

TRAFFIC IMPACT STUDY
FOR
232 NYS ROUTE 30A DEVELOPMENT SITE

TOWN OF SCHOHARIE
SCHOHARIE COUNTY, NEW YORK

JULY 15, 2025

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APPENDICES

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INTRODUCTION

McFarland-Johnson, Inc. (MJ) has prepared the following Traffic Impact Study (TIS) for the proposed NYS Route 30A Development Site in the Town of Schoharie, Schoharie County, New York. The proposed project site is located on the east side of NYS Route 30A, south of NYS Interstate I-88. See Figure 1 for the Project Location Map.

This TIS serves as an update to an approved TIS dated July 28, 2022 and revised January 16, 2023 that was completed by MJ for a similar warehouse development. Since the initial approval, a tenant has been identified who intends to purchase the property and requires an amended site design. This report analyzes the effects, if any, that the updated facility may have on the study area.

The development will consist of a 225,345 square foot (sf) warehouse facility that includes 1,055 vehicle parking spaces, 15 loading docks, and 17 trailer parking spaces. The proposed development will operate as a “Last Mile” distribution facility, where packages make their last stop before being delivered to the customer. The facility will operate 24 hours, 7 days a week pursuant to a designated daily operations schedule. These packages are delivered to the facility via tractor trailers from regional fulfillment centers primarily during the nighttime. Packages are then sorted, picked, and loaded into delivery vehicles, consisting of vans, smaller box trucks and personal vehicles which depart from the facility throughout the day but primarily not during the typical commuter peak hours.

As shown on the attached concept plan, three driveways are planned off NYS Route 30A, the northern and southern driveways will provide access to vans, box trucks and personally owned delivery vehicles while the center driveway provides access to tractor trailers. Employees will utilize the southern driveway for entering and exiting the facility. Full build-out of the proposed development site is expected to occur by 2027.

Scope of the Study

The purpose of this study is to evaluate existing and future traffic operations within the study area. The analysis completed by MJ evaluated traffic operations within the study area during weekday morning, weekday evening, and developer peak hours for the 2025 base conditions, the 2027 no-build conditions, and the 2027 build conditions. Build conditions were analyzed to determine the impacts, if any, associated with the proposed development.

Based on correspondence with the New York State Department of Transportation’s (NYSDOT) traffic engineer and the previously approved TIS, the traffic study area includes the following intersections:

No. 1 – NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A (*Un-Signalized*)

No. 2 – NYS Route 30A @ I-88 Westbound Ramps (*Un-Signalized*)



No. 3 – NYS Route 30A @ I-88 Eastbound Ramps (*Un-Signalized*)

No. 4 – NYS Route 30A @ Park Place (*Un-Signalized*)

No. 5 – NYS Route 30A @ NYS Route 30 (*Un-Signalized*)

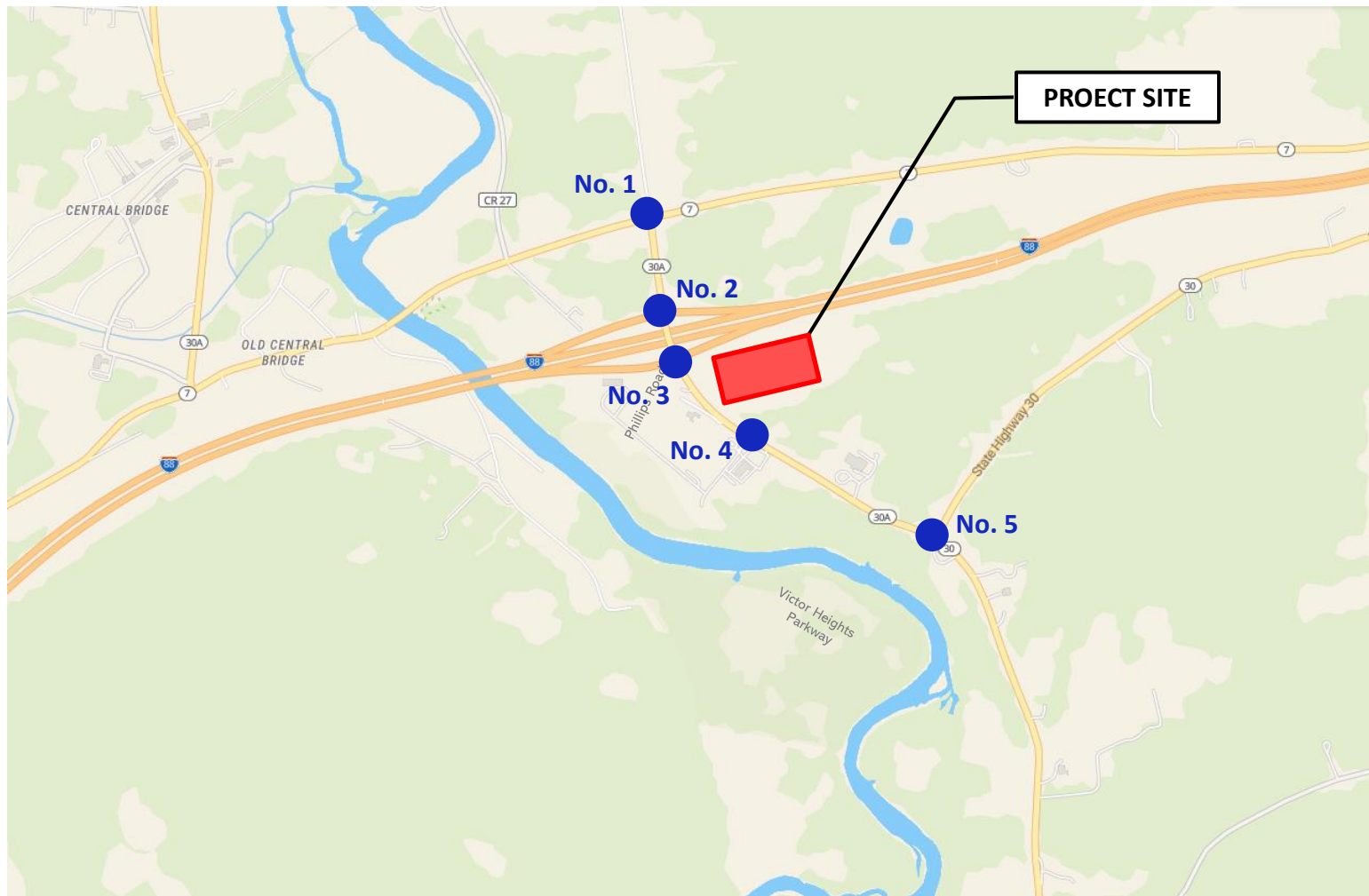
No. 6 – NYS Route 30A @ Proposed Northern Driveway (*Proposed*)

No. 7 – NYS Route 30A @ Proposed Center Driveway (*Proposed*)

No. 8 – NYS Route 30A @ Proposed Southern Driveway (*Proposed*)

Descriptions of the existing physical conditions within the roadway corridor are presented in the following existing roadway network narratives.





Not to Scale

Project Location Map

LEGEND



Project Site



Study Area Intersection

EXISTING CONDITIONS

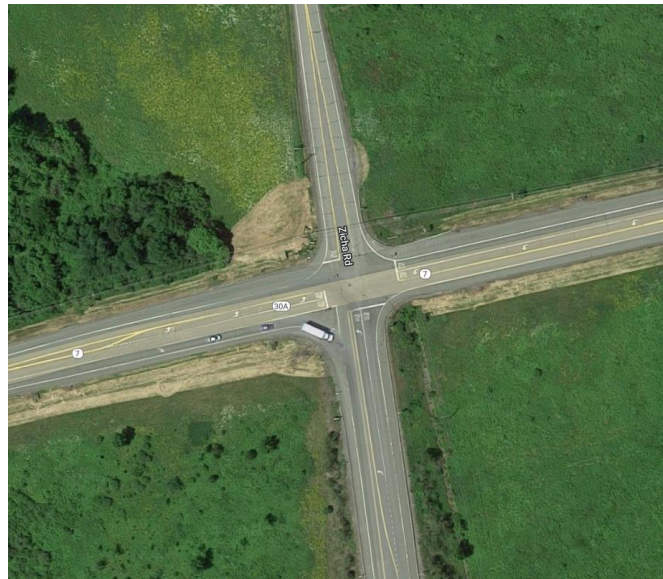
Evaluation of the existing and future traffic conditions within the study area requires an understanding of the existing transportation system. Data such as roadway geometrics, traffic signal timings, and peak hour traffic volumes provide the basis for a thorough understanding of existing conditions and the requisite data necessary to provide projections of future traffic conditions under the no-build and build scenarios.

Existing Roadway Network

The project is located northeast of NYS Route 30A, which is a two-lane north-south rural minor arterial with an estimated average annual daily traffic (AADT) volume of 7,615 vehicles as of 2019 data. NYS Route 30A serves as an alternate westerly route of NYS Route 30 from the Village of Schoharie to the Fulton County hamlet of Riceville, as well as a connection to Interstate 88 (NYS Thruway). Land use in the area is largely agricultural; with several residential properties and a few commercial retail properties including a Quality Inn & Suites, Dunkin Coffee Shop and Mobil gas station located on NYS Route 30A. The posted speed limit on NYS Route 30A is fifty (50) miles per hour (MPH) within the study area. Figure 3 shows the existing geometry and traffic control type for the five study area intersections. Descriptions of these intersections are provided below.

No. 1 – NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A

This is a four-leg, stop-controlled unsignalized intersection with a dedicated left-turn lane and shared thru/right-turn lane for the northbound and westbound approach. The southbound approach consists of a single lane for all movements, and the eastbound lane includes a left-turn lane, thru lane and a channelized, yield-controlled right-turn lane onto NYS Route 30A. The posted speed limit is 50 MPH on Zicha Road and 55 MPH on Route 7. No dedicated accommodations for bicycles or pedestrians are present in the vicinity of this intersection; however, the roadway corridor has twelve-foot-wide shoulders which can accommodate bicycles.



No. 2 – NYS Route 30A @ I-88 Westbound Ramps

This is a four-leg stop controlled unsignalized intersection with a single lane for the one-way westbound and eastbound approaches. The northbound approach features a dedicated left-turn lane and dedicated thru lane. The southbound approach includes a shared thru/right-turn lane. The posted speed limit is 50 MPH for NYS Route 30A. No dedicated accommodations for bicycles or pedestrians are present in the vicinity of this intersection, other than the previously mentioned twelve-foot-wide shoulders.



No. 3 – NYS Route 30A @ I-88 Eastbound Ramps

This is a four-leg stop controlled unsignalized intersection with a single lane for the one-way westbound and eastbound approaches. The southbound approach features a dedicated left-turn lane and dedicated thru lane. The northbound approach includes a shared thru/right-turn lane. The posted speed limit is 50 MPH for NYS Route 30A. No dedicated accommodations for bicycles or pedestrians are present in the vicinity of this intersection, other than the previously mentioned twelve-foot-wide shoulders.



No. 4 – NYS Route 30A @ Park Place

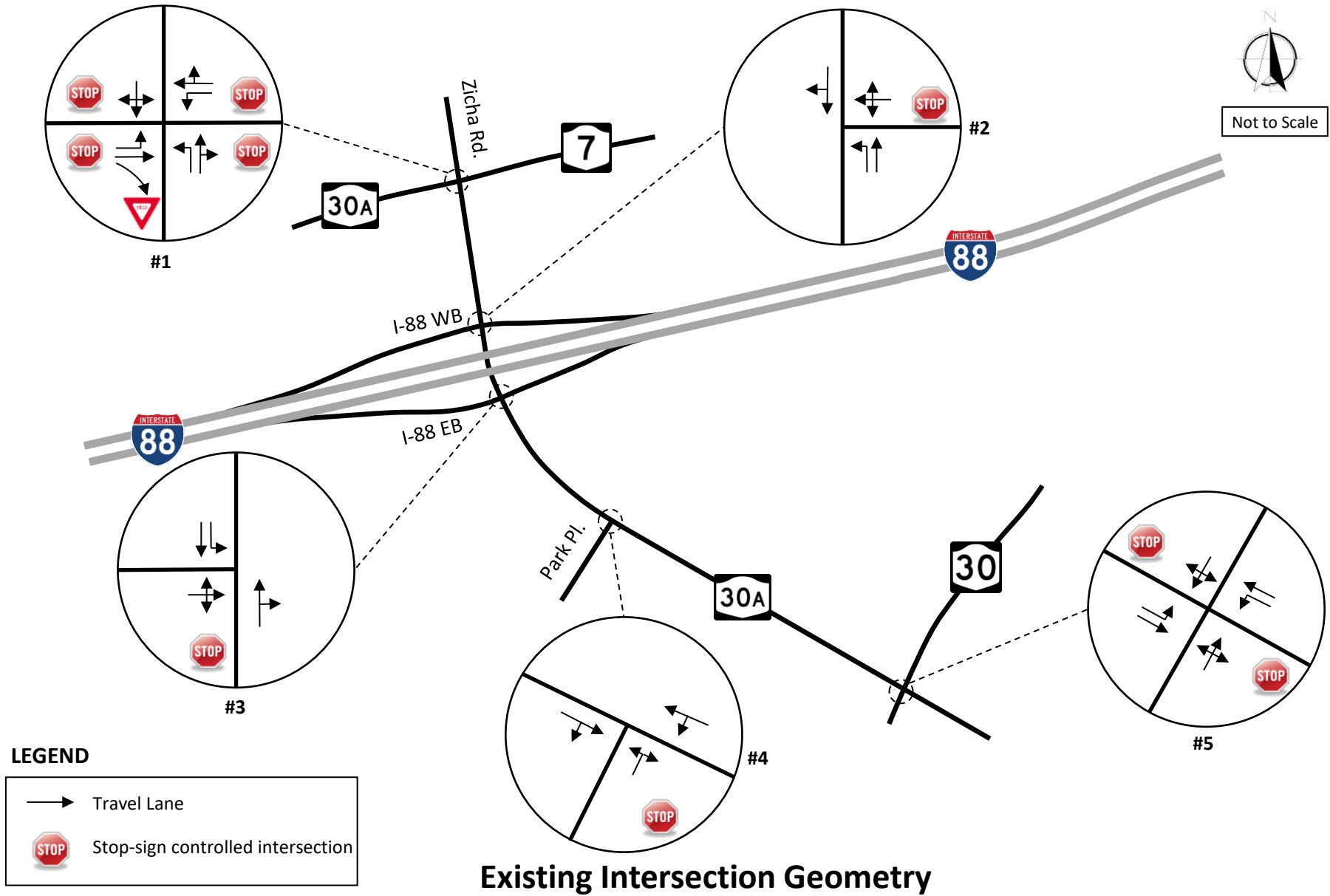
This is a three-leg stop controlled unsignalized intersection with a single lane for all approaches. The northeast approach has a curbed landscaped median and connects several commercial and retail properties with NYS Route 30A, including a Dunkin' coffee shop and Mobil gas station. The posted speed limit is 50 MPH for NYS Route 30A and 20 MPH for Park Place. No accommodations for bicycles or pedestrians are present in the vicinity of this intersection.



No. 5 – NYS Route 30A @ NYS Route 30

This is a four-leg stop controlled unsignalized intersection with a single lane for the southbound approach. The eastbound and westbound approaches both include a dedicated left-turn and thru/right lane. The northbound approach consists of a driveway for a local retail business. The southbound approach is a single lane. The posted speed limit is 50 MPH for NYS Route 30A and 55 MPH for NYS Route 30. No accommodations for bicyclists or pedestrians are present in the vicinity of this intersection; however, the roadway corridor has eight-foot-wide shoulders to accommodate bicycles.





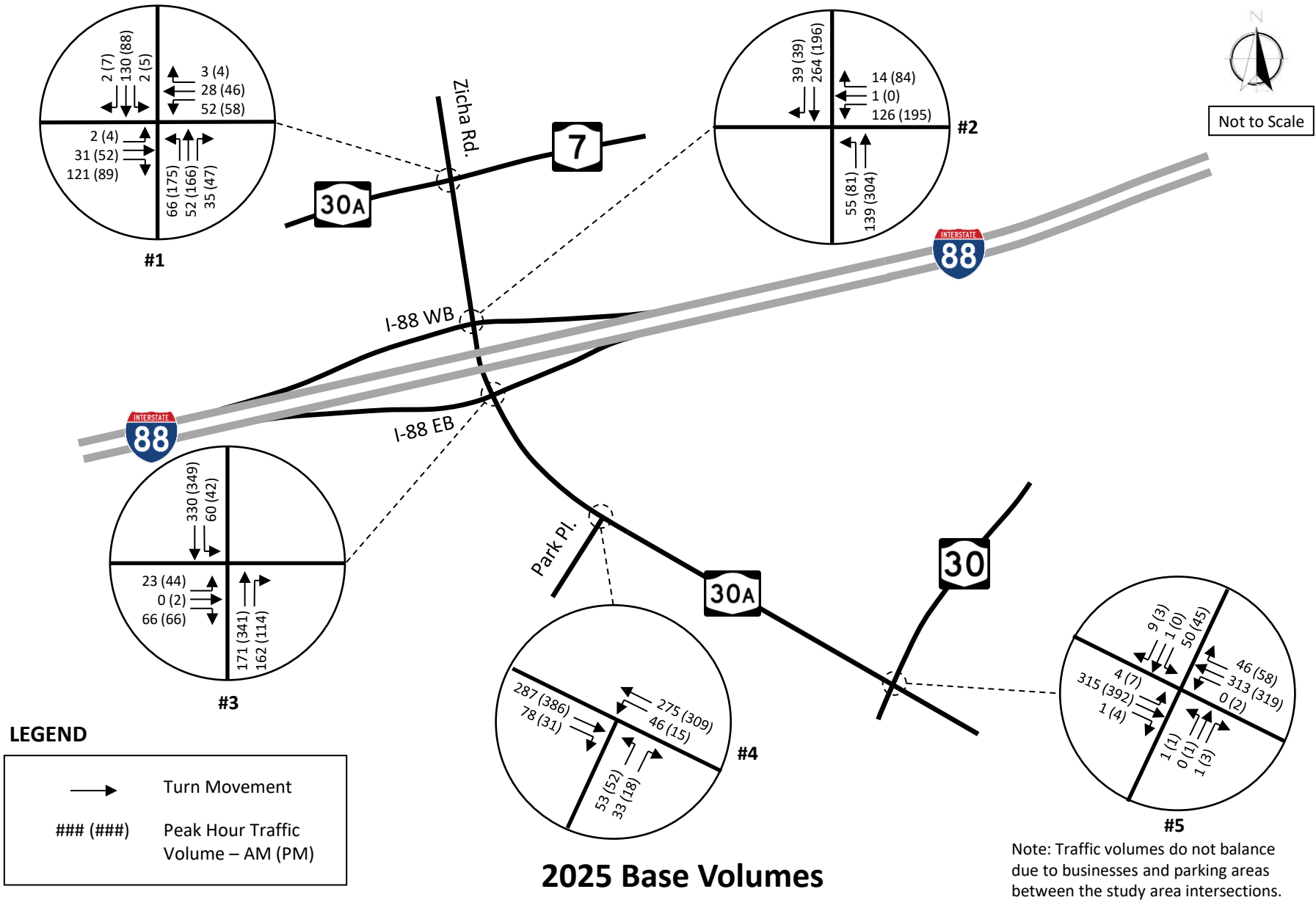
Traffic Data Collection

Existing traffic volumes for the study area intersections were established for this project based on Turning Movement Counts (TMC) which were collected for the previously approved TIS in June of 2022. After concurrence from NYSDOT, these counts were grown by an annual rate of 1% to increase the volumes a total of 3% from 2022 to 2025. The TMC data shows that the vehicular traffic peaks between 7:30 AM and 8:30 AM during the morning and 4:15 PM and 5:15 PM during the evening.

2025 Base Traffic Volumes

The 2025 base traffic volumes in the study area are shown in Figure 4. Analysis of the base condition allows the TIS to develop a comparison to future conditions and enables the study to calibrate the traffic model to mimic the present real-life operations.





NO-BUILD CONDITIONS

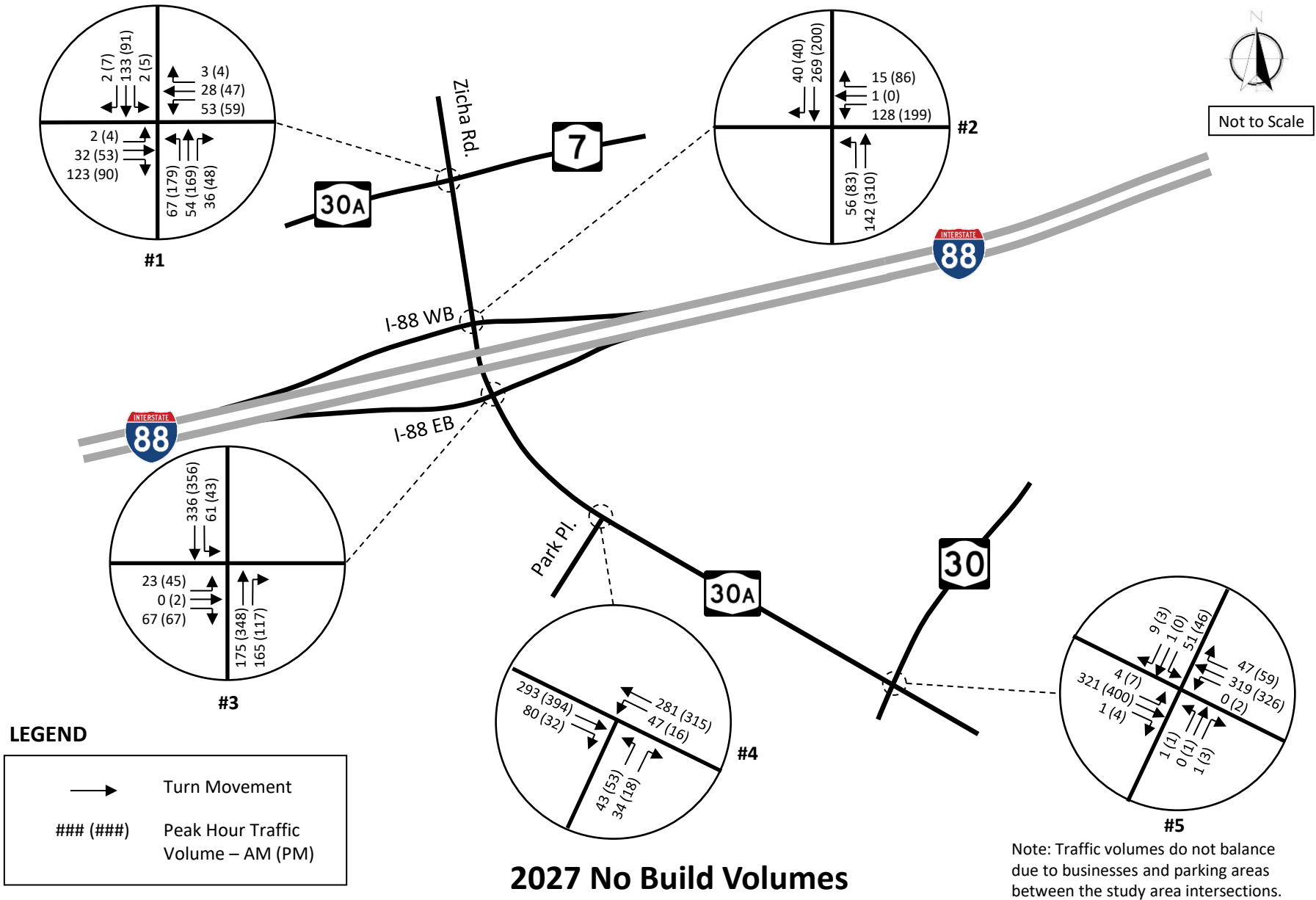
After concurrence from NYSDOT, the 2025 base traffic volumes were further grown by an annual background growth rate of 1.0% per year to create the 2027 No-Build traffic volumes.

2027 No-Build Traffic Volumes

NYSDOT was contacted to determine if additional background traffic from other developments, and/or roadway projects within the study area currently under review or approved should be included in the study. Currently, there are no planned projects or private developments in the area under review that would affect the current traffic patterns.

The 2027 no-build traffic volumes shown in Figure 4 include the 2025 base traffic volumes and annual background traffic growth. These no-build traffic volumes are used as a base upon which to add the proposed development's generated traffic.





BUILD CONDITIONS

Trip Generation

The proposed development is scheduled to be fully built by 2027. For analysis purposes, site generated traffic was estimated using trip generation volumes based on data provided by the end user. This data is provided in Appendix B and was used to determine the trip generation volumes for delivery vehicles, employee vehicles, and tractor trailers traveling to/from the proposed facility during the peak hours.

