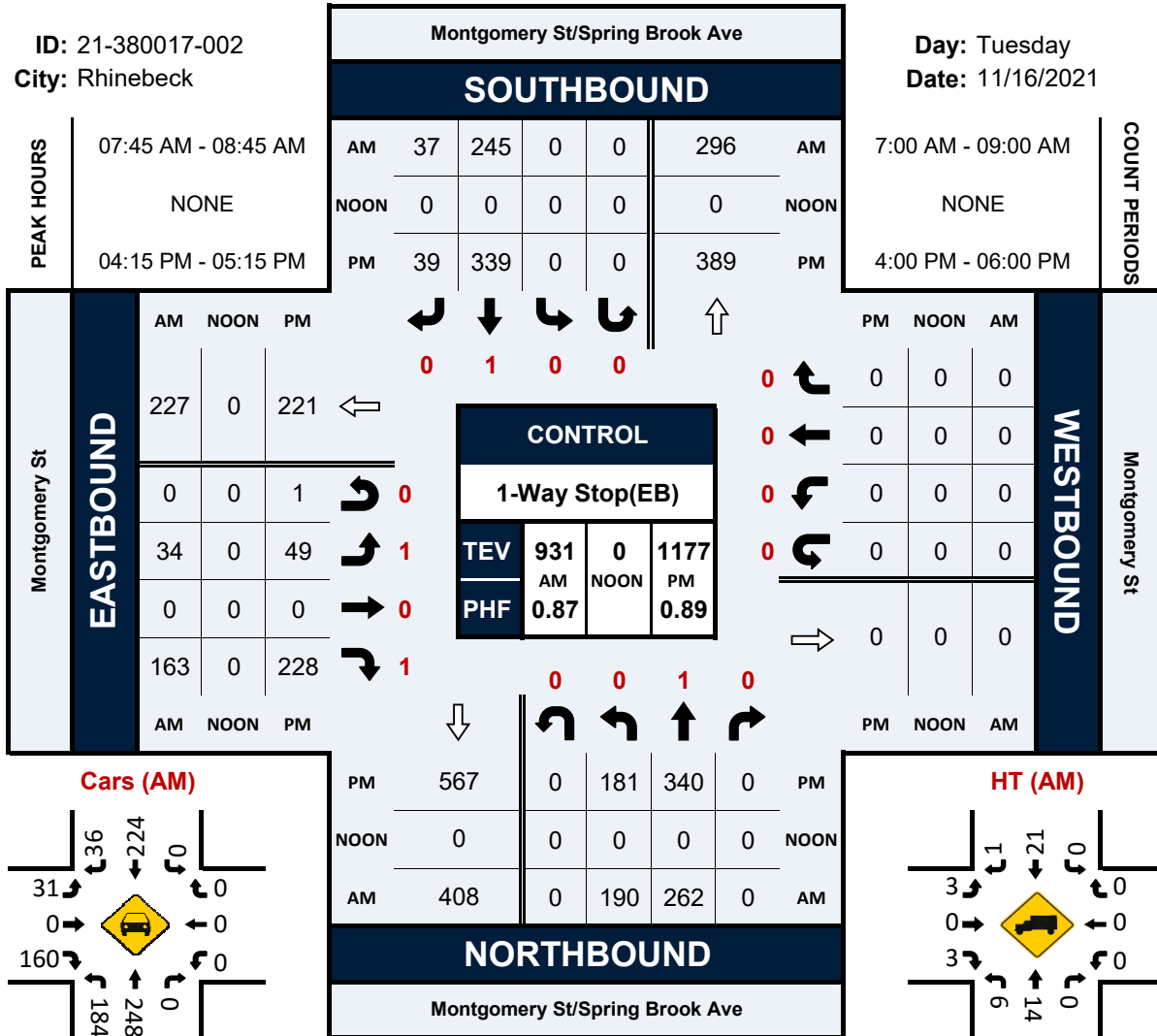
NS/EW Streets:	Montgomery St/Spring Brook Ave				Montgomery St/Spring Brook Ave				Montgomery St				Montgomery St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	7:00 AM	23	39	0	0	0	41	0	0	2	0	14	0	0	0	0	0	119
	7:15 AM	36	44	0	0	0	51	8	0	5	0	47	0	0	0	0	0	191
	7:30 AM	55	58	0	0	0	58	7	0	8	0	41	0	0	0	0	0	227
	7:45 AM	46	72	0	0	0	82	12	0	7	0	48	0	0	0	0	0	267
	8:00 AM	50	62	0	0	0	40	7	0	5	0	41	0	0	0	0	0	205
	8:15 AM	45	63	0	0	0	59	8	0	13	0	44	0	0	0	0	0	232
	8:30 AM	49	65	0	0	0	64	10	0	9	0	30	0	0	0	0	0	227
8:45 AM	46	74	0	0	0	68	9	0	11	0	44	0	0	0	0	0	252	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	350	477	0	0	0	463	61	0	60	0	309	0	0	0	0	0	1720	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL :	190	262	0	0	0	245	37	0	34	0	163	0	0	0	0	0	931	
PEAK HR FACTOR :	0.950	0.910	0.000	0.000	0.000	0.747	0.771	0.000	0.654	0.000	0.849	0.000	0.000	0.000	0.000	0.000	0.872	
	0.958				0.750				0.864									
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	45	74	0	0	0	66	15	0	9	0	47	0	0	0	0	0	256
	4:15 PM	38	78	0	0	0	85	11	0	11	0	60	0	0	0	0	0	283
	4:30 PM	45	81	0	0	0	87	13	0	13	0	57	0	0	0	0	0	296
	4:45 PM	41	90	0	0	0	73	7	0	9	0	45	1	0	0	0	0	266
	5:00 PM	57	91	0	0	0	94	8	0	16	0	66	0	0	0	0	0	332
	5:15 PM	43	70	0	0	0	86	15	0	10	0	54	0	0	0	0	0	278
	5:30 PM	31	70	0	0	0	61	10	0	8	0	40	0	0	0	0	0	220
5:45 PM	25	64	0	0	0	57	5	0	4	0	49	0	0	0	0	0	204	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	325	618	0	0	0	609	84	0	80	0	418	1	0	0	0	0	2135	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	181	340	0	0	0	339	39	0	49	0	228	1	0	0	0	0	1177	
PEAK HR FACTOR :	0.794	0.934	0.000	0.000	0.000	0.902	0.750	0.000	0.766	0.000	0.864	0.250	0.000	0.000	0.000	0.000	0.886	
	0.880				0.926				0.848									

Montgomery St/Spring Brook Ave & Montgomery St

Peak Hour Turning Movement Count

ID: 21-380017-002
City: Rhinebeck

Day: Tuesday
Date: 11/16/2021



National Data & Surveying Services Intersection Turning Movement Count

Location: Mill St/Montgomery St & E Market St
City: Rhinebeck
Control: Signalized

Project ID: 21-380017-004
Date: 11/16/2021

Data - Total

NS/EW Streets:	Mill St/Montgomery St				Mill St/Montgomery St				E Market St				E Market St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	10	58	4	0	6	39	3	0	0	3	11	0	5	4	6	0	149
7:15 AM	4	48	5	0	14	52	4	0	6	9	4	0	7	16	14	0	183
7:30 AM	5	69	5	0	7	73	3	0	5	13	4	0	3	11	14	0	212
7:45 AM	14	94	2	0	4	88	8	0	7	17	7	0	8	13	20	0	282
8:00 AM	17	71	2	0	6	64	10	0	8	9	9	0	8	19	12	0	235
8:15 AM	9	60	3	0	7	47	9	0	6	6	6	0	6	15	19	0	193
8:30 AM	11	66	7	0	12	57	16	0	12	15	8	0	6	20	9	0	239
8:45 AM	12	69	10	0	15	56	9	0	9	17	12	0	5	26	11	0	251
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	82	535	38	0	71	476	62	0	53	89	61	0	48	124	105	0	1744
APPROACH %'s :	12.52%	81.68%	5.80%	0.00%	11.66%	78.16%	10.18%	0.00%	26.11%	43.84%	30.05%	0.00%	17.33%	44.77%	37.91%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	51	291	14	0	29	256	43	0	33	47	30	0	28	67	60	0	949
PEAK HR FACTOR :	0.750	0.774	0.500	0.000	0.604	0.727	0.672	0.000	0.688	0.691	0.833	0.000	0.875	0.838	0.750	0.000	0.841
	0.809				0.820				0.786				0.945				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	8	67	6	0	19	51	9	0	17	28	12	0	6	12	32	0	267
4:15 PM	10	68	9	0	17	75	10	0	13	15	14	0	9	15	17	0	272
4:30 PM	7	73	9	0	11	76	12	0	15	26	12	0	11	16	15	0	283
4:45 PM	8	69	12	0	16	75	5	0	15	23	13	0	10	17	25	0	288
5:00 PM	13	80	8	0	19	89	8	0	16	21	19	0	16	26	28	0	343
5:15 PM	7	69	7	0	10	92	14	0	12	16	13	0	10	14	13	0	277
5:30 PM	10	58	6	0	17	53	14	0	12	16	5	0	10	17	11	0	229
5:45 PM	12	51	7	0	19	51	12	0	13	12	6	0	3	17	25	0	228
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	75	535	64	0	128	562	84	0	113	157	94	0	75	134	166	0	2187
APPROACH %'s :	11.13%	79.38%	9.50%	0.00%	16.54%	72.61%	10.85%	0.00%	31.04%	43.13%	25.82%	0.00%	20.00%	35.73%	44.27%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	35	291	36	0	56	332	39	0	58	86	57	0	47	73	81	0	1191
PEAK HR FACTOR :	0.673	0.909	0.750	0.000	0.737	0.902	0.696	0.000	0.906	0.827	0.750	0.000	0.734	0.702	0.723	0.000	0.868
	0.896				0.920				0.897				0.718				

Mill St/Montgomery St & E Market St

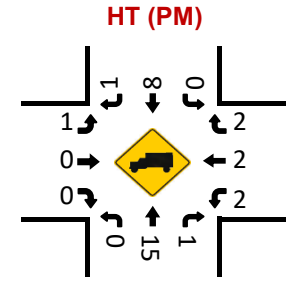
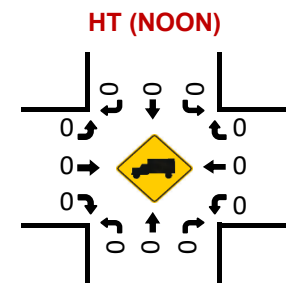
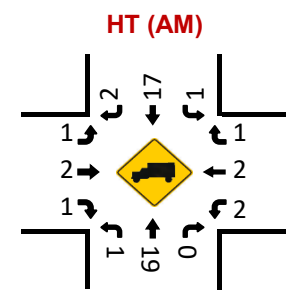
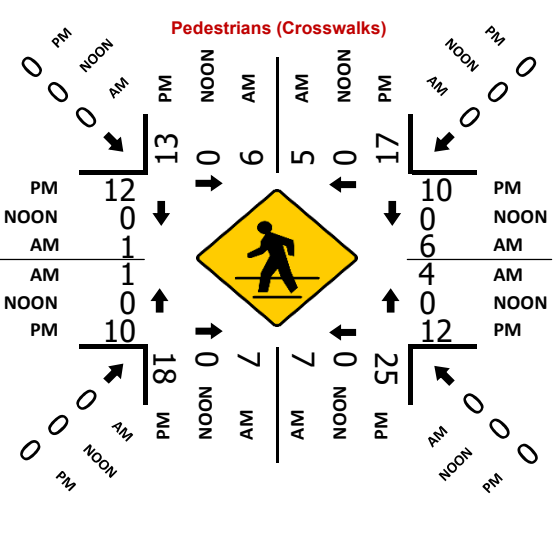
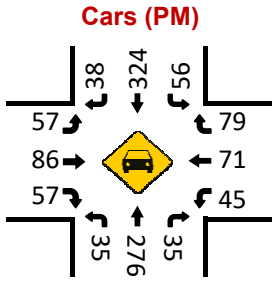
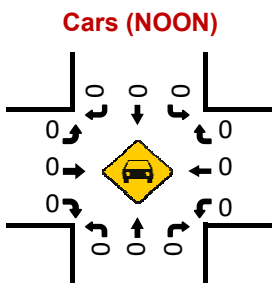
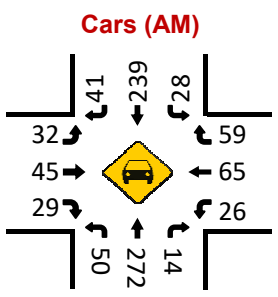
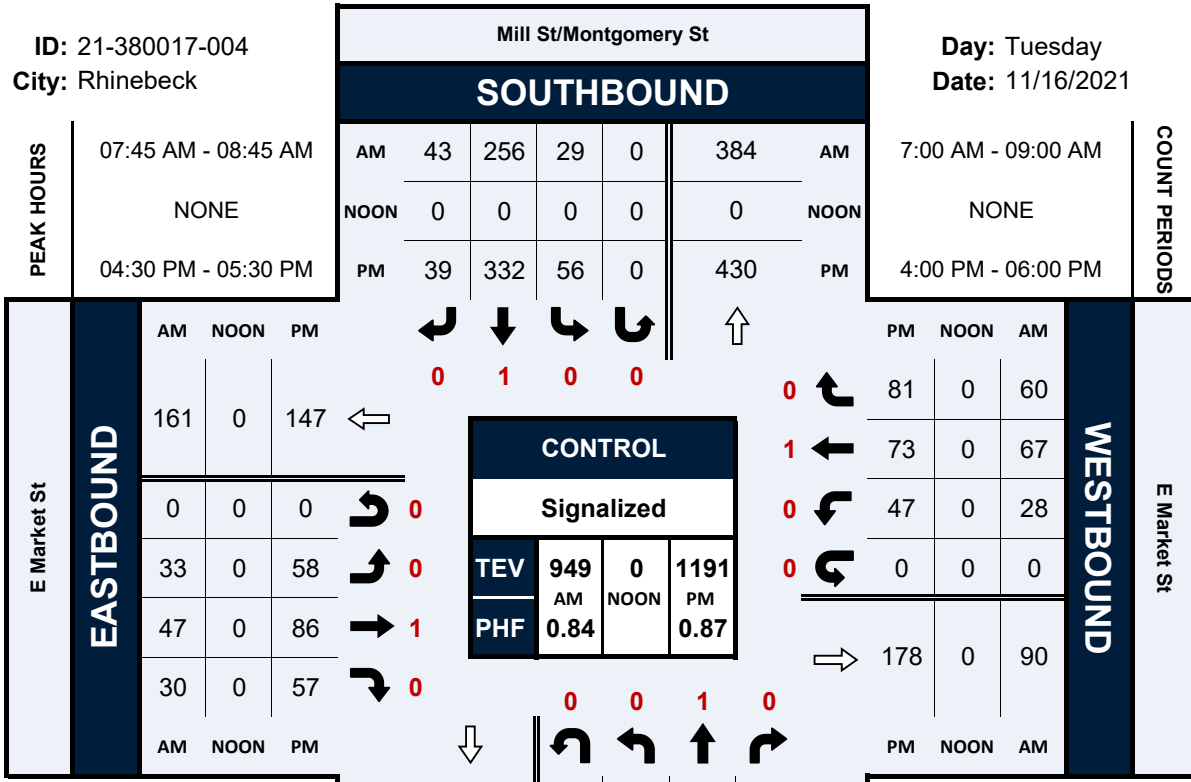
Peak Hour Turning Movement Count

ID: 21-380017-004

City: Rhinebeck

Day: Tuesday

Date: 11/16/2021



National Data & Surveying Services Intersection Turning Movement Count

Location: Montgomery St/Mill St & E/W Market St
City: Rhinebeck
Control: Signalized

Project ID: 22-380036-001
Date: 7/20/2022

Data - Total

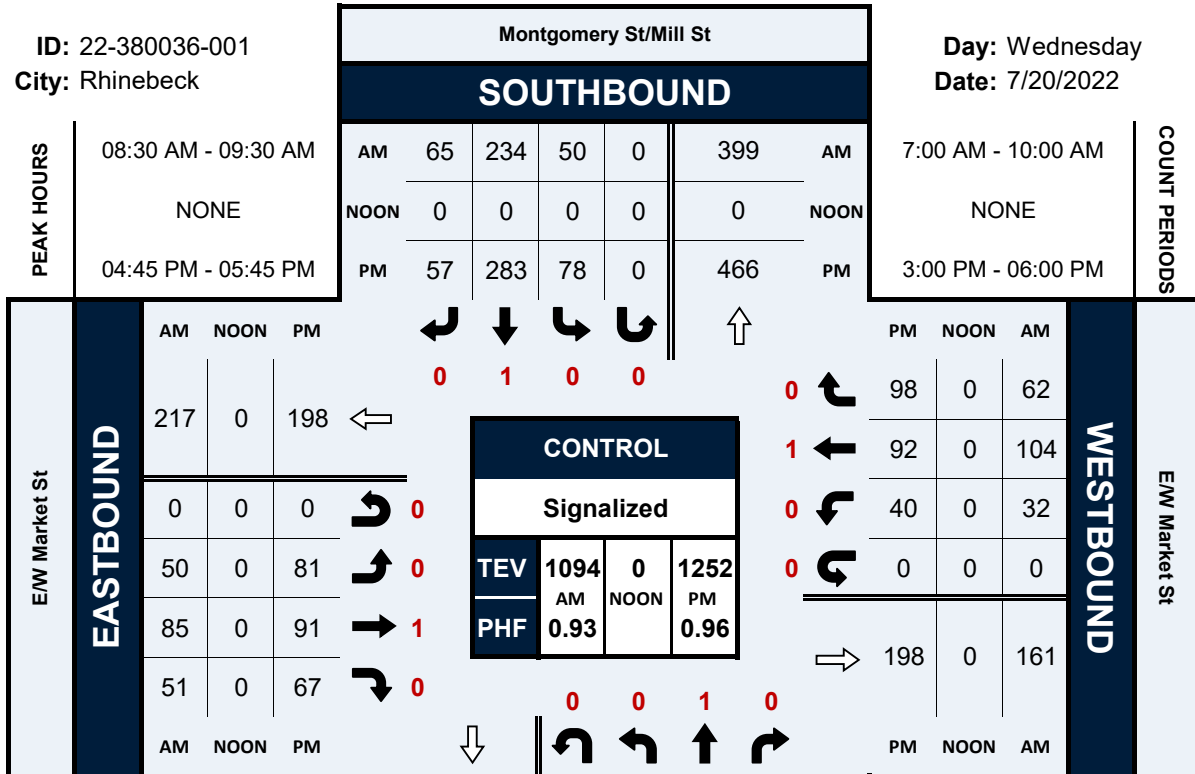
NS/EW Streets:	Montgomery St/Mill St				Montgomery St/Mill St				E/W Market St				E/W Market St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	10	40	2	0	5	57	5	0	2	8	5	0	2	6	9	0	151
7:15 AM	8	43	2	0	4	60	6	0	6	11	5	0	3	23	15	0	186
7:30 AM	6	66	2	0	11	67	1	0	11	13	4	0	6	11	13	0	211
7:45 AM	10	76	5	0	9	82	11	0	6	14	7	0	7	18	13	0	258
8:00 AM	8	68	4	0	12	59	11	0	9	10	10	0	5	19	18	0	233
8:15 AM	12	57	3	0	16	54	14	0	6	19	7	0	7	12	18	0	225
8:30 AM	9	72	6	0	10	60	14	0	12	16	9	0	6	17	18	0	249
8:45 AM	14	83	6	0	15	52	21	0	7	15	14	0	12	40	15	0	294
9:00 AM	16	61	6	0	11	61	19	0	17	31	18	0	5	24	17	0	286
9:15 AM	9	71	8	0	14	61	11	0	14	23	10	0	9	23	12	0	265
9:30 AM	12	55	8	0	23	36	16	0	17	11	14	0	6	19	17	0	234
9:45 AM	14	59	12	0	18	52	9	0	20	23	10	0	3	24	22	0	266
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	128	751	64	0	148	701	138	0	127	194	113	0	71	236	187	0	2858
	13.57%	79.64%	6.79%	0.00%	14.99%	71.02%	13.98%	0.00%	29.26%	44.70%	26.04%	0.00%	14.37%	47.77%	37.85%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	48	287	26	0	50	234	65	0	50	85	51	0	32	104	62	0	1094
PEAK HR FACTOR :	0.750	0.864	0.813	0.000	0.833	0.959	0.774	0.000	0.735	0.685	0.708	0.000	0.667	0.650	0.861	0.000	0.930
		0.876				0.959				0.705				0.739			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:00 PM	10	67	7	0	12	70	10	0	14	18	19	0	11	16	27	0	281
3:15 PM	16	75	10	0	13	72	12	0	13	23	9	0	16	28	23	0	310
3:30 PM	12	69	8	0	17	64	10	0	22	20	13	0	8	24	30	0	297
3:45 PM	12	75	15	0	20	69	13	0	20	39	15	0	10	32	19	0	339
4:00 PM	11	71	6	0	21	74	9	0	27	30	11	0	7	20	18	0	305
4:15 PM	12	67	8	0	19	68	13	0	22	36	15	0	8	23	20	0	311
4:30 PM	10	68	9	0	15	63	20	0	13	20	18	0	8	25	14	0	283
4:45 PM	16	73	4	0	15	71	16	0	22	21	16	0	11	25	21	0	311
5:00 PM	15	62	6	0	18	71	12	0	19	33	19	0	10	29	31	0	325
5:15 PM	9	85	9	0	22	75	14	0	23	22	17	0	9	17	22	0	324
5:30 PM	9	67	10	0	23	66	15	0	17	15	15	0	10	21	24	0	292
5:45 PM	15	70	7	0	19	63	17	0	15	17	18	0	13	17	21	0	292
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	147	849	99	0	214	826	161	0	227	294	185	0	121	277	270	0	3670
	13.42%	77.53%	9.04%	0.00%	17.82%	68.78%	13.41%	0.00%	32.15%	41.64%	26.20%	0.00%	18.11%	41.47%	40.42%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	49	287	29	0	78	283	57	0	81	91	67	0	40	92	98	0	1252
PEAK HR FACTOR :	0.766	0.844	0.725	0.000	0.848	0.943	0.891	0.000	0.880	0.689	0.882	0.000	0.909	0.793	0.790	0.000	0.963
		0.886				0.941				0.842				0.821			

Montgomery St/Mill St & E/W Market St

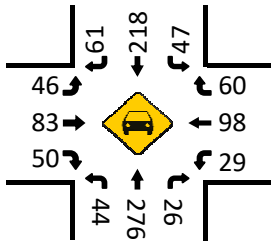
Peak Hour Turning Movement Count

ID: 22-380036-001
City: Rhinebeck

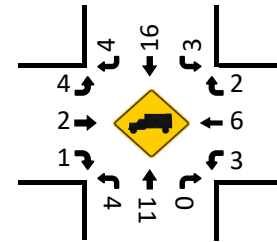
Day: Wednesday
Date: 7/20/2022



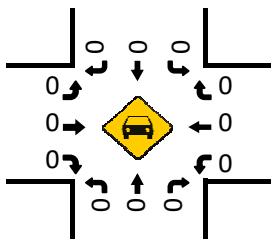
Cars (AM)



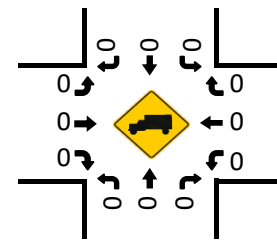
HT (AM)



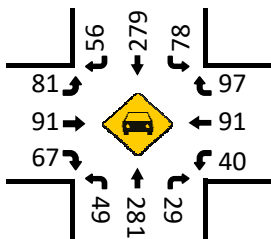
Cars (NOON)



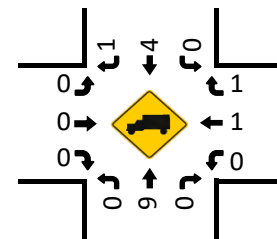
HT (NOON)



Cars (PM)

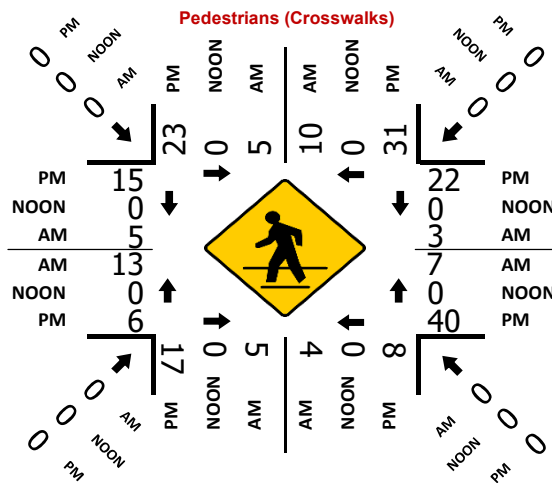


HT (PM)



NORTHBOUND

Montgomery St/Mill St



National Data & Surveying Services Intersection Turning Movement Count

Location: Traver Ln & W Market St
City: Rhinebeck
Control: 1-Way Stop (NB)

Project ID: 22-380036-002
Date: 7/20/2022

Data - Total

NS/EW Streets:	Traver Ln				Traver Ln				W Market St				W Market St				TOTAL				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND								
AM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
7:00 AM	0	0	3	0	0	0	0	0	0	6	2	0	4	14	0	0					29
7:15 AM	0	0	3	0	0	0	0	0	0	18	0	0	1	34	0	0					56
7:30 AM	1	0	1	0	0	0	0	0	0	28	2	0	2	13	0	0					47
7:45 AM	1	0	4	0	0	0	0	0	0	16	2	0	4	18	0	0					45
8:00 AM	0	0	2	0	0	0	0	0	0	23	2	0	2	20	0	0					49
8:15 AM	3	0	2	0	1	0	0	0	0	22	0	0	8	21	0	0					57
8:30 AM	2	0	2	0	0	0	0	0	0	25	1	0	6	29	0	0					65
8:45 AM	1	0	8	0	0	0	0	0	0	26	2	0	13	42	0	0					92
9:00 AM	5	0	27	0	0	0	0	0	0	42	1	0	23	27	0	0					125
9:15 AM	2	0	7	0	0	0	0	0	0	29	3	0	7	20	0	0					68
9:30 AM	2	0	3	0	0	0	0	0	0	38	1	0	5	29	0	0					78
9:45 AM	1	0	2	0	0	0	0	0	0	25	3	0	10	20	0	0					61
TOTAL VOLUMES :	18	0	64	0	1	0	0	0	0	298	19	0	85	287	0	0					772
APPROACH %'s :	21.95%	0.00%	78.05%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	94.01%	5.99%	0.00%	22.85%	77.15%	0.00%	0.00%					
PEAK HR :	08:45 AM - 09:45 AM																TOTAL				
PEAK HR VOL :	10	0	45	0	0	0	0	0	0	135	7	0	48	118	0	0					363
PEAK HR FACTOR :	0.500	0.000	0.417	0.000	0.000	0.000	0.000	0.000	0.000	0.804	0.583	0.000	0.522	0.702	0.000	0.000					0.726
	0.430								0.826				0.755								
PM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0					
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU					
3:00 PM	2	0	9	0	0	0	0	0	0	27	3	0	8	25	0	0					74
3:15 PM	4	0	11	0	0	0	0	0	0	26	3	0	14	26	0	0					84
3:30 PM	4	0	14	0	0	0	0	0	0	21	2	0	21	24	0	0					86
3:45 PM	3	0	23	0	0	0	0	0	0	31	4	0	28	29	0	0					118
4:00 PM	6	0	24	0	0	0	1	0	0	25	3	0	12	24	0	0					95
4:15 PM	5	0	19	0	0	0	0	0	0	36	3	0	16	25	0	0					104
4:30 PM	1	0	7	0	0	0	0	0	0	31	3	0	5	34	0	0					81
4:45 PM	3	0	11	0	0	0	0	0	0	25	0	0	13	33	0	0					85
5:00 PM	3	0	8	0	0	0	0	0	0	40	3	0	10	31	0	0					95
5:15 PM	1	0	8	0	0	0	0	0	0	31	2	0	8	20	0	0					70
5:30 PM	1	0	12	0	0	0	0	0	1	28	2	0	4	22	0	0					70
5:45 PM	2	0	11	0	0	0	0	0	0	25	2	0	6	26	0	0					72
TOTAL VOLUMES :	35	0	157	0	0	0	1	0	1	346	30	0	145	319	0	0					1034
APPROACH %'s :	18.23%	0.00%	81.77%	0.00%	0.00%	0.00%	100.00%	0.00%	0.27%	91.78%	7.96%	0.00%	31.25%	68.75%	0.00%	0.00%					
PEAK HR :	03:30 PM - 04:30 PM																TOTAL				
PEAK HR VOL :	18	0	80	0	0	0	1	0	0	113	12	0	77	102	0	0					403
PEAK HR FACTOR :	0.750	0.000	0.833	0.000	0.000	0.000	0.250	0.000	0.000	0.785	0.750	0.000	0.688	0.879	0.000	0.000					0.854
	0.817				0.250				0.801				0.785								

National Data & Surveying Services Intersection Turning Movement Count

Location: Montgomery St/Mill St & E/W Market St
City: Rhinebeck
Control: Signalized

