



Traffic Impact Study

511 Fishkill Avenue
NYS Route 52 (Fishkill Avenue)
City of Beacon, Dutchess County, New York

February 26, 2019

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I. INTRODUCTION

A. PROJECT DESCRIPTION AND LOCATION (Figure No. 1)

This report has been prepared to evaluate the potential traffic impacts associated with the proposed redevelopment of 511 Fishkill Avenue as a Multi-Use commercial development. The site is located on the northwest side of NYS Route 52 (Fishkill Avenue), southwest of Prospect Street in the City of Beacon, Dutchess County, New York. The redevelopment is proposed to consist of a 37,247 square foot brewery, a 72,248 square foot warehouse, a 11,381 square foot arcade, 2,296 square feet of office space, and a 4,965 square foot event space. As shown on Figure No. 1, access to the development is proposed to be provided via the existing driveway connection to Fishkill Avenue, which is located approximately 670 feet southwest of Prospect Street.

A Design Year of 2024 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

B. SCOPE OF STUDY

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the proposed 511 Fishkill Avenue Multi-Use Redevelopment.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office and other studies completed for the City of Beacon for this area. These data were supplemented with new traffic counts collected by representatives of Maser Consulting, P.A. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2019 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The Year 2019 Existing Traffic Volumes were then projected to the 2024 Design Year to take into account background traffic growth as well as traffic from any other potential or approved developments in the area.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-B for further discussion). These volumes were then added to the roadway system based on anticipated arrival and departure

distributions and combined with the Year 2024 No-Build Traffic Volumes resulting in the Year 2024 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service.

II. EXISTING ROADWAY AND TRAFFIC DESCRIPTIONS

A. DESCRIPTION OF EXISTING ROADWAYS

As shown on Figure No. 1, the proposed 511 Fishkill Avenue Redevelopment will be accessed from NYS Route 52 (Fishkill Avenue). The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix “D” contains copies of the capacity analyses, which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. NYS Route 52 (Fishkill Avenue)

NYS Route 52 (Fishkill Avenue) is classified as an Urban Minor Arterial roadway in the study area under New York State Department of Transportation (NYSDOT) jurisdiction. The roadway generally traverses in a northeasterly direction throughout Southern Dutchess County. In the vicinity of the site the roadway provides regional access to I-84 and the downtown Beacon Main Street area. The roadway generally consists of a two-lane cross-section in the immediate area of the project site with additional auxiliary lanes provided at various intersections, including at the Red Schoolhouse Road intersection. The posted speed limit is 30 mph in the City of Beacon and 40 mph in the Town of Fishkill. Sidewalk is provided along the west side of the roadway in the vicinity of the site.

2. Red Schoolhouse Road

Red Schoolhouse Road is a Town roadway under the jurisdiction of the Town of Fishkill that originates at an unsignalized “T-shaped” intersection with Old Glenham Road. The roadway traverses in a northerly direction and provides access to several residential single-family homes. The roadway is approximately 22 feet wide providing a single lane in each direction with a speed limit of 40 mph.

3. Prospect Street

Prospect Street is a Town roadway under the jurisdiction of the Town of Fishkill that originates at an unsignalized “T-shaped” intersection with NYS Route 52 approximately 670 feet northeast of the site. The roadway traverses in a northwesterly direction and provides access to several single-family homes, as well as the Fishkill Correctional Facility. The roadway is approximately 22 feet wide providing a single lane in each direction with a speed limit of 30 mph.

4. Mill Street

Mill Street is a City roadway under the jurisdiction of the City of Beacon that originates at a “stop” sign controlled “T-shaped” intersection with Fishkill Avenue controlled by a flashing traffic signal. The roadway traverses in a southeasterly direction and provides access to various residential uses. The roadway is approximately 25 feet wide providing a single lane in each direction with a speed limit of 30 mph. There is also an existing unsignalized train crossing of Mill Street approximately 20 feet from the NYS Route 52 intersection.

B. YEAR 2019 EXISTING TRAFFIC VOLUMES (Figures No. 2 through 4)

Manual traffic counts and pedestrian counts were collected by representatives of Maser Consulting, P.A. on January 17, 2019 for the weekday AM and PM peak periods and on January 19, 2019 for the Saturday peak period. The traffic counts were then compared to traffic volume data from previous traffic studies conducted by our office and for the City of Beacon as well as traffic volume data available from the New York State Department of Transportation (NYSDOT) for the NYS Route 52 Corridor. Based on this information, the Year 2019 Existing Traffic Volumes were established for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours at the following study area intersections.

- NYS Route 52 and Red Schoolhouse Road
- NYS Route 52 and Prospect Street
- NYS Route 52 and Hudson Baylar Beacon Driveway/Site Access
- NYS Route 52 and Mill Street

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- | | |
|------------------------|-------------------|
| ▪ Weekday Peak AM Hour | 8:00 AM – 9:00 AM |
| ▪ Weekday Peak PM Hour | 3:45 PM – 4:45 PM |
| ▪ Saturday Peak Hour | 1:00 PM – 2:00 PM |

The resulting Year 2019 Existing Traffic Volumes are shown on Figures No. 2, 3 and 4 for the Weekday Peak AM Hour, Weekday Peak PM Hour and Saturday Peak Hour respectively.

III. EVALUATION OF FUTURE TRAFFIC CONDITIONS

A. YEAR 2024 NO-BUILD TRAFFIC VOLUMES (Figure No. 5 through 7)

The Year 2019 Existing Traffic Volumes were increased by a growth factor of 2.0% per year to account for general background growth in the area. This growth factor is considered conservatively high based on historical data from NYSDOT, which indicates a much lower growth level. However, this growth rate also accounts for any other potential or proposed developments in the area not specifically identified in this study. The resulting Year 2024 No-Build Traffic Volumes are shown on Figures No. 5, 6 and 7 for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours, respectively.

B. SITE GENERATED TRAFFIC VOLUMES (Tables No. 1)

Estimates of the amount of traffic to be generated by the proposed development during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled “Trip Generation”, 10th Edition, 2017, based on Land Use Category – 110 – Light Industrial Warehouse for the brewery, Land Use Category – 150 – Warehousing for the warehouse use, Land Use Category – 495 – Recreational Community Center for the Arcade use, and Land Use Category – 710 – General Office Building for the office use. Additionally, trip generation estimates were based on data obtained from Spack Consulting Open Source Trip Generation Data Q3, 2018 for the event space. Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours.

C. ARRIVAL AND DEPARTURE DISTRIBUTIONS (Figures No. 8 and 9)

Arrival and departure distributions were established to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network the distributions were identified. The resulting arrival and departure distributions are shown on Figures No. 8 and 9, respectively.

D. 2024 BUILD CONDITIONS TRAFFIC VOLUMES (Figures No. 10 through 15)

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 10, 11 and 12 for each of the peak hours, respectively. The site generated traffic volumes were then added to the Year 2024 No-Build Traffic Volumes to obtain the Year 2024 Build Traffic Volumes. The resulting Year 2024 Build Traffic Volumes are shown on Figures No. 13, 14 and 15 for the Weekday Peak AM, Weekday Peak PM and Saturday Peak Hours, respectively.

E. DESCRIPTION OF ANALYSIS PROCEDURES

It was necessary to perform capacity analyses to determine existing and future traffic operating conditions at the study area intersections. The following is a brief description of the analysis method utilized in this report:

- **Signalized Intersection Capacity Analysis**

The capacity analysis for a signalized intersection was performed in accordance with the procedures described in the *Highway Capacity Manual, 6th Edition*, published by the Transportation Research Board. The terminology used in identifying traffic flow conditions is Levels of Service. A Level of Service “A” represents the best condition and a Level of Service “F” represents the worst condition. A Level of Service “C” is generally used as a design standard while a Level of Service “D” is acceptable during peak periods. A Level of Service “E” represents an operation near capacity. In order to identify an intersection’s Level of Service, the average amount of vehicle delay is computed for each approach to the intersection as well as for the overall intersection.

- **Unsignalized Intersection Capacity Analysis**

The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *Highway Capacity Manual, 6th Edition*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of

Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix “C” of this report.

F. RESULTS OF ANALYSIS (Table No. 2)

Capacity analyses, which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors, were performed at the study area intersections utilizing the procedures described above and the Synchro Version 10 analysis software to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.

Table No. 2 summarizes the results of the capacity analysis for the 2019 Existing, 2024 No-Build and 2024 Build. Appendix “D” contains copies of the capacity analyses which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. NYS Route 52 (Fishkill Avenue) and Red Schoolhouse Road

Red Schoolhouse Road intersects NYS Route 52 at a signalized full movement intersection. The eastbound NYS Route 52 approach consists of a 235-foot long left turn lane and a shared through/right turn lane. The westbound NYS Route 52 approach consists of a 75-foot left turn lane and a shared through/right turn lane. The northbound Red Schoolhouse Road approach consists of one shared left/through/right lane. The southbound Red Schoolhouse Road approach consists of a 135-foot long right turn lane and a shared through/right turn lane.

Capacity analysis was conducted for this intersection utilizing the 2019 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at an overall Level of Service “C” during the AM Peak Hour and at an overall Level of Service “B” during the PM Peak Hour and Saturday Peak Hour.

The capacity analysis was recomputed using the 2024 No-Build and 2024 Build Traffic Volumes. These results indicate that the intersection is expected to continue to operate at an overall Level of Service “C” during the AM Peak Hour and at an overall Level of Service “B” during the PM Peak Hour and Saturday Peak Hour both with and without the project. It should be noted that the Red Schoolhouse Road approaches are expected

to experience longer delays in the future regardless of the project. Therefore, an analysis was conducted for each of the time periods with potential signal timing modifications that could be implemented in order to improve operating conditions at the intersection, specifically on the Red Schoolhouse Road approaches. The analyses with these signal timing modifications indicates that the intersection will operate at an overall Level of Service “B” across all peak hours with improved operation on the Red Schoolhouse Road approaches. These signal timing modifications would require review and approval by the NYSDOT, but could be considered regardless of the project.

2. NYS Route 52 (Fishkill Avenue) and Prospect Street

Prospect Street intersects NYS Route 52 at an unsignalized “T-shaped” intersection. All approaches to the intersection consist of one lane and sight distances are good for all approaches. Sidewalk is provided along the west side of NYS Route 52 south of this intersection.

Capacity analysis was conducted for this intersection utilizing the 2019 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service “D” or better during the AM Peak Hour and PM Peak Hour, and at a Level of Service “C” or better during the Saturday Peak Hour.

The capacity analysis was recomputed using the 2024 No-Build and Build Traffic volumes. These results indicate that the intersection is expected to operate at a Level of Service “E” or better during the AM Peak Hour and PM Peak Hour, and at a Level of Service “C” or better during the Saturday Peak Hour both with and without the project.

3. NYS Route 52 (Fishkill Avenue) and Hudson Baylar Beacon Driveway/Site Access

The Hudson Baylar Beacon Driveway and the 511 Fishkill Site Access both intersect NYS Route 52 at unsignalized intersections offset approximately 100 feet from each other. Due to their proximity, these intersections tend to function as a single, full lane movement intersection. All approaches to the intersection consist of one lane and sight distances are good for all approaches. Sidewalk is provided on the west side of the NYS Route 52 southbound approach. Note that there is also an existing unsignalized train crossing of the Hudson Baylar Beacon driveway approximately 20 feet east of the NYS Route 52 intersection.

Capacity analysis was conducted for this intersection utilizing the 2019 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service “B” or better during the AM Peak Hour, and at a Level of Service “C”

or better during the PM Peak Hour and Saturday Peak Hour. The capacity analysis was recomputed using the 2024 No-Build Traffic Volumes, which indicated that similar Levels of Service would be maintained in the future without the proposed project.

The capacity analysis was again recomputed using the 2024 Build Traffic Volumes. These results indicate that the intersection is expected to operate at a Level of Service “C” or better during the AM Peak Hour and Saturday Peak Hour, and at a Level of Service “D” or better during the PM Peak Hour. Note that the sidewalk curb ramps at the site driveway should be reviewed to determine if they meet ADA requirements, especially the curb ramp on the south side of the driveway. Any modifications to the driveway or existing sidewalk will require a NYSDOT Highway Work Permit.

4. NYS Route 52 and Mill Street

Mill Street intersects NYS Route 52 at an unsignalized “T-shaped” intersection that is controlled by a flashing traffic signal. All approaches to the intersection consist of one lane and sight distances are good for all approaches. Striped pedestrian crosswalks are provided on both the southwest bound NYS Route 52 approach and the Mill Street approach. Sidewalk is provided along the west side of NYS Route 52 in the immediate vicinity of this intersection. Note that there is also an existing unsignalized train crossing of Mill Street approximately 20 feet east of the NYS Route 52 intersection.

Capacity analysis was conducted for this intersection utilizing the 2019 Existing Traffic Volumes. The analysis results indicate that the intersection is currently operating at a Level of Service “C” or better during the AM Peak Hour, PM Peak Hour and Saturday Peak Hour.

The capacity analysis was recomputed using the 2024 No-Build Traffic Volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “C” or better during the AM Peak Hour and Saturday Peak Hour, while a Level of Service “D” or better will be experienced during the PM Peak Hour.

The capacity analysis was recomputed using the 2024 Build Traffic Volumes. These results indicate that the intersection is expected to continue to operate at a Level of Service “C” or better during the AM Peak Hour, and at Level of Service “D” or better during the PM Peak Hour and Saturday Peak Hour. Note that regardless of the proposed project, a “stop” sign and solid white stop bar striping should be installed on the Mill Street approach for conformance with the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) for a flashing traffic signal-controlled intersection.

IV. SUMMARY AND CONCLUSION

As indicated above, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and Build Conditions. Therefore, it is concluded that the 511 Fishkill Avenue Redevelopment project generated traffic is not expected to result in any significant impacts to traffic operating conditions in the vicinity of the site.



