

March 5, 2019
(Revised 5/1/19)

Mr. John Reilly
Permit Engineer
NYSDOT Region 8, Ulster County
11 Quarry Street
Kingston, NY 12401

RE: Response to Department Comments on 850 Route 28, LLC, T/o Kingston; Ulster County; CM Project 118-207, NYSDOT SEQR 18-175

Dear Mr. Reilly:

Creighton Manning Engineering, LLP (CM) has reviewed the comments provided by the Department on February 5, 2019 regarding the proposed 850 Route 28, LLC project in the Town of Kingston. Below is a summary of the comments and our responses.

Comment #1: "Full build out. There is a good deal of vacant space on the property that may be developed. The Department requests that the site be evaluated to the full build out as per 5A 2.1.2 of the Policy and Standards. The Department would like to avoid the "office park conundrum" where the last parcel to develop has to build left turn lane, or a traffic signal for all the existing occupants that makes the last property economically undesirable. To avoid this condition the department would like to look at the full build out before any construction."

Response: Section 5A.2.1.2 of the *Policy and Standards for the Design of Entrances to State Highways (9/1/2017)*, states that the impacts of a project and required mitigation be "based on full build-out of the development in the estimated year of completion." The development of 240,000 SF of space over two buildings represents "full build-out" of the proposed project, which is a 200% increase in the Applicant's existing operations. There are no plans to subdivide the undeveloped area of the property or to build on those lands. As shown in Figure 1 below, the site is bounded by state forest (lands of NYS) and a private forest (lands of Aldulaimi), so access to Route 28 via the subject property from any other parcel is very unlikely.

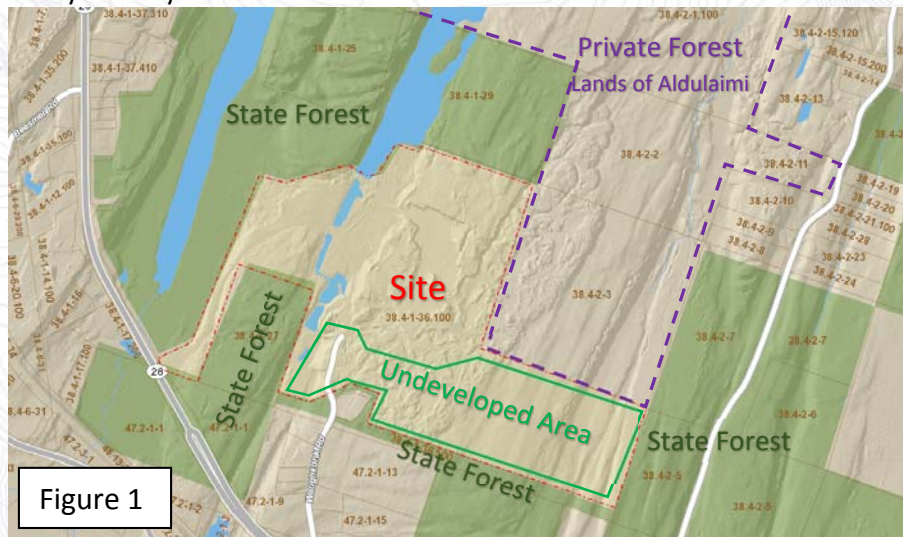


Figure 1

If the applicant were to develop the undeveloped area, it would be subject to DEC tree clearing regulations, site plan review, SEQR, and Department review of such plans, at which point any mitigation would be determined and made a condition of the respective agency approvals.

Comment #2: "Trip Generation. I have attached the trip gen for related uses from V9. The ITE averages for similar uses (110, 120, 130 and 140) are significantly higher (about 2X) than what is in the study on Table 1. The Department requests that the applicant use the ITE version 10 values or submit verifiable proof that the applicant cannot legally exceed the value of trips in the study without triggering further Department review or permitting by the lead agency."

Response: The site trip generation was built based on an analysis of the expected workers, deliveries, and site operations. The traffic analysis made conservative assumptions and overlapped several operations with the peak hour traffic volumes on Route 28. These assumptions provide a worst-case analysis. Chart 1 (attached) has been prepared to illustrate the analysis completed and compare it to the actual expected operations at full build out.

Understanding that if the owner/tenant were to sell the property or lease to a tenant, the space could be considered General Light Industrial (Land Use Code-LUC 110) or Manufacturing (LUC 140); the description of Industrial Park (LUC 130) did not seem applicable to this site. Table 1, below, summarizes the trip generation for these alternative land uses based on *Trip Generation, 10th Edition*.

Table 1 – Proposed and Alternative Land Use Trip Generation Summary

Land Use	AM Peak Hour			PM Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Proposed Tenant Specific Manufacturing	44	24	68	14	39	53
General Light Industrial – 240,000 SF	148	20	168	20	131	151
Manufacturing – 240,000 SF	115	34	149	50	111	161

The alternative land uses would have comparable trips generated; light industrial is slightly higher in the AM peak hour, and manufacturing is slightly higher in the PM peak hour. Analysis of these uses is summarized in response to comment #4.

The Applicant agrees to work with the Department and Town to implement the necessary controls to monitor traffic volumes and verify post-development traffic volumes do not trigger additional mitigation measures.

Comment #3: "Sight distance. Do whatever you have to do to meet sight distance. If the applicant fails to meet intersection sight distance a permit may not be issued."

Response: Acknowledged.

Comment #4: "Left turn, signal warrants and accident study. The Department requests the applicant recalculate the study to see if signal warrants are met, and when the left turn lane is warranted based on the full build out with the ITE trip generation. As per 5A2.1.2, the

applicant can phase the mitigation with sufficient controls from the lead agency. The applicant will agree to build the improvements when or if the milestones are reached, sale of property or any additional subdivision shall not terminate these requirements. The department may request the applicant write sufficient language in the deed as a covenant. Please perform an accident study to verify there is no accident problem at the driveway.

Response: The analysis was updated based on the trip generation assumption of LUC 110 and 140 in response to *Comment 2*. The client specific trip assignment and Build volumes are shown on Figure 1, the light industrial, and manufacturing trip generation and Build volumes are shown on Figures 2 and 3. The analysis found the following results:

Levels of Service: Both the General Light Industrial (LUC 110) and Manufacturing (LUC 140) land uses are expected to result in a level of service (LOS) C for the site driveway during the AM peak hour and LOS F for the PM peak hour exiting the site. The left turn into the site will be LOS A and B during the AM and PM peak hour respectively. The results are summarized in Table 2 below with details provided under Attachment A.

Table 2 – Build Unsignalized Level of Service Summary

Intersection	AM Peak Hour			PM Peak Hour		
	Proposed Trip Gen.	LUC 110	LUC 140	Proposed Trip Gen.	LUC 110	LUC 140
NY Route 28/Site Driveway						
Site Driveway WB LR	C (20.9)	C (22.9)	C (23.7)	D (32.0)	F (84.6)	F (71.6)
NY Route 28 SB LT	A (8.9)	A (9.3)	A (9.2)	B (13.7)	B (13.8)	B (14.2)

EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound intersection approaches
 L, T, R = Left-turn, Through, and/or Right-turn movements
 X (Y.Y) = Level of service (Average delay in seconds per vehicle)

The volume of traffic on Route 28 will make it difficult for the higher exiting volume of light industrial or manufacturing uses in the PM peak hour. Allowing shifts to leave at different times or ending shifts after the peak period will help relieve this condition. Alternatively, a traffic signal would help facilitate the PM peak hour egress but would be for the sole benefit of the site, i.e. there would be no public benefit.

Left Turn Lane Warrant: A left turn lane warrant was conducted for the site driveway traffic volumes assuming development of Light Industrial or Manufacturing. The Build traffic volumes were compared to the left turn warrant criteria contained in AASHTO's *A Policy on Geometric Design of Highways and Streets, 2011*. Details are provided under Attachment B. The analysis found that the percentage of left turns is low, just 0.3 to 2.2% for Light Industrial and 0.7 to 1.8% for Manufacturing. The low percentage of lefts did not meet the criteria for a left turn lane. Similarly, with the much lower traffic volumes generated by the project specific owner/tenant, an exclusive left turn lane will not be warranted.

Signal Warrant Analysis: The daily traffic volumes for a 240,000 SF light industrial use were estimated based on *Trip Generation, 10th Edition*, and distributed according to ITE's hourly distribution (See *Trip Generation 10th Edition, Appendix A*). The hourly volumes, including that of the tenant specific use were then compared to the signal warrant criteria contained in the MUTCD. The detailed results are contained in Attachment C and summarized below.

Table 3 –Signal Warrant Summary

Warrant	518 KSF Industrial Park	518 KSF Warehouse
1-Eight Hour Vehicle Volume	X	X
2-Four Hour Vehicle Volume	X	X
3-Peak Hour Vehicle Volume	√	X

√ = Warrant is met X = Warrant is not met

Based on the analysis, if the site is developed as light industrial or general manufacturing, the exiting volume could satisfy the criteria for Warrants 3 – Peak Hour. Under the proposed tenant specific operation, the exiting volume is not expected to meet the criteria for Warrants 1, 2, or 3.