Project ID: 22-380036-001
Date: 7/23/2022

Data - Total

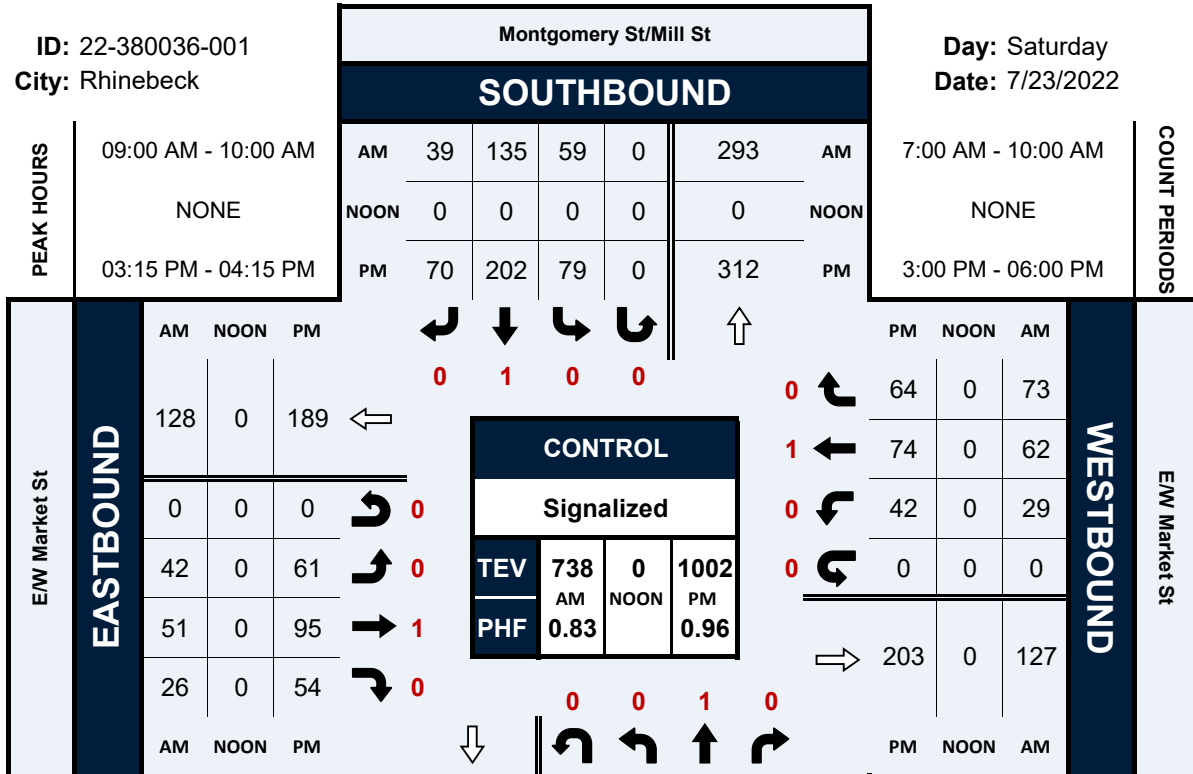
NS/EW Streets:	Montgomery St/Mill St				Montgomery St/Mill St				E/W Market St				E/W Market St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	5	20	3	0	2	16	2	0	1	7	7	0	3	3	3	0	72
7:15 AM	5	28	2	0	6	15	1	0	5	5	5	0	3	6	6	0	87
7:30 AM	2	35	6	0	3	20	3	0	7	4	1	0	3	7	5	0	96
7:45 AM	3	39	4	0	10	28	6	0	5	7	4	0	2	10	10	0	128
8:00 AM	8	35	4	0	3	28	5	0	6	9	1	0	4	10	11	0	124
8:15 AM	4	42	3	0	7	32	6	0	5	19	5	0	2	7	9	0	141
8:30 AM	6	36	10	0	20	32	13	0	8	13	4	0	6	15	8	0	171
8:45 AM	5	41	8	0	11	30	4	0	10	17	7	0	7	10	19	0	169
9:00 AM	6	42	2	0	12	21	9	0	5	13	6	0	4	20	20	0	160
9:15 AM	5	38	4	0	8	38	7	0	13	8	8	0	6	10	18	0	163
9:30 AM	8	41	4	0	17	39	12	0	13	17	7	0	9	14	13	0	194
9:45 AM	8	57	7	0	22	37	11	0	11	13	5	0	10	18	22	0	221
TOTAL VOLUMES :	65	454	57	0	121	336	79	0	89	132	60	0	59	130	144	0	1726
APPROACH %'s :	11.28%	78.82%	9.90%	0.00%	22.57%	62.69%	14.74%	0.00%	31.67%	46.98%	21.35%	0.00%	17.72%	39.04%	43.24%	0.00%	
PEAK HR :	09:00 AM - 10:00 AM																TOTAL
PEAK HR VOL :	27	178	17	0	59	135	39	0	42	51	26	0	29	62	73	0	738
PEAK HR FACTOR :	0.844	0.781	0.607	0.000	0.670	0.865	0.813	0.000	0.808	0.750	0.813	0.000	0.725	0.775	0.830	0.000	0.835
	0.771				0.832				0.804				0.820				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
3:00 PM	11	52	7	0	16	60	9	0	11	20	12	0	8	20	13	0	239
3:15 PM	19	39	6	0	23	42	21	0	14	23	17	0	8	17	11	0	240
3:30 PM	5	54	7	0	15	49	17	0	17	27	8	0	8	16	19	0	242
3:45 PM	12	39	12	0	19	61	17	0	16	23	14	0	8	21	18	0	260
4:00 PM	9	55	4	0	22	50	15	0	14	22	15	0	18	20	16	0	260
4:15 PM	7	35	9	0	27	35	6	0	13	18	15	0	10	12	20	0	207
4:30 PM	7	53	10	0	11	47	18	0	14	12	10	0	16	22	23	0	243
4:45 PM	7	48	10	0	24	38	23	0	10	19	9	0	15	20	22	0	245
5:00 PM	13	40	13	0	17	51	16	0	21	21	18	0	7	18	20	0	255
5:15 PM	11	63	10	0	25	43	18	0	14	15	6	0	11	15	16	0	247
5:30 PM	12	31	10	0	17	59	8	0	16	18	15	0	12	23	19	0	240
5:45 PM	8	31	11	0	13	46	19	0	11	16	17	0	8	20	19	0	219
TOTAL VOLUMES :	121	540	109	0	229	581	187	0	171	234	156	0	129	224	216	0	2897
APPROACH %'s :	15.71%	70.13%	14.16%	0.00%	22.97%	58.27%	18.76%	0.00%	30.48%	41.71%	27.81%	0.00%	22.67%	39.37%	37.96%	0.00%	
PEAK HR :	03:15 PM - 04:15 PM																TOTAL
PEAK HR VOL :	45	187	29	0	79	202	70	0	61	95	54	0	42	74	64	0	1002
PEAK HR FACTOR :	0.592	0.850	0.604	0.000	0.859	0.828	0.833	0.000	0.897	0.880	0.794	0.000	0.583	0.881	0.842	0.000	0.963
	0.960				0.905				0.972				0.833				

Montgomery St/Mill St & E/W Market St

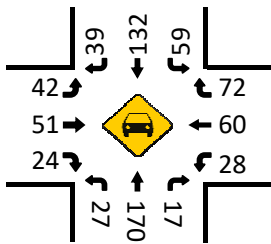
Peak Hour Turning Movement Count

ID: 22-380036-001
City: Rhinebeck

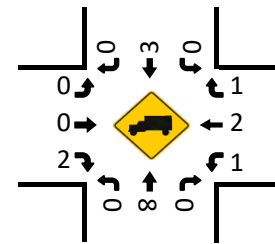
Day: Saturday
Date: 7/23/2022



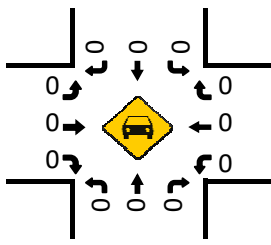
Cars (AM)



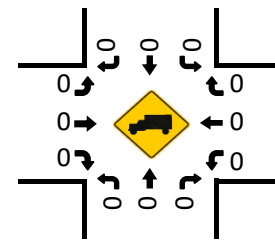
HT (AM)



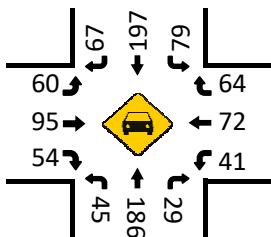
Cars (NOON)



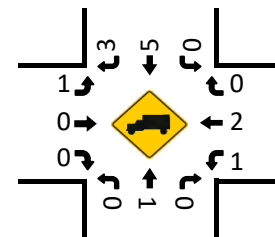
HT (NOON)



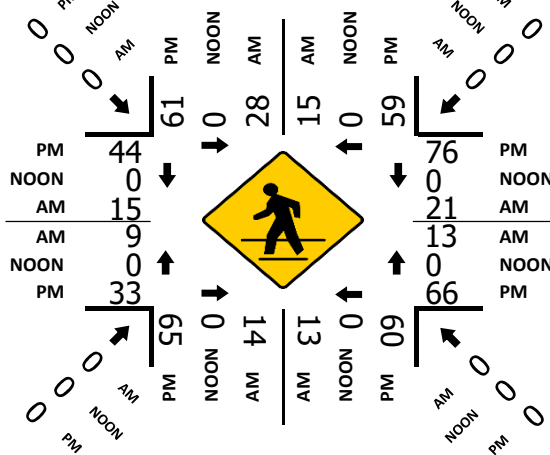
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services Intersection Turning Movement Count

Location: Traver Ln & W Market St
City: Rhinebeck
Control: 1-Way Stop (NB)

Project ID: 22-380036-002
Date: 7/23/2022

Data - Total

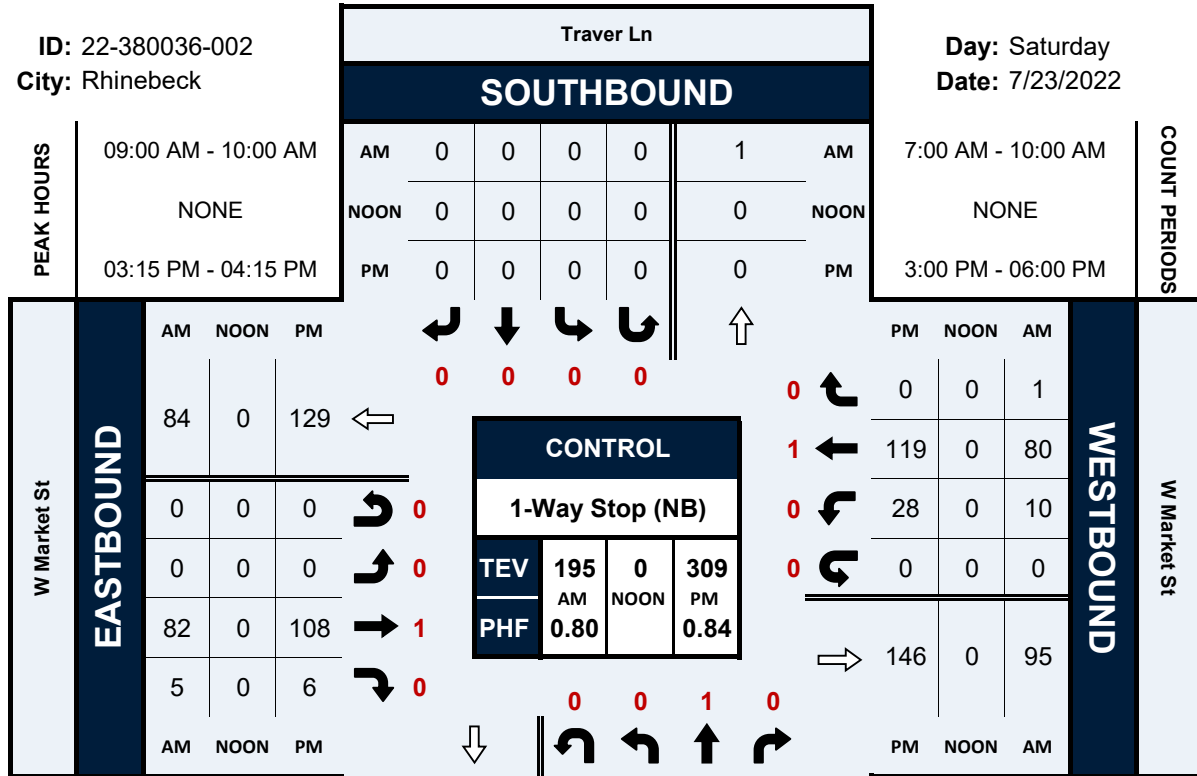
NS/EW Streets:	Traver Ln				Traver Ln				W Market St				W Market St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	17
7:15 AM	0	0	1	0	0	0	0	0	0	9	0	0	1	4	0	0	0	18
7:30 AM	1	0	1	0	0	0	0	0	0	8	0	0	4	5	0	0	0	19
7:45 AM	0	0	3	0	0	0	0	0	0	8	0	0	1	9	0	0	0	21
8:00 AM	0	0	1	0	0	0	1	0	0	14	3	0	1	4	0	0	0	24
8:15 AM	0	0	1	0	0	0	0	0	0	19	3	0	2	15	0	0	0	40
8:30 AM	1	0	2	0	0	0	0	0	0	12	2	0	4	21	0	0	0	42
8:45 AM	1	0	2	0	0	0	1	0	0	19	1	0	3	13	1	0	0	41
9:00 AM	1	0	3	0	0	0	0	0	0	21	4	0	3	15	0	0	0	47
9:15 AM	2	0	5	0	0	0	0	0	0	18	1	0	2	10	0	0	0	38
9:30 AM	1	0	5	0	0	0	0	0	0	23	0	0	2	30	0	0	0	61
9:45 AM	0	0	0	0	0	0	0	0	0	20	0	0	3	25	1	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	7	0	26	0	0	0	2	0	0	182	14	0	27	157	2	0	417	
	21.21%	0.00%	78.79%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	92.86%	7.14%	0.00%	14.52%	84.41%	1.08%	0.00%		
PEAK HR :	09:00 AM - 10:00 AM																TOTAL	
PEAK HR VOL :	4	0	13	0	0	0	0	0	0	82	5	0	10	80	1	0	195	
PEAK HR FACTOR :	0.500	0.000	0.650	0.000	0.000	0.000	0.000	0.000	0.000	0.891	0.313	0.000	0.833	0.667	0.250	0.000	0.799	
	0.607																0.870	
	0.711																	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
3:00 PM	2	0	6	0	0	0	0	0	0	20	3	0	6	27	0	0	64	
3:15 PM	1	0	9	0	0	0	0	0	0	32	4	0	7	39	0	0	92	
3:30 PM	1	0	5	0	0	0	0	0	0	29	2	0	3	21	0	0	61	
3:45 PM	2	0	11	0	0	0	0	0	0	25	0	0	9	34	0	0	81	
4:00 PM	6	0	13	0	0	0	0	0	0	22	0	0	9	25	0	0	75	
4:15 PM	1	0	11	0	0	0	0	0	0	23	3	0	5	18	0	0	61	
4:30 PM	0	0	3	0	0	0	0	0	0	14	0	0	5	25	0	0	47	
4:45 PM	1	0	5	0	0	0	0	0	0	22	0	0	5	29	0	0	62	
5:00 PM	2	0	8	0	0	0	0	0	0	34	0	0	4	36	0	0	84	
5:15 PM	2	0	7	0	1	0	0	0	0	28	1	0	4	19	1	0	63	
5:30 PM	1	0	4	0	1	0	0	0	0	24	2	0	3	23	0	0	58	
5:45 PM	1	0	6	0	0	0	0	0	0	22	2	0	2	23	0	0	56	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	20	0	88	0	2	0	0	0	0	295	17	0	62	319	1	0	804	
	18.52%	0.00%	81.48%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	94.55%	5.45%	0.00%	16.23%	83.51%	0.26%	0.00%		
PEAK HR :	03:15 PM - 04:15 PM																TOTAL	
PEAK HR VOL :	10	0	38	0	0	0	0	0	0	108	6	0	28	119	0	0	309	
PEAK HR FACTOR :	0.417	0.000	0.731	0.000	0.000	0.000	0.000	0.000	0.000	0.844	0.375	0.000	0.778	0.763	0.000	0.000	0.840	
	0.632																0.792	
	0.799																	

Traver Ln & W Market St

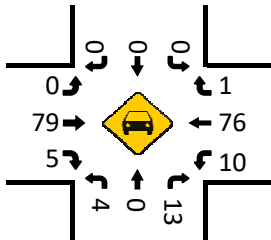
Peak Hour Turning Movement Count

ID: 22-380036-002
City: Rhinebeck

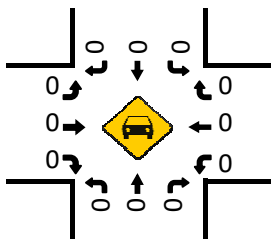
Day: Saturday
Date: 7/23/2022



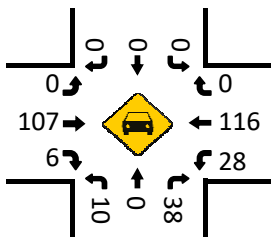
Cars (AM)



Cars (NOON)

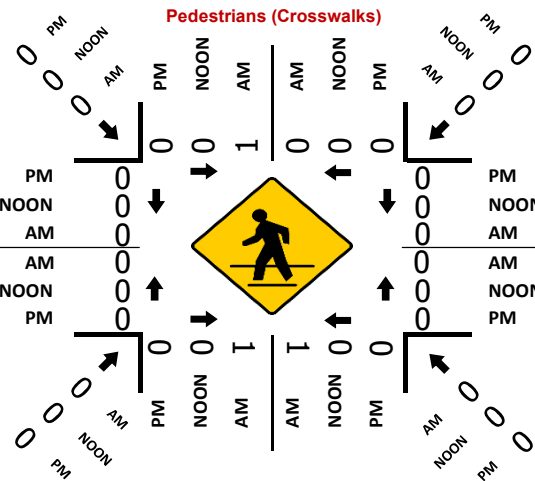


Cars (PM)

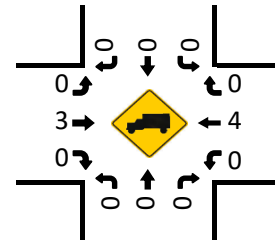


NORTHBOUND

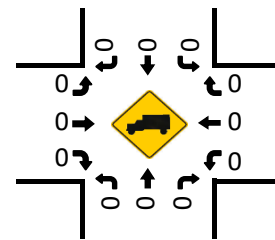
Traver Ln



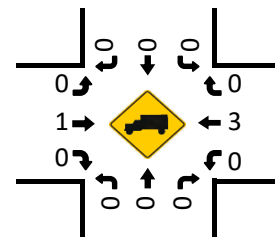
HT (AM)



HT (NOON)



HT (PM)



VOLUME

Rhinecliff Rd/W Market St W/O Wall St

Day: Tuesday - Thursday
 Date: 11/16/2021 - 11/18/2021

City: Rhinebeck
 Project #: NY21_380018_001

DAILY TOTALS					NB	SB	EB	WB	Total			
					0	0	1,325	1,325	2,650			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	0	1	1	2	12:00	0	0	27	30	57	
00:15	0	0	0	1	1	12:15	0	0	25	24	49	
00:30	0	0	0	0		12:30	0	0	29	32	61	
00:45	0	0	0	1	2	12:45	0	0	28	109	34	120
01:00	0	0	1	0	1	13:00	0	0	25	22	47	
01:15	0	0	1	0	1	13:15	0	0	31	24	55	
01:30	0	0	0	0		13:30	0	0	25	28	53	
01:45	0	0	0	2	2	13:45	0	0	28	109	28	102
02:00	0	0	0	0		14:00	0	0	25	23	48	
02:15	0	0	0	0		14:15	0	0	25	20	45	
02:30	0	0	0	0		14:30	0	0	22	26	48	
02:45	0	0	0	0		14:45	0	0	31	103	26	95
03:00	0	0	0	0		15:00	0	0	29	27	56	
03:15	0	0	0	0		15:15	0	0	27	31	58	
03:30	0	0	1	1	2	15:30	0	0	24	28	52	
03:45	0	0	0	1	1	15:45	0	0	38	118	25	111
04:00	0	0	0	0		16:00	0	0	32	24	56	
04:15	0	0	1	0	1	16:15	0	0	24	30	54	
04:30	0	0	0	0		16:30	0	0	24	34	58	
04:45	0	0	0	1	1	16:45	0	0	28	108	36	124
05:00	0	0	2	0	2	17:00	0	0	29	33	62	
05:15	0	0	2	2	4	17:15	0	0	28	20	48	
05:30	0	0	2	0	2	17:30	0	0	27	19	46	
05:45	0	0	3	9	2	17:45	0	0	22	106	18	90
06:00	0	0	6	5	11	18:00	0	0	20	13	33	
06:15	0	0	17	6	23	18:15	0	0	16	15	31	
06:30	0	0	12	13	25	18:30	0	0	15	29	44	
06:45	0	0	13	48	7	18:45	0	0	12	63	10	67
07:00	0	0	12	17	29	19:00	0	0	11	6	17	
07:15	0	0	20	16	36	19:15	0	0	15	12	27	
07:30	0	0	14	22	36	19:30	0	0	15	8	23	
07:45	0	0	18	64	23	19:45	0	0	13	54	16	42
08:00	0	0	22	17	39	20:00	0	0	10	13	23	
08:15	0	0	23	18	41	20:15	0	0	6	5	11	
08:30	0	0	27	30	57	20:30	0	0	11	5	16	
08:45	0	0	33	105	35	20:45	0	0	10	37	2	25
09:00	0	0	27	29	56	21:00	0	0	9	11	20	
09:15	0	0	17	24	41	21:15	0	0	5	6	11	
09:30	0	0	14	23	37	21:30	0	0	7	1	8	
09:45	0	0	14	72	25	21:45	0	0	5	26	3	21
10:00	0	0	18	20	38	22:00	0	0	6	2	8	
10:15	0	0	18	25	43	22:15	0	0	4	2	6	
10:30	0	0	17	21	38	22:30	0	0	6	2	8	
10:45	0	0	23	76	25	22:45	0	0	3	19	6	12
11:00	0	0	21	26	47	23:00	0	0	3	5	8	
11:15	0	0	22	19	41	23:15	0	0	1	8	9	
11:30	0	0	21	22	43	23:30	0	0	2	2	4	
11:45	0	0	24	88	22	23:45	0	0	0	6	2	17
TOTALS			467	499	966	TOTALS			858	826	1684	
SPLIT %			48.3%	51.7%	36.5%	SPLIT %			51.0%	49.0%	63.5%	

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	1,325	1,325	2,650		
AM Peak Hour			08:15	08:30	08:15	PM Peak Hour			15:15	16:15	16:15
AM Pk Volume			110	118	222	PM Pk Volume			121	133	238
Pk Hr Factor			0.833	0.843	0.816	Pk Hr Factor			0.796	0.924	0.930
7 - 9 Volume	0	0	169	178	347	4 - 6 Volume	0	0	214	214	428
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:45	16:15	16:15
7 - 9 Pk Volume	0	0	105	100	205	4 - 6 Pk Volume	0	0	112	133	238
Pk Hr Factor	0.000	0.000	0.795	0.714	0.754	Pk Hr Factor	0.000	0.000	0.966	0.924	0.930

VOLUME

Rhinecliff Rd W/O Wall St

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	1,562	1,589	3,151		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00	0	0	1	2	3	12:00	0	0	32	29	61
00:15	0	0	2	2	4	12:15	0	0	34	31	65
00:30	0	0	1	1	2	12:30	0	0	28	32	60
00:45	0	0	1	5	6	12:45	0	0	33	127	160
01:00	0	0	1	1	2	13:00	0	0	31	35	66
01:15	0	0	1	0	1	13:15	0	0	32	32	64
01:30	0	0	1	1	2	13:30	0	0	30	32	62
01:45	0	0	0	3	3	13:45	0	0	25	118	143
02:00	0	0	0	0	0	14:00	0	0	25	25	50
02:15	0	0	1	0	1	14:15	0	0	26	28	54
02:30	0	0	0	1	1	14:30	0	0	30	30	60
02:45	0	0	0	1	1	14:45	0	0	28	109	137
03:00	0	0	0	0	0	15:00	0	0	25	30	55
03:15	0	0	0	0	0	15:15	0	0	34	30	64
03:30	0	0	0	0	0	15:30	0	0	32	29	61
03:45	0	0	0	1	1	15:45	0	0	32	123	155
04:00	0	0	0	1	1	16:00	0	0	32	30	62
04:15	0	0	1	1	2	16:15	0	0	33	29	62
04:30	0	0	1	1	2	16:30	0	0	29	31	60
04:45	0	0	1	3	4	16:45	0	0	27	121	148
05:00	0	0	1	2	3	17:00	0	0	36	32	68
05:15	0	0	3	2	5	17:15	0	0	26	28	54
05:30	0	0	1	2	3	17:30	0	0	28	25	53
05:45	0	0	2	7	9	17:45	0	0	22	112	134
06:00	0	0	5	7	12	18:00	0	0	21	28	49
06:15	0	0	5	13	18	18:15	0	0	27	26	53
06:30	0	0	8	12	20	18:30	0	0	27	20	47
06:45	0	0	8	26	34	18:45	0	0	16	91	107
07:00	0	0	13	13	26	19:00	0	0	20	22	42
07:15	0	0	13	22	35	19:15	0	0	17	22	39
07:30	0	0	21	12	33	19:30	0	0	16	27	43
07:45	0	0	21	68	89	19:45	0	0	26	79	105
08:00	0	0	20	18	38	20:00	0	0	18	18	36
08:15	0	0	25	21	46	20:15	0	0	15	21	36
08:30	0	0	24	28	52	20:30	0	0	14	18	32
08:45	0	0	31	100	131	20:45	0	0	14	61	75
09:00	0	0	32	25	57	21:00	0	0	16	15	31
09:15	0	0	30	23	53	21:15	0	0	13	13	26
09:30	0	0	26	27	53	21:30	0	0	7	11	18
09:45	0	0	27	115	142	21:45	0	0	4	40	44
10:00	0	0	27	25	52	22:00	0	0	4	7	11
10:15	0	0	30	24	54	22:15	0	0	5	8	13
10:30	0	0	30	27	57	22:30	0	0	6	5	11
10:45	0	0	27	114	141	22:45	0	0	8	23	31
11:00	0	0	24	24	48	23:00	0	0	4	4	8
11:15	0	0	24	27	51	23:15	0	0	6	2	8
11:30	0	0	25	22	47	23:30	0	0	3	2	5
11:45	0	0	28	101	129	23:45	0	0	2	15	17
TOTALS			543	528	1071	TOTALS			1019	1061	2080
SPLIT %			50.7%	49.3%	34.0%	SPLIT %			49.0%	51.0%	66.0%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	1,562	1,589	3,151		
AM Peak Hour			11:45	11:45	11:45	PM Peak Hour			15:15	12:30	12:45
AM Pk Volume			122	119	241	PM Pk Volume			130	134	260
Pk Hr Factor			0.897	0.930	0.927	Pk Hr Factor			0.956	0.957	0.956
7 - 9 Volume	0	0	168	158	326	4 - 6 Volume	0	0	233	230	463
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:15	16:15	16:15
7 - 9 Pk Volume	0	0	100	97	197	4 - 6 Pk Volume	0	0	125	124	249
Pk Hr Factor	0.000	0.000	0.806	0.808	0.807	Pk Hr Factor	0.000	0.000	0.868	0.969	0.915

CLASSIFICATION

Rhinecliff Rd W/O Wall St

Day: Wednesday - Tuesday

Date: 7/20/2022 - 7/26/2022

City: Rhinebeck

Project #: NY22_380038_001

Summary EB & WB Combined

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	50	7	1	4	0	0	0	1	1	0	0	0	64
01:00	0	36	1	1	0	2	0	0	0	0	0	0	0	40
02:00	0	15	3	3	0	0	0	0	0	0	0	0	0	21
03:00	0	3	4	1	0	0	0	0	0	0	0	0	0	8
04:00	0	35	4	1	0	0	1	0	0	0	0	0	0	41
05:00	2	70	24	0	4	2	0	0	0	0	0	0	0	102
06:00	0	398	73	6	9	7	2	0	10	0	0	0	0	505
07:00	9	680	172	9	12	16	1	0	5	0	0	0	0	904
08:00	6	1082	253	6	23	17	1	0	3	0	0	0	0	1391
09:00	6	1168	257	12	26	13	3	0	1	0	0	0	0	1486
10:00	16	1168	256	10	33	16	6	2	4	0	0	0	0	1511
11:00	6	1142	200	10	32	14	2	0	4	0	0	0	0	1410
12:00 PM	5	1461	235	9	33	17	1	0	9	0	0	0	0	1770
13:00	3	1393	244	7	34	8	2	1	5	0	0	0	0	1697
14:00	8	1291	197	7	30	9	0	1	3	1	0	0	0	1547
15:00	10	1438	205	6	33	11	5	1	5	0	0	0	0	1714
16:00	11	1447	216	1	17	6	0	0	4	0	0	0	0	1702
17:00	11	1325	175	6	14	6	1	0	6	0	0	0	0	1544
18:00	14	1111	156	4	9	2	2	0	3	0	0	0	0	1301
19:00	13	1086	110	2	4	2	3	0	2	0	0	0	0	1222
20:00	15	813	101	2	2	1	1	0	0	0	0	0	0	935
21:00	9	523	62	3	2	4	1	0	1	0	0	0	0	605
22:00	3	309	33	0	2	0	0	0	0	0	0	0	0	347
23:00	0	155	20	3	2	0	0	0	0	0	0	0	0	180
Totals	147	18199	3008	110	325	153	32	5	66	2				22047
% of Totals	1%	83%	14%	0%	1%	1%	0%	0%	0%	0%				100%

AM Volumes	45	5847	1254	60	143	87	16	2	28	1	0	0	0	7483
% AM	0%	27%	6%	0%	1%	0%	0%	0%	0%	0%				34%
AM Peak Hour	10:00	09:00	09:00	09:00	10:00	08:00	10:00	10:00	06:00					10:00
Volume	16	1168	257	12	33	17	6	2	10	1				1511
PM Volumes	102	12352	1754	50	182	66	16	3	38	1	0	0	0	14564
% PM	0%	56%	8%	0%	1%	0%	0%	0%	0%	0%				66%
PM Peak Hour	20:00	12:00	13:00	12:00	13:00	12:00	15:00	13:00	12:00	14:00				12:00
Volume	15	1461	244	9	34	17	5	1	9	1				1770
Directional Peak Periods All Classes	AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes	
	Volume		%	Volume		%	Volume		%	Volume		%	Volume	%
	2295	↔	10%	3467	↔	16%	3246	↔	15%	13039	↔	59%		

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Rhinecliff Rd W/O Wall St

Day: Wednesday, Thursday, Tuesday
 Date: 7/20/2022, 7/21/2022, 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_001