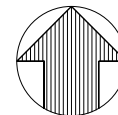
511 FISHKILL AVENUE

APPENDIX A

FIGURES



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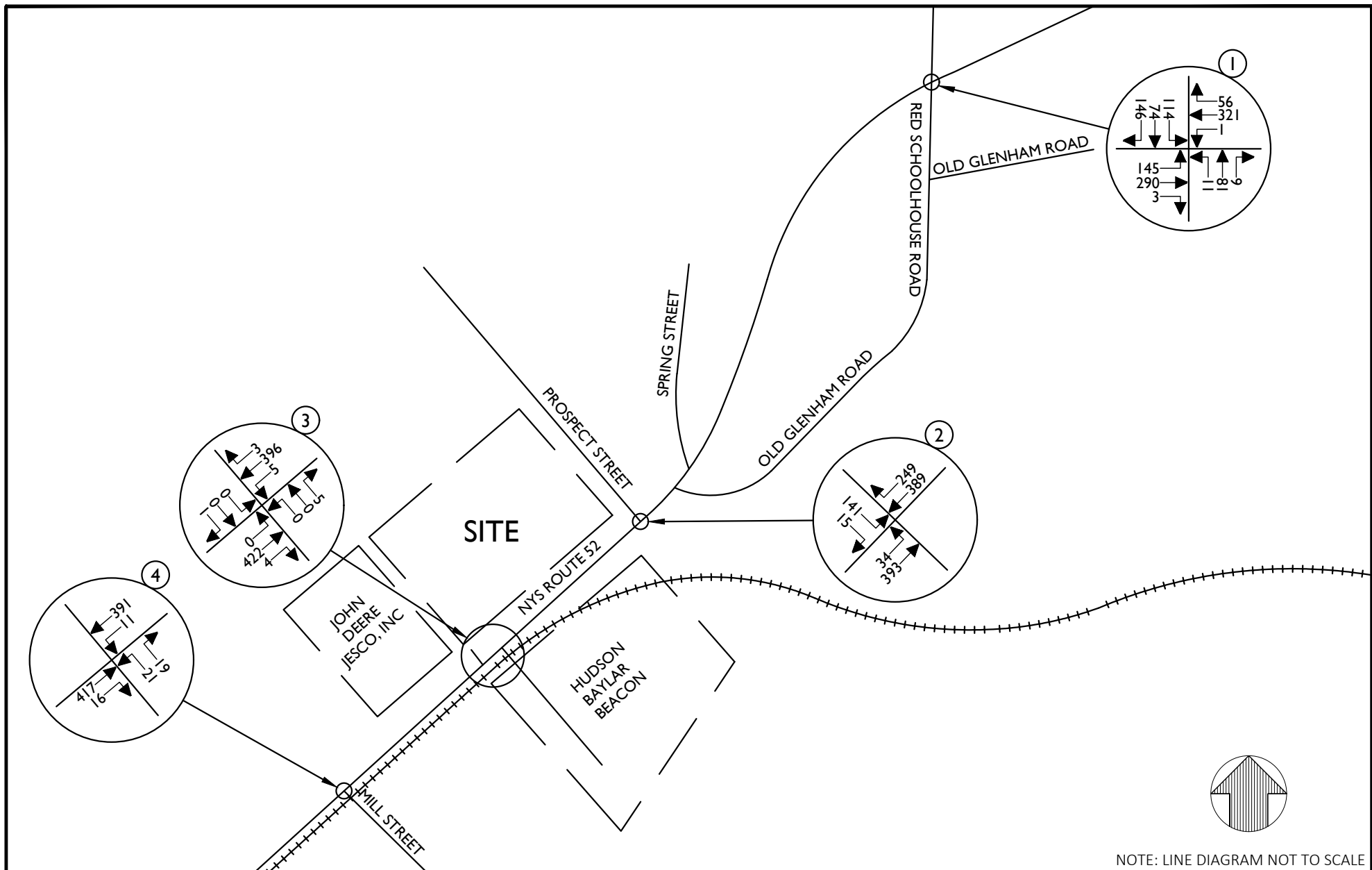
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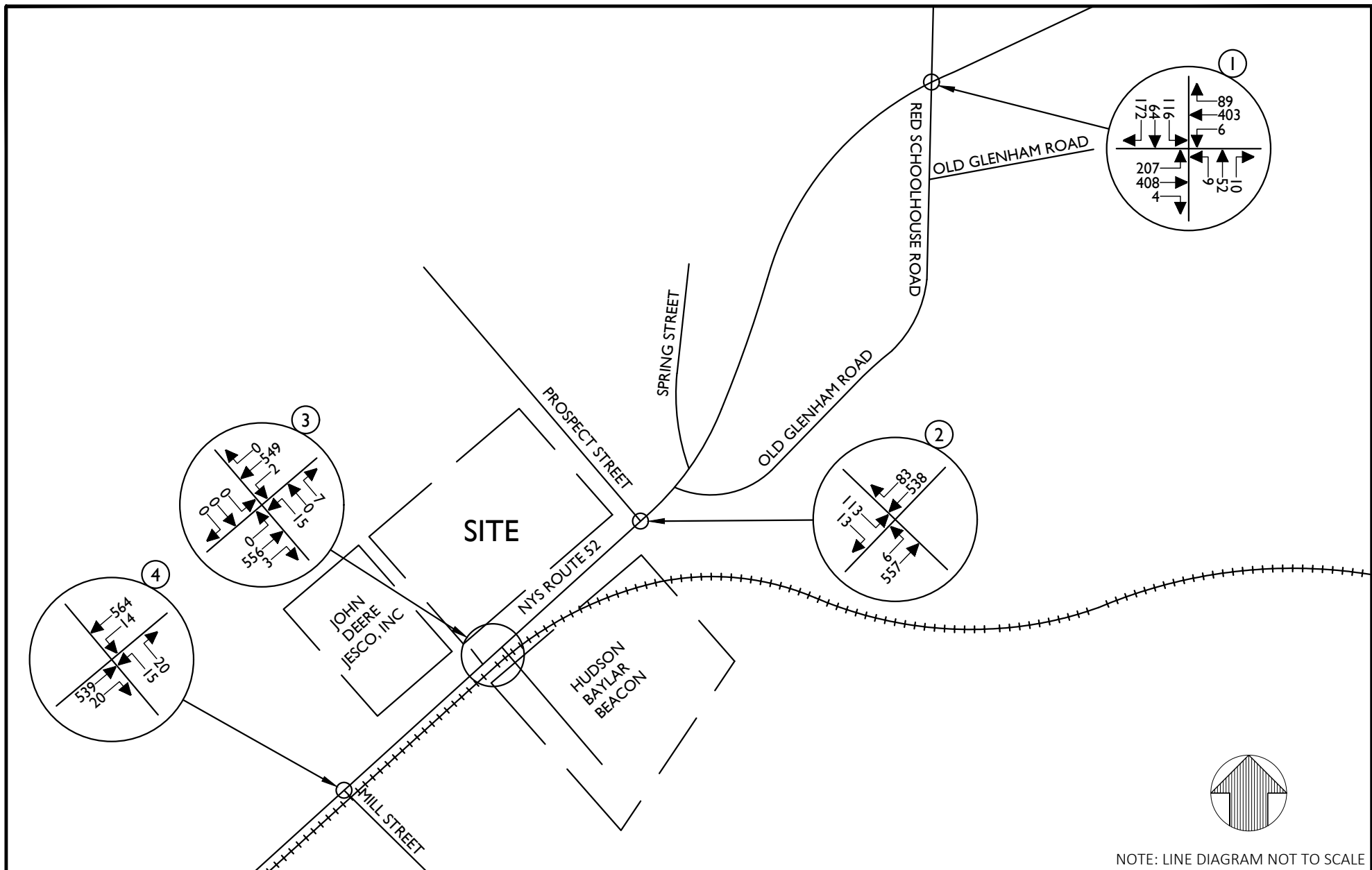
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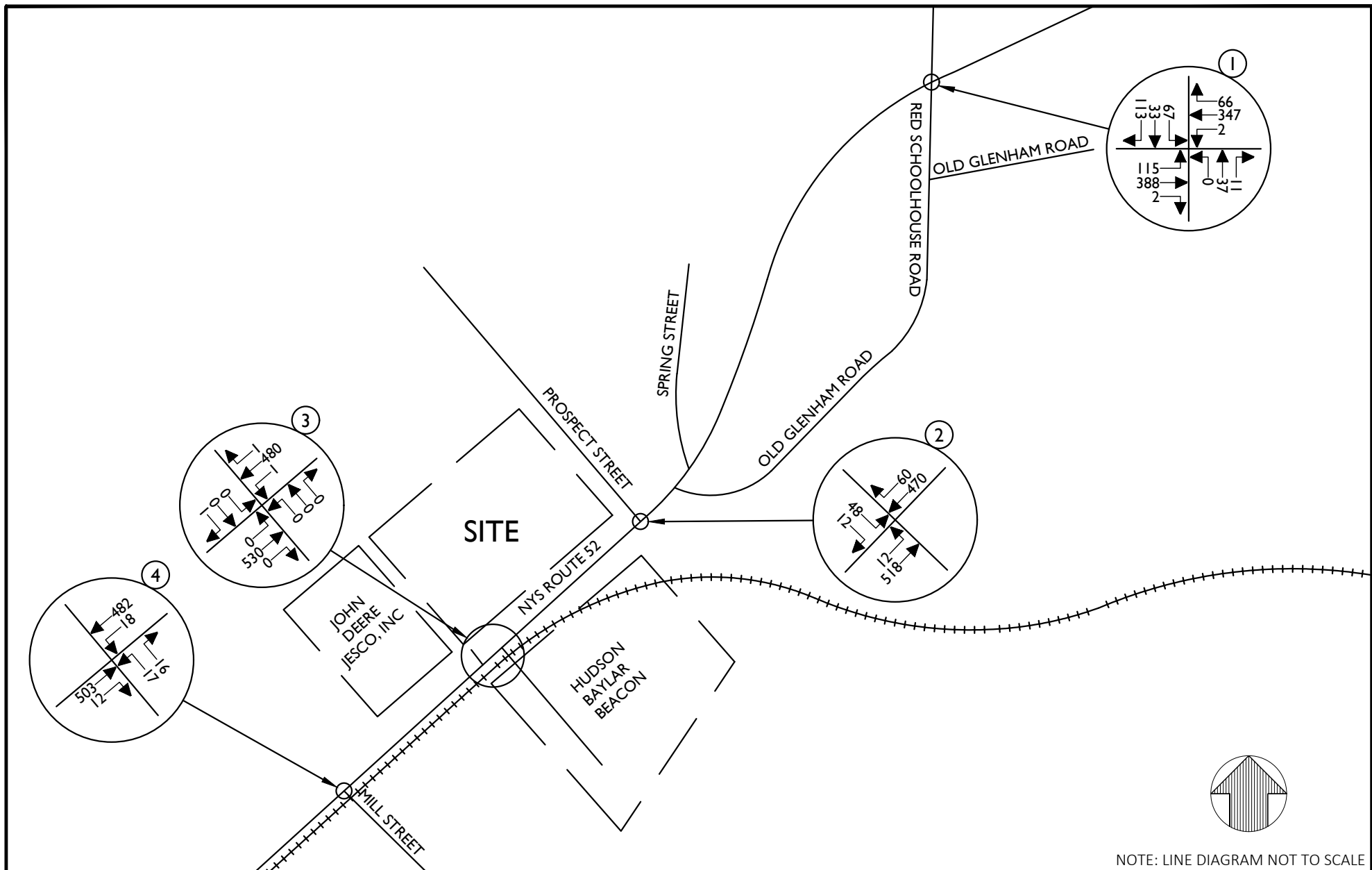
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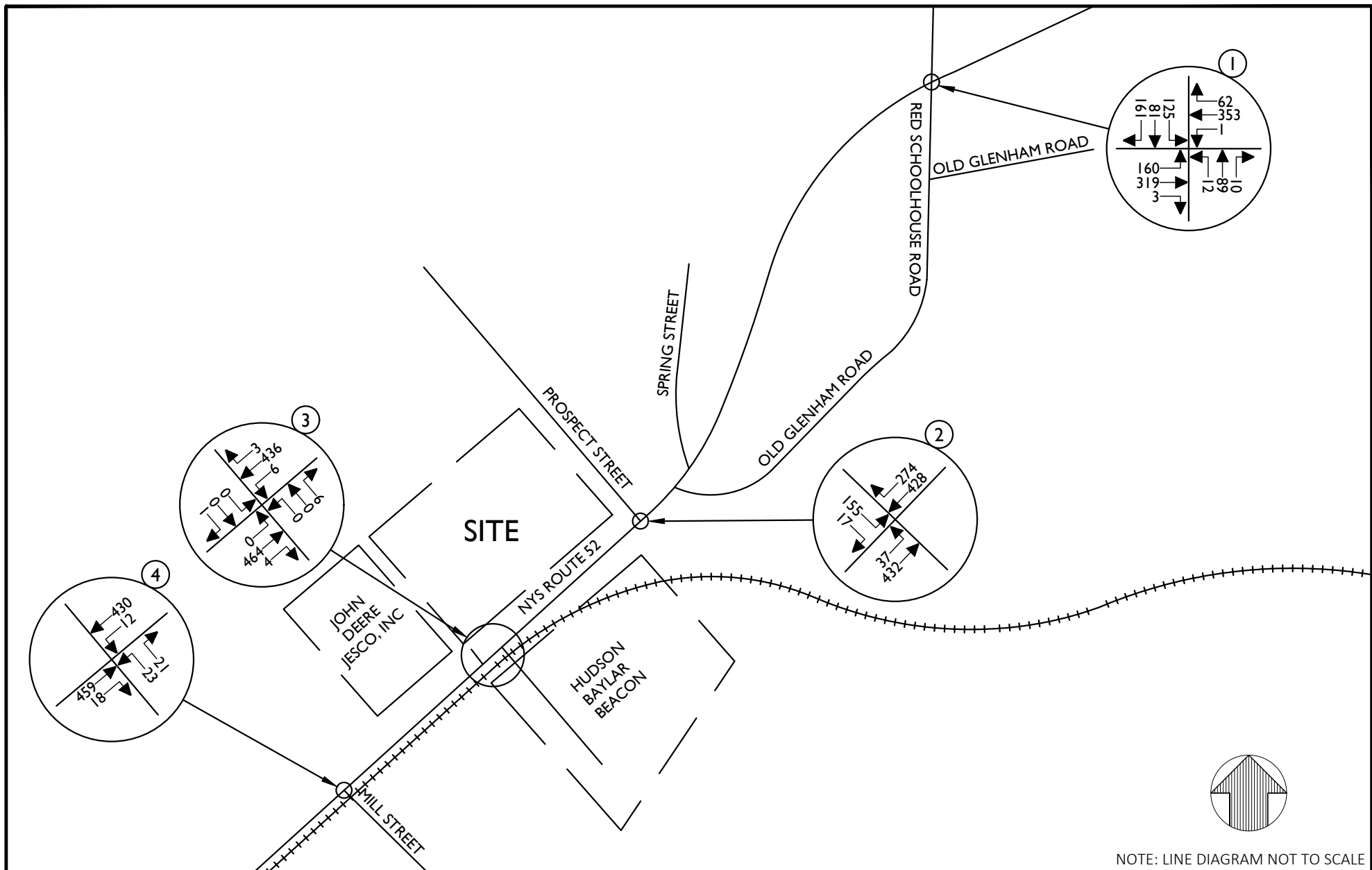
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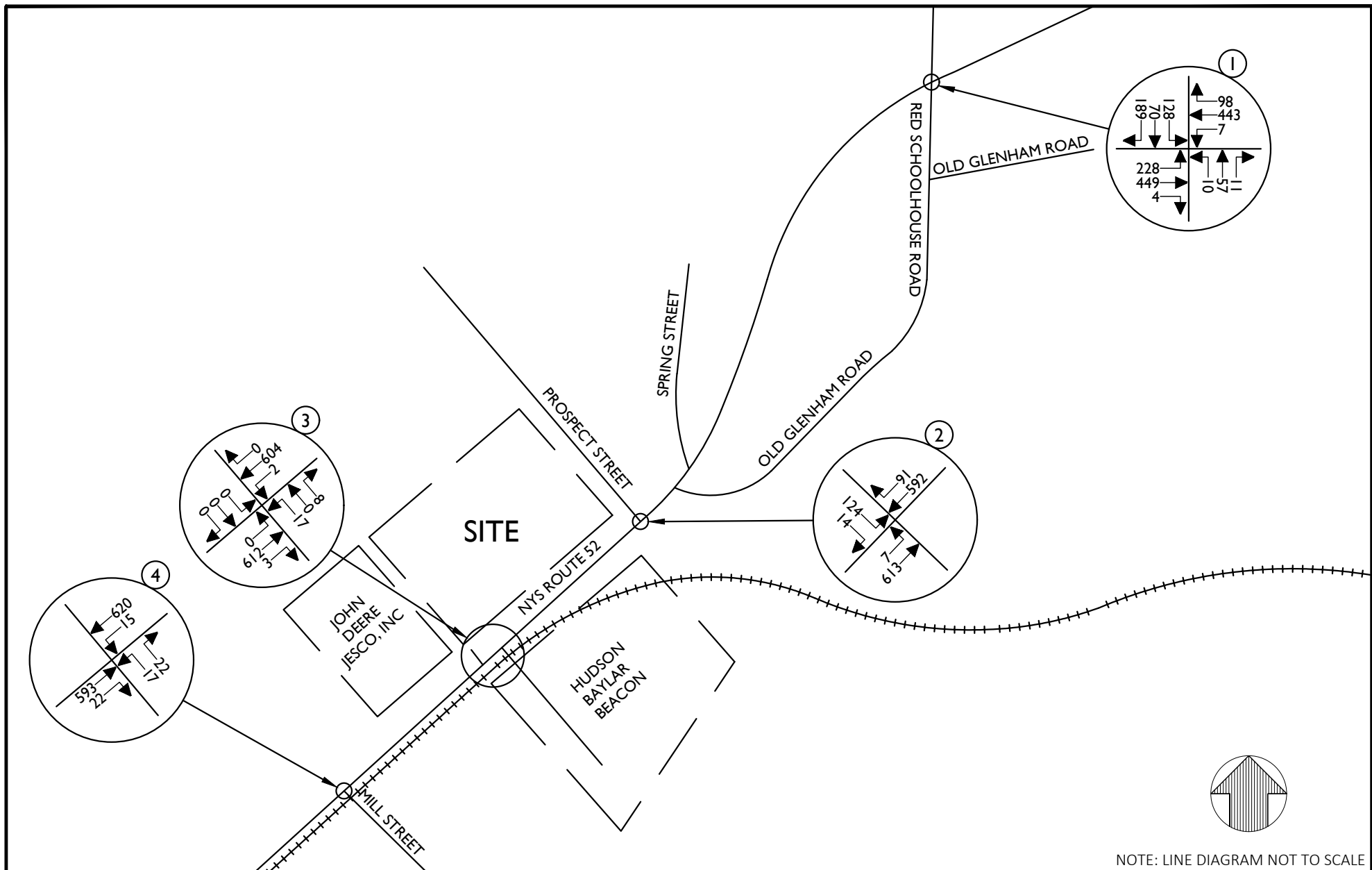
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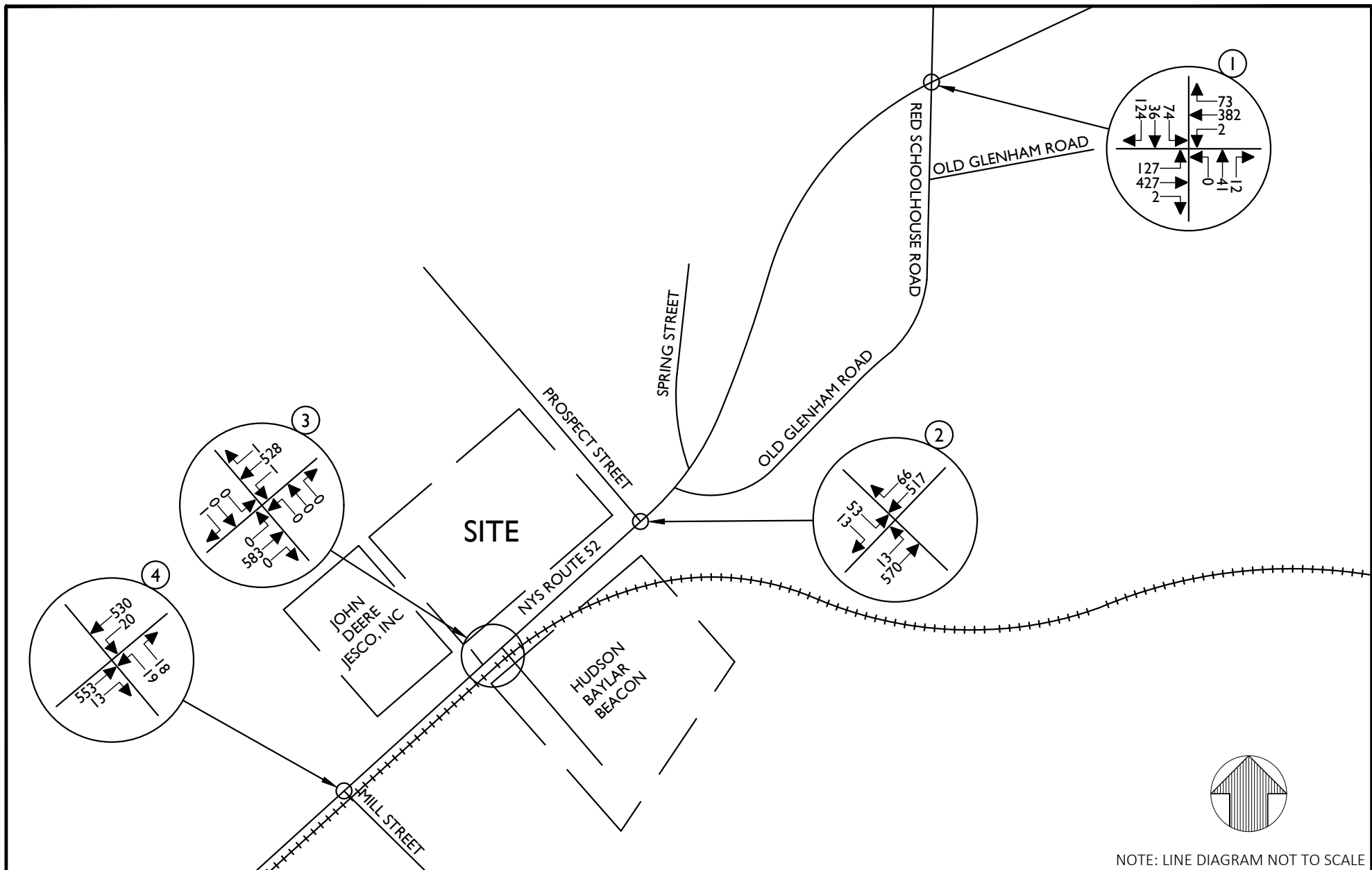
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2024 NO-BUILD TRAFFIC VOLUMES
WEEKDAY PEAK PM HOUR

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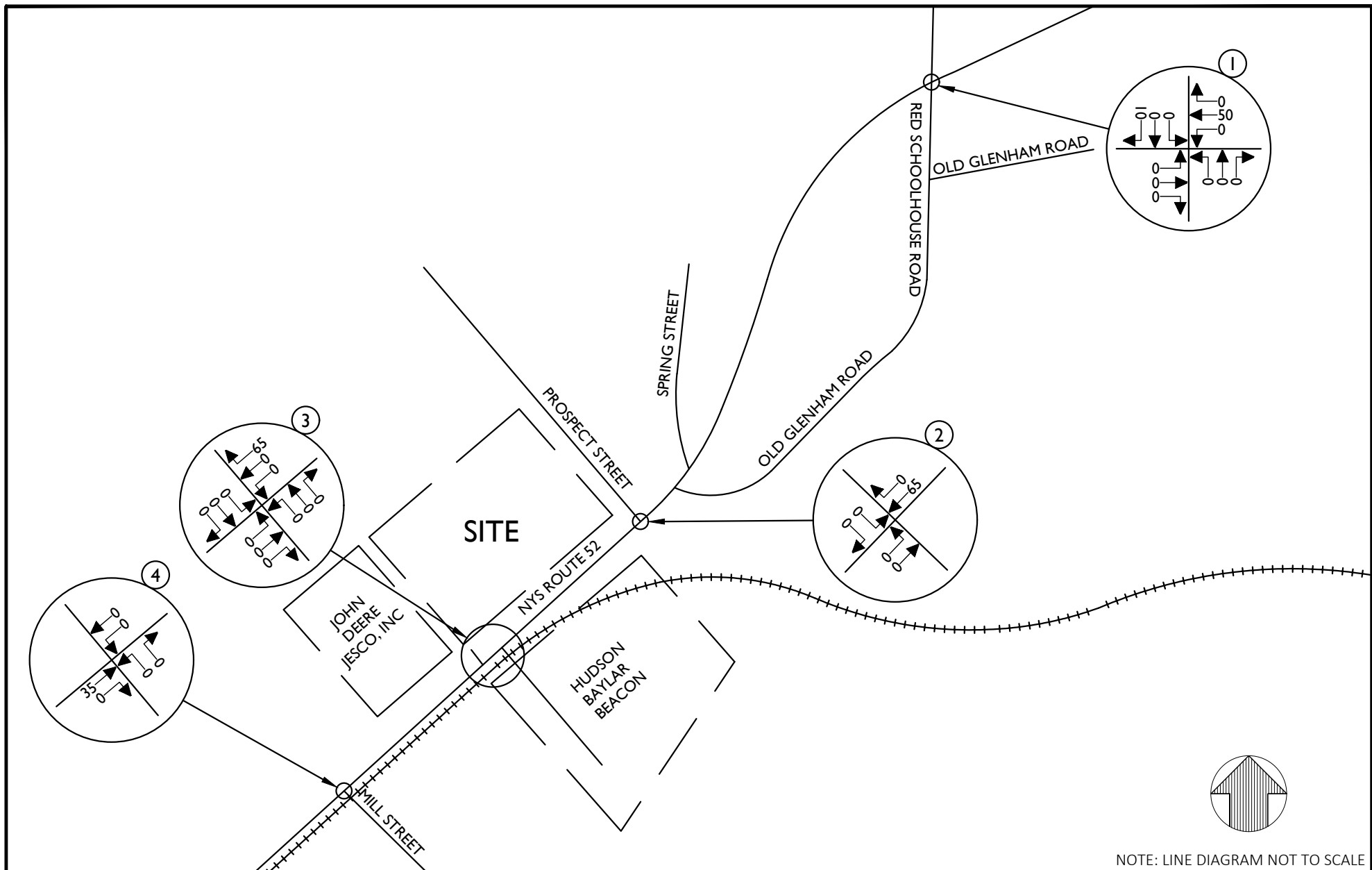
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SATURDAY PEAK HOUR**

