



October 31, 2019

Mr. Paul Male, P.E. – Town Engineer
Town of Stillwater Town Hall
PO Box 700
Stillwater, New York 12170

RE: Traffic Assessment, Colonial Apartments, Colonial Road, Village of Stillwater, Saratoga County, New York; CM Project No. 119-103

Dear Mr. Male,

Creighton Manning Engineering, LLP (CM) has completed a traffic assessment for the proposed *Colonial Apartments* residential development located on Colonial Road in the Village of Stillwater. This evaluation is based on information provided in the "Concept Plan" dated March 18, 2019, prepared by Advance Engineering & Surveying, PLLC (see Attachment A). A map illustrating the project location is shown on Figure 1.

Project Description

The project includes construction of six apartment buildings totaling 198 residential units located on the west side of Colonial Road between Broughton Lane and Claremont Road (Hallum Road). Access to the site is provided by one full access driveway on Colonial Road. The project is expected to be completed and fully occupied in 2023.

1.0 Existing Conditions

Roadways Serving the Site

Colonial Road is a local north-south roadway that connects Stratton Lane in the Town of Stillwater and Broughton Lane in the Village of Stillwater. Colonial Road is a two-lane roadway with one 11 to 12-foot wide travel lane in each direction. There are no sidewalks on Colonial Road and the posted speed limit is 30-mph. Traffic volume data recorded by CM indicates that Colonial Road currently serves approximately 935 vehicles per day (vpd) in the project vicinity while the 85th percentile speed was measured to be approximately 38-mph. Land uses along the roadway are primarily residential or undeveloped land.

Study Area Intersections

- The Colonial Road/Ten Broeck Street intersection is a three-leg intersection operating under stop sign control on the westbound Ten Broeck Street approach. Each approach provides a single lane for shared travel movements. There are no sidewalks or crosswalks at this intersection.
- The Hudson Avenue (US Route 4)/Ten Broeck Street intersection is a three-leg intersection operating under stop sign control on the eastbound Ten Broeck Street approach. Each approach provides a single lane for shared travel movements. Sidewalks are provided along both sides of Hudson Avenue and a crosswalk is striped across the eastbound intersection approach.
- The Colonial Road/Claremont Street (Hallum Road) intersection is a three-leg intersection operating under stop sign control on the eastbound Claremont Street approach. Each approach provides a single lane for shared travel movements. There are no sidewalks or crosswalks at this intersection.

- The Colonial Road/Broughton Lane intersection is a three-leg intersection operating under stop sign control on the southbound Colonial Road approach. Each approach provides a single lane for shared travel movements. There are no sidewalks or crosswalks at this intersection.
- The Major Dickinson Avenue/Broughton Lane intersection is a four-leg intersection operating under stop sign control on the eastbound Broughton Lane approach. The east leg of Broughton Lane is a single lane roadway providing one-way travel eastbound towards Hudson Avenue (US Route 4). Each approach provides a single lane for shared travel movements. There are no sidewalks or crosswalks at this intersection.
- The Major Dickinson Avenue/General Schuyler Lane intersection is a three-leg intersection operating under stop sign control on the westbound General Schuyler Lane approach. Each approach provides a single lane for shared travel movements. A sidewalk is provided on the east side of Major Dickinson Avenue at this intersection. There are no marked crosswalks at this intersection.
- The Hudson Avenue/Major Dickinson Avenue intersection is a three-leg intersection operating under stop sign control on the southbound Major Dickinson Avenue approach. Each approach provides a single lane for shared travel movements. Sidewalks are provided on both sides of Hudson Avenue and on the west side of Major Dickinson Avenue. There are no marked crosswalks at this intersection.

Pedestrian/Bicycle Accommodations

Sidewalks are present on both sides of Hudson Avenue within the study area. An approximate 470-foot long sidewalk is also provided on the west side of Major Dickinson Avenue from Hudson Avenue to Rundle Lane. In addition, a sidewalk is also provided on the east side of Major Dickinson Avenue from Rundle Lane to the southern boundary of the *Major Dickinson Children's Park*. It is noted that there are no sidewalks provided north of the park on Colonial Road.

Table 1 summarizes the peak hour pedestrian and bicycle activity observed during the turning movement counts at the study area intersections.

Table 1 – Pedestrian and Bicyclist Activity

Location	AM Peak Hour		PM Peak Hour	
	Pedestrians	Bicyclist	Pedestrians	Bicyclist
Colonial Road/Ten Broeck Street	0	2	0	2
Hudson Avenue/Ten Broeck Street	2	6	1	1
Colonial Road/Claremont Road (Hallum Road)	0	3	0	0
Colonial Road/Broughton Lane	0	1	2	2
Broughton Lane/Major Dickinson Avenue	0	1	1	0
Major Dickinson Avenue/General Schuyler Lane	4	2	6	4
Hudson Avenue/Major Dickinson Avenue	0	0	0	0

Data Collection

Intersection turning movement counts were conducted at the study area intersections on Wednesday July 17, 2019 during the morning peak period from 7:00 to 9:00 a.m. and during the afternoon peak period from 4:00 to 6:00 p.m. which coincides with peak operating conditions of the site and adjacent street traffic. It is noted that the Major Dickinson Avenue/General Schuyler Lane intersection was re-counted on Wednesday July 24, 2019 due to an equipment failure. An automatic traffic recorder (ATR) was installed on Colonial Road along the project frontage to record hourly traffic volumes and vehicle speeds from

Tuesday July 16, 2019 to Thursday July 18, 2019. The raw turning movement count data and ATR data is included under Attachment B. The existing peak hour traffic volumes are shown on Figure 2 and form the basis for all traffic forecasts.

Accident Analysis

An accident analysis was performed in accordance with NYS Highway Design Manual Chapter 5. Accident data was requested from NYSDOT to quantify the number of accidents, determine an accident rate, and identify any accident patterns or concentrations at the study area intersections. Safety Information Management System (SIMS) and Accident Location Information System (ALIS) data was provided by NYSDOT at these intersections for a three-year period from April 1, 2016 through March 31, 2019. Table 2 summarizes the predominant accident types for the intersection and also provides the intersection crash rate which can be compared to the State-wide average crash rates for similar intersections. The statewide average accident rate for three and four-way, unsignalized intersections with single lane approaches is 0.18 and 0.29 accidents per million entering vehicles (ACC/MEV), respectively. These rates were used for comparison to all study area intersections. It is noted that the character of Village streets may be different than state highways; therefore, the comparison to the statewide average crash rate may not be as applicable to intersections consisting of Village streets.

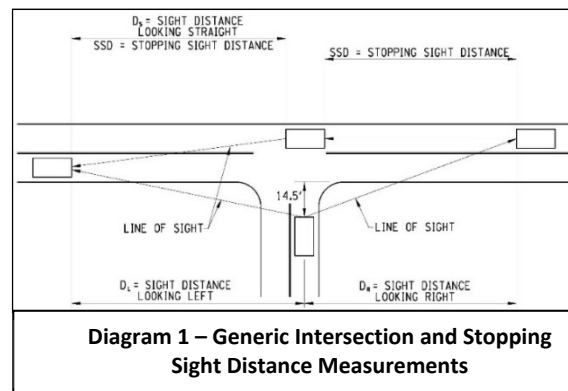
Table 2 – Accident Type and Severity

Intersection	Collision Severity				Collision Type			Rate
	Non-Reportable	Property Damage	Injury	Fatal	Rear End	Fixed Object	Total	
Colonial Road/Ten Broeck Street	0	0	0	0	0	0	0	0.00
Hudson Avenue/Ten Broeck Street	1	0	0	0	1	0	1	0.20
Colonial Road/Claremont Road (Hallum Road)	0	0	0	0	0	0	0	0.00
Colonial Road/Broughton Lane	0	0	0	0	0	0	0	0.00
Broughton Lane/Major Dickinson Avenue	0	0	0	0	0	0	0	0.00
Major Dickinson Avenue/General Schuyler Lane	0	0	0	0	0	0	0	0.00
Hudson Avenue/Major Dickinson Avenue	1	1	0	0	1	1	2	0.23

There were three total accidents at the seven study area intersections. All three of the accidents involved property damage or were non-reportable accidents which are collisions that result in damage less than \$1,000. There were no injury or fatal accidents. The one accident located at the Hudson Avenue/Ten Broeck Street intersection involved a rear end collision with three southbound vehicles and was the result of following too closely. The remaining two accidents were reported at the Hudson Avenue/major Dickinson Avenue intersection. They involved a collision with a tree branch that damaged the vehicle and a rear end collision between two northbound vehicles that was the result of following too closely. The predominant accident type at the study area intersections are rear-end collisions; however, they are associated with driver inattention and not the result of geometric or operational issues with the intersections. A review of the accident rates at the Ten Broeck Street and Major Dickinson Avenue intersections on Hudson Avenue are consistent with the statewide average accident rates for similar intersections. An accident summary (TE-213 equivalent) at the study area intersections is included under Attachment C.

2.0 Sight Distance Analysis

The available intersection sight distance from the proposed Site Driveway intersection was measured from the perspective of a vehicle looking in both directions along Colonial Road to determine if adequate sight lines are provided. The intersection sight distance looking straight ahead for vehicles traveling north on Colonial Road turning left into the proposed Site Driveway was also measured, as illustrated in Diagram 1. In addition, intersection sight distance at the Hudson Avenue/Major Dickinson Avenue intersection was also measured from the perspective of a vehicle looking in both directions along Hudson Avenue. The available intersection sight distance on a side street or driveway should provide drivers a sufficient view of the intersecting highway to allow vehicles to enter or exit the intersection without excessively slowing vehicles traveling at or near the operating speed on the intersecting mainline.



Stopping sight distance (the length of roadway ahead that is visible to the driver) was also measured on Colonial Road at the proposed Site Driveway intersection and on Hudson Avenue at the Major Dickinson Avenue intersection. The available stopping sight distance on a roadway should be of sufficient length to enable a vehicle traveling at or near the operating speed to stop before reaching a stationary object in its path.

The Village speed limit is 30-mph. Traffic speed data measurements collected as part of this study show that the 85th percentile speed on Colonial Road is approximately 38-mph. The available sight distances shown in Table 3 are compared to the guidelines presented in AASHTO's *A Policy on Geometric Design of Highways and Streets*, 2011 and NYSDOT design guidance (EB 17-007) for the applicable 40-mph operating speed on Colonial Road and a 35-mph operating speed on Hudson Avenue (posted speed limit plus 5-mph).

Table 3 – Sight Distance Summary (Feet)

Intersection		Intersection Sight Distance ¹				Stopping Sight Distance ²	
		Right Turn from Side Road (D _L)	Left Turn from Side Road		Left Turn from Colonial Rd/ Hudson Ave (D _S)	SSD _{NB}	SSD _{SB}
			Looking Left (D _L)	Looking Right (D _R)			
Colonial Road/ Site Driveway	Available	830	830	450	830	450	805
	Recommended ³	385	445	445	285	275	275
Hudson Avenue/ Major Dickinson Ave	Available	275	275	625	570	>800	520
	Recommended ⁴	335	390	390	285	225	225

¹ = Intersection sight distance is measured at an eye height of 3.5-ft and object height of 3.5-ft.

² = SSD_{NB,SB} = Stopping sight distance measured for a 2-foot object located in the path of vehicles traveling northbound and southbound on Colonial Road and Hudson Avenue.

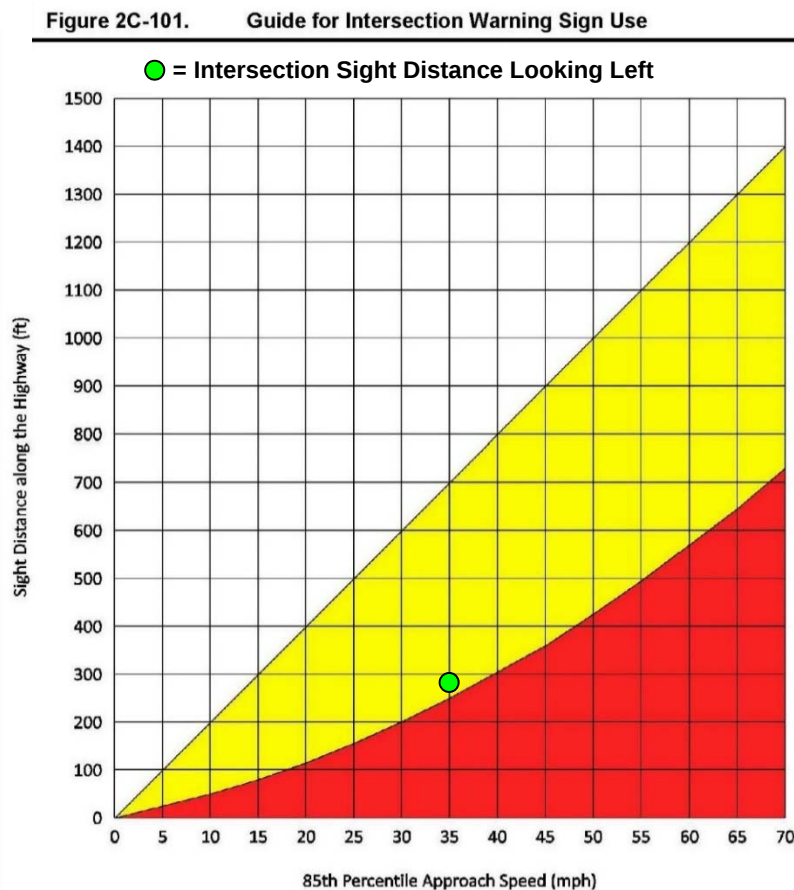
³ = Sight distance measurements are compared to AASHTO recommended distances for a 40-mph operating speed on Colonial Road.