Most (90%) of the exiting traffic is expected to turn left from the site driveway which will find a traffic signal very beneficial. A traffic signal would help facilitate left turns out of the site and improve the expected unsignalized LOS F from generic light industrial and manufacturing uses. Since the signal is warranted only during a peak hour, it may be possible to mitigate such condition with shift work, such that the peak exiting volumes are distributed outside of the afternoon peak hours of Route 28.


Given the analysis above, we suggest conditions be added to any approvals that subject to tenant occupancy, build-out of the site, and distributions that the Applicant/Permittee be responsible for monitoring traffic volumes and be obligated to install a traffic signal if warranted and approved by NYSDOT.

Accidents: Accident records from NYSDOT’s Accident Location Information System (ALIS) were requested and reviewed. Accident records along Route 28 from Beesmer Road to Waughkonk Road were provided from November 1, 2015 through October 31, 2018. A total of 37 accidents were reported; 9 resulted in injuries, 18 resulted in property damage only, and 10 were below the reportable threshold (i.e. non-reportable). It is noted that 6 of the reported accidents occurred in parking lots. There were zero fatalities and no accidents involving pedestrians or bicyclists. Following too closely and failure to yield the right of way appear to be the most prevalent contributing factors. On average, there is a crash about every 5 weeks, excluding the parking lot accidents. Details of the accidents are included in Attachment D.

With completion of the proposed project, we do not expect any significant changes in the accident types or patterns. Adequate sight distance exiting the site driveway will be provided to minimize the potential for crashes.

Please call our office if you have any questions or comments regarding the above responses.

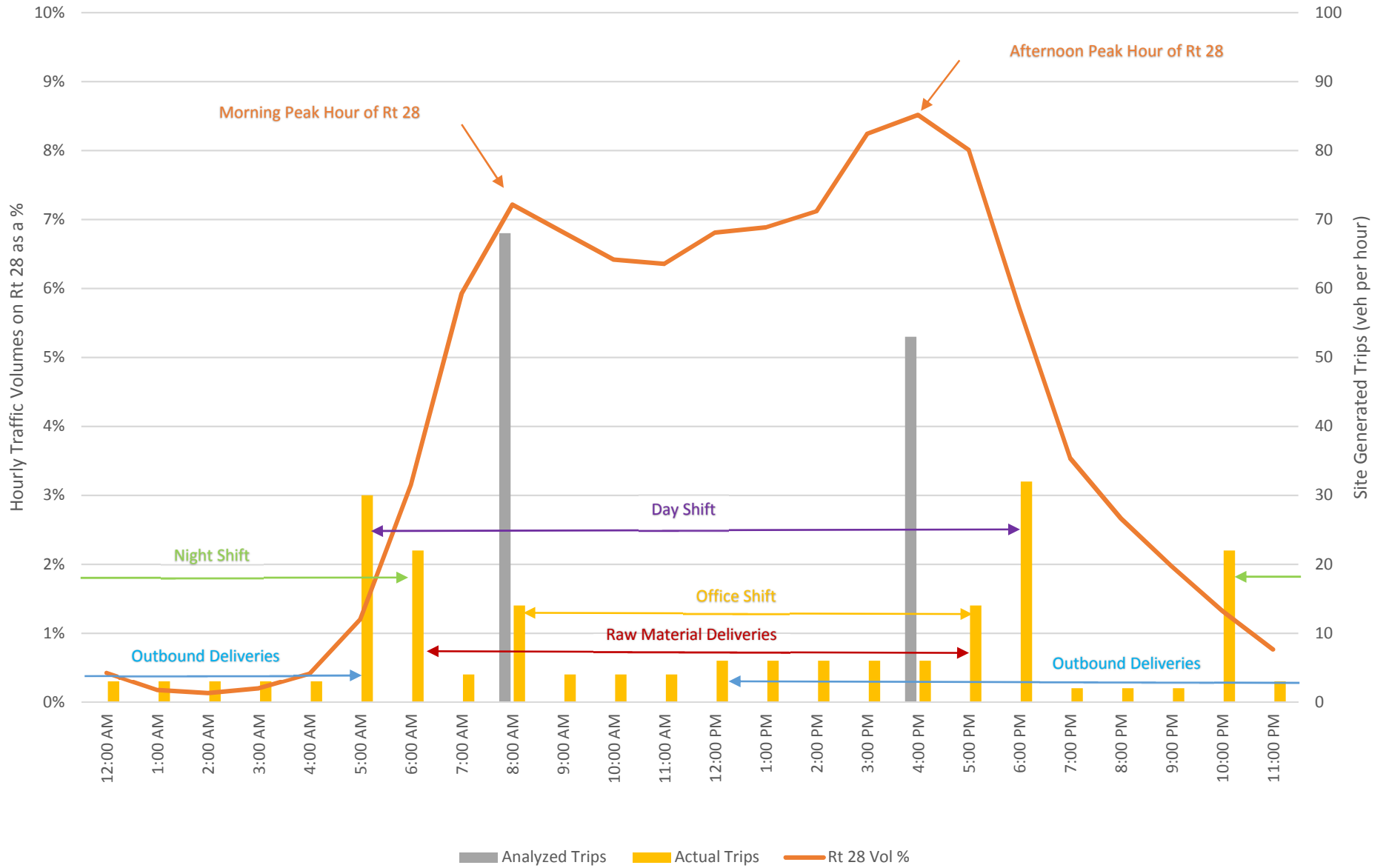
Respectfully submitted,
Creighton Manning Engineering, LLP


Kenneth Wersted, P.E., PTOE
Associate

Attachments

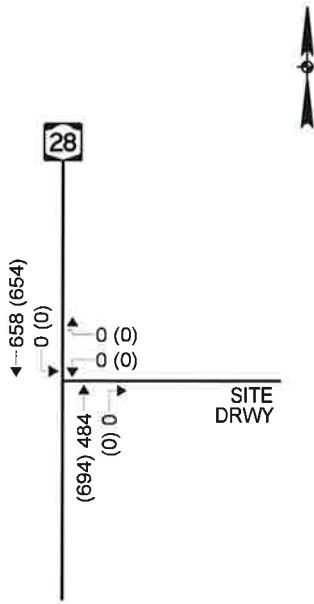
C: Barry Medenbach – M&E

Chart 1 - Expected vs Analyzed Traffic Volumes
 Building #1 and #2 Operational



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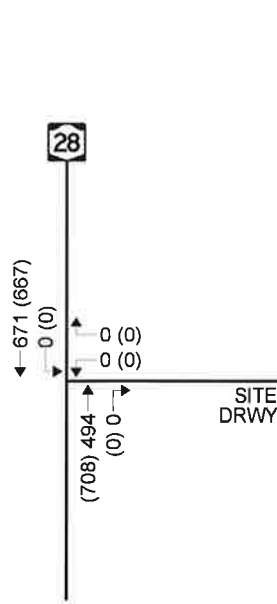
EXISTING 2018



AM PEAK HOUR (PM PEAK HOUR)

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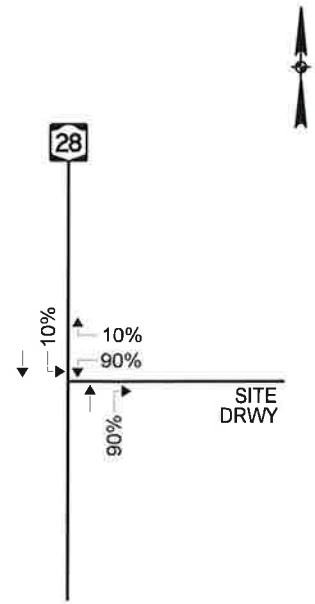
NO-BUILD 2022



AM PEAK HOUR (PM PEAK HOUR)

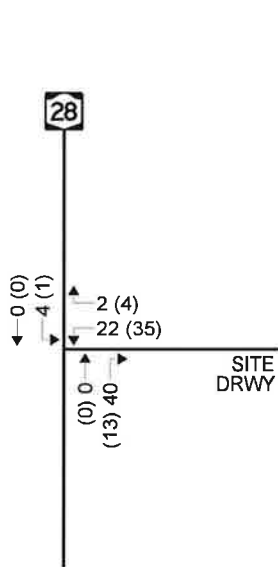
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TRIP DISTRIBUTION



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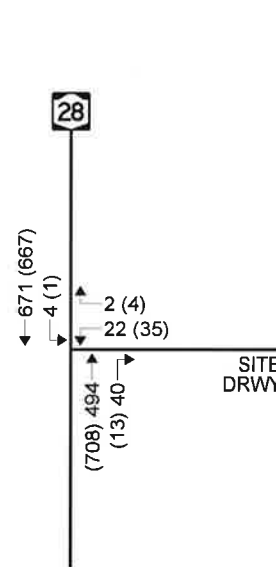
TRIP ASSIGNMENT