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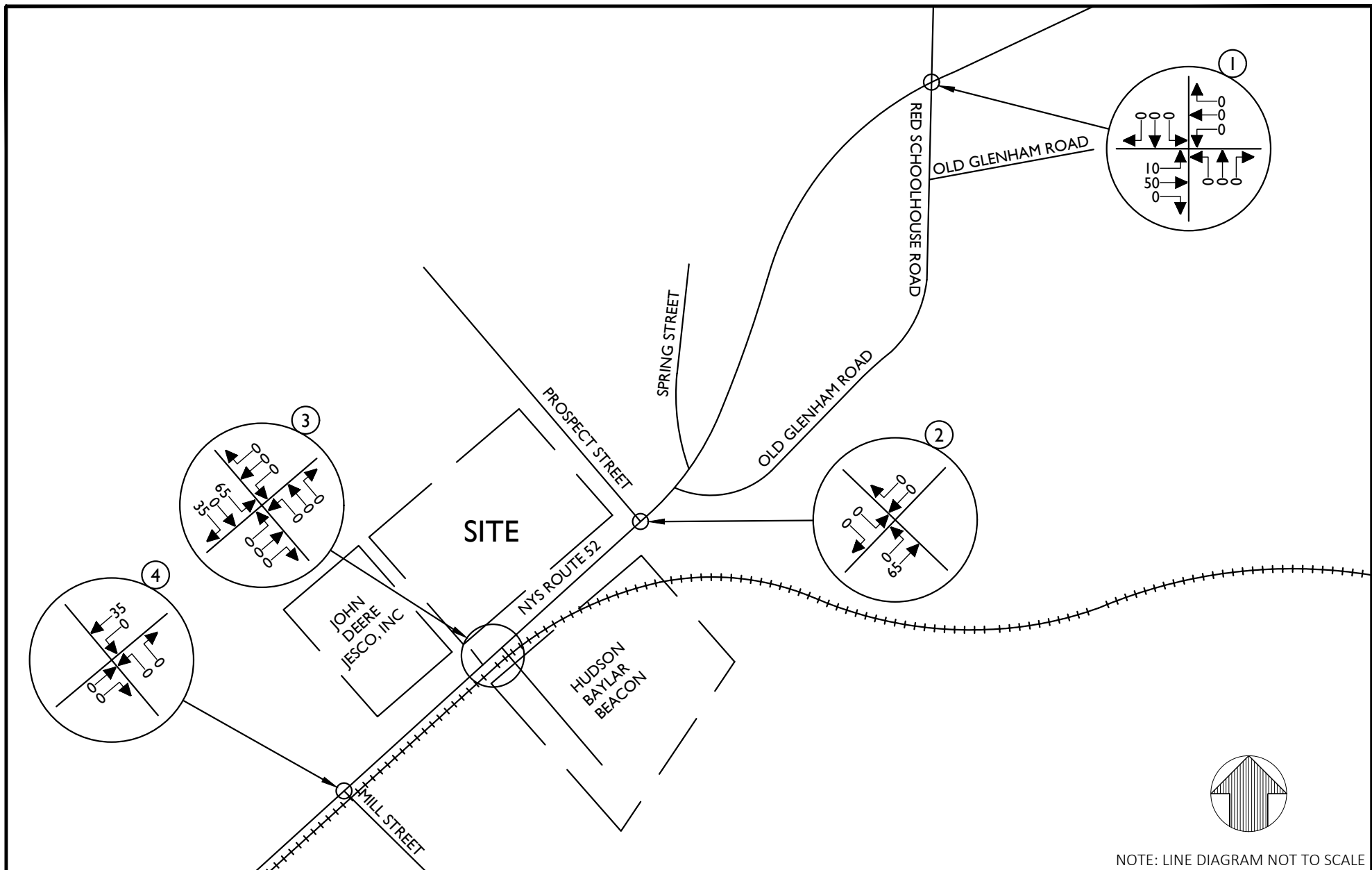
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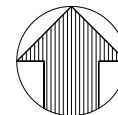
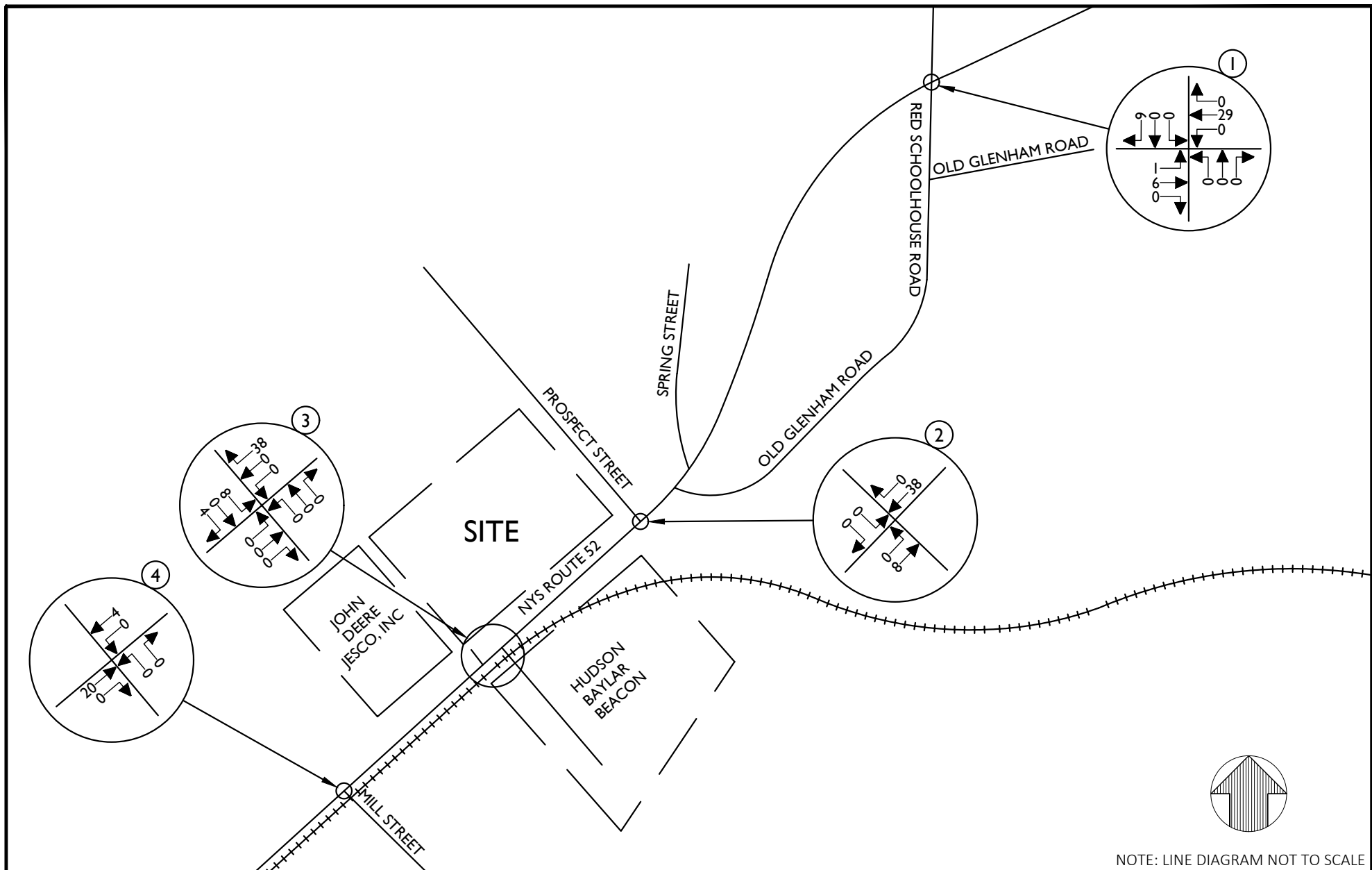
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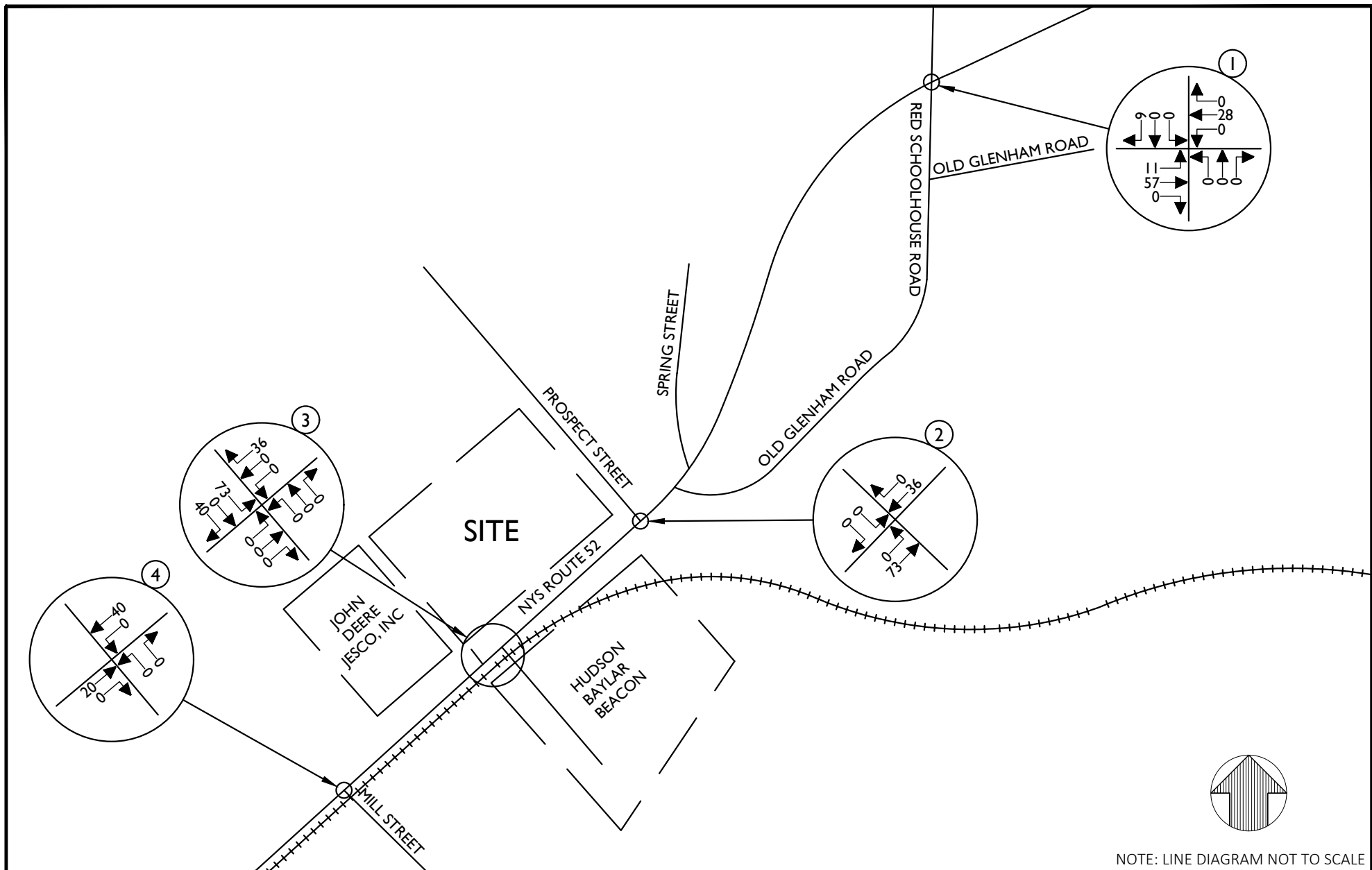
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WEEKDAY PEAK AM HOUR**

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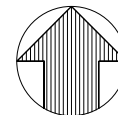
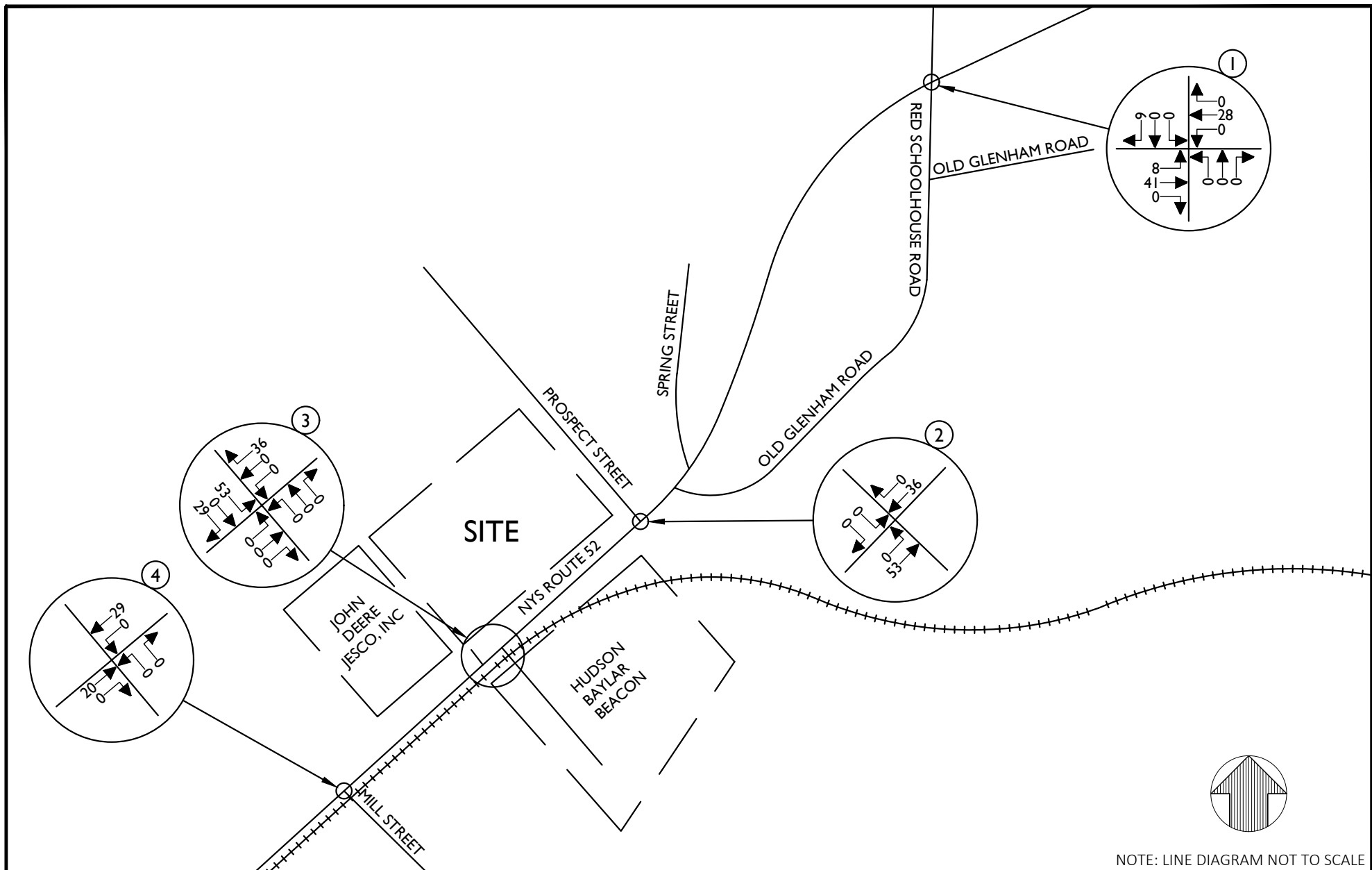
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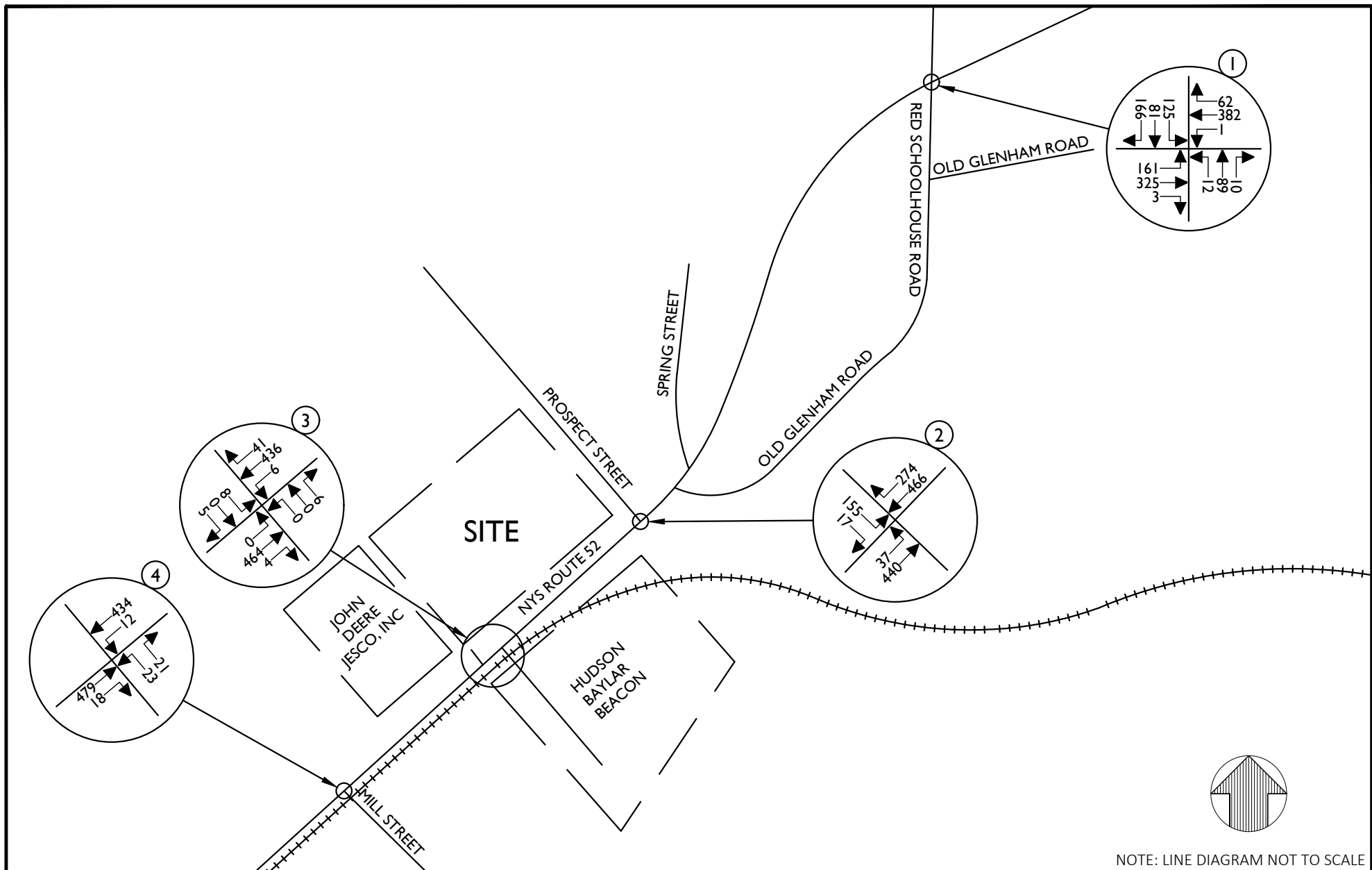
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**SITE GENERATED
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SATURDAY PEAK HOUR**