⁴ = Sight distance measurements are compared to AASHTO recommended distances for a 35-mph operating speed on Hudson Avenue.

Colonial Road/Site Driveway – A review of the available intersection and stopping sight distances at the Site Driveway on Colonial Road indicate that they meet AASHTO guidelines for the applicable operating speed.

Hudson Avenue/Major Dickinson Avenue – The available stopping sight distances for vehicles traveling northbound and southbound along Hudson Avenue exceed AASHTO guidelines for a 35-mph operating speed. In addition, the available intersection sight distance looking straight to make a left turn from Hudson Avenue onto Major Dickinson Avenue, and the available intersection sight distance looking right to make a left turn from Major Dickinson Avenue onto Hudson Avenue meet AASHTO guidelines for the 35-mph operating speed.

It is noted that the available intersection sight distance looking left from Major Dickinson Avenue is limited by the existing *Glens Carpet & Linoleum* building and is less than AASHTO guidelines to make a left or right turn from Major Dickinson Avenue onto Hudson Avenue. Figure 2C-101 found in the New York State Supplement (NYS Supplement) to the National Manual for Uniform Traffic Control Devices (NMUTCD) provides guidance for the installation of “Intersection Warning” signs as mitigation for sight distance. A review of Figure 2C-101 (see figure below) indicates that the available sight distance looking left at the Hudson Avenue/Major Dickinson Avenue intersection is less than desirable but not critically limited for the 35-mph operating speed.



Reference: NYS Supplement to the Manual on Uniform Traffic Control Devices for Streets and Highways (2009 Edition), page 119

A “No Parking This Side” sign is provided on the west side of Hudson Avenue approximately 285-feet north of Major Dickinson Avenue which ensures sight lines looking left are not impacted by on-street parking. It is noted that vehicles regularly park on the west side of Hudson Avenue between the Lake Street and School Street intersections even though signage is not provided that permits on-street parking in this area. The Applicant should work with the Village to establish permitted on-street parking areas on Hudson Avenue. It is recommended that the Village consider obtaining a NYSDOT permit to install “No Parking Any Time” signs (NMUTCD R7-1) on the northwest corner of the Hudson Avenue/Lake Street intersection with an arrow pointing left and on the southwest corner of the Hudson Avenue/School Street intersection with an arrow pointing to the right. These signs would prohibit on-street parking on the west side of the Hudson Avenue south of Lake Street and north of School Street and would ensure that sight lines looking left from Major Dickinson Avenue are maintained. A review of the crash summary does not suggest that an accident problem exists at the Hudson Avenue/Major Dickinson Avenue intersection since there are no right-angle or left-turn crashes; therefore, no additional mitigation is recommended at this time.



R7-1

3.0 Traffic Assessment

Trip Generation

Trip generation determines the quantity of traffic expected to travel to or from the project site. The Institute of Transportation Engineers (ITE) *Trip Generation, 10th edition*, is the industry standard used for estimating trip generation for proposed land uses based on data collected at similar uses. The trip generation for the proposed project was estimated using land use code (LUC) 220 for Multi-Family Housing (Low Rise). Table 4 summarizes the trip generation estimate for the AM and PM peak hours.

Table 4 – Trip Generation Summary

Land Use	LUC	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Colonial Apartments – 198 Units	220	21	70	91	68	40	108

The table indicates that the project is expected to generate 91 new trips during the AM peak hour and 108 new trips during the PM peak hour.

Future Traffic Volumes

To evaluate the impact of the proposed development, traffic projections were prepared for the expected year of completion. Full build-out of the project is expected in the year 2023. Information provided by the Capital District Transportation Committee (CDTC) indicates that traffic volumes in the study area have increased by approximately 0.7 percent per year over the last several years. Therefore, the 2019 Existing traffic volumes were increased by 0.7 percent per year for four years to represent general growth in the study area anticipated by the 2023 design year.

In addition to the background traffic growth, vehicle trips associated with the following planned or approved developments within the project area were considered when developing No-Build traffic volumes:

- *Bocrest Fields Apartments* – 260 Unit residential development located on Halfway House Road.
- *Turning Point Apartments* – 156 Unit residential development located on Brickyard Road
- *Saratoga Hills* – Expansion of existing 180 residential PDD to allow for approximately 170 additional mobile homes.

The 2023 No-Build traffic volumes are shown on Figure 3 and represent expected traffic volumes in 2023 without construction of *Colonial Apartments*.

Traffic generated by the proposed project was distributed to the adjacent roadways based on existing observed travel patterns in the project area and probable travel routes for residents of the proposed development. It is expected that approximately 35 percent will travel to and from the north on Colonial Road while 65 percent travel to and from the south on Colonial Road. The trip distribution patterns and associated site-generated traffic volumes for the proposed development are shown on Figure 4 and 5. The site generated trips were added to the 2023 No-Build traffic volumes resulting in the 2023 Build traffic volumes for the weekday AM and PM peak hours, shown on Figure 6.

Traffic Operations

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Intersection evaluations were made using Synchro Software which automates the procedures contained in the *Highway Capacity Manual*. Table 5 summarizes the results of the level of service calculations for the proposed project. The detailed level of service analyses are included under Attachment C.

Table 5 –Level of Service Summary

Intersection	Control	AM Peak Hour			PM Peak Hour		
		2019 Existing	2023 No-Build	2023 Build	2019 Existing	2023 No-Build	2023 Build
Colonial Rd/Ten Broeck St	TW						
Ten Broeck St WB LR		A (9.2)	A (9.2)	A (9.4)	A (9.0)	A (9.0)	A (9.4)
Colonial Rd SB L		A (7.3)	A (7.3)	A (7.3)	A (7.4)	A (7.4)	A (7.5)
Hudson Ave/Ten Broeck St	TW						
Hudson Ave NB L		A (7.7)	A (7.8)	A (7.8)	A (7.6)	A (7.7)	A (7.7)
Ten Broeck St EB LR		B (10.7)	B (10.9)	B (11.3)	A (9.3)	A (9.4)	B (10.3)
Colonial Rd/Claremont Rd	TW						
Colonial Rd NB L		A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.3)	A (7.4)
Claremont Rd EB LR		A (8.9)	A (8.9)	A (9.0)	A (8.7)	A (8.7)	A (8.9)
Colonial Rd/Broughton Ln	TW						
Colonial Rd SB LT		A (8.8)	A (8.8)	A (9.1)	A (8.7)	A (8.7)	A (8.8)
Major Dickinson Ave/Broughton Ln	TW						
Major Dickinson Ave NB LTR		A (7.3)	A (7.3)	A (7.4)	A (7.3)	A (7.3)	A (7.4)
Broughton Ln EB LTR		A (8.5)	A (8.5)	A (8.7)	A (8.5)	A (8.5)	A (8.6)
Major Dickinson Ave SB LTR		A (7.2)	A (7.2)	A (7.2)	A (7.2)	A (7.3)	A (7.3)
Major Dickinson Ave/General Schuyler Ln	TW						
General Schuyler Ln WB LR		A (8.5)	A (8.5)	A (8.5)	A (8.9)	A (8.9)	A (9.0)
Major Dickinson Ave SB L		A (0.0)	A (0.0)	A (7.3)	A (7.4)	A (7.4)	A (7.4)
Hudson Ave/Major Dickinson Ave	TW						
Hudson Ave EB L		A (8.2)	A (8.2)	A (8.3)	A (7.9)	A (8.0)	A (8.1)
Major Dickinson Ave SB LR		B (11.0)	B (11.3)	B (11.8)	B (10.1)	B (10.6)	B (10.7)
Colonial Rd/Site Driveway	TW						
Colonial Rd NB L		--	--	A (7.4)	--	--	A (7.5)
Site Driveway EB LR		--	--	A (9.2)	--	--	A (9.3)

X (Y.Y) = Level of service (Average delay in seconds per vehicle)

TW=Two-Way Stop Controlled Intersection

EB, WB, NB, SB = Eastbound, Westbound, Northbound, and Southbound intersection approaches

L, T, R = Left-turn, Through, and/or Right-turn movements

The level of service analysis indicates that all approaches at the study area intersections generally operate at LOS A/B during the peak hours and will continue to do so through Build conditions. With the additional traffic generated by the *Colonial Apartment*, vehicle delay will increase by approximately one second per vehicle or less. No capacity improvements are recommended. The Site Driveway is expected to operate at LOS A during both peak hours. It is recommended that the Site Driveway operate under stop sign control with a single lane entering and exiting the site.

4.0 Roadway Evaluation and Access

Capacity and Roadway Character

Roadway capacity criteria provided by the Capital District Transportation Council (CDTC) indicates that local roadways have a peak hour capacity of 625 vehicles in each direction per hour while arterials and collector roads have a capacity of 1,000 vehicles in each direction per hour.¹ Table 6 summarizes the AM and PM peak hour volumes expected on roadway segments between various study area intersections during No-Build and Build traffic volume conditions.

Table 6 – Project Area Roadway Segment Capacity Assessment

Roadway Segment	Peak Hour Traffic Volumes				
	2023 No-Build		2023 Build		Segment Capacity ¹ (by Direction)
	NB/EB	SB/WB	NB/EB	SB/WB	
AM Peak Hour					
Colonial Road (north of Broughton Lane)	21	42	35	87	625
Broughton Lane (east of Colonial Road)	43	21	88	35	625
Major Dickinson Avenue (south of Brought Lane)	26	44	40	91	625
Ten Broeck Street (east of Colonial Road)	21	5	28	7	625
Hudson Avenue (south of Major Dickinson Avenue)	239	434	250	469	1,000
Hudson Avenue (north of Ten Broeck Street)	144	198	144	198	1,000
PM Peak Hour					
Colonial Road (north of Broughton Lane)	60	38	104	64	625
Broughton Lane (east of Colonial Road)	38	60	64	104	625
Major Dickinson Avenue (south of Brought Lane)	83	40	127	66	625
Ten Broeck Street (east of Colonial Road)	10	14	14	21	625
Hudson Avenue (south of Major Dickinson Avenue)	579	307	613	327	1,000
Hudson Avenue (north of Ten Broeck Street)	273	150	273	150	1,000

All of the study area roadways are considered local roadways and have a segment capacity of 625 vehicles in each direction with the exception of Hudson Avenue which is a minor arterial roadway that has a segment capacity of 1,000 vehicles in each direction. A review of Table 6 indicates that all of the study area roadways will continue to provide adequate capacity after build-out of the *Colonial Apartment* project. No segment capacity related mitigation is recommended to accommodate the site.

As specific review of the traffic volume data shows that Colonial Road will serve approximately 63 AM peak hour trips and approximately 98 PM peak hour trips adjacent to the proposed site during No-Build conditions. Colonial Road will continue to provide adequate capacity with the addition of approximately 59/70 AM and PM peak hour trips from the proposed site since the peak hour will remain well below the 625 vehicles per hour per direction capacity. Additional traffic from the project will not change the

¹ The Metropolitan Congestion Management Process. Albany, NY: Capital District Transportation Committee, 2007.

character of Colonial Road since it already accommodates general commuter traffic associated with residential land uses.