AM PEAK HOUR (PM PEAK HOUR)

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BUILD 2022



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES - CLIENT PROPOSED TRIP GENERATION

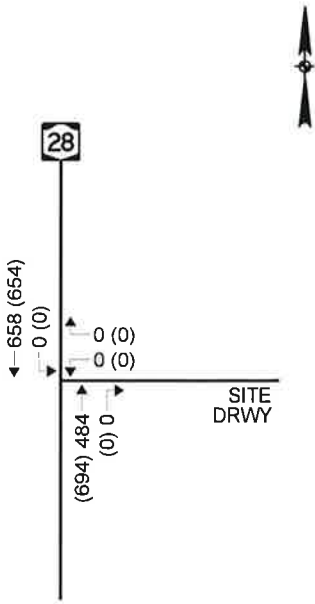
850 ROUTE 28, LLC
TOWN OF KINGSTON
ULSTER COUNTY, NEW YORK



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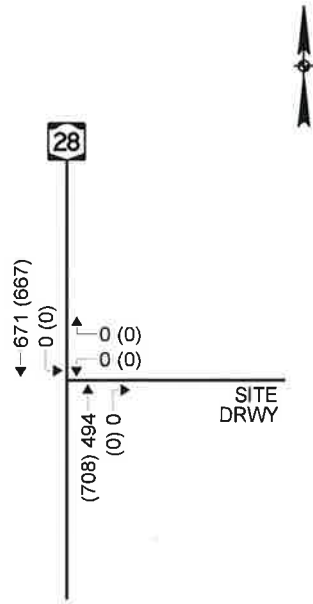
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AM PEAK HOUR (PM PEAK HOUR)

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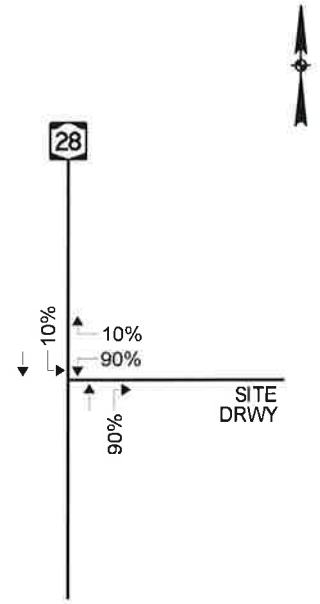
NO-BUILD 2022



AM PEAK HOUR (PM PEAK HOUR)

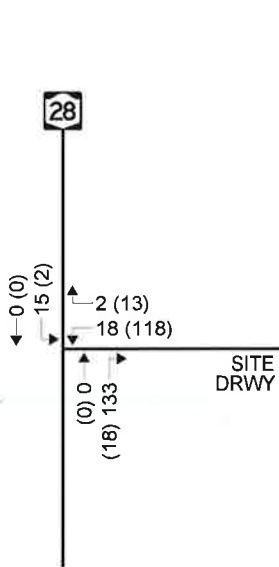
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TRIP DISTRIBUTION



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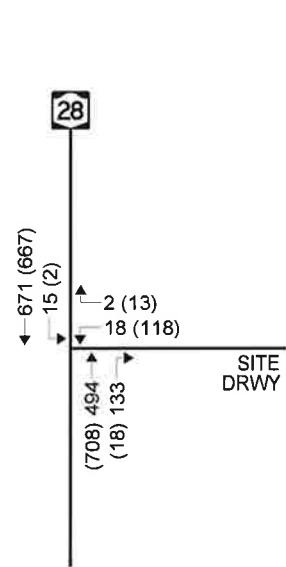
TRIP ASSIGNMENT



AM PEAK HOUR (PM PEAK HOUR)

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BUILD 2022



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES - LUC 110 TRIP GENERATION

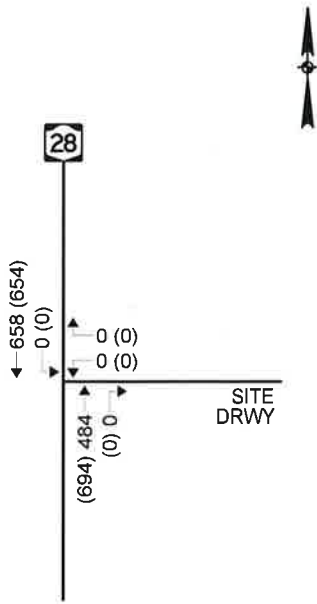
850 ROUTE 28, LLC
TOWN OF KINGSTON
ULSTER COUNTY, NEW YORK



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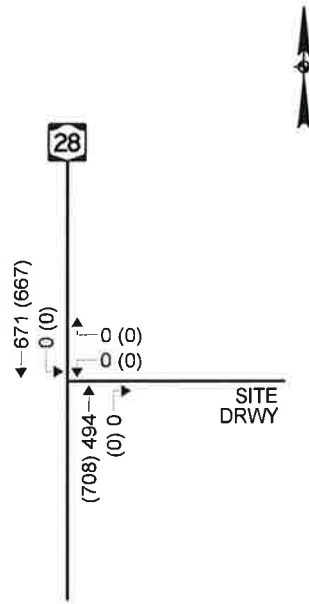
EXISTING 2018



AM PEAK HOUR (PM PEAK HOUR)

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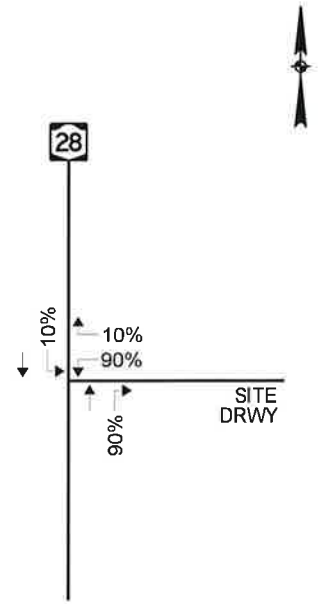
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AM PEAK HOUR (PM PEAK HOUR)

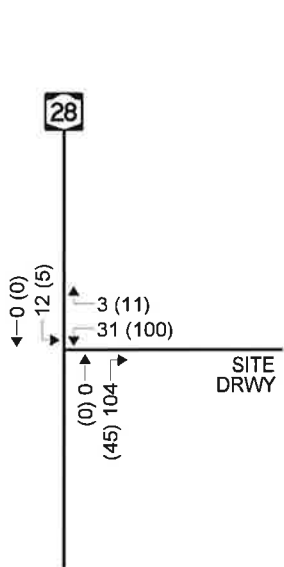
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TRIP DISTRIBUTION



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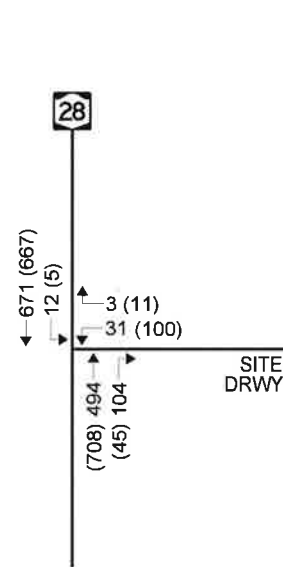
TRIP ASSIGNMENT



AM PEAK HOUR (PM PEAK HOUR)

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BUILD 2022



AM PEAK HOUR (PM PEAK HOUR)

TRAFFIC VOLUMES - LUC 140 TRIP GENERATION

850 ROUTE 28, LLC
TOWN OF KINGSTON
ULSTER COUNTY, NEW YORK



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Attachment A

Levels of Service

Level of Service Criteria for Unsignalized Intersections

Level of service (LOS) for Two-Way Stop-Controlled (TWSC) intersections is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns by using criteria given in Exhibit 19-1. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (a) major-street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in a very low overall average delay for all vehicles; and (c) the resulting low delay can mask important LOS deficiencies for minor movements. LOS F is assigned to the movement if the volume-to-capacity (v/c) ratio for the movement exceeds 1.0, regardless of the control delay.

The LOS criteria for TWSC intersections are somewhat different from the criteria used in Chapter 18 for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals, which can reduce users' delay tolerance.