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SITE GENERATED TRAFFIC VOLUMES SATURDAY PEAK HOUR			
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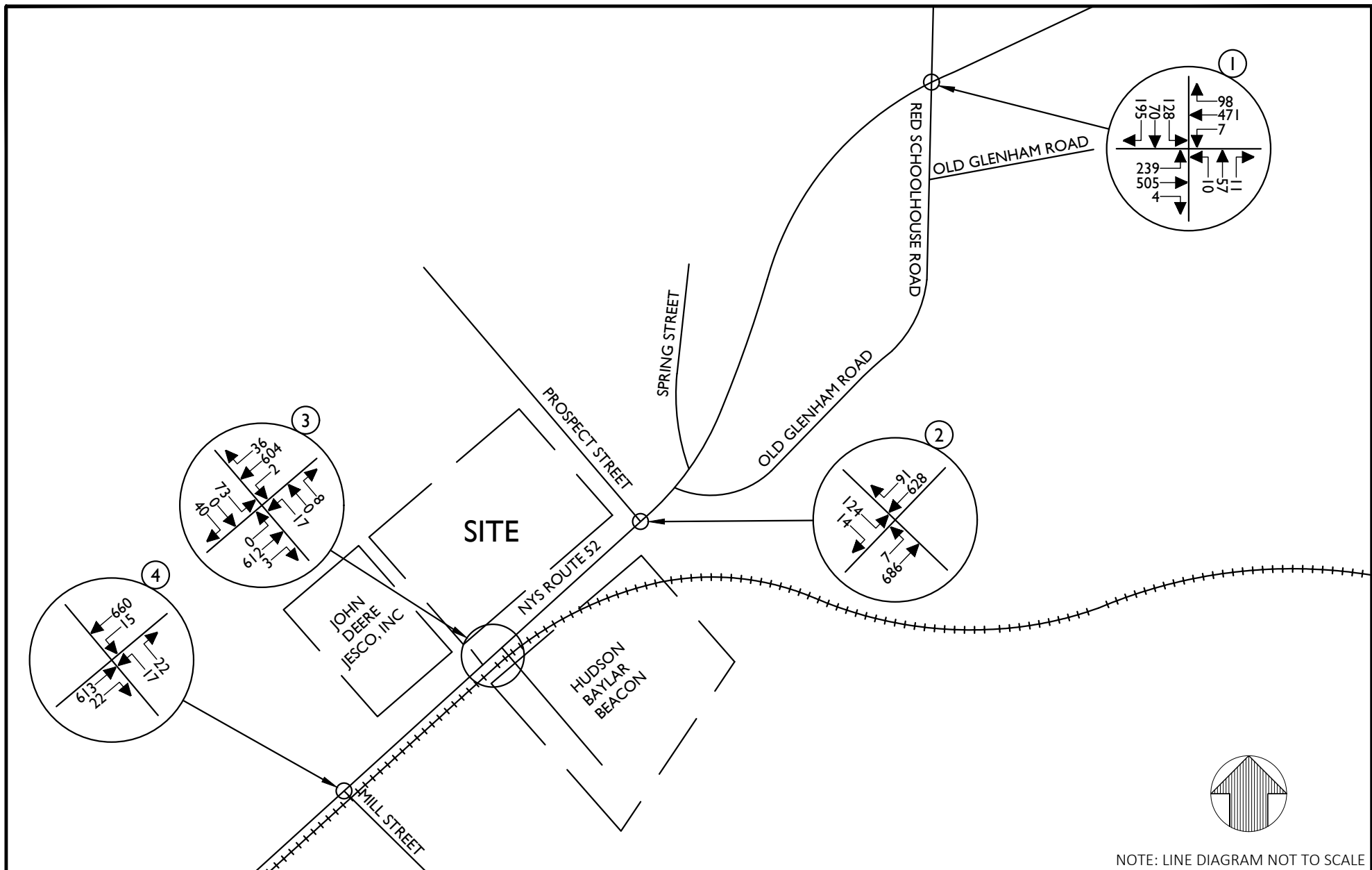
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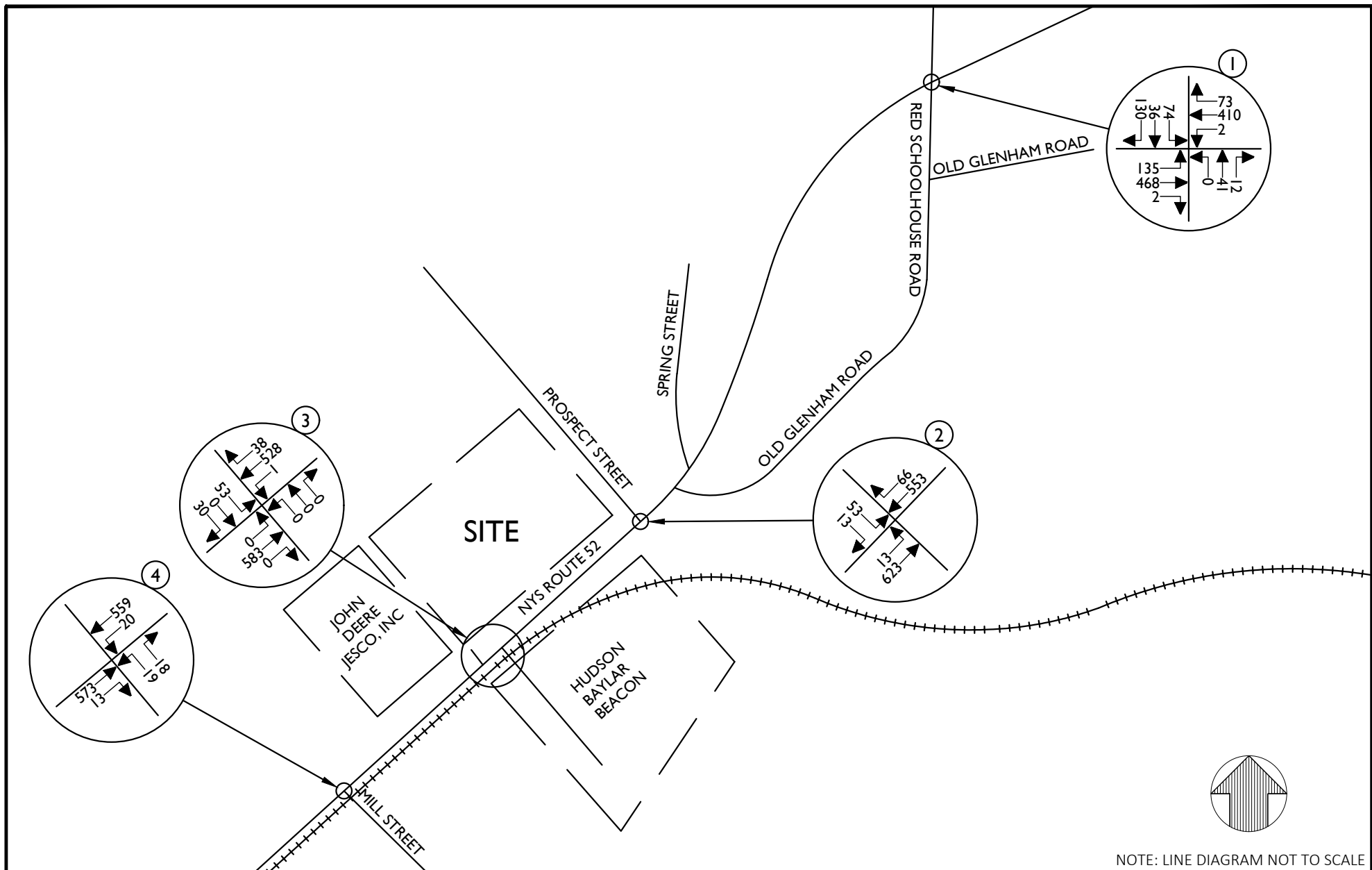
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WEEKDAY PEAK PM HOUR**

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**2024 BUILD TRAFFIC VOLUMES
SATURDAY PEAK HOUR**

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511 FISHKILL AVENUE

APPENDIX B

TABLES

TABLE NO. 1
HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED
SITE GENERATED TRAFFIC VOLUMES

511 FISHKILL AVENUE CITY OF BEACON, NEW YORK	ENTRY		EXIT	
	HTGR ¹	VOLUME	HTGR ¹	VOLUME
BREWERY (37,247 SQ. FT.)				
PEAK AM HOUR	0.62	23	0.08	3
PEAK PM HOUR	0.08	3	0.54	20
SATURDAY PEAK HOUR	0.21	8	0.21	8
WAREHOUSE (72,248 SQ. FT.)				
PEAK AM HOUR	0.36	26	0.11	8
PEAK PM HOUR	0.11	8	0.54	39
SATURDAY PEAK HOUR	0.03	2	0.03	2
ARCADE (11,381 SQ. FT.)				
PEAK AM HOUR	0.26	3	0.00	0
PEAK PM HOUR	1.93	22	1.67	19
SATURDAY PEAK HOUR	1.85	21	1.85	21
OFFICE (2,296 SQ. FT.)				
PEAK AM HOUR	1.31	3	0.44	1
PEAK PM HOUR	0.87	2	1.74	4
SATURDAY PEAK HOUR	0.44	1	0.44	1
EVENT SPACE (4,965 SQ. FT.)				
PEAK AM HOUR	0.60	3	0.00	0
PEAK PM HOUR	4.23	21	6.24	31
SATURDAY PEAK HOUR	12.89	64	10.07	50
TOTAL SITE GENERATED TRAFFIC				
PEAK AM HOUR	-	58	-	12
PEAK PM HOUR	-	56	-	113
SATURDAY PEAK HOUR	-	96	-	82

NOTES:

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 10TH EDITION, 2017. ITE LAND USE CODE - 110 - LIGHT INDUSTRIAL FOR THE BREWERY, ITE LAND USE CODE - 150 - WAREHOUSING FOR THE WAREHOUSE, ITE LAND USE CODE- 495 - RECREATIONAL COMMUNITY CENTER AND ITE LAND USE CODE - 712 - SMALL OFFICE BUILDING. THE EVENT SPACE IS BASED ON DATA OBTAINED FROM SPACK CONSULTING OPEN SOURCE TRIP GENERATION DATA Q3, 2018 FOR A BREWERY TASTING ROOM.

TABLE NO. 2
LEVEL OF SERVICE SUMMARY TABLE

				2019 EXISTING			2024 NO-BUILD			2024 BUILD			
				AM	PM	SAT	AM	PM	SAT	AM	PM	SAT	
1	NYS ROUTE 52 (FISHKILL AVENUE) & RED SCHOOLHOUSE ROAD			SIGNALIZED									
	NYS ROUTE 52 (FISHKILL AVENUE)	EB	L	A [4.6]	A [5.7]	A [3.8]	A [5.2]	A [6.7]	A [4.2]	A [5.5]	A [7.3]	A [4.4]	
				TR	A [5.3]	A [6.4]	A [5.0]	A [5.8]	A [7.1]	A [5.4]	A [5.9]	A [7.7]	
	NYS ROUTE 52 (FISHKILL AVENUE)	EB APPROACH		A [5.1]	A [6.1]	A [4.7]	A [5.6]	A [6.9]	A [5.1]	A [5.8]	A [7.6]	A [5.5]	
		WB	L	A [5.5]	A [5.8]	A [4.7]	A [5.7]	A [6.3]	A [5.0]	A [5.9]	A [6.6]	A [5.1]	
			TR	A [8.0]	A [9.3]	A [6.8]	A [8.7]	B [10.5]	A [7.4]	A [9.1]	B [11.2]	A [7.7]	
		WB APPROACH		A [7.9]	A [9.3]	A [6.8]	A [8.7]	B [10.5]	A [7.4]	A [9.1]	B [11.1]	A [7.7]	
	RED SCHOOLHOUSE ROAD	NB	LTR	D [41.3]	C [32.2]	C [31.1]	D [44.0]	C [32.5]	C [31.1]	D [42.4]	C [32.4]	C [30.9]	
		NB APPROACH		D [41.3]	C [32.2]	C [31.1]	D [44.0]	C [32.5]	C [31.1]	D [42.4]	C [32.4]	C [30.9]	
	RED SCHOOLHOUSE ROAD	SB	LT	F [71.7]	D [45.1]	D [35.0]	F [106.8]	E [56.7]	D [35.8]	F [106.7]	E [57.1]	D [35.3]	
			R	C [28.4]	C [28.0]	C [28.2]	C [28.4]	C [27.8]	C [28.2]	C [28.4]	C [27.7]	C [28.2]	
		SB APPROACH		D [52.8]	D [36.8]	C [31.4]	E [72.4]	D [42.6]	C [31.8]	E [71.8]	D [42.5]	C [31.5]	
		OVERALL			C [21.6]	B [15.4]	B [11.3]	C [27.4]	B [17.4]	B [11.8]	C [27.0]	B [17.5]	B [11.7]
	WITH SIGNAL TIMING MODIFICATIONS												
	NYS ROUTE 52 (FISHKILL AVENUE)	EB	L	-	-	-	-	-	-	A [6.5]	A [8.7]	A [5.5]	
			TR	-	-	-	-	-	-	A [7.1]	A [9.5]	A [7.4]	
		EB APPROACH		-	-	-	-	-	-	A [6.9]	A [9.3]	A [7.0]	
		WB	L	-	-	-	-	-	-	A [6.9]	A [7.3]	A [6.3]	
			TR	-	-	-	-	-	-	B [11.7]	B [13.8]	B [10.1]	
		WB APPROACH		-	-	-	-	-	-	B [11.7]	B [13.7]	B [10.1]	
	RED SCHOOLHOUSE ROAD	NB	LTR	-	-	-	-	-	-	C [26.4]	C [21.6]	C [21.0]	
		NB APPROACH		-	-	-	-	-	-	C [26.4]	C [21.6]	C [21.0]	
	RED SCHOOLHOUSE ROAD	SB	LT	-	-	-	-	-	-	C [29.2]	C [26.0]	C [23.3]	
			R	-	-	-	-	-	-	B [18.2]	B [18.1]	B [18.1]	
		SB APPROACH		-	-	-	-	-	-	C [24.3]	C [22.1]	C [20.5]	
		OVERALL			-	-	-	-	-	B [14.5]	B [14.0]	B [10.9]	
2	NYS ROUTE 52 (FISHKILL AVENUE) & PROSPECT STREET			UNSIGNALIZED									
	NYS ROUTE 52 (FISHKILL AVENUE)	NEB	LT	A [9.2]	A [9.2]	A [8.6]	A [9.5]	A [9.5]	A [8.7]	A [9.6]	A [9.6]	A [8.9]	
		PROSPECT STREET	SEB	LR	D [29.2]	D [27.9]	C [17.6]	E [41.6]	E [38.0]	C [19.9]	E [48.1]	E [48.6]	C [22.0]
3	NYS ROUTE 52 (FISHKILL AVENUE) & HUDSON BAYLAR BEACON DRIVEWAY/SITE ACCESS			UNSIGNALIZED									
	SITE ACCESS	SEB	LTR	B [10.5]	C [21.0]	B [11.1]	B [10.8]	C [23.8]	B [11.4]	C [16.0]	D [33.7]	C [24.3]	
		HUDSON BAYLAR BEACON DRIVEWAY	NWB	LTR	B [10.8]	C [19.8]	C [20.1]	B [11.2]	C [22.7]	C [22.5]	B [11.2]	D [25.4]	C [24.5]
	NYS ROUTE 52 (FISHKILL AVENUE)	NEB	LTR	A [8.2]	A [8.6]	A [8.5]	A [8.3]	A [8.8]	A [8.6]	A [8.5]	A [9.0]	A [8.7]	
	NYS ROUTE 52 (FISHKILL AVENUE)	SWB	LTR	A [8.3]	A [8.7]	A [8.6]	A [8.5]	A [8.9]	A [8.8]	A [8.5]	A [8.9]	A [8.8]	
4	NYS ROUTE 52 (FISHKILL AVENUE) & MILL STREET			UNSIGNALIZED									
	MILL STREET	NWB	LR	C [18.5]	C [21.7]	C [21.0]	C [21.2]	D [26.0]	C [24.8]	C [22.0]	D [28.5]	D [26.5]	
	NYS ROUTE 52 (FISHKILL AVENUE)	SWB	LT	A [8.7]	A [8.7]	A [9.0]	A [8.9]	A [8.9]	A [9.2]	A [8.9]	A [8.9]	A [9.3]	

NOTES:

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF SERVICE.



511 FISHKILL AVENUE

APPENDIX C

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE STANDARDS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

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

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

LOS C describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

LOS D describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.

LOS E describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

LOS F describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 19-8

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c > 1.0
≤ 10	A	F
> 10-20	B	F
> 20-35	C	F
> 35-55	D	F
> 55-80	E	F
> 80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

LEVEL OF SERVICE CRITERIA

FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 20-2

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

LEVEL OF SERVICE CRITERIA

FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 21-8. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 21-8 from the *Highway Capacity Manual, 6th Edition* published by the Transportation Research Board.

Exhibit 21-8

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.



511 FSHKILL AVENUE

APPENDIX D

CAPACITY ANALYSIS

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	290	3	1	321	56	11	81	9	114	74	146
Future Volume (vph)	145	290	3	1	321	56	11	81	9	114	74	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.978			0.988				0.850
Flt Protected	0.950			0.950				0.994			0.971	
Satd. Flow (prot)	1726	1781	0	1850	1777	0	0	1668	0	0	1750	1631
Flt Permitted	0.382			0.556				0.953			0.726	
Satd. Flow (perm)	694	1781	0	1083	1777	0	0	1599	0	0	1309	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			14			5				170
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	5%	0%	0%	6%	14%	18%	13%	0%	7%	11%	2%
Adj. Flow (vph)	169	337	3	1	373	65	13	94	10	133	86	170
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	340	0	1	438	0	0	117	0	0	219	170
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.29	0.29		0.00	0.47			0.36			0.83	0.24
Control Delay	6.7	8.2		5.0	15.6			31.8			59.4	4.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	6.7	8.2		5.0	15.6			31.8			59.4	4.0
Queue Length 50th (ft)	31	70		0	152			54			117	0
Queue Length 95th (ft)	51	148		2	218			98			#210	34
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	591	1172		776	930			373			302	713
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.29	0.29		0.00	0.47			0.31			0.73	0.24

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.8

Natural Cycle: 55

Control Type: Semi Act-Uncoord

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	169	340	1	438	117	219	170
v/c Ratio	0.29	0.29	0.00	0.47	0.36	0.83	0.24
Control Delay	6.7	8.2	5.0	15.6	31.8	59.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	8.2	5.0	15.6	31.8	59.4	4.0
Queue Length 50th (ft)	31	70	0	152	54	117	0
Queue Length 95th (ft)	51	148	2	218	98	#210	34
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	591	1172	776	930	373	302	713
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.29	0.00	0.47	0.31	0.73	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	290	3	1	321	56	11	81	9	114	74	146
Future Volume (veh/h)	145	290	3	1	321	56	11	81	9	114	74	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1803	1773	1773	2097	2007	2007	1744	1744	1744	1971	1971	2106
Adj Flow Rate, veh/h	169	337	3	1	373	65	13	94	10	133	86	170
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	5	5	0	6	6	13	13	13	11	11	2
Cap, veh/h	671	1189	11	802	1020	178	54	84	8	160	52	326
Arrive On Green	0.07	0.68	0.68	0.00	0.61	0.61	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1717	1754	16	1997	1664	290	0	715	67	692	447	1785
Grp Volume(v), veh/h	169	0	340	1	0	438	117	0	0	219	0	170
Grp Sat Flow(s),veh/h/ln	1717	0	1770	1997	0	1954	782	0	0	1139	0	1785
Q Serve(g_s), s	2.4	0.0	5.6	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	6.3
Cycle Q Clear(g_c), s	2.4	0.0	5.6	0.0	0.0	8.2	8.6	0.0	0.0	8.6	0.0	6.3
Prop In Lane	1.00		0.01	1.00		0.15	0.11		0.09	0.61		1.00
Lane Grp Cap(c), veh/h	671	0	1199	802	0	1198	146	0	0	212	0	326
V/C Ratio(X)	0.25	0.00	0.28	0.00	0.00	0.37	0.80	0.00	0.00	1.03	0.00	0.52
Avail Cap(c_a), veh/h	791	0	1199	1071	0	1198	395	0	0	453	0	604
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.4	0.0	4.7	5.5	0.0	7.1	31.5	0.0	0.0	34.0	0.0	27.1
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.0	0.0	0.9	9.8	0.0	0.0	37.7	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.5	0.0	0.0	2.9	2.2	0.0	0.0	5.8	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.6	0.0	5.3	5.5	0.0	8.0	41.3	0.0	0.0	71.7	0.0	28.4
LnGrp LOS	A	A	A	A	A	A	D	A	A	F	A	C
Approach Vol, veh/h	509					439		117		389		
Approach Delay, s/veh	5.1					7.9		41.3		52.8		
Approach LOS	A					A		D		D		
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	13.6		5.1	54.7		13.6		9.8	50.0			
Change Period (Y+Rc), s	5.0		5.0	5.0		5.0		5.0	5.0			
Max Green Setting (Gmax), s	20.0		10.0	45.0		20.0		10.0	45.0			
Max Q Clear Time (g_c+I1), s	0.0		2.0	0.0		8.3		4.4	0.0			
Green Ext Time (p_c), s	0.0		0.0	0.0		0.3		0.3	0.0			
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

2019 Existing Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	141	15	34	393	389	249
Future Volume (vph)	141	15	34	393	389	249
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.947	
Flt Protected	0.957			0.996		
Satd. Flow (prot)	1752	0	0	1818	1719	0
Flt Permitted	0.957			0.996		
Satd. Flow (perm)	1752	0	0	1818	1719	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	14%	0%	5%	4%	3%
Adj. Flow (vph)	157	17	38	437	432	277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	174	0	0	475	709	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2019 Existing Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019

Intersection

Int Delay, s/veh 4

Movement SEL SER NEL NET SWT SWR

Lane Configurations 

Traffic Vol, veh/h 141 15 34 393 389 249

Future Vol, veh/h 141 15 34 393 389 249

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 StorageQ# - - 0 0 -

Grade, % -5 - - -1 2 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 4 14 0 5 4 3

Mvmt Flow 157 17 38 437 432 277

Major/Minor Minor2 Major1 Major2

Conflicting Flow All1084 571 709 0 - 0

Stage 1 571 - - - - -

Stage 2 513 - - - - -

Critical Hdwy 5.44 5.84 4.1 - - -

Critical Hdwy Stg 1 4.44 - - - - -

Critical Hdwy Stg 2 4.44 - - - - -

Follow-up Hdwy 3.536 3.426 2.2 - - -

Pot Cap-1 Maneuve822 539 899 - - -

Stage 1 658 - - - - -

Stage 2 688 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuve804 539 899 - - -

Mov Cap-2 Maneuve804 - - - - -

Stage 1 621 - - - - -

Stage 2 688 - - - - -

Approach SE NE SW

HCM Control Delay29.2 0.7 0

HCM LOS D

Minor Lane/Major Mvmt NEL NETSELn1 SWT SWR

Capacity (veh/h) 899 - 317 - -

HCM Lane V/C Ratio 0.042 -0.547 - -

HCM Control Delay (s) 9.2 0 29.2 - -

HCM Lane LOS A A D - -

HCM 95th %tile Q(veh) 0.1 - 3.1 - -

2019 Existing Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Weekday Peak AM Hour
02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	1	0	0	5	1	422	4	5	396	3
Future Volume (vph)	0	0	1	0	0	5	1	422	4	5	396	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.865			0.999			0.999	
Flt Protected											0.999	
Satd. Flow (prot)	0	1652	0	0	1644	0	0	1842	0	0	1896	0
Flt Permitted											0.999	
Satd. Flow (perm)	0	1652	0	0	1644	0	0	1842	0	0	1896	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	1	0	0	6	1	469	4	6	440	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	6	0	0	474	0	0	449	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2019 Existing Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Weekday Peak AM Hour
02/26/2019