As the facility will operate 24 hours a day, 7 days a week, the data provided by the developer was analyzed to determine when the greatest impact would occur by site generated traffic on NYS Route 30A. It was determined that the highest volume of traffic occurred during the 7:30-8:30am, 5:00-6:00pm, and 8:30-9:30pm time periods. The peak hour analysis scenarios were then compared to the collected data to create the following three scenarios:

- Morning Peak Hour - Using peak AM background traffic [7:30-8:30am] and the 7:30-8:30am peak from Developer.
- Evening Peak Hour – Using peak PM background traffic [4:15-5:15pm] and the 5:00-6:00pm peak from Developer.
- Developer Peak Hour – Using peak PM background traffic [4:15-5:15pm] and the 8:30-9:30pm peak from Developer. This will serve as a sensitivity analysis for the roadway system should the maximum peak hours ever overlap, however; it should be noted that the projected peak traffic operations of the facility will not overlap with the evening peak hour and should be treated as a purely hypothetical scenario.

The resultant trip generation volumes for the proposed project are shown in Table 1 below.

Table 1 – Trip Generation

TRIP GENERATION CALCULATION TABLE:

Type of Land Use	Source	Weekday Morning Peak (7:30-8:30AM)			Weekday Evening Peak (5:00-6:00PM)			Developer Peak (8:30-9:30PM)		
		Enter	Exit	Total	Enter	Exit	Total	Enter	Exit	Total
225,345 SF Distribution Center	Similar Facility	54	35	89	84	151	235	275	281	556
	Delivery Vehicles	40	32	72	84	151	235	273	9	552
	Employees	12	0	12	0	0	0	0	270	0
	Tractor Trailers	2	3	5	0	0	0	2	2	4

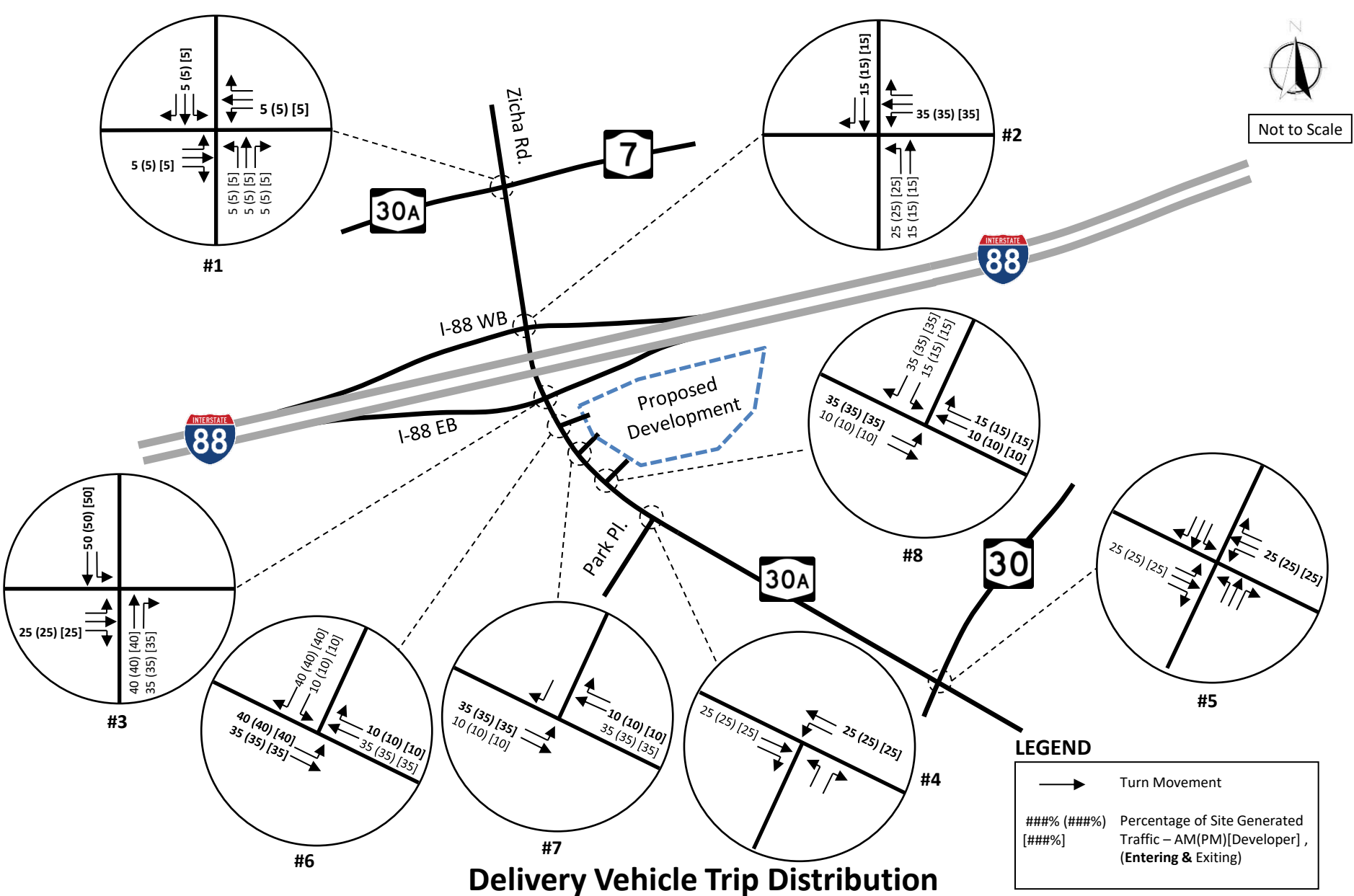
Trip Distribution

The projected vehicle trip distribution model for the proposed development was based on guidance provided by NYSDOT for the previous study. For purposes of this analysis, it is assumed that 75% of employee and delivery vehicles will utilize NYS Route 30A from the north and 25% will arrive from the south. It is anticipated that 100% of tractor trailers will

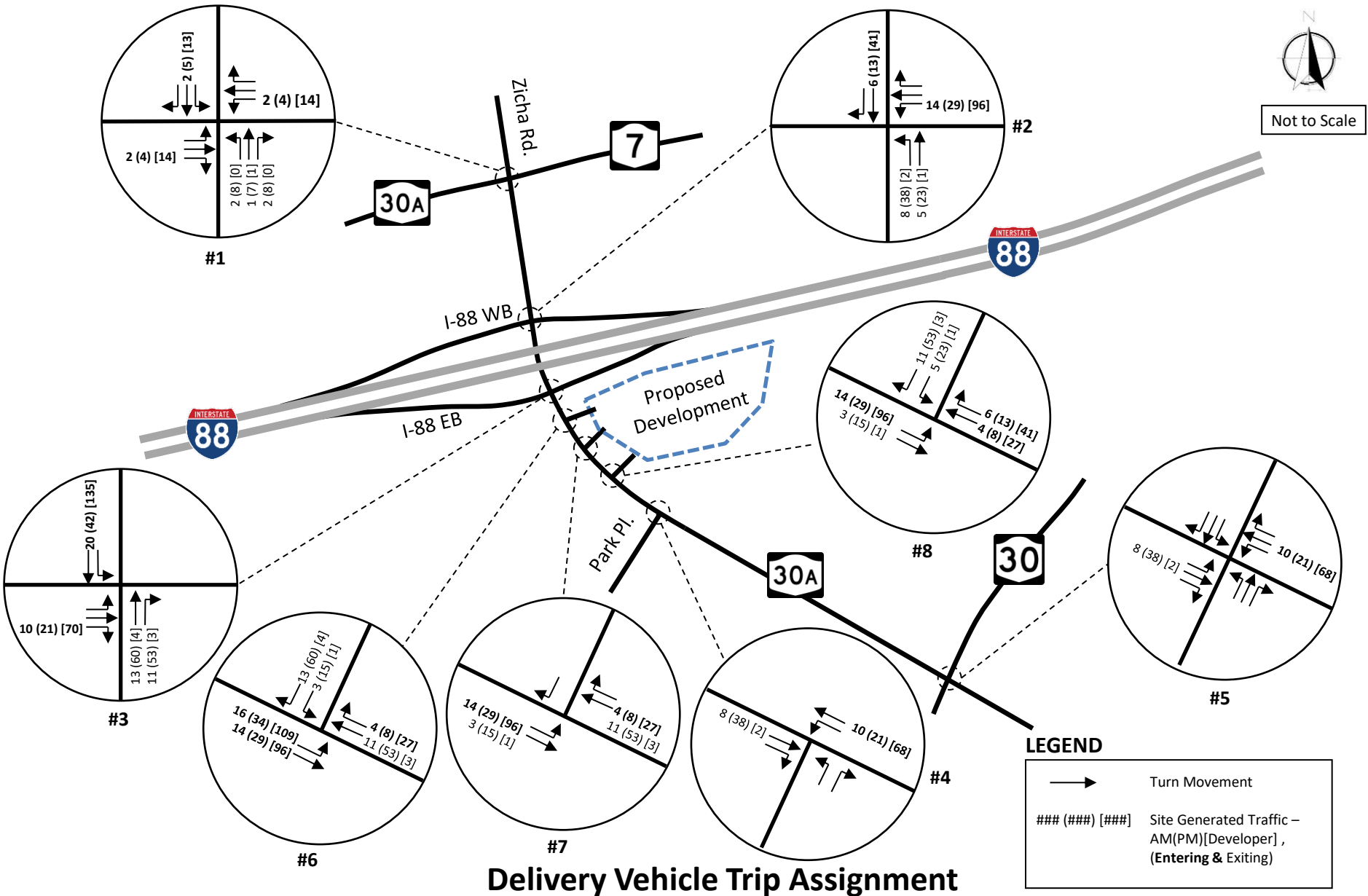


utilize I-88 to travel to and from the proposed facility. Figures 6 through 11 show the trip distribution and trip assignment for delivery vehicles, employees, and tractor trailers respectively. The combined total trip assignment is illustrated on Figure 12.