The LOS criteria for All-Way Stop-Controlled (AWSC) intersections are given in Exhibit 20-2. LOS F is assigned if the v/c ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

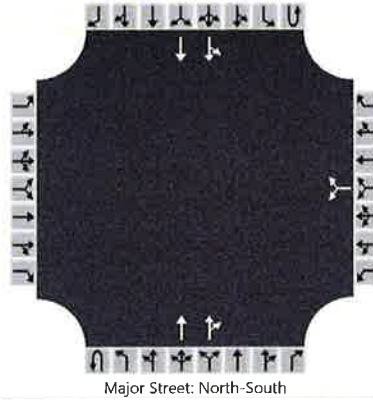
**Exhibits 19-1/20-2:
Level-of-Service Criteria for Stop Controlled Intersections**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤ 1.0	v/c ≥ 1.0
10.0	A	F
>10.0 and ≤ 15.0	B	F
>15.0 and ≤ 25.0	C	F
>25.0 and ≤ 35.0	D	F
>35.0 and ≤ 50.0	E	F
>50.0	F	F

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	NSB	Intersection	NY Route 28/Site Driveway
Agency/Co.	Creighton Manning	Jurisdiction	Town of Kingston
Date Performed	11/6/2018	East/West Street	Site Driveway
Analysis Year	2022	North/South Street	NY Route 28
Time Analyzed	AM Peak Hour (LUC 110)	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Build		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	0	0	0	0	2	0	0	0	2	0	
Configuration							LR				T	TR		LT	T		
Volume (veh/h)						18		2			494	133		15	671		
Percent Heavy Vehicles						17		17						10			
Proportion Time Blocked																	
Right Turn Channelized	No				No				No				No				
Median Type	Undivided																
Median Storage																	

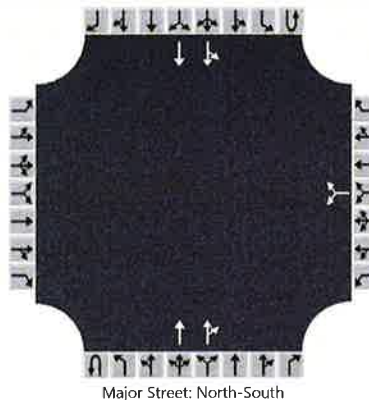
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)							22									381		
Capacity							223									855		
v/c Ratio							0.10									0.44		
95% Queue Length							0.3									0.1		
Control Delay (s/veh)							22.9									9.3		
Level of Service (LOS)							C									A		
Approach Delay (s/veh)					22.9								0.3					
Approach LOS					C													

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	NSB	Intersection	NY Route 28/Site Driveway
Agency/Co.	Creighton Manning	Jurisdiction	Town of Kingston
Date Performed	11/6/2018	East/West Street	Site Driveway
Analysis Year	2022	North/South Street	NY Route 28
Time Analyzed	PM Peak Hour (LUC 110)	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Build		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	0	2	0	0	0	2	0
Configuration							LR				T	TR		LT	T	
Volume (veh/h)						118		13			708	18		2	667	
Percent Heavy Vehicles						26		26						100		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

Delay, Queue Length, and Level of Service

Flow Rate (veh/h)								142								365
Capacity								171								411
v/c Ratio								0.83								0.89
95% Queue Length								5.7								0.0
Control Delay (s/veh)								84.6								13.8
Level of Service (LOS)								F								B
Approach Delay (s/veh)					84.6								0.1			
Approach LOS					F											

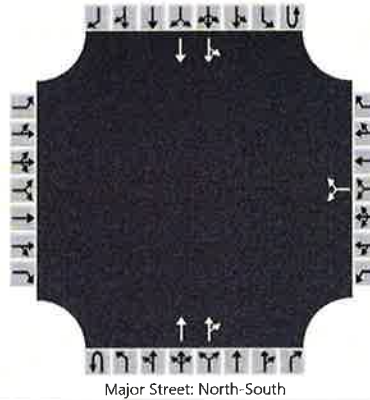
HCS 2010 Two-Way Stop Control Summary Report

General Information

Site Information

Analyst	NSB	Intersection	NY Route 28/Site Driveway
Agency/Co.	Creighton Manning	Jurisdiction	Town of Kingston
Date Performed	11/6/2018	East/West Street	Site Driveway
Analysis Year	2022	North/South Street	NY Route 28
Time Analyzed	AM Peak Hour (LUC 140)	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Build		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	0	0		0	0	0	0	0	2	0	0	0	2	0	
Configuration							LR				T	TR		LT	T		
Volume (veh/h)						31		3			494	104		12	671		
Percent Heavy Vehicles						17		17						10			
Proportion Time Blocked																	
Right Turn Channelized	No				No				No				No				
Median Type	Undivided																
Median Storage																	

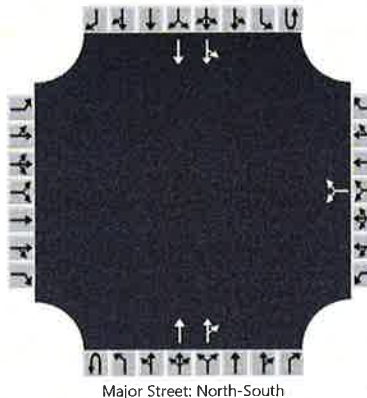
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)							37									378		
Capacity							230									880		
v/c Ratio							0.16									0.43		
95% Queue Length							0.6									0.0		
Control Delay (s/veh)							23.7									9.2		
Level of Service (LOS)							C									A		
Approach Delay (s/veh)					23.7								0.3					
Approach LOS					C													

HCS 2010 Two-Way Stop Control Summary Report

General Information		Site Information	
Analyst	NSB	Intersection	NY Route 28/Site Driveway
Agency/Co.	Creighton Manning	Jurisdiction	Town of Kingston
Date Performed	11/6/2018	East/West Street	Site Driveway
Analysis Year	2022	North/South Street	NY Route 28
Time Analyzed	PM Peak Hour (LUC 140)	Peak Hour Factor	0.92
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Build		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	0	0	0	0	2	0	0	0	2	0
Configuration							LR				T	TR		LT	T	
Volume (veh/h)						100		11			708	45		5	667	
Percent Heavy Vehicles						26		26						100		
Proportion Time Blocked																
Right Turn Channelized	No				No				No				No			
Median Type	Undivided															
Median Storage																

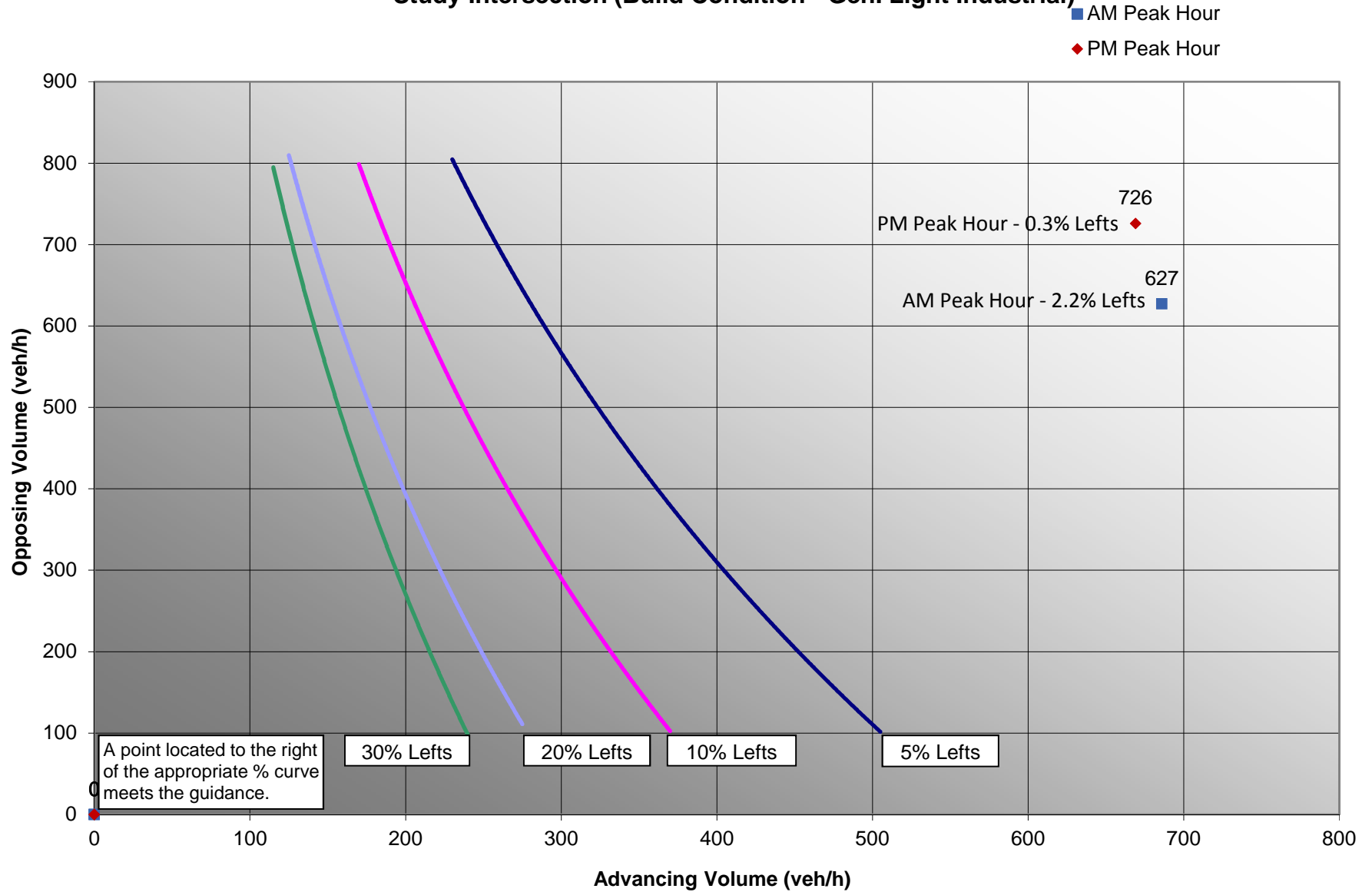
Delay, Queue Length, and Level of Service