Intersection												
Int Delay, s/veh	0.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	0	0	5	1	422	4	5	396	3
Future Vol, veh/h	0	0	1	0	0	5	1	422	4	5	396	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	6	1	469	4	6	440	3
Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow All	930	929	442	927	928	471	443	0	0	473	0	0
Stage 1	454	454	-	473	473	-	-	-	-	-	-	-
Stage 2	476	475	-	454	455	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuve	821	346	654	306	329	625	1117	-	-	1089	-	-
Stage 1	664	646	-	635	620	-	-	-	-	-	-	-
Stage 2	650	636	-	648	629	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuve	816	343	654	304	326	625	1117	-	-	1089	-	-
Mov Cap-2 Maneuve	816	343	-	304	326	-	-	-	-	-	-	-
Stage 1	663	641	-	634	619	-	-	-	-	-	-	-
Stage 2	644	635	-	642	625	-	-	-	-	-	-	-
Approach	SE	NW		NE		SW						
HCM Control Delay	10.5	10.8		0		0.1						
HCM LOS	B	B										
Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NLT	SEL	SWL	SWT	SWR			
Capacity (veh/h)	1117	-	-	625	654	1089	-	-	-			
HCM Lane V/C Ratio	0.001	-	-	0.009	0.002	0.005	-	-	-			
HCM Control Delay (s)	8.2	0	-	10.8	10.5	8.3	0	-	-			
HCM Lane LOS	A	A	-	B	B	A	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-	-			

2019 Existing Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak AM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	21	19	417	16	11	391
Future Volume (vph)	21	19	417	16	11	391
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935		0.995			
Flt Protected	0.975					0.999
Satd. Flow (prot)	1613	0	1811	0	0	1792
Flt Permitted	0.975					0.999
Satd. Flow (perm)	1613	0	1811	0	0	1792
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	11%	4%	0%	18%	5%
Adj. Flow (vph)	24	22	479	18	13	449
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	497	0	0	462
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.9

Movement NWL NWR NET NER SWL SWT

Lane Configurations 

Traffic Vol, veh/h 21 19 417 16 11 391

Future Vol, veh/h 21 19 417 16 11 391

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, % 4 - 1 - - 1

Peak Hour Factor 87 87 87 87 87 87

Heavy Vehicles, % 0 11 4 0 18 5

Mvmt Flow 24 22 479 18 13 449

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 963 488 0 0 497 0

Stage 1 488 - - - - -

Stage 2 475 - - - - -

Critical Hdwy 7.2 6.71 - - 4.28 -

Critical Hdwy Stg 1 6.2 - - - - -

Critical Hdwy Stg 2 6.2 - - - - -

Follow-up Hdwy 3.5 3.399 - - 2.362 -

Pot Cap-1 Maneuver 231 532 - - 989 -

Stage 1 557 - - - - -

Stage 2 567 - - - - -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver 227 532 - - 989 -

Mov Cap-2 Maneuver 227 - - - - -

Stage 1 547 - - - - -

Stage 2 567 - - - - -

Approach NW NE SW

HCM Control Delay 18.5 0 0.2

HCM LOS C

Minor Lane/Major Mvmt NET NER NWLn1 SWL SWT

Capacity (veh/h) - - 312 989 -

HCM Lane V/C Ratio - - 0.147 0.013 -

HCM Control Delay (s) - - 18.5 8.7 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.5 0 -

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	207	408	4	6	403	89	9	52	10	116	64	172
Future Volume (vph)	207	408	4	6	403	89	9	52	10	116	64	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.973			0.981				0.850
Flt Protected	0.950			0.950				0.994			0.969	
Satd. Flow (prot)	1710	1798	0	1850	1841	0	0	1713	0	0	1847	1631
Flt Permitted	0.325			0.506				0.949			0.798	
Satd. Flow (perm)	585	1798	0	985	1841	0	0	1636	0	0	1521	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			18			9				185
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	0%	0%	2%	7%	0%	8%	20%	3%	2%	2%
Adj. Flow (vph)	223	439	4	6	433	96	10	56	11	125	69	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	223	443	0	6	529	0	0	77	0	0	194	185
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.42	0.36		0.01	0.54			0.25			0.70	0.27
Control Delay	7.5	8.4		5.3	16.0			28.8			47.0	4.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	7.5	8.4		5.3	16.0			28.8			47.0	4.0
Queue Length 50th (ft)	36	82		1	174			32			99	0
Queue Length 95th (ft)	71	216		5	291			69			170	40
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	541	1216		741	985			392			359	685
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.41	0.36		0.01	0.54			0.20			0.54	0.27

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 85

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

		
25 s	15 s	50 s
		
25 s	15 s	50 s

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

							
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	223	443	6	529	77	194	185
v/c Ratio	0.42	0.36	0.01	0.54	0.25	0.70	0.27
Control Delay	7.5	8.4	5.3	16.0	28.8	47.0	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.5	8.4	5.3	16.0	28.8	47.0	4.0
Queue Length 50th (ft)	36	82	1	174	32	99	0
Queue Length 95th (ft)	71	216	5	291	69	170	40
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	541	1216	741	985	392	359	685
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.36	0.01	0.54	0.20	0.54	0.27
Intersection Summary							

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	408	4	6	403	89	9	52	10	116	64	172
Future Volume (veh/h)	207	408	4	6	403	89	9	52	10	116	64	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1788	1788	1788	2097	2067	2067	1819	1819	1819	2106	2106	2106
Adj Flow Rate, veh/h	223	439	4	6	433	96	10	56	11	125	69	185
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	0	2	2	8	8	8	2	2	2
Cap, veh/h	607	1182	11	705	983	218	54	96	16	170	50	356
Arrive On Green	0.08	0.67	0.67	0.01	0.60	0.60	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1703	1769	16	1997	1638	363	0	775	129	734	405	1785
Grp Volume(v), veh/h	223	0	443	6	0	529	77	0	0	194	0	185
Grp Sat Flow(s),veh/h/ln	1703	0	1785	1997	0	2001	904	0	0	1139	0	1785
Q Serve(g_s), s	3.4	0.0	8.2	0.1	0.0	10.8	0.0	0.0	0.0	0.0	0.0	6.9
Cycle Q Clear(g_c), s	3.4	0.0	8.2	0.1	0.0	10.8	9.3	0.0	0.0	9.3	0.0	6.9
Prop In Lane	1.00		0.01	1.00		0.18	0.13		0.14	0.64		1.00
Lane Grp Cap(c), veh/h	607	0	1193	705	0	1201	166	0	0	220	0	356
V/C Ratio(X)	0.37	0.00	0.37	0.01	0.00	0.44	0.46	0.00	0.00	0.88	0.00	0.52
Avail Cap(c_a), veh/h	705	0	1193	956	0	1201	400	0	0	459	0	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.3	0.0	5.5	5.8	0.0	8.1	30.2	0.0	0.0	34.1	0.0	26.8
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.0	0.0	1.2	2.0	0.0	0.0	11.0	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	2.4	0.0	0.0	4.0	1.3	0.0	0.0	4.1	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	0.0	6.4	5.8	0.0	9.3	32.2	0.0	0.0	45.1	0.0	28.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	C
Approach Vol, veh/h	666		535				77		379			
Approach Delay, s/veh	6.1		9.3				32.2		36.8			
Approach LOS	A		A				C		D			
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	14.3		5.6	55.1	14.3		10.7	50.0				
Change Period (Y+Rc), s	5.0		5.0	5.0	5.0		5.0	5.0				
Max Green Setting (Gmax), s	20.0		10.0	45.0	20.0		10.0	45.0				
Max Q Clear Time (g_c+I1), s	0.0		2.1	0.0	8.9		5.4	0.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.3		0.4	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

2019 Existing Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak PM Hour
02/26/2019

						
Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	113	13	6	557	538	83
Future Volume (vph)	113	13	6	557	538	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.982	
Flt Protected	0.957			0.999		
Satd. Flow (prot)	1774	0	0	1850	1813	0
Flt Permitted	0.957			0.999		
Satd. Flow (perm)	1774	0	0	1850	1813	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	0%	17%	3%	2%	1%
Adj. Flow (vph)	120	14	6	593	572	88
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	0	0	599	660	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 2.7

Movement SEL SER NEL NET SWT SWR

Lane Configurations 

Traffic Vol, veh/h 113 13 6 557 538 83

Future Vol, veh/h 113 13 6 557 538 83

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, % -5 - - -1 2 -

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 4 0 17 3 2 1

Mvmt Flow 120 14 6 593 572 88

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 1221 616 660 0 - 0

Stage 1 616 - - - - -

Stage 2 605 - - - - -

Critical Hdwy 5.44 5.7 4.27 - - -

Critical Hdwy Stg 1 4.44 - - - - -

Critical Hdwy Stg 2 4.44 - - - - -

Follow-up Hdwy 3.536 3.3 2.353 - - -

Pot Cap-1 Maneuve 276 538 861 - - -

Stage 1 635 - - - - -

Stage 2 640 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuve 273 538 861 - - -

Mov Cap-2 Maneuve 273 - - - - -

Stage 1 629 - - - - -

Stage 2 640 - - - - -

Approach SE NE SW

HCM Control Delay 23.9 0.1 0

HCM LOS D

Minor Lane/Major Mvmt NEL NET SELn1 SWT SWR

Capacity (veh/h) 861 - 288 - -

HCM Lane V/C Ratio 0.007 -0.465 - -

HCM Control Delay (s) 9.2 0 27.9 - -

HCM Lane LOS A A D - -

HCM 95th %tile Q(veh) 0 - 2.3 - -

2019 Existing Traffic Volumes

Weekday Peak PM Hour

3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	0	0	15	0	7	1	556	3	2	549	0
Future Volume (vph)	1	0	0	15	0	7	1	556	3	2	549	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.959			0.999				
Flt Protected		0.950			0.966							
Satd. Flow (prot)	0	1814	0	0	1760	0	0	1842	0	0	1900	0
Flt Permitted		0.950			0.966							
Satd. Flow (perm)	0	1814	0	0	1760	0	0	1842	0	0	1900	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	0	0	16	0	7	1	591	3	2	584	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	23	0	0	595	0	0	586	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2019 Existing Traffic Volumes
 3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Weekday Peak PM Hour
 02/26/2019

Intersection												
Int Delay, s/veh		0.4										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	15	0	7	1	556	3	2	549	0
Future Vol, veh/h	1	0	0	15	0	7	1	556	3	2	549	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	16	0	7	1	591	3	2	584	0

Major/Minor	Minor2	Minor1	Major1	Major2								
Conflicting Flow All	1186	1184	584	1183	1183	593	584	0	0	594	0	0
Stage 1	588	588	-	595	595	-	-	-	-	-	-	-
Stage 2	598	596	-	588	588	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuve	230	263	555	216	246	540	991	-	-	982	-	-
Stage 1	583	584	-	560	562	-	-	-	-	-	-	-
Stage 2	577	580	-	564	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuve	226	262	555	215	245	540	991	-	-	982	-	-
Mov Cap-2 Maneuve	226	262	-	215	245	-	-	-	-	-	-	-
Stage 1	582	582	-	559	561	-	-	-	-	-	-	-
Stage 2	568	579	-	562	563	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	21	19.8	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NLT	SEL	SWL	SWT	SWR
Capacity (veh/h)	991	-	-	266	226	982	-	-	-
HCM Lane V/C Ratio	0.001	-	-	0.088	0.005	0.002	-	-	-
HCM Control Delay (s)	8.6	0	-	19.8	21	8.7	0	-	-
HCM Lane LOS	A	A	-	C	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-	-

2019 Existing Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak PM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	15	20	539	20	14	564
Future Volume (vph)	15	20	539	20	14	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.923		0.995			
Flt Protected	0.979					0.999
Satd. Flow (prot)	1636	0	1863	0	0	1870
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1636	0	1863	0	0	1870
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%
Adj. Flow (vph)	16	21	567	21	15	594
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	588	0	0	609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.7

Movement NWL NWR NET NER SWL SWT

Lane Configurations 

Traffic Vol, veh/h 15 20 539 20 14 564

Future Vol, veh/h 15 20 539 20 14 564

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, % 4 - 1 - - 1

Peak Hour Factor 95 95 95 95 95 95

Heavy Vehicles, % 0 5 1 0 0 1

Mvmt Flow 16 21 567 21 15 594

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1202 578 0 0 588 0

Stage 1 578 - - - - -

Stage 2 624 - - - - -

Critical Hdwy 7.2 6.65 - - 4.1 -

Critical Hdwy Stg 1 6.2 - - - - -

Critical Hdwy Stg 2 6.2 - - - - -

Follow-up Hdwy 3.5 3.345 - - 2.2 -

Pot Cap-1 Maneuver 158 478 - - 997 -

Stage 1 497 - - - - -

Stage 2 468 - - - - -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver 155 478 - - 997 -

Mov Cap-2 Maneuver 155 - - - - -

Stage 1 486 - - - - -

Stage 2 468 - - - - -

Approach NW NE SW

HCM Control Delay 21.7 0 0.2

HCM LOS C

Minor Lane/Major Mvmt NET NER NWLn1 SWL SWT

Capacity (veh/h) - - 252 997 -

HCM Lane V/C Ratio - - 0.146 0.015 -

HCM Control Delay (s) - - 21.7 8.7 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.5 0 -

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	388	2	2	347	66	0	37	11	67	33	113
Future Volume (vph)	115	388	2	2	347	66	0	37	11	67	33	113
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.976			0.968				0.850
Flt Protected	0.950			0.950							0.968	
Satd. Flow (prot)	1662	1851	0	1850	1885	0	0	1848	0	0	1894	1647
Flt Permitted	0.405			0.519							0.767	
Satd. Flow (perm)	708	1851	0	1011	1885	0	0	1848	0	0	1501	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15			12				120
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	122	413	2	2	369	70	0	39	12	71	35	120
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	415	0	2	439	0	0	51	0	0	106	120
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA	pt+ov

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.20	0.32		0.00	0.41			0.19			0.52	0.21
Control Delay	4.2	6.3		4.0	11.3			26.3			41.1	4.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.2	6.3		4.0	11.3			26.3			41.1	4.9
Queue Length 50th (ft)	14	55		0	107			17			49	0
Queue Length 95th (ft)	34	174		2	203			48			99	34
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	641	1316		811	1082			477			380	616
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.19	0.32		0.00	0.41			0.11			0.28	0.19

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 79.1

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

							
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	122	415	2	439	51	106	120
v/c Ratio	0.20	0.32	0.00	0.41	0.19	0.52	0.21
Control Delay	4.2	6.3	4.0	11.3	26.3	41.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.2	6.3	4.0	11.3	26.3	41.1	4.9
Queue Length 50th (ft)	14	55	0	107	17	49	0
Queue Length 95th (ft)	34	174	2	203	48	99	34
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	641	1316	811	1082	477	380	616
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.32	0.00	0.41	0.11	0.28	0.19
Intersection Summary							

2019 Existing Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	388	2	2	347	66	0	37	11	67	33	113
Future Volume (veh/h)	115	388	2	2	347	66	0	37	11	67	33	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1743	1832	1832	2097	2082	2082	1939	1939	1939	2136	2136	2121
Adj Flow Rate, veh/h	122	413	2	2	369	70	0	39	12	71	35	120
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	1	1	0	1	1	0	0	0	0	0	1
Cap, veh/h	678	1265	6	765	1077	204	0	131	40	160	41	280
Arrive On Green	0.06	0.69	0.69	0.00	0.63	0.63	0.00	0.09	0.09	0.09	0.09	0.09
Sat Flow, veh/h	1660	1822	9	1997	1701	323	0	1423	438	822	445	1797
Grp Volume(v), veh/h	122	0	415	2	0	439	0	0	51	106	0	120
Grp Sat Flow(s),veh/h/ln	1660	0	1831	1997	0	2024	0	0	1861	1267	0	1797
Q Serve(g_s), s	1.6	0.0	6.4	0.0	0.0	7.2	0.0	0.0	1.8	4.2	0.0	4.3
Cycle Q Clear(g_c), s	1.6	0.0	6.4	0.0	0.0	7.2	0.0	0.0	1.8	6.1	0.0	4.3
Prop In Lane	1.00		0.00	1.00		0.16	0.00		0.24	0.67		1.00
Lane Grp Cap(c), veh/h	678	0	1271	765	0	1281	0	0	171	201	0	280
V/C Ratio(X)	0.18	0.00	0.33	0.00	0.00	0.34	0.00	0.00	0.30	0.53	0.00	0.43
Avail Cap(c_a), veh/h	805	0	1271	1041	0	1281	0	0	524	523	0	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	3.7	0.0	4.3	4.7	0.0	6.1	0.0	0.0	30.1	32.8	0.0	27.1
Incr Delay (d2), s/veh	0.1	0.0	0.7	0.0	0.0	0.7	0.0	0.0	1.0	2.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	1.7	0.0	0.0	2.5	0.0	0.0	0.8	1.8	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.8	0.0	5.0	4.7	0.0	6.8	0.0	0.0	31.1	35.0	0.0	28.2
LnGrp LOS	A	A	A	A	A	A	A	A	C	C	A	C
Approach Vol, veh/h	537		441			51			226			
Approach Delay, s/veh	4.7		6.8			31.1			31.4			
Approach LOS	A		A			C			C			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	11.5		5.2	54.4		11.5	9.6	50.0				
Change Period (Y+Rc), s	5.0		5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s	20.0		10.0	45.0		20.0	10.0	45.0				
Max Q Clear Time (g_c+I1), s	0.0		2.0	0.0		6.3	3.6	0.0				
Green Ext Time (p_c), s	0.0		0.0	0.0		0.2	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	11.3											
HCM 6th LOS	B											

2019 Existing Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	48	12	12	518	470	60
Future Volume (vph)	48	12	12	518	470	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973				0.985	
Flt Protected	0.962			0.999		
Satd. Flow (prot)	1823	0	0	1871	1836	0
Flt Permitted	0.962			0.999		
Satd. Flow (perm)	1823	0	0	1871	1836	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	51	13	13	545	495	63
Shared Lane Traffic (%)						
Lane Group Flow (vph)	64	0	0	558	558	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2019 Existing Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019

Intersection						
Int Delay, s/veh	1					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	48	12	12	518	470	60
Future Vol, veh/h	48	12	12	518	470	60
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, %	-5	-	-	-1	2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	51	13	13	545	495	63
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1098	527	558	0	-	0
Stage 1	527	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Critical Hdwy	5.4	5.7	4.1	-	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	822	597	1023	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	816	597	1023	-	-	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Approach	SE	NE	SW			
HCM Control Delay	13.6	0.2	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	1023	-	349	-	-	
HCM Lane V/C Ratio	0.012	-	0.181	-	-	
HCM Control Delay (s)	8.6	0	17.6	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.7	-	-	

2019 Existing Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Saturday Peak Hour
02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	1	1	0	0	1	530	0	1	480	1
Future Volume (vph)	0	0	1	1	0	0	1	530	0	1	480	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865										
Flt Protected					0.950							
Satd. Flow (prot)	0	1652	0	0	1805	0	0	1844	0	0	1900	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	1652	0	0	1805	0	0	1844	0	0	1900	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
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)	0	0	1	1	0	0	1	576	0	1	522	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	577	0	0	524	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2019 Existing Traffic Volumes
 3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Saturday Peak Hour
 02/26/2019

Intersection												
Int Delay, s/veh	0											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	1	530	0	1	480	1
Future Vol, veh/h	0	0	1	1	0	0	1	530	0	1	480	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	1	0	0	1	576	0	1	522	1
Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow	All1103	1103	523	1103	1103	576	523	0	0	576	0	0
Stage 1	525	525	-	578	578	-	-	-	-	-	-	-
Stage 2	578	578	-	525	525	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuve	256	287	596	241	270	551	1043	-	-	997	-	-
Stage 1	620	612	-	570	570	-	-	-	-	-	-	-
Stage 2	589	588	-	602	595	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuve	255	286	596	240	269	551	1043	-	-	997	-	-
Mov Cap-2 Maneuve	255	286	-	240	269	-	-	-	-	-	-	-
Stage 1	619	611	-	569	569	-	-	-	-	-	-	-
Stage 2	588	587	-	600	594	-	-	-	-	-	-	-
Approach	SE	NW		NE		SW						
HCM Control Delay	11.1	20.1		0		0						
HCM LOS	B	C										
Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NLT	SEL	SWL	SWT	SWR			
Capacity (veh/h)	1043	-	-	240	596	997	-	-	-			
HCM Lane V/C Ratio	0.001	-	-	0.005	0.002	0.001	-	-	-			
HCM Control Delay (s)	8.5	0	-	20.1	11.1	8.6	0	-	-			
HCM Lane LOS	A	A	-	C	B	A	A	-	-			
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-	-			

2019 Existing Traffic Volumes
4: NYS Route 52 & Mill Street

Saturday Peak Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	17	16	503	12	18	482
Future Volume (vph)	17	16	503	12	18	482
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934		0.997			
Flt Protected	0.975					0.998
Satd. Flow (prot)	1648	0	1863	0	0	1854
Flt Permitted	0.975					0.998
Satd. Flow (perm)	1648	0	1863	0	0	1854
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	1%	8%	22%	1%
Adj. Flow (vph)	18	17	541	13	19	518
Shared Lane Traffic (%)						
Lane Group Flow (vph)	35	0	554	0	0	537
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 0.8

Movement NWL NWR NET NER SWL SWT

Lane Configurations   

Traffic Vol, veh/h 17 16 503 12 18 482

Future Vol, veh/h 17 16 503 12 18 482

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, % 4 - 1 - - 1

Peak Hour Factor 93 93 93 93 93 93

Heavy Vehicles, % 0 6 1 8 22 1

Mvmt Flow 18 17 541 13 19 518

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1104 548 0 0 554 0

Stage 1 548 - - - - -

Stage 2 556 - - - - -

Critical Hdwy 7.2 6.66 - - 4.32 -

Critical Hdwy Stg 1 6.2 - - - - -

Critical Hdwy Stg 2 6.2 - - - - -

Follow-up Hdwy 3.5 3.354 - - 2.398 -

Pot Cap-1 Maneuver 184 497 - - 923 -

Stage 1 516 - - - - -

Stage 2 511 - - - - -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver 179 497 - - 923 -

Mov Cap-2 Maneuver 179 - - - - -

Stage 1 501 - - - - -

Stage 2 511 - - - - -

Approach NW NE SW

HCM Control Delay, s 21 0 0.3

HCM LOS C

Minor Lane/Major Mvmt NET NER NWLn1 SWL SWT

Capacity (veh/h) - - 260 923 -

HCM Lane V/C Ratio - - 0.136 0.021 -

HCM Control Delay (s) - - 21 9 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.5 0.1 -

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	319	3	1	353	62	12	89	10	125	81	161
Future Volume (vph)	160	319	3	1	353	62	12	89	10	125	81	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)	3%				-5%				-1%		-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.999				0.978				0.987		0.850	
Flt Protected	0.950			0.950				0.995			0.971	
Satd. Flow (prot)	1726	1781	0	1850	1777	0	0	1658	0	0	1750	1631
Flt Permitted	0.346			0.539				0.952			0.703	
Satd. Flow (perm)	629	1781	0	1050	1777	0	0	1586	0	0	1267	1631
Right Turn on Red			Yes				Yes				Yes	
Satd. Flow (RTOR)	1				14				5			
Link Speed (mph)	40				40				40			
Link Distance (ft)	729				1092				216		357	
Travel Time (s)	12.4				18.6				3.7		6.1	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	5%	0%	0%	6%	14%	18%	14%	0%	7%	11%	2%
Adj. Flow (vph)	186	371	3	1	410	72	14	103	12	145	94	187
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	374	0	1	482	0	0	129	0	0	239	187
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12				12				0		0	
Link Offset(ft)	0				0				0		0	
Crosswalk Width(ft)	16				16				16		16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template	Left						Left					
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.35	0.32		0.00	0.53			0.38			0.89	0.26
Control Delay	7.4	8.7		5.0	17.0			32.2			67.9	3.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	7.4	8.7		5.0	17.0			32.2			67.9	3.9
Queue Length 50th (ft)	35	79		0	173			60			131	0
Queue Length 95th (ft)	56	165		2	246			106			#243	35
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	547	1157		747	915			364			287	724
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.34	0.32		0.00	0.53			0.35			0.83	0.26

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 88.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

95th percentile volume exceeds capacity, queue may be longer.