Heavy Vehicle/Truck Access

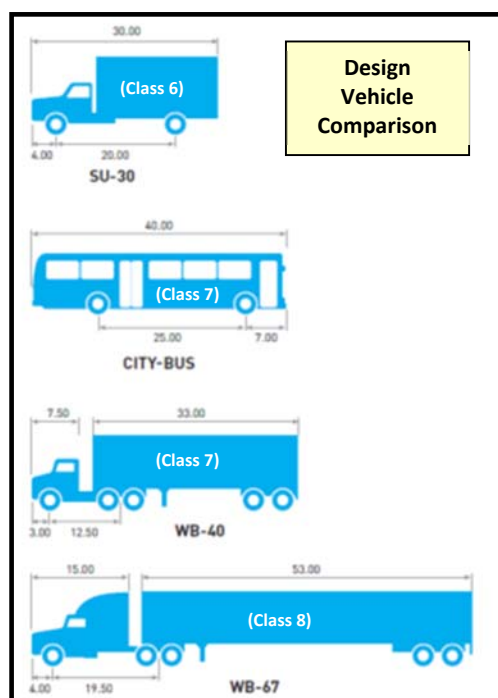
A detailed review of the ATR data indicates that Colonial Road has approximately two percent heavy vehicles. Table 7 summarizes existing heavy vehicles on Colonial Road.

Table 7 – Colonial Road Traffic Volume Summary

Roadway Segment	Traffic Volumes											
	Northbound						Southbound					
	Passenger Cars	Bus	2 Axle Truck	3 Axle Truck	5 Axle Truck	Heavy Vehicle %	Passenger Cars	Bus	2 Axle Truck	3 Axle Truck	5 Axle Truck	Heavy Vehicle %
Colonial Road	422	1	6	2	1	2.3%	422	1	7	1	1	2.3%

The Village of Stillwater requested an assessment of potential truck routes between Hudson Avenue and the proposed development due to historical issues with heavy vehicles negotiating turns on the adjacent roadway network (particularly near the *Major Dickinson Children's Park*). A preliminary review of the roadway pavement indicates that Colonial Road, Broughton Lane, Major Dickinson Avenue, and Ten Broeck Street are in fair to good condition. The street network can accommodate the minor amount of future truck traffic generated by the site which will generally consist of moving company vehicles, garbage trucks, etc. It is not anticipated that large tractor trailers would need to access the apartment development. An AutoTurn assessment of the study area intersections was conducted to determine if the following trucks can negotiate the turn's necessary to access the proposed development:

- Single Unit Truck (SU-30) – 2-axle trucks similar to moving trucks (U-Haul) and delivery trucks (FedEx)
- Intermediate Semitrailers (WB-40) – 3 to 5 axle trucks similar to large moving trucks and firetrucks
- Interstate Tractor Trailers (WB-67) – 5-axle and greater trucks similar to large semi-trucks



The AutoTurn assessment indicates that SU-30 and WB-40 trucks can negotiate the turns as shown on the AutoTurn Aerial images below and included under Attachment D. It is noted that in some instances, the WB-40 truck must slightly off-track into the opposing lane in order to negotiate some of the turns; however, it is not anticipated that this will have a significant impact to the roadway system due to the low traffic volumes on the Village streets as shown on Table 6 and since the proposed residential development will not generate a significant number of trucks. The assessment also indicates that WB-67 trucks cannot make most of the turns to/from Colonial Road to Broughton Lane and Ten Broeck Street without off-tracking onto the adjacent properties; therefore, it is recommended that these types of trucks be restricted from using local Village streets via signage. It is noted that available NMUTCD signing does not restrict trucks by length. Truck classification are typically based on the maximum load weight of the truck.

Trucks are classified more broadly by the Federal Highway Administration (FHWA) which groups Classes 1–2 as *light duty*, Classes 3–6 as *medium duty*, and Classes 7–8 as *heavy duty*. A review of typical truck weights by classification (included under Attachment D) indicates that the existing roadway can accommodate Class 1 through Class 7. In order to restrict large commercial tractor trailers found in Class 8 (such as WB-67 trucks), it is recommended that the Village consider installing “Weight Limit 15 Ton” signs (NMUTCD R12-1) on Major Dickinson Avenue and on Ten Broeck Street near Hudson Avenue to restrict larger commercial trucks from using local Village streets.



Aerial AutoTurn Assessment

Pedestrian Access

A review of the site plan indicates that sidewalks will be provided along the internal site roadways which will also provide direct access to Colonial Road. It is noted that sidewalks are not provided on Colonial Road; therefore, the Applicant will work with the Village to explore the feasibility of providing a pedestrian connection that will extend approximately 400-feet south from the site driveway to the southwest corner of the Colonial Road/Broughton Lane intersection. It is anticipated that a crosswalk with ADA compliant ramps and landings would be installed on the south leg of the intersection which would provide access to the *Major Dickinson Children's Park*. The Applicant is in the process of surveying Colonial Road to determine if the sidewalk can be constructed within the existing right-of-way (ROW). If adequate ROW is not available, the Applicant is prepared to work with the adjacent property.

5.0 Conclusions

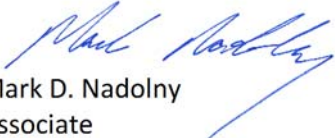
The proposed project includes construction of 198 apartment units on Colonial Road with a single full access driveway provided approximately 380-feet north of Broughton Lane. The proposed project is expected to generate 91 new vehicle trips during the AM peak hour and 108 new vehicle trips during the PM peak hour. The project is expected to be completed and fully occupied in 2023. The following conclusions are noted:

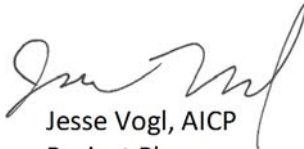
- All study area intersections will continue to operate at LOS A/B during both peak hours with minor increases in average vehicle delay after development of the site.
- The Site Driveway intersection on Colonial Road will provide good levels of service after development of the *Colonial Apartments*. It is recommended that the Site Driveway operate under stop sign control with a single lane entering and exiting the site.
- The sight distance analysis indicates that adequate sight lines will be provided at the Site Driveway for the applicable 40-mph operating speed.
- The available sight distance looking left at the Hudson Avenue/Major Dickinson Avenue intersection is less than desirable but not critically limited for the operating speed. The Applicant should work with the Village to establish permitted on-street parking areas on Hudson Avenue. It is recommended that the Village consider obtaining a NYSDOT permit to install “No Parking Any Time” signs on the northwest corner of the Hudson Avenue/Lake Street intersection with an arrow pointing to the left and on the southwest corner of the Hudson Avenue/School Street intersection with an arrow pointing to the right. These signs would prohibit on-street parking on the west side of the Hudson Avenue south of Lake Street and north of School Street and would ensure that sight lines looking left from Major Dickinson Avenue are maintained.
- It is recommended that the Village establish a local law denoting where on-street parking is permitted on Hudson Avenue and obtain a permit from NYSDOT to install the appropriate signage which would ensure that sight lines looking left from Major Dickinson Avenue are maintained. A review of the crash summary does not suggest that an accident problem exists at this intersection since there are no right-angle or left-turn crashes; therefore, no additional mitigation is recommended at this time.
- A review of roadway capacity indicates that all of the study area roadways will continue to provide adequate capacity after build-out of the *Colonial Apartment* project. No segment capacity related mitigation is recommended to accommodate the site.
- Sidewalks will be provided along the internal site roadways which will also provide direct access to Colonial Road. The Applicant will work with the Village to explore the feasibility of providing a pedestrian connection that will extend approximately 400-feet south from the site driveway to the southwest corner of the Colonial Road/Broughton Lane intersection. It is anticipated that a crosswalk with ADA compliant ramps and landings would be installed on the south leg of the intersection which would provide access to the *Major Dickinson Children’s Park*. The Applicant is in the process of surveying Colonial Road to determine if the sidewalk can be constructed within the existing ROW.
- The AutoTurn assessment indicates that SU-30 and WB-40 trucks can negotiate the turns to access the proposed site; however, WB-67 trucks cannot make most of the turns to/from Colonial Road to Broughton Lane and Ten Broeck Street and will off-track onto the adjacent properties. A review of typical truck weights by classification indicates that the existing roadway can accommodate Class 1 through Class 7. In order to restrict large commercial tractor trailers found in Class 8, it is recommended that the Village consider installing “Weight Limit 15 Ton” signs on Major Dickinson

Avenue and on Ten Broeck Street near Hudson Avenue to restrict larger commercial trucks from using local Village streets.