Flow Rate (veh/h)																	368
Capacity																	395
v/c Ratio																	0.93
95% Queue Length																	0.0
Control Delay (s/veh)																	14.2
Level of Service (LOS)																	B
Approach Delay (s/veh)					71.6								0.2				
Approach LOS					F												

Attachment B

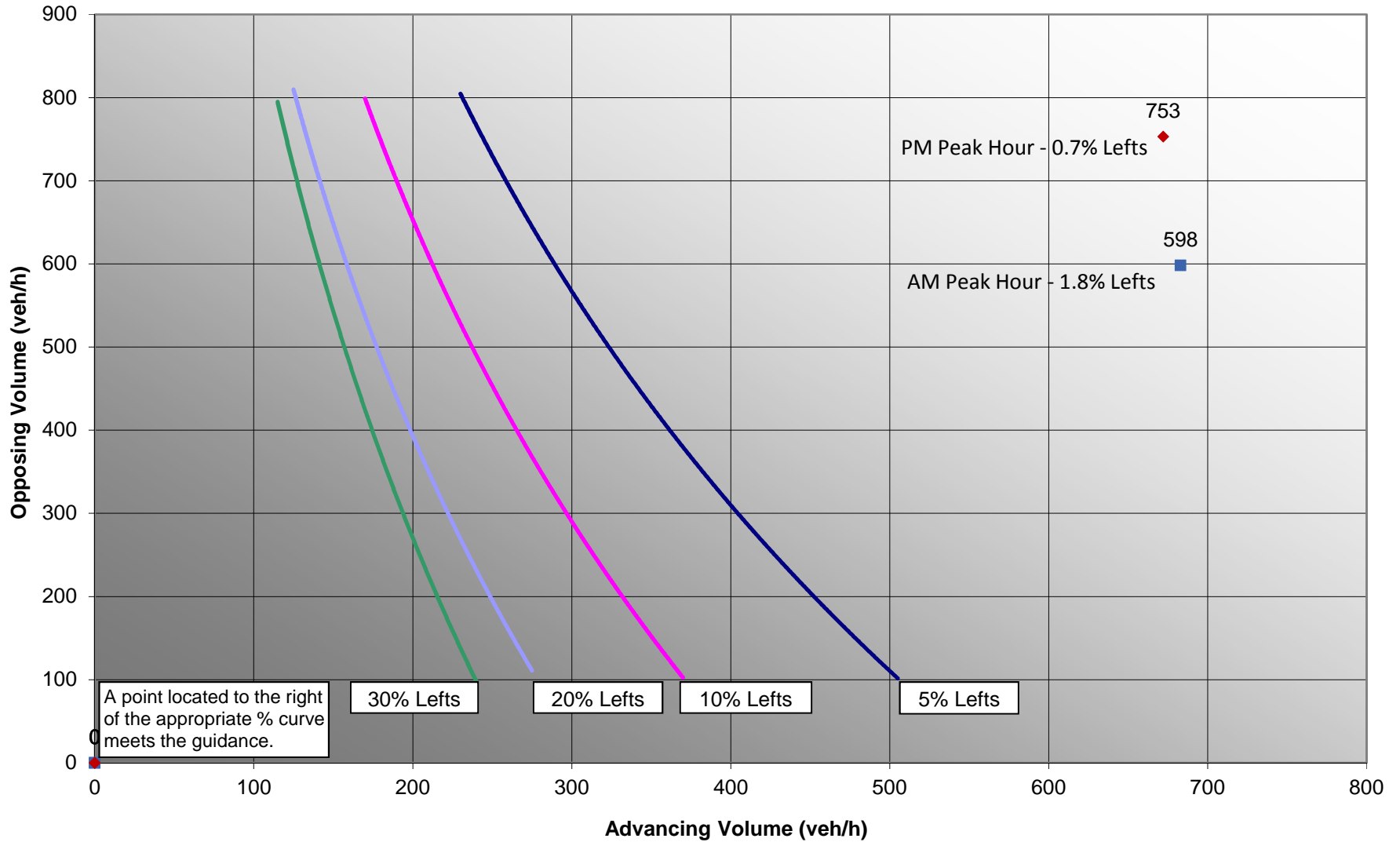
Left Turn Lane Warrant

**Guide for Left-Turn Lanes on Two-Lane Highways
60-mph Operating Speed
Study Intersection (Build Condition - Gen. Light Industrial)**



**Guide for Left-Turn Lanes on Two-Lane Highways
60-mph Operating Speed
Study Intersection (Build Condition - Manufacturing)**

■ AM Peak Hour
◆ PM Peak Hour



Attachment C

Signal Warrant

850 Rt 28 Signal Warrant
 March 3 2019
 KW

240 KSF LUC 110 Gen Light Industrial
 LUC 110, page __
 T= 4.96(X)

T= 1190 daily trips		1190	
			Exit Dist.
	LUC 110		19% AM
	Light Indus		50% Mid
	Hourly % of daily	Hourly Vol	79% PM
5:00 AM	2.4	29	5
6:00 AM	5.3	63	12
7:00 AM	10.4	124	24
8:00 AM	7.4	88	17
9:00 AM	7.1	84	16
10:00 AM	7.4	88	17
11:00 AM	7.9	94	47
12:00 PM	9.8	117	58
1:00 PM	7.2	86	43
2:00 PM	8.1	96	48
3:00 PM	8.8	105	83
4:00 PM	7.4	88	70
5:00 PM	7.7	92	72
6:00 PM	1.7	20	16
7:00 PM	0.7	8	7

240 KSF Tenant Specific Use

Daily Trips	224
-------------	-----

Hourly Vol	Exit Split %	Exit Dist.
30	5%	2
22	95%	21
4	50%	2
14	15%	2
4	50%	2
4	50%	2
4	50%	2
6	50%	3
6	50%	3
6	50%	3
6	50%	3
6	50%	3
6	50%	3
14	15%	2
32	95%	30
2	50%	1

HCS7 Warrants Report

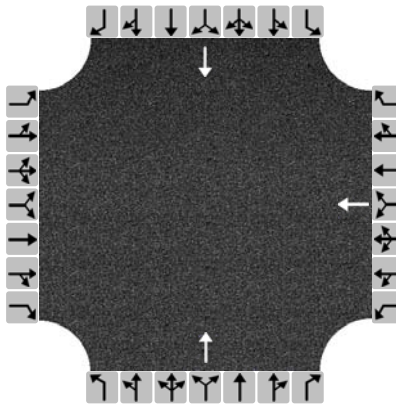
Project Information

Analyst	KW	Date	3/3/2019
Agency	CM	Analysis Year	2019
Jurisdiction	T/o Kingston	Time Period Analyzed	Weekday
Project Description	850 Rt 28 - Gen Light Industrial		

General

Major Street Direction	North-South	Population < 10,000	Yes
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	55	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	0	0	0	1	0	0	1	0	0	1	0
Lane Usage					T			T			T	
Vehicle Volumes Averages (veh/h)	0	0	0	0	42	0	0	540	0	0	568	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)		Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (70%)	4A (70%)	4B (70%)
07 - 08	939	24	963	0	0	No	No	No	No	No	No	No	No	No
08 - 09	1142	17	1159	0	0	No	No	No	No	No	No	No	No	No
09 - 10	1080	16	1096	0	0	No	No	No	No	No	No	No	No	No
10 - 11	1016	17	1033	0	0	No	No	No	No	No	No	No	No	No
11 - 12	1006	47	1053	0	0	No	No	No	Yes	No	No	No	No	No
12 - 13	1079	58	1137	0	0	No	No	Yes	Yes	No	No	No	No	No
13 - 14	1091	43	1134	0	0	No	No	No	Yes	No	No	No	No	No
14 - 15	1127	48	1175	0	0	No	No	No	Yes	No	No	No	No	No
15 - 16	1306	83	1389	0	0	No	No	Yes	Yes	Yes	No	Yes	No	No
16 - 17	1348	70	1418	0	0	No	No	Yes	Yes	Yes	No	No	No	No
17 - 18	1268	72	1340	0	0	No	No	Yes	Yes	Yes	No	No	No	No
18 - 19	904	16	920	0	0	No	No	No	No	No	No	No	No	No
Total	13306	511	13817	0	0	0	0	4	7	3	0	1	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume

- A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--
- B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--
- 56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)

Warrant 2: Four-Hour Vehicular Volume

- Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)

Warrant 3: Peak Hour

- A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--
- B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)

✓

✓

Warrant 4: Pedestrian Volume

- A. Four Hour Volumes --or--
- B. One-Hour Volumes

Warrant 5: School Crossing

- Gaps Same Period --and--
- Student Volumes
- Nearest Traffic Control Signal (optional)

Warrant 6: Coordinated Signal System

- Degree of Platooning (Predominant direction or both directions)

Warrant 7: Crash Experience

- A. Adequate trials of alternatives, observance and enforcement failed --and--
- B. Reported crashes susceptible to correction by signal (12-month period) --and--
- C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied

Warrant 8: Roadway Network

- A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--
- B. Weekend Volume (Five hours total)

Warrant 9: Grade Crossing

- A. Grade Crossing within 140 ft --and--
- B. Peak-Hour Vehicular Volumes

HCS7 Warrants Report

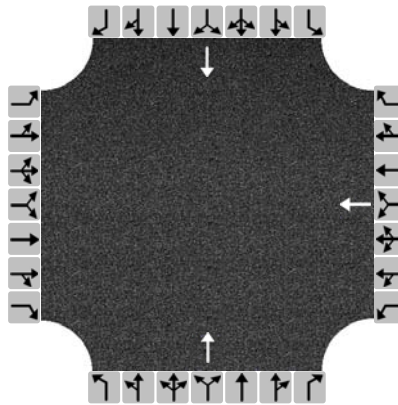
Project Information

Analyst	KW	Date	3/3/2019
Agency	CM	Analysis Year	2019
Jurisdiction	T/o Kingston	Time Period Analyzed	Weekday
Project Description	850 Rt 28 - Tenant Specific		

General

Major Street Direction	North-South	Population < 10,000	Yes
Starting Time Interval	7	Coordinated Signal System	No
Median Type	Undivided	Crashes (crashes/year)	0
Major Street Speed (mi/h)	55	Adequate Trials of Crash Exp. Alt.	No
Nearest Signal (ft)	0		

Geometry and Traffic



Approach	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement												
Number of Lanes, N	0	0	0	0	1	0	0	1	0	0	1	0
Lane Usage					T			T			T	
Vehicle Volumes Averages (veh/h)	0	0	0	0	4	0	0	540	0	0	568	0
Pedestrian Averages (peds/h)	0			0			0			0		
Gap Averages (gaps/h)	0			0			0			0		
Delay (s/veh)	0.0			0.0			0.0			0.0		
Delay (veh-hrs)	0.0			0.0			0.0			0.0		

School Crossing and Roadway Network

Number of Students in Highest Hour	0	Two or More Major Routes	No
Number of Adequate Gaps in Period	0	Weekend Counts	No
Number of Minutes in Period	0	5-year Growth Factor (%)	0

Railroad Crossing

Grade Crossing Approach	None	Rail Traffic (trains/day)	0
Highest Volume Hour with Trains	Unknown	High Occupancy Buses (%)	0
Distance to Stop Line (ft)		Tractor-Trailer Trucks (%)	10

HCS7 Warrants Report

Volume Summary

Hour	Major Volume	Minor Volume	Total Volume	Peds/h	Gaps/h	1A (70%)	1A (56%)	1B (70%)	1B (56%)	2 (70%)	3A (70%)	3B (70%)	4A (70%)	4B (70%)
07 - 08	939	2	941	0	0	No	No	No	No	No	No	No	No	No
08 - 09	1142	2	1144	0	0	No	No	No	No	No	No	No	No	No
09 - 10	1080	2	1082	0	0	No	No	No	No	No	No	No	No	No
10 - 11	1016	2	1018	0	0	No	No	No	No	No	No	No	No	No
11 - 12	1006	2	1008	0	0	No	No	No	No	No	No	No	No	No
12 - 13	1079	3	1082	0	0	No	No	No	No	No	No	No	No	No
13 - 14	1091	3	1094	0	0	No	No	No	No	No	No	No	No	No
14 - 15	1127	3	1130	0	0	No	No	No	No	No	No	No	No	No
15 - 16	1306	3	1309	0	0	No	No	No	No	No	No	No	No	No
16 - 17	1348	3	1351	0	0	No	No	No	No	No	No	No	No	No
17 - 18	1268	2	1270	0	0	No	No	No	No	No	No	No	No	No
18 - 19	904	30	934	0	0	No	No	No	No	No	No	No	No	No
Total	13306	57	13363	0	0	0	0	0	0	0	0	0	0	0

Warrants

Warrant 1: Eight-Hour Vehicular Volume

- A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--
- B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--
- 56% Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)

Warrant 2: Four-Hour Vehicular Volume

- Four-Hour Vehicular Volume (Both major approaches --and-- higher minor approach)

Warrant 3: Peak Hour

- A. Peak-Hour Conditions (Minor delay -- and-- minor volume --and-- total volume) --or--
- B. Peak-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)

Warrant 4: Pedestrian Volume

- A. Four Hour Volumes --or--
- B. One-Hour Volumes

Warrant 5: School Crossing

- Gaps Same Period --and--
- Student Volumes
- Nearest Traffic Control Signal (optional)

Warrant 6: Coordinated Signal System

- Degree of Platooning (Predominant direction or both directions)

Warrant 7: Crash Experience

- A. Adequate trials of alternatives, observance and enforcement failed --and--
- B. Reported crashes susceptible to correction by signal (12-month period) --and--
- C. 56% Volumes for Warrants 1A, 1B, --or-- 4 are satisfied

Warrant 8: Roadway Network

- A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2, or 3) --or--
- B. Weekend Volume (Five hours total)

Warrant 9: Grade Crossing

- A. Grade Crossing within 140 ft --and--
- B. Peak-Hour Vehicular Volumes

Attachment D

Accidents

Accident Location Information System (ALIS)

Date:
03/07/19
09:41

County Interim Accident Summary

Page: 1

15825_ASR

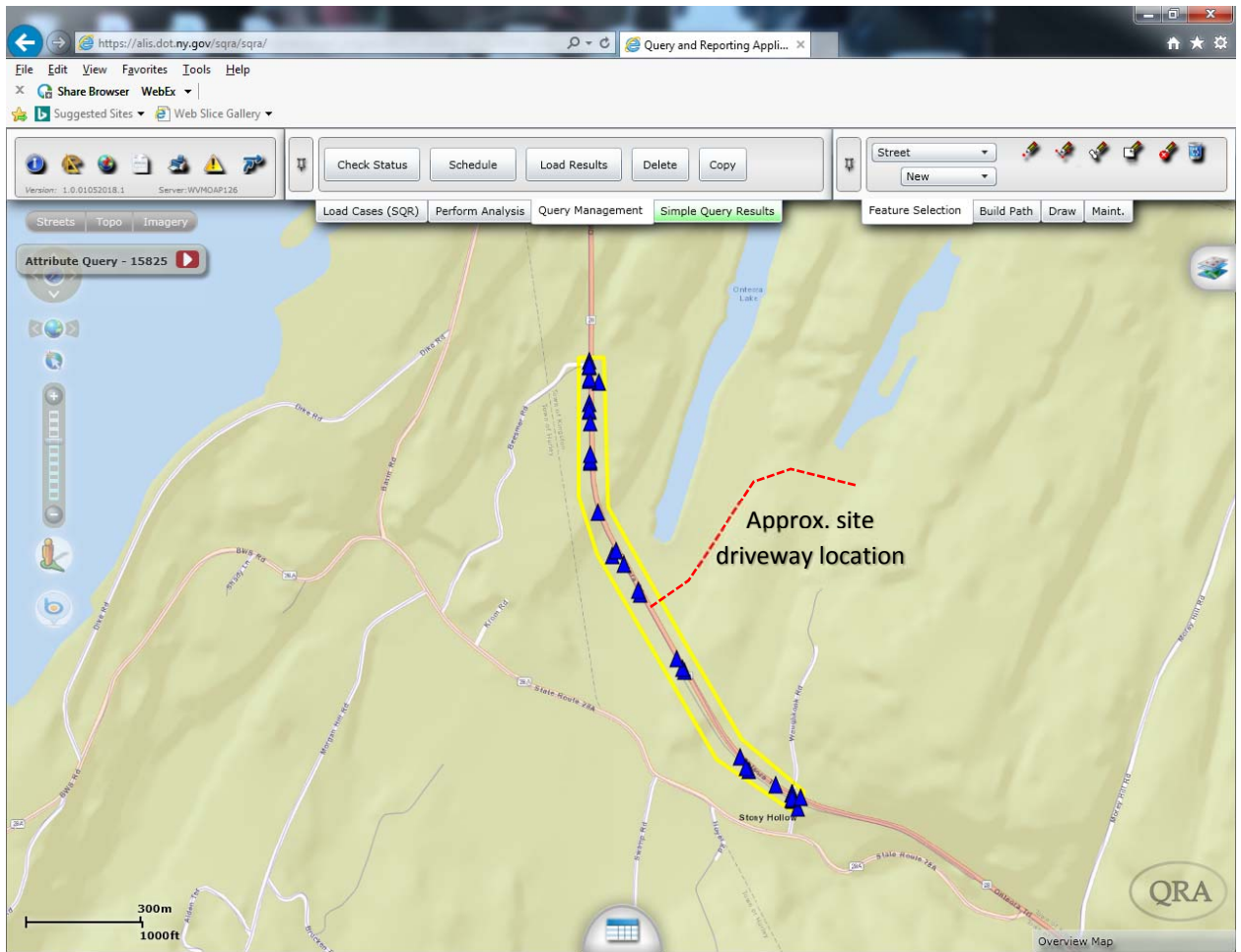
Date in this report covers the period -11/1/2015-10/31/2018