DAILY TOTALS						NB	SB	EB				WB	Total	
						0	0	1,661				1,669	3,330	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	0	1	1	12:00	0	0	34	28	62			
00:15	0	0	2	1	3	12:15	0	0	37	33	70			
00:30	0	0	2	1	3	12:30	0	0	28	31	59			
00:45	0	0	0	4	3	12:45	0	0	32	131	34	126	66	257
01:00	0	0	0	0		13:00	0	0	28	40	68			
01:15	0	0	0	0		13:15	0	0	35	34	69			
01:30	0	0	0	0		13:30	0	0	28	33	61			
01:45	0	0	0	1	1	13:45	0	0	23	114	27	134	50	248
02:00	0	0	0	1	1	14:00	0	0	24	24	48			
02:15	0	0	0	0		14:15	0	0	27	25	52			
02:30	0	0	0	1	1	14:30	0	0	32	24	56			
02:45	0	0	0	1	3	14:45	0	0	24	107	27	100	51	207
03:00	0	0	1	0	1	15:00	0	0	25	29	54			
03:15	0	0	0	0		15:15	0	0	38	33	71			
03:30	0	0	0	0		15:30	0	0	30	28	58			
03:45	0	0	0	1	1	15:45	0	0	34	127	32	122	66	249
04:00	0	0	0	2	2	16:00	0	0	35	31	66			
04:15	0	0	1	0	1	16:15	0	0	36	35	71			
04:30	0	0	1	0	1	16:30	0	0	33	35	68			
04:45	0	0	1	3	1	16:45	0	0	33	137	34	135	67	272
05:00	0	0	2	2	4	17:00	0	0	41	32	73			
05:15	0	0	4	2	6	17:15	0	0	27	29	56			
05:30	0	0	2	2	4	17:30	0	0	31	26	57			
05:45	0	0	2	10	5	17:45	0	0	22	121	23	110	45	231
06:00	0	0	6	9	15	18:00	0	0	24	33	57			
06:15	0	0	6	19	25	18:15	0	0	32	27	59			
06:30	0	0	10	12	22	18:30	0	0	31	25	56			
06:45	0	0	8	30	15	18:45	0	0	14	101	19	104	33	205
07:00	0	0	15	16	31	19:00	0	0	17	19	36			
07:15	0	0	18	29	47	19:15	0	0	22	21	43			
07:30	0	0	25	15	40	19:30	0	0	15	29	44			
07:45	0	0	26	84	18	19:45	0	0	31	85	28	97	59	182
08:00	0	0	24	21	45	20:00	0	0	18	20	38			
08:15	0	0	26	21	47	20:15	0	0	18	24	42			
08:30	0	0	31	30	61	20:30	0	0	13	21	34			
08:45	0	0	36	117	34	20:45	0	0	13	62	19	84	32	146
09:00	0	0	37	28	65	21:00	0	0	16	15	31			
09:15	0	0	30	24	54	21:15	0	0	12	16	28			
09:30	0	0	29	25	54	21:30	0	0	11	14	25			
09:45	0	0	28	124	22	21:45	0	0	6	45	6	51	12	96
10:00	0	0	23	29	52	22:00	0	0	4	7	11			
10:15	0	0	28	26	54	22:15	0	0	6	9	15			
10:30	0	0	29	29	58	22:30	0	0	10	5	15			
10:45	0	0	29	109	30	22:45	0	0	10	30	5	26	15	56
11:00	0	0	25	25	50	23:00	0	0	5	2	7			
11:15	0	0	23	26	49	23:15	0	0	3	2	5			
11:30	0	0	26	20	46	23:30	0	0	2	1	3			
11:45	0	0	32	106	27	23:45	0	0	3	13	3	8	6	21
TOTALS			588	572	1160	TOTALS			1073	1097	2170			
SPLIT %			50.7%	49.3%	34.8%	SPLIT %			49.4%	50.6%	65.2%			

DAILY TOTALS						NB	SB	EB				WB	Total
						0	0	1,661				1,669	3,330
AM Peak Hour			08:30	11:45	08:30	PM Peak Hour			16:15	12:45	16:15		
AM Pk Volume			134	119	250	PM Pk Volume			143	141	279		
Pk Hr Factor			0.905	0.902	0.893	Pk Hr Factor			0.872	0.881	0.955		
7 - 9 Volume	0	0	201	184	385	4 - 6 Volume	0	0	258	245	503		
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			16:15	16:15	16:15		
7 - 9 Pk Volume	0	0	117	106	223	4 - 6 Pk Volume	0	0	143	136	279		
Pk Hr Factor	0.000	0.000	0.813	0.779	0.796	Pk Hr Factor	0.000	0.000	0.872	0.971	0.955		

SPEED

Rhinecliff Rd W/O Wall St

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_001e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	8	12	7	2	0	0	0	0	0	29
01:00	0	0	0	1	6	7	2	1	0	0	0	0	0	17
02:00	0	0	0	1	0	3	2	1	0	0	0	0	0	7
03:00	0	0	0	0	0	3	0	0	0	0	0	1	0	4
04:00	0	0	0	1	5	9	0	0	0	0	0	0	0	15
05:00	0	0	1	1	3	16	17	7	1	0	0	0	0	46
06:00	0	0	0	4	26	71	63	22	4	0	0	0	0	190
07:00	2	1	4	17	77	156	141	59	13	3	0	0	0	473
08:00	1	6	3	23	143	255	210	61	8	0	0	0	0	710
09:00	0	2	11	27	130	332	217	73	7	0	0	0	0	799
10:00	1	3	3	32	174	308	221	50	3	0	1	0	0	796
11:00	0	2	3	25	123	290	210	54	3	1	0	0	0	711
12:00 PM	1	0	4	20	131	368	284	76	6	0	1	0	0	891
13:00	4	2	6	28	127	340	233	63	10	1	0	0	0	814
14:00	0	1	3	13	113	320	229	76	6	0	2	0	0	763
15:00	0	1	7	12	114	331	292	93	10	5	0	0	0	865
16:00	1	1	5	29	103	295	318	86	11	0	0	0	0	849
17:00	0	0	1	10	111	317	251	82	13	3	0	0	0	788
18:00	0	1	3	11	90	254	192	69	14	2	0	0	0	636
19:00	0	2	6	12	97	216	163	47	7	1	0	0	0	551
20:00	0	0	2	27	84	195	83	32	1	1	0	0	0	425
21:00	0	0	2	14	74	107	63	12	4	2	0	0	0	278
22:00	0	0	3	5	39	69	36	5	3	0	0	0	0	160
23:00	0	0	1	5	27	39	25	11	2	0	0	0	0	110
Totals	10	22	68	318	1805	4313	3259	982	126	19	4	1		10927
% of Totals	0%	0%	1%	3%	17%	39%	30%	9%	1%	0%	0%	0%		100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Rhinecliff Rd	East Bound	33	39	39	44	48	1561
Rhinecliff Rd	West Bound	35	39	39	44	48	1589

SPEED

Rhinecliff Rd W/O Wall St

Day: Wednesday - Tuesday

Date: 7/20/2022 - 7/26/2022

City: Rhinebeck

Project #: NY22_380038_001w

West Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	6	13	12	4	0	0	0	0	0	35
01:00	0	0	0	0	4	3	8	6	1	1	0	0	0	23
02:00	0	0	0	0	2	4	4	4	0	0	0	0	0	14
03:00	0	0	0	0	2	2	0	0	0	0	0	0	0	4
04:00	0	0	1	0	3	12	7	2	0	0	1	0	0	26
05:00	0	1	2	5	4	22	18	4	0	0	0	0	0	56
06:00	0	0	2	0	18	99	124	60	11	1	0	0	0	315
07:00	0	0	0	8	24	159	160	65	13	2	0	0	0	431
08:00	0	3	10	20	98	281	210	54	4	1	0	0	0	681
09:00	0	4	7	14	85	294	237	40	6	0	0	0	0	687
10:00	0	3	12	14	82	308	249	42	4	1	0	0	0	715
11:00	0	4	3	6	69	299	260	54	4	0	0	0	0	699
12:00 PM	0	6	6	10	123	370	300	59	4	1	0	0	0	879
13:00	0	3	3	19	117	370	314	54	2	1	0	0	0	883
14:00	1	0	3	15	96	342	252	65	8	0	2	0	0	784
15:00	0	2	6	21	116	339	302	54	9	0	0	0	0	849
16:00	0	1	2	7	92	321	327	96	7	0	0	0	0	853
17:00	0	4	5	10	91	267	307	66	6	0	0	0	0	756
18:00	0	0	3	12	87	293	215	48	7	0	0	0	0	665
19:00	0	1	2	21	128	297	175	40	5	1	1	0	0	671
20:00	0	0	1	24	118	229	110	25	2	0	1	0	0	510
21:00	0	0	1	16	69	154	62	24	1	0	0	0	0	327
22:00	0	1	1	0	30	72	63	18	2	0	0	0	0	187
23:00	0	0	0	1	7	27	24	9	1	1	0	0	0	70
Totals	1	33	70	223	1471	4577	3740	893	97	10	5			11120
% of Totals	0%	0%	1%	2%	13%	41%	34%	8%	1%	0%	0%			100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Rhinecliff Rd	East Bound	33	39	39	44	48	1561
Rhinecliff Rd	West Bound	35	39	39	44	48	1589

SPEED

Rhinecliff Rd W/O Wall St

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_001

EB & WB

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
00:00 AM	0	0	0	0	14	25	19	6	0	0	0	0	0	64
01:00	0	0	0	1	10	10	10	7	1	1	0	0	0	40
02:00	0	0	0	1	2	7	6	5	0	0	0	0	0	21
03:00	0	0	0	0	2	5	0	0	0	0	0	1	0	8
04:00	0	0	1	1	8	21	7	2	0	0	1	0	0	41
05:00	0	1	3	6	7	38	35	11	1	0	0	0	0	102
06:00	0	0	2	4	44	170	187	82	15	1	0	0	0	505
07:00	2	1	4	25	101	315	301	124	26	5	0	0	0	904
08:00	1	9	13	43	241	536	420	115	12	1	0	0	0	1391
09:00	0	6	18	41	215	626	454	113	13	0	0	0	0	1486
10:00	1	6	15	46	256	616	470	92	7	1	1	0	0	1511
11:00	0	6	6	31	192	589	470	108	7	1	0	0	0	1410
12:00 PM	1	6	10	30	254	738	584	135	10	1	1	0	0	1770
13:00	4	5	9	47	244	710	547	117	12	2	0	0	0	1697
14:00	1	1	6	28	209	662	481	141	14	0	4	0	0	1547
15:00	0	3	13	33	230	670	594	147	19	5	0	0	0	1714
16:00	1	2	7	36	195	616	645	182	18	0	0	0	0	1702
17:00	0	4	6	20	202	584	558	148	19	3	0	0	0	1544
18:00	0	1	6	23	177	547	407	117	21	2	0	0	0	1301
19:00	0	3	8	33	225	513	338	87	12	2	1	0	0	1222
20:00	0	0	3	51	202	424	193	57	3	1	1	0	0	935
21:00	0	0	3	30	143	261	125	36	5	2	0	0	0	605
22:00	0	1	4	5	69	141	99	23	5	0	0	0	0	347
23:00	0	0	1	6	34	66	49	20	3	1	0	0	0	180
Totals	11	55	138	541	3276	8890	6999	1875	223	29	9	1		22047
% of Totals	0%	0%	1%	2%	15%	40%	32%	9%	1%	0%	0%	0%		100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Rhinecliff Rd	EB & WB	34	39	39	44	48	3150

VOLUME

Astor Dr Bet. Wells Manor Ln & Pond Dr W

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_002

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	0	473	441	914		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	0	0	0	0		12:00	0	0	12	10	22
0:15	0	0	0	0		12:15	0	0	11	10	21
0:30	0	0	1	0	1	12:30	0	0	8	10	18
0:45	0	0	0	1	1	12:45	0	0	12	43	24
1:00	0	0	1	0	1	13:00	0	0	9	11	20
1:15	0	0	0	0		13:15	0	0	10	9	19
1:30	0	0	0	0		13:30	0	0	11	11	22
1:45	0	0	0	1	1	13:45	0	0	8	38	16
2:00	0	0	0	0		14:00	0	0	8	9	17
2:15	0	0	0	0		14:15	0	0	7	8	15
2:30	0	0	0	0		14:30	0	0	10	8	18
2:45	0	0	0	0		14:45	0	0	9	34	18
3:00	0	0	0	0		15:00	0	0	8	11	19
3:15	0	0	0	0		15:15	0	0	9	10	19
3:30	0	0	0	0		15:30	0	0	8	7	15
3:45	0	0	0	0		15:45	0	0	8	33	15
4:00	0	0	0	0		16:00	0	0	9	9	18
4:15	0	0	0	0		16:15	0	0	8	9	17
4:30	0	0	1	1	2	16:30	0	0	8	10	18
4:45	0	0	0	1	2	16:45	0	0	10	35	19
5:00	0	0	0	0		17:00	0	0	7	9	16
5:15	0	0	0	0		17:15	0	0	10	5	15
5:30	0	0	1	1	2	17:30	0	0	7	5	12
5:45	0	0	3	4	4	17:45	0	0	6	30	11
6:00	0	0	3	2	5	18:00	0	0	6	6	12
6:15	0	0	4	1	5	18:15	0	0	6	4	10
6:30	0	0	5	2	7	18:30	0	0	5	6	11
6:45	0	0	5	17	8	18:45	0	0	7	24	13
7:00	0	0	4	3	7	19:00	0	0	5	5	10
7:15	0	0	5	6	11	19:15	0	0	6	3	9
7:30	0	0	7	4	11	19:30	0	0	5	4	9
7:45	0	0	6	22	12	19:45	0	0	4	20	8
8:00	0	0	7	5	12	20:00	0	0	3	7	10
8:15	0	0	5	6	11	20:15	0	0	5	2	7
8:30	0	0	9	5	14	20:30	0	0	4	3	7
8:45	0	0	8	29	17	20:45	0	0	3	15	6
9:00	0	0	7	9	16	21:00	0	0	3	1	4
9:15	0	0	9	8	17	21:15	0	0	1	2	3
9:30	0	0	9	7	16	21:30	0	0	1	2	3
9:45	0	0	7	32	15	21:45	0	0	2	7	3
10:00	0	0	9	8	17	22:00	0	0	1	2	3
10:15	0	0	7	9	16	22:15	0	0	1	1	2
10:30	0	0	10	8	18	22:30	0	0	1	1	2
10:45	0	0	9	35	19	22:45	0	0	3	6	4
11:00	0	0	8	9	17	23:00	0	0	2	2	4
11:15	0	0	9	11	20	23:15	0	0	0	2	2
11:30	0	0	12	8	20	23:30	0	0	0	1	1
11:45	0	0	14	43	24	23:45	0	0	1	3	2
TOTALS			185	160	345	TOTALS			288	281	569
SPLIT %			53.6%	46.4%	37.7%	SPLIT %			50.6%	49.4%	62.3%

DAILY TOTALS					NB	SB	EB	WB	Total
					0	0	473	441	914

AM Peak Hour		11:30	11:45	11:30	PM Peak Hour		12:00	12:15	12:00		
AM Pk Volume		49	40	87	PM Pk Volume		43	43	85		
Pk Hr Factor		0.875	1.000	0.906	Pk Hr Factor		0.896	0.896	0.885		
7 - 9 Volume	0	0	51	44	95	4 - 6 Volume	0	0	65	61	126
7 - 9 Peak Hour		8:00	8:00	8:00	4 - 6 Peak Hour		16:00	16:00	16:00	16:00	
7 - 9 Pk Volume	0	0	29	25	54	4 - 6 Pk Volume	0	0	35	37	72
Pk Hr Factor	0.000	0.000	0.806	0.694	0.794	Pk Hr Factor	0.000	0.000	0.875	0.925	0.947

CLASSIFICATION

Astor Dr Bet. Wells Manor Ln & Pond Dr W

Day: Wednesday - Tuesday

City: Rhinebeck

Date: 7/20/2022 - 7/26/2022

Project #: NY22_380038_002

Summary EB & WB Combined

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
0:00 AM	2	9	1	0	4	0	0	0	0	0	0	0	0	16
1:00	0	9	3	0	1	0	0	0	0	0	0	0	0	13
2:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
3:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
4:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
5:00	0	37	8	0	0	0	0	0	0	0	0	0	0	45
6:00	0	129	39	0	0	3	0	0	0	0	0	0	0	171
7:00	4	224	49	0	7	3	0	0	0	0	0	0	0	287
8:00	3	324	46	3	1	4	1	0	0	0	0	0	0	382
9:00	0	371	72	4	9	0	1	0	0	0	0	0	0	457
10:00	5	389	76	3	17	2	0	0	0	0	0	0	0	492
11:00	0	486	64	3	17	0	1	1	0	0	0	0	0	572
12:00 PM	0	472	104	3	10	1	0	0	0	0	0	0	0	590
13:00	0	475	58	3	8	1	0	0	0	0	0	0	0	545
14:00	2	398	61	0	13	2	1	0	0	0	0	0	0	477
15:00	4	394	72	0	4	1	0	0	1	0	0	0	0	476
16:00	5	426	54	1	4	0	0	0	0	0	0	0	0	490
17:00	3	331	34	0	2	0	0	0	0	0	0	0	0	370
18:00	6	278	31	0	0	0	0	0	0	0	0	0	0	315
19:00	2	232	21	0	2	0	0	0	0	0	0	0	0	257
20:00	2	170	28	1	1	0	0	0	0	0	0	0	0	202
21:00	0	75	11	0	1	0	0	0	0	0	0	0	0	87
22:00	0	64	7	0	0	0	0	0	0	0	0	0	0	71
23:00	0	61	3	0	0	0	0	0	0	0	0	0	0	64
Totals	38	5370	847	21	101	17	4	1	1					6400
% of Totals	1%	84%	13%	0%	2%	0%	0%	0%	0%					100%

AM Volumes	14	1994	363	13	56	12	3	1	0	0	0	0	0	2456
% AM	0%	31%	6%	0%	1%	0%	0%	0%						38%
AM Peak Hour	10:00	11:00	10:00	9:00	10:00	8:00	8:00	11:00						11:00
Volume	5	486	76	4	17	4	1	1						572
PM Volumes	24	3376	484	8	45	5	1	0	1	0	0	0	0	3944
% PM	0%	53%	8%	0%	1%	0%	0%		0%					62%
PM Peak Hour	18:00	13:00	12:00	12:00	14:00	14:00	14:00		15:00					12:00
Volume	6	475	104	3	13	2	1		1					590
Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes							
	Volume	%	Volume	%	Volume	%	Volume	%						
	669	↔	10%	1135	↔	18%	860	↔	13%	3736	↔	58%		

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

SPEED

Astor Dr Bet. Wells Manor Ln & Pond Dr W

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_002e

East Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	1	1	6	0	2	0	0	0	0	0	0	10
1:00	0	0	0	1	1	1	0	1	0	0	0	0	0	4
2:00	0	0	0	0	2	1	0	0	0	0	0	0	0	3
3:00	0	0	0	5	0	0	0	0	0	0	0	0	0	5
4:00	0	0	0	3	1	0	0	0	0	0	0	0	0	4
5:00	0	0	1	3	7	7	3	8	0	0	0	0	0	29
6:00	0	2	5	29	38	25	10	2	0	0	0	0	0	111
7:00	1	5	10	35	81	17	6	0	0	0	0	0	0	155
8:00	0	1	9	69	84	29	9	2	0	0	0	0	0	203
9:00	0	0	13	72	82	43	12	2	0	0	0	0	0	224
10:00	2	4	8	64	95	57	15	0	0	0	0	0	0	245
11:00	0	1	16	84	119	64	15	1	0	0	0	0	0	300
12:00 PM	0	1	10	76	125	64	23	4	0	0	0	0	0	303
13:00	0	1	21	66	113	63	8	0	0	0	0	0	0	272
14:00	0	2	16	55	100	52	9	4	0	0	0	0	0	238
15:00	0	1	12	68	88	45	13	1	0	0	0	0	0	228
16:00	0	1	17	59	104	43	15	0	0	0	0	0	0	239
17:00	0	1	7	56	88	38	11	2	0	0	0	0	0	203
18:00	1	0	10	58	62	25	8	2	0	0	0	0	0	166
19:00	1	0	9	50	50	24	6	3	0	0	0	0	0	143
20:00	1	0	11	27	38	14	4	1	2	0	0	0	0	98
21:00	0	0	6	13	19	6	1	0	0	0	0	0	0	45
22:00	0	0	2	19	12	8	1	0	0	0	0	0	0	42
23:00	0	1	0	5	11	6	1	0	0	0	0	0	0	24
Totals	6	21	184	918	1326	632	172	33	2					3294
% of Totals	0%	1%	6%	28%	40%	19%	5%	1%	0%					100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Astor Dr	East Bound	27	32	32	38	41	471
Astor Dr	West Bound	27	34	34	41	45	444

SPEED

Astor Dr Bet. Wells Manor Ln & Pond Dr W

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_002w

West Bound

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	0	1	2	3	0	0	0	0	0	0	0	6
1:00	0	0	0	2	2	1	1	2	1	0	0	0	0	9
2:00	0	0	0	0	1	1	1	0	0	0	0	0	0	3
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	1	2	2	1	0	0	0	0	0	0	0	6
5:00	0	0	2	1	4	7	2	0	0	0	0	0	0	16
6:00	0	1	5	20	15	13	4	2	0	0	0	0	0	60
7:00	0	0	5	19	43	40	22	3	0	0	0	0	0	132
8:00	1	1	12	42	59	39	17	8	0	0	0	0	0	179
9:00	0	1	16	48	79	61	20	5	3	0	0	0	0	233
10:00	1	2	9	53	77	65	32	7	1	0	0	0	0	247
11:00	2	3	16	44	74	76	46	11	0	0	0	0	0	272
12:00 PM	1	2	12	50	84	79	49	3	7	0	0	0	0	287
13:00	1	1	10	58	81	74	36	10	2	0	0	0	0	273
14:00	0	2	7	41	67	73	34	11	4	0	0	0	0	239
15:00	3	1	12	52	80	56	36	7	1	0	0	0	0	248
16:00	0	0	6	29	68	73	58	15	2	0	0	0	0	251
17:00	0	1	7	27	54	54	21	1	2	0	0	0	0	167
18:00	2	3	10	24	38	45	19	5	3	0	0	0	0	149
19:00	0	0	3	25	39	33	10	3	1	0	0	0	0	114
20:00	0	3	11	21	31	28	8	2	0	0	0	0	0	104
21:00	0	0	4	10	15	7	5	1	0	0	0	0	0	42
22:00	0	0	0	4	11	7	6	0	1	0	0	0	0	29
23:00	0	0	1	5	12	11	8	2	1	0	0	0	0	40
Totals	11	21	149	578	938	847	435	98	29					3106
% of Totals	0%	1%	5%	19%	30%	27%	14%	3%	1%					100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Astor Dr	East Bound	27	32	32	38	41	471
Astor Dr	West Bound	27	34	34	41	45	444

SPEED

Astor Dr Bet. Wells Manor Ln & Pond Dr W

Day: Wednesday - Tuesday
 Date: 7/20/2022 - 7/26/2022

City: Rhinebeck
 Project #: NY22_380038_002

EB & WB Combined

Time	< 15	15 - 19	20 - 24	25 - 29	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69	70 +	Total
0:00 AM	0	0	1	2	8	3	2	0	0	0	0	0	0	16
1:00	0	0	0	3	3	2	1	3	1	0	0	0	0	13
2:00	0	0	0	0	3	2	1	0	0	0	0	0	0	6
3:00	0	0	0	5	0	0	0	0	0	0	0	0	0	5
4:00	0	0	1	5	3	1	0	0	0	0	0	0	0	10
5:00	0	0	3	4	11	14	5	8	0	0	0	0	0	45
6:00	0	3	10	49	53	38	14	4	0	0	0	0	0	171
7:00	1	5	15	54	124	57	28	3	0	0	0	0	0	287
8:00	1	2	21	111	143	68	26	10	0	0	0	0	0	382
9:00	0	1	29	120	161	104	32	7	3	0	0	0	0	457
10:00	3	6	17	117	172	122	47	7	1	0	0	0	0	492
11:00	2	4	32	128	193	140	61	12	0	0	0	0	0	572
12:00 PM	1	3	22	126	209	143	72	7	7	0	0	0	0	590
13:00	1	2	31	124	194	137	44	10	2	0	0	0	0	545
14:00	0	4	23	96	167	125	43	15	4	0	0	0	0	477
15:00	3	2	24	120	168	101	49	8	1	0	0	0	0	476
16:00	0	1	23	88	172	116	73	15	2	0	0	0	0	490
17:00	0	2	14	83	142	92	32	3	2	0	0	0	0	370
18:00	3	3	20	82	100	70	27	7	3	0	0	0	0	315
19:00	1	0	12	75	89	57	16	6	1	0	0	0	0	257
20:00	1	3	22	48	69	42	12	3	2	0	0	0	0	202
21:00	0	0	10	23	34	13	6	1	0	0	0	0	0	87
22:00	0	0	2	23	23	15	7	0	1	0	0	0	0	71
23:00	0	1	1	10	23	17	9	2	1	0	0	0	0	64
Totals	17	42	333	1496	2264	1479	607	131	31					6400
% of Totals	0%	1%	5%	23%	35%	23%	9%	2%	0%					100%

Street Name	Direction	Percentiles					ADT
		15th	50th	Average	85th	95th	
Astor Dr	EB & WB	27	33	33	39	44	914

APPENDIX B

Existing Data Analysis and Calculations

NYS DOT Historic Count Data

Obtained from NYS DOT Traffic Data Viewer Website

<https://www.dot.ny.gov/tdv>

Roadway: Rhinecliff Rd - Rt 982M
Station: 820913
Placement: 402' W of Garden Way
First Day of Data: 4/19/2016
Factor Group: 30

TIME INTERVAL	EB	WB	COMBINED
0:00	7	2	9
1:00	1	1	2
2:00	1	1	2
3:00	1	1	2
4:00	4	3	7
5:00	10	32	42
6:00	42	49	91
7:00	83	81	164
8:00	87	89	176
9:00	75	83	158
10:00	89	78	167
11:00	85	102	187
12:00	106	111	217
13:00	103	120	223
14:00	109	105	214
15:00	137	115	252
16:00	126	131	257
17:00	113	123	236
18:00	99	104	203
19:00	98	86	184
20:00	47	54	101
21:00	39	43	82
22:00	25	25	50
23:00	7	8	15
TOTAL	1494	1547	3041

Seasonal Factor: 1.052

Axle Factor: 1.000

AADT = 2891

SEASONAL ADJUSTMENT FACTORS 2015

Obtained from NYSDOT website

<https://www.dot.ny.gov/highway-data-services>

FULL WEEK

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.898	0.926	0.973	1.012	1.046	1.063	1.040	1.050	1.032	1.026	0.971	0.944
Non-Commuter Dominated - 40	0.800	0.834	0.885	0.956	1.071	1.117	1.208	1.215	1.069	1.026	0.921	0.861
Recreational - 60	0.657	0.699	0.729	0.801	1.061	1.242	1.605	1.560	1.106	0.955	0.713	0.691

WORK WEEK

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.941	0.973	1.006	1.052	1.077	1.100	1.083	1.089	1.064	1.056	1.010	0.986
Non-Commuter Dominated - 40	0.826	0.865	0.896	0.972	1.065	1.103	1.181	1.186	1.062	1.023	0.938	0.886
Recreational - 60	0.666	0.707	0.732	0.800	1.008	1.150	1.477	1.439	1.041	0.918	0.722	0.709

WEEKEND

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.796	0.814	0.885	0.913	0.965	0.969	0.940	0.954	0.946	0.940	0.876	0.845
Non-Commuter Dominated - 40	0.731	0.753	0.841	0.898	1.050	1.107	1.218	1.226	1.048	0.993	0.865	0.794
Recreational - 60	0.612	0.652	0.692	0.768	1.097	1.337	1.772	1.713	1.159	0.968	0.672	0.632

SEASONAL ADJUSTMENT FACTORS 2021

Obtained from NYSDOT website

<https://www.dot.ny.gov/highway-data-services>

FULL WEEK

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.842	0.847	0.965	1.003	1.054	1.089	1.066	1.065	1.069	1.061	0.992	0.958
Non-Commuter Dominated - 40	0.759	0.776	0.887	0.950	1.053	1.150	1.212	1.209	1.120	1.057	0.942	0.874
Recreational - 60	0.609	0.660	0.718	0.771	1.047	1.345	1.607	1.610	1.275	1.092	0.748	0.677

WORK WEEK

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.901	0.879	1.009	1.047	1.102	1.128	1.112	1.113	1.103	1.107	1.039	1.026
Non-Commuter Dominated - 40	0.792	0.781	0.901	0.964	1.055	1.127	1.191	1.184	1.091	1.058	0.957	0.927
Recreational - 60	0.610	0.638	0.694	0.733	0.965	1.242	1.542	1.500	1.153	1.020	0.740	0.713

WEEKEND

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Commuter Dominated - 30	0.692	0.725	0.826	0.863	0.911	0.962	0.916	0.916	0.941	0.906	0.858	0.761
Non-Commuter Dominated - 40	0.654	0.709	0.795	0.861	0.984	1.128	1.176	1.191	1.100	0.982	0.881	0.725
Recreational - 60	0.571	0.653	0.682	0.728	1.061	1.460	1.756	1.739	1.423	1.111	0.707	0.559

Average Daily Traffic on Rhinecliff Rd (NY 928M)

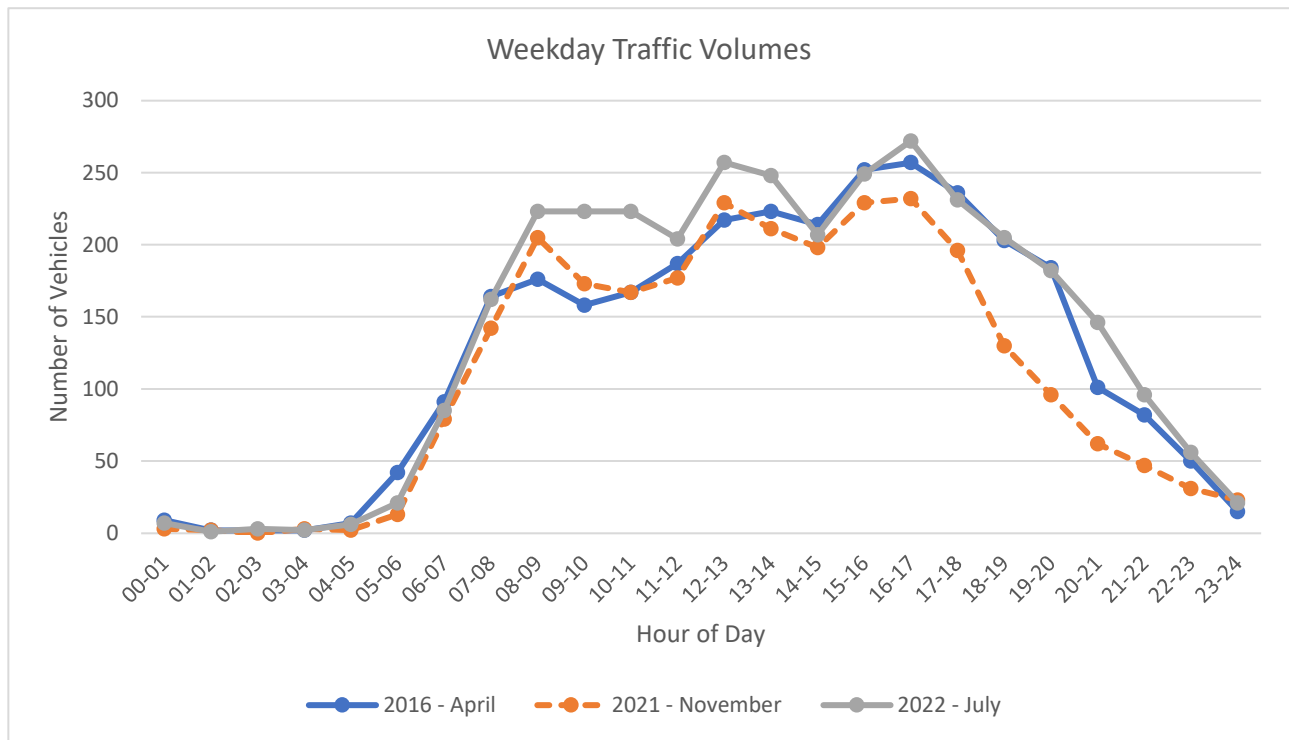
Hour of Day	2016 - April	2021 - November	2022 - July
00-01	9	3	7
01-02	2	2	1
02-03	2	0	3
03-04	2	3	2
04-05	7	2	6
05-06	42	13	21
06-07	91	79	85
07-08	164	142	162
08-09	176	205	223
09-10	158	173	223
10-11	167	167	223
11-12	187	177	204
12-13	217	229	257
13-14	223	211	248
14-15	214	198	207
15-16	252	229	249
16-17	257	232	272
17-18	236	196	231
18-19	203	130	205
19-20	184	96	182
20-21	101	62	146
21-22	82	47	96
22-23	50	31	56
23-24	15	23	21
Total ADT	3041	2650	3330

Seasonal Adjustment Factor =	1.052	1.039	1.112
AADT =	2891	2551	2995

Notes:

- 1.) 2016 and 2021 data was collected midweek
- 2.) 2022 data was collected for a full week, however the data presented is the Tuesday to Thursday volumes.