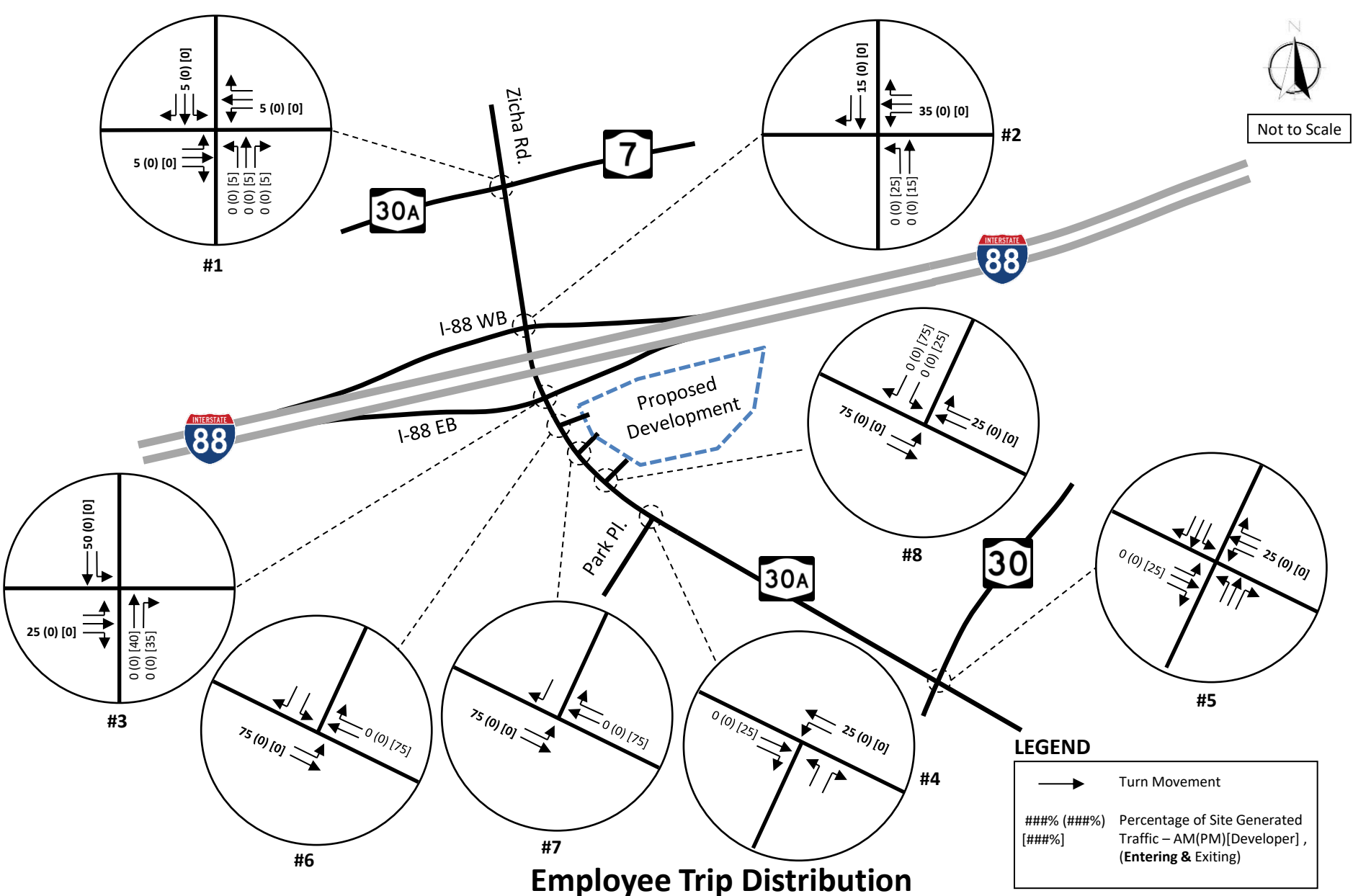


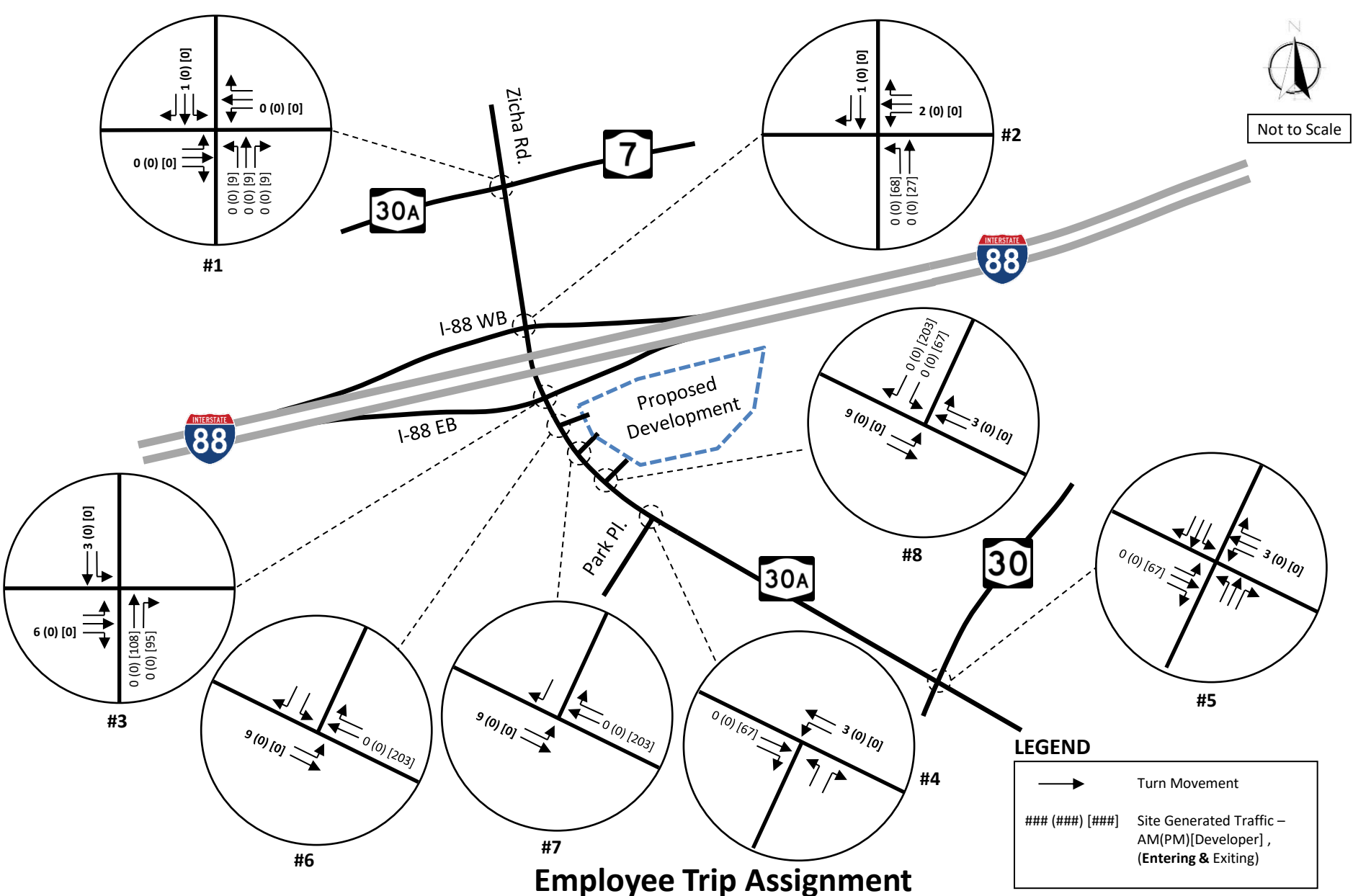


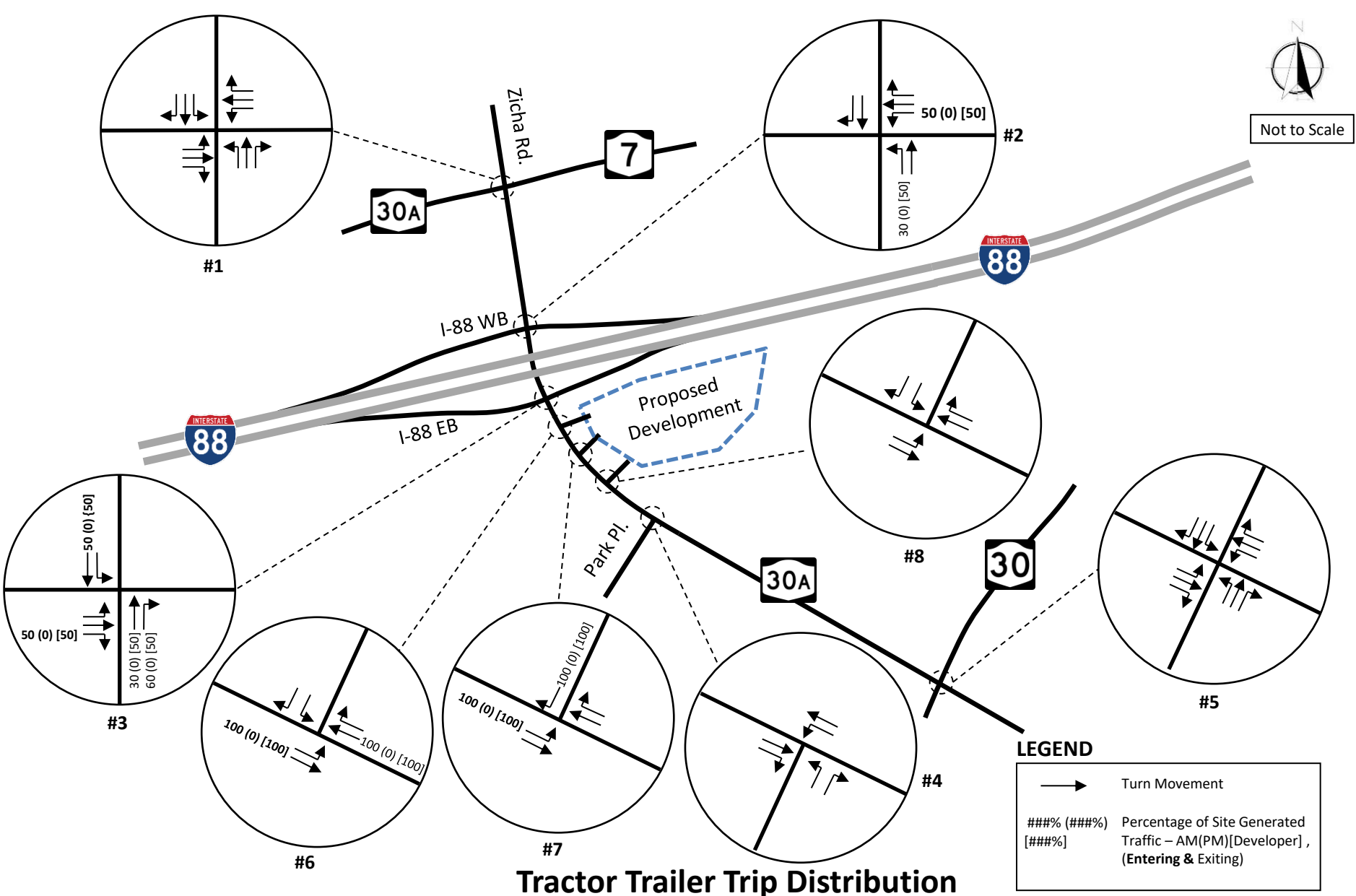
Delivery Vehicle Trip Distribution

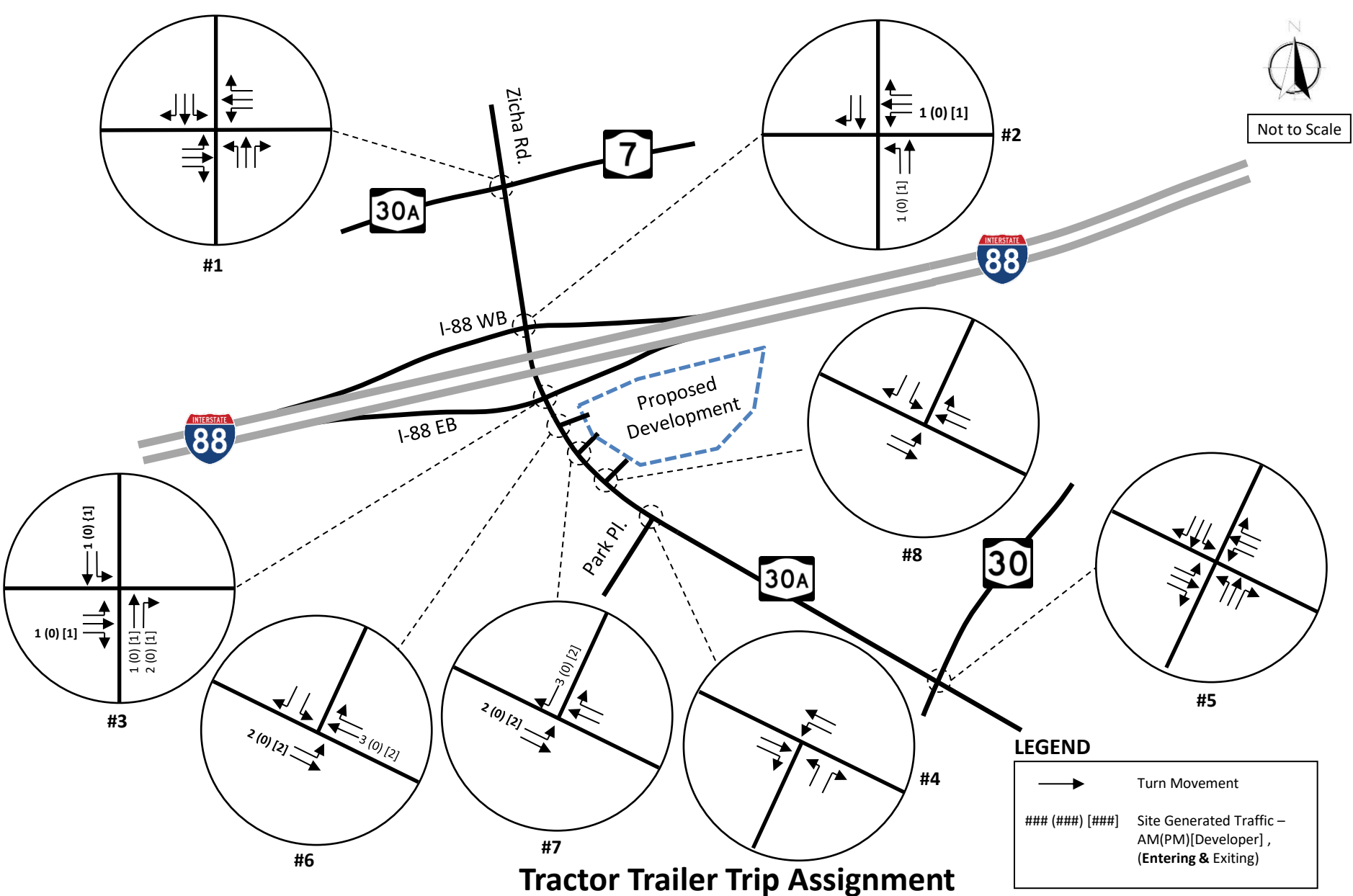


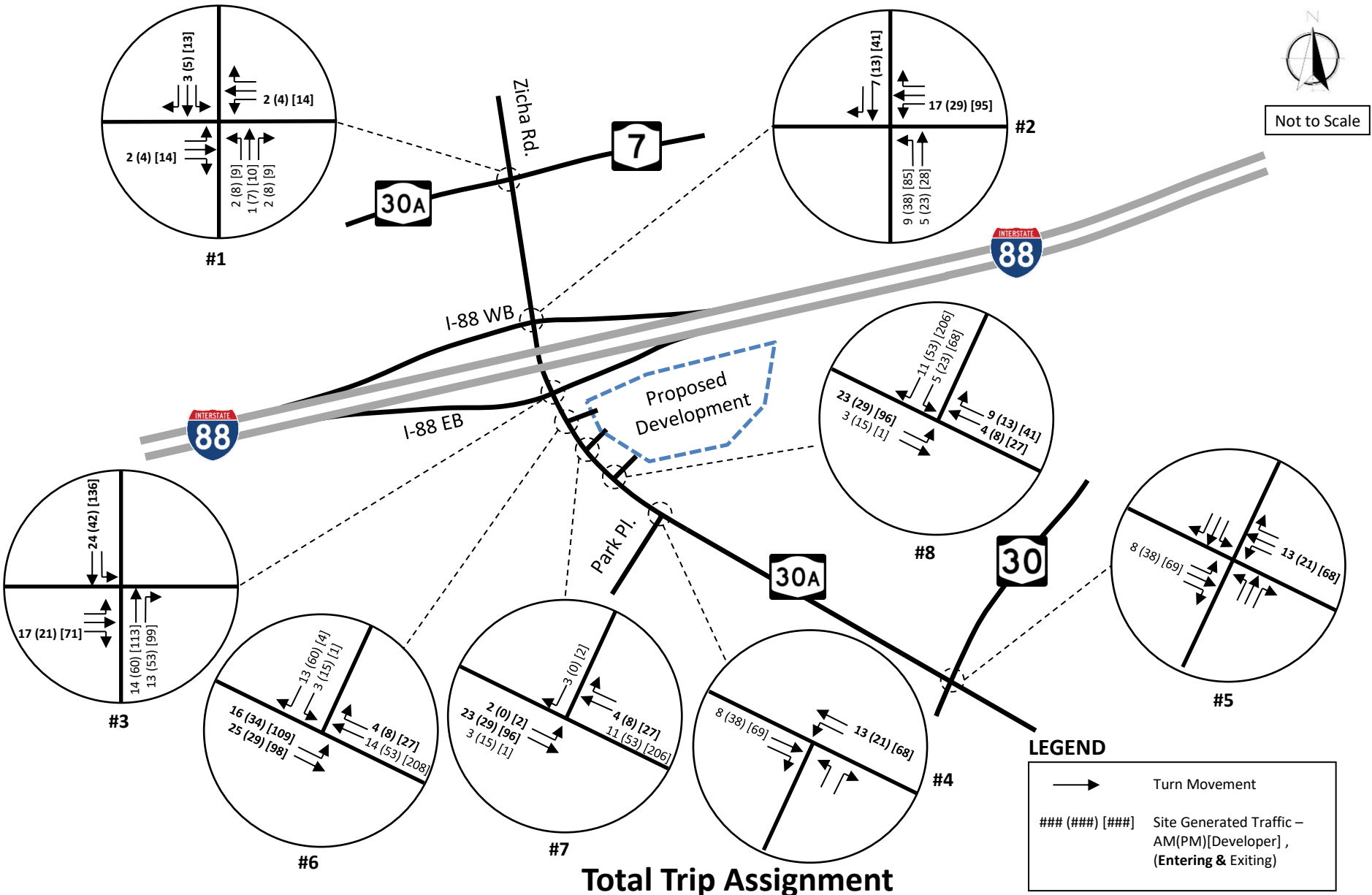
Delivery Vehicle Trip Assignment









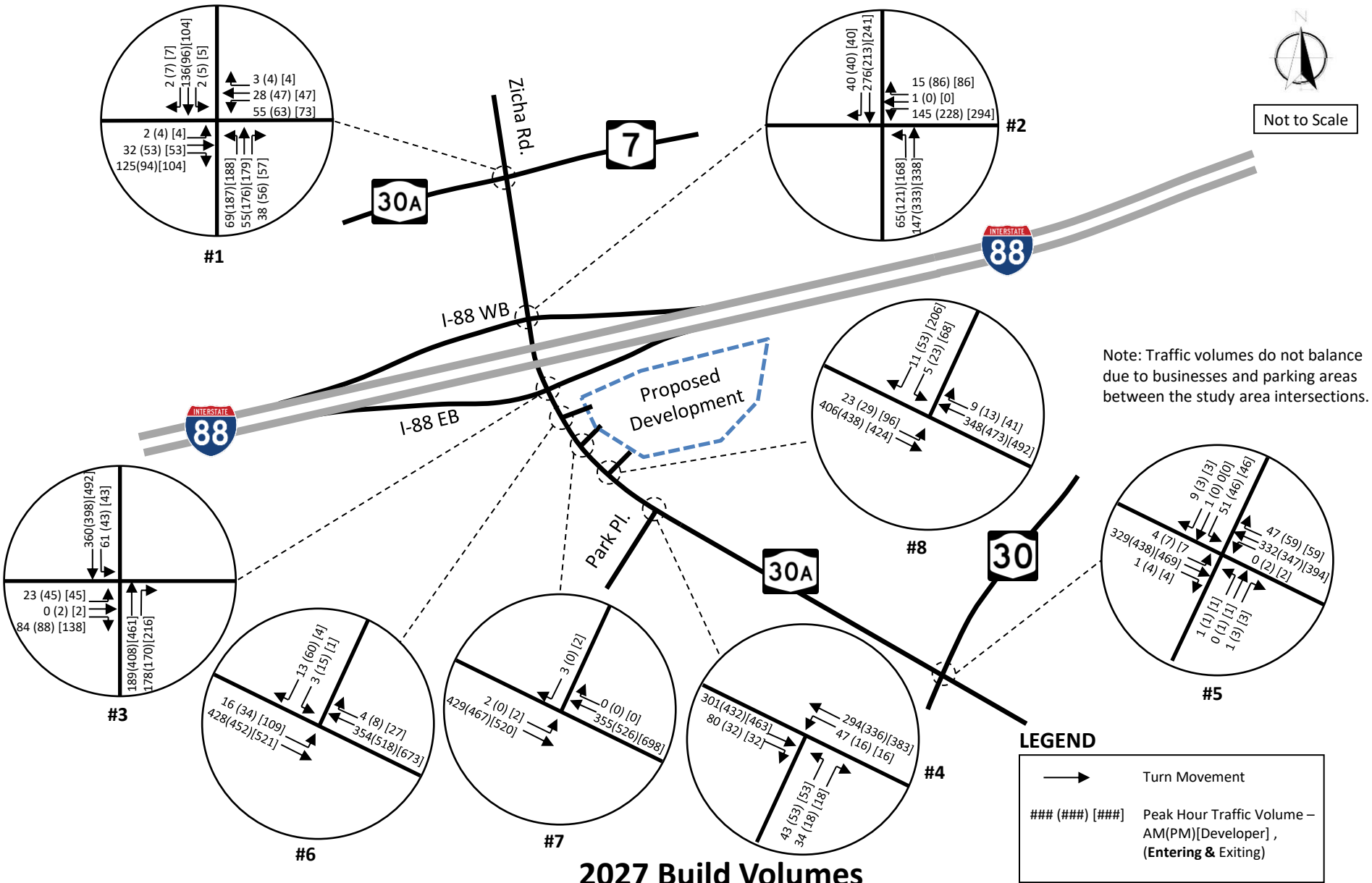


Total Trip Assignment

2027 Build Traffic Volumes

Figure 13 shows the proposed weekday AM, weekday PM, and Developer peak hour traffic volumes associated with the build conditions for the proposed development in the full build-out year of 2027. These volumes represent the 2025 base volumes combined with the addition of the estimated trips generated by the proposed project as well as the background annual traffic growth.





TRANSPORTATION ASSESSMENT

Intersection Capacity Analysis of Un-signalized Intersections

Level of service (LOS) is a term used to characterize the operational conditions of a traffic facility at a particular point in time. Numerous factors contribute to a facility's LOS including travel delay, speed, congestion, driver discomfort, convenience, and safety based on a comparison of the facility's capacity to the facility's demand. Alphabetic designations A through F define the six levels of service. LOS A represents very good traffic operating conditions with minimal delays while LOS F depicts poor traffic operating conditions with excessive delays and queues.

Operating levels of service are calculated using the procedures defined in the Highway Capacity Manual (HCM), 7th Edition, published by the Transportation Research Board (TRB). The operating LOS of two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections is the computed or measured delay. The intersection delay is based upon the quality of service for the vehicles turning into and out of minor approaches, i.e., approaches that are stop-controlled. The availability of sufficient gaps in the traffic stream on the major street controls the capacity for movements to and from the minor approaches, thus resulting in delays for the minor approaches. The criteria, or the delays associated with corresponding LOS for TWSC and AWSC intersections, as specified by the HCM, are shown in Table 2 below.

Table 2
Un-signalized Intersection LOS Criteria

LOS	Control Delay (sec/veh) TWSC and AWSC Intersections
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Intersection Capacity Analysis of Signalized Intersections

The operating LOS of a signalized intersection is based on the average control delay per vehicle. The control delay per vehicle is estimated for each lane group, combined for each approach and the intersection as a whole. The criteria, i.e., the delays associated with corresponding LOS for signalized intersections, as specified by the HCM, are shown in Table 3 below.



Table 3
Signalized Intersection LOS Criteria

LOS	Control Delay (sec/veh) Signalized Intersections
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Intersection Capacity Analysis Results

Analysis in each of the study scenarios was performed using the traffic modeling software Synchro[®], Ver. 12. Synchro[®] utilizes the methodologies of the HCM, as described above for stop-controlled and signalized intersection, to calculate average vehicular delays (in seconds) and report as LOS. The full analysis printouts from Synchro[®] are provided in Appendix A.

The results of the intersection capacity analysis at each study intersection for all study scenarios without mitigation are illustrated in Table 4 below. Volumes entered in Synchro[®] correspond to the scenario and peak hour being analyzed.



Table 4
Weekday AM Peak Hour LOS Table (No Mitigation) (1 of 3)

Study Intersection	Approach and Movement		MORNING PEAK HOUR					
			2025 BASE		2027 NO BUILD		2027 BUILD	
			Delay	LOS	Delay	LOS	Delay	LOS
No. 1 - NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A (Un-Signalized)	Northbound	L	10.7	B	10.8	B	10.9	B
		T-R	9.6	A	9.7	A	9.8	A
	Eastbound	L	9.3	A	9.3	A	9.3	A
		T	9.2	A	9.3	A	9.3	A
		R	9.9	A	10.0	A	10.1	B
	Westbound	L	10.7	B	10.8	B	10.9	B
		T-R	9.4	A	9.4	A	9.5	A
	Southbound	L-T-R	11.0	B	11.1	B	11.3	B
	OVERALL		10.3	B	10.3	B	10.5	B
No. 2 - NYS Route 30A @ I-88 Westbound Ramps (Un-Signalized)	Northbound	L	8.4	A	8.5	A	8.5	A
	Westbound	L	18.6	C	19.2	C	22.3	C
	OVERALL		5.1	A	5.2	A	6.3	A
No. 3 - NYS Route 30A @ I-88 Eastbound Ramps (Un-Signalized)	Eastbound	L	13.8	B	13.9	B	14.6	C
	Southbound	L	8.3	A	8.4	A	8.5	A
	OVERALL		2.4	A	2.4	A	2.6	A
No. 4 - NYS Route 30A @ Park Place (Un-Signalized)	Northbound	L-R	16.0	C	16.3	C	15.8	C
	Westbound	L	8.3	A	8.3	A	8.4	A
	OVERALL		2.3	A	2.4	A	2.0	A
No. 5 - NYS Route 30A @ NYS Route 30 (Un-Signalized)	Northbound	L-T-R	12.9	B	13.1	B	13.3	B
	Eastbound	L	8.4	A	8.5	A	8.5	A
	Westbound	L	0.0	A	0.0	A	0.0	A
	Southbound	L-T-R	18.8	C	19.3	C	20.0	C
	OVERALL		2.4	A	2.5	A	2.5	A
No. 6 - NYS Route 30A @ Proposed Northern Driveway (Un-Signalized)	Westbound	L-R					11.8	B
	Southbound	L					8.1	A
		T					0.0	A
	OVERALL						0.4	A
No. 7 - NYS Route 30A @ Proposed Truck Driveway (Un-Signalized)	Westbound	R					12.4	B
	Southbound	L					9.6	A
		T					0.0	A
	OVERALL						0.1	A
No. 8 - NYS Route 30A @ Proposed Southern Driveway (Un-Signalized)	Westbound	L					16.6	C
		R					10.5	B
	Southbound	L					8.1	A
		T					0.0	A
	OVERALL						0.5	A



Table 4
Weekday PM Peak Hour LOS Table (No Mitigation) (2 of 3)

			EVENING PEAK HOUR					
Study Intersection	Approach and Movement		2025 BASE		2027 NO BUILD		2027 BUILD	
			Delay	LOS	Delay	LOS	Delay	LOS
No. 1 - NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A (Un-Signalized)	Northbound	L	13.6	B	13.8	B	14.4	B
		T-R	12.8	B	13.1	B	13.9	B
	Eastbound	L	10.2	B	10.2	B	10.4	B
		T	10.7	B	10.8	B	11.0	B
		R	10.5	B	10.6	B	10.9	B
	Westbound	L	11.9	B	12.0	B	12.3	B
		T-R	10.6	B	10.7	B	10.9	B
	Southbound	L-T-R	11.5	B	11.7	B	12.1	B
OVERALL		12.1	B	12.3	B	12.8	B	
No. 2 - NYS Route 30A @ I-88 Westbound Ramps (Un-Signalized)	Northbound	L	8.2	A	8.2	A	8.4	A
	Westbound	L	67.4	F	78.4	F	217.1	F
	OVERALL		22.8	C	26.4	D	71.3	F
No. 3 - NYS Route 30A @ I-88 Eastbound Ramps (Un-Signalized)	Eastbound	L	20.9	C	21.7	C	26.8	D
	Southbound	L	9.0	A	9.1	A	9.7	A
	OVERALL		2.5	A	2.6	A	3.0	A
No. 4 - NYS Route 30A @ Park Place (Un-Signalized)	Northbound	L-R	19.3	C	20.0	C	22.1	C
	Westbound	L	8.4	A	8.4	A	8.6	A
	OVERALL		2.3	A	2.4	A	2.5	A
No. 5 - NYS Route 30A @ NYS Route 30 (Un-Signalized)	Northbound	L-T-R	14.6	B	14.9	C	15.8	C
	Eastbound	L	8.3	A	8.3	A	8.4	A
	Westbound	L	8.3	A	8.4	A	8.5	A
	Southbound	L-T-R	24.0	C	24.9	C	28.2	D
	OVERALL		1.5	A	1.6	A	1.6	A
No. 6 - NYS Route 30A @ Proposed Northern Driveway (Un-Signalized)	Westbound	L-R					16.0	C
	Southbound	L					8.7	A
		T					0.0	A
	OVERALL						1.4	A
No. 7 - NYS Route 30A @ Proposed Truck Driveway (Un-Signalized)	Westbound	R					0.0	A
	Southbound	L					0.0	A
		T					0.0	A
	OVERALL						0.0	A
No. 8 - NYS Route 30A @ Proposed Southern Driveway (Un-Signalized)	Westbound	L					21.7	C
		R					12.2	B
	Southbound	L					8.5	A
		T					0.0	A
	OVERALL						1.4	A



Table 4
Developer Peak Hour LOS Table (No Mitigation) (3 of 3)

			DEVELOPER PEAK HOUR					
Study Intersection	Approach and Movement		2025 BASE		2027 NO BUILD		2027 BUILD	
			Delay	LOS	Delay	LOS	Delay	LOS
No. 1 - NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A (Un-Signalized)	Northbound	L	13.6	B	13.8	B	14.9	B
		T-R	12.8	B	13.1	B	14.6	B
	Eastbound	L	10.2	B	10.2	B	10.5	B
		T	10.7	B	10.8	B	11.2	B
		R	10.5	B	10.6	B	11.4	B
	Westbound	L	11.9	B	12.0	B	12.9	B
		T-R	10.6	B	10.7	B	11.1	B
	Southbound	L-T-R	11.5	B	11.7	B	12.6	B
OVERALL		12.1	B	12.3	B	13.3	B	
No. 2 - NYS Route 30A @ I-88 Westbound Ramps (Un-Signalized)	Northbound	L	8.2	A	8.2	A	8.8	A
	Westbound	L	67.4	F	78.4	F	585.6	F
	OVERALL		22.8	C	26.4	D	201.8	F
No. 3 - NYS Route 30A @ I-88 Eastbound Ramps (Un-Signalized)	Eastbound	L	20.9	C	21.7	C	47.8	E
	Southbound	L	9.0	A	9.1	A	10.3	B
	OVERALL		2.5	A	2.6	A	5.7	A
No. 4 - NYS Route 30A @ Park Place (Un-Signalized)	Northbound	L-R	19.3	C	20.0	C	25.5	D
	Westbound	L	8.4	A	8.4	A	8.7	A
	OVERALL		2.3	A	2.4	A	2.6	A
No. 5 - NYS Route 30A @ NYS Route 30 (Un-Signalized)	Northbound	L-T-R	14.6	B	14.9	C	17.1	C
	Eastbound	L	8.3	A	8.3	A	8.6	A
	Westbound	L	8.3	A	8.4	A	8.6	A
	Southbound	L-T-R	24.0	C	24.9	C	33.7	D
	OVERALL		1.5	A	1.6	A	1.8	A
No. 6 - NYS Route 30A @ Proposed Northern Driveway (Un-Signalized)	Westbound	L-R					19.3	C
	Southbound	L					9.9	A
		T					0.0	A
	OVERALL						0.9	A
No. 7 - NYS Route 30A @ Proposed Truck Driveway (Un-Signalized)	Westbound	R					17.8	C
	Southbound	L					11.7	B
		T					0.0	A
	OVERALL						0.0	A
No. 8 - NYS Route 30A @ Proposed Southern Driveway (Un-Signalized)	Westbound	L					41.1	E
		R					16.5	C
	Southbound	L					9.0	A
		T					0.0	A
	OVERALL						5.3	A

Below is a detailed breakdown of the impacts, if any, on the study area intersections' operations due to traffic generated by the proposed development.

No. 1 – NYS Route 30A/NYS Route 7 @ Zicha Road/NYS Route 30A

This unsignalized intersection is operating well today with an overall LOS B during all peak hour scenarios. The intersection will maintain an overall LOS B through both the 2027 no



build and build scenarios. The eastbound right-turn movement will drop from LOS A to LOS B for an increase of 0.1 seconds during the morning peak hour, which has a negligible effect on the operations at the intersection. During the hypothetical developer peak hour, the intersection will operate similarly to the evening peak hour.

No. 2 – NYS Route 30A @ I-88 Westbound Ramps

This unsignalized intersection is operating marginally today with noticeable off-ramp peak hour delays; however, the overall LOS is an A during the morning peak hour and LOS C during the evening peak hour. The westbound approach is currently experiencing failing levels of service during the evening peak hour and will continue to degrade through the 2027 no build and build scenarios, with a V/C ratio greater than 1 for the build scenario. The overall level of service is projected to drop from LOS C to LOS F during the evening build scenario as well as the developer peak hour from the additional off-ramp left-turn traffic.

No. 3 – NYS Route 30A @ I-88 Eastbound Ramps

This unsignalized intersection is operating efficiently today with an overall LOS A during all peak hour scenarios and will continue to do so under the 2027 no-build and 2027 build scenarios. During the morning peak hour, the eastbound approach will drop from LOS B to LOS C, for an increase of 0.7 seconds. During the evening peak hour, the eastbound approach will drop from LOS C to LOS D, for an increase of 5.1 seconds. During the hypothetical developer peak hour, the eastbound left-turn movement will operate at LOS F.

No. 4 – NYS Route 30A @ Park Place

This unsignalized intersection is operating efficiently today with an overall LOS A during all peak hour scenarios and will continue to do so under the 2027 no-build and 2027 build scenarios. All individual movements will remain at background levels of service for all scenarios with the exception of the northbound movement, which will drop from LOS C to LOS D, for an increase of 5.5 seconds during the hypothetical developer peak hour.

No. 5 – NYS Route 30A @ NYS Route 30

This unsignalized intersection is operating efficiently today with an overall LOS A during both peak hour scenarios and will continue to do so under the 2027 no-build and 2027 build scenarios. All individual movements will remain at background levels of service for both scenarios, with the exception of the southbound approach during the evening and hypothetical developer peak hour, which is expected to drop from LOS C to LOS D, for an increase of 3.3 and 8.8 seconds, respectively.

No. 6 – NYS Route 30A @ Proposed Northern Driveway

This proposed unsignalized intersection is projected to operate efficiently during all three scenarios, with an overall LOS A. The westbound approach will operate at LOS B during the morning peak hour, and LOS C during the evening and developer peak hour.



No. 7 – NYS Route 30A @ Proposed Center Driveway

This proposed unsignalized intersection is projected to operate with an overall LOS A during all peak hour scenarios, due to the low levels of tractor trailers entering and exiting the site during the three peak hour scenarios.

No. 8 – NYS Route 30A @ Proposed Southern Driveway

This proposed unsignalized intersection is projected to operate efficiently during the morning and evening peak hour, with an overall LOS A. During the developer peak hour, the westbound approach will experience LOS E levels of service. This will cause queueing into the site as vehicles wait for gaps in traffic to exit onto NYS Route 30A, but will not impact the traveling public should these peaks ever align.

Sight Distance Analysis

The sight distance at the proposed site entrances were measured to determine if the available intersection sight distances meet the AASHTO recommended values. As shown in the following Table 5, adequate sight distance is available at the proposed road intersection locations.

Table 5 – Sight Distance Summary Table

SIGHT DISTANCE CALCULATIONS						
Location	Speed Limit	Turning Movement	AASHTO/NYS DOT Recommended Intersection Sight Distance	Available Intersection Sight Distance	AASHTO/NYS DOT Recommended Stopping Sight Distance	Available Stopping Sight Distance
NYS Route 30A at Proposed Northern Driveway	50 mph	Right Turn Out	480 feet	766 feet	425 feet	766 feet
	50 mph	Left Turn Out	555 feet	620 feet		620 feet
NYS Route 30A at Proposed Center Driveway	50 mph	Right Turn Out	846 feet (combination truck)	1,200 feet	425 feet	1,200 feet
	50 mph	Left Turn Out	772 feet (combination truck)	978 feet		978 feet
NYS Route 30A at Proposed Southern Driveway	50 mph	Right Turn Out	480 feet	625 feet	425 feet	625 feet
	50 mph	Left Turn Out	555 feet	600 feet		600 feet



Left Turn Lane Analysis

While not required from a capacity standpoint, the need for left turn lanes into the site on NYS Route 30A was evaluated in accordance with the American Association of State Highway and Transportation Officials (AASHTO), A policy on Geometric Design of Highways and Streets, 7th edition. Since the volume on Route 30A (a rural highway) exceeds 200 vehicles per lane per hour, the peak hour volume of left turns thresholds to warrant a left turn lane is (5) vehicle per hour as outlined in Table 9-25 of the AASHTO manual. Both the northern and southern development driveways warrant the installation of a left-turn lane while the center turn lane is right at the threshold but consists of 100% tractor trailer trucks. Due to the proximity of the development three driveways to each other and existing businesses on the southern side of NYS Route 30A, it is recommended that a two-way left-turn lane be installed along the Route 30A corridor in front of the proposed driveways to enable vehicles to exit the through lanes when turning to enter the proposed site and also left turn vehicles entering the Route 30A highway to utilize the center turn lane.

Signal Warrant Analysis

Signal warrants were reviewed for study area stop-controlled intersections in accordance with the Federal Highway Administration (FHWA), Manual of Uniform Traffic Control Devices (MUTCD), 11th edition. The I-88 westbound ramp intersection and the proposed southern driveway on NYS Route 30A were reviewed due to the volumes and operating conditions at both intersections which have the potential to warrant a traffic signal. The I-88 westbound ramp was reviewed using the 2025 base and 2027 No-Build and Build volumes and the proposed southern vehicle driveway was reviewed using the 2027 Build volumes to determine if the proposed development's additional traffic generation warranted consideration of a traffic signal.