Complete Accident data from NYSDMV is only available thru 10/31/2018 12:00:00 AM

COUNTY	Number Of Accidents																
	TOTAL	AT	INT.	FTL	INJ	PDO	N/R	ROAD	OBJ	WET	FIXED	PED & BIKE	TRUCK	DWN/DSK	LIGHT CONDITION	DAY	NIGHT
ULSTER	37	12	0	9	18	10	4	6	0	0	0	0	3	28	5		
Total	37	12	0	9	18	10	4	6	0	0	0	0	3	28	5		

Note : Crashes for which location is unspecified are listed as *UNKNOWN.

[Printer Friendly Report](#)



DETAILS OF ACCIDENT HISTORY FOR LOCATION (AS SHOWN ON CRASH DIAGRAM)

STUDY NO.		NY Route 28							Ulster County Town of Kingston May 1, 2019 Creighton Manning Engineering						
P.I.N..		Beesmer Road to Waughkonk Road													
INVENTORY NO.		NO. OF MONTHS		LIGHT CONDITIONS (LC)				ROADWAY CHARACTER (RC)				ROADWAY SURFACE CONDITION (RSC)		WEATHER (WEA)	
		November 1, 2015 to October 31, 2018		1. Daylight 2. Dawn 3. Dusk 4. Dark Road Lighted 5. Dark Road Unlighted				1. Straight & Level 2. Straight & Grade 3. Straight at Hillcrest 4. Curve & Level 5. Curve & Grade 6. Curve at Hillcrest				1. Dry 2. Wet 3. Muddy 4. Snow/Ice 5. Slush 10. Other		1. Clear 2. Cloudy 3. Rain 4. Snow 5. Sleet/Hail/Freezing Rain 6. Fog/Smog/Smoke 10. Other	
NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION		
1	36719056	3/15/2017	18:38	1	PDO	3	3	1	1	04, ZZ	28 86012041	SNOW EMBANKMENT	Vehicle 1, bearing New York registration EXW6336 was traveling west on State Route 28 while being operated by Nicole K. Ganas (NY CID: 761602882). The operator of Vehicle 1 failed to maintain her lane, causing Vehicle 1 to drift off the roadway and hit a snow embankment causing Vehicle 1 to overturn. Vehicle 1 came to rest on it's roof. No injuries reported. Vehicle 1 towed from the scene.		
2	36860138	8/21/2017	17:31	2	NR	1	2	1	1	03, YY		RIGHT ANGLE	V2 was exiting the parking lot of Bistro To Go, when V1 began to back out of the same parking lot and backed into V2 resulting in a collision.		
3	36410156	9/15/2016	15:25	2	NR	1	2	1	1	07, YY	28 86012048	RIGHT TURN (WITH OTHER CAR)	V1 was attempting to make a right turn across four lanes of traffic on State Route 28 in the town of Kingston when the operator failed to yield the right of way of V2. V1 struck V2 in the driver side rear door. There were no injuries, arrests, or tows.		
4	35961202	11/4/2015	17:35	2	INJURY	4	2	1	1	07, YY	28 86012041	RIGHT ANGLE	V1 was stopped south of SR 28 at the intersection of Waughonk Road and SR 28 facing NB. V1 then failed to give the right away and entered SR 28 from the SB side and was subsequently struck in the rear drivers side door by V2 which was traveling EB in the southern most lane of SR 28.		
5	36033985	12/30/2015	16:04	2	PDO	3	2	2	3	18, YY	28 86012046	OVERTAKING	V1 was traveling E/B on SR 28 in the left hand lane when the operator began to slow and make a right hand turn into the driveway of 875 SR 28 The Tibetan Center. V1 then subsequently struck V2 which was also traveling E/B on SR28 but in the right hand lane. The front passenger side bumper of V1 struck the rear drivers side bumper of V2.		
6	37292801	5/20/2018	20:10	1	PDO	3	2	1	2	61, YY	28 86012044	DEER	V-1 WAS TRAVELING WESTBOUND ON ST-28 WHEN A DEER RAN OUT INTO THE ROADWAY FROM THE SOUTH SIDE. OP V-1 WAS UNABLE TO AVOID THE DEER AND STRUCK IT WITH THE FRONT CENTER OF V-1. THE DEER DOA ON THE NORTH SIDE OF THE ROADWAY.		
7	36843732	6/29/2017	17:30	2	NR	1	1	1	1	03, 04, YY	28 86012045	UNKNOWN	The accident occurred in a Police Vehicle owned/operated by the New York State Police while responding to an emergency. Operator of Vehicle 1 affected a traffic stop of Vehicle 2 for a Vehicle and Traffic Law violation. Operator of V1 was interviewing the Operator of Vehicle 2. the operator of Vehicle 2 leaned over to retrieve her registration and released the brake, causing vehicle 2 to roll backwards into vehicle 1		
8	36933990	10/5/2017	20:25	1	NR	5	1	1	1	61, YY	28 86012049	DEER	V1 traveling eastbound on State Route 28 when deer entered the roadway from the north shoulder colliding with V1.		

9	36471044	11/9/2016	06:00	1	PDO	1	2	2	3	61, YY	28 86012046	DEER	Vehicle #1, a 2010 Honda 4DSD bearing New York State Registration GDD8560, operated by the Registered Owner, Kerri Lynn McElean DOB: 06/16/1994, NYSCID# 703077291, was traveling north on State Route 28 in the Stony Run area of the Town of Kingston when a deer ran into the path of Vehicle #1 from the northbound shoulder of the roadway. The animal impacted with the front of Vehicle #1, causing damage to the front grill, bumper and hood. No injuries were reported at the scene. The vehicle was driven from the scene by the operator.
10	37471553	9/1/2018	13:22	2	INJURY	1	2	1	2	07, YY	28 86012048	LEFT TURN (AGAINST OTHER CAR)	V-1 was traveling west on SR-28 and crossed SR-28 for an unknown reason. V-2 was traveling east on SR-28 and struck V-1. V-1 spun 180 degrees and came to rest on top of the curb facing east. The operator of V-1 stated she could not remember any details of the accident. It is unknown if V-1 drifted across the eastbound lanes or was attempting to make a left turn.
11	36230646	5/28/2016	12:50	2	NR	1	5	1	1	07, YY	28 86012041	LEFT TURN (AGAINST OTHER CAR)	V-2 was at the stop sign on Waughkonk Rd facing north. V-1 was in the left turn only lane on SR 28 westbound and began to make the left to travel south on Waughkonk Rd. V-2 failed to yield for traffic and turned left to travel westbound on SR 28 and struck V-1.
12	36589530	1/31/2017	13:01	1	PDO	1	1	4	4	66, XX	28 86012042	GUIDE RAIL	
13	36224690	5/20/2016	11:25	1	INJURY	1	2	1	1	04, 27	28 86012042	GUIDE RAIL	Vehicle 1 NY:14990LV operated by Michael A. Wardlaw (DOB 11/10/1984) Vehicle 1 was westbound on State Route 28. The left front of vehicle 1 struck the guardrail. Vehicle 1 continued westbound along the guardrail for approximately 200 feet before coming to a stop against the guardrail. Operator complained of head pain and was transported to Health Alliance Hospital Broadway Campus by Mobile Life Support. Passenger complained of head pain and had a laceration to her knee. She was treated at the scene by Mobile Life Support and declined transport to the hospital. Vehicle 1 was towed to/by Bryant's Towing.
14	36894971	9/8/2017	05:30	2	PDO	Z	Z	Z	Z	XX	28 86012041	OTHER	
15	37315397	6/2/2018	14:02	2	PDO	1	1	1	1	18, YY	28 86012049	RIGHT TURN (AGAINST OTHER CAR)	V1 traveling w/b on State Route 28 improperly turned right into the parking lot of Bistro to Go and struck V2. Both vehicles drove away from the scene. No person sustained an injury.
16	36978357	11/11/2017	15:10	1	PDO	1	1	1	1	41, YY	28 86012049	BUILDING/WALL	Sheryl Goldstein, the operator of V1 w/ NY reg BTA5191 was pulling in to a parking spot at the north end of the building. When she went to press the breaks to stop, Ms. Goldstein stated the vehicle would not stop and accelerated into the wall of the building. No injuries were reported at the scene and the vehicle required to be towed from the scene, which was handled by the owner.
17	36983716	9/3/2017	15:45	2	NR	1	5	2	3	27, YY	28 86012041	OVERTAKING	V-1 and V-2 traveling westbound on SR 28. V-1 traveling in the driving lane. V-2 traveling in the passing lane overtaking V-1. OpV1 states she doesn't know exactly what happened but doesn't think she was in the other lane because she didn't hear warning signal from her car. Passenger of V-1 also unsure what happened. OpV2 states while he was overtaking V-1, V-2 moved toward his vehicle striking same.
NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION
18	36980892	11/3/2017	18:33	2	NR	5	2	1	2	09, 61, YY	28 86012045	DEER	V-2 driving westbound when a deer enters the roadway. V-2 slows down to avoid striking the deer, V-1 following fails to stop in time and strikes V-2 causing damage to both vehicles.
19	37127366	2/1/2018	13:00	1	PDO	1	2	1	1	08, YY	28 86012041	GUIDE RAIL	Driver stated while operating V1 w/b on State Route 28 fell asleep and struck the guardrail causing the front driver's side wheel to come off and causing property damage to V1 and the guardrail. Driver did not sustain any injuries. V1 was towed from the scene.