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

Respectfully submitted,
Creighton Manning Engineering, LLP


Mark D. Nadolny
Associate


Jesse Vogl, AICP
Project Planner

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 STUDY AREA INTERSECTIONS

0 100 200 400 600 800
Feet
1 inch = 400 feet

PROJECT LOCATION

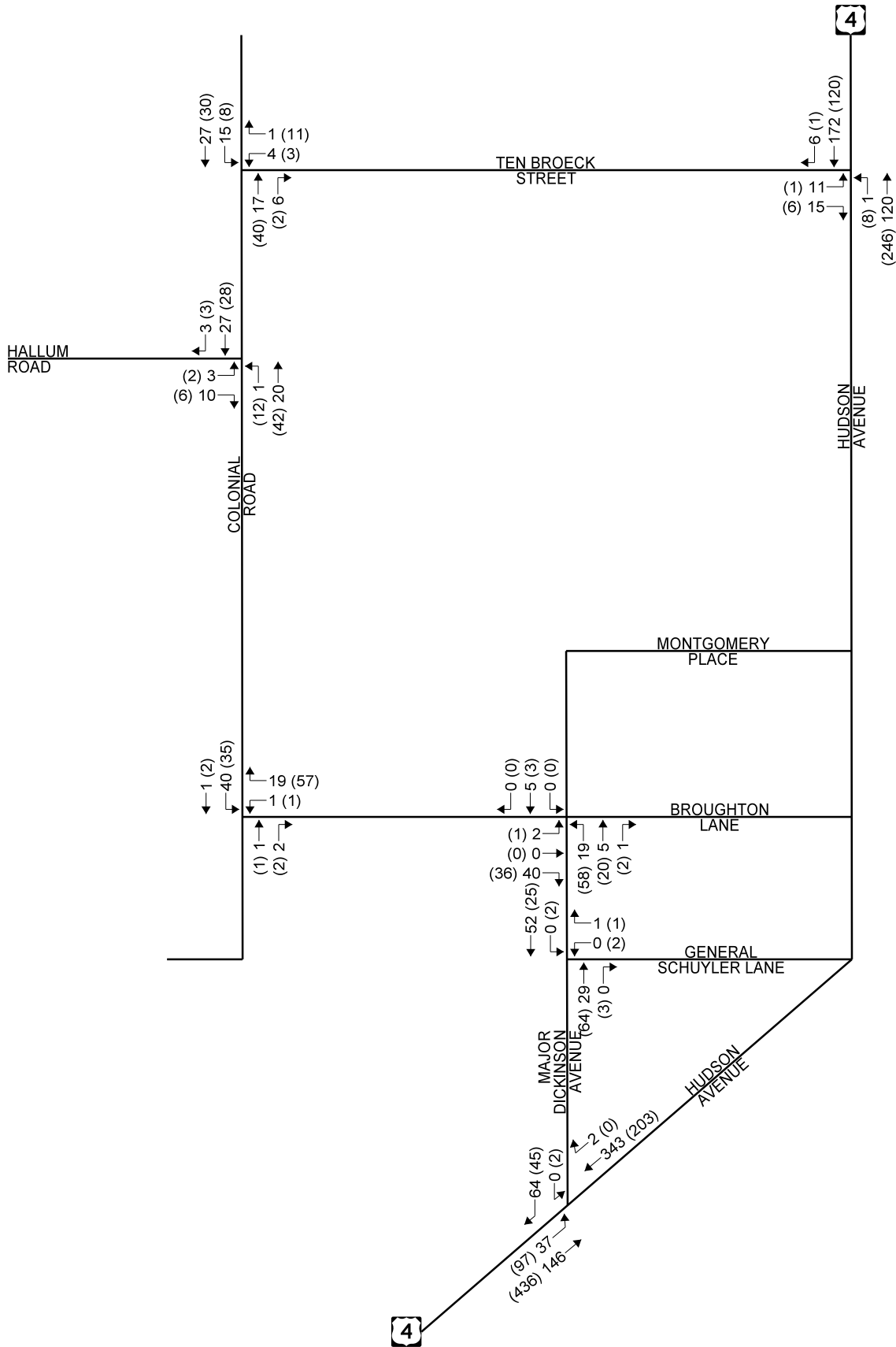
COLONIAL APARTMENTS
VILLAGE OF STILLWATER, NEW YORK



PROJECT: 119-103

DATE: 09/2019

FIGURE: 1

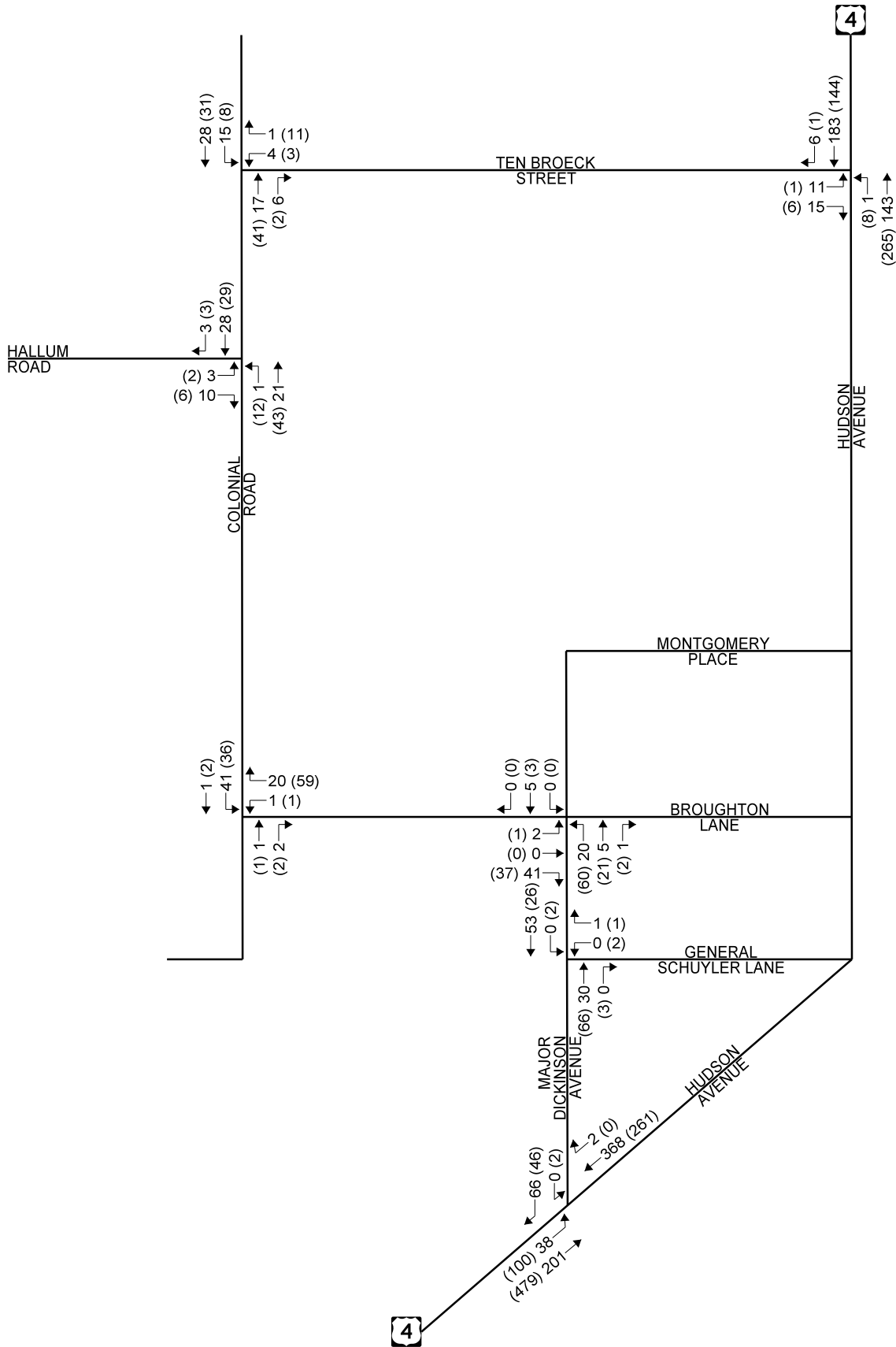


AM PEAK HOUR (PM PEAK HOUR)

2019 EXISTING TRAFFIC VOLUMES

COLONIAL APARTMENTS
TOWN / VILLAGE OF STILLWATER, NEW YORK





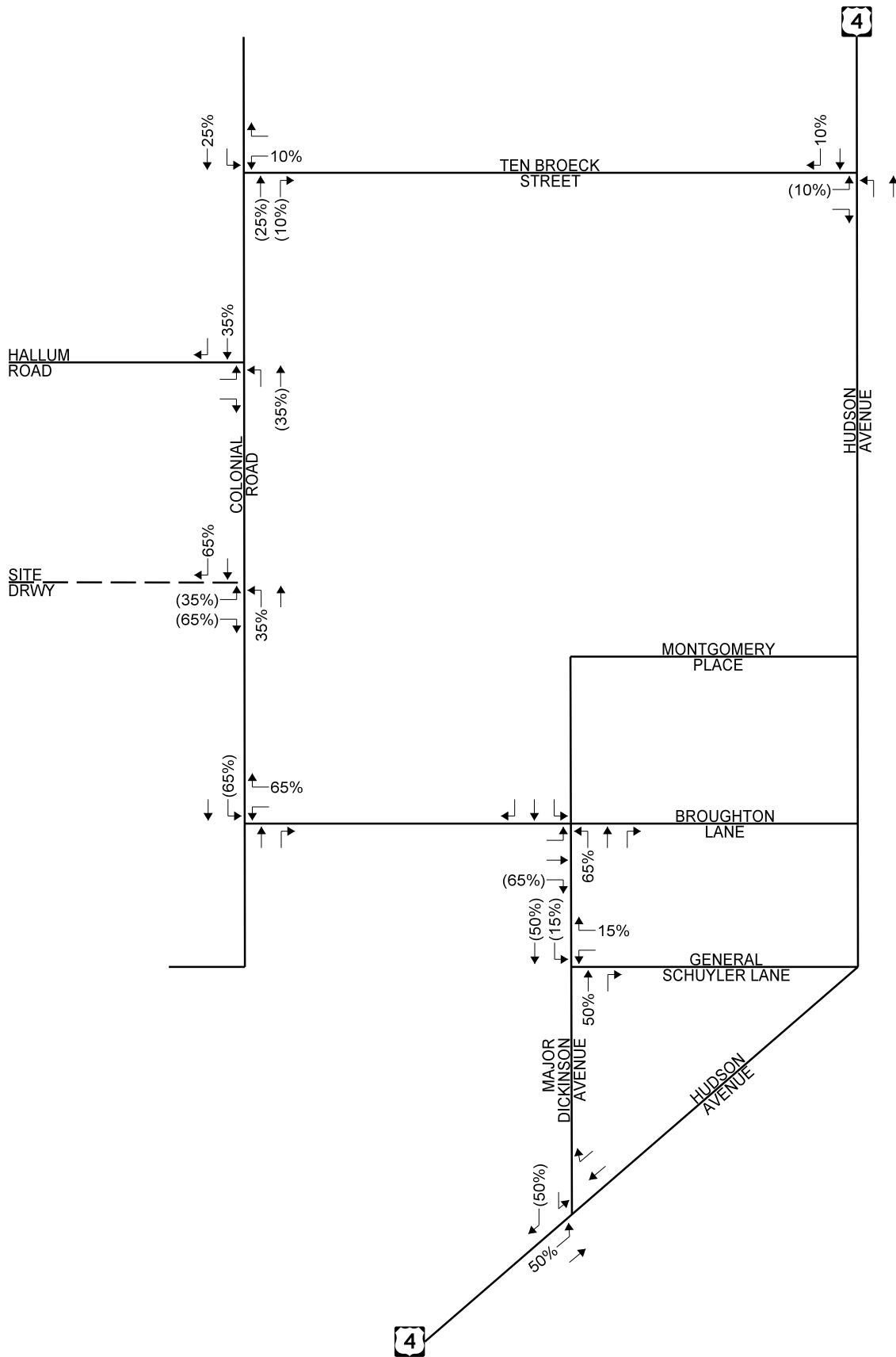
AM PEAK HOUR (PM PEAK HOUR)

2023 NO BUILD TRAFFIC VOLUMES

COLONIAL APARTMENTS
TOWN / VILLAGE OF STILLWATER, NEW YORK



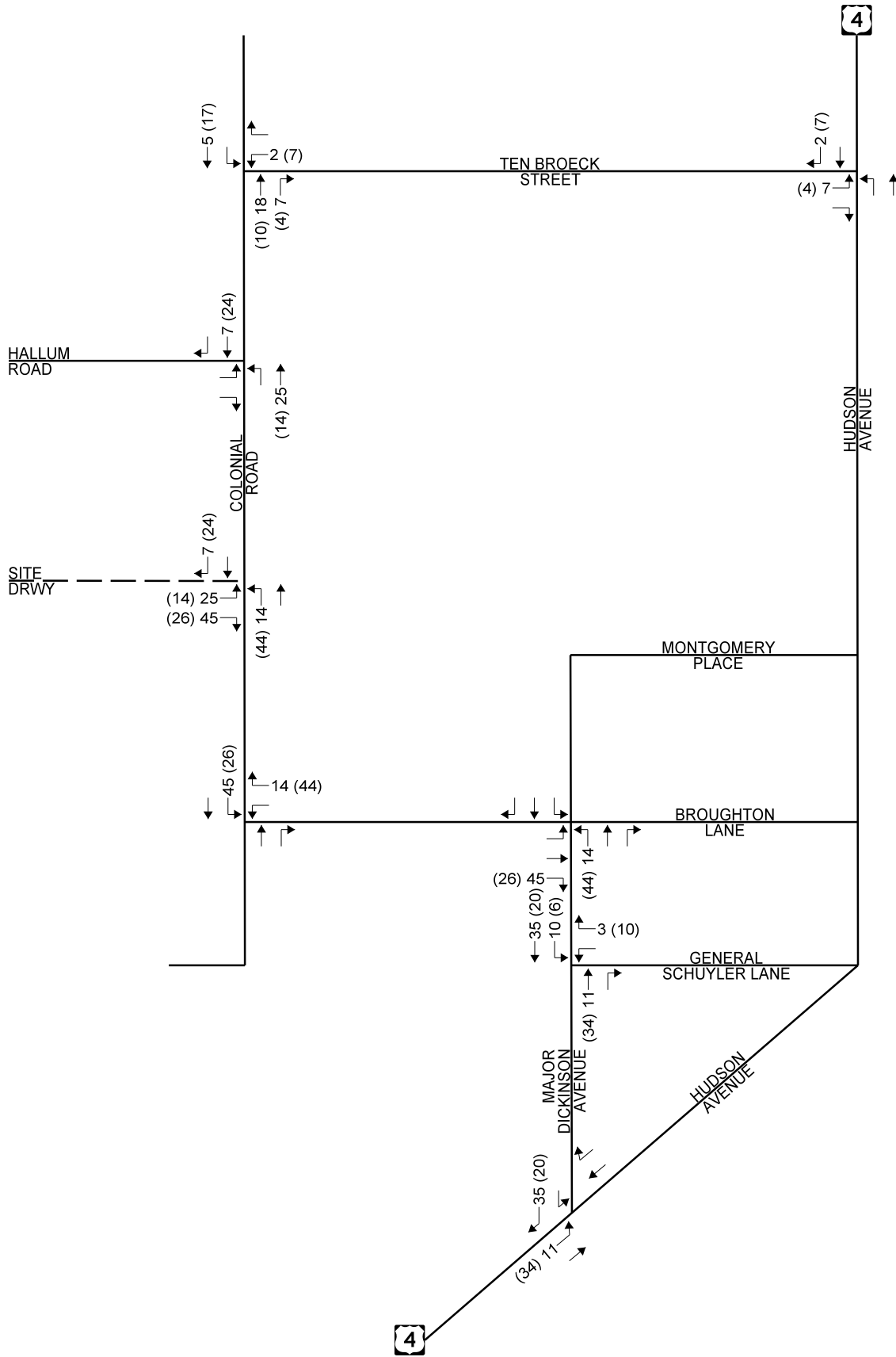
PROJECT: 119-103 DATE: 10/16/19 FIGURE: 3