Average Daily Traffic on Rhinecliff Rd (NY 928M)

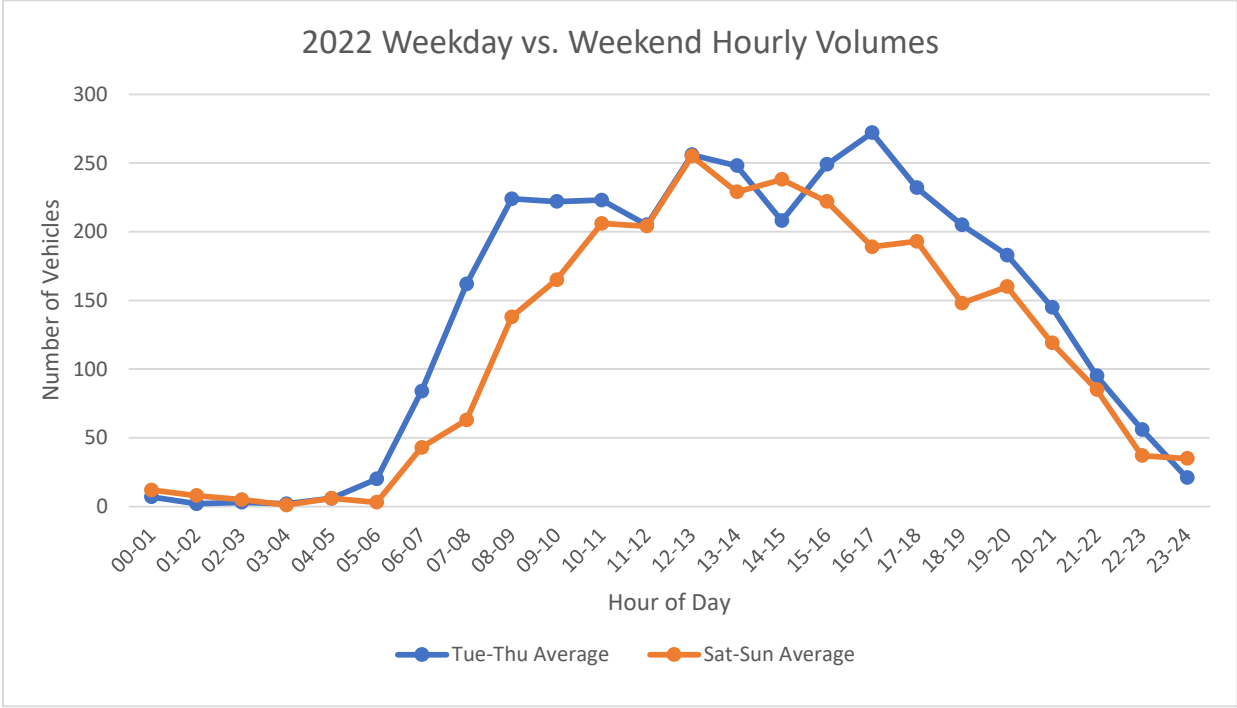
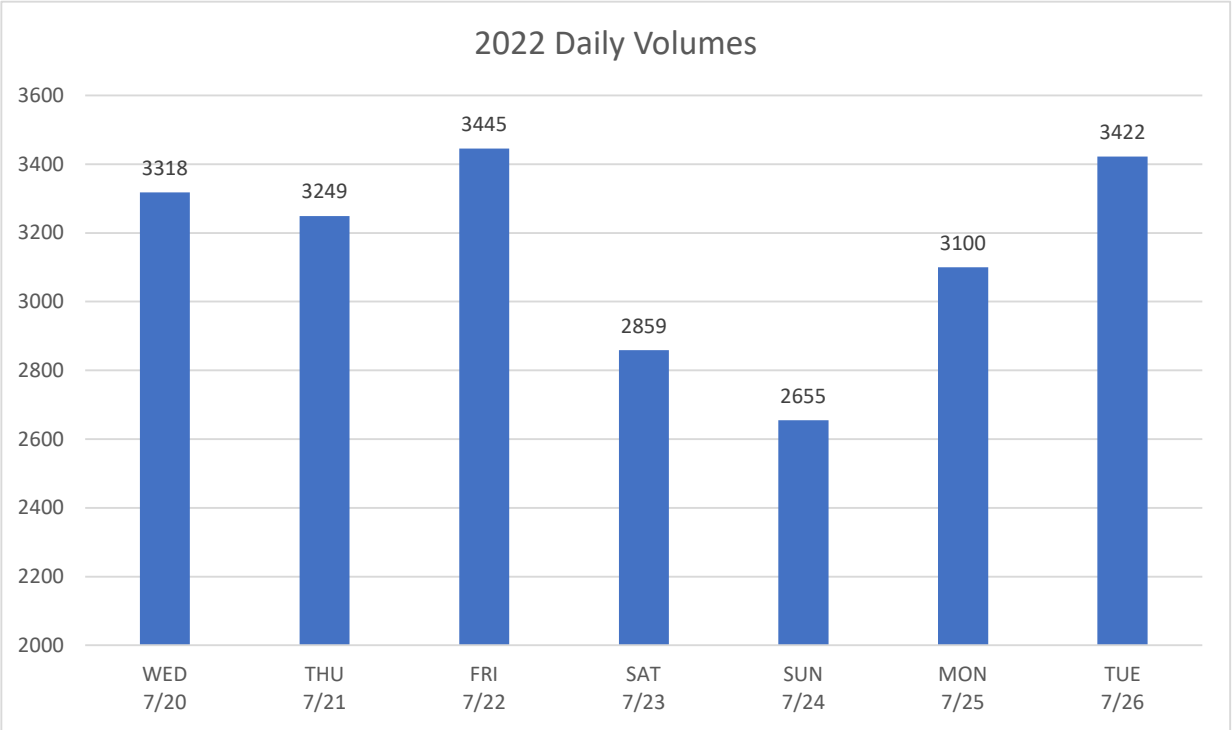


2022 Weekly Traffic Volumes on Rhinecliff Rd (NY 928M)

Hour of Day	WED 7/20	THU 7/21	FRI 7/22	SAT 7/23	SUN 7/24	MON 7/25	TUE 7/26
00-01	7	8	15	11	13	4	6
01-02	1	2	6	11	5	12	3
02-03	5	0	2	5	4	2	3
03-04	4	0	0	0	2	1	1
04-05	5	7	9	9	2	5	5
05-06	16	28	21	3	2	15	17
06-07	92	72	64	49	36	103	89
07-08	158	150	142	62	63	150	179
08-09	217	218	205	131	144	239	237
09-10	246	219	240	172	158	249	202
10-11	247	225	232	194	218	198	197
11-12	206	200	214	204	204	172	210
12-13	269	215	248	278	231	244	285
13-14	249	260	265	243	214	232	234
14-15	210	192	231	230	246	216	222
15-16	230	247	275	243	200	250	269
16-17	255	260	276	190	187	234	300
17-18	242	213	254	221	164	210	240
18-19	167	245	226	156	140	163	204
19-20	178	186	207	160	159	148	184
20-21	145	131	119	130	107	143	160
21-22	103	89	94	87	83	55	94
22-23	46	59	70	39	34	37	62
23-24	20	23	30	31	39	18	19
TOTAL	3318	3249	3445	2859	2655	3100	3422

Tue-Thu Average	Sat-Sun Average
7	12
2	8
3	5
2	1
6	6
20	3
84	43
162	63
224	138
222	165
223	206
205	204
256	255
248	229
208	238
249	222
272	189
232	193
205	148
183	160
145	119
95	85
56	37
21	35
3330	2764

2022 Weekly Traffic Volumes on Rhinecliff Rd (NY 928M)



Adjustments to 2021 Data for 2022 Volumes

Location 4 - US Rte 9 & E/W Market St

Peak Hour	Year	NB			SB			EB			WB			Total
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
AM	2021	51	291	14	29	256	43	33	47	30	28	67	60	949
	2022	48	287	26	50	234	65	50	85	51	32	104	62	1094
Percent Change =		-6%	-1%	86%	72%	-9%	51%	52%	81%	70%	14%	55%	3%	15%
Percent Change =		1%			6%			69%			28%			

Peak Hour	Year	NB			SB			EB			WB			Total
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	
PM	2021	35	291	36	56	332	39	58	86	57	47	73	81	1191
	2022	49	287	29	78	283	57	81	91	67	40	92	98	1252
Percent Change =		40%	-1%	-19%	39%	-15%	46%	40%	6%	18%	-15%	26%	21%	5%
Percent Change =		1%			-2%			19%			14%			

Location 1 - Astor Dr & Wells Manor Ln

Peak Hour	Year	NB			SB			EB			WB		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	2021	1	-	7	-	-	-	-	22	1	7	27	-
	Adjustment	15%	-	15%	-	-	-	-	15%	15%	15%	15%	-
	2022	1	-	8	-	-	-	-	25	1	8	31	-
PM	2021	2	-	3	-	-	-	-	33	0	11	22	-
	Adjustment	5%	-	5%	-	-	-	-	5%	5%	5%	5%	-
	2022	2	-	3	-	-	-	-	33	0	11	22	-

Location 2 - Astor Dr & Montgomery St

Peak Hour	Year	NB			SB			EB			WB		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	2021	48	181	-	-	180	14	13	-	26	-	-	-
	Adjustment	15%	15%	-	-	15%	15%	15%	-	15%	-	-	-
	2022	55	209	-	-	208	16	15	-	30	-	-	-
PM	2021	33	190	-	-	239	9	10	-	39	-	-	-
	Adjustment	5%	5%	-	-	5%	5%	5%	-	5%	-	-	-
	2022	33	190	-	-	239	9	10	-	39	-	-	-

Location 3 - US Rte 9 & Montgomery St

Peak Hour	Year	NB			SB			EB			WB		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	2021	190	262	-	-	245	37	34	-	163	-	-	-
	Adjustment	1%	1%	-	-	6%	6%	15%	-	15%	-	-	-
	2022	193	266	-	-	261	39	39	-	188	-	-	-
PM	2021	181	340	-	-	339	39	49	-	228	-	-	-
	Adjustment	1%	1%	-	-	0%	0%	5%	-	5%	-	-	-
	2022	183	343	-	-	339	39	52	-	240	-	-	-

Location 5 - W Market St & Traver Ln

Peak Hour	Year	NB			SB			EB			WB		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
AM	2022	10	0	45	0	0	0	0	135	7	48	118	0
PM	2022	18	0	80	0	0	1	0	113	12	77	102	0

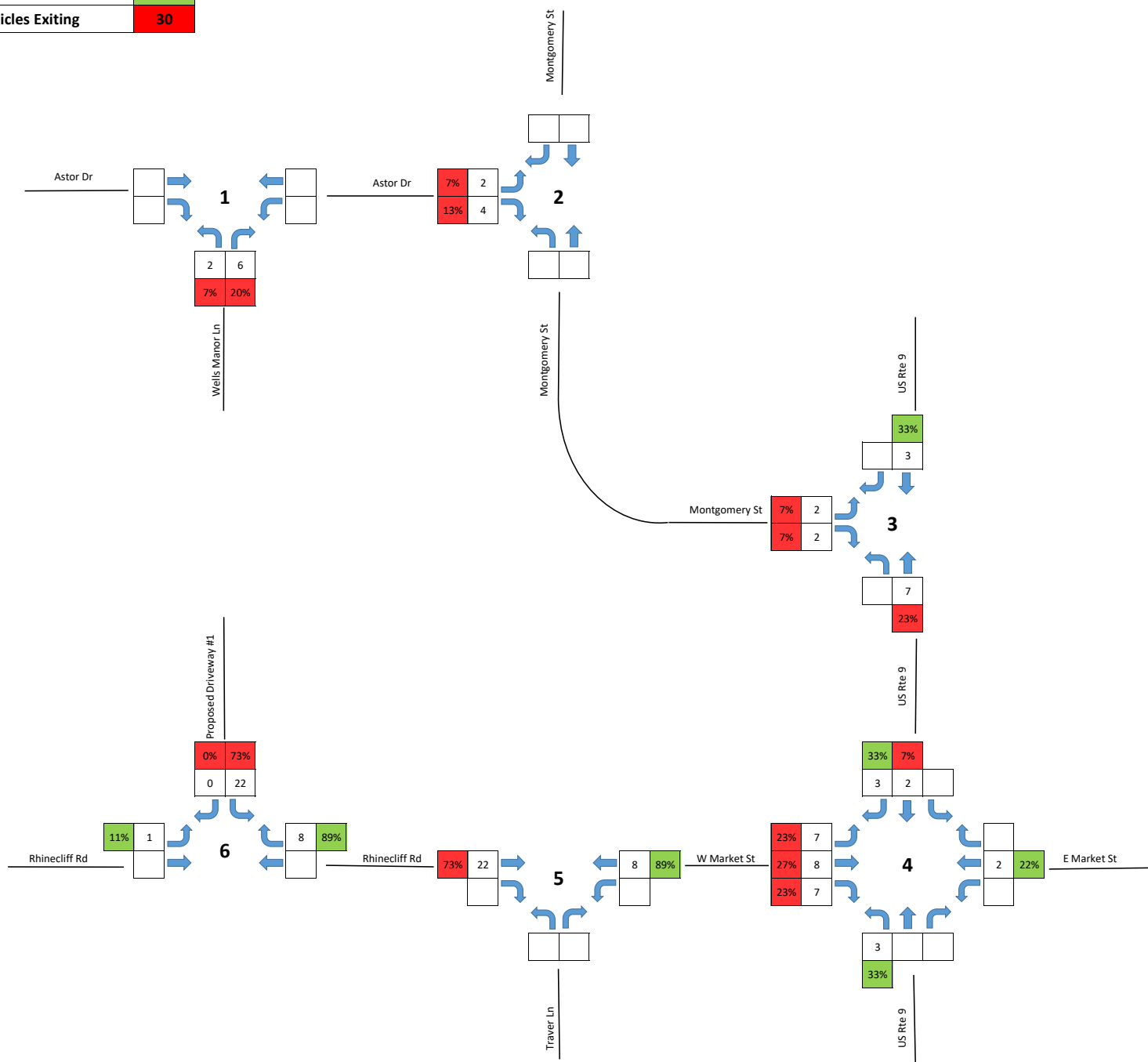
APPENDIX C
Site Traffic Distribution

ITE Trip Generation Calculations

ITE Code	ITE Description	Vehicle Trip Ends vs:	Variable	On a:	Entering	Exiting	Average Rate Calculations				Fitted Curve Equation Calculations				
							Average Rate	Entering	Exiting	Total	Fitted Curve Equation	Entering	Exiting	Total	
220	Multifamily Housing (Low-Rise)	Dwelling Units	80	Weekday	General	50%	50%	7.32	293	293	586	T = 7.56 (X) - 40.86	282	282	564
				Weekday	PEAK HOUR - 7 to 9 AM of adjacent street traffic	23%	77%	0.46	8	28	36	Ln(T) = 0.95 Ln(X) - 0.51	9	30	39
				Weekday	PEAK HOUR - 4 to 6 PM of adjacent street traffic	63%	37%	0.56	28	17	45	Ln(T) = 0.89 Ln(X) - 0.02	31	18	49
				Weekday	AM Peak Hour of Generator	28%	72%	0.56	13	32	45	Ln(T) = 0.94 Ln(X) - 0.29	13	33	46
				Weekday	PM Peak Hour of Generator	59%	41%	0.67	32	22	54	T = 0.66 (X) + 1.41	32	22	54
				Saturday	General	50%	50%	8.14	326	326	652	T = 14.01 (X) - 521.69	300	300	600
				Saturday	Peak Hour of Generator	50%	50%	0.70	28	28	56	T = 1.08 (X) - 33.24	27	27	54
				Sunday	General	50%	50%	6.28	251	251	502	T = 10.13 (X) - 341.89	234	234	468
				Sunday	Peak Hour of Generator	50%	50%	0.67	27	27	54	T = 1.12 (X) - 40.41	25	25	50

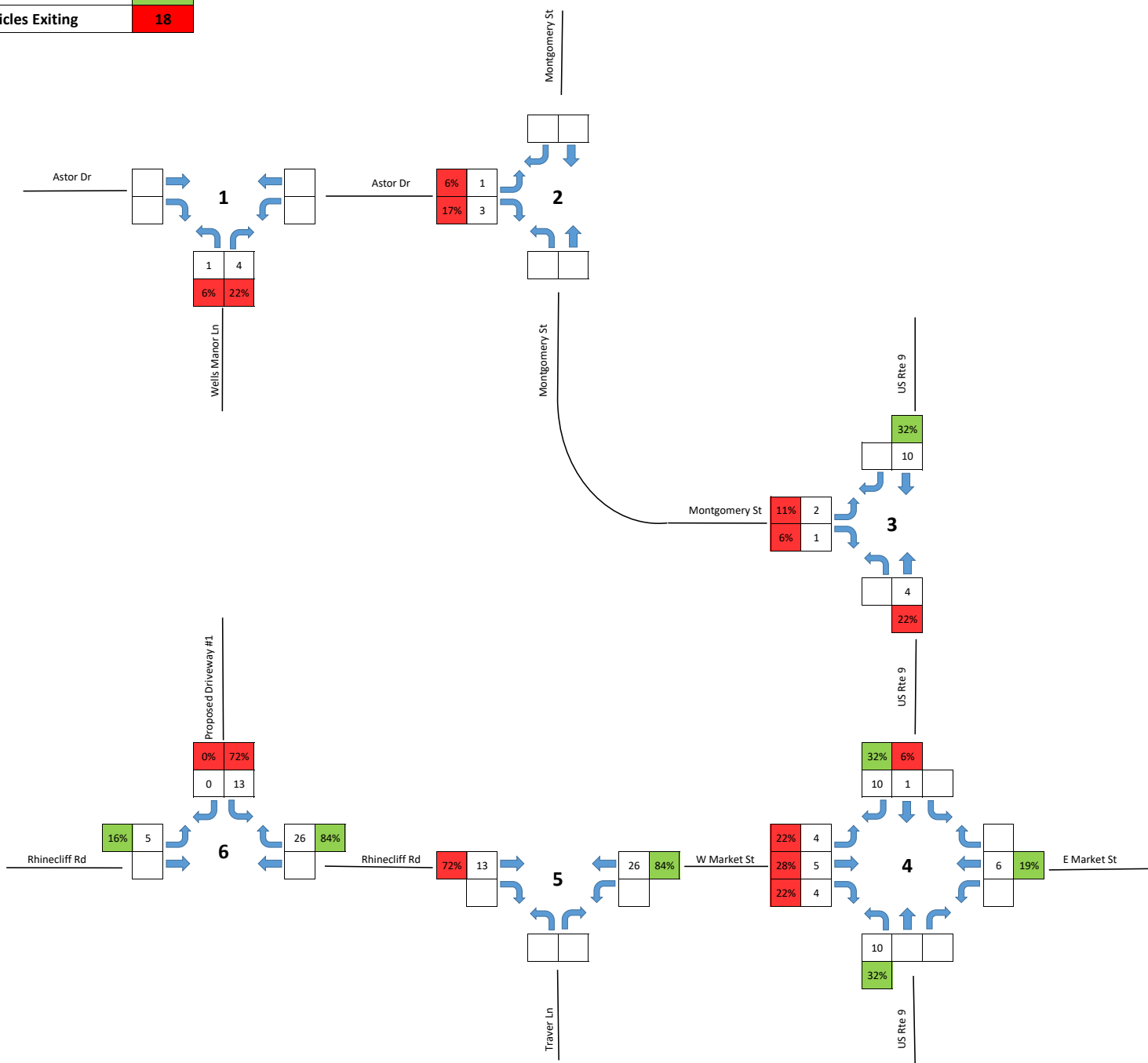
Trip Distribution

AM Peak Hour	
Vehicles Entering	9
Vehicles Exiting	30



Trip Distribution

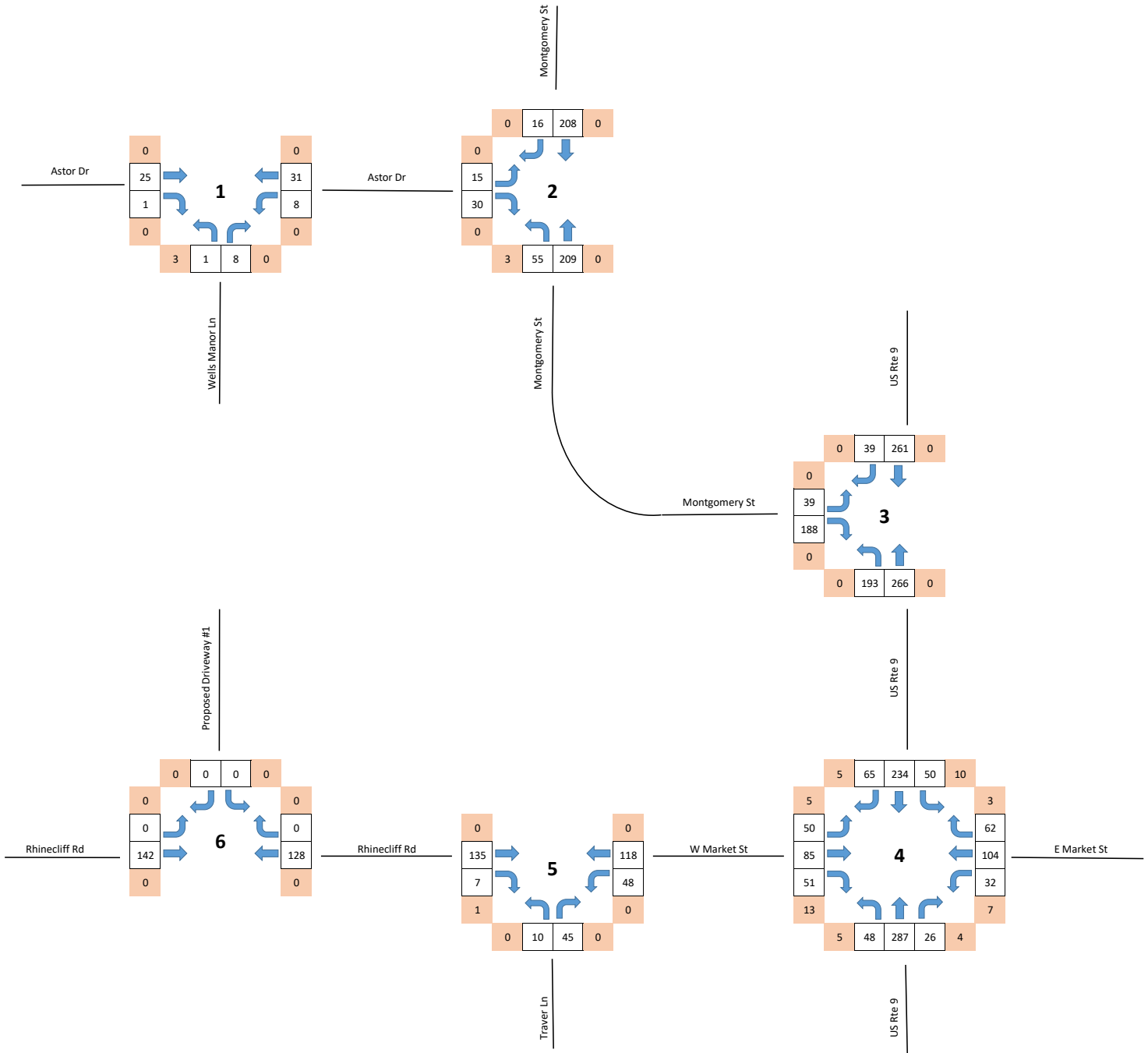
PM Peak Hour	
Vehicles Entering	31
Vehicles Exiting	18