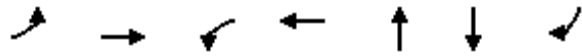
Queue shown is maximum after two cycles.

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

		
25 s	15 s	50 s
		
25 s	15 s	50 s

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	186	374	1	482	129	239	187
v/c Ratio	0.35	0.32	0.00	0.53	0.38	0.89	0.26
Control Delay	7.4	8.7	5.0	17.0	32.2	67.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	8.7	5.0	17.0	32.2	67.9	3.9
Queue Length 50th (ft)	35	79	0	173	60	131	0
Queue Length 95th (ft)	56	165	2	246	106	#243	35
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	547	1157	747	915	364	287	724
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.32	0.00	0.53	0.35	0.83	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	319	3	1	353	62	12	89	10	125	81	161
Future Volume (veh/h)	160	319	3	1	353	62	12	89	10	125	81	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1803	1773	1773	2097	2007	2007	1729	1729	1729	1971	1971	2106
Adj Flow Rate, veh/h	186	371	3	1	410	72	14	103	12	145	94	187
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	5	5	0	6	6	14	14	14	11	11	2
Cap, veh/h	631	1179	10	759	1007	177	54	89	9	160	53	343
Arrive On Green	0.07	0.67	0.67	0.00	0.61	0.61	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1717	1756	14	1997	1662	292	0	709	73	654	424	1785
Grp Volume(v), veh/h	186	0	374	1	0	482	129	0	0	239	0	187
Grp Sat Flow(s),veh/h/ln	1717	0	1770	1997	0	1954	782	0	0	1077	0	1785
Q Serve(g_s), s	2.7	0.0	6.5	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0	7.0
Cycle Q Clear(g_c), s	2.7	0.0	6.5	0.0	0.0	9.6	9.3	0.0	0.0	9.3	0.0	7.0
Prop In Lane	1.00		0.01	1.00		0.15	0.11		0.09	0.61		1.00
Lane Grp Cap(c), veh/h	631	0	1189	759	0	1184	152	0	0	213	0	343
V/C Ratio(X)	0.29	0.00	0.31	0.00	0.00	0.41	0.85	0.00	0.00	1.12	0.00	0.55
Avail Cap(c_a), veh/h	748	0	1189	1025	0	1184	379	0	0	434	0	600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	0.0	5.1	5.7	0.0	7.7	31.7	0.0	0.0	34.2	0.0	27.1
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.0	0.0	1.0	12.3	0.0	0.0	72.6	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.9	0.0	0.0	3.4	2.7	0.0	0.0	8.0	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.2	0.0	5.8	5.7	0.0	8.7	44.0	0.0	0.0	106.8	0.0	28.4
LnGrp LOS	A	A	A	A	A	A	D	A	A	F	A	C
Approach Vol, veh/h	560		483				129			426		
Approach Delay, s/veh	5.6		8.7				44.0			72.4		
Approach LOS	A		A				D			E		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	14.3		5.1		54.9		14.3		10.0		50.0	
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0		5.0		5.0	
Max Green Setting (Gmax), s	20.0		10.0		45.0		20.0		10.0		45.0	
Max Q Clear Time (g_c+I1), s	0.0		2.0		0.0		9.0		4.7		0.0	
Green Ext Time (p_c), s	0.0		0.0		0.0		0.3		0.3		0.0	
Intersection Summary												
HCM 6th Ctrl Delay			27.4									
HCM 6th LOS			C									

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	155	17	37	432	428	274
Future Volume (vph)	155	17	37	432	428	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.947	
Flt Protected	0.957			0.996		
Satd. Flow (prot)	1752	0	0	1818	1719	0
Flt Permitted	0.957			0.996		
Satd. Flow (perm)	1752	0	0	1818	1719	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	14%	0%	5%	4%	3%
Adj. Flow (vph)	172	19	41	480	476	304
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	0	521	780	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019

Intersection						
Int Delay, s/veh	5.6					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	155	17	37	432	428	274
Future Vol, veh/h	155	17	37	432	428	274
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, %	-5	-	-	-1	2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	14	0	5	4	3
Mvmt Flow	172	19	41	480	476	304
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1190	628	780	0	-	0
Stage 1	628	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Critical Hdwy	5.44	5.84	4.1	-	-	-
Critical Hdwy Stg 1	4.44	-	-	-	-	-
Critical Hdwy Stg 2	4.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.426	2.2	-	-	-
Pot Cap-1 Maneuve	286	504	846	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuve	267	504	846	-	-	-
Mov Cap-2 Maneuve	267	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	662	-	-	-	-	-
Approach	SE	NE	SW			
HCM Control Delay	41.6	0.7	0			
HCM LOS	E					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	846	-	280	-	-	
HCM Lane V/C Ratio	0.049	-	0.683	-	-	
HCM Control Delay (s)	9.5	0	41.6	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	4.6	-	-	

2024 No-Build Traffic Volumes

Weekday Peak AM Hour

3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	1	0	0	6	1	464	4	6	436	3
Future Volume (vph)	0	0	1	0	0	6	1	464	4	6	436	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865			0.865			0.999			0.999	
Flt Protected											0.999	
Satd. Flow (prot)	0	1652	0	0	1644	0	0	1842	0	0	1896	0
Flt Permitted											0.999	
Satd. Flow (perm)	0	1652	0	0	1644	0	0	1842	0	0	1896	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	0	1	0	0	7	1	516	4	7	484	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	7	0	0	521	0	0	494	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2024 No-Build Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Weekday Peak AM Hour
02/26/2019

Intersection												
Int Delay, s/veh	0.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	0	0	6	1	464	4	6	436	3
Future Vol, veh/h	0	0	1	0	0	6	1	464	4	6	436	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	7	1	516	4	7	484	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1024	1022	486	1020	1021	518	487	0	0	520	0	0
Stage 1	500	500	-	520	520	-	-	-	-	-	-	-
Stage 2	524	522	-	500	501	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuve	284	313	622	270	296	591	1076	-	-	1046	-	-
Stage 1	635	624	-	605	597	-	-	-	-	-	-	-
Stage 2	621	614	-	618	606	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuve	279	310	622	268	293	591	1076	-	-	1046	-	-
Mov Cap-2 Maneuve	279	310	-	268	293	-	-	-	-	-	-	-
Stage 1	634	618	-	604	596	-	-	-	-	-	-	-
Stage 2	613	613	-	611	601	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay	10.8	11.2	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1076	-	-	591	622	1046	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.002	0.006	-	-	-	-	-	-
HCM Control Delay (s)	8.3	0	-	11.2	10.8	8.5	0	-	-	-	-	-
HCM Lane LOS	A	A	-	B	B	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-	-	-	-	-

2024 No-Build Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak AM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	23	21	459	18	12	430
Future Volume (vph)	23	21	459	18	12	430
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935		0.995			
Flt Protected	0.975					0.999
Satd. Flow (prot)	1612	0	1811	0	0	1793
Flt Permitted	0.975					0.999
Satd. Flow (perm)	1612	0	1811	0	0	1793
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	11%	4%	0%	18%	5%
Adj. Flow (vph)	26	24	528	21	14	494
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	549	0	0	508
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	1.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	23	21	459	18	12	430
Future Vol, veh/h	23	21	459	18	12	430
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, %	4	-	1	-	-	1
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	0	11	4	0	18	5
Mvmt Flow	26	24	528	21	14	494
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1061	539	0	0	549	0
Stage 1	539	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Critical Hdwy	7.2	6.71	-	-	4.28	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.399	-	-	2.362	-
Pot Cap-1 Maneuver	198	495	-	-	945	-
Stage 1	522	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	495	-	-	945	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay	21.2	0	0.2			
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NER	NWL	n1	SWL	SWT
Capacity (veh/h)	-	-	273	945	-	-
HCM Lane V/C Ratio	-	-	0.185	0.015	-	-
HCM Control Delay (s)	-	-	21.2	8.9	0	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0	-	-

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	228	449	4	7	443	98	10	57	11	128	70	189
Future Volume (vph)	228	449	4	7	443	98	10	57	11	128	70	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.973			0.981				0.850
Flt Protected	0.950			0.950				0.993			0.969	
Satd. Flow (prot)	1710	1798	0	1850	1841	0	0	1712	0	0	1847	1631
Flt Permitted	0.285			0.486				0.946			0.783	
Satd. Flow (perm)	513	1798	0	946	1841	0	0	1631	0	0	1493	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			18			9				203
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	0%	0%	2%	7%	0%	8%	20%	3%	2%	2%
Adj. Flow (vph)	245	483	4	8	476	105	11	61	12	138	75	203
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	487	0	8	581	0	0	84	0	0	213	203
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.50	0.40		0.01	0.60			0.27			0.76	0.28
Control Delay	9.0	9.1		5.4	17.7			28.7			50.3	3.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	9.0	9.1		5.4	17.7			28.7			50.3	3.9
Queue Length 50th (ft)	43	100		1	208			35			110	0
Queue Length 95th (ft)	78	245		6	333			75			188	41
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	494	1203		711	973			387			347	714
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.40		0.01	0.60			0.22			0.61	0.28

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 86.1

Natural Cycle: 60

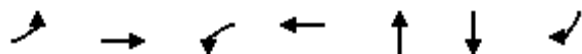
Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	245	487	8	581	84	213	203
v/c Ratio	0.50	0.40	0.01	0.60	0.27	0.76	0.28
Control Delay	9.0	9.1	5.4	17.7	28.7	50.3	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	9.1	5.4	17.7	28.7	50.3	3.9
Queue Length 50th (ft)	43	100	1	208	35	110	0
Queue Length 95th (ft)	78	245	6	333	75	188	41
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	494	1203	711	973	387	347	714
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.40	0.01	0.60	0.22	0.61	0.28
Intersection Summary							

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	228	449	4	7	443	98	10	57	11	128	70	189
Future Volume (veh/h)	228	449	4	7	443	98	10	57	11	128	70	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1788	1788	1788	2097	2067	2067	1819	1819	1819	2106	2106	2106
Adj Flow Rate, veh/h	245	483	4	8	476	105	11	61	12	138	75	203
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	0	2	2	8	8	8	2	2	2
Cap, veh/h	570	1171	10	659	967	213	53	102	17	170	50	382
Arrive On Green	0.08	0.66	0.66	0.01	0.59	0.59	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1703	1770	15	1997	1640	362	0	775	129	697	379	1785
Grp Volume(v), veh/h	245	0	487	8	0	581	84	0	0	213	0	203
Grp Sat Flow(s),veh/h/ln	1703	0	1785	1997	0	2002	905	0	0	1076	0	1785
Q Serve(g_s), s	3.9	0.0	9.7	0.1	0.0	12.8	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	3.9	0.0	9.7	0.1	0.0	12.8	10.1	0.0	0.0	10.1	0.0	7.7
Prop In Lane	1.00		0.01	1.00		0.18	0.13		0.14	0.65		1.00
Lane Grp Cap(c), veh/h	570	0	1181	659	0	1180	173	0	0	220	0	382
V/C Ratio(X)	0.43	0.00	0.41	0.01	0.00	0.49	0.49	0.00	0.00	0.97	0.00	0.53
Avail Cap(c_a), veh/h	653	0	1181	900	0	1180	385	0	0	436	0	614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.1	0.0	6.0	6.3	0.0	9.1	30.4	0.0	0.0	34.8	0.0	26.6
Incr Delay (d2), s/veh	0.5	0.0	1.1	0.0	0.0	1.5	2.1	0.0	0.0	21.9	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.9	0.0	0.0	4.9	1.4	0.0	0.0	5.1	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.0	7.1	6.3	0.0	10.5	32.5	0.0	0.0	56.7	0.0	27.8
LnGrp LOS	A	A	A	A	A	B	C	A	A	E	A	C
Approach Vol, veh/h	732		589				84			416		
Approach Delay, s/veh	6.9		10.5				32.5			42.6		
Approach LOS	A		B				C			D		
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	15.1		5.8		55.5		15.1		11.3		50.0	
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0		5.0		5.0	
Max Green Setting (Gmax), s	20.0		10.0		45.0		20.0		10.0		45.0	
Max Q Clear Time (g_c+I1), s	0.0		2.1		0.0		9.7		5.9		0.0	
Green Ext Time (p_c), s	0.0		0.0		0.0		0.4		0.4		0.0	
Intersection Summary												
HCM 6th Ctrl Delay	17.4											
HCM 6th LOS	B											

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak PM Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	124	14	7	613	592	91
Future Volume (vph)	124	14	7	613	592	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.982	
Flt Protected	0.957			0.999		
Satd. Flow (prot)	1774	0	0	1849	1811	0
Flt Permitted	0.957			0.999		
Satd. Flow (perm)	1774	0	0	1849	1811	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	0%	17%	3%	2%	2%
Adj. Flow (vph)	132	15	7	652	630	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	147	0	0	659	727	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak PM Hour
02/26/2019

Intersection

Int Delay, s/veh 3.7

Movement SEL SER NEL NET SWT SWR

Lane Configurations 

Traffic Vol, veh/h 124 14 7 613 592 91

Future Vol, veh/h 124 14 7 613 592 91

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, % -5 - - -1 2 -

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 4 0 17 3 2 2

Mvmt Flow 132 15 7 652 630 97

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 1345 679 727 0 - 0

Stage 1 679 - - - - -

Stage 2 666 - - - - -

Critical Hdwy 5.44 5.7 4.27 - - -

Critical Hdwy Stg 1 4.44 - - - - -

Critical Hdwy Stg 2 4.44 - - - - -

Follow-up Hdwy 3.536 3.3 2.353 - - -

Pot Cap-1 Maneuve 240 500 812 - - -

Stage 1 604 - - - - -

Stage 2 610 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuve 237 500 812 - - -

Mov Cap-2 Maneuve 237 - - - - -

Stage 1 596 - - - - -

Stage 2 610 - - - - -

Approach SE NE SW

HCM Control Delay, s 38 0.1 0

HCM LOS E

Minor Lane/Major Mvmt NEL NET SELn1 SWT SWR

Capacity (veh/h) 812 - 250 - -

HCM Lane V/C Ratio 0.009 - 0.587 - -

HCM Control Delay (s) 9.5 0 38 - -

HCM Lane LOS A A E - -

HCM 95th %tile Q(veh) 0 - 3.4 - -

2024 No-Build Traffic Volumes

Weekday Peak PM Hour

3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	0	0	17	0	8	1	612	3	2	604	0
Future Volume (vph)	1	0	0	17	0	8	1	612	3	2	604	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.955			0.999				
Flt Protected		0.950			0.968							
Satd. Flow (prot)	0	1814	0	0	1756	0	0	1842	0	0	1900	0
Flt Permitted		0.950			0.968							
Satd. Flow (perm)	0	1814	0	0	1756	0	0	1842	0	0	1900	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	1	0	0	18	0	9	1	651	3	2	643	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	27	0	0	655	0	0	645	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2024 No-Build Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Weekday Peak PM Hour
02/26/2019

Intersection												
Int Delay, s/veh		0.5										
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	17	0	8	1	612	3	2	604	0
Future Vol, veh/h	1	0	0	17	0	8	1	612	3	2	604	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	0	18	0	9	1	651	3	2	643	0
Major/Minor	Minor2	Minor1		Major1		Major2						
Conflicting Flow	All1306	1303	643	1302	1302	653	643	0	0	654	0	0
Stage 1	647	647	-	655	655	-	-	-	-	-	-	-
Stage 2	659	656	-	647	647	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	197	231	518	184	215	502	942	-	-	933	-	-
Stage 1	550	558	-	526	535	-	-	-	-	-	-	-
Stage 2	544	555	-	531	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	193	230	518	183	214	502	942	-	-	933	-	-
Mov Cap-2 Maneuver	193	230	-	183	214	-	-	-	-	-	-	-
Stage 1	549	556	-	525	534	-	-	-	-	-	-	-
Stage 2	534	554	-	529	537	-	-	-	-	-	-	-
Approach	SE	NW		NE		SW						
HCM Control Delay (s)	23.8	22.7		0		0						
HCM LOS	C	C										
Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NELn1	SWL	SWT	SWR				
Capacity (veh/h)	942	-	-	230	193	933	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.116	0.006	0.002	-	-				
HCM Control Delay (s)	8.8	0	-	22.7	23.8	8.9	0	-				
HCM Lane LOS	A	A	-	C	C	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	0	0	-	-				

2024 No-Build Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak PM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	17	22	593	22	15	620
Future Volume (vph)	17	22	593	22	15	620
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924		0.995			
Flt Protected	0.979					0.999
Satd. Flow (prot)	1638	0	1863	0	0	1870
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1638	0	1863	0	0	1870
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%
Adj. Flow (vph)	18	23	624	23	16	653
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	647	0	0	669
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	0.9					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	17	22	593	22	15	620
Future Vol, veh/h	17	22	593	22	15	620
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, %	4	-	1	-	-	1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	1	0	0	1
Mvmt Flow	18	23	624	23	16	653
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1321	636	0	0	647	0
Stage 1	636	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Critical Hdwy	7.2	6.65	-	-	4.1	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.2	-
Pot Cap-1 Maneuver	130	440	-	-	948	-
Stage 1	461	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	127	440	-	-	948	-
Mov Cap-2 Maneuver	127	-	-	-	-	-
Stage 1	449	-	-	-	-	-
Stage 2	433	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	26	0	0.2			
HCM LOS	D					
Minor Lane/Major Mvmt	NET	NER	NWL	n1	SWL	SWT
Capacity (veh/h)	-	-	212	948	-	-
HCM Lane V/C Ratio	-	-	0.194	0.017	-	-
HCM Control Delay (s)	-	-	26	8.9	0	-
HCM Lane LOS	-	-	D	A	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-	-

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	427	2	2	382	73	0	41	12	74	36	124
Future Volume (vph)	127	427	2	2	382	73	0	41	12	74	36	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.976			0.969				0.850
Flt Protected	0.950			0.950							0.967	
Satd. Flow (prot)	1662	1851	0	1850	1885	0	0	1850	0	0	1892	1647
Flt Permitted	0.372			0.500							0.762	
Satd. Flow (perm)	651	1851	0	974	1885	0	0	1850	0	0	1491	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					15			13				132
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	135	454	2	2	406	78	0	44	13	79	38	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	135	456	0	2	484	0	0	57	0	0	117	132
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA	pt+ov