The detailed signal warrant analysis worksheets for the build conditions for the proposed southern driveway and the existing, no-build, and build conditions for the I-88 westbound ramp are provided in Appendix B.

The NYS Route 30A and I-88 westbound ramp intersection met the following four warrants based on the 2025 base traffic volumes, 2027 no-build volumes, and estimated 2027 build volumes as noted below:

- Warrant 1C – Eight Hour Vehicular Volume Warrant (Base, No-Build, Build)
- Warrant 3A - Peak Hour Vehicle Delay/Volume Warrant (Base, No-Build, Build)
- Warrant 3B - Peak Hour Vehicle Volume Warrant (Base, No-Build, Build)
- Warrant 8 – Roadway Network Volume Warrant (Build)

The NYS Route 30A and proposed southern driveway intersection met three warrants based on the 2027 build volumes as noted below based on estimated traffic volumes:

- Warrant 1B - Eight Hour Vehicle Volume Warrant (Full Build)
- Warrant 3B - Peak Hour Vehicle Volume Warrant (Full Build)



- Warrant 8 – Roadway Network Volume Warrant (Full Build)

Based on these warrants being met, a traffic signal was assessed for these intersections to determine what impacts they would have both positive and negative. From a capacity standpoint, the signal will alleviate the current and future failing operations at both of the intersections and provide adequate levels of service with minor increases in delay for the mainline approaches compared to base conditions. Installation of a traffic signal at both intersections should be reviewed and coordinated with NYSDOT based on actual traffic volumes once the facility is open for operations. Based on the estimated 2027 build volumes the new signal would provide an overall benefit to the roadway network.

CONCLUSIONS AND RECOMMENDATIONS

MJ has evaluated the traffic operations within the study area near the proposed DAN8 Last Mile Facility project in Schoharie, NY. Results from the 2027 build conditions indicate that vehicles travelling on NYS Route 30A will not experience any noticeable increase in delay with the proposed mitigation in place.

Proposed Mitigation

To mitigate the existing conditions as well as the effects of increased traffic at the I-88 westbound ramp, it is recommended that mitigation be installed at this intersection.

No. 2 – NYS Route 30A @ I-88 Westbound Ramps

Prior to full build out, a traffic signal is recommended to be installed at the I-88 westbound off ramp to provide improved levels of service to vehicles exiting onto NYS Route 30A. Installation of auxiliary turning lanes were analyzed as well but did not efficiently improve levels of service and are not recommended at this intersection. As modeled, this involves the construction of a two (2) phase signal with a cycle length of forty-five (45) seconds at the I-88 westbound ramp intersection.

No. 8 – NYS Route 30A @ Proposed Southern Driveway

Prior to full build out, a traffic signal is recommended to be installed at the proposed southern driveway to provide improved levels of service to vehicles exiting onto NYS Route 30A. As modeled, the proposed vehicle driveway would have a two (2) phase signal with a cycle length of sixty (60) seconds. Based on the volume of proposed westbound right-turn traffic during the developer peak hour, separate westbound left and right-turn lanes are recommended at this intersection to improve operations and reduce queueing and delay to the westbound traffic exiting onto NYS Route 30A. Results from the effects of this mitigation are shown in Table 6 below.



Table 6
Mitigation LOS Table

Study Intersection	Approach and Movement		MORNING PEAK HOUR		EVENING PEAK HOUR		DEVELOPER PEAK HOUR	
			2025 BUILD TRAFFIC SIGNAL MITIGATION		2025 BUILD TRAFFIC SIGNAL MITIGATION		2025 BUILD TRAFFIC SIGNAL MITIGATION	
			Delay	LOS	Delay	LOS	Delay	LOS
No. 2 - NYS Route 30A @ I-88 Westbound Ramps	Westbound	L-T-R	12.1	B	14.2	B	17.9	B
	Northbound	L	7.9	A	13.2	B	19.4	B
		T-R	7.2	A	14.0	B	15.6	B
	Southbound	T-R	8.2	A	10.6	B	12.3	B
	OVERALL		8.9	A	13.2	B	16.1	B
No. 8 - NYS Route 30A @ Proposed Southern Driveway	Westbound	L	15.0	B	13.4	B	17.3	B
		R	9.9	A	6.1	A	7.0	A
	Northbound	T-R	1.6	A	4.9	A	7.6	A
	Southbound	L-T	1.8	A	4.9	A	9.4	A
	OVERALL		1.9	A	5.1	A	8.7	A

2027 Build with Mitigations and Improvements

The 2027 Build with Mitigation conditions indicate that the proposed project will produce no noticeable increase in delay to the traveling public within the existing study area intersections with the recommended mitigation in place, and that access into and out of the proposed development can be provided in a safe manner with the proposed connections to the existing roadway as shown on the concept site plans.

Based on the completed capacity analysis, sight distance analysis and signal warrant analysis results, MJ offers the following conclusions and recommendations:

- The proposed development is anticipated to create a total of 89 trips (54 enter and 35 exit) during the weekday AM peak hour, 235 trips (84 enter and 151 exit) during the weekday PM peak hour, and 556 trips (275 enter and 281 exit) during the developer's peak hour (8:30-9:30pm)
- The developer peak scenario was completed to represent a sensitivity analysis should the developments peak align with the background peak. This analysis revealed that should the background peak hour align with the developer peak shift change (which is highly unlikely) the existing roadway network with the proposed mitigation can still accommodate the traffic volumes with the proposed mitigation in place.
- Signal warrants were reviewed for the study area stop-controlled intersections of NYS Route 30A at I-88 westbound ramp and NYS Route 30A at the proposed southern driveway. The I-88 westbound ramp intersection meets three (3) signal warrants under the base, no build and build scenarios and four (4) warrants under the build scenario. The proposed southern vehicle driveway intersection meets three (3) signal warrants under the 2027 Build scenario.



- The NYS Route 30A/I-88 westbound ramp is currently at capacity and the installation of a traffic signal is recommended to account for future traffic volumes. No changes to the intersection geometry are proposed.
- The sight distance analysis completed confirmed the three proposed driveway location have adequate sight distance.
- The proposed center tractor trailer driveway onto NYS Route 30A is recommended to be stop sign controlled with a single entrance and exit lane and be limited to a right-out only exit movement.
- The proposed southern driveway onto NYS Route 30A will have a single entrance lane and two exiting lanes. A traffic signal is recommended at this intersection based on the three (3) signal warrants that are met under the 2027 Build scenario.
- As outlined in the Left Turn Lane Analysis, a two-way center left turn lane is recommended along the Route 30A corridor in front of the proposed driveways to enable vehicles to exit the through lanes when turning to enter the proposed site.
- The existing surrounding roadway network has adequate capacity to accommodate the additional traffic generated by the proposed development with negligible impacts to the traveling public with the proposed mitigation in place.



REFERENCES:

- Highway Capacity Manual, Sixth Edition. Transportation Research Board. National Research Council, Washington, D.C. 2016.
- Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). Federal Highway Administration. 2009.
- Traffic Impact Study for NYS Route 30A Development Site. McFarland Johnson. July 28, 2022 Revised January 16, 2023.











APPENDIX A

SYNCHRO MODEL CAPACITY ANALYSIS RESULTS

- 2025 Base Conditions
 - Morning Peak
 - Evening Peak
- 2027 No-Build Conditions
 - Morning Peak
 - Evening Peak
- 2027 Build Conditions
 - Morning Peak
 - Evening Peak
 - Developer Peak
- 2027 Build Conditions – Traffic Signal Mitigation
 - Morning Peak
 - Evening Peak
 - Developer Peak

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	31	121	52	28	3	66	52	35	2	130	2
Future Vol, veh/h	2	31	121	52	28	3	66	52	35	2	130	2
Peak Hour Factor	0.76	0.76	0.76	0.80	0.80	0.80	0.82	0.82	0.82	0.78	0.78	0.78
Heavy Vehicles, %	0	3	10	15	6	0	22	4	13	0	5	0
Mvmt Flow	3	41	159	65	35	4	80	63	43	3	167	3
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	9.8	10.2	10.1	11
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	1%
Vol Thru, %	0%	60%	0%	100%	0%	0%	90%	97%
Vol Right, %	0%	40%	0%	0%	100%	0%	10%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	87	2	31	121	52	31	134
LT Vol	66	0	2	0	0	52	0	2
Through Vol	0	52	0	31	0	0	28	130
RT Vol	0	35	0	0	121	0	3	2
Lane Flow Rate	80	106	3	41	159	65	39	172
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.152	0.168	0.005	0.068	0.241	0.125	0.067	0.283
Departure Headway (Hd)	6.784	5.69	6.491	6.037	5.449	6.945	6.214	5.934
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	530	631	552	594	659	517	577	606
Service Time	4.512	3.418	4.222	3.768	3.18	4.68	3.948	3.662
HCM Lane V/C Ratio	0.151	0.168	0.005	0.069	0.241	0.126	0.068	0.284
HCM Control Delay, s/veh	10.7	9.6	9.3	9.2	9.9	10.7	9.4	11
HCM Lane LOS	B	A	A	A	A	B	A	B
HCM 95th-tile Q	0.5	0.6	0	0.2	0.9	0.4	0.2	1.2

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕		↗	↖			↘	
Traffic Vol, veh/h	0	0	0	126	1	14	55	139	0	0	264	39
Future Vol, veh/h	0	0	0	126	1	14	55	139	0	0	264	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	14	0	15	22	12	0	0	8	21
Mvmt Flow	0	0	0	158	1	18	67	170	0	0	300	44

Major/Minor	Minor1	Major1	Major2									
Conflicting Flow All	604	648	170	344	0	-	-	-	-	0		
Stage 1	304	304	-	-	-	-	-	-	-	-		
Stage 2	300	344	-	-	-	-	-	-	-	-		
Critical Hdwy	6.54	6.5	6.35	4.32	-	-	-	-	-	-		
Critical Hdwy Stg 1	5.54	5.5	-	-	-	-	-	-	-	-		
Critical Hdwy Stg 2	5.54	5.5	-	-	-	-	-	-	-	-		
Follow-up Hdwy	3.626	4	3.435	2.398	-	-	-	-	-	-		
Pot Cap-1 Maneuver	443	392	842	1111	-	0	0	-	-	-		
Stage 1	722	667	-	-	-	0	0	-	-	-		
Stage 2	725	640	-	-	-	0	0	-	-	-		
Platoon blocked, %					-					-		
Mov Cap-1 Maneuver	416	0	842	1111	-	-	-	-	-	-		
Mov Cap-2 Maneuver	416	0	-	-	-	-	-	-	-	-		
Stage 1	679	0	-	-	-	-	-	-	-	-		
Stage 2	725	0	-	-	-	-	-	-	-	-		

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.64	2.39	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1111	-	438	-
HCM Lane V/C Ratio	0.06	-	0.402	-
HCM Ctrl Dly (s/v)	8.4	-	18.6	-
HCM Lane LOS	A	-	C	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-

HCM 7th TWSC
3: NYS Route 30A & I-88 EB Off Ramp/I-88 EB On Ramp




2025 Base - AM
08/05/2025







Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	23	0	66	0	0	0	0	171	162	60	330	0
Future Vol, veh/h	23	0	66	0	0	0	0	171	162	60	330	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	87	87	87	90	90	90
Heavy Vehicles, %	29	0	15	0	0	0	0	12	6	7	11	0
Mvmt Flow	31	0	89	0	0	0	0	197	186	67	367	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	697	883	367	-	0	0	383	0	0
Stage 1	500	500	-	-	-	-	-	-	-
Stage 2	197	383	-	-	-	-	-	-	-
Critical Hdwy	6.69	6.5	6.35	-	-	-	4.17	-	-
Critical Hdwy Stg 1	5.69	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.69	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.761	4	3.435	-	-	-	2.263	-	-
Pot Cap-1 Maneuver	369	287	651	0	-	-	1149	-	0
Stage 1	558	546	-	0	-	-	-	-	0
Stage 2	776	616	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	348	0	651	-	-	-	1149	-	-
Mov Cap-2 Maneuver	348	0	-	-	-	-	-	-	-
Stage 1	558	0	-	-	-	-	-	-	-
Stage 2	731	0	-	-	-	-	-	-	-









Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.75	0	1.28
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	531	1149	-
HCM Lane V/C Ratio	-	-	0.226	0.058	-
HCM Ctrl Dly (s/v)	-	-	13.8	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	287	78	46	275	53	33
Future Vol, veh/h	287	78	46	275	53	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	94	94	87	87
Heavy Vehicles, %	6	3	2	9	6	0
Mvmt Flow	330	90	49	293	61	38
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	420	0	765	375
Stage 1	-	-	-	-	375	-
Stage 2	-	-	-	-	390	-
Critical Hdwy	-	-	4.12	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.218	-	3.554	3.3
Pot Cap-1 Maneuver	-	-	1140	-	366	676
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	675	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1140	-	347	676
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	641	-
Approach	EB		WB		NE	
HCM Ctrl Dly, s/v	0		1.19		15.97	
HCM LOS	C					
Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	427	-	-	258	-	
HCM Lane V/C Ratio	0.232	-	-	0.043	-	
HCM Ctrl Dly (s/v)	16	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-	





Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	315	1	0	313	46	1	0	1	50	1	9
Future Vol, veh/h	4	315	1	0	313	46	1	0	1	50	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	92	92	92	50	50	50	57	57	57
Heavy Vehicles, %	25	13	0	0	7	7	0	0	0	0	0	11
Mvmt Flow	4	354	1	0	340	50	2	0	2	88	2	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	390	0	0	355	0	0	705	754	354	728	729	365
Stage 1	-	-	-	-	-	-	363	363	-	365	365	-
Stage 2	-	-	-	-	-	-	341	390	-	363	364	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1054	-	-	1215	-	-	354	341	694	341	352	660
Stage 1	-	-	-	-	-	-	660	628	-	658	627	-
Stage 2	-	-	-	-	-	-	678	611	-	660	627	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1054	-	-	1215	-	-	342	339	694	339	350	660
Mov Cap-2 Maneuver	-	-	-	-	-	-	342	339	-	339	350	-
Stage 1	-	-	-	-	-	-	657	625	-	658	627	-
Stage 2	-	-	-	-	-	-	660	611	-	655	625	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.11			0			12.92			18.77		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	459	1054	-	-	1215	-	-	366				
HCM Lane V/C Ratio	0.009	0.004	-	-	-	-	-	0.288				
HCM Ctrl Dly (s/v)	12.9	8.4	-	-	0	-	-	18.8				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.2				

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	52	89	58	46	4	175	166	47	5	88	7
Future Vol, veh/h	4	52	89	58	46	4	175	166	47	5	88	7
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.83	0.83	0.83	0.82	0.82	0.82
Heavy Vehicles, %	0	6	6	9	0	0	7	1	7	0	5	0
Mvmt Flow	5	67	114	79	63	5	211	200	57	6	107	9
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	10.6	11.3	13.2	11.5
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	5%
Vol Thru, %	0%	78%	0%	100%	0%	0%	92%	88%
Vol Right, %	0%	22%	0%	0%	100%	0%	8%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	213	4	52	89	58	50	100
LT Vol	175	0	4	0	0	58	0	5
Through Vol	0	166	0	52	0	0	46	88
RT Vol	0	47	0	0	89	0	4	7
Lane Flow Rate	211	257	5	67	114	79	68	122
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.389	0.419	0.01	0.128	0.197	0.167	0.13	0.229
Departure Headway (Hd)	6.637	5.876	7.324	6.919	6.206	7.558	6.833	6.751
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	542	611	487	516	575	473	523	529
Service Time	4.388	3.626	5.092	4.687	3.974	5.329	4.604	4.521
HCM Lane V/C Ratio	0.389	0.421	0.01	0.13	0.198	0.167	0.13	0.231
HCM Control Delay, s/veh	13.6	12.8	10.2	10.7	10.5	11.9	10.6	11.5
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.8	2.1	0	0.4	0.7	0.6	0.4	0.9

Intersection												
Int Delay, s/veh	22.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	195	0	84	81	304	0	0	196	39
Future Vol, veh/h	0	0	0	195	0	84	81	304	0	0	196	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	77	77	77	82	82	82	85	85	85
Heavy Vehicles, %	0	0	0	5	0	4	15	7	0	0	6	5
Mvmt Flow	0	0	0	253	0	109	99	371	0	0	231	46
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				799	845	371	276	0	-	-	-	0
Stage 1				568	568	-	-	-	-	-	-	-
Stage 2				231	276	-	-	-	-	-	-	-
Critical Hdwy				6.45	6.5	6.24	4.25	-	-	-	-	-
Critical Hdwy Stg 1				5.45	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.45	5.5	-	-	-	-	-	-	-
Follow-up Hdwy				3.545	4	3.336	2.335	-	-	-	-	-
Pot Cap-1 Maneuver				351	302	671	1215	-	0	0	-	-
Stage 1				561	509	-	-	-	0	0	-	-
Stage 2				801	685	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				322	0	671	1215	-	-	-	-	-
Mov Cap-2 Maneuver				322	0	-	-	-	-	-	-	-
Stage 1				515	0	-	-	-	-	-	-	-
Stage 2				801	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Ctrl Dly, s/v				67.44		1.73		0				
HCM LOS				F								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1215	-	382	-	-						
HCM Lane V/C Ratio		0.081	-	0.949	-	-						
HCM Ctrl Dly (s/v)		8.2	-	67.4	-	-						
HCM Lane LOS		A	-	F	-	-						
HCM 95th %tile Q(veh)		0.3	-	10.5	-	-						

HCM 7th TWSC
3: NYS Route 30A & I-88 EB Off Ramp/I-88 EB On Ramp




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Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	44	2	66	0	0	0	0	341	114	42	349	0
Future Vol, veh/h	44	2	66	0	0	0	0	341	114	42	349	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	25	25	25	78	78	78	72	72	72
Heavy Vehicles, %	19	50	16	0	0	0	0	8	7	10	5	0
Mvmt Flow	48	2	73	0	0	0	0	437	146	58	485	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1039	1185	485	-	0	0	583	0	0
Stage 1	601	601	-	-	-	-	-	-	-
Stage 2	437	583	-	-	-	-	-	-	-
Critical Hdwy	6.59	7	6.36	-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.59	6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.671	4.45	3.444	-	-	-	2.29	-	-
Pot Cap-1 Maneuver	238	154	555	0	-	-	953	-	0
Stage 1	516	421	-	0	-	-	-	-	0
Stage 2	616	429	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	223	0	555	-	-	-	953	-	-
Mov Cap-2 Maneuver	223	0	-	-	-	-	-	-	-
Stage 1	516	0	-	-	-	-	-	-	-
Stage 2	579	0	-	-	-	-	-	-	-









Approach	EB	NB	SB
HCM Ctrl Dly, s/v	20.91	0	0.97
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	348	953	-
HCM Lane V/C Ratio	-	-	0.354	0.061	-
HCM Ctrl Dly (s/v)	-	-	20.9	9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	386	31	15	309	52	18
Future Vol, veh/h	386	31	15	309	52	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	79	79	64	64
Heavy Vehicles, %	7	7	7	5	2	0
Mvmt Flow	424	34	19	391	81	28
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	458	0	870	441
Stage 1	-	-	-	-	441	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	-	-	4.17	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1077	-	322	620
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	657	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1077	-	315	620
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	642	-
Approach	EB		WB		NE	
HCM Ctrl Dly, s/v	0		0.39		19.29	
HCM LOS	C					
Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	360	-	-	83	-	
HCM Lane V/C Ratio	0.304	-	-	0.018	-	
HCM Ctrl Dly (s/v)	19.3	-	-	8.4	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-	





Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	392	4	2	319	58	1	1	3	45	0	3
Future Vol, veh/h	7	392	4	2	319	58	1	1	3	45	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	81	81	81	63	63	63	84	84	84
Heavy Vehicles, %	0	4	33	0	6	5	0	0	0	2	0	0
Mvmt Flow	9	490	5	2	394	72	2	2	5	54	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	465	0	0	495	0	0	909	980	493	943	947	430
Stage 1	-	-	-	-	-	-	510	510	-	435	435	-
Stage 2	-	-	-	-	-	-	399	470	-	508	513	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.12	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.518	4	3.3
Pot Cap-1 Maneuver	1107	-	-	1079	-	-	258	252	580	243	263	630
Stage 1	-	-	-	-	-	-	550	541	-	600	584	-
Stage 2	-	-	-	-	-	-	631	563	-	547	540	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1107	-	-	1079	-	-	254	249	580	237	261	630
Mov Cap-2 Maneuver	-	-	-	-	-	-	254	249	-	237	261	-
Stage 1	-	-	-	-	-	-	545	537	-	599	583	-
Stage 2	-	-	-	-	-	-	626	562	-	537	535	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.14			0.04			14.65			23.98		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	381	1107	-	-	1079	-	-	246				
HCM Lane V/C Ratio	0.021	0.008	-	-	0.002	-	-	0.232				
HCM Ctrl Dly (s/v)	14.6	8.3	-	-	8.3	-	-	24				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.9				

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	32	123	53	28	3	67	54	36	2	133	2
Future Vol, veh/h	2	32	123	53	28	3	67	54	36	2	133	2
Peak Hour Factor	0.76	0.76	0.76	0.80	0.80	0.80	0.82	0.82	0.82	0.78	0.78	0.78
Heavy Vehicles, %	0	3	10	15	6	0	22	4	13	0	5	0
Mvmt Flow	3	42	162	66	35	4	82	66	44	3	171	3
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	9.8	10.3	10.2	11.1
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	1%
Vol Thru, %	0%	60%	0%	100%	0%	0%	90%	97%
Vol Right, %	0%	40%	0%	0%	100%	0%	10%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	90	2	32	123	53	31	137
LT Vol	67	0	2	0	0	53	0	2
Through Vol	0	54	0	32	0	0	28	133
RT Vol	0	36	0	0	123	0	3	2
Lane Flow Rate	82	110	3	42	162	66	39	176
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.155	0.175	0.005	0.071	0.247	0.129	0.067	0.291
Departure Headway (Hd)	6.819	5.726	6.53	6.075	5.488	6.99	6.259	5.969
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	527	627	549	590	654	513	572	602
Service Time	4.55	3.457	4.263	3.808	3.22	4.729	3.996	3.701
HCM Lane V/C Ratio	0.156	0.175	0.005	0.071	0.248	0.129	0.068	0.292
HCM Control Delay, s/veh	10.8	9.7	9.3	9.3	10	10.8	9.4	11.1
HCM Lane LOS	B	A	A	A	A	B	A	B
HCM 95th-tile Q	0.5	0.6	0	0.2	1	0.4	0.2	1.2

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	128	1	15	56	142	0	0	269	40
Future Vol, veh/h	0	0	0	128	1	15	56	142	0	0	269	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	14	0	15	22	12	0	0	8	21
Mvmt Flow	0	0	0	160	1	19	68	173	0	0	306	45
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				615	661	173	351	0	-	-	-	0
Stage 1				310	310	-	-	-	-	-	-	-
Stage 2				306	351	-	-	-	-	-	-	-
Critical Hdwy				6.54	6.5	6.35	4.32	-	-	-	-	-
Critical Hdwy Stg 1				5.54	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.54	5.5	-	-	-	-	-	-	-
Follow-up Hdwy				3.626	4	3.435	2.398	-	-	-	-	-
Pot Cap-1 Maneuver				436	385	838	1105	-	0	0	-	-
Stage 1				718	663	-	-	-	0	0	-	-
Stage 2				721	636	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				409	0	838	1105	-	-	-	-	-
Mov Cap-2 Maneuver				409	0	-	-	-	-	-	-	-
Stage 1				673	0	-	-	-	-	-	-	-
Stage 2				721	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Ctrl Dly, s/v				19.17		2.4		0				
HCM LOS				C								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1105	-	432	-	-						
HCM Lane V/C Ratio		0.062	-	0.417	-	-						
HCM Ctrl Dly (s/v)		8.5	-	19.2	-	-						
HCM Lane LOS		A	-	C	-	-						
HCM 95th %tile Q(veh)		0.2	-	2	-	-						







Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕		↕	↕	
Traffic Vol, veh/h	23	0	67	0	0	0	0	175	165	61	336	0
Future Vol, veh/h	23	0	67	0	0	0	0	175	165	61	336	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	87	87	87	90	90	90
Heavy Vehicles, %	29	0	15	0	0	0	0	12	6	7	11	0
Mvmt Flow	31	0	91	0	0	0	0	201	190	68	373	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	710	900	373	-	0	0	391	0	0
Stage 1	509	509	-	-	-	-	-	-	-
Stage 2	201	391	-	-	-	-	-	-	-
Critical Hdwy	6.69	6.5	6.35	-	-	-	4.17	-	-
Critical Hdwy Stg 1	5.69	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.69	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.761	4	3.435	-	-	-	2.263	-	-
Pot Cap-1 Maneuver	362	280	645	0	-	-	1141	-	0
Stage 1	552	542	-	0	-	-	-	-	0
Stage 2	772	611	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	341	0	645	-	-	-	1141	-	-
Mov Cap-2 Maneuver	341	0	-	-	-	-	-	-	-
Stage 1	552	0	-	-	-	-	-	-	-
Stage 2	726	0	-	-	-	-	-	-	-









Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.91	0	1.28
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	525	1141	-
HCM Lane V/C Ratio	-	-	0.232	0.059	-
HCM Ctrl Dly (s/v)	-	-	13.9	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	293	80	47	281	54	34
Future Vol, veh/h	293	80	47	281	54	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	94	94	87	87
Heavy Vehicles, %	6	3	2	9	6	0
Mvmt Flow	337	92	50	299	62	39
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	429	0	782	383
Stage 1	-	-	-	-	383	-
Stage 2	-	-	-	-	399	-
Critical Hdwy	-	-	4.12	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.218	-	3.554	3.3
Pot Cap-1 Maneuver	-	-	1131	-	357	669
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1131	-	339	669
Mov Cap-2 Maneuver	-	-	-	-	339	-
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	634	-
Approach	EB		WB		NE	
HCM Ctrl Dly, s/v	0		1.19		16.33	
HCM LOS	C					
Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	418	-	-	258	-	
HCM Lane V/C Ratio	0.242	-	-	0.044	-	
HCM Ctrl Dly (s/v)	16.3	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-	





Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	321	1	0	319	47	1	0	1	51	1	9
Future Vol, veh/h	4	321	1	0	319	47	1	0	1	51	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	92	92	92	50	50	50	57	57	57
Heavy Vehicles, %	25	13	0	0	7	7	0	0	0	0	0	11
Mvmt Flow	4	361	1	0	347	51	2	0	2	89	2	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	398	0	0	362	0	0	718	768	361	742	743	372
Stage 1	-	-	-	-	-	-	370	370	-	372	372	-
Stage 2	-	-	-	-	-	-	348	398	-	370	371	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1046	-	-	1208	-	-	347	334	688	334	346	654
Stage 1	-	-	-	-	-	-	654	624	-	652	622	-
Stage 2	-	-	-	-	-	-	673	606	-	655	623	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1046	-	-	1208	-	-	335	333	688	332	344	654
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	333	-	332	344	-
Stage 1	-	-	-	-	-	-	651	621	-	652	622	-
Stage 2	-	-	-	-	-	-	655	606	-	650	621	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.1			0			13.06			19.29		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	451	1046	-	-	1208	-	-	358				
HCM Lane V/C Ratio	0.009	0.004	-	-	-	-	-	0.299				
HCM Ctrl Dly (s/v)	13.1	8.5	-	-	0	-	-	19.3				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.2				

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	53	90	59	47	4	179	169	48	5	91	7
Future Vol, veh/h	4	53	90	59	47	4	179	169	48	5	91	7
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.83	0.83	0.83	0.82	0.82	0.82
Heavy Vehicles, %	0	6	6	9	0	0	7	1	7	0	5	0
Mvmt Flow	5	68	115	81	64	5	216	204	58	6	111	9
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	10.7	11.4	13.4	11.7
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	5%
Vol Thru, %	0%	78%	0%	100%	0%	0%	92%	88%
Vol Right, %	0%	22%	0%	0%	100%	0%	8%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	179	217	4	53	90	59	51	103
LT Vol	179	0	4	0	0	59	0	5
Through Vol	0	169	0	53	0	0	47	91
RT Vol	0	48	0	0	90	0	4	7
Lane Flow Rate	216	261	5	68	115	81	70	126
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.4	0.429	0.011	0.132	0.201	0.171	0.134	0.237
Departure Headway (Hd)	6.673	5.912	7.38	6.975	6.262	7.614	6.889	6.8
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	537	607	483	512	570	470	518	525
Service Time	4.431	3.669	5.152	4.746	4.032	5.39	4.665	4.579
HCM Lane V/C Ratio	0.402	0.43	0.01	0.133	0.202	0.172	0.135	0.24
HCM Control Delay, s/veh	13.8	13.1	10.2	10.8	10.6	12	10.7	11.7
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	1.9	2.1	0	0.5	0.7	0.6	0.5	0.9


Intersection												
Int Delay, s/veh	26.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	199	0	86	83	310	0	0	200	40
Future Vol, veh/h	0	0	0	199	0	86	83	310	0	0	200	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	77	77	77	82	82	82	85	85	85
Heavy Vehicles, %	0	0	0	5	0	4	15	7	0	0	6	5
Mvmt Flow	0	0	0	258	0	112	101	378	0	0	235	47
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				816	863	378	282	0	-	-	-	0
Stage 1				580	580	-	-	-	-	-	-	-
Stage 2				235	282	-	-	-	-	-	-	-
Critical Hdwy				6.45	6.5	6.24	4.25	-	-	-	-	-
Critical Hdwy Stg 1				5.45	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.45	5.5	-	-	-	-	-	-	-
Follow-up Hdwy				3.545	4	3.336	2.335	-	-	-	-	-
Pot Cap-1 Maneuver				343	295	664	1209	-	0	0	-	-
Stage 1				554	503	-	-	-	0	0	-	-
Stage 2				797	681	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				314	0	664	1209	-	-	-	-	-
Mov Cap-2 Maneuver				314	0	-	-	-	-	-	-	-
Stage 1				507	0	-	-	-	-	-	-	-
Stage 2				797	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Ctrl Dly, s/v				78.36		1.74		0				
HCM LOS				F								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1209	-	373	-	-						
HCM Lane V/C Ratio		0.084	-	0.992	-	-						
HCM Ctrl Dly (s/v)		8.2	-	78.4	-	-						
HCM Lane LOS		A	-	F	-	-						
HCM 95th %tile Q(veh)		0.3	-	11.6	-	-						







Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔		↔	↔	
Traffic Vol, veh/h	45	2	67	0	0	0	0	348	117	43	356	0
Future Vol, veh/h	45	2	67	0	0	0	0	348	117	43	356	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	25	25	25	78	78	78	72	72	72
Heavy Vehicles, %	19	50	16	0	0	0	0	8	7	10	5	0
Mvmt Flow	49	2	74	0	0	0	0	446	150	60	494	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1060	1210	494	-	0	0	596	0	0
Stage 1	614	614	-	-	-	-	-	-	-
Stage 2	446	596	-	-	-	-	-	-	-
Critical Hdwy	6.59	7	6.36	-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.59	6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	6	-	-	-	-	-	-	-
Follow-up Hdwy	3.671	4.45	3.444	-	-	-	2.29	-	-
Pot Cap-1 Maneuver	230	148	548	0	-	-	942	-	0
Stage 1	509	415	-	0	-	-	-	-	0
Stage 2	611	423	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	216	0	548	-	-	-	942	-	-
Mov Cap-2 Maneuver	216	0	-	-	-	-	-	-	-
Stage 1	509	0	-	-	-	-	-	-	-
Stage 2	572	0	-	-	-	-	-	-	-









Approach	EB	NB	SB
HCM Ctrl Dly, s/v	21.75	0	0.98
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	339	942	-
HCM Lane V/C Ratio	-	-	0.37	0.063	-
HCM Ctrl Dly (s/v)	-	-	21.7	9.1	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.7	0.2	-

Intersection						
Int Delay, s/veh	2.4					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	394	32	16	315	53	18
Future Vol, veh/h	394	32	16	315	53	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	79	79	64	64
Heavy Vehicles, %	7	7	7	5	2	0
Mvmt Flow	433	35	20	399	83	28
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	468	0	890	451
Stage 1	-	-	-	-	451	-
Stage 2	-	-	-	-	439	-
Critical Hdwy	-	-	4.17	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1068	-	313	613
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1068	-	306	613
Mov Cap-2 Maneuver	-	-	-	-	306	-
Stage 1	-	-	-	-	642	-
Stage 2	-	-	-	-	634	-
Approach	EB		WB		NE	
HCM Ctrl Dly, s/v	0		0.41		19.97	
HCM LOS	C					
Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	350	-	-	87	-	
HCM Lane V/C Ratio	0.317	-	-	0.019	-	
HCM Ctrl Dly (s/v)	20	-	-	8.4	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.3	-	-	0.1	-	

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	400	4	2	326	59	1	1	3	46	0	3
Future Vol, veh/h	7	400	4	2	326	59	1	1	3	46	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	81	81	81	63	63	63	84	84	84
Heavy Vehicles, %	0	4	33	0	6	5	0	0	0	2	0	0
Mvmt Flow	9	500	5	2	402	73	2	2	5	55	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	475	0	0	505	0	0	927	1000	503	962	966	439
Stage 1	-	-	-	-	-	-	520	520	-	444	444	-
Stage 2	-	-	-	-	-	-	407	480	-	518	523	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.12	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.518	4	3.3
Pot Cap-1 Maneuver	1097	-	-	1070	-	-	251	245	573	235	256	622
Stage 1	-	-	-	-	-	-	543	535	-	593	579	-
Stage 2	-	-	-	-	-	-	625	558	-	540	534	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1097	-	-	1070	-	-	247	242	573	230	254	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	242	-	230	254	-
Stage 1	-	-	-	-	-	-	539	531	-	592	577	-
Stage 2	-	-	-	-	-	-	620	556	-	530	530	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.14			0.04			14.87			24.88		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	373	1097	-	-	1070	-	-	239				
HCM Lane V/C Ratio	0.021	0.008	-	-	0.002	-	-	0.244				
HCM Ctrl Dly (s/v)	14.9	8.3	-	-	8.4	-	-	24.9				
HCM Lane LOS	B	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.9				

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	32	125	55	28	3	69	55	38	2	136	2
Future Vol, veh/h	2	32	125	55	28	3	69	55	38	2	136	2
Peak Hour Factor	0.76	0.76	0.76	0.80	0.80	0.80	0.82	0.82	0.82	0.78	0.78	0.78
Heavy Vehicles, %	0	3	10	15	6	0	22	4	13	0	5	0
Mvmt Flow	3	42	164	69	35	4	84	67	46	3	174	3
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0





Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	9.9	10.4	10.3	11.3
HCM LOS	A	B	B	B




Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	1%
Vol Thru, %	0%	59%	0%	100%	0%	0%	90%	97%
Vol Right, %	0%	41%	0%	0%	100%	0%	10%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	93	2	32	125	55	31	140
LT Vol	69	0	2	0	0	55	0	2
Through Vol	0	55	0	32	0	0	28	136
RT Vol	0	38	0	0	125	0	3	2
Lane Flow Rate	84	113	3	42	164	69	39	179
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.16	0.181	0.005	0.072	0.253	0.134	0.068	0.299
Departure Headway (Hd)	6.85	5.75	6.574	6.119	5.531	7.035	6.303	6.005
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	524	624	545	586	650	510	568	599
Service Time	4.587	3.488	4.308	3.853	3.265	4.776	4.044	3.741
HCM Lane V/C Ratio	0.16	0.181	0.006	0.072	0.252	0.135	0.069	0.299
HCM Control Delay, s/veh	10.9	9.8	9.3	9.3	10.1	10.9	9.5	11.3
HCM Lane LOS	B	A	A	A	B	B	A	B
HCM 95th-tile Q	0.6	0.7	0	0.2	1	0.5	0.2	1.2







Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔		↖	↑			↗	
Traffic Vol, veh/h	0	0	0	145	1	15	65	147	0	0	276	40
Future Vol, veh/h	0	0	0	145	1	15	65	147	0	0	276	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	80	80	80	82	82	82	88	88	88
Heavy Vehicles, %	0	0	0	14	0	15	22	12	0	0	8	21
Mvmt Flow	0	0	0	181	1	19	79	179	0	0	314	45
Major/Minor				Minor1		Major1		Major2				
Conflicting Flow All				651	697	179	359	0	-	-	-	0
Stage 1				338	338	-	-	-	-	-	-	-
Stage 2				314	359	-	-	-	-	-	-	-
Critical Hdwy				6.54	6.5	6.35	4.32	-	-	-	-	-
Critical Hdwy Stg 1				5.54	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.54	5.5	-	-	-	-	-	-	-
Follow-up Hdwy				3.626	4	3.435	2.398	-	-	-	-	-
Pot Cap-1 Maneuver				415	367	831	1097	-	0	0	-	-
Stage 1				696	644	-	-	-	0	0	-	-
Stage 2				715	631	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				385	0	831	1097	-	-	-	-	-
Mov Cap-2 Maneuver				385	0	-	-	-	-	-	-	-
Stage 1				646	0	-	-	-	-	-	-	-
Stage 2				715	0	-	-	-	-	-	-	-
Approach				WB		NB		SB				
HCM Ctrl Dly, s/v				22.35		2.62		0				
HCM LOS				C								
Minor Lane/Major Mvmt		NBL	NBTWBLn1	SBT	SBR							
Capacity (veh/h)		1097	-	405	-	-						
HCM Lane V/C Ratio		0.072	-	0.497	-	-						
HCM Ctrl Dly (s/v)		8.5	-	22.3	-	-						
HCM Lane LOS		A	-	C	-	-						
HCM 95th %tile Q(veh)		0.2	-	2.7	-	-						

HCM 7th TWSC
3: NYS Route 30A & I-88 EB Off Ramp/I-88 EB On Ramp

2027 Build - AM
08/05/2025

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	0	84	0	0	0	0	189	178	61	360	0
Future Vol, veh/h	23	0	84	0	0	0	0	189	178	61	360	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	92	92	92	87	87	87	90	90	90
Heavy Vehicles, %	29	0	15	0	0	0	0	12	6	7	11	0
Mvmt Flow	31	0	114	0	0	0	0	217	205	68	400	0
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	753	957	400				-	0	0	422	0	0
Stage 1	536	536	-				-	-	-	-	-	-
Stage 2	217	422	-				-	-	-	-	-	-
Critical Hdwy	6.69	6.5	6.35				-	-	-	4.17	-	-
Critical Hdwy Stg 1	5.69	5.5	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.69	5.5	-				-	-	-	-	-	-
Follow-up Hdwy	3.761	4	3.435				-	-	-	2.263	-	-
Pot Cap-1 Maneuver	341	260	623				0	-	-	1111	-	0
Stage 1	536	527	-				0	-	-	-	-	0
Stage 2	759	592	-				0	-	-	-	-	0
Platoon blocked, %								-	-	-		
Mov Cap-1 Maneuver	320	0	623				-	-	-	1111	-	-
Mov Cap-2 Maneuver	320	0	-				-	-	-	-	-	-
Stage 1	536	0	-				-	-	-	-	-	-
Stage 2	713	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Ctrl Dly, s/v	14.63						0		1.22			
HCM LOS	B											
Minor Lane/Major Mvmt		NBT	NBR	EBLn1	SBL	SBT						
Capacity (veh/h)		-	-	518	1111	-						
HCM Lane V/C Ratio		-	-	0.279	0.061	-						
HCM Ctrl Dly (s/v)		-	-	14.6	8.5	-						
HCM Lane LOS		-	-	B	A	-						
HCM 95th %tile Q(veh)		-	-	1.1	0.2	-						

Intersection						
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	301	80	47	294	43	34
Future Vol, veh/h	301	80	47	294	43	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	94	94	87	87
Heavy Vehicles, %	6	3	2	9	6	0
Mvmt Flow	346	92	50	313	49	39
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	438	0	805	392
Stage 1	-	-	-	-	392	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	-	-	4.12	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	-	-	2.218	-	3.554	3.3
Pot Cap-1 Maneuver	-	-	1122	-	346	661
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	659	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1122	-	328	661
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	624	-
Approach	EB	WB		NB		
HCM Ctrl Dly, s/v	0	1.15		15.79		
HCM LOS				C		
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	422	-	-	248	-	
HCM Lane V/C Ratio	0.21	-	-	0.045	-	
HCM Ctrl Dly (s/v)	15.8	-	-	8.4	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-	

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	329	1	0	332	47	1	0	1	51	1	9
Future Vol, veh/h	4	329	1	0	332	47	1	0	1	51	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	92	92	92	50	50	50	57	57	57
Heavy Vehicles, %	25	13	0	0	7	7	0	0	0	0	0	11
Mvmt Flow	4	370	1	0	361	51	2	0	2	89	2	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	371	0	0	741	791	370	765	766	386
Stage 1	-	-	-	-	-	-	379	379	-	386	386	-
Stage 2	-	-	-	-	-	-	362	412	-	379	380	-
Critical Hdwy	4.35	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.425	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.399
Pot Cap-1 Maneuver	1033	-	-	1199	-	-	335	324	680	322	335	642
Stage 1	-	-	-	-	-	-	647	618	-	641	613	-
Stage 2	-	-	-	-	-	-	661	598	-	647	618	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1033	-	-	1199	-	-	323	323	680	320	334	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	323	-	320	334	-
Stage 1	-	-	-	-	-	-	644	615	-	641	613	-
Stage 2	-	-	-	-	-	-	643	598	-	643	615	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.1			0			13.29			20		
HCM LOS							B			C		




Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	438	1033	-	-	1199	-	-	346
HCM Lane V/C Ratio	0.009	0.004	-	-	-	-	-	0.309
HCM Ctrl Dly (s/v)	13.3	8.5	-	-	0	-	-	20
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.3

Intersection						
Int Delay, s/veh	0.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	3	13	354	4	16	428
Future Vol, veh/h	3	13	354	4	16	428
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	12	0	0	11
Mvmt Flow	3	14	385	4	17	465

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	887	387	0	0	389	0
Stage 1	387	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	317	665	-	-	1180	-
Stage 1	691	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	311	665	-	-	1180	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	601	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	11.78	0	0.29
HCM LOS	B		





Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	548	65
HCM Lane V/C Ratio	-	-	0.032	0.015
HCM Ctrl Dly (s/v)	-	-	11.8	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	355	0	2	429
Future Vol, veh/h	0	3	355	0	2	429
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	100	12	0	100	11
Mvmt Flow	0	3	386	0	2	466









Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	386	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	4.2	-
Pot Cap-1 Maneuver	0	492	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	492	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	12.37	0	0.04
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	492	8
HCM Lane V/C Ratio	-	-	0.007	0.003
HCM Ctrl Dly (s/v)	-	-	12.4	9.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	11	344	9	23	406
Future Vol, veh/h	5	11	344	9	23	406
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	12	0	0	11
Mvmt Flow	5	12	374	10	25	441
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	870	379	0	0	384	0
Stage 1	379	-	-	-	-	-
Stage 2	491	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	325	672	-	-	1186	-
Stage 1	697	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	315	672	-	-	1186	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	12.38	0	0.43			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 315 672	97	-		
HCM Lane V/C Ratio	-	- 0.017 0.018	0.021	-		
HCM Ctrl Dly (s/v)	-	- 16.6 10.5	8.1	0		
HCM Lane LOS	-	- C B	A	A		
HCM 95th %tile Q(veh)	-	- 0.1 0.1	0.1	-		

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	53	94	63	47	4	187	176	56	5	96	7
Future Vol, veh/h	4	53	94	63	47	4	187	176	56	5	96	7
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.83	0.83	0.83	0.82	0.82	0.82
Heavy Vehicles, %	0	6	6	9	0	0	7	1	7	0	5	0
Mvmt Flow	5	68	121	86	64	5	225	212	67	6	117	9
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	10.9	11.7	14.1	12.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	5%
Vol Thru, %	0%	76%	0%	100%	0%	0%	92%	89%
Vol Right, %	0%	24%	0%	0%	100%	0%	8%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	187	232	4	53	94	63	51	108
LT Vol	187	0	4	0	0	63	0	5
Through Vol	0	176	0	53	0	0	47	96
RT Vol	0	56	0	0	94	0	4	7
Lane Flow Rate	225	280	5	68	121	86	70	132
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.422	0.464	0.011	0.134	0.214	0.186	0.136	0.253
Departure Headway (Hd)	6.75	5.974	7.511	7.105	6.392	7.743	7.018	6.923
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	532	601	474	502	558	461	508	515
Service Time	4.514	3.738	5.293	4.887	4.172	5.53	4.805	4.709
HCM Lane V/C Ratio	0.423	0.466	0.011	0.135	0.217	0.187	0.138	0.256
HCM Control Delay, s/veh	14.4	13.9	10.4	11	10.9	12.3	10.9	12.1
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	2.1	2.4	0	0.5	0.8	0.7	0.5	1





Intersection												
Int Delay, s/veh	71.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔		↗	↖			↗	
Traffic Vol, veh/h	0	0	0	228	0	86	121	333	0	0	213	40
Future Vol, veh/h	0	0	0	228	0	86	121	333	0	0	213	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	77	77	77	82	82	82	85	85	85
Heavy Vehicles, %	0	0	0	5	0	4	15	7	0	0	6	5
Mvmt Flow	0	0	0	296	0	112	148	406	0	0	251	47




Major/Minor	Minor1		Major1		Major2					
Conflicting Flow All	952	999	406	298	0	-	-	-	-	0
Stage 1	701	701	-	-	-	-	-	-	-	-
Stage 2	251	298	-	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.5	6.24	4.25	-	-	-	-	-	-
Critical Hdwy Stg 1	5.45	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.336	2.335	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 284	245	641	1193	-	0	0	-	-	-
Stage 1	486	444	-	-	-	0	0	-	-	-
Stage 2	784	671	-	-	-	0	0	-	-	-
Platoon blocked, %					-			-	-	-
Mov Cap-1 Maneuver	~ 249	0	641	1193	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 249	0	-	-	-	-	-	-	-	-
Stage 1	426	0	-	-	-	-	-	-	-	-
Stage 2	784	0	-	-	-	-	-	-	-	-








Approach	WB	NB	SB
HCM Ctrl Dly, s/v	217.15	2.25	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1193	-	299	-
HCM Lane V/C Ratio	0.124	-	1.363	-
HCM Ctrl Dly (s/v)	8.4	-	217.1	-
HCM Lane LOS	A	-	F	-
HCM 95th %tile Q(veh)	0.4	-	20.9	-

Notes	
~: Volume exceeds capacity	\$. Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	2	88	0	0	0	0	408	170	43	398	0
Future Vol, veh/h	45	2	88	0	0	0	0	408	170	43	398	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	25	25	25	78	78	78	72	72	72
Heavy Vehicles, %	19	50	16	0	0	0	0	8	7	10	5	0
Mvmt Flow	49	2	97	0	0	0	0	523	218	60	553	0
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1195	1413	553				-	0	0	741	0	0
Stage 1	672	672	-				-	-	-	-	-	-
Stage 2	523	741	-				-	-	-	-	-	-
Critical Hdwy	6.59	7	6.36				-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.59	6	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	6	-				-	-	-	-	-	-
Follow-up Hdwy	3.671	4.45	3.444				-	-	-	2.29	-	-
Pot Cap-1 Maneuver	190	110	507				0	-	-	831	-	0
Stage 1	477	388	-				0	-	-	-	-	0
Stage 2	562	359	-				0	-	-	-	-	0
Platoon blocked, %								-	-	-		
Mov Cap-1 Maneuver	177	0	507				-	-	-	831	-	-
Mov Cap-2 Maneuver	177	0	-				-	-	-	-	-	-
Stage 1	477	0	-				-	-	-	-	-	-
Stage 2	521	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Ctrl Dly, s/v	26.77						0		0.94			
HCM LOS	D											
Minor Lane/Major Mvmt		NBT	NBR	EBLn1	SBL	SBT						
Capacity (veh/h)		-	-	310	831	-						
HCM Lane V/C Ratio		-	-	0.478	0.072	-						
HCM Ctrl Dly (s/v)		-	-	26.8	9.7	-						
HCM Lane LOS		-	-	D	A	-						
HCM 95th %tile Q(veh)		-	-	2.4	0.2	-						




Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	432	32	16	336	53	18
Future Vol, veh/h	432	32	16	336	53	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	79	79	64	64
Heavy Vehicles, %	7	7	7	5	2	0
Mvmt Flow	475	35	20	425	83	28
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	510	0	958	492
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	466	-
Critical Hdwy	-	-	4.17	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1030	-	285	581
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1030	-	278	581
Mov Cap-2 Maneuver	-	-	-	-	278	-
Stage 1	-	-	-	-	614	-
Stage 2	-	-	-	-	615	-
Approach	EB		WB		NB	
HCM Ctrl Dly, s/v	0		0.39		22.07	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	320	-	-	82	-	
HCM Lane V/C Ratio	0.346	-	-	0.02	-	
HCM Ctrl Dly (s/v)	22.1	-	-	8.6	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.5	-	-	0.1	-	