APPENDIX D
Volume Diagrams

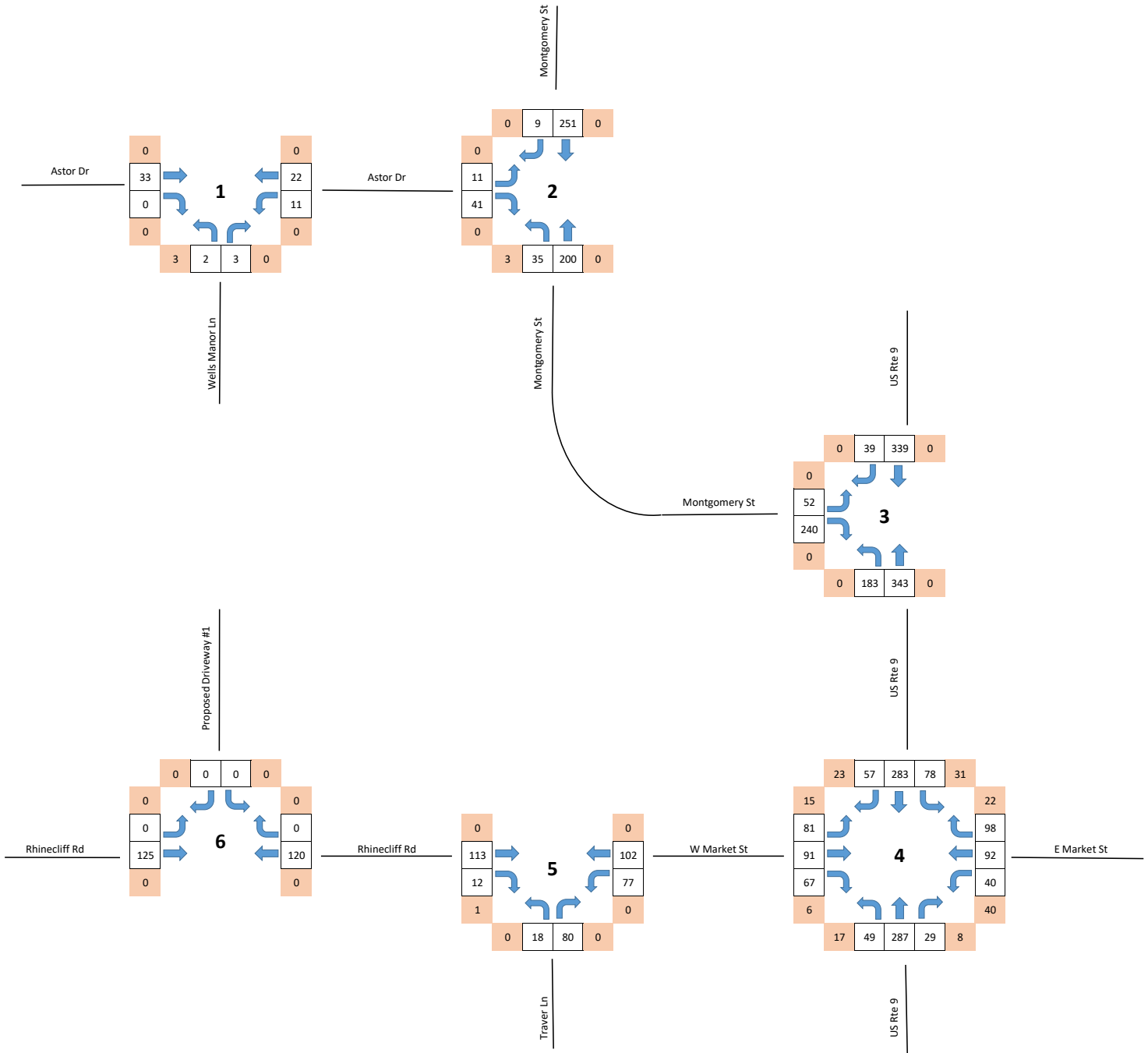
Existing Traffic Volumes

AM Peak Hour
Original Data: 2022



Existing Traffic Volumes

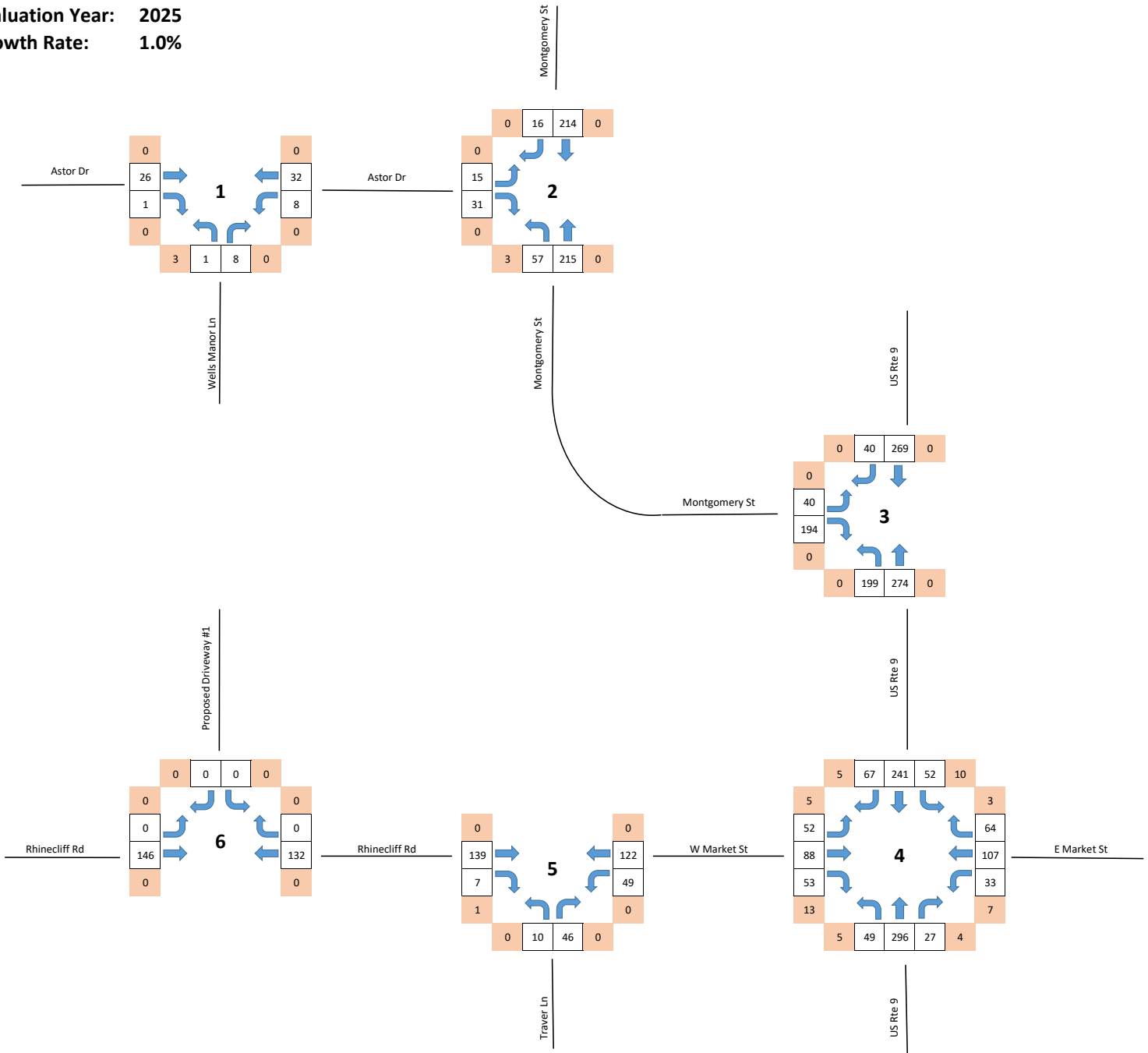
PM Peak Hour
Original Data: 2022



No Build Conditions

AM Peak Hour

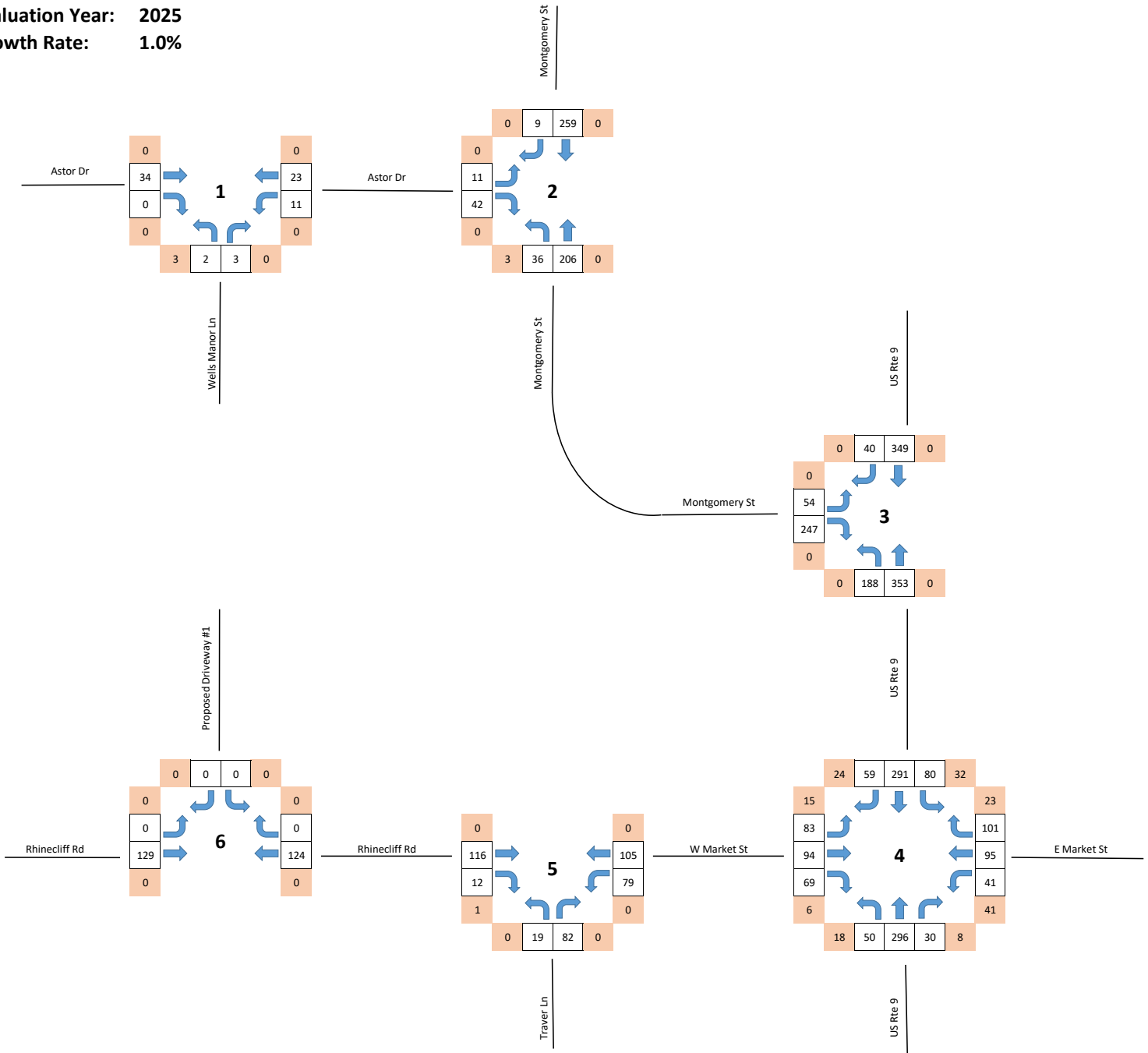
Original Data: 2022
 Evaluation Year: 2025
 Growth Rate: 1.0%



No Build Conditions

PM Peak Hour

Original Data: 2022
Evaluation Year: 2025
Growth Rate: 1.0%



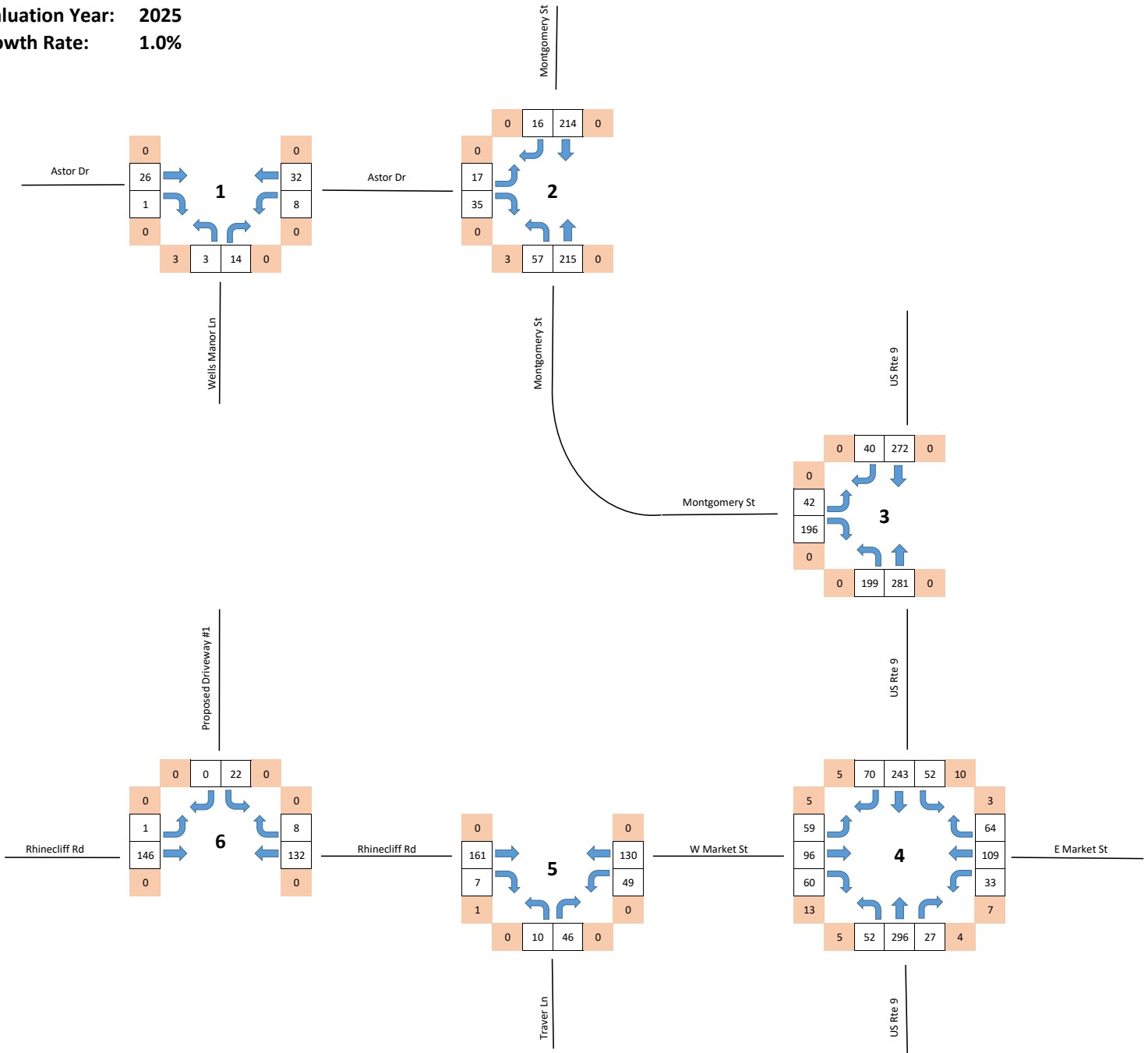
Build (ETC) Conditions

AM Peak Hour

Original Data: 2022

Evaluation Year: 2025

Growth Rate: 1.0%



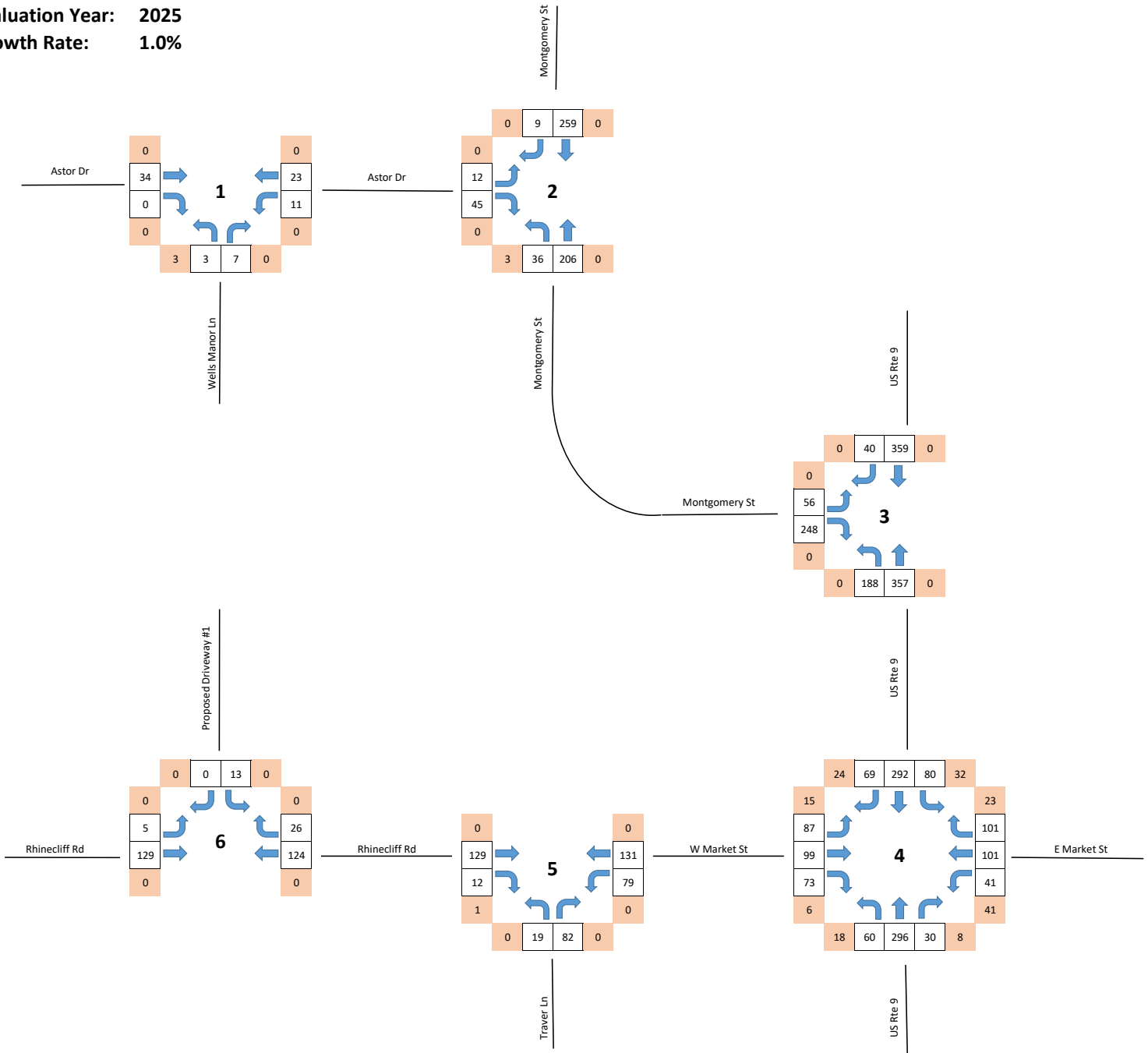
Build (ETC) Conditions

PM Peak Hour

Original Data: 2022

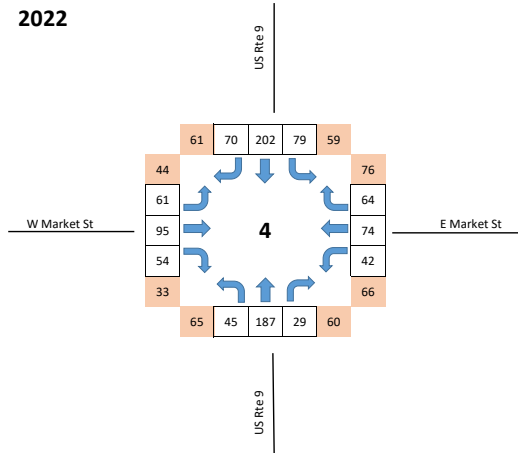
Evaluation Year: 2025

Growth Rate: 1.0%

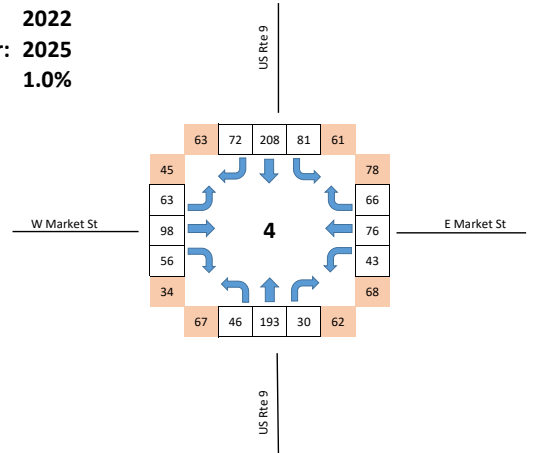


SATURDAY Volumes
Location 4 - US Rte 9 & E/W Market St

Existing Traffic Volumes
Original Data: 2022

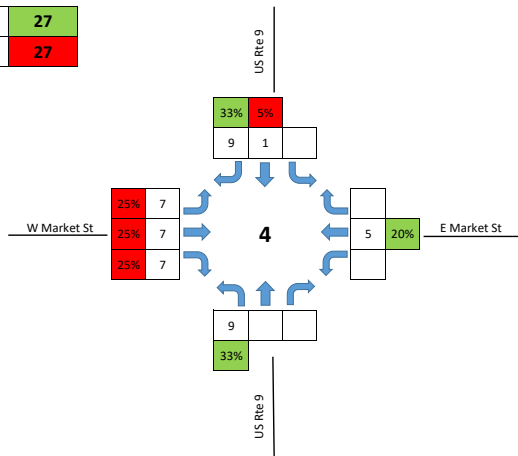


No-Bulid Traffic Volumes
Original Data: 2022
Evaluation Year: 2025
Growth Rate: 1.0%

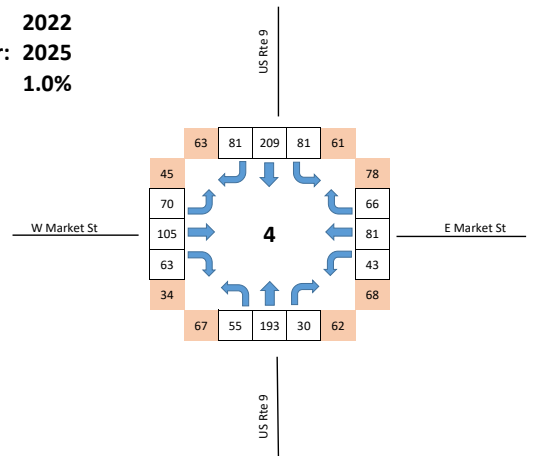


Trip Distribution

Vehicles Entering	27
Vehicles Exiting	27



Bulid (ETC) Traffic Volumes
Original Data: 2022
Evaluation Year: 2025
Growth Rate: 1.0%



APPENDIX E

Synchro Reports

Level of Service (LOS) and Delay

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	1	8	31	1	8
Future Vol, veh/h	25	1	8	31	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	27	1	9	34	1	9

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	28	0	80
Stage 1	-	-	-	-	28
Stage 2	-	-	-	-	52
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1599	-	927
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	976
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1599	-	921
Mov Cap-2 Maneuver	-	-	-	-	921
Stage 1	-	-	-	-	1000
Stage 2	-	-	-	-	970

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1036	-	-	1599	-
HCM Lane V/C Ratio	0.009	-	-	0.005	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	15	30	55	209	208	16
Future Vol, veh/h	15	30	55	209	208	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	33	60	227	226	17

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	582	235	243	0	0
Stage 1	235	-	-	-	-
Stage 2	347	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	475	804	1323	-	-
Stage 1	804	-	-	-	-
Stage 2	716	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	450	804	1323	-	-
Mov Cap-2 Maneuver	450	-	-	-	-
Stage 1	762	-	-	-	-
Stage 2	716	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1323	-	637	-	-
HCM Lane V/C Ratio	0.045	-	0.077	-	-
HCM Control Delay (s)	7.8	0	11.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	188	193	266	261	39
Future Vol, veh/h	39	188	193	266	261	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	204	210	289	284	42

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1014	305	326	0	-	0
Stage 1	305	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	264	735	1234	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	210	735	1234	-	-	-
Mov Cap-2 Maneuver	210	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	488	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	3.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1234	-	210	735	-	-
HCM Lane V/C Ratio	0.17	-	0.202	0.278	-	-
HCM Control Delay (s)	8.5	0	26.4	11.8	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.7	1.1	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	50	85	51	32	104	62	48	287	26	50	234	65
Future Volume (vph)	50	85	51	32	104	62	48	287	26	50	234	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00			0.99	
Frt		0.959			0.958			0.990			0.975	
Flt Protected		0.987			0.992			0.993			0.993	
Satd. Flow (prot)	0	3318	0	0	1745	0	0	1826	0	0	1786	0
Flt Permitted		0.853			0.899			0.912			0.903	
Satd. Flow (perm)	0	2854	0	0	1578	0	0	1674	0	0	1622	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	15		9	9		15	18		10	10		18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	92	55	35	113	67	52	312	28	54	254	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	201	0	0	215	0	0	392	0	0	379	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
AM Peak Hour

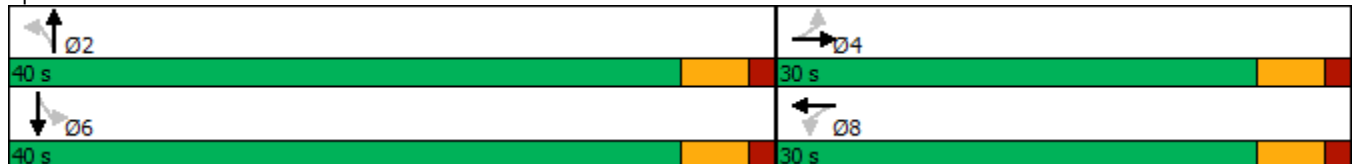


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.4			10.7			18.3			18.3	
Actuated g/C Ratio		0.31			0.31			0.54			0.54	
v/c Ratio		0.23			0.44			0.43			0.43	
Control Delay		10.9			14.1			9.8			9.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.9			14.1			9.8			9.9	
LOS		B			B			A			A	
Approach Delay		10.9			14.1			9.8			9.9	
Approach LOS		B			B			A			A	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	34
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.44
Intersection Signal Delay:	10.8
Intersection LOS:	B
Intersection Capacity Utilization:	60.9%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	135	7	48	118	10	45
Future Vol, veh/h	135	7	48	118	10	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	147	8	52	128	11	49

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	155	0	383 151
Stage 1	-	-	-	-	151 -
Stage 2	-	-	-	-	232 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1425	-	620 895
Stage 1	-	-	-	-	877 -
Stage 2	-	-	-	-	807 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1425	-	596 895
Mov Cap-2 Maneuver	-	-	-	-	596 -
Stage 1	-	-	-	-	877 -
Stage 2	-	-	-	-	776 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	820	-	-	1425	-
HCM Lane V/C Ratio	0.073	-	-	0.037	-
HCM Control Delay (s)	9.7	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	33	0	11	22	2	3
Future Vol, veh/h	33	0	11	22	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	0	12	24	2	3

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	36	0	84 36
Stage 1	-	-	-	-	36 -
Stage 2	-	-	-	-	48 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1588	-	923 1042
Stage 1	-	-	-	-	992 -
Stage 2	-	-	-	-	980 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1588	-	916 1042
Mov Cap-2 Maneuver	-	-	-	-	916 -
Stage 1	-	-	-	-	992 -
Stage 2	-	-	-	-	972 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	988	-	-	1588	-
HCM Lane V/C Ratio	0.006	-	-	0.008	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	11	41	35	200	251	9
Future Vol, veh/h	11	41	35	200	251	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	45	38	217	273	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	571	278	283	0	-	0
Stage 1	278	-	-	-	-	-
Stage 2	293	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	482	761	1279	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	757	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	466	761	1279	-	-	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1279	-	671	-	-
HCM Lane V/C Ratio	0.03	-	0.084	-	-
HCM Control Delay (s)	7.9	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	5.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	240	183	343	339	39
Future Vol, veh/h	52	240	183	343	339	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	261	199	373	368	42

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1160	389	410	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	216	659	1149	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	456	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	169	659	1149	-	-	-
Mov Cap-2 Maneuver	169	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	456	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	3.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1149	-	169	659	-	-
HCM Lane V/C Ratio	0.173	-	0.334	0.396	-	-
HCM Control Delay (s)	8.8	0	36.6	14	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	0.6	-	1.4	1.9	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	81	91	67	40	92	98	49	287	29	78	283	57
Future Volume (vph)	81	91	67	40	92	98	49	287	29	78	283	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.95			0.99			0.98	
Frt		0.958			0.942			0.989			0.982	
Flt Protected		0.983			0.991			0.993			0.991	
Satd. Flow (prot)	0	3274	0	0	1655	0	0	1811	0	0	1799	0
Flt Permitted		0.796			0.898			0.899			0.865	
Satd. Flow (perm)	0	2599	0	0	1492	0	0	1636	0	0	1555	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	54		25	25		54	21		62	62		21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	88	99	73	43	100	107	53	312	32	85	308	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	260	0	0	250	0	0	397	0	0	455	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
PM Peak Hour

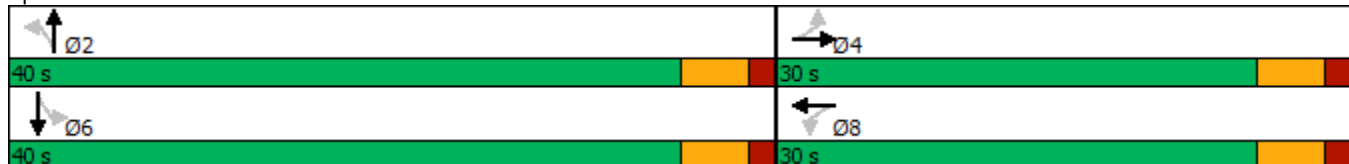


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.0			13.0			19.1			19.1	
Actuated g/C Ratio		0.30			0.30			0.45			0.45	
v/c Ratio		0.33			0.55			0.54			0.66	
Control Delay		13.8			19.0			12.4			15.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.8			19.0			12.4			15.1	
LOS		B			B			B			B	
Approach Delay		13.8			19.0			12.4			15.1	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	42.9
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.66
Intersection Signal Delay:	14.8
Intersection LOS:	B
Intersection Capacity Utilization:	75.9%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	12	77	102	18	80
Future Vol, veh/h	113	12	77	102	18	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	13	84	111	20	87

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	136	0	409
Stage 1	-	-	-	-	130
Stage 2	-	-	-	-	279
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1448	-	599
Stage 1	-	-	-	-	896
Stage 2	-	-	-	-	768
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1448	-	562
Mov Cap-2 Maneuver	-	-	-	-	562
Stage 1	-	-	-	-	896
Stage 2	-	-	-	-	720

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	824	-	-	1448	-
HCM Lane V/C Ratio	0.129	-	-	0.058	-
HCM Control Delay (s)	10	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.2	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
SATURDAY Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	61	95	54	42	74	64	45	187	29	79	202	70
Future Volume (vph)	61	95	54	42	74	64	45	187	29	79	202	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.90			0.88			0.96			0.94	
Frt		0.961			0.952			0.985			0.973	
Flt Protected		0.986			0.988			0.991			0.989	
Satd. Flow (prot)	0	3150	0	0	1611	0	0	1764	0	0	1738	0
Flt Permitted		0.849			0.851			0.892			0.867	
Satd. Flow (perm)	0	2598	0	0	1336	0	0	1570	0	0	1472	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	120		125	125		120	77		142	142		77
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	103	59	46	80	70	49	203	32	86	220	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	228	0	0	196	0	0	284	0	0	382	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Existing Conditions
SATURDAY Peak Hour

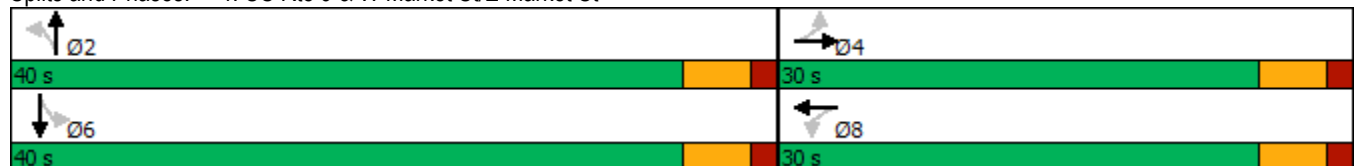


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.4			11.5			20.0			20.0	
Actuated g/C Ratio		0.31			0.32			0.55			0.55	
v/c Ratio		0.28			0.46			0.33			0.47	
Control Delay		12.1			16.2			9.1			10.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.1			16.2			9.1			10.9	
LOS		B			B			A			B	
Approach Delay		12.1			16.2			9.1			10.9	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	36.3
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.47
Intersection Signal Delay:	11.6
Intersection LOS:	B
Intersection Capacity Utilization:	75.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	26	1	8	32	1	8
Future Vol, veh/h	26	1	8	32	1	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	1	9	35	1	9

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	29	82
Stage 1	-	-	-	29
Stage 2	-	-	-	53
Critical Hdwy	-	-	4.1	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	3.5
Pot Cap-1 Maneuver	-	-	1597	925
Stage 1	-	-	-	999
Stage 2	-	-	-	975
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1597	919
Mov Cap-2 Maneuver	-	-	-	919
Stage 1	-	-	-	999
Stage 2	-	-	-	969

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1035	-	-	1597	-
HCM Lane V/C Ratio	0.009	-	-	0.005	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	15	31	57	215	214	16
Future Vol, veh/h	15	31	57	215	214	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	34	62	234	233	17

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	600	242	250	0	0
Stage 1	242	-	-	-	-
Stage 2	358	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	464	797	1316	-	-
Stage 1	798	-	-	-	-
Stage 2	707	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	439	797	1316	-	-
Mov Cap-2 Maneuver	439	-	-	-	-
Stage 1	755	-	-	-	-
Stage 2	707	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1316	-	630	-	-
HCM Lane V/C Ratio	0.047	-	0.079	-	-
HCM Control Delay (s)	7.9	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	194	199	274	269	40
Future Vol, veh/h	40	194	199	274	269	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	211	216	298	292	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1044	314	335	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	730	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	254	726	1224	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	477	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	200	726	1224	-	-	-
Mov Cap-2 Maneuver	200	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	3.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1224	-	200	726	-	-
HCM Lane V/C Ratio	0.177	-	0.217	0.29	-	-
HCM Control Delay (s)	8.6	0	27.9	12	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.8	1.2	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	52	88	53	33	107	64	49	296	27	52	241	67
Future Volume (vph)	52	88	53	33	107	64	49	296	27	52	241	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00			0.99	
Frt		0.959			0.957			0.990			0.975	
Flt Protected		0.987			0.992			0.993			0.993	
Satd. Flow (prot)	0	3317	0	0	1743	0	0	1826	0	0	1786	0
Flt Permitted		0.848			0.898			0.911			0.898	
Satd. Flow (perm)	0	2837	0	0	1575	0	0	1672	0	0	1614	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	15		9	9		15	18		10	10		18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	57	96	58	36	116	70	53	322	29	57	262	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	211	0	0	222	0	0	404	0	0	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
AM Peak Hour

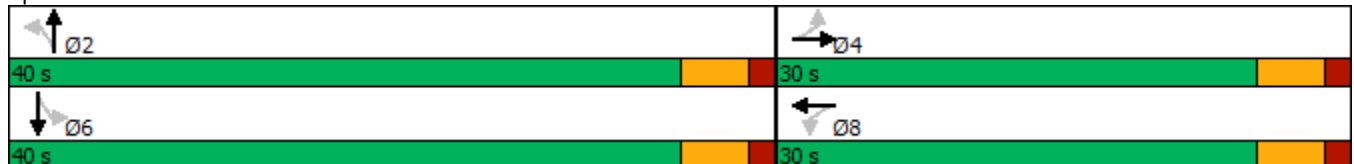


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		10.8			11.1			19.0			19.0	
Actuated g/C Ratio		0.31			0.32			0.55			0.55	
v/c Ratio		0.24			0.44			0.44			0.45	
Control Delay		11.3			14.5			10.0			10.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.3			14.5			10.0			10.1	
LOS		B			B			A			B	
Approach Delay		11.3			14.5			10.0			10.1	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	34.8
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	11.1
Intersection LOS:	B
Intersection Capacity Utilization	62.2%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	7	49	122	10	46
Future Vol, veh/h	139	7	49	122	10	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	151	8	53	133	11	50

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	159	394
Stage 1	-	-	-	155
Stage 2	-	-	-	239
Critical Hdwy	-	-	4.12	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	3.518
Pot Cap-1 Maneuver	-	-	1420	891
Stage 1	-	-	-	873
Stage 2	-	-	-	801
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1420	891
Mov Cap-2 Maneuver	-	-	-	587
Stage 1	-	-	-	873
Stage 2	-	-	-	769