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.23	0.35		0.00	0.45			0.21			0.55	0.22
Control Delay	4.7	6.9		4.5	12.5			26.3			41.9	4.7
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.7	6.9		4.5	12.5			26.3			41.9	4.7
Queue Length 50th (ft)	16	65		0	127			20			55	0
Queue Length 95th (ft)	39	203		2	239			52			107	35
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	601	1307		780	1068			473			373	627
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.22	0.35		0.00	0.45			0.12			0.31	0.21

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 80.2

Natural Cycle: 55

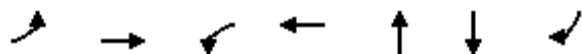
Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	135	456	2	484	57	117	132
v/c Ratio	0.23	0.35	0.00	0.45	0.21	0.55	0.22
Control Delay	4.7	6.9	4.5	12.5	26.3	41.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	6.9	4.5	12.5	26.3	41.9	4.7
Queue Length 50th (ft)	16	65	0	127	20	55	0
Queue Length 95th (ft)	39	203	2	239	52	107	35
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	601	1307	780	1068	473	373	627
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.35	0.00	0.45	0.12	0.31	0.21
Intersection Summary							

2024 No-Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	427	2	2	382	73	0	41	12	74	36	124
Future Volume (veh/h)	127	427	2	2	382	73	0	41	12	74	36	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1743	1832	1832	2097	2082	2082	1939	1939	1939	2136	2136	2121
Adj Flow Rate, veh/h	135	454	2	2	406	78	0	44	13	79	38	132
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	1	1	0	1	1	0	0	0	0	0	1
Cap, veh/h	642	1258	6	722	1065	205	0	141	42	163	40	293
Arrive On Green	0.07	0.69	0.69	0.00	0.63	0.63	0.00	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1660	1823	8	1997	1697	326	0	1438	425	810	411	1797
Grp Volume(v), veh/h	135	0	456	2	0	484	0	0	57	117	0	132
Grp Sat Flow(s),veh/h/ln	1660	0	1831	1997	0	2023	0	0	1863	1221	0	1797
Q Serve(g_s), s	1.8	0.0	7.4	0.0	0.0	8.4	0.0	0.0	2.0	4.9	0.0	4.8
Cycle Q Clear(g_c), s	1.8	0.0	7.4	0.0	0.0	8.4	0.0	0.0	2.0	6.9	0.0	4.8
Prop In Lane	1.00		0.00	1.00		0.16	0.00		0.23	0.68		1.00
Lane Grp Cap(c), veh/h	642	0	1263	722	0	1270	0	0	182	204	0	293
V/C Ratio(X)	0.21	0.00	0.36	0.00	0.00	0.38	0.00	0.00	0.31	0.57	0.00	0.45
Avail Cap(c_a), veh/h	766	0	1263	995	0	1270	0	0	520	510	0	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.0	0.0	4.6	5.0	0.0	6.5	0.0	0.0	30.1	33.2	0.0	27.1
Incr Delay (d2), s/veh	0.2	0.0	0.8	0.0	0.0	0.9	0.0	0.0	1.0	2.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.0	0.0	0.0	2.9	0.0	0.0	0.9	2.1	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.2	0.0	5.4	5.0	0.0	7.4	0.0	0.0	31.1	35.8	0.0	28.2
LnGrp LOS	A	A	A	A	A	A	A	A	C	D	A	C
Approach Vol, veh/h	591		486			57			249			
Approach Delay, s/veh	5.1		7.4			31.1			31.8			
Approach LOS	A		A			C			C			
Timer - Assigned Phs	2		3	4		6	7	8				
Phs Duration (G+Y+Rc), s	12.0		5.2	54.5		12.0	9.7	50.0				
Change Period (Y+Rc), s	5.0		5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s	20.0		10.0	45.0		20.0	10.0	45.0				
Max Q Clear Time (g_c+I1), s	0.0		2.0	0.0		6.8	3.8	0.0				
Green Ext Time (p_c), s	0.0		0.0	0.0		0.3	0.2	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	11.8											
HCM 6th LOS	B											

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	53	13	13	570	517	66
Future Volume (vph)	53	13	13	570	517	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973				0.985	
Flt Protected	0.962			0.999		
Satd. Flow (prot)	1823	0	0	1871	1836	0
Flt Permitted	0.962			0.999		
Satd. Flow (perm)	1823	0	0	1871	1836	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	56	14	14	600	544	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	0	614	613	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

2024 No-Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019

Intersection						
Int Delay, s/veh	1.2					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	53	13	13	570	517	66
Future Vol, veh/h	53	13	13	570	517	66
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, %	-5	-	-	-1	2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	56	14	14	600	544	69
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1207	579	613	0	-	0
Stage 1	579	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Critical Hdwy	5.4	5.7	4.1	-	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	286	562	976	-	-	-
Stage 1	663	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	562	976	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Approach	SE	NE	SW			
HCM Control Delay	19.9	0.2	0			
HCM LOS	C					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	976	-	311	-	-	
HCM Lane V/C Ratio	0.014	-	0.223	-	-	
HCM Control Delay (s)	8.7	0	19.9	-	-	
HCM Lane LOS	A	A	C	-	-	
HCM 95th %tile Q(veh)	0	-	0.8	-	-	

2024 No-Build Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Saturday Peak Hour
02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	1	1	0	0	1	583	0	1	528	1
Future Volume (vph)	0	0	1	1	0	0	1	583	0	1	528	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865										
Flt Protected					0.950							
Satd. Flow (prot)	0	1652	0	0	1805	0	0	1844	0	0	1900	0
Flt Permitted					0.950							
Satd. Flow (perm)	0	1652	0	0	1805	0	0	1844	0	0	1900	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
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)	0	0	1	1	0	0	1	634	0	1	574	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1	0	0	1	0	0	635	0	0	576	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2024 No-Build Traffic Volumes
3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

Saturday Peak Hour
02/26/2019

Intersection												
Int Delay, s/veh	0											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	1	0	0	1	583	0	1	528	1
Future Vol, veh/h	0	0	1	1	0	0	1	583	0	1	528	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	1	0	0	1	634	0	1	574	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1213	1213	575	1213	1213	634	575	0	0	634	0	0
Stage 1	577	577	-	636	636	-	-	-	-	-	-	-
Stage 2	636	636	-	577	577	-	-	-	-	-	-	-
Critical Hdwy	6.12	5.52	5.72	6.32	5.72	5.82	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.12	4.52	-	5.32	4.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	222	255	561	208	238	514	998	-	-	949	-	-
Stage 1	589	589	-	537	544	-	-	-	-	-	-	-
Stage 2	556	563	-	571	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	221	254	561	207	237	514	998	-	-	949	-	-
Mov Cap-2 Maneuver	221	254	-	207	237	-	-	-	-	-	-	-
Stage 1	588	588	-	536	543	-	-	-	-	-	-	-
Stage 2	555	562	-	569	569	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay (s)	11.4	22.5	0	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	998	-	-	207	561	949	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.002	0.001	-	-	-	-	-	-
HCM Control Delay (s)	8.6	0	-	22.5	11.4	8.8	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	B	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-	-	-	-	-

2024 No-Build Traffic Volumes
4: NYS Route 52 & Mill Street

Saturday Peak Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	19	18	553	13	20	530
Future Volume (vph)	19	18	553	13	20	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934		0.997			
Flt Protected	0.975					0.998
Satd. Flow (prot)	1647	0	1863	0	0	1854
Flt Permitted	0.975					0.998
Satd. Flow (perm)	1647	0	1863	0	0	1854
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	1%	8%	22%	1%
Adj. Flow (vph)	20	19	595	14	22	570
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	609	0	0	592
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 No-Build Traffic Volumes
4: NYS Route 52 & Mill Street

Saturday Peak Hour
02/26/2019

Intersection

Int Delay, s/veh 0.9

Movement NWL NWR NET NER SWL SWT

Lane Configurations   

Traffic Vol, veh/h 19 18 553 13 20 530

Future Vol, veh/h 19 18 553 13 20 530

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, % 4 - 1 - - 1

Peak Hour Factor 93 93 93 93 93 93

Heavy Vehicles, % 0 6 1 8 22 1

Mvmt Flow 20 19 595 14 22 570

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1216 602 0 0 609 0

Stage 1 602 - - - - -

Stage 2 614 - - - - -

Critical Hdwy 7.2 6.66 - - 4.32 -

Critical Hdwy Stg 1 6.2 - - - - -

Critical Hdwy Stg 2 6.2 - - - - -

Follow-up Hdwy 3.5 3.354 - - 2.398 -

Pot Cap-1 Maneuver 154 460 - - 879 -

Stage 1 482 - - - - -

Stage 2 474 - - - - -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 148 460 - - 879 -

Mov Cap-2 Maneuver 148 - - - - -

Stage 1 464 - - - - -

Stage 2 474 - - - - -

Approach NW NE SW

HCM Control Delay 24.8 0 0.3

HCM LOS C

Minor Lane/Major Mvmt NET NER NWLn1 SWL SWT

Capacity (veh/h) - - 221 879 -

HCM Lane V/C Ratio - - 0.18 0.024 -

HCM Control Delay (s) - - 24.8 9.2 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.6 0.1 -

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	325	3	1	382	62	12	89	10	125	81	166
Future Volume (vph)	161	325	3	1	382	62	12	89	10	125	81	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.979			0.987				0.850
Flt Protected	0.950			0.950				0.995			0.971	
Satd. Flow (prot)	1726	1781	0	1850	1780	0	0	1658	0	0	1750	1631
Flt Permitted	0.322			0.536				0.952			0.703	
Satd. Flow (perm)	585	1781	0	1044	1780	0	0	1586	0	0	1267	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			13			5				193
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles (%)	3%	5%	0%	0%	6%	14%	18%	14%	0%	7%	11%	2%
Adj. Flow (vph)	187	378	3	1	444	72	14	103	12	145	94	193
Shared Lane Traffic (%)												
Lane Group Flow (vph)	187	381	0	1	516	0	0	129	0	0	239	193
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.36	0.33		0.00	0.56			0.38			0.89	0.26
Control Delay	7.6	8.8		5.0	17.8			32.2			67.9	3.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	7.6	8.8		5.0	17.8			32.2			67.9	3.9
Queue Length 50th (ft)	35	81		0	191			60			131	0
Queue Length 95th (ft)	57	168		2	269			106			#243	36
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	522	1157		744	916			364			287	728
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.36	0.33		0.00	0.56			0.35			0.83	0.27

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 88.1

Natural Cycle: 55

Control Type: Semi Act-Uncoord

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

		
25 s	15 s	50 s
		
25 s	15 s	50 s

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

							
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	187	381	1	516	129	239	193
v/c Ratio	0.36	0.33	0.00	0.56	0.38	0.89	0.26
Control Delay	7.6	8.8	5.0	17.8	32.2	67.9	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	8.8	5.0	17.8	32.2	67.9	3.9
Queue Length 50th (ft)	35	81	0	191	60	131	0
Queue Length 95th (ft)	57	168	2	269	106	#243	36
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	522	1157	744	916	364	287	728
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.33	0.00	0.56	0.35	0.83	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak AM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	325	3	1	382	62	12	89	10	125	81	166
Future Volume (veh/h)	161	325	3	1	382	62	12	89	10	125	81	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1803	1773	1773	2097	2007	2007	1729	1729	1729	1971	1971	2106
Adj Flow Rate, veh/h	187	378	3	1	444	72	14	103	12	145	94	193
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	5	5	0	6	6	14	14	14	11	11	2
Cap, veh/h	605	1175	9	749	1016	165	54	92	9	160	53	349
Arrive On Green	0.07	0.67	0.67	0.00	0.60	0.60	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1717	1756	14	1997	1684	273	0	717	74	641	416	1785
Grp Volume(v), veh/h	187	0	381	1	0	516	129	0	0	239	0	193
Grp Sat Flow(s),veh/h/ln	1717	0	1770	1997	0	1957	791	0	0	1057	0	1785
Q Serve(g_s), s	2.8	0.0	6.8	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0	7.3
Cycle Q Clear(g_c), s	2.8	0.0	6.8	0.0	0.0	10.6	9.6	0.0	0.0	9.6	0.0	7.3
Prop In Lane	1.00		0.01	1.00		0.14	0.11		0.09	0.61		1.00
Lane Grp Cap(c), veh/h	605	0	1185	749	0	1181	155	0	0	213	0	349
V/C Ratio(X)	0.31	0.00	0.32	0.00	0.00	0.44	0.83	0.00	0.00	1.12	0.00	0.55
Avail Cap(c_a), veh/h	720	0	1185	1014	0	1181	376	0	0	428	0	598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.2	0.0	5.2	5.9	0.0	8.0	31.5	0.0	0.0	34.2	0.0	27.1
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.0	0.0	1.2	10.9	0.0	0.0	72.5	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.9	0.0	0.0	3.8	2.5	0.0	0.0	8.0	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	0.0	5.9	5.9	0.0	9.1	42.4	0.0	0.0	106.7	0.0	28.4
LnGrp LOS	A	A	A	A	A	A	D	A	A	F	A	C
Approach Vol, veh/h	568				517		129				432	
Approach Delay, s/veh	5.8				9.1		42.4				71.8	
Approach LOS	A				A		D				E	
Timer - Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	14.6		5.1	54.9	14.6		10.0	50.0				
Change Period (Y+Rc), s	5.0		5.0	5.0	5.0		5.0	5.0				
Max Green Setting (Gmax), s	20.0		10.0	45.0	20.0		10.0	45.0				
Max Q Clear Time (g_c+I1), s	0.0		2.0	0.0	9.3		4.8	0.0				
Green Ext Time (p_c), s	0.0		0.0	0.0	0.3		0.3	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			27.0									
HCM 6th LOS			C									

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	155	17	37	440	466	274
Future Volume (vph)	155	17	37	440	466	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987				0.950	
Flt Protected	0.957			0.996		
Satd. Flow (prot)	1752	0	0	1818	1724	0
Flt Permitted	0.957			0.996		
Satd. Flow (perm)	1752	0	0	1818	1724	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	14%	0%	5%	4%	3%
Adj. Flow (vph)	172	19	41	489	518	304
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	0	530	822	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak AM Hour
02/26/2019

Intersection						
Int Delay, s/veh	6.2					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	↘			↗	↗	
Traffic Vol, veh/h	155	17	37	440	466	274
Future Vol, veh/h	155	17	37	440	466	274
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, %	-5	-	-	-1	2	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	14	0	5	4	3
Mvmt Flow	172	19	41	489	518	304
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1241	670	822	0	-	0
Stage 1	670	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Critical Hdwy	5.44	5.84	4.1	-	-	-
Critical Hdwy Stg 1	4.44	-	-	-	-	-
Critical Hdwy Stg 2	4.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.426	2.2	-	-	-
Pot Cap-1 Maneuver	270	479	816	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	251	479	816	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Approach	SE	NE		SW		
HCM Control Delay	48.1	0.7		0		
HCM LOS	E					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	816	-	263	-	-	
HCM Lane V/C Ratio	0.05	-	0.727	-	-	
HCM Control Delay (s)	9.6	0	48.1	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0.2	-	5.1	-	-	

2024 Build Traffic Volumes

Weekday Peak AM Hour

3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	8	0	5	0	0	6	1	464	4	6	436	41
Future Volume (vph)	8	0	5	0	0	6	1	464	4	6	436	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.946			0.865			0.999			0.988	
Flt Protected		0.971									0.999	
Satd. Flow (prot)	0	1754	0	0	1644	0	0	1842	0	0	1875	0
Flt Permitted		0.971									0.999	
Satd. Flow (perm)	0	1754	0	0	1644	0	0	1842	0	0	1875	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	0	6	0	0	7	1	516	4	7	484	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	15	0	0	7	0	0	521	0	0	537	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection

Int Delay, s/veh 0.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	5	0	0	6	1	464	4	6	436	41
Future Vol, veh/h	8	0	5	0	0	6	1	464	4	6	436	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	6	0	0	7	1	516	4	7	484	46

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow	All1045 1043	507 1044 1064	518 530	0 0 520 0 0
Stage 1	521 521	- 520 520	- -	- - - - -
Stage 2	524 522	- 524 544	- -	- - - - -
Critical Hdwy	6.12 5.52	5.72 6.32 5.72	5.82 4.12	- - 4.12 - -
Critical Hdwy Stg 1	5.12 4.52	- 5.32 4.72	- -	- - - - -
Critical Hdwy Stg 2	5.12 4.52	- 5.32 4.72	- -	- - - - -
Follow-up Hdwy	3.518 4.018	3.318 3.518 4.018	3.318 2.218	- - 2.218 - -
Pot Cap-1 Maneuve	276 306	607 261 282	591 1037	- - 1046 - -
Stage 1	622 614	- 605 597	- -	- - - - -
Stage 2	621 614	- 603 586	- -	- - - - -
Platoon blocked, %				- - - - -
Mov Cap-1 Maneuve	270 303	607 257 279	591 1037	- - 1046 - -
Mov Cap-2 Maneuve	270 303	- 257 279	- -	- - - - -
Stage 1	621 608	- 604 596	- -	- - - - -
Stage 2	613 613	- 592 580	- -	- - - - -

Approach	SE	NW	NE	SW
HCM Control Delay, s	16	11.2	0	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1037	-	-	591	343	1046	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	0.011	0.042	0.006	-	-	-	-	-	-
HCM Control Delay (s)	8.5	0	-	11.2	16	8.5	0	-	-	-	-	-
HCM Lane LOS	A	A	-	B	C	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-	-	-	-	-

2024 Build Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak AM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	23	21	479	18	12	434
Future Volume (vph)	23	21	479	18	12	434
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.935		0.995			
Flt Protected	0.975					0.999
Satd. Flow (prot)	1612	0	1811	0	0	1793
Flt Permitted	0.975					0.999
Satd. Flow (perm)	1612	0	1811	0	0	1793
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	11%	4%	0%	18%	5%
Adj. Flow (vph)	26	24	551	21	14	499
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	0	572	0	0	513
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection

Int Delay, s/veh 1.1

Movement NWL NWR NET NER SWL SWT

Lane Configurations     

Traffic Vol, veh/h 23 21 479 18 12 434

Future Vol, veh/h 23 21 479 18 12 434

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, % 4 - 1 - - 1

Peak Hour Factor 87 87 87 87 87 87

Heavy Vehicles, % 0 11 4 0 18 5

Mvmt Flow 26 24 551 21 14 499

Major/Minor Minor1 Major1 Major2

Conflicting Flow All 1089 562 0 0 572 0

Stage 1 562 - - - - -

Stage 2 527 - - - - -

Critical Hdwy 7.2 6.71 - - 4.28 -

Critical Hdwy Stg 1 6.2 - - - - -

Critical Hdwy Stg 2 6.2 - - - - -

Follow-up Hdwy 3.5 3.399 - - 2.362 -

Pot Cap-1 Maneuver 189 479 - - 926 -

Stage 1 507 - - - - -

Stage 2 530 - - - - -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver 185 479 - - 926 -

Mov Cap-2 Maneuver 185 - - - - -

Stage 1 496 - - - - -

Stage 2 530 - - - - -

Approach NW NE SW

HCM Control Delay, s 22 0 0.2

HCM LOS C

Minor Lane/Major Mvmt NET NER NWLn1 SWL SWT

Capacity (veh/h) - - 262 926 -

HCM Lane V/C Ratio - - 0.193 0.015 -

HCM Control Delay (s) - - 22 8.9 0

HCM Lane LOS - - C A A

HCM 95th %tile Q(veh) - - 0.7 0 -

2024 Build Traffic Volumes

Weekday Peak PM Hour

1: Red Schoolhouse Road & NYS Route 52

02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	239	505	4	7	471	98	10	57	11	128	70	195
Future Volume (vph)	239	505	4	7	471	98	10	57	11	128	70	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.974			0.981				0.850
Flt Protected	0.950			0.950				0.993			0.969	
Satd. Flow (prot)	1710	1798	0	1850	1844	0	0	1712	0	0	1847	1631
Flt Permitted	0.265			0.452				0.946			0.783	
Satd. Flow (perm)	477	1798	0	880	1844	0	0	1631	0	0	1493	1631
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			17			9				210
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	0%	0%	2%	7%	0%	8%	20%	3%	2%	2%
Adj. Flow (vph)	257	543	4	8	506	105	11	61	12	138	75	210
Shared Lane Traffic (%)												
Lane Group Flow (vph)	257	547	0	8	611	0	0	84	0	0	213	210
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	pt+ov

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.55	0.45		0.01	0.63			0.27			0.76	0.29
Control Delay	10.0	9.8		5.4	18.5			28.7			50.4	3.9
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	10.0	9.8		5.4	18.5			28.7			50.4	3.9
Queue Length 50th (ft)	45	118		1	225			35			110	0
Queue Length 95th (ft)	82	286		6	358			75			188	42
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	473	1204		676	974			386			347	718
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.54	0.45		0.01	0.63			0.22			0.61	0.29

Intersection Summary

Area Type: Other

Cycle Length: 90

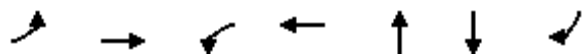
Actuated Cycle Length: 86.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	257	547	8	611	84	213	210
v/c Ratio	0.55	0.45	0.01	0.63	0.27	0.76	0.29
Control Delay	10.0	9.8	5.4	18.5	28.7	50.4	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	9.8	5.4	18.5	28.7	50.4	3.9
Queue Length 50th (ft)	45	118	1	225	35	110	0
Queue Length 95th (ft)	82	286	6	358	75	188	42
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	473	1204	676	974	386	347	718
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.45	0.01	0.63	0.22	0.61	0.29
Intersection Summary							