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	438	4	2	347	59	1	1	3	46	0	3
Future Vol, veh/h	7	438	4	2	347	59	1	1	3	46	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	81	81	81	63	63	63	84	84	84
Heavy Vehicles, %	0	4	33	0	6	5	0	0	0	2	0	0
Mvmt Flow	9	548	5	2	428	73	2	2	5	55	0	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	501	0	0	553	0	0	1001	1074	550	1036	1040	465
Stage 1	-	-	-	-	-	-	568	568	-	470	470	-
Stage 2	-	-	-	-	-	-	433	506	-	566	570	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.12	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.518	4	3.3
Pot Cap-1 Maneuver	1073	-	-	1028	-	-	224	222	539	210	232	602
Stage 1	-	-	-	-	-	-	512	510	-	574	564	-
Stage 2	-	-	-	-	-	-	605	543	-	509	509	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1028	-	-	220	219	539	204	230	602
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	219	-	204	230	-
Stage 1	-	-	-	-	-	-	507	506	-	573	562	-
Stage 2	-	-	-	-	-	-	600	542	-	499	504	-
Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	0.13			0.04			15.82			28.17		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	341	1073	-	-	1028	-	-	213				
HCM Lane V/C Ratio	0.023	0.008	-	-	0.002	-	-	0.274				
HCM Ctrl Dly (s/v)	15.8	8.4	-	-	8.5	-	-	28.2				
HCM Lane LOS	C	A	-	-	A	-	-	D				
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.1				

HCM 7th TWSC
6: NYS Route 30A & Proposed North Driveway

2027 Build - PM
08/05/2025





Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	15	60	518	8	34	452
Future Vol, veh/h	15	60	518	8	34	452
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	5
Mvmt Flow	16	65	563	9	37	491
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1133	567	0	0	572	0
Stage 1	567	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	227	527	-	-	1011	-
Stage 1	571	-	-	-	-	-
Stage 2	573	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	527	-	-	1011	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Approach	WB	NB	SB			
HCM Ctrl Dly, s/v	16	0	0.61			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	408	126	-	
HCM Lane V/C Ratio	-	-	0.2	0.037	-	
HCM Ctrl Dly (s/v)	-	-	16	8.7	0	
HCM Lane LOS	-	-	C	A	A	
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-	

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	526	0	0	467
Future Vol, veh/h	0	0	526	0	0	467
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	100	8	0	0	5
Mvmt Flow	0	0	572	0	0	508









Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	572	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	7.2	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	4.2	-
Pot Cap-1 Maneuver	0	374	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	-	374	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1011
HCM Lane V/C Ratio	-	-	-	-
HCM Ctrl Dly (s/v)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	53	473	13	29	438
Future Vol, veh/h	23	53	473	13	29	438
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	5
Mvmt Flow	25	58	514	14	32	476
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1060	521	0	0	528	0
Stage 1	521	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	250	559	-	-	1049	-
Stage 1	600	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	559	-	-	1049	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Approach	WB	NB		SB		
HCM Ctrl Dly, s/v	15.07	0		0.53		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	240	559	112	-
HCM Lane V/C Ratio	-	-	0.104	0.103	0.03	-
HCM Ctrl Dly (s/v)	-	-	21.7	12.2	8.5	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.3	0.1	-

Intersection	
Intersection Delay, s/veh	13.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	53	104	73	47	4	188	179	57	5	104	7
Future Vol, veh/h	4	53	104	73	47	4	188	179	57	5	104	7
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.83	0.83	0.83	0.82	0.82	0.82
Heavy Vehicles, %	0	6	6	9	0	0	7	1	7	0	5	0
Mvmt Flow	5	68	133	100	64	5	227	216	69	6	127	9
Number of Lanes	1	1	1	1	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	3	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	3	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	3
HCM Control Delay, s/veh	11.3	12.2	14.7	12.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	4%
Vol Thru, %	0%	76%	0%	100%	0%	0%	92%	90%
Vol Right, %	0%	24%	0%	0%	100%	0%	8%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	236	4	53	104	73	51	116
LT Vol	188	0	4	0	0	73	0	5
Through Vol	0	179	0	53	0	0	47	104
RT Vol	0	57	0	0	104	0	4	7
Lane Flow Rate	227	284	5	68	133	100	70	141
Geometry Grp	6	6	6	6	6	6	6	6
Degree of Util (X)	0.434	0.483	0.011	0.137	0.242	0.219	0.139	0.278
Departure Headway (Hd)	6.898	6.121	7.647	7.241	6.526	7.873	7.147	7.073
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	519	586	465	492	545	453	498	504
Service Time	4.676	3.898	5.441	5.034	4.319	5.672	4.945	4.873
HCM Lane V/C Ratio	0.437	0.485	0.011	0.138	0.244	0.221	0.141	0.28
HCM Control Delay, s/veh	14.9	14.6	10.5	11.2	11.4	12.9	11.1	12.6
HCM Lane LOS	B	B	B	B	B	B	B	B
HCM 95th-tile Q	2.2	2.6	0	0.5	0.9	0.8	0.5	1.1





Intersection												
Int Delay, s/veh	201.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔		↔	↑			↔	
Traffic Vol, veh/h	0	0	0	294	0	86	168	338	0	0	241	40
Future Vol, veh/h	0	0	0	294	0	86	168	338	0	0	241	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	77	77	77	82	82	82	85	85	85
Heavy Vehicles, %	0	0	0	5	0	4	15	7	0	0	6	5
Mvmt Flow	0	0	0	382	0	112	205	412	0	0	284	47




Major/Minor	Minor1		Major1		Major2					
Conflicting Flow All	1105	1153	412	331	0	-	-	-	-	0
Stage 1	822	822	-	-	-	-	-	-	-	-
Stage 2	284	331	-	-	-	-	-	-	-	-
Critical Hdwy	6.45	6.5	6.24	4.25	-	-	-	-	-	-
Critical Hdwy Stg 1	5.45	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.45	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4	3.336	2.335	-	-	-	-	-	-
Pot Cap-1 Maneuver	~ 230	199	635	1159	-	0	0	-	-	-
Stage 1	427	391	-	-	-	0	0	-	-	-
Stage 2	758	649	-	-	-	0	0	-	-	-
Platoon blocked, %					-			-	-	-
Mov Cap-1 Maneuver	~ 189	0	635	1159	-	-	-	-	-	-
Mov Cap-2 Maneuver	~ 189	0	-	-	-	-	-	-	-	-
Stage 1	~ 351	0	-	-	-	-	-	-	-	-
Stage 2	758	0	-	-	-	-	-	-	-	-







Approach	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 585.57	2.91	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBTWBLn1	SBT	SBR
Capacity (veh/h)	1159	-	225	-
HCM Lane V/C Ratio	0.177	-	2.193	-
HCM Ctrl Dly (s/v)	8.8	-	\$ 585.6	-
HCM Lane LOS	A	-	F	-
HCM 95th %tile Q(veh)	0.6	-	38.4	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	2	138	0	0	0	0	461	216	43	492	0
Future Vol, veh/h	45	2	138	0	0	0	0	461	216	43	492	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	-	-	-	-	-	-	-	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	25	25	25	78	78	78	72	72	72
Heavy Vehicles, %	19	50	16	0	0	0	0	8	7	10	5	0
Mvmt Flow	49	2	152	0	0	0	0	591	277	60	683	0
Major/Minor	Minor2						Major1		Major2			
Conflicting Flow All	1394	1671	683				-	0	0	868	0	0
Stage 1	803	803	-				-	-	-	-	-	-
Stage 2	591	868	-				-	-	-	-	-	-
Critical Hdwy	6.59	7	6.36				-	-	-	4.2	-	-
Critical Hdwy Stg 1	5.59	6	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.59	6	-				-	-	-	-	-	-
Follow-up Hdwy	3.671	4.45	3.444				-	-	-	2.29	-	-
Pot Cap-1 Maneuver	143	74	426				0	-	-	743	-	0
Stage 1	413	335	-				0	-	-	-	-	0
Stage 2	522	310	-				0	-	-	-	-	0
Platoon blocked, %							-	-	-			
Mov Cap-1 Maneuver	132	0	426				-	-	-	743	-	-
Mov Cap-2 Maneuver	132	0	-				-	-	-	-	-	-
Stage 1	413	0	-				-	-	-	-	-	-
Stage 2	480	0	-				-	-	-	-	-	-
Approach	EB						NB		SB			
HCM Ctrl Dly, s/v	47.76						0		0.83			
HCM LOS	E											
Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT							
Capacity (veh/h)	-	-	275	743	-							
HCM Lane V/C Ratio	-	-	0.74	0.08	-							
HCM Ctrl Dly (s/v)	-	-	47.8	10.3	-							
HCM Lane LOS	-	-	E	B	-							
HCM 95th %tile Q(veh)	-	-	5.3	0.3	-							

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	463	32	16	383	53	18
Future Vol, veh/h	463	32	16	383	53	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	79	79	64	64
Heavy Vehicles, %	7	7	7	5	2	0
Mvmt Flow	509	35	20	485	83	28
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	544	0	1052	526
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	525	-
Critical Hdwy	-	-	4.17	-	6.42	6.2
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.263	-	3.518	3.3
Pot Cap-1 Maneuver	-	-	1000	-	251	555
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1000	-	244	555
Mov Cap-2 Maneuver	-	-	-	-	244	-
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	577	-
Approach	EB		WB		NB	
HCM Ctrl Dly, s/v	0		0.35		25.52	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	284	-	-	72	-	
HCM Lane V/C Ratio	0.39	-	-	0.02	-	
HCM Ctrl Dly (s/v)	25.5	-	-	8.7	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile Q(veh)	1.8	-	-	0.1	-	

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	469	4	2	394	59	1	1	3	46	0	3
Future Vol, veh/h	7	469	4	2	394	59	1	1	3	46	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	81	81	81	63	63	63	84	84	84
Heavy Vehicles, %	0	4	33	0	6	5	0	0	0	2	0	0
Mvmt Flow	9	586	5	2	486	73	2	2	5	55	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	559	0	0	591	0	0	1098	1170	589	1132	1137	523
Stage 1	-	-	-	-	-	-	606	606	-	528	528	-
Stage 2	-	-	-	-	-	-	491	564	-	605	609	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.12	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.12	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.518	4	3.3
Pot Cap-1 Maneuver	1022	-	-	994	-	-	192	194	512	180	204	558
Stage 1	-	-	-	-	-	-	487	490	-	534	531	-
Stage 2	-	-	-	-	-	-	563	512	-	485	489	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1022	-	-	994	-	-	189	192	512	175	201	558
Mov Cap-2 Maneuver	-	-	-	-	-	-	189	192	-	175	201	-
Stage 1	-	-	-	-	-	-	483	486	-	533	530	-
Stage 2	-	-	-	-	-	-	558	510	-	475	484	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.12	0.04	17.09	33.66
HCM LOS			C	D




Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	1022	-	-	994	-	-	183
HCM Lane V/C Ratio	0.026	0.009	-	-	0.002	-	-	0.319
HCM Ctrl Dly (s/v)	17.1	8.6	-	-	8.6	-	-	33.7
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.3





Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	1	4	673	27	109	521
Future Vol, veh/h	1	4	673	27	109	521
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	5
Mvmt Flow	1	4	732	29	118	566

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1549	746	0	0	761	0
Stage 1	746	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	127	417	-	-	860	-
Stage 1	472	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	101	417	-	-	860	-
Mov Cap-2 Maneuver	101	-	-	-	-	-
Stage 1	472	-	-	-	-	-
Stage 2	355	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	19.33	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	257	311
HCM Lane V/C Ratio	-	-	0.021	0.138
HCM Ctrl Dly (s/v)	-	-	19.3	9.9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0.5

















Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	698	0	2	520
Future Vol, veh/h	0	2	698	0	2	520
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	100	8	0	100	5
Mvmt Flow	0	2	759	0	2	565
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	-	759	0	0	759	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.2	-	-	5.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	4.2	-	-	3.1	-
Pot Cap-1 Maneuver	0	283	-	-	540	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	283	-	-	540	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	WB	NB		SB		
HCM Ctrl Dly, s/v	17.81	0		0.04		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	-	283	7	-	
HCM Lane V/C Ratio	-	-	0.008	0.004	-	
HCM Ctrl Dly (s/v)	-	-	17.8	11.7	0	
HCM Lane LOS	-	-	C	B	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	













Intersection						
Int Delay, s/veh	5.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	206	492	41	96	424
Future Vol, veh/h	68	206	492	41	96	424
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	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	8	0	0	5
Mvmt Flow	74	224	535	45	104	461

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1227	557	0	0	579	0
Stage 1	557	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	199	534	-	-	1004	-
Stage 1	578	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	171	534	-	-	1004	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	578	-	-	-	-	-
Stage 2	441	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	22.64	0	1.66
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	171	534	332	-
HCM Lane V/C Ratio	-	-	0.432	0.42	0.104	-
HCM Ctrl Dly (s/v)	-	-	41.1	16.5	9	0
HCM Lane LOS	-	-	E	C	A	A
HCM 95th %tile Q(veh)	-	-	2	2.1	0.3	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	145	1	15	65	147	0	0	276	40
Future Volume (vph)	0	0	0	145	1	15	65	147	0	0	276	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			125			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					0.987						0.983	
Flt Protected					0.957		0.950					
Satd. Flow (prot)	0	0	0	0	1574	0	1480	1696	0	0	1704	0
Flt Permitted					0.957		0.547					
Satd. Flow (perm)	0	0	0	0	1574	0	852	1696	0	0	1704	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					14						19	
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		423			419			585			1142	
Travel Time (s)		9.6			9.5			8.0			15.6	
Peak Hour Factor	0.92	0.92	0.92	0.80	0.80	0.80	0.82	0.82	0.82	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	14%	0%	15%	22%	12%	0%	0%	8%	21%
Adj. Flow (vph)	0	0	0	181	1	19	79	179	0	0	314	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	201	0	79	179	0	0	359	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Detector Phase				8	8		2	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (%)				50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)				18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)				3.5	3.5		3.5	3.5			3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		Min	Min			Min	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Don't Walk (s)				11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effect Green (s)					9.3			17.4			17.4	
Actuated g/C Ratio					0.29			0.54			0.54	
v/c Ratio					0.43			0.17			0.19	
Control Delay (s/veh)					12.1			7.9			7.2	
Queue Delay					0.0			0.0			0.0	
Total Delay (s/veh)					12.1			7.9			7.2	
LOS					B			A			A	
Approach Delay (s/veh)					12.1			7.5			8.2	
Approach LOS					B			A			A	
Queue Length 50th (ft)					21			7			17	
Queue Length 95th (ft)					59			27			46	
Internal Link Dist (ft)		343			339			505			1062	
Turn Bay Length (ft)							150					
Base Capacity (vph)					907			538			1072	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.22			0.15			0.17	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 32.2

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.43

Intersection Signal Delay (s/veh): 8.9

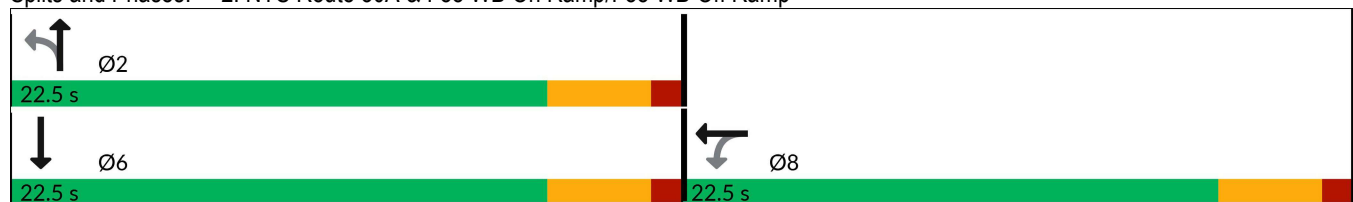
Intersection LOS: A

Intersection Capacity Utilization 41.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: NYS Route 30A & I-88 WB On Ramp/I-88 WB Off Ramp



Lanes, Volumes, Timings
16: NYS Route 30A & Proposed South Driveway

2027 Build Mitigation - AM
08/05/2025

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	11	344	9	23	404
Future Volume (vph)	5	11	344	9	23	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr't		0.850	0.996			
Flt Protected	0.950					0.997
Satd. Flow (prot)	1805	1615	1709	0	0	1701
Flt Permitted	0.950					0.975
Satd. Flow (perm)	1805	1615	1709	0	0	1664
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		12	4			
Link Speed (mph)	30		50			50
Link Distance (ft)	147		1079			213
Travel Time (s)	3.3		14.7			2.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	11%	0%	0%	12%
Adj. Flow (vph)	5	12	374	10	25	439
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	12	384	0	0	464
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%
Maximum Green (s)	18.0	18.0	18.0		18.0	18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	4.5			4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Act Effect Green (s)	6.0	6.0	30.3			30.3
Actuated g/C Ratio	0.19	0.19	0.94			0.94
v/c Ratio	0.02	0.04	0.24			0.30
Control Delay (s/veh)	15.0	9.9	1.6			1.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	15.0	9.9	1.6			1.8
LOS	B	A	A			A
Approach Delay (s/veh)	11.4		1.6			1.8
Approach LOS	B		A			A
Queue Length 50th (ft)	1	0	0			0
Queue Length 95th (ft)	8	11	61			80
Internal Link Dist (ft)	67		999			133
Turn Bay Length (ft)						
Base Capacity (vph)	1053	947	1599			1557
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.00	0.01	0.24			0.30

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 32.4

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.30

Intersection Signal Delay (s/veh): 1.9

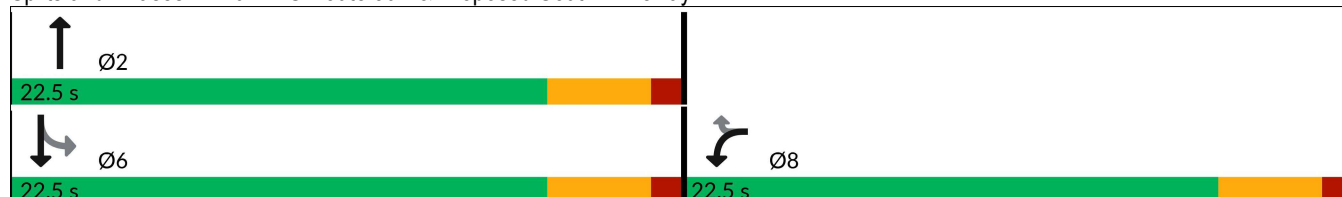
Intersection LOS: A

















Intersection Capacity Utilization 51.7%













ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 16: NYS Route 30A & Proposed South Driveway



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	296	0	86	154	338	0	0	241	40
Future Volume (vph)	0	0	0	296	0	86	154	338	0	0	241	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			125			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					0.970						0.981	
Flt Protected					0.963		0.950					
Satd. Flow (prot)	0	0	0	0	1694	0	1570	1776	0	0	1761	0
Flt Permitted					0.963		0.528					
Satd. Flow (perm)	0	0	0	0	1694	0	872	1776	0	0	1761	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					39						22	
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		423			419			585			1142	
Travel Time (s)		9.6			9.5			8.0			15.6	
Peak Hour Factor	0.25	0.25	0.25	0.77	0.77	0.77	0.82	0.82	0.82	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	5%	0%	4%	15%	7%	0%	0%	6%	5%
Adj. Flow (vph)	0	0	0	384	0	112	188	412	0	0	284	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	496	0	188	412	0	0	331	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Detector Phase				8	8		2	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (%)				50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)				18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)				3.5	3.5		3.5	3.5			3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		Min	Min			Min	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Don't Walk (s)				11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effect Green (s)					14.7			13.8			13.8	
Actuated g/C Ratio					0.39			0.36			0.36	
v/c Ratio					0.73			0.59			0.64	
Control Delay (s/veh)					17.9			19.4			15.6	
Queue Delay					0.0			0.0			0.0	
Total Delay (s/veh)					17.9			19.4			15.6	
LOS					B			B			B	
Approach Delay (s/veh)					17.9			16.8			12.3	
Approach LOS					B			B			B	
Queue Length 50th (ft)					81			34			75	
Queue Length 95th (ft)					136			74			127	
Internal Link Dist (ft)		343			339			505			1062	
Turn Bay Length (ft)							150					
Base Capacity (vph)					866			435			887	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.57			0.43			0.46	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 37.9

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay (s/veh): 16.1

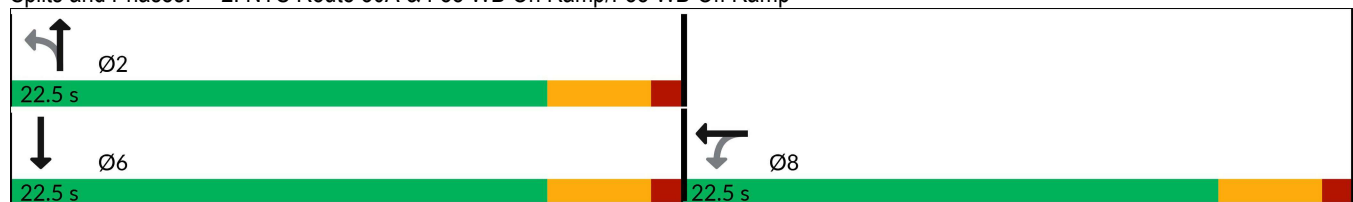
Intersection LOS: B

Intersection Capacity Utilization 61.9%

ICU Level of Service B











Analysis Period (min) 15

Splits and Phases: 2: NYS Route 30A & I-88 WB On Ramp/I-88 WB Off Ramp



Lanes, Volumes, Timings
16: NYS Route 30A & Proposed South Driveway

2027 Build Mitigation - Developer
08/05/2025

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	206	492	41	96	424
Future Volume (vph)	68	206	492	41	96	424
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.990			
Flt Protected	0.950					0.991
Satd. Flow (prot)	1805	1615	1752	0	0	1809
Flt Permitted	0.950					0.828
Satd. Flow (perm)	1805	1615	1752	0	0	1512
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		224	11			
Link Speed (mph)	30		50			50
Link Distance (ft)	147		1079			213
Travel Time (s)	3.3		14.7			2.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	5%
Adj. Flow (vph)	74	224	535	45	104	461
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	224	580	0	0	565
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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	22.5	22.5	37.5		37.5	37.5
Total Split (%)	37.5%	37.5%	62.5%		62.5%	62.5%
Maximum Green (s)	18.0	18.0	33.0		33.0	33.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	4.5			4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Act Effect Green (s)	7.6	7.6	24.7			24.7
Actuated g/C Ratio	0.18	0.18	0.60			0.60
v/c Ratio	0.22	0.47	0.55			0.63
Control Delay (s/veh)	17.3	7.0	7.6			9.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	17.3	7.0	7.6			9.4
LOS	B	A	A			A
Approach Delay (s/veh)	9.5		7.6			9.4
Approach LOS	A		A			A
Queue Length 50th (ft)	13	0	60			64
Queue Length 95th (ft)	48	44	144			163
Internal Link Dist (ft)	67		999			133
Turn Bay Length (ft)						
Base Capacity (vph)	802	842	1429			1232
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.09	0.27	0.41			0.46

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 41.5

Natural Cycle: 60

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay (s/veh): 8.7

Intersection LOS: A

















Intersection Capacity Utilization 71.4%













ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 16: NYS Route 30A & Proposed South Driveway



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	228	0	86	121	333	0	0	213	40
Future Volume (vph)	0	0	0	228	0	86	121	333	0	0	213	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	150		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			125			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					0.963						0.979	
Flt Protected					0.965		0.950					
Satd. Flow (prot)	0	0	0	0	1686	0	1570	1776	0	0	1757	0
Flt Permitted					0.965		0.578					
Satd. Flow (perm)	0	0	0	0	1686	0	955	1776	0	0	1757	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					50						25	
Link Speed (mph)		30			30			50			50	
Link Distance (ft)		423			419			585			1142	
Travel Time (s)		9.6			9.5			8.0			15.6	
Peak Hour Factor	0.25	0.25	0.25	0.77	0.77	0.77	0.82	0.82	0.82	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	5%	0%	4%	15%	7%	0%	0%	6%	5%
Adj. Flow (vph)	0	0	0	296	0	112	148	406	0	0	251	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	408	0	148	406	0	0	298	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8			2					
Detector Phase				8	8		2	2			6	
Switch Phase												
Minimum Initial (s)				5.0	5.0		5.0	5.0			5.0	
Minimum Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (s)				22.5	22.5		22.5	22.5			22.5	
Total Split (%)				50.0%	50.0%		50.0%	50.0%			50.0%	
Maximum Green (s)				18.0	18.0		18.0	18.0			18.0	
Yellow Time (s)				3.5	3.5		3.5	3.5			3.5	
All-Red Time (s)				1.0	1.0		1.0	1.0			1.0	
Lost Time Adjust (s)					0.0		0.0	0.0			0.0	
Total Lost Time (s)					4.5		4.5	4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0		3.0	3.0			3.0	
Recall Mode				None	None		Min	Min			Min	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	
Flash Don't Walk (s)				11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)				0	0		0	0			0	
Act Effect Green (s)					12.8			13.7			13.7	
Actuated g/C Ratio					0.36			0.38			0.38	
v/c Ratio					0.65			0.41			0.60	
Control Delay (s/veh)					14.2			13.2			14.0	
Queue Delay					0.0			0.0			0.0	
Total Delay (s/veh)					14.2			13.2			14.0	
LOS					B			B			B	
Approach Delay (s/veh)					14.2			13.8			10.6	
Approach LOS					B			B			B	
Queue Length 50th (ft)					50			19			57	
Queue Length 95th (ft)					103			54			125	
Internal Link Dist (ft)		343			339			505			1062	
Turn Bay Length (ft)							150					
Base Capacity (vph)					910			502			934	
Starvation Cap Reductn					0			0			0	
Spillback Cap Reductn					0			0			0	
Storage Cap Reductn					0			0			0	
Reduced v/c Ratio					0.45			0.29			0.43	