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	816	-	-	1420	-
HCM Lane V/C Ratio	0.075	-	-	0.038	-
HCM Control Delay (s)	9.8	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	0	11	23	2	3
Future Vol, veh/h	34	0	11	23	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	0	12	25	2	3

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	37	0	86 37
Stage 1	-	-	-	-	37 -
Stage 2	-	-	-	-	49 -
Critical Hdwy	-	-	4.1	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	-	-	2.2	-	3.5 3.3
Pot Cap-1 Maneuver	-	-	1587	-	920 1041
Stage 1	-	-	-	-	991 -
Stage 2	-	-	-	-	979 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1587	-	913 1041
Mov Cap-2 Maneuver	-	-	-	-	913 -
Stage 1	-	-	-	-	991 -
Stage 2	-	-	-	-	971 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	986	-	-	1587	-
HCM Lane V/C Ratio	0.006	-	-	0.008	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	11	42	36	206	259	9
Future Vol, veh/h	11	42	36	206	259	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	46	39	224	282	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	589	287	292	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	471	752	1270	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	455	752	1270	-	-	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	662	-	-
HCM Lane V/C Ratio	0.031	-	0.087	-	-
HCM Control Delay (s)	7.9	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	247	188	353	349	40
Future Vol, veh/h	54	247	188	353	349	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	268	204	384	379	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1193	401	422	0	-	0
Stage 1	401	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	206	649	1137	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	159	649	1137	-	-	-
Mov Cap-2 Maneuver	159	-	-	-	-	-
Stage 1	522	-	-	-	-	-
Stage 2	446	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	3.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1137	-	159	649	-	-
HCM Lane V/C Ratio	0.18	-	0.369	0.414	-	-
HCM Control Delay (s)	8.9	0	40.3	14.4	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	0.7	-	1.6	2	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	83	94	69	41	95	101	50	296	30	80	291	59
Future Volume (vph)	83	94	69	41	95	101	50	296	30	80	291	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.95			0.99			0.98	
Frt		0.958			0.942			0.989			0.981	
Flt Protected		0.983			0.991			0.993			0.991	
Satd. Flow (prot)	0	3272	0	0	1653	0	0	1810	0	0	1797	0
Flt Permitted		0.788			0.895			0.898			0.865	
Satd. Flow (perm)	0	2571	0	0	1485	0	0	1634	0	0	1553	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	56		26	26		56	21		64	64		21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	102	75	45	103	110	54	322	33	87	316	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	267	0	0	258	0	0	409	0	0	467	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
PM Peak Hour

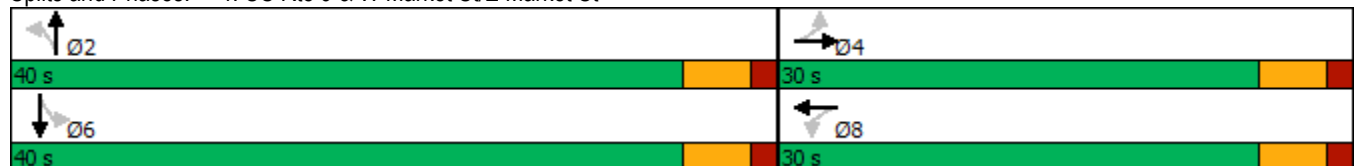


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.5			13.5			19.9			19.9	
Actuated g/C Ratio		0.31			0.31			0.45			0.45	
v/c Ratio		0.34			0.57			0.56			0.67	
Control Delay		14.2			19.8			12.8			15.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.2			19.8			12.8			15.6	
LOS		B			B			B			B	
Approach Delay		14.2			19.8			12.8			15.6	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	44.2
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	15.3
Intersection LOS:	B
Intersection Capacity Utilization:	77.3%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	12	79	105	19	82
Future Vol, veh/h	116	12	79	105	19	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	126	13	86	114	21	89

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	139	0	419
Stage 1	-	-	-	-	133
Stage 2	-	-	-	-	286
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1445	-	591
Stage 1	-	-	-	-	893
Stage 2	-	-	-	-	763
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1445	-	553
Mov Cap-2 Maneuver	-	-	-	-	553
Stage 1	-	-	-	-	893
Stage 2	-	-	-	-	714

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	815	-	-	1445	-
HCM Lane V/C Ratio	0.135	-	-	0.059	-
HCM Control Delay (s)	10.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
SATURDAY Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	63	98	56	43	76	66	46	193	30	81	208	72
Future Volume (vph)	63	98	56	43	76	66	46	193	30	81	208	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.90			0.88			0.96			0.94	
Frt		0.961			0.952			0.985			0.973	
Flt Protected		0.986			0.989			0.992			0.989	
Satd. Flow (prot)	0	3144	0	0	1608	0	0	1765	0	0	1737	0
Flt Permitted		0.846			0.850			0.891			0.865	
Satd. Flow (perm)	0	2583	0	0	1330	0	0	1567	0	0	1467	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	124		129	129		124	79		146	146		79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	107	61	47	83	72	50	210	33	88	226	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	236	0	0	202	0	0	293	0	0	392	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

No-Build Conditions
SATURDAY Peak Hour

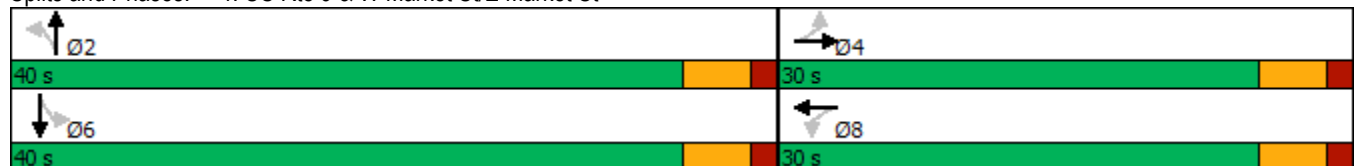


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.8			11.9			20.4			20.4	
Actuated g/C Ratio		0.32			0.32			0.55			0.55	
v/c Ratio		0.29			0.47			0.34			0.48	
Control Delay		12.3			16.5			9.3			11.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.3			16.5			9.3			11.2	
LOS		B			B			A			B	
Approach Delay		12.3			16.5			9.3			11.2	
Approach LOS		B			B			A			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	37
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay:	11.9
Intersection LOS:	B
Intersection Capacity Utilization	76.0%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	26	1	8	32	3	14
Future Vol, veh/h	26	1	8	32	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	28	1	9	35	3	15

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	29	0
Stage 1	-	-	-	29
Stage 2	-	-	-	53
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-
Pot Cap-1 Maneuver	-	-	1597	-
Stage 1	-	-	-	999
Stage 2	-	-	-	975
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1597	-
Mov Cap-2 Maneuver	-	-	-	919
Stage 1	-	-	-	999
Stage 2	-	-	-	969

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1026	-	-	1597	-
HCM Lane V/C Ratio	0.018	-	-	0.005	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	35	57	215	214	16
Future Vol, veh/h	17	35	57	215	214	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	38	62	234	233	17

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	600	242	250	0	0
Stage 1	242	-	-	-	-
Stage 2	358	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	464	797	1316	-	-
Stage 1	798	-	-	-	-
Stage 2	707	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	439	797	1316	-	-
Mov Cap-2 Maneuver	439	-	-	-	-
Stage 1	755	-	-	-	-
Stage 2	707	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1316	-	629	-	-
HCM Lane V/C Ratio	0.047	-	0.09	-	-
HCM Control Delay (s)	7.9	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	196	199	281	272	40
Future Vol, veh/h	42	196	199	281	272	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	213	216	305	296	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1055	318	339	0	-	0
Stage 1	318	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	250	723	1220	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	197	723	1220	-	-	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	3.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1220	-	197	723	-	-
HCM Lane V/C Ratio	0.177	-	0.232	0.295	-	-
HCM Control Delay (s)	8.6	0	28.7	12	-	-
HCM Lane LOS	A	A	D	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.9	1.2	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	59	96	60	33	109	64	52	296	27	52	243	70
Future Volume (vph)	59	96	60	33	109	64	52	296	27	52	243	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.98			1.00			0.99	
Frt		0.958			0.958			0.990			0.974	
Flt Protected		0.986			0.992			0.993			0.993	
Satd. Flow (prot)	0	3310	0	0	1745	0	0	1826	0	0	1784	0
Flt Permitted		0.844			0.895			0.903			0.899	
Satd. Flow (perm)	0	2820	0	0	1571	0	0	1657	0	0	1613	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	15		9	9		15	18		10	10		18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	104	65	36	118	70	57	322	29	57	264	76
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	233	0	0	224	0	0	408	0	0	397	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
AM Peak Hour

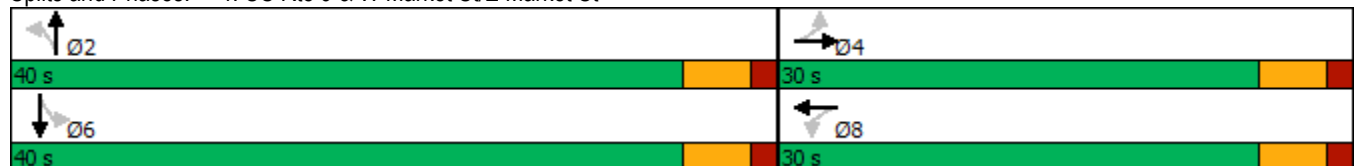


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.0			11.2			19.2			19.2	
Actuated g/C Ratio		0.31			0.32			0.55			0.55	
v/c Ratio		0.26			0.45			0.45			0.45	
Control Delay		11.5			14.7			10.1			10.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.5			14.7			10.1			10.2	
LOS		B			B			B			B	
Approach Delay		11.5			14.7			10.1			10.2	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	35.1
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay:	11.2
Intersection LOS:	B
Intersection Capacity Utilization:	62.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	161	7	49	130	10	46
Future Vol, veh/h	161	7	49	130	10	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	8	53	141	11	50

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	183	0	426
Stage 1	-	-	-	-	179
Stage 2	-	-	-	-	247
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1392	-	585
Stage 1	-	-	-	-	852
Stage 2	-	-	-	-	794
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1392	-	561
Mov Cap-2 Maneuver	-	-	-	-	561
Stage 1	-	-	-	-	852
Stage 2	-	-	-	-	761

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	788	-	-	1392	-
HCM Lane V/C Ratio	0.077	-	-	0.038	-
HCM Control Delay (s)	10	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	146	132	8	22	0
Future Vol, veh/h	1	146	132	8	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	159	143	9	24	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	152	0	-	0	309 148
Stage 1	-	-	-	-	148 -
Stage 2	-	-	-	-	161 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1429	-	-	-	683 899
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	868 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1429	-	-	-	682 899
Mov Cap-2 Maneuver	-	-	-	-	682 -
Stage 1	-	-	-	-	879 -
Stage 2	-	-	-	-	868 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	682
HCM Lane V/C Ratio	0.001	-	-	-	0.035
HCM Control Delay (s)	7.5	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	0	11	23	3	7
Future Vol, veh/h	34	0	11	23	3	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	37	0	12	25	3	8

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	37	86
Stage 1	-	-	-	37
Stage 2	-	-	-	49
Critical Hdwy	-	-	4.1	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	3.5
Pot Cap-1 Maneuver	-	-	1587	920
Stage 1	-	-	-	991
Stage 2	-	-	-	979
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1587	913
Mov Cap-2 Maneuver	-	-	-	913
Stage 1	-	-	-	991
Stage 2	-	-	-	971

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	8.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	999	-	-	1587	-
HCM Lane V/C Ratio	0.011	-	-	0.008	-
HCM Control Delay (s)	8.6	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	45	36	206	259	9
Future Vol, veh/h	12	45	36	206	259	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	49	39	224	282	10

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	589	287	292	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	471	752	1270	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	455	752	1270	-	-	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	661	-	-
HCM Lane V/C Ratio	0.031	-	0.094	-	-
HCM Control Delay (s)	7.9	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection						
Int Delay, s/veh	6.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	248	188	357	359	40
Future Vol, veh/h	56	248	188	357	359	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	270	204	388	390	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1208	412	433	0	-	0
Stage 1	412	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	202	640	1127	-	-	-
Stage 1	669	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	155	640	1127	-	-	-
Mov Cap-2 Maneuver	155	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	444	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	3.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1127	-	155	640	-	-
HCM Lane V/C Ratio	0.181	-	0.393	0.421	-	-
HCM Control Delay (s)	8.9	0	42.5	14.7	-	-
HCM Lane LOS	A	A	E	B	-	-
HCM 95th %tile Q(veh)	0.7	-	1.7	2.1	-	-

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	87	99	73	41	101	101	60	296	30	80	292	69
Future Volume (vph)	87	99	73	41	101	101	60	296	30	80	292	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.96			0.95			0.99			0.98	
Frt		0.958			0.944			0.989			0.979	
Flt Protected		0.983			0.992			0.992			0.991	
Satd. Flow (prot)	0	3273	0	0	1660	0	0	1809	0	0	1791	0
Flt Permitted		0.775			0.895			0.878			0.867	
Satd. Flow (perm)	0	2530	0	0	1490	0	0	1597	0	0	1552	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	56		26	26		56	21		64	64		21
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	95	108	79	45	110	110	65	322	33	87	317	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	282	0	0	265	0	0	420	0	0	479	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
PM Peak Hour

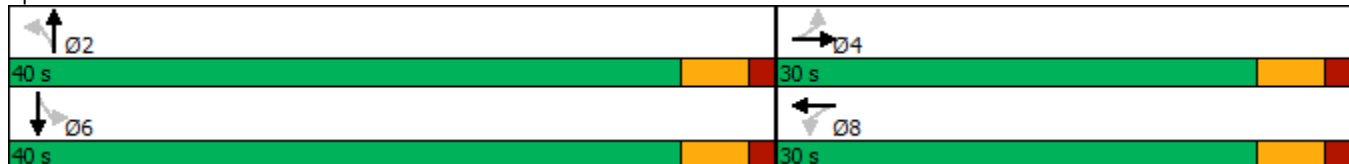


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.9			13.9			20.6			20.6	
Actuated g/C Ratio		0.31			0.31			0.45			0.45	
v/c Ratio		0.36			0.58			0.58			0.68	
Control Delay		14.8			20.4			13.3			16.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.8			20.4			13.3			16.0	
LOS		B			C			B			B	
Approach Delay		14.8			20.4			13.3			16.0	
Approach LOS		B			C			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	45.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	15.8
Intersection LOS:	B
Intersection Capacity Utilization	76.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	129	12	79	131	19	82
Future Vol, veh/h	129	12	79	131	19	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	140	13	86	142	21	89

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	153	0	461 147
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	314 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1428	-	559 900
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	741 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1428	-	523 900
Mov Cap-2 Maneuver	-	-	-	-	523 -
Stage 1	-	-	-	-	880 -
Stage 2	-	-	-	-	693 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	793	-	-	1428	-
HCM Lane V/C Ratio	0.138	-	-	0.06	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	129	124	26	13	0
Future Vol, veh/h	5	129	124	26	13	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	140	135	28	14	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	163	0	-	0	299 149
Stage 1	-	-	-	-	149 -
Stage 2	-	-	-	-	150 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1416	-	-	-	692 898
Stage 1	-	-	-	-	879 -
Stage 2	-	-	-	-	878 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1416	-	-	-	689 898
Mov Cap-2 Maneuver	-	-	-	-	689 -
Stage 1	-	-	-	-	875 -
Stage 2	-	-	-	-	878 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1416	-	-	-	689
HCM Lane V/C Ratio	0.004	-	-	-	0.021
HCM Control Delay (s)	7.6	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
SATURDAY Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕↕			↕↕	
Traffic Volume (vph)	70	105	63	43	81	66	55	193	30	81	209	81
Future Volume (vph)	70	105	63	43	81	66	55	193	30	81	209	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.90			0.89			0.96			0.93	
Frt		0.960			0.953			0.985			0.971	
Flt Protected		0.985			0.989			0.990			0.989	
Satd. Flow (prot)	0	3134	0	0	1614	0	0	1763	0	0	1728	0
Flt Permitted		0.838			0.865			0.864			0.862	
Satd. Flow (perm)	0	2551	0	0	1361	0	0	1518	0	0	1457	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1310			863			1002			2357	
Travel Time (s)		29.8			19.6			22.8			53.6	
Confl. Peds. (#/hr)	124		129	129		124	79		146	146		79
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	76	114	68	47	88	72	60	210	33	88	227	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	258	0	0	207	0	0	303	0	0	403	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	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	

Rhinebeck TIS
4: US Rte 9 & W Market St/E Market St

Build (ETC) Conditions
SATURDAY Peak Hour

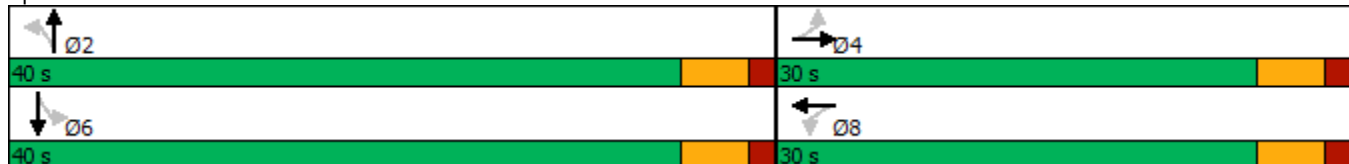


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		13.0	13.0		13.0	13.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		25.0	25.0		25.0	25.0	
Total Split (s)	30.0	30.0		30.0	30.0		40.0	40.0		40.0	40.0	
Total Split (%)	42.9%	42.9%		42.9%	42.9%		57.1%	57.1%		57.1%	57.1%	
Maximum Green (s)	25.0	25.0		25.0	25.0		35.0	35.0		35.0	35.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.0			5.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Min	Min		Min	Min	
Walk Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		11.9			11.9			17.9			17.9	
Actuated g/C Ratio		0.29			0.29			0.44			0.44	
v/c Ratio		0.34			0.52			0.45			0.62	
Control Delay		13.4			18.2			10.8			14.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		13.4			18.2			10.8			14.2	
LOS		B			B			B			B	
Approach Delay		13.4			18.2			10.8			14.2	
Approach LOS		B			B			B			B	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	40.4
Natural Cycle:	50
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	13.9
Intersection LOS:	B
Intersection Capacity Utilization:	75.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 4: US Rte 9 & W Market St/E Market St



APPENDIX F
Gap Data and Calculations

GAP ANALYSIS

W Market St and Traver Ln

Major Road: W Market St
 Minor Road: Traver Ln

Highway Capacity Manual 6th Ed.

Acceptable Gap: 7.1 sec

Follow Up: 3.5 sec

Movement: Left Turn from Traver Ln

Total for follow up turns: 10.6 sec

AM Peak Hour

Time Interval (seconds)	7 - 10	11 - 21	22 - 31	32 - 42	43 - 53	53 - 63	64 - 74	75 - 84	85 - 95	> 96	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
8:45-9:00	10	15	8	3	1	0	0	0	0	0	81
	10	30	24	12	5	0	0	0	0	0	
9:00-9:15	9	9	5	5	1	2	0	0	0	0	79
	9	18	15	20	5	12	0	0	0	0	
9:15-9:30	2	9	9	2	4	1	0	0	1	0	90
	2	18	27	8	20	6	0	0	9	0	
9:30-9:45	5	20	9	3	2	0	0	0	0	0	94
	5	40	27	12	10	0	0	0	0	0	
Total	26	106	93	52	40	18	0	0	9	0	344
%	7.6%	30.8%	27.0%	15.1%	11.6%	5.2%	0.0%	0.0%	2.6%	0.0%	

PM Peak Hour

Time Interval (seconds)	7 - 10	11 - 21	22 - 31	32 - 42	43 - 53	53 - 63	64 - 74	75 - 84	85 - 95	> 96	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
15:30-15:45	4	16	4	2	0	1	3	0	0	1	93
	4	32	12	8	0	6	21	0	0	10	
15:45-16:00	8	9	8	5	1	1	0	0	0	1	91
	8	18	24	20	5	6	0	0	0	10	
16:00-16:15	2	10	7	4	2	1	0	0	2	0	93
	2	20	21	16	10	6	0	0	18	0	
16:15-16:30	4	14	6	1	2	2	1	0	0	0	83
	4	28	18	4	10	12	7	0	0	0	
Total	18	98	75	48	25	30	28	0	18	20	360
%	5.0%	27.2%	20.8%	13.3%	6.9%	8.3%	7.8%	0.0%	5.0%	5.6%	

GAP ANALYSIS

W Market St and Traver Ln

Major Road: W Market St
 Minor Road: Traver Ln

Highway Capacity Manual 6th Ed.

Acceptable Gap: 6.2 sec

Follow Up: 3.3 sec

Movement: Right Turn from Traver Ln

Total for follow up turns: 9.5 sec

AM Peak Hour

Time Interval (seconds)	6 - 9	10 - 19	19 - 28	29 - 38	38 - 47	48 - 57	57 - 66	67 - 76	76 - 85	> 86	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
8:45-9:00	6	3	5	4	0	1	0	2	3	1	102
	6	6	15	16	0	6	0	16	27	10	
9:00-9:15	4	8	5	3	3	2	0	0	0	2	94
	4	16	15	12	15	12	0	0	0	20	
9:15-9:30	1	3	4	5	1	2	0	2	2	1	100
	1	6	12	20	5	12	0	16	18	10	
9:30-9:45	1	10	3	5	4	3	1	0	0	0	95
	1	20	9	20	20	18	7	0	0	0	
Total	12	48	51	68	40	48	7	32	45	40	391
%	3.1%	12.3%	13.0%	17.4%	10.2%	12.3%	1.8%	8.2%	11.5%	10.2%	

PM Peak Hour

Time Interval (seconds)	6 - 9	10 - 19	19 - 28	29 - 38	38 - 47	48 - 57	57 - 66	67 - 76	76 - 85	> 86	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
15:30-15:45	0	5	1	4	2	2	1	1	0	2	86
	0	10	3	16	10	12	7	8	0	20	
15:45-16:00	2	4	5	3	1	1	1	1	0	2	83
	2	8	15	12	5	6	7	8	0	20	
16:00-16:15	0	5	2	3	3	1	1	0	0	4	96
	0	10	6	12	15	6	7	0	0	40	
16:15-16:30	1	9	2	4	1	1	1	2	1	2	104
	1	18	6	16	5	6	7	16	9	20	
Total	3	46	30	56	35	30	28	32	9	100	369
%	0.8%	12.5%	8.1%	15.2%	9.5%	8.1%	7.6%	8.7%	2.4%	27.1%	

GAP ANALYSIS

W Market St and Traver Ln

Major Road: W Market St
 Minor Road: Traver Ln

Highway Capacity Manual 6th Ed.

Acceptable Gap: 4.1 sec

Follow Up: 2.2 sec

Movement: Left Turn from (WB) W Market St

Total for follow up turns: 6.3 sec

AM Peak Hour

Time Interval (seconds)	4 - 6	7 - 12	13 - 18	19 - 25	26 - 31	32 - 37	38 - 44	45 - 50	51 - 56	> 57	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
8:45-9:00	0	5	3	3	3	1	0	0	1	6	121
	0	10	9	12	15	6	0	0	9	60	
9:00-9:15	2	4	5	5	0	2	3	0	1	2	107
	2	8	15	20	0	12	21	0	9	20	
9:15-9:30	2	1	1	4	4	1	0	2	1	5	124
	2	2	3	16	20	6	0	16	9	50	
9:30-9:45	2	2	6	1	5	2	2	2	1	2	124
	2	4	18	4	25	12	14	16	9	20	
Total	6	24	45	52	60	36	35	32	36	150	476
%	1.3%	5.0%	9.5%	10.9%	12.6%	7.6%	7.4%	6.7%	7.6%	31.5%	

PM Peak Hour

Time Interval (seconds)	4 - 6	7 - 12	13 - 18	19 - 25	26 - 31	32 - 37	38 - 44	45 - 50	51 - 56	> 57	Interval Total
	x 1	x 2	x 3	x 4	x 5	x 6	x 7	x 8	x 9	x 10	
15:30-15:45	0	3	2	1	3	1	1	2	1	4	109
	0	6	6	4	15	6	7	16	9	40	
15:45-16:00	3	3	2	5	2	0	1	1	0	5	110
	3	6	6	20	10	0	7	8	0	50	
16:00-16:15	1	0	5	2	2	2	2	2	0	5	126
	1	0	15	8	10	12	14	16	0	50	
16:15-16:30	2	2	4	2	1	2	1	0	1	6	119
	2	4	12	8	5	12	7	0	9	60	
Total	6	16	39	40	40	30	35	40	18	200	464
%	1.3%	3.4%	8.4%	8.6%	8.6%	6.5%	7.5%	8.6%	3.9%	43.1%	

APPENDIX G
Crash Data and Calculations



December 10, 2021

David Hastings
CPL

Re: Freedom of Information Law Request FMO-21-019119

Dear Mr. Hastings:

This correspondence is in reference to your Freedom of Information Law (FOIL) Request FMO-21-019119.

Enclosed are the records you requested.

Under provisions of the Public Officers Law you may appeal this determination. If you desire to submit such an appeal, please forward a copy of the original request and a copy of this response letter with your written appeal to:

Chief Counsel
F.O.I.L. Appeal
New York State Department of Transportation
50 Wolf Road, 6th Floor
Albany, NY 12232

You will be informed in writing of the decision within ten business days of our receipt of such an appeal. If the appeal is denied, you will be fully advised of the reason.

Please indicate the FOIL Request Number when corresponding with NYSDOT on this subject.

Sincerely,

Kathleen Khemili
Legal Assistant

Accident Location Information System(ALIS)Date:
11/16/2021
11:15:23 PM**Accident Verbal Description****19119_VDR****Date in this report covers the period - 1/1/2018-8/31/2021****Complete Accident data from NYSDMV is only available thru 8/31/2021 12:00:00 AM**County: Dutchess Muni: Rhinebeck(T) Ref. Marker: 982M82011017 Street: RHINECLIFF RD
90 Meters East of Driveway

4/28/2018 Sat 12:30 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2018-37258105**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 1
 Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT AT HILLCREST Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3078 State of Registration: NY
 Num of Occupants: 4 Driver's Age: 39 Sex: F Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: 982M82011021 Street: W MARKET ST
177 Meters West of Oak St

6/24/2019 Mon 07:40 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-37951258**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: OVERTAKING Weather: CLEAR
 Road Surface Condition: DRY Road Char.: CURVE AND HILLCREST Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4519 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 26 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: TRAFFIC CONTROL DEVICES DISREGARDED, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: CT
 Num of Occupants: 1 Driver's Age: Sex: Citation Issued:
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: PARKED
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: 982M82011018 Street: RHINECLIFF RD
AT INTERSECTION WITH Driveway

7/27/2019 Sat 06:00 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-37996778**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 1
 Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
 Num of Occupants: 2 Driver's Age: 47 Sex: F Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: 982M82011019 Street: RHINECLIFF RD
108 Meters East of Driveway

11/20/2019 Wed 17:05 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-38195683**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 1

Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: CURVE AND GRADE Light Condition: DUSK
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3126 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 24 Sex: F Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: 982M82011020 Street: RHINECLIFF RD
 29 Meters West of Traver Ln

10/5/2020 Mon 18:45 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38583838**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK VILLAGE PD Num of Veh: 1
 Type Of Accident: COLLISION WITH ANIMAL Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DUSK
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3591 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: 982M82011016 Street: RHINECLIFF RD
 28 Meters West of Driveway

11/16/2020 Mon 17:12 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38641977**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 1
 Type Of Accident: COLLISION WITH DEER Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4446 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 56 Sex: M Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: 982M82011020 Street: RHINECLIFF RD
 23 Meters West of WALL ST

12/13/2020 Sun 12:45 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2020-38742661**
 Accident Class: INJURY Police Agency: RHINEBECK SP Num of Veh: 1
 Type Of Accident: COLLISION WITH PEDESTRIAN Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: PED/BICYCLIST NOT AT INTERSECTION Action of Ped/Bicycle: ALONG HIGHWAY WITH TRAFFIC

Veh :1 CAR/VAN/PICKUP Registered Weight: 3195 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 58 Sex: F Citation Issued: Y
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: OVERTAKING
 Apparent Factors: PASSING OR LANE USAGE IMPROPERLY, FAILURE TO KEEP RIGHT

Veh :2 PEDESTRIAN Registered Weight: State of Registration:
 Num of Occupants: 1 Driver's Age: 48 Sex: F Citation Issued: N
 Direction of Travel: NOT APPLICABLE Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: NOT APPLICABLE
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: 982M82011017 Street: RHINECLIFF RD
 141 Meters East of Driveway

5/15/2021 Sat 20:32 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2021-38860708**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 1
 Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2312 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 60 Sex: F Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: ANIMAL'S ACTION, NOT APPLICABLE

NYS DOT QRA ACCIDENT SEVERITY SUMMARY

Print Date 11/16/2021 Print Time 11:18:09 PM



<u>Query Number/Name</u>	<u>Query Type</u>	<u>Query Sub Type</u>	<u>Accident Date Range</u>		
67104 19119	AttributeQuery	None	1/1/2018 12:00:00AM To 8/31/2021 12:00:00AM		
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2018	0	0	1	0	1
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2019	0	0	3	0	3
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2020	1	0	2	0	3
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2021	0	0	1	0	1
<u>Grand Total:</u>	1	0	7	0	



July 20, 2022

David Hastings
CPL

Re: Freedom of Information Law Request FMO-22-020157

Dear Mr. Hastings:

This correspondence is in reference to your Freedom of Information Law (FOIL) Request FMO-22-020157.

Enclosed are the records you requested.

Under provisions of the Public Officers Law you may appeal this determination. If you desire to submit such an appeal, please forward a copy of the original request and a copy of this response letter with your written appeal to:

Chief Counsel
F.O.I.L. Appeal
New York State Department of Transportation
50 Wolf Road, 6th Floor
Albany, NY 12232

You will be informed in writing of the decision within ten business days of our receipt of such an appeal. If the appeal is denied, you will be fully advised of the reason.

Please indicate the FOIL Request Number when corresponding with NYSDOT on this subject.