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Weekday Peak PM Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	239	505	4	7	471	98	10	57	11	128	70	195
Future Volume (veh/h)	239	505	4	7	471	98	10	57	11	128	70	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1788	1788	1788	2097	2067	2067	1819	1819	1819	2106	2106	2106
Adj Flow Rate, veh/h	257	543	4	8	506	105	11	61	12	138	75	210
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	4	4	0	2	2	8	8	8	2	2	2
Cap, veh/h	551	1169	9	605	971	202	53	106	18	169	50	393
Arrive On Green	0.09	0.66	0.66	0.01	0.58	0.58	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1703	1772	13	1997	1660	344	0	783	130	683	371	1785
Grp Volume(v), veh/h	257	0	547	8	0	611	84	0	0	213	0	210
Grp Sat Flow(s),veh/h/ln	1703	0	1785	1997	0	2005	913	0	0	1054	0	1785
Q Serve(g_s), s	4.2	0.0	11.6	0.1	0.0	14.0	0.0	0.0	0.0	0.0	0.0	8.0
Cycle Q Clear(g_c), s	4.2	0.0	11.6	0.1	0.0	14.0	10.4	0.0	0.0	10.4	0.0	8.0
Prop In Lane	1.00		0.01	1.00		0.17	0.13		0.14	0.65		1.00
Lane Grp Cap(c), veh/h	551	0	1178	605	0	1173	176	0	0	219	0	393
V/C Ratio(X)	0.47	0.00	0.46	0.01	0.00	0.52	0.48	0.00	0.00	0.97	0.00	0.53
Avail Cap(c_a), veh/h	627	0	1178	844	0	1173	380	0	0	427	0	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.7	0.0	6.4	6.5	0.0	9.5	30.4	0.0	0.0	35.0	0.0	26.5
Incr Delay (d2), s/veh	0.6	0.0	1.3	0.0	0.0	1.7	2.0	0.0	0.0	22.1	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	3.5	0.0	0.0	5.4	1.4	0.0	0.0	5.2	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	0.0	7.7	6.6	0.0	11.2	32.4	0.0	0.0	57.1	0.0	27.7
LnGrp LOS	A	A	A	A	A	B	C	A	A	E	A	C
Approach Vol, veh/h	804		619				84		423			
Approach Delay, s/veh	7.6		11.1				32.4		42.5			
Approach LOS	A		B				C		D			
Timer - Assigned Phs	2		3		4		6		7		8	
Phs Duration (G+Y+Rc), s	15.4		5.8		55.8		15.4		11.5		50.0	
Change Period (Y+Rc), s	5.0		5.0		5.0		5.0		5.0		5.0	
Max Green Setting (Gmax), s	20.0		10.0		45.0		20.0		10.0		45.0	
Max Q Clear Time (g_c+I1), s	0.0		2.1		0.0		10.0		6.2		0.0	
Green Ext Time (p_c), s	0.0		0.0		0.0		0.4		0.4		0.0	
Intersection Summary												
HCM 6th Ctrl Delay	17.5											
HCM 6th LOS	B											

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak PM Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	124	14	7	686	628	91
Future Volume (vph)	124	14	7	686	628	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.986				0.983	
Flt Protected	0.957					
Satd. Flow (prot)	1774	0	0	1851	1813	0
Flt Permitted	0.957					
Satd. Flow (perm)	1774	0	0	1851	1813	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	4%	0%	17%	3%	2%	2%
Adj. Flow (vph)	132	15	7	730	668	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	147	0	0	737	765	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Weekday Peak PM Hour
02/26/2019

Intersection						
Int Delay, s/veh	4.4					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	124	14	7	686	628	91
Future Vol, veh/h	124	14	7	686	628	91
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, %	-5	-	-	-1	2	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	4	0	17	3	2	2
Mvmt Flow	132	15	7	730	668	97
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1461	717	765	0	-	0
Stage 1	717	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Critical Hdwy	5.44	5.7	4.27	-	-	-
Critical Hdwy Stg 1	4.44	-	-	-	-	-
Critical Hdwy Stg 2	4.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	2.353	-	-	-
Pot Cap-1 Maneuve	211	478	785	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuve	208	478	785	-	-	-
Mov Cap-2 Maneuve	208	-	-	-	-	-
Stage 1	577	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Approach	SE	NE	SW			
HCM Control Delay	48.6	0.1	0			
HCM LOS	E					
Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR	
Capacity (veh/h)	785	-	221	-	-	
HCM Lane V/C Ratio	0.009	-0.664	-	-	-	
HCM Control Delay (s)	9.6	0	48.6	-	-	
HCM Lane LOS	A	A	E	-	-	
HCM 95th %tile Q(veh)	0	-	4.1	-	-	

2024 Build Traffic Volumes

Weekday Peak PM Hour

3: NYS Route 52 & Hudson Baylar Beacon Driveway/Site Access

02/26/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	73	0	40	17	0	8	1	612	3	2	604	36
Future Volume (vph)	73	0	40	17	0	8	1	612	3	2	604	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952			0.955			0.999			0.992	
Flt Protected		0.969			0.968							
Satd. Flow (prot)	0	1761	0	0	1756	0	0	1842	0	0	1885	0
Flt Permitted		0.969			0.968							
Satd. Flow (perm)	0	1761	0	0	1756	0	0	1842	0	0	1885	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	78	0	43	18	0	9	1	651	3	2	643	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	121	0	0	27	0	0	655	0	0	683	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection

Int Delay, s/veh 3.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	73	0	40	17	0	8	1	612	3	2	604	36
Future Vol, veh/h	73	0	40	17	0	8	1	612	3	2	604	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	0	43	18	0	9	1	651	3	2	643	38

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow	All1325 1322	662 1343	1340 653 681	0 0 654 0 0
Stage 1	666 666	- 655 655	- -	- - - - -
Stage 2	659 656	- 688 685	- -	- - - - -
Critical Hdwy	6.12 5.52	5.72 6.32	5.72 5.82 4.12	- - 4.12 - -
Critical Hdwy Stg 1	5.12 4.52	- 5.32 4.72	- -	- - - - -
Critical Hdwy Stg 2	5.12 4.52	- 5.32 4.72	- -	- - - - -
Follow-up Hdwy	3.518 4.018	3.318 3.518	4.018 3.318 2.218	- - 2.218 - -
Pot Cap-1 Maneuver	192 226	506 174	205 502 912	- - 933 - -
Stage 1	540 550	- 526 535	- -	- - - - -
Stage 2	544 555	- 509 522	- -	- - - - -
Platoon blocked, %				- - - - -
Mov Cap-1 Maneuver	188 225	506 159	204 502 912	- - 933 - -
Mov Cap-2 Maneuver	188 225	- 159 204	- -	- - - - -
Stage 1	539 548	- 525 534	- -	- - - - -
Stage 2	534 554	- 465 520	- -	- - - - -

Approach	SE	NW	NE	SW
HCM Control Delay (s)	33.7	25.4	0	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	912	-	-	203	242	933	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.131	0.497	0.002	-	-				
HCM Control Delay (s)	9	0	-	25.4	33.7	8.9	0	-				
HCM Lane LOS	A	A	-	D	D	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.4	2.5	0	-	-				

2024 Build Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak PM Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	17	22	613	22	15	660
Future Volume (vph)	17	22	613	22	15	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.924		0.995			
Flt Protected	0.979					0.999
Satd. Flow (prot)	1638	0	1863	0	0	1870
Flt Permitted	0.979					0.999
Satd. Flow (perm)	1638	0	1863	0	0	1870
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	5%	1%	0%	0%	1%
Adj. Flow (vph)	18	23	645	23	16	695
Shared Lane Traffic (%)						
Lane Group Flow (vph)	41	0	668	0	0	711
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2024 Build Traffic Volumes
4: NYS Route 52 & Mill Street

Weekday Peak PM Hour
02/26/2019

Intersection						
Int Delay, s/veh	0.9					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	17	22	613	22	15	660
Future Vol, veh/h	17	22	613	22	15	660
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, %	4	-	1	-	-	1
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	1	0	0	1
Mvmt Flow	18	23	645	23	16	695
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1384	657	0	0	668	0
Stage 1	657	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Critical Hdwy	7.2	6.65	-	-	4.1	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.345	-	-	2.2	-
Pot Cap-1 Maneuver	117	427	-	-	931	-
Stage 1	449	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	114	427	-	-	931	-
Mov Cap-2 Maneuver	114	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay	28.5	0	0.2			
HCM LOS	D					
Minor Lane/Major Mvmt	NET	NER	NWL	n1	SWL	SWT
Capacity (veh/h)	-	-	194	931	-	-
HCM Lane V/C Ratio	-	-	0.212	0.017	-	-
HCM Control Delay (s)	-	-	28.5	8.9	0	-
HCM Lane LOS	-	-	D	A	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-	-

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	468	2	2	410	73	0	41	12	74	36	130
Future Volume (vph)	135	468	2	2	410	73	0	41	12	74	36	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-1%			-6%	
Storage Length (ft)	250		0	75		0	0		0	0		135
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.977			0.969				0.850
Flt Protected	0.950			0.950							0.967	
Satd. Flow (prot)	1662	1851	0	1850	1887	0	0	1850	0	0	1892	1647
Flt Permitted	0.352			0.480							0.762	
Satd. Flow (perm)	616	1851	0	935	1887	0	0	1850	0	0	1491	1647
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					14			13				138
Link Speed (mph)		40			40			40			40	
Link Distance (ft)		729			1092			216			357	
Travel Time (s)		12.4			18.6			3.7			6.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Adj. Flow (vph)	144	498	2	2	436	78	0	44	13	79	38	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	500	0	2	514	0	0	57	0	0	117	138
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.99	0.99	0.99	0.96	0.96	0.96
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	2	0		2	0		1	0		1	0	2
Detector Template							Left			Left		
Leading Detector (ft)	83	0		83	0		20	0		20	0	83
Trailing Detector (ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Position(ft)	-5	0		-5	0		0	0		0	0	-5
Detector 1 Size(ft)	40	6		40	6		20	6		20	6	40
Detector 1 Type	CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex		CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)	43			43								43
Detector 2 Size(ft)	40			40								40
Detector 2 Type	CI+Ex			CI+Ex								CI+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0			0.0								0.0
Turn Type	pm+pt	NA		pm+pt	NA			NA		Perm	NA	pt+ov

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Protected Phases	7	4		3	8			2			6	6 7
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	6 7
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	10.0	23.0		10.0	23.0		20.0	20.0		20.0	20.0	
Total Split (s)	15.0	50.0		15.0	50.0		25.0	25.0		25.0	25.0	
Total Split (%)	16.7%	55.6%		16.7%	55.6%		27.8%	27.8%		27.8%	27.8%	
Maximum Green (s)	10.0	45.0		10.0	45.0		20.0	20.0		20.0	20.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		Min	Min		Min	Min	
v/c Ratio	0.26	0.38		0.00	0.48			0.21			0.55	0.23
Control Delay	4.9	7.2		4.5	13.0			26.4			42.0	4.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	4.9	7.2		4.5	13.0			26.4			42.0	4.6
Queue Length 50th (ft)	17	74		0	139			20			55	0
Queue Length 95th (ft)	42	228		2	259			52			107	36
Internal Link Dist (ft)		649			1012			136			277	
Turn Bay Length (ft)	250			75								135
Base Capacity (vph)	580	1308		757	1067			472			372	630
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.25	0.38		0.00	0.48			0.12			0.31	0.22

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 80.3

Natural Cycle: 55

Control Type: Semi Act-Uncoord

Splits and Phases: 1: Red Schoolhouse Road & NYS Route 52

 Ø2	 Ø3	 Ø4
25 s	15 s	50 s
 Ø6	 Ø7	 Ø8
25 s	15 s	50 s

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

							
Lane Group	EBL	EBT	WBL	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	144	500	2	514	57	117	138
v/c Ratio	0.26	0.38	0.00	0.48	0.21	0.55	0.23
Control Delay	4.9	7.2	4.5	13.0	26.4	42.0	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.9	7.2	4.5	13.0	26.4	42.0	4.6
Queue Length 50th (ft)	17	74	0	139	20	55	0
Queue Length 95th (ft)	42	228	2	259	52	107	36
Internal Link Dist (ft)		649		1012	136	277	
Turn Bay Length (ft)	250		75				135
Base Capacity (vph)	580	1308	757	1067	472	372	630
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.38	0.00	0.48	0.12	0.31	0.22
Intersection Summary							

2024 Build Traffic Volumes
1: Red Schoolhouse Road & NYS Route 52

Saturday Peak Hour
02/26/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	468	2	2	410	73	0	41	12	74	36	130
Future Volume (veh/h)	135	468	2	2	410	73	0	41	12	74	36	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1743	1832	1832	2097	2082	2082	1939	1939	1939	2136	2136	2121
Adj Flow Rate, veh/h	144	498	2	2	436	78	0	44	13	79	38	138
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	7	1	1	0	1	1	0	0	0	0	0	1
Cap, veh/h	620	1254	5	680	1074	192	0	145	43	167	44	299
Arrive On Green	0.07	0.69	0.69	0.00	0.63	0.63	0.00	0.10	0.10	0.10	0.10	0.10
Sat Flow, veh/h	1660	1824	7	1997	1719	307	0	1438	425	821	435	1797
Grp Volume(v), veh/h	144	0	500	2	0	514	0	0	57	117	0	138
Grp Sat Flow(s),veh/h/ln	1660	0	1831	1997	0	2026	0	0	1863	1256	0	1797
Q Serve(g_s), s	2.0	0.0	8.4	0.0	0.0	9.2	0.0	0.0	2.0	4.8	0.0	5.0
Cycle Q Clear(g_c), s	2.0	0.0	8.4	0.0	0.0	9.2	0.0	0.0	2.0	6.8	0.0	5.0
Prop In Lane	1.00		0.00	1.00		0.15	0.00		0.23	0.68		1.00
Lane Grp Cap(c), veh/h	620	0	1260	680	0	1267	0	0	188	211	0	299
V/C Ratio(X)	0.23	0.00	0.40	0.00	0.00	0.41	0.00	0.00	0.30	0.56	0.00	0.46
Avail Cap(c_a), veh/h	742	0	1260	952	0	1267	0	0	518	510	0	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.2	0.0	4.8	5.1	0.0	6.8	0.0	0.0	30.0	33.0	0.0	27.1
Incr Delay (d2), s/veh	0.2	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.9	2.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	2.3	0.0	0.0	3.2	0.0	0.0	0.9	2.0	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	0.0	5.8	5.1	0.0	7.7	0.0	0.0	30.9	35.3	0.0	28.2
LnGrp LOS	A	A	A	A	A	A	A	A	C	D	A	C
Approach Vol, veh/h	644		516			57			255			
Approach Delay, s/veh	5.5		7.7			30.9			31.5			
Approach LOS	A		A			C			C			
Timer - Assigned Phs	2		3	4		6		7	8			
Phs Duration (G+Y+Rc), s	12.3		5.2	54.5		12.3		9.7	50.0			
Change Period (Y+Rc), s	5.0		5.0	5.0		5.0		5.0	5.0			
Max Green Setting (Gmax), s	20.0		10.0	45.0		20.0		10.0	45.0			
Max Q Clear Time (g_c+I1), s	0.0		2.0	0.0		7.0		4.0	0.0			
Green Ext Time (p_c), s	0.0		0.0	0.0		0.3		0.3	0.0			
Intersection Summary												
HCM 6th Ctrl Delay	11.7											
HCM 6th LOS	B											

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019



Lane Group	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	53	13	13	623	554	66
Future Volume (vph)	53	13	13	623	554	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-5%			-1%	2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.973				0.986	
Flt Protected	0.962			0.999		
Satd. Flow (prot)	1823	0	0	1871	1838	0
Flt Permitted	0.962			0.999		
Satd. Flow (perm)	1823	0	0	1871	1838	0
Link Speed (mph)	30			30	40	
Link Distance (ft)	712			634	112	
Travel Time (s)	16.2			14.4	1.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Adj. Flow (vph)	56	14	14	656	583	69
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	0	670	652	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			0	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.97	0.97	0.99	0.99	1.01	1.01
Turning Speed (mph)	15	9	15			9
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized

2024 Build Traffic Volumes
2: NYS Route 52 & Prospect Street

Saturday Peak Hour
02/26/2019

Intersection						
Int Delay, s/veh	1.2					
Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	53	13	13	623	554	66
Future Vol, veh/h	53	13	13	623	554	66
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, %	-5	-	-	-1	2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	1	0
Mvmt Flow	56	14	14	656	583	69

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1302	618	652	0	-	0
Stage 1	618	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Critical Hdwy	5.4	5.7	4.1	-	-	-
Critical Hdwy Stg 1	4.4	-	-	-	-	-
Critical Hdwy Stg 2	4.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	257	537	944	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	251	537	944	-	-	-
Mov Cap-2 Maneuver	251	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	SE	NE	SW
HCM Control Delay, s	22	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	944	-	280	-	-
HCM Lane V/C Ratio	0.014	-	0.248	-	-
HCM Control Delay (s)	8.9	0	22	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1	-	-

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	53	0	30	1	0	0	1	583	0	1	528	38
Future Volume (vph)	53	0	30	1	0	0	1	583	0	1	528	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-5%			-4%			2%			-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951									0.991	
Flt Protected		0.969			0.950							
Satd. Flow (prot)	0	1759	0	0	1805	0	0	1844	0	0	1883	0
Flt Permitted		0.969			0.950							
Satd. Flow (perm)	0	1759	0	0	1805	0	0	1844	0	0	1883	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		181			127			749			634	
Travel Time (s)		4.1			2.9			17.0			14.4	
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)	58	0	33	1	0	0	1	634	0	1	574	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	1	0	0	635	0	0	616	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	0.97	0.97	0.97	0.97	0.97	0.97	1.01	1.01	1.01	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

Intersection

Int Delay, s/veh 1.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	0	30	1	0	0	1	583	0	1	528	38
Future Vol, veh/h	53	0	30	1	0	0	1	583	0	1	528	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-5	-	-	-4	-	-	2	-	-	-4	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	0	33	1	0	0	1	634	0	1	574	41

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	1233	1233	595	1249
Stage 1	597	597	-	636
Stage 2	636	636	-	613
Critical Hdwy	6.12	5.52	5.72	6.32
Critical Hdwy Stg 1	5.12	4.52	-	5.32
Critical Hdwy Stg 2	5.12	4.52	-	5.32
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuve	216	249	548	198
Stage 1	578	580	-	537
Stage 2	556	563	-	550
Platoon blocked, %				
Mov Cap-1 Maneuve	215	248	548	186
Mov Cap-2 Maneuve	215	248	-	186
Stage 1	577	579	-	536
Stage 2	555	562	-	516

Approach	SE	NW	NE	SW
HCM Control Delay	24.3	24.5	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	965	-	-	186	276	949	-	-	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	0.006	0.327	0.001	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	24.5	24.3	8.8	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	C	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	0	1.4	0	-	-	-	-	-	-

2024 Build Traffic Volumes
4: NYS Route 52 & Mill Street

Saturday Peak Hour
02/26/2019

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	19	18	573	13	20	559
Future Volume (vph)	19	18	573	13	20	559
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		1%			1%
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.934		0.997			
Flt Protected	0.975					0.998
Satd. Flow (prot)	1647	0	1863	0	0	1854
Flt Permitted	0.975					0.998
Satd. Flow (perm)	1647	0	1863	0	0	1854
Link Speed (mph)	30		30			30
Link Distance (ft)	375		754			749
Travel Time (s)	8.5		17.1			17.0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	6%	1%	8%	22%	1%
Adj. Flow (vph)	20	19	616	14	22	601
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	630	0	0	623
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.03	1.03	1.01	1.01	1.01	1.01
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

Intersection						
Int Delay, s/veh	1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y	Y	P	P	Y	Y
Traffic Vol, veh/h	19	18	573	13	20	559
Future Vol, veh/h	19	18	573	13	20	559
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, %	4	-	1	-	-	1
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	6	1	8	22	1
Mvmt Flow	20	19	616	14	22	601

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1268	623	0
Stage 1	623	-	-
Stage 2	645	-	-
Critical Hdwy	7.2	6.66	-
Critical Hdwy Stg 1	6.2	-	-
Critical Hdwy Stg 2	6.2	-	-
Follow-up Hdwy	3.5	3.354	-
Pot Cap-1 Maneuver	142	447	-
Stage 1	469	-	-
Stage 2	456	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	137	447	-
Mov Cap-2 Maneuver	137	-	-
Stage 1	451	-	-
Stage 2	456	-	-

Approach	NW	NE	SW
HCM Control Delay	26.5	0	0.3
HCM LOS	D		

Minor Lane/Major Mvmt	NET	NER	NWL	SWL	SWT
Capacity (veh/h)	-	-	207	863	-
HCM Lane V/C Ratio	-	-	0.192	0.025	-
HCM Control Delay (s)	-	-	26.5	9.3	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-