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 35.9

Natural Cycle: 45

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay (s/veh): 13.2

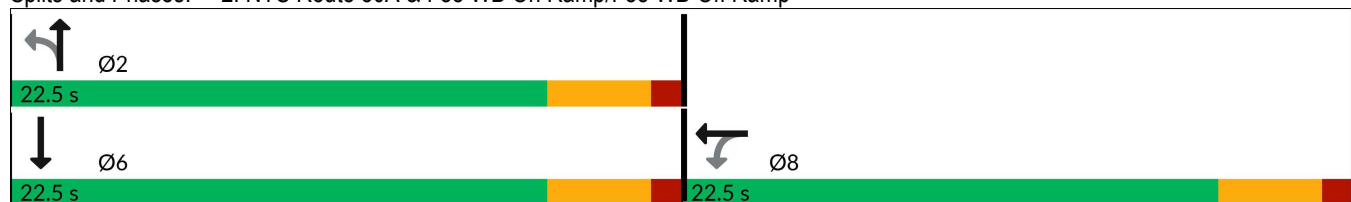
Intersection LOS: B

Intersection Capacity Utilization 53.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 2: NYS Route 30A & I-88 WB On Ramp/I-88 WB Off Ramp



Lanes, Volumes, Timings
16: NYS Route 30A & Proposed South Driveway

2027 Build Mitigation - PM
08/05/2025

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	23	53	473	13	29	438
Future Volume (vph)	23	53	473	13	29	438
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					0.997
Satd. Flow (prot)	1805	1615	1756	0	0	1810
Flt Permitted	0.950					0.958
Satd. Flow (perm)	1805	1615	1756	0	0	1739
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		58	4			
Link Speed (mph)	30		50			50
Link Distance (ft)	147		1079			213
Travel Time (s)	3.3		14.7			2.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	8%	0%	0%	5%
Adj. Flow (vph)	25	58	514	14	32	476
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	58	528	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	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type	Prot	Perm	NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases		8			6	
Detector Phase	8	8	2		6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0
Minimum Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (s)	22.5	22.5	22.5		22.5	22.5
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%
Maximum Green (s)	18.0	18.0	18.0		18.0	18.0
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	4.5	4.5	4.5			4.5
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	Min		Min	Min
Walk Time (s)	7.0	7.0	7.0		7.0	7.0
Flash Don't Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0

	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Act Effect Green (s)	6.2	6.2	25.7			25.7
Actuated g/C Ratio	0.18	0.18	0.76			0.76
v/c Ratio	0.08	0.17	0.40			0.39
Control Delay (s/veh)	13.4	6.1	4.9			4.9
Queue Delay	0.0	0.0	0.0			0.0
Total Delay (s/veh)	13.4	6.1	4.9			4.9
LOS	B	A	A			A
Approach Delay (s/veh)	8.3		4.9			4.9
Approach LOS	A		A			A
Queue Length 50th (ft)	5	0	46			45
Queue Length 95th (ft)	15	16	104			99
Internal Link Dist (ft)	67		999			133
Turn Bay Length (ft)						
Base Capacity (vph)	981	904	1327			1314
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.03	0.06	0.40			0.39

Intersection Summary

Area Type: Other

Cycle Length: 45

Actuated Cycle Length: 34

Natural Cycle: 50

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.40

Intersection Signal Delay (s/veh): 5.1

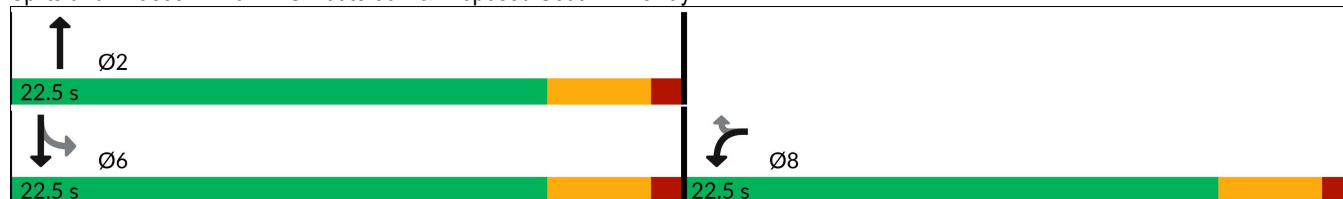
Intersection LOS: A

Intersection Capacity Utilization 58.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 16: NYS Route 30A & Proposed South Driveway



APPENDIX B

SIGNAL WARRANT WORKSHEETS / DEVELOPER TRAFFIC DATA

- NYS Route 30A/I-88 WB Ramp – 2025 Base Conditions
- NYS Route 30A/I-88 WB Ramp – 2027 No Build Conditions
- NYS Route 30A/I-88 WB Ramp – 2027 Build Conditions
- NYS Route 30A/Proposed Southern Driveway – 2027 Build Conditions
- Developer Traffic Data

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 11th Edition Signal Warrant Guidelines)

Project Name	DAN8 Last Mile Facility – Base Scenario		
Date:	7/15/2025	Analyst:	TCH
Major Street	NYS Route 30A		
# of Lanes per Direction	1		
Minor Street	I-88 WB Off Ramp		
# of Lanes per Direction	1		

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	N
	1C	Y
Warrant 2 – Four Hour Vehicular Volume		N
Warrant 3 – Peak Hour	3A	Y
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		N
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	450	115	266	115	-	-
8:00-9:00	510	137	290	137	-	-
9:00-10:00	492	140	262	140		
10:00-11:00	473	135	245	135		
1:00-2:00	471	212	256	212		
2:00-3:00	416	188	211	188		
4:00-5:00	543	279	307	279		
5:00-6:00	505	220	296	220	-	-
AM Peak	494	141	302	141	-	-
PM Peak	619	279	385	279	-	-

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
N/A	N/A	N/A	N/A

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

Not Met

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Not Met

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Based on hourly tube count data, it is projected that eight hours will meet 1C.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

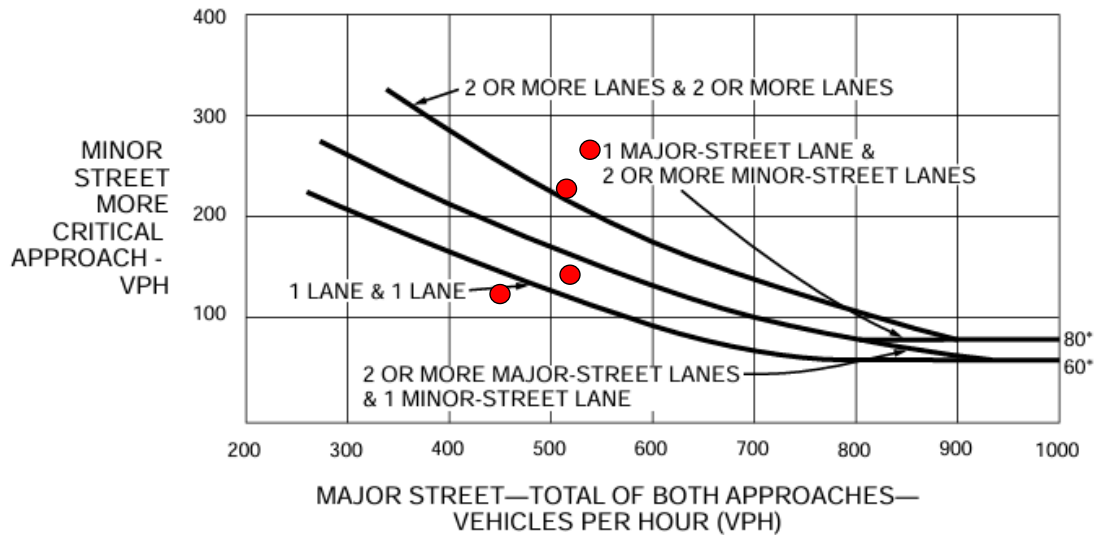
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-2 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane

Three hours meet Warrant 2.

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

The I-88 WB Off Ramp experiences

(74.2 Seconds of Delay per Vehicle x 279 vehicles/3600 = 5.75 total hours of delay)

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the I-88 WB Off Ramp does exceed 100 vehicles (279) during the evening peak hour.

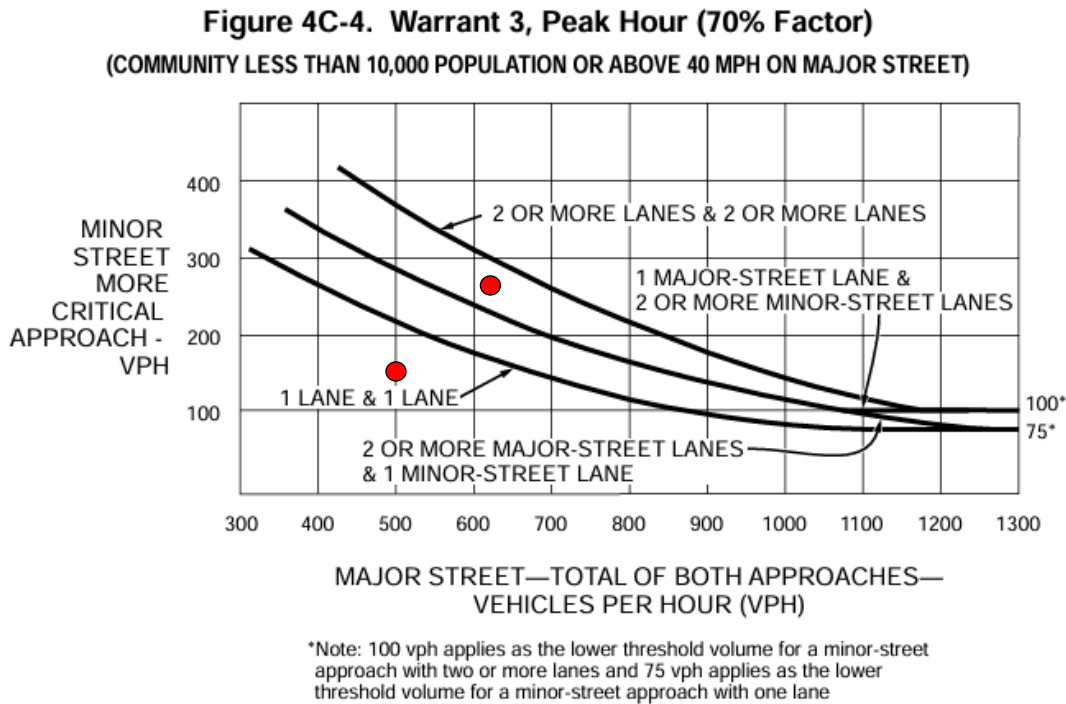
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

**Total Entering volume is 761 vehicles during the evening peak hour.
(entering volume data taken from Figure 4 in the TIS.)**

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

The evening peak hour meets Warrant 3B.



Warrant 4, Pedestrian Volume

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-6; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-8.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No pedestrians were observed during the traffic counts.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

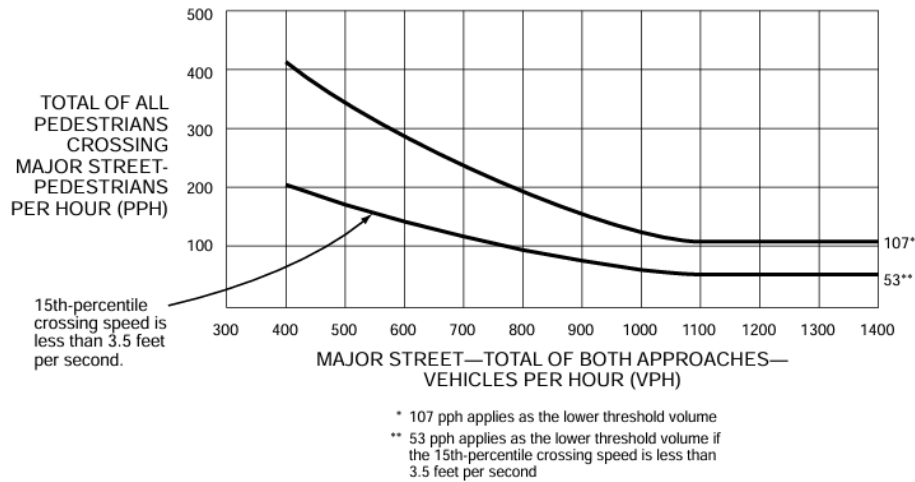
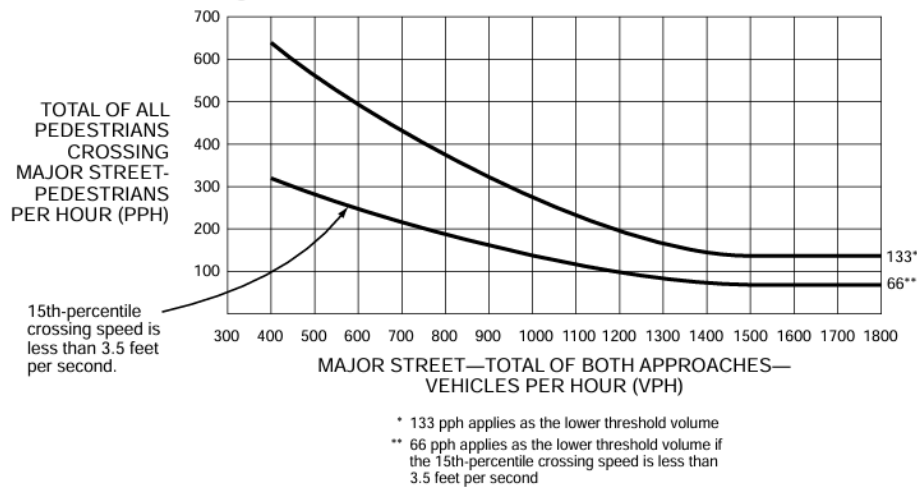


Figure 4C-6. Warrant 4, Pedestrian Peak Hour



Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **No signals are present in the vicinity of the intersection.**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **No signals are present in the vicinity of the intersection.**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and **(NOT REVIEWED)**
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and **(NOT REVIEWED)**
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours. **(NOT REVIEWED)**

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **Existing entering volume is 761 vehicles.**
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

NOT REVIEWED, Data not Available

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant not met based on condition A.

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 11th Edition Signal Warrant Guidelines)

Project Name	DAN8 Last Mile Facility – No Build Scenario		
Date:	7/15/2025	Analyst:	TCH
Major Street	NYS Route 30A		
# of Lanes per Direction	1		
Minor Street	I-88 WB Off Ramp		
# of Lanes per Direction	1		

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	N
	1C	Y
Warrant 2 – Four Hour Vehicular Volume		N
Warrant 3 – Peak Hour	3A	Y
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		N
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	459	117	271	117	-	-
8:00-9:00	520	140	296	140	-	-
9:00-10:00	502	143	267	143		
10:00-11:00	482	138	250	138		
1:00-2:00	480	216	261	216		
2:00-3:00	424	192	215	192		
4:00-5:00	554	285	313	285		
5:00-6:00	515	224	302	224	-	-
AM Peak	504	144	308	144	-	-
PM Peak	631	285	393	285	-	-

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
N/A	N/A	N/A	N/A

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

Not Met

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Not Met

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Based on hourly tube count data, it is projected that eight hours will meet 1C.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

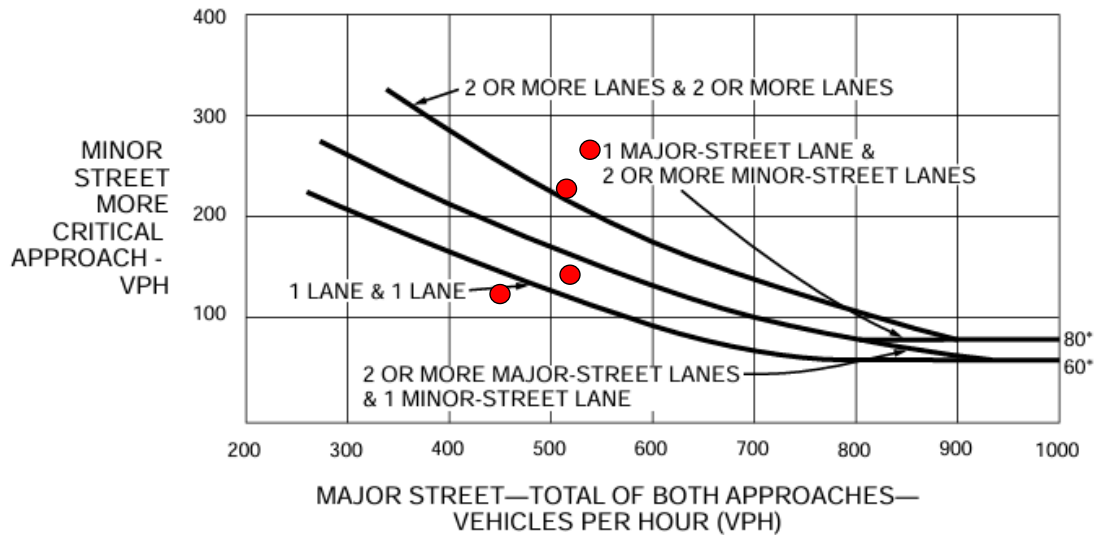
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-2 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane

Three hours meet Warrant 2.

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

The I-88 WB Off Ramp experiences

(86.9 Seconds of Delay per Vehicle x 285 vehicles/3600 = 6.88 total hours of delay)

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the I-88 WB Off Ramp does exceed 100 vehicles (285) during the evening peak hour.

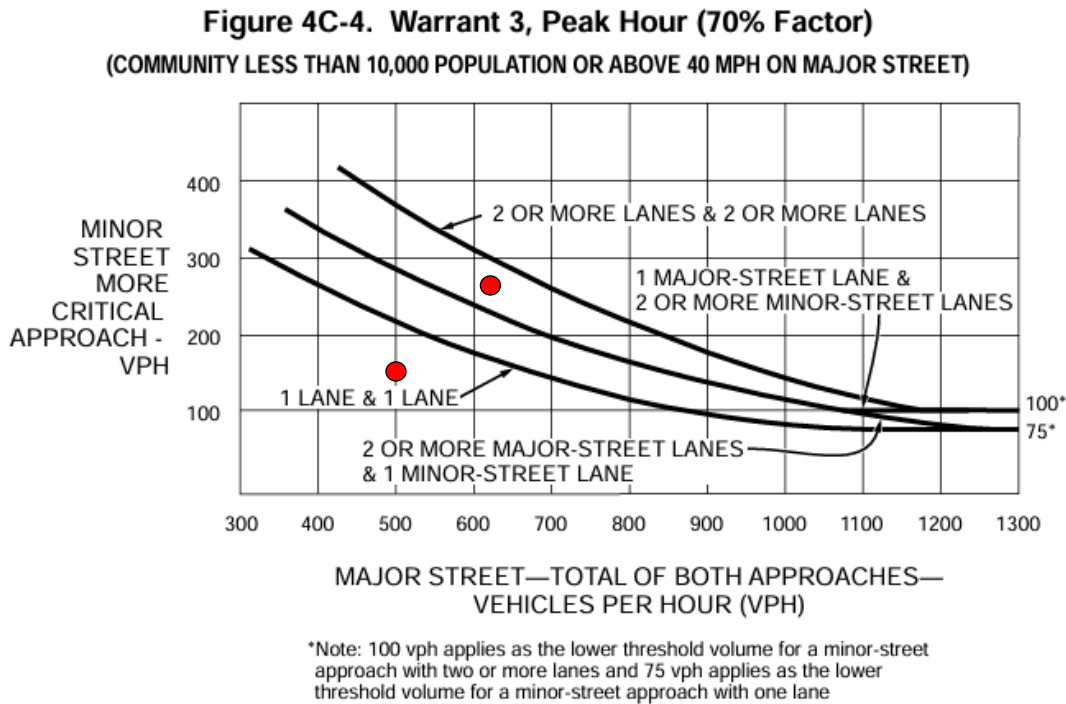
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

**Total Entering volume is 918 vehicles during the evening peak hour.
(entering volume data taken from Figure 4 in the TIS.)**

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

The evening peak hour meets Warrant 3B.



Warrant 4, Pedestrian Volume

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-6; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-8.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No pedestrians were observed during the traffic counts.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

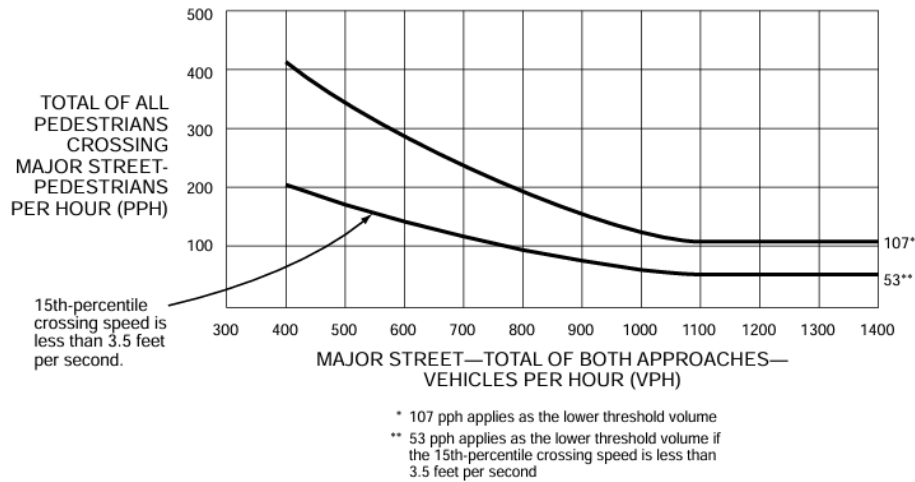
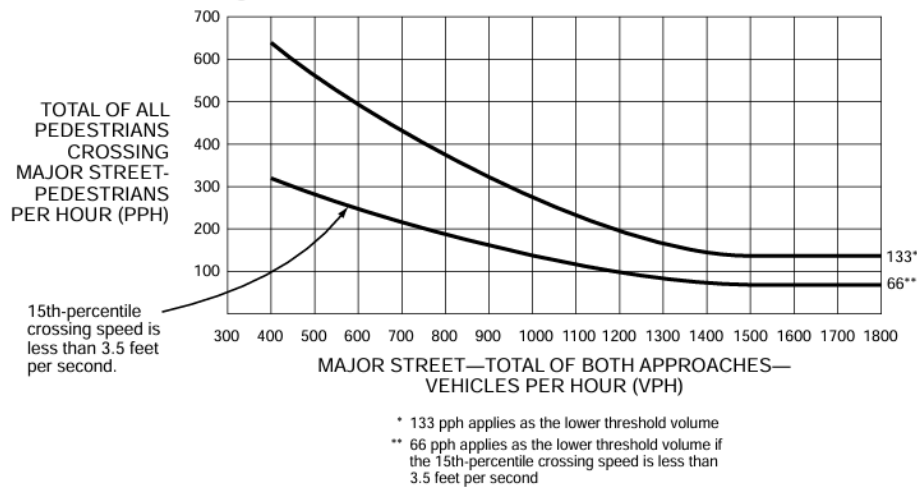


Figure 4C-6. Warrant 4, Pedestrian Peak Hour



Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **No signals are present in the vicinity of the intersection.**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **No signals are present in the vicinity of the intersection.**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and **(NOT REVIEWED)**
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and **(NOT REVIEWED)**
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours. **(NOT REVIEWED)**

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **Existing entering volume is 918 vehicles.**
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

NOT REVIEWED, Data not Available

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant not met based on condition A.