20	36364394	8/22/2016	17:10	2	NR	1	1	1	1	03, YY	28 86012049	RIGHT ANGLE	While V-1 was exiting Blue Mountain Bistro To Go parking lot V-2 backed into V-1.
21	36871860	8/15/2017	15:46	2	PDO	1	1	1	1	09, 26, YY	28 86012041	OVERTAKING	V1 (N.Y. Reg. CRV8689) operated by Kim Kongsoo was traveling East on Route 28, when he struck V2 (N.Y. Reg. HTD7964) operated by Alba A. Castillo, who was also traveling East on Route 28. V1 operator states that V2 slowed abruptly and began to move right when she saw a New York State Police Trooper car with activated emergency lights and siren crossing route 28. V2 operator stated that she was rear ended when she slowed after seeing the police car crossing route 28. V2 operator was found to be unlicensed to operate any motor vehicle on any highway, in the State of New York and was issued one Uniform Traffic Summons for unlicensed operator section 509(1) of the New York State Vehicle and Traffic Law. There were no injuries reported from either vehicle. V1 was towed from the scene by Dan's Towing.
22	36125087	3/4/2016	18:43	2	INJURY	5	4	1	1	18, YY	28 86012041	RIGHT ANGLE	
23	36751621	6/4/2017	15:00	2	PDO	1	2	2	3	09, 19, YY	28 86012044	REAR END	Vehicle#1 bearing NY- ELU7319 being operated by Kevin O'neill and front seat passenger Jaleesa Lucas. Vehicle#2 bearing NY-GUM2808 operated by Larry Carney. It was found that Vehicle#2 was stopped in traffic on Rt 28, west bound, about a half mile west of Waughkonk Rd, waiting to make a left turn when he was struck in the rear by vehicle#1. Vehicle#1 was westbound on Rt 28 when he struck vehicle#2 due to not seeing the vehicle, due to the rain. No Injuries were reported or observed to any and all involved. Vehicle#1 was observed with major front end damage and towed from the scene by Perry's towing to same. Vehicle#2 observed with damage to the left rear causing it to be not operable. Vehicle#1 towed from the scene by TDI Transports to same. Information exchange was given to both drivers.
24	37353377	6/20/2018	11:40	2	PDO	1	2	1	1	07, YY		LEFT TURN (AGAINST OTHER CAR)	V1 was making a left turn from route 28a onto State Route 28 heading west. V2 was heading west on State Route 28 making a left turn onto route 28a. V1 failed to yield the right of way to V2 and struck V2 in the rear driver side. There were no injuries, arrests, or tows.
25	37311845	5/28/2018	11:53	2	PDO	1	5	1	2	07, YY	28 86012048	UNKNOWN	
26	37317077	5/25/2018	09:20	2	PDO	1	1	1	1	09, YY	28 86012048	REAR END	Opr of V1 states she was traveling eastbound on RT 28 and began slowing down but her anti lock brakes didn't stop her in time causing her to strike the back of V2. Opr of V2 states she was traveling eastbound on RT 28 and was slowing down to make a left hand turn into the parking lot and was struck in the rear by V1
27	36906565	9/22/2017	14:15	2	NR	1	2	1	1	03, YY		REAR END	V1 attempting to leave the parking lot was struck by V2 by backing unsafely from its parking spot. No person sustained an injury. Both vehicles drove away from the scene.
28	36843051	8/6/2017	12:03	2	PDO	1	5	1	2	09, YY	28 86012047	REAR END	

29	37350609	6/21/2018	12:30	1	INJURY	1	1	1	1	04, YY	28 86012048	LIGHT SUPPORT/UTILITY POLE	V1, a 2004 Hyundai Santa Fe SUBN, bearing New York Registration DAY1239, operated by Rita F. Polis DOB: 06/02/1943, NYS CID #761569585, was traveling westbound on State Route 28 in the Stony Run area of the Town of Kingston when V1 had drove off the roadway and the right side of V1 side swiped Central Hudson Gas and Electric Corporation Pole #K32599 causing the severe damage to the right front tire and entire length of the right side of V1. The operator reported that she had become distracted when something shifted in the passenger seat of her vehicle and that she had taken her eyes off the road and that is when she drifted off the roadway and came into contact with the utility pole. The operator reported that she had pain in her back, neck and shoulders as a result of the accident. The operator was evaluated at the scene by EMS Personnel from Mobile Life Support Services and transported by 261 to the Kingston Hospital Emergency Room for further evaluation and treatment. Personnel from Central Hudson were on scene and determined that there was minimal damage to the utility pole. V1 was towed from the scene by Marc's Towing back to their establishment in the Town of Ulster.
30	36693012	4/8/2017	16:57	2	PDO	1	2	1	1	07, 69, YY	28 86012048	LEFT TURN (AGAINST OTHER CAR)	
31	36221384	5/21/2016	13:15	2	INJURY	1	1	1	1	09, YY	28 86012049	REAR END	V1 and V2 were traveling west on State Route 28 in the town of Kingston when the operator of V1 struck V2 in the rear end. V2 was attempting to make a right turn into the parking lot of La Bella Pasta and the operator of V1 was unable to avoid V2. V1 was towed by Bryants towing and V2 was towed by Dan's towing. The operator of V2 complained of neck pain and refused transport by EMS.
32	36985346	11/9/2017	11:25	2	INJURY	1	1	1	2	09, YY	28 86012042	REAR END	V#1 New York registration (CTN8814) operated by, Ruth M. Kopelman, was stopped in traffic in the eastbound lane waiting to make a left hand turn. V#2 New York registration (HAP2942) operated by, Sheri L. Scull, was traveling eastbound on State Route 28 when she struck the rear of V#1 causing damage and airbag deployment to both vehicles. All passengers of V#2 refused medical attention at the scene. Operator of V#2 was transported to Kingston Hospital by Mobil Life Support for a compliant of face pain from airbag deployment. V#1 was removed from the scene by Marc's Towing, V#2 was removed by Dan's Towing.
33	37380627	7/13/2018	14:09	3	INJURY	1	2	1	2	09, 19, YY	28 86012044	OTHER	
34	36350443	7/28/2016	14:39	2	NR	1	2	1	1	18, YY		RIGHT TURN (WITH OTHER CAR)	V-1 drives northwest in the parking lot in an attempt to drive around V-2, which was parked facing north, and strikes V-2.
35	37421226	8/5/2018	21:42	2	PDO	4	1	1	1	23, YY	28 86012041	REAR END	V1 was parked in the shoulder of the west bound lane disabled and unoccupied. V2 was traveling west bound and the driver was distracted by his cell phone. While looking at his phone, V2 drifted off f the north bound shoulder striking V1. This caused major damage to both vehicles. Both towed from the scene.
36	36861655	8/21/2017	16:40	2	INJURY	1	2	1	2	09, 19, YY	28 86012049	REAR END	
37	36291858	7/5/2016	12:59	2	PDO	1	1	1	1	03, YY	28 86012049	RIGHT ANGLE	V-1 traveling south while backing out of a parking spot at 948 SR 28 T/ Kingston. Op. V-1 failed to see V-2 and struck V-2. V-2 was traveling west in parking lot. Damage to V-1 and V-2.