TRIP DISTRIBUTION

COLONIAL APARTMENTS
TOWN / VILLAGE OF STILLWATER, NEW YORK





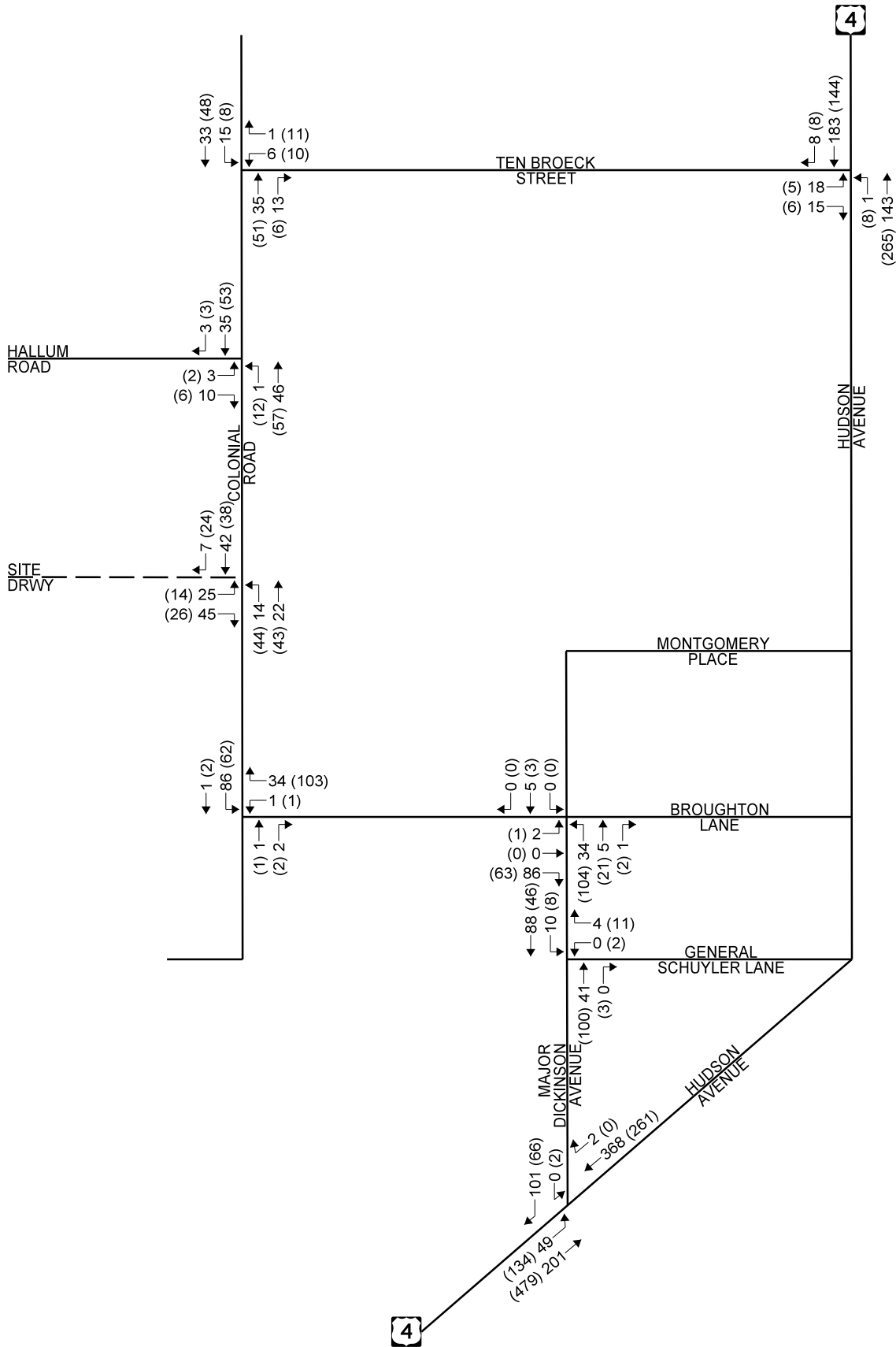
AM PEAK HOUR (PM PEAK HOUR)

TRIP ASSIGNMENT

COLONIAL APARTMENTS
TOWN / VILLAGE OF STILLWATER, NEW YORK



PROJECT: 119-103 DATE: 8/2019 FIGURE: 5



AM PEAK HOUR (PM PEAK HOUR)

2023 BUILD TRAFFIC VOLUMES

COLONIAL APARTMENTS
TOWN / VILLAGE OF STILLWATER, NEW YORK



Attachment A Site Plan

Colonial Apartments
Village of Stillwater, New York



ZONING AND LAND USE:
FORM-BASED CODE
VILLAGE OF STILLWATER
DIMENSIONAL SCHEDULE

DISTRICT	LOT AREA MINIMUM MAXIMUM (square feet)	BUILDING HEIGHT MAXIMUM	LOT WIDTH (FRONTAGE) MINIMUM (feet)	FRONT SETBACK MINIMUM (feet)	SIDE SETBACK MINIMUM (feet)	REAR SETBACK MINIMUM (feet)	MAXIMUM LOT COVERAGE (PERCENTAGE)
V3 (MIXED USE CENTER)	5000	3 STORY; 4 STORY BY BONUS	30	0 TO 10	5	5	80%



CONCEPT DATA:

PROPOSED:

5 - 36 UNIT BUILDINGS = 180 UNITS

1 - 18 UNIT BUILDING = 18 UNITS

= 198 TOTAL UNITS

PARKING:

REQUIRED: 1.5/DWELLING UNIT = 297 SPACES

PROVIDED: 307 SPACES

[illegible]

1. ALL SANITARY SEWER SERVICES SHALL BE 6" PVC SDR26.

VILLAGE OF STILLWATER
BOARD OF TRUSTEES APPROVAL

APPROVED BY RESOLUTION OF THE BOARD OF TRUSTEES OF THE VILLAGE OF
STILLWATER, NEW YORK

ON THE ____ DAY OF _____, 20____, SUBJECT TO ALL
REQUIREMENTS AND CONDITIONS OF SAID RESOLUTION. ANY CHANGES,
ERASURES, MODIFICATIONS OR REVISIONS OF THIS PLAT, AS APPROVED, SHALL
VOID THIS APPROVAL.

SIGNED THE ____ DAY OF _____, 20____ BY

VILLAGE MAYOR

APPROVED BY RESOLUTION OF THE PLANNING BOARD OF THE
TOWN OF STILLWATER, NEW YORK

PLANNING BOARD CHAIRMAN

SHEET NO.
CNCPT
1 of 1 18136-APT6

Attachment B
Turning Movement Counts

Colonial Apartments
Village of Stillwater, New York



www.TSTData.com
184 Baker Rd

Stillwater, New York
Colonial Rd / Ten Broeck St
July 17, 2019
Location: 42.946981, -
73.648457

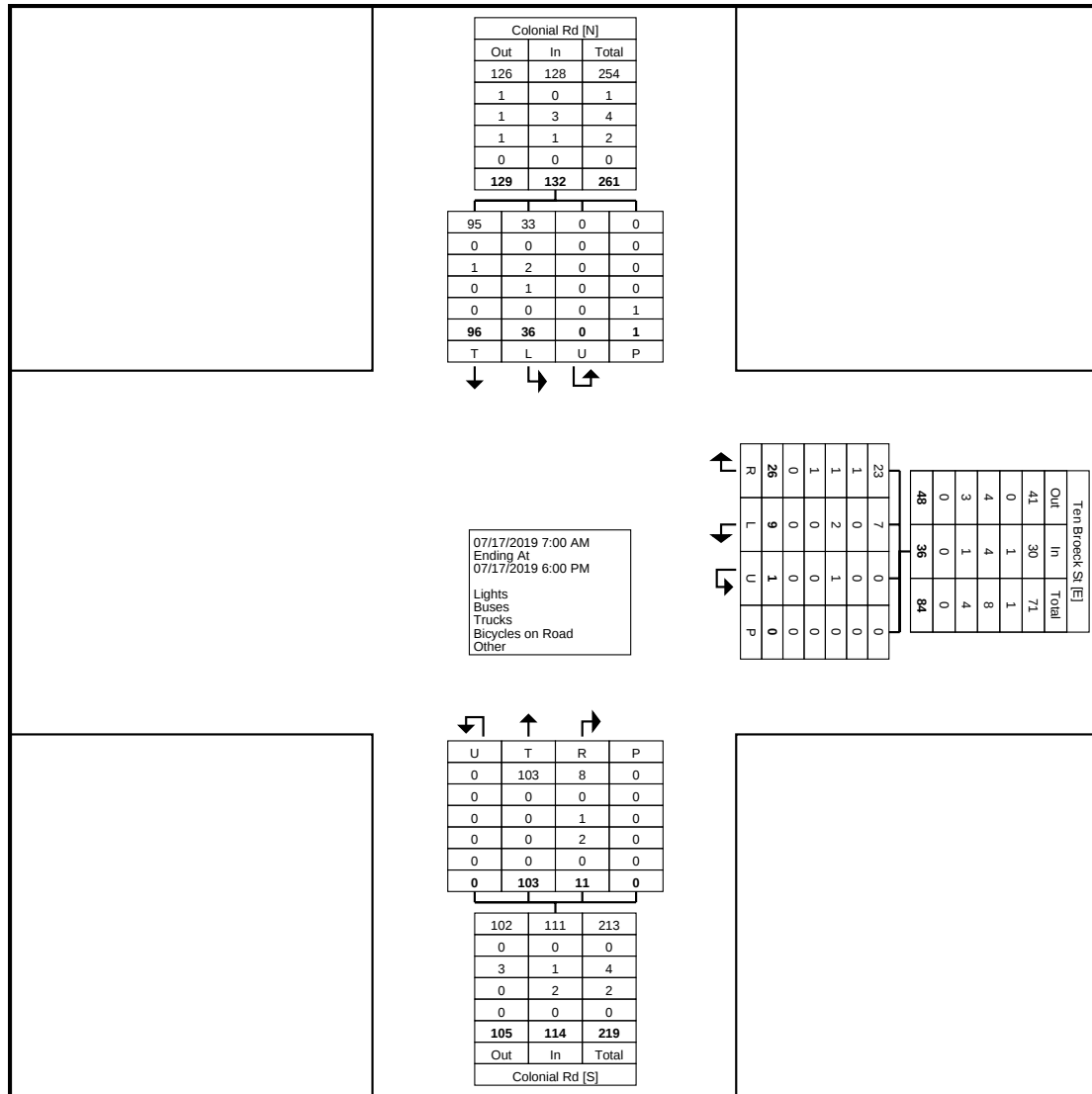
Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: 1. Colonial Rd /
Ten Broeck St
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 1

Turning Movement Data

Start Time	Ten Broeck St Westbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	1	0	0	1	1	0	0	0	1	4	8	0	0	12	14
7:15 AM	0	0	0	0	0	7	1	0	0	8	3	6	0	0	9	17
7:30 AM	0	0	0	0	0	5	1	0	0	6	2	7	0	0	9	15
7:45 AM	2	1	0	0	3	2	4	0	0	6	7	8	0	0	15	24
Hourly Total	2	2	0	0	4	15	6	0	0	21	16	29	0	0	45	70
8:00 AM	2	0	0	0	2	3	0	0	0	3	3	6	0	0	9	14
8:15 AM	0	1	0	0	1	3	1	0	0	4	1	5	0	0	6	11
8:30 AM	0	3	1	0	4	3	1	0	0	4	3	3	0	0	6	14
8:45 AM	0	2	0	0	2	3	0	0	0	3	0	6	0	0	6	11
Hourly Total	2	6	1	0	9	12	2	0	0	14	7	20	0	0	27	50
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	1	1	0	0	2	7	0	0	0	7	0	2	0	0	2	11
4:15 PM	0	4	0	0	4	11	1	0	0	12	2	4	0	0	6	22
4:30 PM	0	0	0	0	0	10	0	0	0	10	1	7	0	1	8	18
4:45 PM	0	4	0	0	4	16	0	0	0	16	4	9	0	0	13	33
Hourly Total	1	9	0	0	10	44	1	0	0	45	7	22	0	1	29	84
5:00 PM	1	3	0	0	4	7	0	0	0	7	0	3	0	0	3	14
5:15 PM	1	1	0	0	2	9	1	0	0	10	2	8	0	0	10	22
5:30 PM	1	3	0	0	4	8	1	0	0	9	2	10	0	0	12	25
5:45 PM	1	2	0	0	3	8	0	0	0	8	2	4	0	0	6	17
Hourly Total	4	9	0	0	13	32	2	0	0	34	6	25	0	0	31	78
Grand Total	9	26	1	0	36	103	11	0	0	114	36	96	0	1	132	282
Approach %	25.0	72.2	2.8	-	-	90.4	9.6	0.0	-	-	27.3	72.7	0.0	-	-	-
Total %	3.2	9.2	0.4	-	12.8	36.5	3.9	0.0	-	40.4	12.8	34.0	0.0	-	46.8	-
Lights	7	23	0	-	30	103	8	0	-	111	33	95	0	-	128	269
% Lights	77.8	88.5	0.0	-	83.3	100.0	72.7	-	-	97.4	91.7	99.0	-	-	97.0	95.4
Buses	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Buses	0.0	3.8	0.0	-	2.8	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.4
Trucks	2	1	1	-	4	0	1	0	-	1	2	1	0	-	3	8
% Trucks	22.2	3.8	100.0	-	11.1	0.0	9.1	-	-	0.9	5.6	1.0	-	-	2.3	2.8
Bicycles on Road	0	1	0	-	1	0	2	0	-	2	1	0	0	-	1	4
% Bicycles on Road	0.0	3.8	0.0	-	2.8	0.0	18.2	-	-	1.8	2.8	0.0	-	-	0.8	1.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Stillwater, New York
Colonial Rd / Ten Broeck St
July 17, 2019
Location: 42.946981, -
73.648457