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 11th Edition Signal Warrant Guidelines)

Project Name	DAN8 Last Mile Facility – Build Scenario		
Date:	7/15/2025	Analyst:	TCH
Major Street	NYS Route 30A		
# of Lanes per Direction	1		
Minor Street	I-88 WB Off Ramp		
# of Lanes per Direction	1		

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	N
	1C	Y
Warrant 2 – Four Hour Vehicular Volume		N
Warrant 3 – Peak Hour	3A	Y
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		Y
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	481	130	278	130	-	-
8:00-9:00	545	155	303	155	-	-
9:00-10:00	526	159	274	159		
10:00-11:00	506	153	256	153		
1:00-2:00	538	239	268	239		
2:00-3:00	475	212	221	212		
4:00-5:00	620	314	362	314		
5:00-6:00	577	248	349	248	-	-
AM Peak	528	160	316	160	-	-
PM Peak	707	314	454	314	-	-

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
N/A	N/A	N/A	N/A

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

Not Met

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Not Met

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Based on hourly tube count data, it is projected that eight hours will meet 1C.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

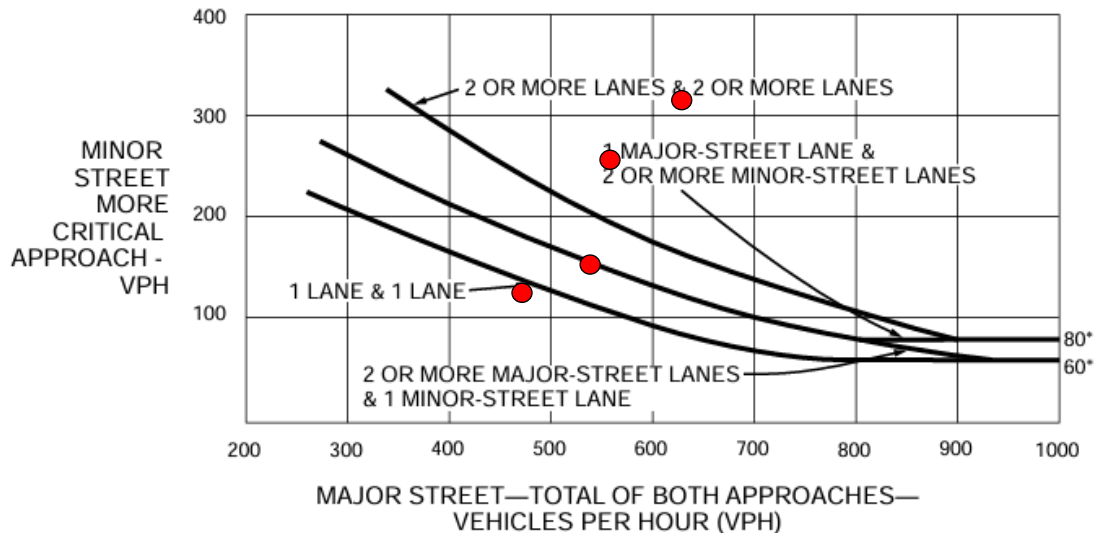
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-2 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane

Three hours meet Warrant 2.

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

The I-88 WB Off Ramp experiences

(231.5 Seconds of Delay per Vehicle x 314 vehicles/3600 = 20.19 total hours of delay)

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the I-88 WB Off Ramp does exceed 100 vehicles (314) during the evening peak hour.

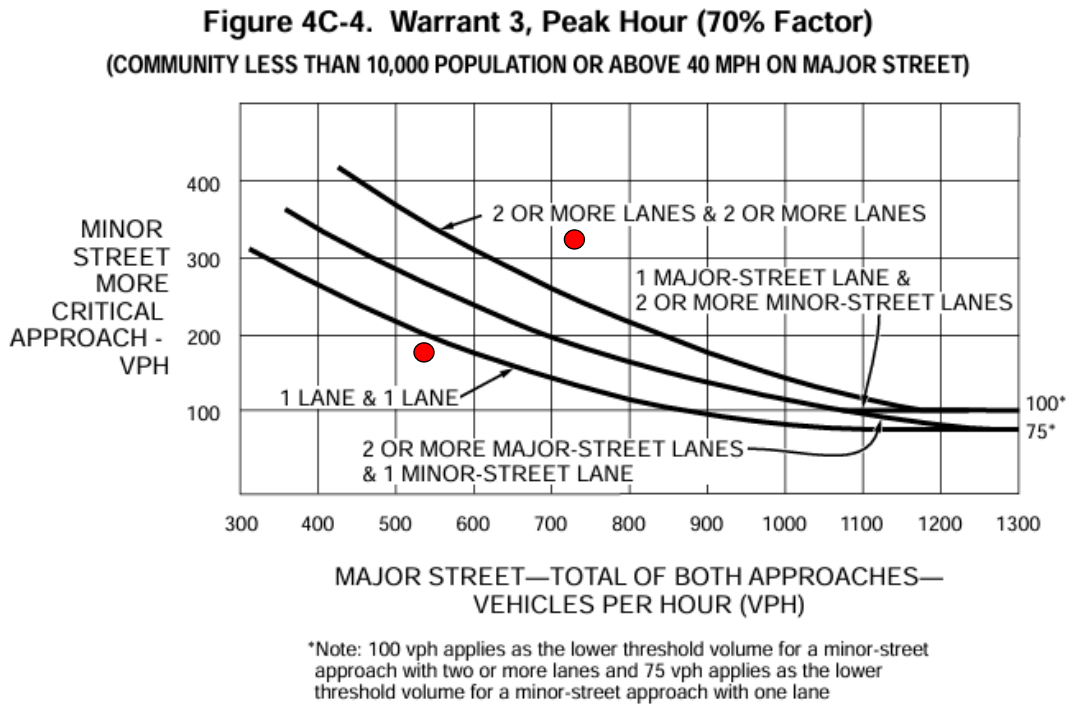
3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

**Total Entering volume is 1021 vehicles during the evening peak hour.
(entering volume data taken from Figure 4 in the TIS.)**

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

The evening peak hour meets Warrant 3B.



Warrant 4, Pedestrian Volume

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-6; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-8.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No pedestrians were observed during the traffic counts.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

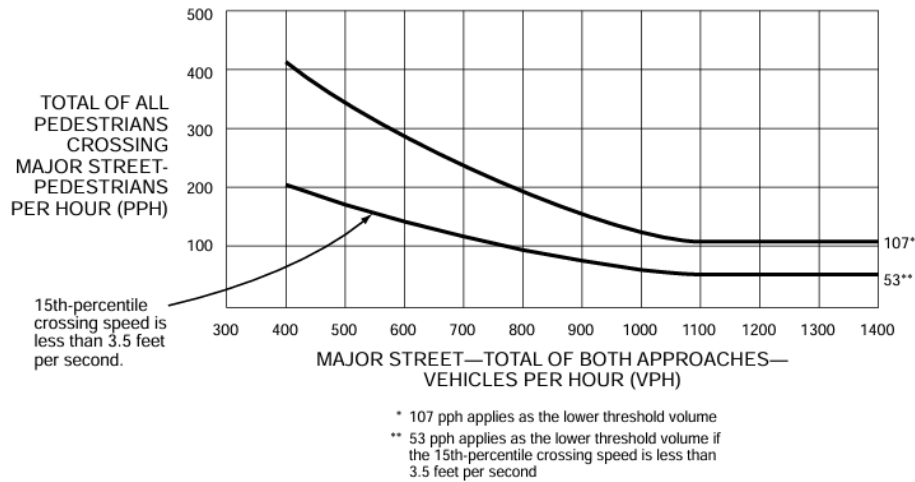
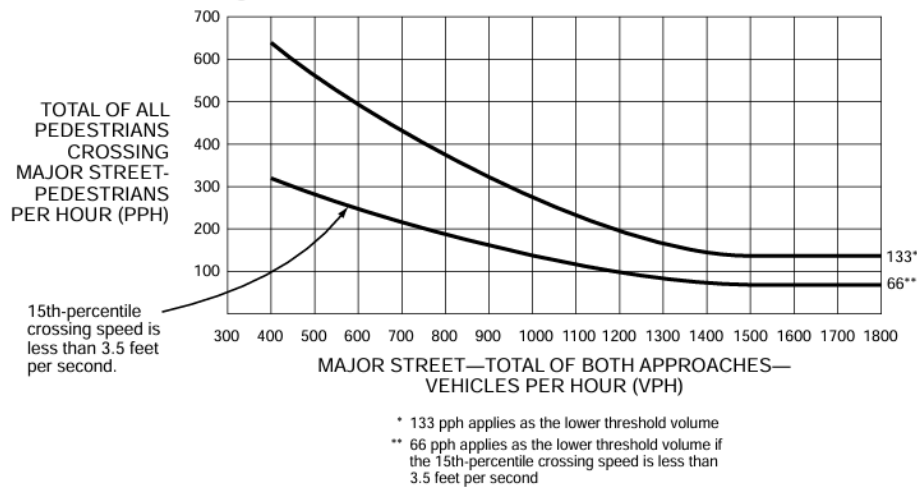


Figure 4C-6. Warrant 4, Pedestrian Peak Hour



Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **No signals are present in the vicinity of the intersection.**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **No signals are present in the vicinity of the intersection.**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and **(NOT REVIEWED)**
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and **(NOT REVIEWED)**
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours. **(NOT REVIEWED)**

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **Existing entering volume is 1021 vehicles.**
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

NOT REVIEWED, Data not Available

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant met based on condition A.

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

SIGNAL WARRANT WORKSHEET

(Based on MUTCD 11th Edition Signal Warrant Guidelines)

Project Name	DAN8 Last Mile Facility – Build Scenario		
Date:	7/15/2025	Analyst:	TCH
Major Street	NYS Route 30A		
# of Lanes per Direction	1		
Minor Street	Proposed Southern Driveway		
# of Lanes per Direction	1		

Warrants Met:

Warrant:		Met?
Warrant 1 – Eight Hour Vehicular Volume	1A	N
	1B	Y
	1C	N
Warrant 2 – Four Hour Vehicular Volume		N
Warrant 3 – Peak Hour	3A	N
	3B	Y
Warrant 4 – Pedestrian Volume	4A	N
	4B	N
Warrant 5 – School Crossings		N
Warrant 6 – Coordinated Signal System		N
Warrant 7 – Crash Experience		N
Warrant 8 – Roadway Network		Y
Warrant 9 – Intersection Near a Grade Crossing		N
Signal Should be Considered?		Y

Traffic Volume Data:

Hour	Both Approach Volumes		Higher Volume Approach		Crossing Ped. Volume	
	Major	Minor	Major	Minor	Major	Minor
7:00-8:00	1061	85	423	85	-	-
8:00-9:00	914	73	465	73	-	-
9:00-10:00	905	72	472	72		
10:00-11:00	902	71	468	71		
1:00-2:00	724	187	374	187		
2:00-3:00	640	165	341	165		
4:00-5:00	1006	259	514	259		
5:00-6:00	921	237	453	237	-	-
PM Peak	953	76	486	76	-	-
Dev. Peak	1063	274	533	274	-	-

Accident Data:

Time Frame (Mo.)	Total Number of Accidents	Property Damage/Injury Acc.	Acc. Correctable with a Traffic Signal
N/A	N/A	N/A	N/A

Applicable Signal Warrant Details:

Warrant 1, Eight-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that one of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 70 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; or

Not Met

B. The vehicles per hour given in both of the 70 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Met

In applying each condition, the major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of these 8 hours.

C. The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:

A. The vehicles per hour given in both of the 56 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 56 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

Not Met

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume
Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on more critical minor-street approach (one direction only)			
Major Street	Minor Street	100% ^a	80% ^b	70% ^c	56% ^d	100% ^a	80% ^b	70% ^c	56% ^d
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

^a Basic minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

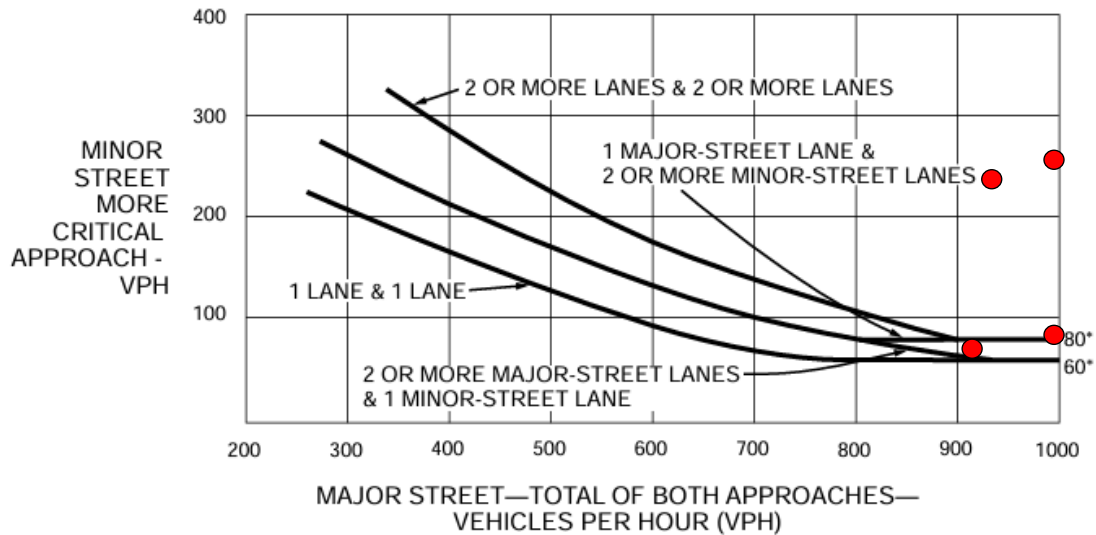
^d May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Warrant 2, Four-Hour Vehicular Volume

The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-2 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane

Three hours meet Warrant 2.

Warrant 3, Peak Hour

This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

The Proposed Southern Driveway experiences

(41.9 Seconds of Delay per Vehicle x 274 vehicles/3600 = 3.19 total hours of delay)

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

Yes, the Proposed Southern Driveway does exceed 150 vehicles (274) during the developer peak hour.

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for Intersections with three approaches.

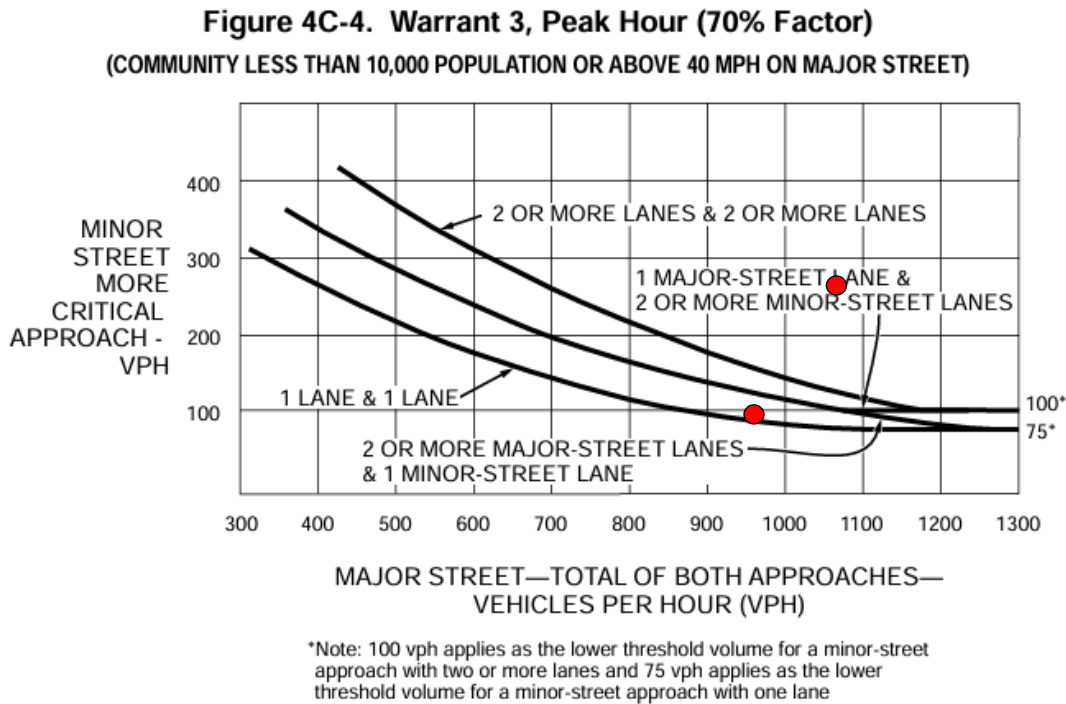
Total Entering volume is 1327 vehicles during the developer peak hour.

(entering volume data taken from Figure 4 in the TIS.)

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-4 for the existing combination of approach lanes.

If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

The developer peak hour meets Warrant 3B.



Warrant 4, Pedestrian Volume

The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:

- A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-6; or
- B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-8.

The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No pedestrians were observed during the traffic counts.

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

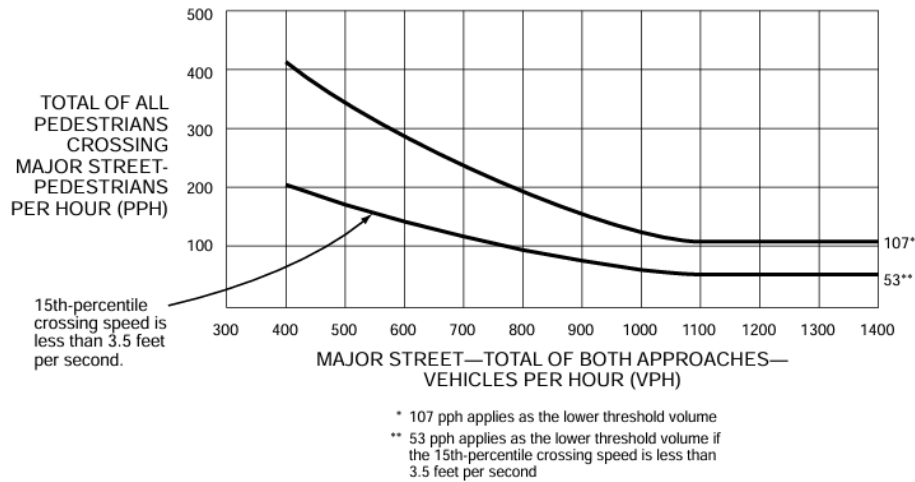
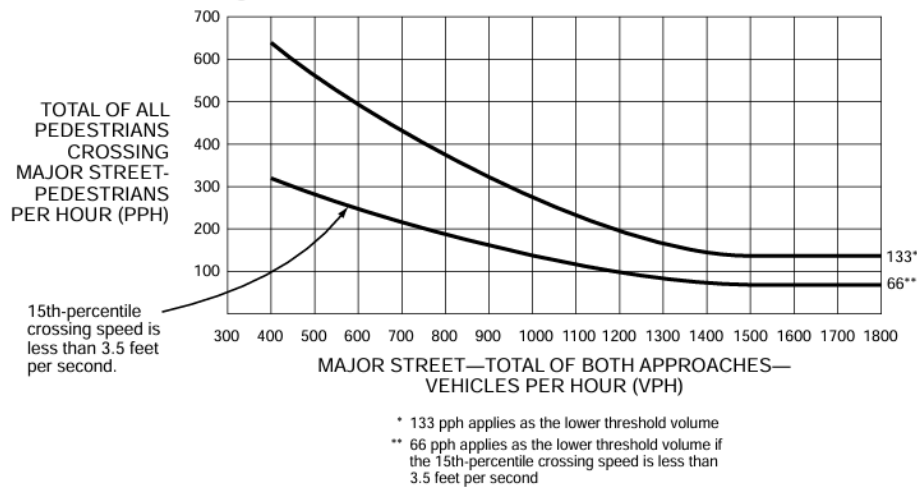


Figure 4C-6. Warrant 4, Pedestrian Peak Hour



Warrant 5, School Crossing

The need for a traffic control signal shall be considered when an engineering study of the frequency and adequacy of gaps in the vehicular traffic stream as related to the number and size of groups of school children at an established school crossing across the major street shows that the number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing is less than the number of minutes in the same period (see Section 7A.03) and there are a minimum of 20 schoolchildren during the highest crossing hour.

Before a decision is made to install a traffic control signal, consideration shall be given to the implementation of other remedial measures, such as warning signs and flashers, school speed zones, school crossing guards, or a grade-separated crossing.

The School Crossing signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.

Warrant Not Met, No school in the vicinity of the intersection.

Warrant 6, Coordinated Signal System

The need for a traffic control signal shall be considered if an engineering study finds that one of the following criteria is met:

- A. On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. **No signals are present in the vicinity of the intersection.**
- B. On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. **No signals are present in the vicinity of the intersection.**

Warrant 7, Crash Experience

The need for a traffic control signal shall be considered if an engineering study finds that all of the following criteria are met:

- A. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and **(NOT REVIEWED)**
- B. Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and **(NOT REVIEWED)**
- C. For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 56 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 56 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 70 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours. **(NOT REVIEWED)**

Warrant 8, Roadway Network

The need for a traffic control signal shall be considered if an engineering study finds that the common intersection of two or more major routes meets one or both of the following criteria:

- A. The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or **Existing entering volume is 1327 vehicles.**
- B. The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

NOT REVIEWED, Data not Available

A major route as used in this signal warrant shall have at least one of the following characteristics:

- A. It is part of the street or highway system that serves as the principal roadway network for through traffic flow.
- B. It includes rural or suburban highways outside, entering, or traversing a city.
- C. It appears as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study.

Warrant met based on condition A.

Warrant 9, Intersection Near a Grade Crossing

The need for a traffic control signal shall be considered if an engineering study finds that both of the following criteria are met:

- A. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and **(NOT MET)**
- B. During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13. **(NOT MET)**

Warrant not met no railroad crossing in close proximity to the intersection.

Delivery Station operation

Employees

Personal Delivery Vehicles

Tractor Trailers

Delivery Drivers

Delivery Vans

Box Trucks

Total

Time	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
0:00	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	2	1	3
0:30	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	2	1	3
1:00	180	0	180	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	182	1	183
1:30	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	10	0	10	12	1	13
2:00	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	10	0	10	12	2	13
2:30	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	2	6	8	4	8	11
3:00	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	4	0	4	6	2	7
3:30	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	2	2	4	4	4	7
4:00	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	2	2	3
4:30	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	2	2	3
5:00	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	2	2	3
5:30	0	0	0	0	0	0	2	2	3	0	0	0	0	0	0	0	2	2	2	4	5
6:00	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	1	2	3
6:30	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	1	2	3
7:00	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	24	0	24	25	2	27
7:30	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	18	14	32	19	16	35
8:00	12	0	12	0	0	0	1	1	2	0	0	0	0	0	0	22	18	40	35	19	54
8:30	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2	0	2	3	1	4
9:00	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	1	8	9	2	9	11
9:30	0	0	0	0	0	0	1	1	2	180	0	180	0	0	0	0	1	1	181	2	183
10:00	0	38	38	0	0	0	0	1	1	90	0	90	0	90	90	0	0	0	90	129	219
10:30	0	0	0	0	0	0	0	1	1	180	0	180	0	90	90	0	0	0	180	91	271
11:00	0	0	0	0	0	0	0	1	1	2	0	2	0	180	180	0	0	0	2	181	183
11:30	0	0	0	0	0	0	0	1	1	2	0	2	0	90	90	0	0	0	2	91	93
12:00	0	0	0	0	0	0	0	0	1	0	0	0	0	4	4	0	0	0	0	4	5
12:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
13:30	25	0	25	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	25	0	26
14:00	0	180	180	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	180	181
14:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
15:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
15:30	6	0	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0	7
16:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
16:30	0	12	12	45	0	45	0	0	1	0	0	0	0	0	0	0	0	0	45	12	58
17:00	0	0	0	82	45	127	0	0	1	0	0	0	0	0	0	0	0	0	82	45	128
17:30	0	0	0	0	82	82	0	0	1	0	0	0	0	0	0	2	24	26	2	106	109
18:00	0	25	25	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	25	26
18:30	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	14	14	1	14	15
19:00	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	2	1	2	3
19:30	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1
20:00	0	0	0	0	0	0	1	1	2	0	0	0	90	0	90	0	0	0	91	1	92
20:30	0	0	0	0	0	0	1	1	2	0	180	180	90	0	90	0	0	0	91	181	272
21:00	0	0	0	3	3	6	1	1	2	0	90	90	180	0	180	0	6	6	184	100	284
21:30	0	0	0	0	0	0	1	1	2	0	180	180	90	0	90	0	0	0	91	181	272
22:00	0	0	0	0	0	0	1	1	2	0	2	2	4	0	4	0	0	0	5	3	8
22:30	0	6	6	0	0	0	1	1	2	0	2	2	0	0	0	0	0	0	1	9	10
23:00	38	0	38	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	39	1	40
23:30	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	1	1	2
Total	261	261	522	130	130	260	44	44	88	454	454	908	454	454	908	97	97	194	1440	1440	2880