Sincerely,

Kathleen Khemili
Administrative Analyst

Accident Location Information System(ALIS)

Date:
7/19/2022
12:58:01 PM

Accident Verbal Description

FMO-22-20157 VDR

Date in this report covers the period - 5/31/2019-5/32/2022

Complete Accident data from NYS DMV is only available thru 5/31/2022 12:00:00 AM

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: Street: MONTGOMERY ST
AT INTERSECTION WITH ASTOR DR

5/31/2019 Fri 16:11 PM Persons Killed: 0 Persons Injured: 2 Extent of Injuries: BC **Case: 2019-37919890**
Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: RHINEBECK VILLAGE PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3025 State of Registration: NY
Num of Occupants: 1 Driver's Age: 21 Sex: F Citation Issued: N
Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3291 State of Registration: NY
Num of Occupants: 1 Driver's Age: 30 Sex: F Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: DRIVER INATTENTION, TURNING IMPROPER

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: RIVER RD
AT INTERSECTION WITH Astor Dr

11/13/2019 Wed 15:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-38178954**
Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
Manner of Collision: LEFT TURN (WITH OTHER CAR) Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3655 State of Registration: NY
Num of Occupants: 2 Driver's Age: 51 Sex: M Citation Issued: Y
Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 4663 State of Registration: NY
Num of Occupants: 1 Driver's Age: 44 Sex: M Citation Issued: N
Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: Street: MONTGOMERY ST
AT INTERSECTION WITH Astor Dr

1/2/2020 Thu 15:25 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38263479**
Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK VILLAGE PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
Manner of Collision: RIGHT ANGLE Weather: CLOUDY
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4327 State of Registration: NY
Num of Occupants: 4 Driver's Age: 58 Sex: M Citation Issued: N
Direction of Travel: NORTH-WEST Public Property Damage: OTHER School Bus Involved: OTHER

Pre-Accd Action: MAKING LEFT TURN

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2304 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 54 Sex: M Citation Issued: Y
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, FAILURE TO YIELD RIGHT OF WAY

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: ASTOR DR
 224 Meters North of Garden Way

1/3/2020 Fri 11:18 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38265404**
 Accident Class: PROPERTY DAMAGE Police Agency: DUTCHESS CO SHERIFF DEPT Num of Veh: 1
 Type Of Accident: COLLISION WITH OTHER FIXED OBJECT Traffic Control: NONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: CURVE AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3266 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 31 Sex: F Citation Issued: Y
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: AVOIDING OBJECT IN ROADWAY
 Apparent Factors: UNSAFE SPEED, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: RIVER RD
 AT INTERSECTION WITH Astor Dr

5/13/2020 Wed 13:38 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38413048**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: REAR END Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3034 State of Registration: NY
 Num of Occupants: 3 Driver's Age: 52 Sex: F Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: SLOWED OR STOPPING
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3352 State of Registration: NY
 Num of Occupants: 2 Driver's Age: 41 Sex: F Citation Issued: Y
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: RIVER RD
 AT INTERSECTION WITH Astor Dr

10/13/2020 Tue 07:30 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2020-38592460**
 Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: RHINEBECK SP Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
 Manner of Collision: RIGHT ANGLE Weather: RAIN
 Road Surface Condition: WET Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2844 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 47 Sex: F Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3108 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 40 Sex: M Citation Issued: Y
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: NOT APPLICABLE, FAILURE TO YIELD RIGHT OF WAY

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: RIVER RD
AT INTERSECTION WITH Astor Dr

6/11/2021 Fri 15:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2021-38888152**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK SP Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: RIGHT ANGLE Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3457 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 75 Sex: M Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2899 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 27 Sex: M Citation Issued: Y
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: Street: MONTGOMERY ST
15 Meters North of ASTOR DR

7/14/2021 Wed 20:05 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2021-38937346**
 Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK VILLAGE PD Num of Veh: 1
 Type Of Accident: COLLISION WITH ANIMAL Traffic Control: NONE
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DUSK
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4413 State of Registration: NY
 Num of Occupants: 4 Driver's Age: 40 Sex: M Citation Issued: N
 Direction of Travel: NORTH-WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

County: Dutchess Muni: Rhinebeck(T) Ref. Marker: Street: RIVER RD
AT INTERSECTION WITH Astor Dr

1/5/2022 Wed 17:05 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C **Case: 2022-39183057**
 Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: RHINEBECK SP Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: RIGHT ANGLE Weather: CLOUDY
 Road Surface Condition: WET Road Char.: CURVE AND LEVEL Light Condition: DARK-ROAD UNLIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3489 State of Registration: NY
 Num of Occupants: 2 Driver's Age: 49 Sex: F Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3202 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 62 Sex: F Citation Issued: Y
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, NOT APPLICABLE

County: Dutchess Muni: Rhinebeck(V) Ref. Marker: Street: MONTGOMERY ST
AT INTERSECTION WITH Astor Dr

5/23/2022 Mon 13:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2022-39367787**

Accident Class: PROPERTY DAMAGE Police Agency: RHINEBECK VILLAGE PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
 Manner of Collision: REAR END Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3258 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 23 Sex: F Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: STOPPED IN TRAFFIC
 Apparent Factors: NOT APPLICABLE, OTHER (VEHICLE)

Veh :1 CAR/VAN/PICKUP Registered Weight: 3281 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 60 Sex: F Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, FOLLOWING TOO CLOSELY

NYS DOT QRA ACCIDENT SEVERITY SUMMARY

Print Date 7/19/2022 Print Time 12:59:28PM

Query Number/Name	Query Type	Query Sub Type	Accident Date Range
72338 FMO2220157	AttributeQuery	None	5/31/2019 12:00:00AM To 5/31/2022 12:00:00AM

<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2019	1	0	1	0	2
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2020	1	0	3	0	4
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2021	0	0	2	0	2
<u>Case Year</u>	Injury	Fatality	Property Damage	Non-Reportables	Totals
2022	1	0	1	0	2
Grand Total:	3	0	7	0	

APPENDIX H
NYSDOT Traffic Signal Record Plans



August 17, 2022

David Hastings
CPL
205 St Paul St, Suite 500
Rochester, NY 14604

RE: Freedom of Information Law Request FR8-22-009063
Traffic Signal Timing Data and Record Plans

VIA: E-Mail (No Hard Copy to Follow)

Dear David Hastings:

This correspondence is in reference to your July 18, 2022 Freedom of Information Law (FOIL) request at the New York State Department of Transportation (NYSDOT) Records Access Office on this date.

Enclosed are the records responsive to your request.

Under provisions of the Public Officers Law you may appeal this request. If you desire to submit such an appeal, please forward a copy of the original request and a copy of this denial letter with your written appeal. You may direct your written appeal to:

General Counsel

F.O.I.L. Appeal

New York State Department of Transportation

50 Wolf Road, 6th Floor

Albany, NY 12232

You will be informed in writing of the decision within ten business days of our receipt of such an appeal. If the appeal is denied, you will be fully advised of the reason.

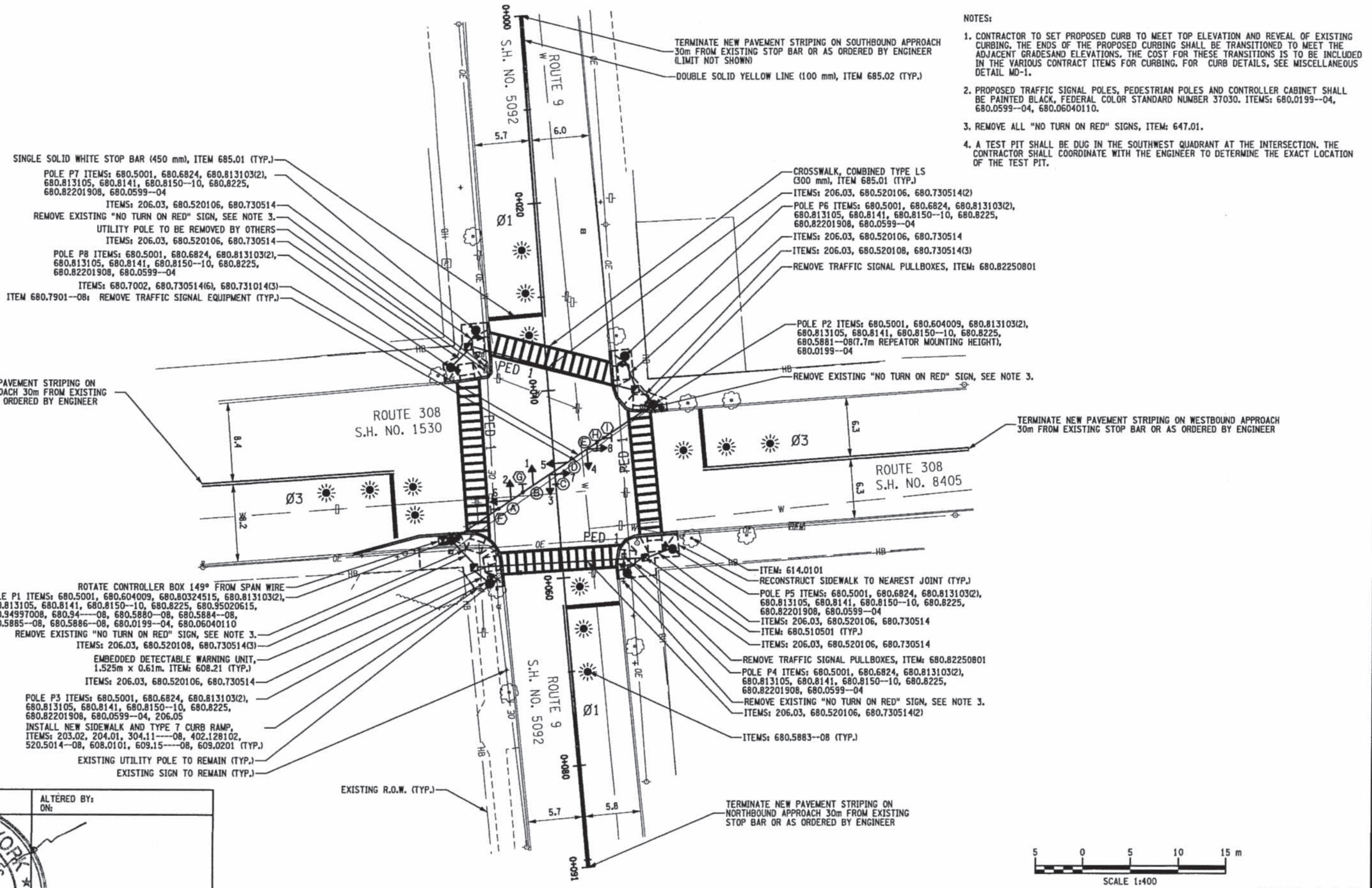
Please indicate the FOIL request number when corresponding on this subject.

Sincerely,

Hai Lan
Records Access Officer

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DESIGNED BY SM
 CHECKED BY DB
 ESTIMATED BY DB
 DRAFTED BY JC
 CHECKED BY JTS
 JOB MANAGER BK
 DESIGN SUPERVISOR MB



- NOTES:
1. CONTRACTOR TO SET PROPOSED CURB TO MEET TOP ELEVATION AND REVEAL OF EXISTING CURBING. THE ENDS OF THE PROPOSED CURBING SHALL BE TRANSITIONED TO MEET THE ADJACENT GRADES AND ELEVATIONS. THE COST FOR THESE TRANSITIONS IS TO BE INCLUDED IN THE VARIOUS CONTRACT ITEMS FOR CURBING. FOR CURB DETAILS, SEE MISCELLANEOUS DETAIL MD-1.
 2. PROPOSED TRAFFIC SIGNAL POLES, PEDESTRIAN POLES AND CONTROLLER CABINET SHALL BE PAINTED BLACK, FEDERAL COLOR STANDARD NUMBER 37030. ITEMS: 680.0199-04, 680.0599-04, 680.06040110.
 3. REMOVE ALL "NO TURN ON RED" SIGNS, ITEM: 647.01.
 4. A TEST PIT SHALL BE DUG IN THE SOUTHWEST QUADRANT AT THE INTERSECTION. THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE THE EXACT LOCATION OF THE TEST PIT.

SINGLE SOLID WHITE STOP BAR (450 mm), ITEM 685.01 (TYP.)
 POLE P7 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04
 ITEMS: 206.03, 680.520106, 680.730514
 REMOVE EXISTING "NO TURN ON RED" SIGN, SEE NOTE 3.
 UTILITY POLE TO BE REMOVED BY OTHERS
 ITEMS: 206.03, 680.520106, 680.730514
 POLE P8 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04
 ITEMS: 680.7002, 680.730514(6), 680.731014(3)
 ITEM 680.7901-08: REMOVE TRAFFIC SIGNAL EQUIPMENT (TYP.)

CROSSWALK, COMBINED TYPE LS (300 mm), ITEM 685.01 (TYP.)
 ITEMS: 206.03, 680.520106, 680.730514(2)
 POLE P6 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04
 ITEMS: 206.03, 680.520106, 680.730514
 ITEMS: 206.03, 680.520108, 680.730514(3)
 REMOVE TRAFFIC SIGNAL PULLBOXES, ITEM: 680.82250801

POLE P2 ITEMS: 680.5001, 680.604009, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.5881-08(7.7m REPEATOR MOUNTING HEIGHT), 680.0199-04
 REMOVE EXISTING "NO TURN ON RED" SIGN, SEE NOTE 3.

ROTATE CONTROLLER BOX 149° FROM SPAN WIRE
 POLE P1 ITEMS: 680.5001, 680.604009, 680.80324515, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.95020615, 680.94997008, 680.94-08, 680.5880-08, 680.5884-08, 680.5885-08, 680.5886-08, 680.0199-04, 680.06040110
 REMOVE EXISTING "NO TURN ON RED" SIGN, SEE NOTE 3.
 ITEMS: 206.03, 680.520108, 680.730514(3)
 EMBEDDED DETECTABLE WARNING UNIT, 1.525m x 0.61m, ITEM: 608.21 (TYP.)
 ITEMS: 206.03, 680.520106, 680.730514
 POLE P3 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04, 206.05
 INSTALL NEW SIDEWALK AND TYPE 7 CURB RAMP, ITEMS: 203.02, 204.01, 304.11-08, 402.128102, 520.5014-08, 608.0101, 609.15-08, 609.0201 (TYP.)
 EXISTING UTILITY POLE TO REMAIN (TYP.)
 EXISTING SIGN TO REMAIN (TYP.)

ITEM: 614.0101
 RECONSTRUCT SIDEWALK TO NEAREST JOINT (TYP.)
 POLE P5 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04
 ITEMS: 206.03, 680.520106, 680.730514
 ITEM: 680.510501 (TYP.)
 ITEMS: 206.03, 680.520106, 680.730514
 REMOVE TRAFFIC SIGNAL PULLBOXES, ITEM: 680.82250801
 POLE P4 ITEMS: 680.5001, 680.6824, 680.813103(2), 680.813105, 680.8141, 680.8150-10, 680.8225, 680.82201908, 680.0599-04
 REMOVE EXISTING "NO TURN ON RED" SIGN, SEE NOTE 3.
 ITEMS: 206.03, 680.520106, 680.730514(2)
 ITEMS: 680.5883-08 (TYP.)



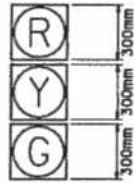
PREPARED BY: ON: [Signature]

ALTERED BY: ON: [Signature]

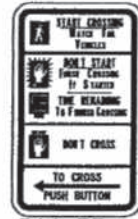
AS BUILT REVISIONS DESCRIPTION OF WORK:	SIGNAL REPLACEMENT PROJECT		PIN 8809.28	BRIDGES	CULVERTS	ALL DIMENSIONS IN m UNLESS OTHERWISE NOTED	CONTRACT NUMBER	SIGNAL # D-5
	COUNTY: DUTCHESS		PS&E DATE				D261648	
SIGNATURE	DATE					ROUTE 9 AND ROUTE 308 VILLAGE OF RHINEBECK	DRAWING NO. TSP-01 SHEET NO. 24	
DOCUMENT NAME: 880928_CPH_TSP_D5.DGN								
NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION 8								

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.
 FILE NAME = 880924_CPH_TST.D5.dgn
 DATE/TIME =
 USER =
 DESIGN SUPERVISOR MB
 JOB MANAGER BK
 DESIGNED BY SM
 CHECKED BY FC
 ESTIMATED BY DB
 DRAFTED BY JC
 CHECKED BY JTS

SIGNAL FACE



(1-8)



R10-3E L

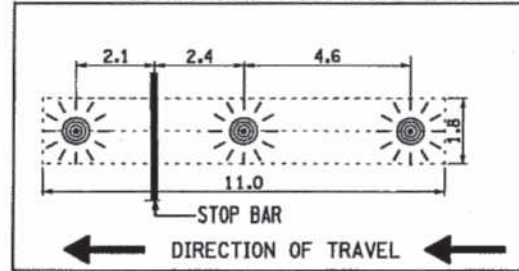


R10-3E R

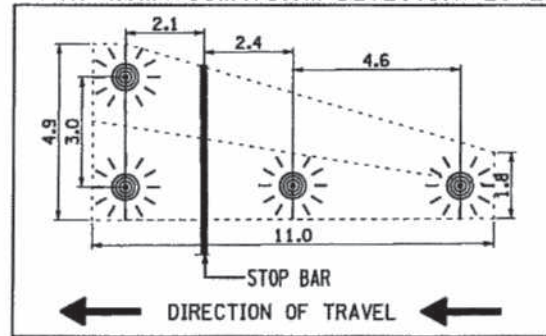
NOTE: THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL THE SIGNS TO BE INSTALLED (R10-3EL OR R10-3ER) UNDER ITEM 680.8225.

HEAD	SIGNAL FACES	ITEM	BRACKET	CABLE	ITEM
A	2, 6	680.810101 (2), 680.810103 (2), 680.810105 (2), 680.810601 (6), 680.81990008 (2)	680.8112	14/10C-A-X/X	680.731014
B	1	680.810101, 680.810103, 680.810105, 680.810601 (3), 680.81990008	680.8111	14/5C-B-X/X	680.730514
C	3, 7	680.810101 (2), 680.810103 (2), 680.810105 (2), 680.810601 (6), 680.81990008 (2)	680.8112	14/10C-C-X/X	680.731014
D	5	680.810101, 680.810103, 680.810105, 680.810601 (3), 680.81990008	680.8111	14/5C-D-X/X	680.730514
E	4, 8	680.810101 (2), 680.810103 (2), 680.810105 (2), 680.810601 (6), 680.81990008 (2)	680.8112	14/10C-E-X/X	680.731014

WIRELESS SENSOR DETAIL FOR 1.8m x 11m DETECTION ZONE



WIRELESS SENSOR DETAIL FOR 4.9m x 11m x 1.8m DETECTION ZONE



		FROM	
		G	R
TO	G	X	R/R
	R	Y/R	X

HEAD	ITEM	MUTCD	TEXT
F	680.8201	R10-11 (600 X 750)	NO TURN ON RED
G	680.8201	R10-11 (600 X 750)	NO TURN ON RED
H	680.8201	R10-11 (600 X 750)	NO TURN ON RED
I	680.8201	R10-11 (600 X 750)	NO TURN ON RED

PHASE	FACE								PED 1
	1	2	3	4	5	6	7	8	
β1	G	G	G	G	R	R	R	R	D.W
β3	R	R	R	R	G	G	G	G	D.W
PED	R	R	R	R	R	R	R	R	WALK
FLASHING OPERATION	FL. Y	FL. Y	FL. Y	FL. Y	FL. R	FL. R	FL. R	FL. R	DARK

POLE	STA. SIDE OFFSET	ELEV.	ITEM	HEIGHT	DESIGN LOAD	FOOTING MOMENT
P1	0+055.000, 11.4 R	60.91	680.604009	9m	40 kN	377 kN-m
P2	0+042.438, 10.9 L	61.00	680.604009	9m	40 kN	377 kN-m
P3	0+059.881, 7.1 R	61.03	680.6824	2.4m*	--	--
P4	0+060.076, 6.7 L	61.00	680.6824	2.4m*	--	--
P5	0+057.937, 11.7 L	60.94	680.6824	2.4m*	--	--
P6	0+037.034, 8.3 L	60.89	680.6824	2.4m*	--	--
P7	0+032.919, 7.1 R	60.83	680.6824	2.4m*	--	--
P8	0+036.634, 10.0 R	60.92	680.6824	2.4m*	--	--

* MOUNTING HEIGHT

ITEM	DESCRIPTION	UNIT	QUANT.
201.06	CLEARING AND GRUBBING	LS	1
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CM	30
204.01	CONTROLLED LOW STRENGTH MATERIAL (CLSM)	CM	2
206.03	CONDUIT EXCAVATION & BACKFILL INCL. SURFACE RESTORATION	M	50
206.05	TEST PIT EXCAVATION	EA	1
304.11---08	SUBBASE COURSE (MODIFIED)	CM	20
402.128102	12.5mm F1 TOP COURSE HMA	MT	0.4
520.5014---08	SAW CUTTING ASPHALT PVMT, CONCRETE PVMT, AND ASPHALT OVERLAY ON CONCRETE PVMT	M	65
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CM	10
608.21	EMBEDDED DETECTABLE WARNING UNITS	SM	8
609.0201	STONE CURB, GRANITE, TYPE A	M	65
609.15---08	SAWCUT CURB	M	65
614.0101	CARE OF TREES	EA	1
619.01	BASIC MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1
619.1612	MAINTAIN TRAFFIC SIGNAL EQUIPMENT - REQUIREMENT B	INTMO	6
635.0103	CLEANING AND PREPARATION OF PAVEMENT SURFACES - LINES	M	1175
647.01	REMOVAL OF SIGNS SIZE A (0 TO 1.0 SM)	EA	4
680.0199---04	PAINT NEW TRAFFIC SIGNAL POLE ALL SIZES	EA	2
680.0599---04	PAINT NEW PEDESTRIAN SIGNAL	EA	6
680.06040110	PAINT NEW ALUMINIUM TRAFFIC SIGNAL CABINETS	EA	1
680.5001	POLE EXCAVATION AND CONCRETE FOUNDATION	CM	10
680.510501	PULLBOX - RECT. REINF. CONC., 660 mm x 457 mm	EA	4
680.520106	CONDUIT - STEEL, ZINC COATED, 2 NPS	M	55
680.520108	CONDUIT - STEEL, ZINC COATED, 3 NPS	M	5
680.5880---08	WIRELESS VEHICLE DETECTION SYSTEM ACCESS POINT	EA	1
680.5881---08	WIRELESS VEHICLE DETECTION SYSTEM REPEATER	EA	1
680.5883---08	WIRELESS VEHICLE DETECTION SYSTEM INTERSECTION SENSOR	EA	15
680.5884---08	WIRELESS VEHICLE DETECTION SYSTEM MASTER CLOSURE CARD	EA	1
680.5885---08	WIRELESS VEHICLE DETECTION SYSTEM EXTENTION CLOSURE CARD	EA	2
680.5886---08	WIRELESS VEHICLE DETECTION SYSTEM EXTENTION CLOSURE ETHERNET ACCESS BOX	EA	1
680.604009	TRAFFIC SIGNAL POLE - SPAN WIRE, 40KN, 9M	EA	2
680.6824	TRAFFIC SIGNAL POLE - BRACKET MOUNT, 2.4M MOUNTING HEIGHT	EA	6
680.7002	DUAL SPAN WIRE ASSEMBLY WITH UPPER TETHER WIRE	EA	1
680.730514	SIGNAL CABLE - 5 CONDUCTOR, 14 AWG	M	340
680.731014	SIGNAL CABLE - 10 CONDUCTOR, 14 AWG	M	80
680.7901---08	REMOVE TRAFFIC SIGNAL EQUIPMENT	LS	1
680.80324515	INSTALL MICROCOMPUTER CABINET	EA	1
680.810101	TRAFFIC SIGNAL MODULE, RED BALL LED - 300 mm	EA	8
680.810103	TRAFFIC SIGNAL MODULE, YELLOW BALL LED - 300 mm	EA	8
680.810105	TRAFFIC SIGNAL MODULE, GREEN BALL LED - 300 mm	EA	8
680.810601	TRAFFIC SIGNAL SECTION - POLYCARBONATE, TYPE I, 300 mm	EA	24
680.8111	TRAFFIC SIGNAL BRACKET ASSEMBLY - 1 WAY	EA	2
680.8112	TRAFFIC SIGNAL BRACKET ASSEMBLY - 2 WAY	EA	3
680.813103	PEDESTRIAN SIGNAL SECTION - TYPE I 300 MM	EA	16
680.813105	PEDESTRIAN SIGNAL MODULE - 300 MM BI-MODAL HD/MAN SYMBOLS	EA	8
680.8141	PEDESTRIAN SIGNAL BRACKET MOUNT ASSEMBLY	EA	8
680.8150---10	PEDESTRIAN COUNT-DOWN TIMER MODULE	EA	8
680.81990008	TRAFFIC SIGNAL BACK PLATES WITH YELLOW REFLECTIVE TAPE	EA	8
680.8201	OVERHEAD SIGN ASSEMBLY - TYPE A	EA	4
680.82201908	BREAKAWAY TRANSFORMER BASE (TRAFFIC)	EA	6
680.8225	PEDESTRIAN PUSH BUTTON AND SIGN-WITHOUT POST	EA	8
680.82250801	REMOVE TRAFFIC SIGNAL PULLBOXES	EA	2
680.94---08	TRAFFIC SIGNAL SERVICE ENTRANCE	EA	1
680.94997008	FURN. & INST. ELEC. DISCONNECT GENERATOR TRANSFER SWITCH	EA	1
680.95020615	SERVICE CABLE - 2 CONDUCTOR, 6 AWG	M	11
685.01	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 0.38mm	M	825
685.02	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 0.38mm	M	250

NOTE: FOR MAINTENANCE AND PROTECTION OF TRAFFIC ITEMS SEE DRAWING NO. TSP-03

PREPARED BY: ON: 

ALTERED BY: ON:

SIGNATURE: _____ DATE: _____

AS BUILT REVISIONS DESCRIPTION OF WORK:	SIGNAL REPLACEMENT PROJECT	PIN 8809.28	BRIDGES	CULVERTS	ALL DIMENSIONS IN m UNLESS OTHERWISE NOTED	CONTRACT NUMBER
		PS&E DATE			SIGNAL TABLES	D261648
	COUNTY: DUTCHESS				ROUTE 9 AND ROUTE 308 VILLAGE OF RHINEBECK	DRAWING NO. TSP-02 SHEET NO. 25

DOCUMENT NAME: 880928_CPH_TST.D5.DGN

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION 8

SIGNAL # D-5

D-5

Signal #

STATE OF NEW YORK – DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING SAFETY DIVISION
TRAFFIC CONTROL SPECIFICATION

Study:

SHOP

Contract: D261648

PIN: 8809.28

File: 13.08-9

County of DUTCHESS

INTERSECTION: ROUTE 9 @ ROUTE 308

CITY VILLAGE TOWN OF RHINEBECK

Department Order filed 2-21-1963 as Section: 2013.08 Subdivision: (a)

Prior specification hereby superseded None Dated: 12-26-1996

Purpose: **TRAFFIC SIGNAL REPLACEMENT; UPGRADE TO A 2070 CONTROLLER UNDER CONTRACT D261648.**

These specifications will be effective upon the Installation Modification / Reinstallation of the necessary traffic control device(s) required by and conforming to the Federal Manual on Uniform Traffic Control Devices.

This signal shall

A. Operate in accordance with the table of operations and / or change intervals as shown on the attached pages as a:

- Pretimed Signal
- Semi-traffic actuated
- Full-traffic actuated
- Pedestrian actuated

- B.
- Display vehicular indications
 - Display pedestrian indications
 - Be equipped with vehicle detectors
 - Be equipped with pedestrian buttons

Other

as shown in the attached plans / drawings.

C. Be equipped with Pre-emption Interconnection and/or coordination which are described as follows:

Description:

EXCLUSIVE PEDESTRIAN PHASE

- cc:
- Region 8 Traffic Engineer
 - Signal Shop
 - Contract Maintainer
 - Main Office

Date

Installation Date

NICHOLAS CHOUBAH ACTING R.T.E.