Turning Movement Data Plot

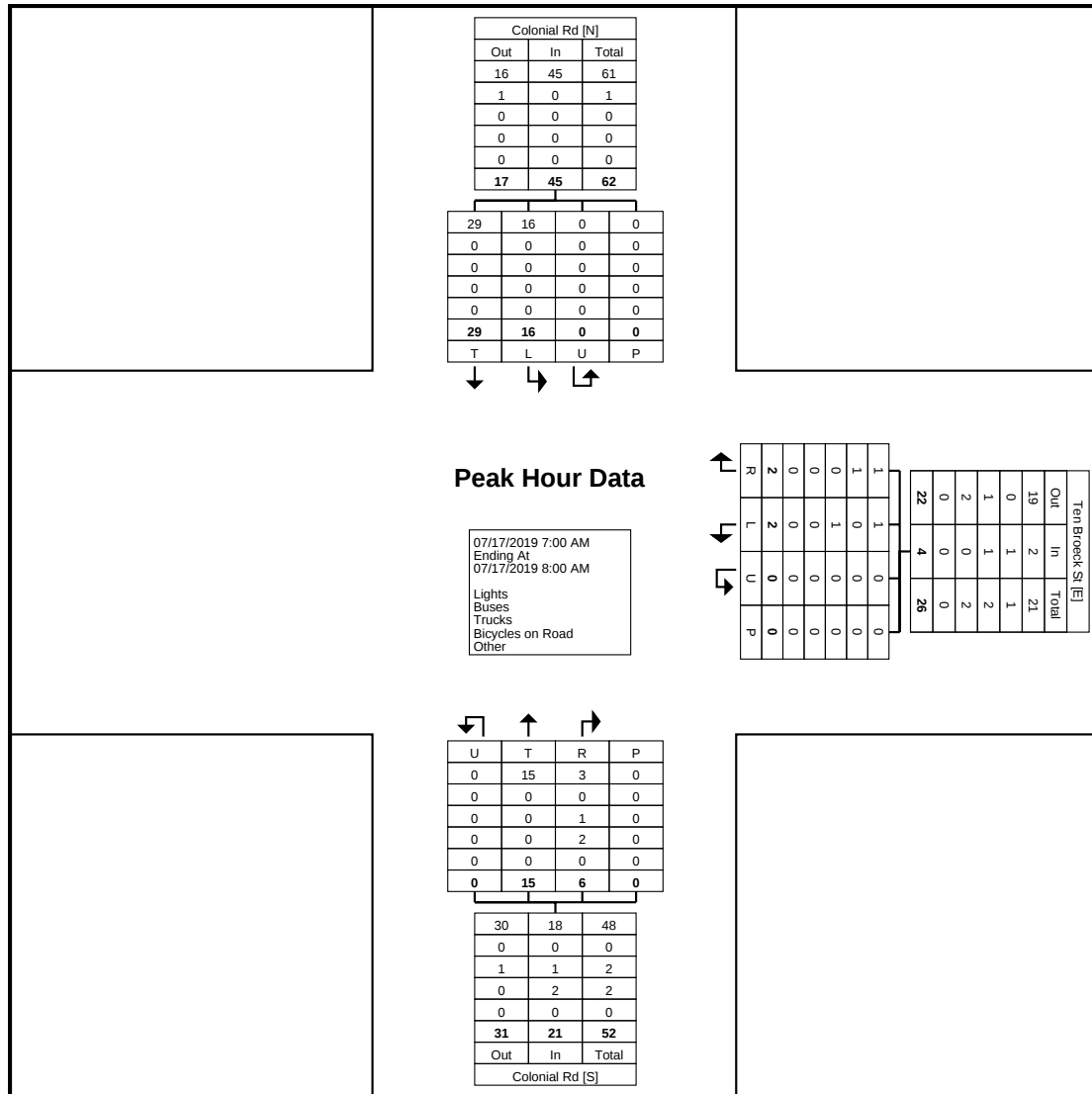


Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Turning Movement Peak Hour Data (7:00 AM)

Start Time	Ten Broeck St Westbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	1	0	0	1	1	0	0	0	1	4	8	0	0	12	14
7:15 AM	0	0	0	0	0	7	1	0	0	8	3	6	0	0	9	17
7:30 AM	0	0	0	0	0	5	1	0	0	6	2	7	0	0	9	15
7:45 AM	2	1	0	0	3	2	4	0	0	6	7	8	0	0	15	24
Total	2	2	0	0	4	15	6	0	0	21	16	29	0	0	45	70
Approach %	50.0	50.0	0.0	-	-	71.4	28.6	0.0	-	-	35.6	64.4	0.0	-	-	-
Total %	2.9	2.9	0.0	-	5.7	21.4	8.6	0.0	-	30.0	22.9	41.4	0.0	-	64.3	-
PHF	0.250	0.500	0.000	-	0.333	0.536	0.375	0.000	-	0.656	0.571	0.906	0.000	-	0.750	0.729
Lights	1	1	0	-	2	15	3	0	-	18	16	29	0	-	45	65
% Lights	50.0	50.0	-	-	50.0	100.0	50.0	-	-	85.7	100.0	100.0	-	-	100.0	92.9
Buses	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Buses	0.0	50.0	-	-	25.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	1.4
Trucks	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Trucks	50.0	0.0	-	-	25.0	0.0	16.7	-	-	4.8	0.0	0.0	-	-	0.0	2.9
Bicycles on Road	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	33.3	-	-	9.5	0.0	0.0	-	-	0.0	2.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Stillwater, New York
Colonial Rd / Ten Broeck St
July 17, 2019
Location: 42.946981, -
73.648457



Turning Movement Peak Hour Data Plot (7:00 AM)

Stillwater, New York
Colonial Rd / Ten Broeck St
July 17, 2019
Location: 42.946981, -
73.648457

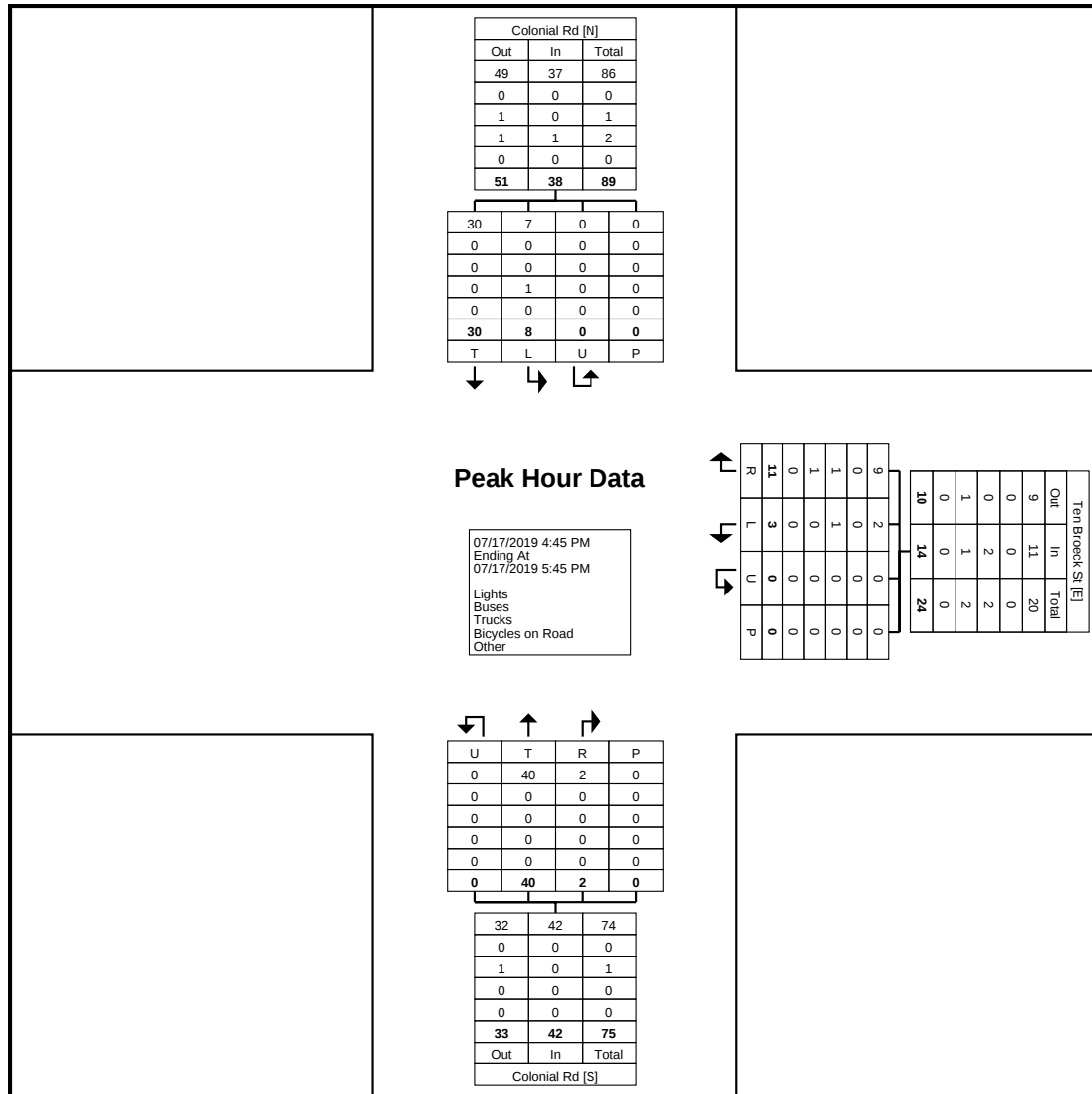
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Count Name: 1. Colonial Rd /
Ten Broeck St
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 5

Turning Movement Peak Hour Data (4:45 PM)

[illegible]

Stillwater, New York
Colonial Rd / Ten Broeck St
July 17, 2019
Location: 42.946981, -
73.648457



Turning Movement Peak Hour Data Plot (4:45 PM)



Stillwater, New York
 NY 32 Hudson Ave / Ten Broeck
 St
 July 17, 2019
 Location: 42.946372, -
 73.645902

www.TSTData.com
 184 Baker Rd

Coatesville, Pennsylvania, United States 19320
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Count Name: 2. NY 32 Hudson
 Ave / Ten Broeck St
 Site Code: Stillwater, New York
 Start Date: 07/17/2019
 Page No: 1

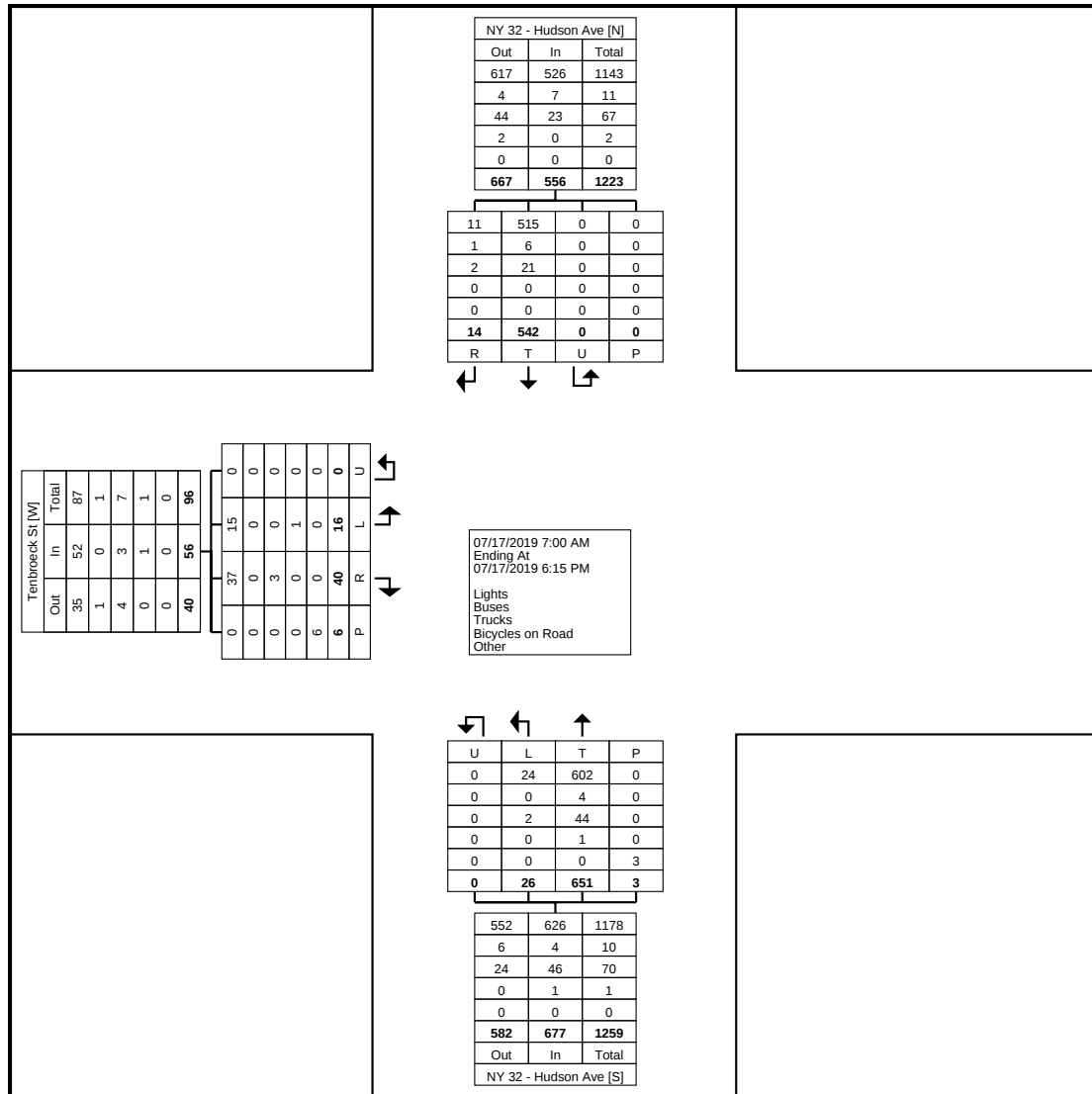
Turning Movement Data

Start Time	Tenbroeck St Eastbound					NY 32 - Hudson Ave Northbound					NY 32 - Hudson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	5	0	0	5	0	23	0	0	23	45	1	0	0	46	74
7:15 AM	2	2	0	0	4	0	22	0	0	22	50	0	0	0	50	76
7:30 AM	1	3	0	0	4	0	22	0	0	22	29	1	0	0	30	56
7:45 AM	7	5	0	1	12	0	52	0	3	52	48	2	0	0	50	114
Hourly Total	10	15	0	1	25	0	119	0	3	119	172	4	0	0	176	320
8:00 AM	1	5	0	2	6	1	24	0	0	25	45	3	0	0	48	79
8:15 AM	1	2	0	1	3	2	25	0	0	27	23	0	0	0	23	53
8:30 AM	1	3	0	0	4	3	24	0	0	27	38	2	0	0	40	71
8:45 AM	0	0	0	0	0	1	22	0	0	23	29	0	0	0	29	52
Hourly Total	3	10	0	3	13	7	95	0	0	102	135	5	0	0	140	255
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	39	0	0	39	36	2	0	0	38	77
4:15 PM	1	2	0	0	3	4	43	0	0	47	21	0	0	0	21	71
4:30 PM	0	1	0	2	1	1	57	0	0	58	38	0	0	0	38	97
4:45 PM	1	2	0	0	3	2	57	0	0	59	24	1	0	0	25	87
Hourly Total	2	5	0	2	7	7	196	0	0	203	119	3	0	0	122	332
5:00 PM	0	0	0	0	0	4	57	0	0	61	34	0	0	0	34	95
5:15 PM	0	3	0	0	3	1	75	0	0	76	24	0	0	0	24	103
5:30 PM	1	3	0	0	4	3	55	0	0	58	31	1	0	0	32	94
5:45 PM	0	4	0	0	4	4	54	0	0	58	27	1	0	0	28	90
Hourly Total	1	10	0	0	11	12	241	0	0	253	116	2	0	0	118	382
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	16	40	0	6	56	26	651	0	3	677	542	14	0	0	556	1289
Approach %	28.6	71.4	0.0	-	-	3.8	96.2	0.0	-	-	97.5	2.5	0.0	-	-	-
Total %	1.2	3.1	0.0	-	4.3	2.0	50.5	0.0	-	52.5	42.0	1.1	0.0	-	43.1	-
Lights	15	37	0	-	52	24	602	0	-	626	515	11	0	-	526	1204
% Lights	93.8	92.5	-	-	92.9	92.3	92.5	-	-	92.5	95.0	78.6	-	-	94.6	93.4
Buses	0	0	0	-	0	0	4	0	-	4	6	1	0	-	7	11
% Buses	0.0	0.0	-	-	0.0	0.0	0.6	-	-	0.6	1.1	7.1	-	-	1.3	0.9
Trucks	0	3	0	-	3	2	44	0	-	46	21	2	0	-	23	72
% Trucks	0.0	7.5	-	-	5.4	7.7	6.8	-	-	6.8	3.9	14.3	-	-	4.1	5.6
Bicycles on Road	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Bicycles on Road	6.3	0.0	-	-	1.8	0.0	0.2	-	-	0.1	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	3	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	33.3	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	66.7	-	-	-	-	0.0	-	-	-	-	-	-	-

Stillwater, New York
NY 32 Hudson Ave / Ten Broeck
St
July 17, 2019
Location: 42.946372, -
73.645902

Coatesville, Pennsylvania, United States 19320
610-466-1469
Serving Transportation Professionals Since 1995

Count Name: 2. NY 32 Hudson
Ave / Ten Broeck St
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 2



Turning Movement Data Plot



Stillwater, New York
 NY 32 Hudson Ave / Ten Broeck
 St
 July 17, 2019
 Location: 42.946372, -
 73.645902

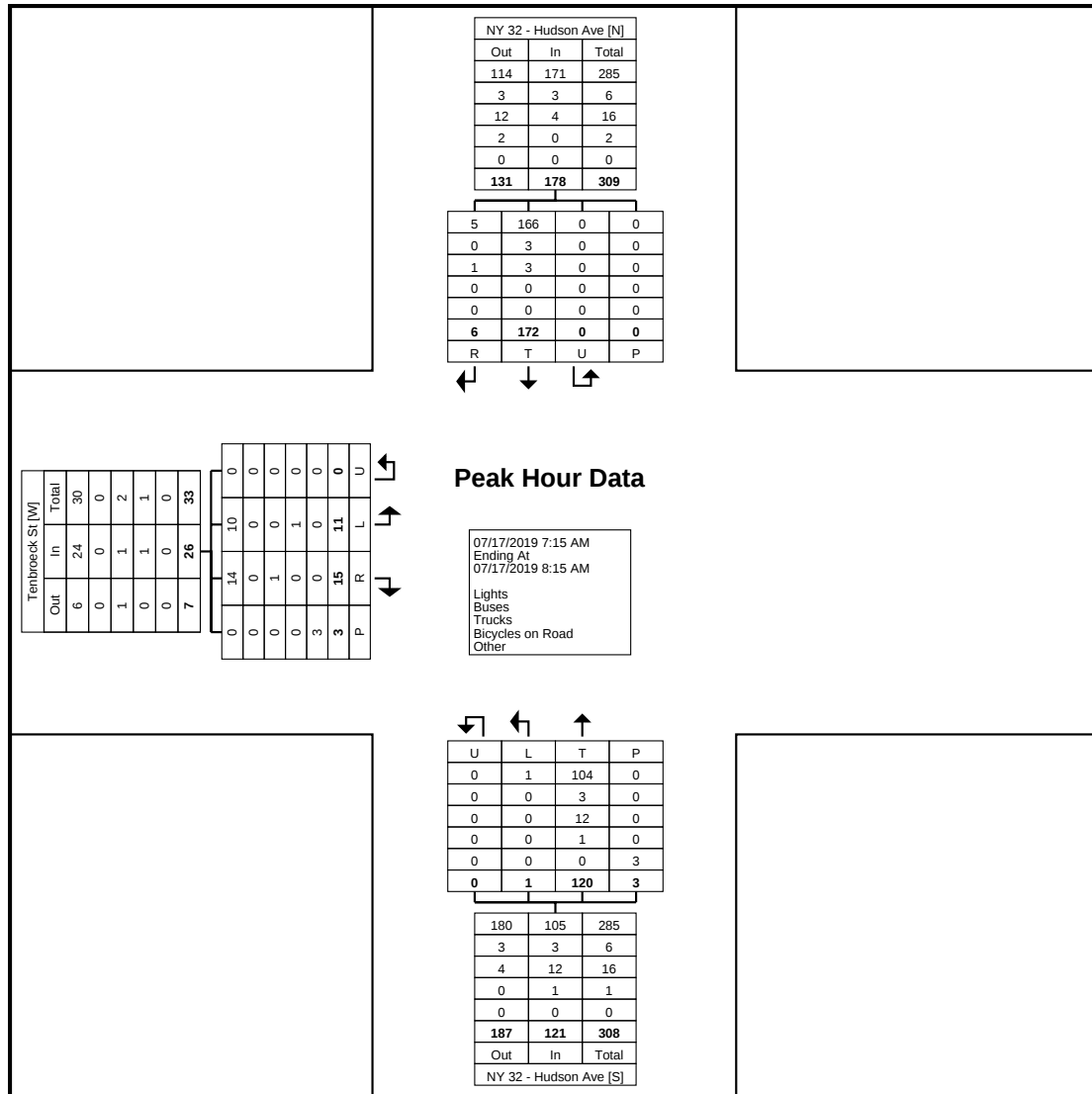
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Count Name: 2. NY 32 Hudson
 Ave / Ten Broeck St
 Site Code: Stillwater, New York
 Start Date: 07/17/2019
 Page No: 3

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Tenbroeck St Eastbound					NY 32 - Hudson Ave Northbound					NY 32 - Hudson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
7:15 AM	2	2	0	0	4	0	22	0	0	22	50	0	0	0	50	76
7:30 AM	1	3	0	0	4	0	22	0	0	22	29	1	0	0	30	56
7:45 AM	7	5	0	1	12	0	52	0	3	52	48	2	0	0	50	114
8:00 AM	1	5	0	2	6	1	24	0	0	25	45	3	0	0	48	79
Total	11	15	0	3	26	1	120	0	3	121	172	6	0	0	178	325
Approach %	42.3	57.7	0.0	-	-	0.8	99.2	0.0	-	-	96.6	3.4	0.0	-	-	-
Total %	3.4	4.6	0.0	-	8.0	0.3	36.9	0.0	-	37.2	52.9	1.8	0.0	-	54.8	-
PHF	0.393	0.750	0.000	-	0.542	0.250	0.577	0.000	-	0.582	0.860	0.500	0.000	-	0.890	0.713
Lights	10	14	0	-	24	1	104	0	-	105	166	5	0	-	171	300
% Lights	90.9	93.3	-	-	92.3	100.0	86.7	-	-	86.8	96.5	83.3	-	-	96.1	92.3
Buses	0	0	0	-	0	0	3	0	-	3	3	0	0	-	3	6
% Buses	0.0	0.0	-	-	0.0	0.0	2.5	-	-	2.5	1.7	0.0	-	-	1.7	1.8
Trucks	0	1	0	-	1	0	12	0	-	12	3	1	0	-	4	17
% Trucks	0.0	6.7	-	-	3.8	0.0	10.0	-	-	9.9	1.7	16.7	-	-	2.2	5.2
Bicycles on Road	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Bicycles on Road	9.1	0.0	-	-	3.8	0.0	0.8	-	-	0.8	0.0	0.0	-	-	0.0	0.6
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	3	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	33.3	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	66.7	-	-	-	-	0.0	-	-	-	-	-	-	-



Turning Movement Peak Hour Data Plot (7:15 AM)