Signature Title

10-11-2013: add mainline overlap / P
Reinstallation/Modification

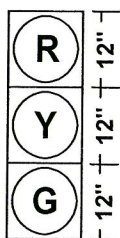
STATE OF NEW YORK - DEPARTMENT OF TRANSPORTATION
 TRAFFIC AND SAFETY DIVISION
 TRAFFIC CONTROL SPECIFICATIONS (CONTINUED)

PROJECT:
 CONTRACT:
 PIN:
 FILE: 13.08-9

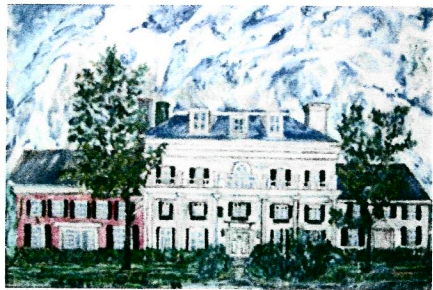
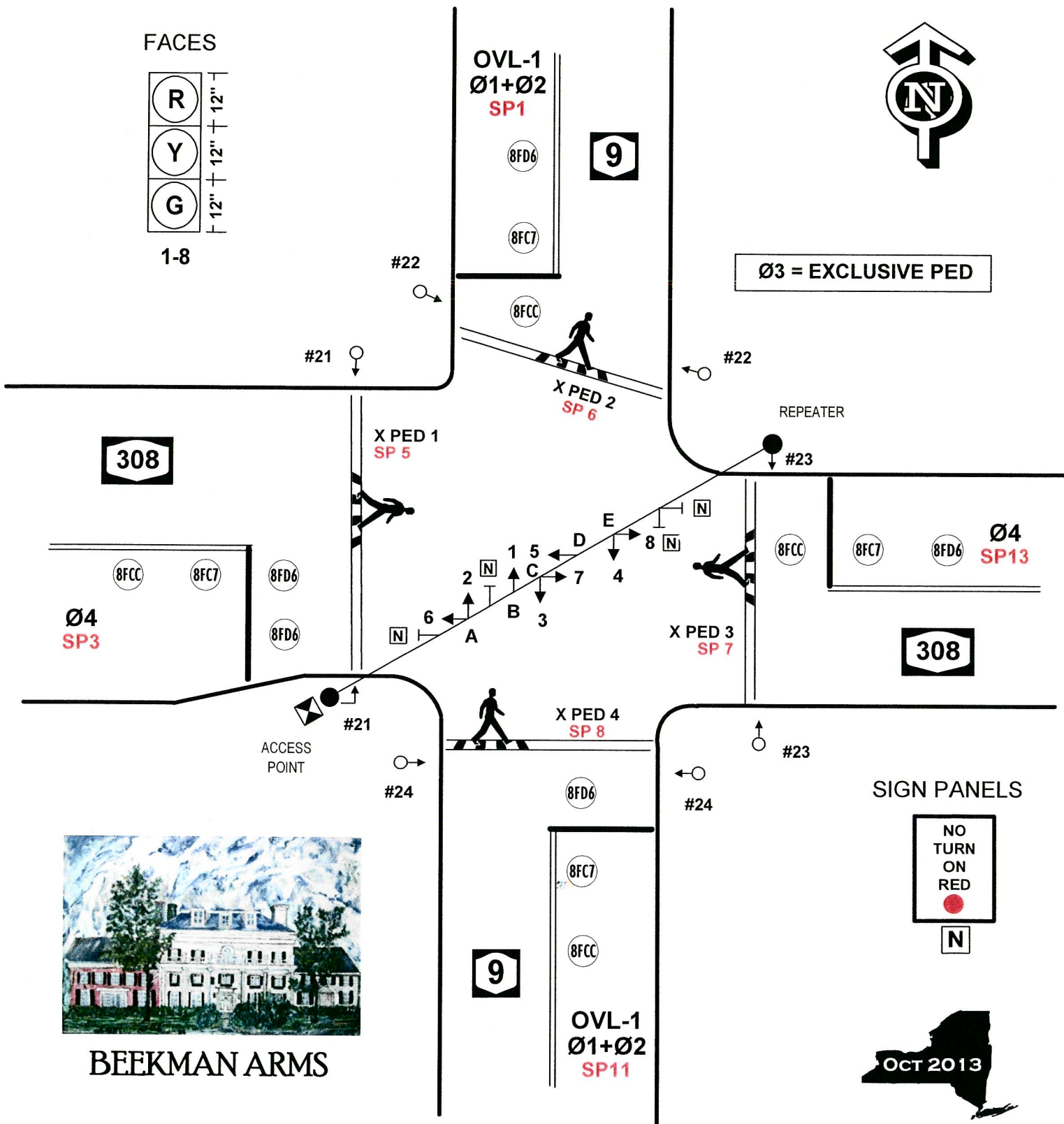
D-5
 SIGNAL NO(S)

DUTCHESS
 COUNTY

FACES



1-8



BEEKMAN ARMS



STD8

D-5

Ring/Startup [1.1.4]

Phs	Ring	Start	Enable
1	1	GREEN	1
2	1	RED	0
3	1	RED	1
4	1	RED	1
5	2	RED	0
6	2	RED	0
7	2	RED	0
8	2	RED	0

Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]

Times [1.1.1]	Phase Times [1.1.1]								Coordination Patterns [2.4] and Coordination Split Tables [2.7.1]																		
	1	2	3	4	5	6	7	8	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq	Pat#	Cyc	Off	Split	Seq				
Min Green	10	3							1	0	0	1	13	0	0	13	1	25	0	0	1	37	0	0			
Gap_Ext	2	5							2	0	0	2	14	0	0	14	1	26	0	0	1	38	0	0			
Max 1	40								3	0	0	3	15	0	0	15	1	27	0	0	1	39	0	0			
Max 2									4	0	0	4	16	0	0	16	1	28	0	0	1	40	0	0			
Yel Clearance	4	4	3	4	3.5	3.5	3.5		5	0	0	5	17	0	0	17	1	29	0	0	1	41	0	0			
Red Clearance	2	1		1	1.5	1.5	1.5		6	0	0	6	18	0	0	18	1	30	0	0	1	42	0	0			
Walk									7	0	0	7	19	0	0	19	1	31	0	0	1	43	0	0			
Ped Clearance									8	0	0	8	20	0	0	20	1	32	0	0	1	44	0	0			
Red Revert									9	0	0	9	21	0	0	21	1	33	0	0	1	45	0	0			
Add Initial									10	0	0	10	22	0	0	22	1	34	0	0	1	46	0	0			
Max Initial									11	0	0	11	23	0	0	23	1	35	0	0	1	47	0	0			
Time B4 Reduct									12	0	0	12	24	0	0	24	1	36	0	0	1	48	0	0			
Cars B4 Reduct									Split	1	2	3	4	5	6	7	8	Split	1	2	3	4	5	6	7	8	
Time To Reduce									1	Coord	40	60	0	35	0	0	0	0	13	Coord	0	0	0	0	0	0	0
Reduce By									2	Coord	65	0	40	0	0	0	0	0	14	Coord	0	0	0	0	0	0	0
Min Gap									3	Coord	0	0	0	0	0	0	0	0	15	Coord	0	0	0	0	0	0	0
DyMaxLim	60								4	Coord	0	0	0	0	0	0	0	0	16	Coord	0	0	0	0	0	0	0
Max Step	10								5	Coord	0	0	0	0	0	0	0	0	17	Coord	0	0	0	0	0	0	0
Options [1.1.2]	1	2	3	4	5	6	7	8	6	Coord	0	0	0	0	0	0	0	0	18	Coord	0	0	0	0	0	0	0
Enable	1								7	Coord	0	0	0	0	0	0	0	0	19	Coord	0	0	0	0	0	0	0
Min Recall	1								8	Coord	0	0	0	0	0	0	0	0	20	Coord	0	0	0	0	0	0	0
Max Recall									9	Coord	0	0	0	0	0	0	0	0	21	Coord	0	0	0	0	0	0	0
Ped Recall									10	Coord	0	0	0	0	0	0	0	0	22	Coord	0	0	0	0	0	0	0
Soft Recall									11	Coord	0	0	0	0	0	0	0	0	23	Coord	0	0	0	0	0	0	0
Lock Calls									12	Coord	0	0	0	0	0	0	0	0	24	Coord	0	0	0	0	0	0	0
Auto Flash Entry									Page#																		
Auto Flash Exit									1	8 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param																	
Dual Entry									2	16 Phase Times/Options; Patterns/Splits; Ring Startup; Coord/Flash Mode; Unit Param																	
Enable Simul Gap									3	Overlaps; Channel Settings; Coord Alt Table+ (values not associated with time-of-day)																	
Gauranteee Passage									4	Detection; Sample Time and Unit Parameters related to detection																	
Rest In Walk									5	Preemption and Alternate Phase Time and Phase Options																	
Condition Service									6	Annual Schedule																	
Non-Actuated 1									7	Day Plans; Action Tables; Coord Alt Table+ (values varied by time-of-day)																	
Non-Actuated 2									8	Communications; Security; I/O Setup																	
Add Init Calc										Misc - Events/Alarms; Call/Inhibit/Redirect; PIOLAP Auto Flash; C/C; Misc Unit Param																	
Options+ [1.1.3]	1	2	3	4	5	6	7	8																			
Reservice																											
PedCir Thru Yel																											
Skip Red No Call																											
Red Rest																											
Max II																											
Conflicting Phase																											
Red Rest On Gap																											
Omit Yellow																											
Ped Delay																											
Grn/Ped Delay																											

D-5

Concurrency [1.1.4]

Phs	Concurrency Phases
1	5 6 0 0 0 0 0 0 0
2	5 6 0 0 0 0 0 0 0
3	7 8 0 0 0 0 0 0 0
4	7 8 0 0 0 0 0 0 0
5	1 2 0 0 0 0 0 0 0
6	1 2 0 0 0 0 0 0 0
7	3 4 0 0 0 0 0 0 0
8	3 4 0 0 0 0 0 0 0
9	0 0 0 0 0 0 0 0 0
10	0 0 0 0 0 0 0 0 0
11	0 0 0 0 0 0 0 0 0
12	0 0 0 0 0 0 0 0 0
13	0 0 0 0 0 0 0 0 0
14	0 0 0 0 0 0 0 0 0
15	0 0 0 0 0 0 0 0 0
16	0 0 0 0 0 0 0 0 0

Sequence [1.2.4]

Seq				Rng				Concurrent Phases				Seq				Rng				Concurrent Phases			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	1	2	3	4	0	0	0	0	0	0	0	9	1	1	2	4	0	0	0	0	0	0	0
1	2	5	6	7	8	0	0	0	0	0	0	9	2	5	6	7	8	0	0	0	0	0	0
1	3	0	0	0	0	0	0	0	0	0	0	9	3	0	0	0	0	0	0	0	0	0	0
1	4	0	0	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	0	0	0	0	0
2	1	1	2	3	4	0	0	0	0	0	0	10	1	1	2	4	3	0	0	0	0	0	0
2	2	6	5	7	8	0	0	0	0	0	0	10	2	6	5	7	8	0	0	0	0	0	0
2	3	0	0	0	0	0	0	0	0	0	0	10	3	0	0	0	0	0	0	0	0	0	0
2	4	0	0	0	0	0	0	0	0	0	0	10	4	0	0	0	0	0	0	0	0	0	0
3	1	2	1	3	4	0	0	0	0	0	0	11	1	2	1	4	3	0	0	0	0	0	0
3	2	5	6	7	8	0	0	0	0	0	0	11	2	5	6	7	8	0	0	0	0	0	0
3	3	0	0	0	0	0	0	0	0	0	0	11	3	0	0	0	0	0	0	0	0	0	0
3	4	0	0	0	0	0	0	0	0	0	0	11	4	0	0	0	0	0	0	0	0	0	0
4	1	2	1	3	4	0	0	0	0	0	0	12	1	2	1	4	3	0	0	0	0	0	0
4	2	6	5	7	8	0	0	0	0	0	0	12	2	6	5	7	8	0	0	0	0	0	0
4	3	0	0	0	0	0	0	0	0	0	0	12	3	0	0	0	0	0	0	0	0	0	0
4	4	0	0	0	0	0	0	0	0	0	0	12	4	0	0	0	0	0	0	0	0	0	0
5	1	1	2	3	4	0	0	0	0	0	0	13	1	1	2	4	3	0	0	0	0	0	0
5	2	5	6	8	7	0	0	0	0	0	0	13	2	5	6	8	7	0	0	0	0	0	0
5	3	0	0	0	0	0	0	0	0	0	0	13	3	0	0	0	0	0	0	0	0	0	0
5	4	0	0	0	0	0	0	0	0	0	0	13	4	0	0	0	0	0	0	0	0	0	0
6	1	1	2	3	4	0	0	0	0	0	0	14	1	1	2	4	3	0	0	0	0	0	0
6	2	6	5	8	7	0	0	0	0	0	0	14	2	6	5	8	7	0	0	0	0	0	0
6	3	0	0	0	0	0	0	0	0	0	0	14	3	0	0	0	0	0	0	0	0	0	0
6	4	0	0	0	0	0	0	0	0	0	0	14	4	0	0	0	0	0	0	0	0	0	0
7	1	2	1	3	4	0	0	0	0	0	0	15	1	2	1	4	3	0	0	0	0	0	0
7	2	5	6	8	7	0	0	0	0	0	0	15	2	5	6	8	7	0	0	0	0	0	0
7	3	0	0	0	0	0	0	0	0	0	0	15	3	0	0	0	0	0	0	0	0	0	0
7	4	0	0	0	0	0	0	0	0	0	0	15	4	0	0	0	0	0	0	0	0	0	0
8	1	2	1	3	4	0	0	0	0	0	0	16	1	2	1	4	3	0	0	0	0	0	0
8	2	6	5	8	7	0	0	0	0	0	0	16	2	6	5	8	7	0	0	0	0	0	0
8	3	0	0	0	0	0	0	0	0	0	0	16	3	0	0	0	0	0	0	0	0	0	0
8	4	0	0	0	0	0	0	0	0	0	0	16	4	0	0	0	0	0	0	0	0	0	0

D-5

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	ON	Extra Included Ph	ON	Coord Transition, CoordPhs [2.5]	Pat#	Short	Long	Dwell	No Shortway	Ø	E-Yld	Offset	RetHid	Float	Min Veh	Perm	Min Pad	Perm
1	Included Ø	1	2	NORMAL	Included Ø	9				1	12	22				EndGRN							
A	Modifier Ø			Grn	Modifier Ø	10				2	12	22				EndGRN							
	Conflict Ø			Yel 4	Conflict Ø	11				3	12	22				EndGRN							
	Conflict Olap			Red 1	Conflict Olap	12				4	12	22				EndGRN							
	Conflict Ped			LG	Conflict Ped	13				5	12	22				EndGRN							
	Included Ø			NORMAL	Included Ø	14				6	12	22				EndGRN							
2	Modifier Ø			Grn	Modifier Ø	15				7	12	22				EndGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	16				8	12	22				EndGRN							
B	Conflict Olap			Red 1.5	Conflict Olap	17				9	12	22				EndGRN							
	Conflict Ped			LG	Conflict Ped	18				10	12	22				EndGRN							
	Included Ø			NORMAL	Included Ø	19				11	12	22				EndGRN							
3	Modifier Ø			Grn	Modifier Ø	20				12	12	22				EndGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	21				13	12	22				EndGRN							
C	Conflict Olap			Red 1.5	Conflict Olap	22				14	12	22				EndGRN							
	Conflict Ped			LG	Conflict Ped	23				15	12	22				EndGRN							
	Included Ø			NORMAL	Included Ø	24				16	12	22				EndGRN							
4	Modifier Ø			Grn	Modifier Ø	25				17	12	22				EndGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	26				18	12	22				EndGRN							
D	Conflict Olap			Red 1.5	Conflict Olap	27				19	12	22				EndGRN							
	Conflict Ped			LG	Conflict Ped	28				20	12	22				EndGRN							
	Included Ø			NORMAL	Included Ø	29				21	12	22				EndGRN							
5	Modifier Ø			Grn	Modifier Ø	30				22	12	22				EndGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	31				23	12	22				EndGRN							
E	Conflict Olap			Red 1.5	Conflict Olap	32				24	12	22				EndGRN							
	Conflict Ped			LG	Conflict Ped	33				25	12	22				EndGRN							
	Included Ø			NORMAL	Included Ø	34				26	12	22				EndGRN							
6	Modifier Ø			Grn	Modifier Ø	35				27	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	36				28	12	22				BegGRN							
F	Conflict Olap			Red 1.5	Conflict Olap	37				29	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	38				30	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	39				31	12	22				BegGRN							
7	Modifier Ø			Grn	Modifier Ø	40				32	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	41				33	12	22				BegGRN							
G	Conflict Olap			Red 1.5	Conflict Olap	42				34	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	43				35	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	44				36	12	22				BegGRN							
8	Modifier Ø			Grn	Modifier Ø	45				37	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	46				38	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	47				39	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	48				40	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	49				41	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	50				42	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	51				43	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	52				44	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	53				45	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	54				46	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	55				47	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	56				48	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	57				49	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	58				50	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	59				51	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	60				52	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	61				53	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	62				54	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	63				55	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	64				56	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	65				57	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	66				58	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	67				59	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	68				60	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	69				61	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	70				62	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	71				63	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	72				64	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	73				65	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	74				66	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	75				67	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	76				68	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	77				69	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	78				70	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	79				71	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	80				72	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	81				73	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	82				74	12	22				BegGRN							
	Conflict Ped			LG	Conflict Ped	83				75	12	22				BegGRN							
	Included Ø			NORMAL	Included Ø	84				76	12	22				BegGRN							
	Modifier Ø			Grn	Modifier Ø	85				77	12	22				BegGRN							
	Conflict Ø			Yel 3.5	Conflict Ø	86				78	12	22				BegGRN							
	Conflict Olap			Red 1.5	Conflict Olap	87				79	12	22											

Veh Par 1-64 [5.1]

Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	
1	4		5				45	50	20	33							45	50	50	
2	1						45	50	30	34							45	50	50	
3	4		5				45	50	20	35							45	50	50	
4	1						45	50	30	36							45	50	50	
5							45	50	2	37							45	50	50	
6							45	50	2	38							45	50	50	
7							45	50	2	39							45	50	50	
8							45	50	2	40							45	50	50	
9							45	50	2	41							45	50	50	
10							45	50	2	42							45	50	50	
11							45	50	2	43							45	50	50	
12							45	50	2	44							45	50	50	
13							45	50	2	45							45	50	50	
14							45	50	2	46							45	50	50	
15							45	50	2	47							45	50	50	
16							45	50	2	48							45	50	50	
17							45	50	2	49							45	50	50	
18							45	50	2	50							45	50	50	
19							45	50		51							45	50		
20							45	50		52							45	50		
21							45	50		53							45	50		
22							45	50		54							45	50		
23							45	50		55							45	50		
24							45	50		56							45	50		
25							45	50		57							45	50		
26							45	50		58							45	50		
27							45	50		59							45	50		
28							45	50		60							45	50		
29	2						45	50		61							45	50		
30							45	50		62							45	50		
31							45	50		63							45	50		
32							45	50		64							45	50		

Veh Par 1-64 [5.1]

Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	
1	4		5				45	50	20	33							45	50	50	
2	1						45	50	30	34							45	50	50	
3	4		5				45	50	20	35							45	50	50	
4	1						45	50	30	36							45	50	50	
5							45	50	2	37							45	50	50	
6							45	50	2	38							45	50	50	
7							45	50	2	39							45	50	50	
8							45	50	2	40							45	50	50	
9							45	50	2	41							45	50	50	
10							45	50	2	42							45	50	50	
11							45	50	2	43							45	50	50	
12							45	50	2	44							45	50	50	
13							45	50	2	45							45	50	50	
14							45	50	2	46							45	50	50	
15							45	50	2	47							45	50	50	
16							45	50	2	48							45	50	50	
17							45	50	2	49							45	50	50	
18							45	50	2	50							45	50	50	
19							45	50		51							45	50		
20							45	50		52							45	50		
21							45	50		53							45	50		
22							45	50		54							45	50		
23							45	50		55							45	50		
24							45	50		56							45	50		
25							45	50		57							45	50		
26							45	50		58							45	50		
27							45	50		59							45	50		
28							45	50		60							45	50		
29	2						45	50		61							45	50		
30							45	50		62							45	50		
31							45	50		63							45	50		
32							45	50		64							45	50		

Vehicle Options 1-64 [5.2]

Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	
1	4		5				45	50	20	33							45	50	50	
2	1						45	50	30	34							45	50	50	
3	4		5				45	50	20	35							45	50	50	
4	1						45	50	30	36							45	50	50	
5							45	50	2	37							45	50	50	
6							45	50	2	38							45	50	50	
7							45	50	2	39							45	50	50	
8							45	50	2	40							45	50	50	
9							45	50	2	41							45	50	50	
10							45	50	2	42							45	50	50	
11							45	50	2	43							45	50	50	
12							45	50	2	44							45	50	50	
13							45	50	2	45							45	50	50	
14							45	50	2	46							45	50	50	
15							45	50	2	47							45	50	50	
16							45	50	2	48							45	50	50	
17							45	50	2	49							45	50	50	
18							45	50	2	50							45	50	50	
19							45	50		51							45	50		
20							45	50		52							45	50		
21							45	50		53							45	50		
22							45	50		54							45	50		
23							45	50		55							45	50		
24							45	50		56							45	50		
25							45	50		57							45	50		
26							45	50		58							45	50		
27							45	50		59							45	50		
28							45	50		60							45	50		
29	2						45	50		61							45	50		
30							45	50		62							45	50		
31							45	50		63							45	50		
32							45	50		64							45	50		

Vehicle Options 1-64 [5.2]

Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Det #	Call #	Swi	Day	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	
1	4		5				45	50	20	33							45	50	50	
2	1						45	50	30	34							45	50	50	
3	4		5				45	50	20	35							45	50	50	
4	1						45	50	30	36							45	50	50	
5							45	50	2	37							45	50	50	
6							45	50	2	38							45	50	50	
7							45	50	2	39				</						

Alt# 1 Times Table [1.1.6.1]

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

Alt# 2 Times Table [1.1.6.1]

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

Alt# 3 Times Table [1.1.6.1]

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

Alt# 1 Options Table [1.1.6.2]

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

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	Overlaps	Peds
1			
2			
3			
4			
5			
6			

Preemption 1, Options+ [3.6]

Pre #	Lock	Override Auto	Override Fish	Override Higher	Fish Dwell	Link
1	ON	ON	ON	ON	OFF	OFF
2	ON	ON	ON	ON	ON	ON
3	ON	ON	ON	ON	OFF	OFF
4	ON	ON	ON	ON	OFF	OFF
5	ON	ON	ON	ON	OFF	OFF
6	ON	ON	ON	ON	OFF	OFF

Exit Phases [3.2]

Pre #	Exit Phase
1	
2	
3	
4	
5	
6	

Init'l Dwell [3.9]

Phases					
Peds					
Overlap					

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		
4	ON	EMERG	DWELL		
5	ON	EMERG	DWELL		
6	ON	EMERG	DWELL		

Dwell Phases [3.2] and Overlaps+ [3.5]

Pre #	MaxPres	MinGrn	MinWik	PedCir	Co+Pre
1					ON
2					ON
3					ON
4					ON
5					ON
6					ON

Track Grrl

Pre #	Min Dwell	Ext Dwell	PedCir	Yel
1	2			
2	2			
3	2			
4	2			
5	2			
6	2			

Low Priority Preempts

Pre #	Type	Min	Max
7	OFF	0	0
8	OFF	0	0
9	OFF	0	0
10	OFF	0	0

Unit Parameters [1.2.1]

Stop Timer Over Preempt	OFF
Preempt or Ext Output	PRE
Max Seek Track Time	0
Max Seek Dwell Time	0

Channel Parameters [1.8.3]

D Conn Mappings	NONE
Pre Invert Rail Input	

Adv Timers [3.8]

enterYellowChange	
enterRedCir	
trackYellowCir	
trackRedCir	
AllRedB4Dwell	

D-5

D-5

Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

County of DUTCHESSSignal: **D-5**Contract: D261648PIN: 8809.28File: 13.08-9Date: 10/11/13**TABLE OF SWITCH PACKS**

SWITCH PACK	FUNCTION	INDICATIONS	FACE	TERMINAL WIRING BOARD		FACE	TERMINAL WIRING BOARD	
				TERMINAL	WIRE COLOR CODE		TERMINAL	WIRE COLOR CODE
1	OVL-1 Ø1+Ø2	Red	1	SP 1 R	14 / 05C - B - R	2	SP 1 R	14 / 10C - A - R
		Yellow		SP 1 Y	- O		SP 1 Y	- O
		Green		SP 1 G	- G		SP 1 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
2				SP 2 R			SP 2 R	
				SP 2 Y			SP 2 Y	
				SP 2 G			SP 2 G	
		Ground Wire		Grnd Bus			Grnd Bus	
3	Ø 4	Red	5	SP 3 R	14 / 05C - D - R	6	SP 3 R	14 / 10C - A - R / B
		Yellow		SP 3 Y	- O		SP 3 Y	- O / B
		Green		SP 3 G	- G		SP 3 G	- G / B
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W / B
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	EXC PED-1 Ø 3	HAND	21	SP 5 R	14 / 05C - 1P - R		SP 5 R	
		-----		SP 5 Y	-----		SP 5 Y	
		MAN		SP 5 G	- G		SP 5 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
6	EXC PED-2 Ø 3	HAND	22	SP 6 R	14 / 05C - 2P - R		SP 6 R	
		-----		SP 6 Y	-----		SP 6 Y	
		MAN		SP 6 G	- G		SP 6 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
7	EXC PED-3 Ø 3	HAND	23	SP 7 R	14 / 05C - 3P - R		SP 7 R	
		-----		SP 7 Y	-----		SP 7 Y	
		MAN		SP 7 G	- G		SP 7 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
8	EXC PED-4 Ø 3	HAND	24	SP 8 R	14 / 05C - 4P - R		SP 8 R	
		-----		SP 8 Y	-----		SP 8 Y	
		MAN		SP 8 G	- G		SP 8 G	
		Ground Wire		Grnd Bus	- W		Grnd Bus	
9				SP 9 R			SP 9 R	
				SP 9 Y			SP 9 Y	
				SP 9 G			SP 9 G	
		Ground Wire		Grnd Bus			Grnd Bus	
10				SP 10 R			SP 10 R	
				SP 10 Y			SP 10 Y	
				SP 10 G			SP 10 G	
		Ground Wire		Grnd Bus			Grnd Bus	
11	OVL-1 Ø1+Ø2	Red	3	SP 11 R	14 / 10C - C - R	4	SP 11 R	14 / 10C - E - R
		Yellow		SP 11 Y	- O		SP 11 Y	- O
		Green		SP 11 G	- G		SP 11 G	- G
		Ground Wire		Grnd Bus	- W		Grnd Bus	- W
12				SP 12 R			SP 12 R	
				SP 12 Y			SP 12 Y	
				SP 12 G			SP 12 G	
		Ground Wire		Grnd Bus			Grnd Bus	
13	Ø 4	Red	7	SP 13 R	14 / 10C - C - R / B	8	SP 13 R	14 / 10C - E - R / B
		Yellow		SP 13 Y	- O / B		SP 13 Y	- O / B
		Green		SP 13 G	- G / B		SP 13 G	- G / B
		Ground Wire		Grnd Bus	- W / B		Grnd Bus	- W / B
14				SP 14 R			SP 14 R	
				SP 14 Y			SP 14 Y	
				SP 14 G			SP 14 G	
		Ground Wire		Grnd Bus			Grnd Bus	

D-5

Signal #

MODEL 2070 SIGNAL OPERATION
PROGRAMMABLE FEATURES
SIGNAL OPERATION SPECIFICATION

County of DUTCHESS

Signal: **D-5**

Contract: D261648

PIN: 8809.28

File: 13.08-9

Date: 10/11/13

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)	
SP1 – SP11			1			
			2			
SP3 – SP13			3			
			4			
SP5 – SP6			5	X		
SP5 – SP7			6	X		
SP5 – SP8			7	X		
			8	X		
SP6 – SP7			9			
SP6 – SP8			10			
			11			
SP7 – SP8			12			
			13			
			14			
			15			
			16			

**CURRENT MONITOR BOARD
(IF USED)**

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

2, 4-10, 12, 14-16

Notes:

D-5

Signal #

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

County of DUTCHESSSignal: **D-5**Contract: D261648PIN: 8809.28File: 13.08-9Date: 10/16/13**TABLE OF INPUT WIRING**

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

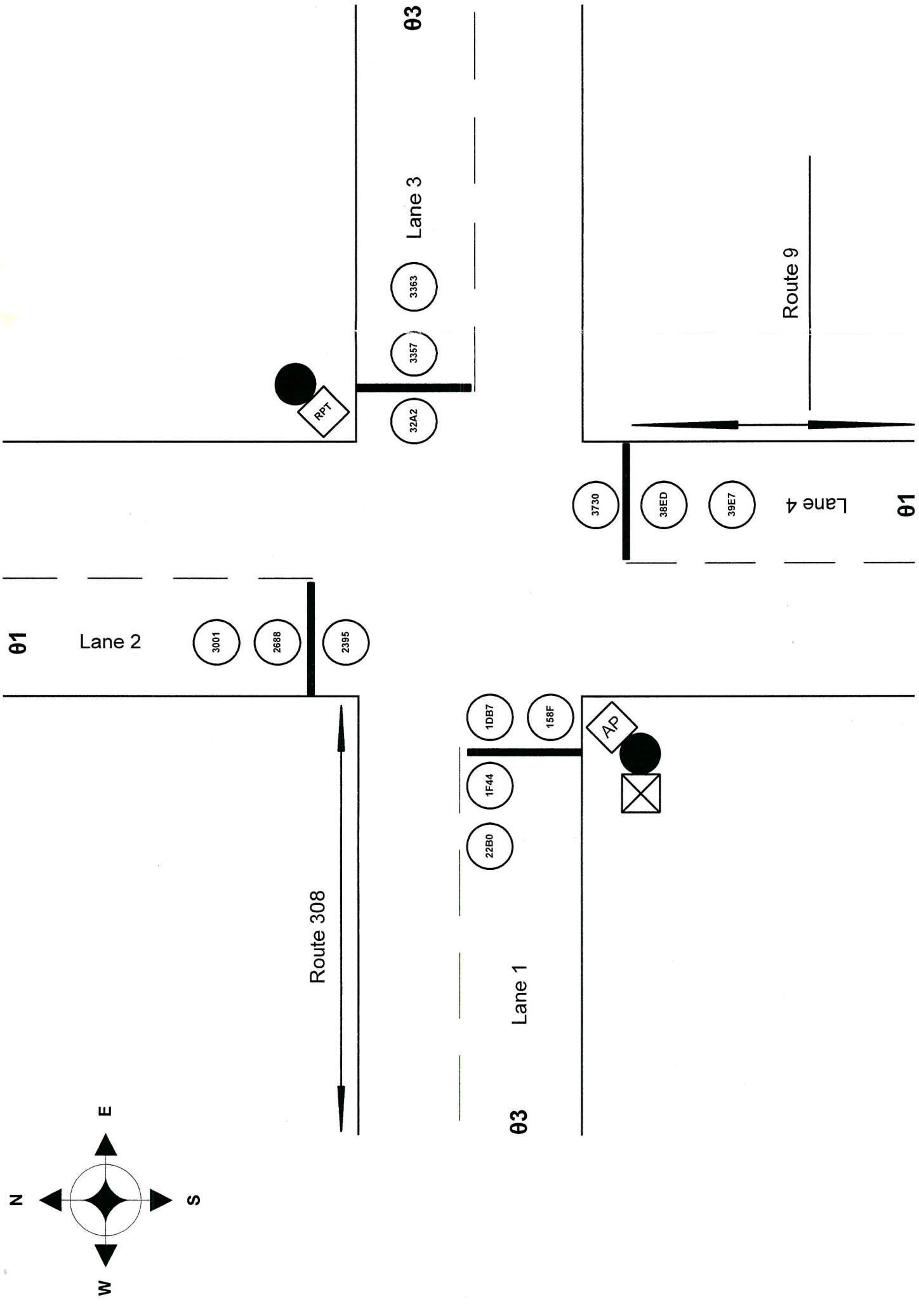
D-5

Access Point/Repeater Configuration Chart

ID Number	AP	RP1	RP2	RP3	RP4	RP5
Radio Ch.	9717	29EE				
Sensor Ch.	8	8				
	8	7				

Sensor Configuration Chart

Lane ID	Sensor ID	Sensor Channel	Sensor Type	CC/EX Card ID	Output Ch.
Lane 1	158F	8	StopBar	3-15-1	Phase 3
Lane 1	1DB7	8	StopBar	3-15-1	Phase 3
Lane 1	1F44	8	StopBar	3-15-1	Phase 3
Lane 1	22B0	8	StopBar	3-15-1	Phase 3
Lane 2	2395	7	StopBar	3-15-2	Phase 1
Lane 2	2688	7	StopBar	3-15-2	Phase 1
Lane 2	3001	7	StopBar	3-15-2	Phase 1
Lane 3	32A2	7	StopBar	3-15-3	Phase 3
Lane 3	3357	7	StopBar	3-15-3	Phase 3
Lane 3	3363	7	StopBar	3-15-3	Phase 3
Lane 4	3730	8	StopBar	3-15-4	Phase 1
Lane 4	38ED	7	StopBar	3-15-4	Phase 1
Lane 4	39E7	7	StopBar	3-15-4	Phase 1



INPUT FILE LAYOUT

SLOT 1	SLOT 2	SLOT 3	SLOT 4	SLOT 5	SLOT 6	SLOT 7	SLOT 8	SLOT 9	SLOT 10	SLOT 11	SLOT 12	SLOT 13	SLOT 14
Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:	Card:
Input 1	Input 3	Input 5	Input 7	Input 9	Input 11	Input 13	Input 15	Input 17	Input 19	Input 21	Input 23	Input 25	Input 27
ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15
Chan: 3	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1	Chan: 1
Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03	Phase: 03
Input 2	Input 4	Input 6	Input 8	Input 10	Input 12	Input 14	Input 16	Input 18	Input 20	Input 22	Input 24	Input 26	Input 28
ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15	ID: 3-15
Chan: 4	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2	Chan: 2
Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01	Phase: 01

Date: xx/xx/xx
 Drawn By: Traffic Systems
 Approval: Traffic Systems
 Rev: Description:
 Rev Date: Manufactured For:
 Scale: None Location:
 Sheet: 1 of 1 Job# S/N PO#

224 North Fehr Way
 Bayshore, NY 11706
 Ph # (631) 242-4292