Coatesville, Pennsylvania, United States 19320
610-466-1469
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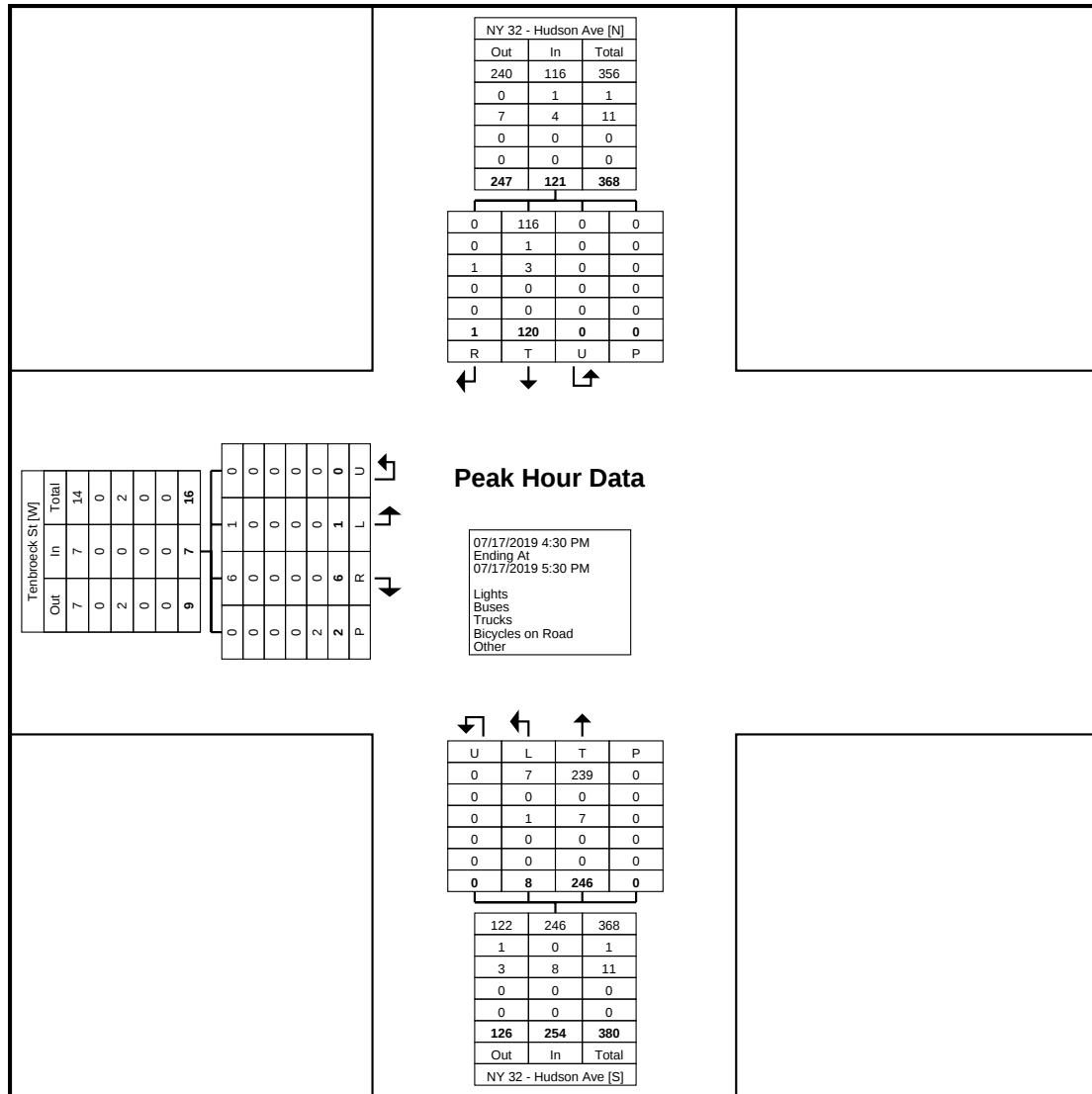
Count Name: 2. NY 32 Hudson
Ave / Ten Broeck St
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 5

Start Time	Tenbroeck St Eastbound					NY 32 - Hudson Ave Northbound					NY 32 - Hudson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
4:30 PM	0	1	0	2	1	1	57	0	0	58	38	0	0	0	38	97
4:45 PM	1	2	0	0	3	2	57	0	0	59	24	1	0	0	25	87
5:00 PM	0	0	0	0	0	4	57	0	0	61	34	0	0	0	34	95
5:15 PM	0	3	0	0	3	1	75	0	0	76	24	0	0	0	24	103
Total	1	6	0	2	7	8	246	0	0	254	120	1	0	0	121	382
Approach %	14.3	85.7	0.0	-	-	3.1	96.9	0.0	-	-	99.2	0.8	0.0	-	-	-
Total %	0.3	1.6	0.0	-	1.8	2.1	64.4	0.0	-	66.5	31.4	0.3	0.0	-	31.7	-
PHF	0.250	0.500	0.000	-	0.583	0.500	0.820	0.000	-	0.836	0.789	0.250	0.000	-	0.796	0.927
Lights	1	6	0	-	7	7	239	0	-	246	116	0	0	-	116	369
% Lights	100.0	100.0	-	-	100.0	87.5	97.2	-	-	96.9	96.7	0.0	-	-	95.9	96.6
Buses	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	1
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.8	0.0	-	-	0.8	0.3
Trucks	0	0	0	-	0	1	7	0	-	8	3	1	0	-	4	12
% Trucks	0.0	0.0	-	-	0.0	12.5	2.8	-	-	3.1	2.5	100.0	-	-	3.3	3.1
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	50.0	-	-	-	-	-	-	-	-	-	-	-	-

Stillwater, New York
NY 32 Hudson Ave / Ten Broeck
St
July 17, 2019
Location: 42.946372, -
73.645902

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Count Name: 2. NY 32 Hudson
Ave / Ten Broeck St
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 6



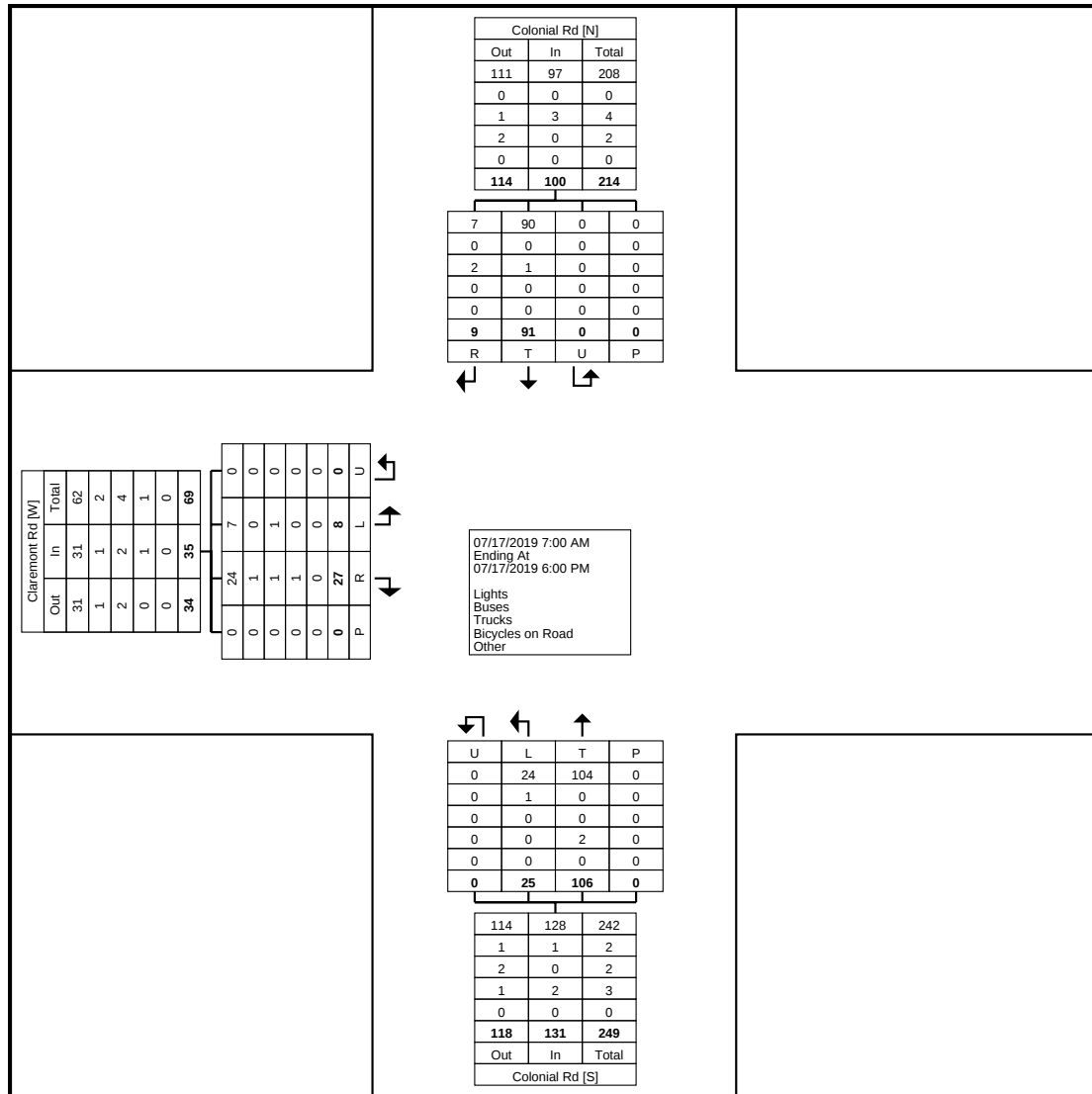
Turning Movement Peak Hour Data Plot (4:30 PM)



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Count Name: 3. Colonial Rd /
Claremont Rd
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 1

Start Time	Claremont Rd Eastbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	0	0	0	1	1	0	0	2	9	0	0	0	9	11
7:15 AM	0	1	0	0	1	0	8	0	0	8	5	0	0	0	5	14
7:30 AM	1	3	0	0	4	0	7	0	0	7	8	0	0	0	8	19
7:45 AM	2	3	0	0	5	0	2	0	0	2	7	2	0	0	9	16
Hourly Total	3	7	0	0	10	1	18	0	0	19	29	2	0	0	31	60
8:00 AM	0	3	0	0	3	1	3	0	0	4	7	1	0	0	8	15
8:15 AM	0	1	0	0	1	1	5	0	0	6	5	0	0	0	5	12
8:30 AM	1	6	0	0	7	0	2	0	0	2	3	0	0	0	3	12
8:45 AM	0	0	0	0	0	2	4	0	0	6	5	1	0	0	6	12
Hourly Total	1	10	0	0	11	4	14	0	0	18	20	2	0	0	22	51
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	2	10	0	0	12	2	1	0	0	3	15
4:15 PM	1	1	0	0	2	2	5	0	0	7	4	0	0	0	4	13
4:30 PM	1	1	0	0	2	3	9	0	0	12	5	0	0	0	5	19
4:45 PM	1	2	0	0	3	3	17	0	0	20	6	1	0	0	7	30
Hourly Total	3	4	0	0	7	10	41	0	0	51	17	2	0	0	19	77
5:00 PM	0	2	0	0	2	2	7	0	0	9	3	1	0	0	4	15
5:15 PM	0	0	0	0	0	3	10	0	0	13	9	0	0	0	9	22
5:30 PM	1	2	0	0	3	4	8	0	0	12	10	1	0	0	11	26
5:45 PM	0	2	0	0	2	1	8	0	0	9	3	1	0	0	4	15
Hourly Total	1	6	0	0	7	10	33	0	0	43	25	3	0	0	28	78
Grand Total	8	27	0	0	35	25	106	0	0	131	91	9	0	0	100	266
Approach %	22.9	77.1	0.0	-	-	19.1	80.9	0.0	-	-	91.0	9.0	0.0	-	-	-
Total %	3.0	10.2	0.0	-	13.2	9.4	39.8	0.0	-	49.2	34.2	3.4	0.0	-	37.6	-
Lights	7	24	0	-	31	24	104	0	-	128	90	7	0	-	97	256
% Lights	87.5	88.9	-	-	88.6	96.0	98.1	-	-	97.7	98.9	77.8	-	-	97.0	96.2
Buses	0	1	0	-	1	1	0	0	-	1	0	0	0	-	0	2
% Buses	0.0	3.7	-	-	2.9	4.0	0.0	-	-	0.8	0.0	0.0	-	-	0.0	0.8
Trucks	1	1	0	-	2	0	0	0	-	0	1	2	0	-	3	5
% Trucks	12.5	3.7	-	-	5.7	0.0	0.0	-	-	0.0	1.1	22.2	-	-	3.0	1.9
Bicycles on Road	0	1	0	-	1	0	2	0	-	2	0	0	0	-	0	3
% Bicycles on Road	0.0	3.7	-	-	2.9	0.0	1.9	-	-	1.5	0.0	0.0	-	-	0.0	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-						

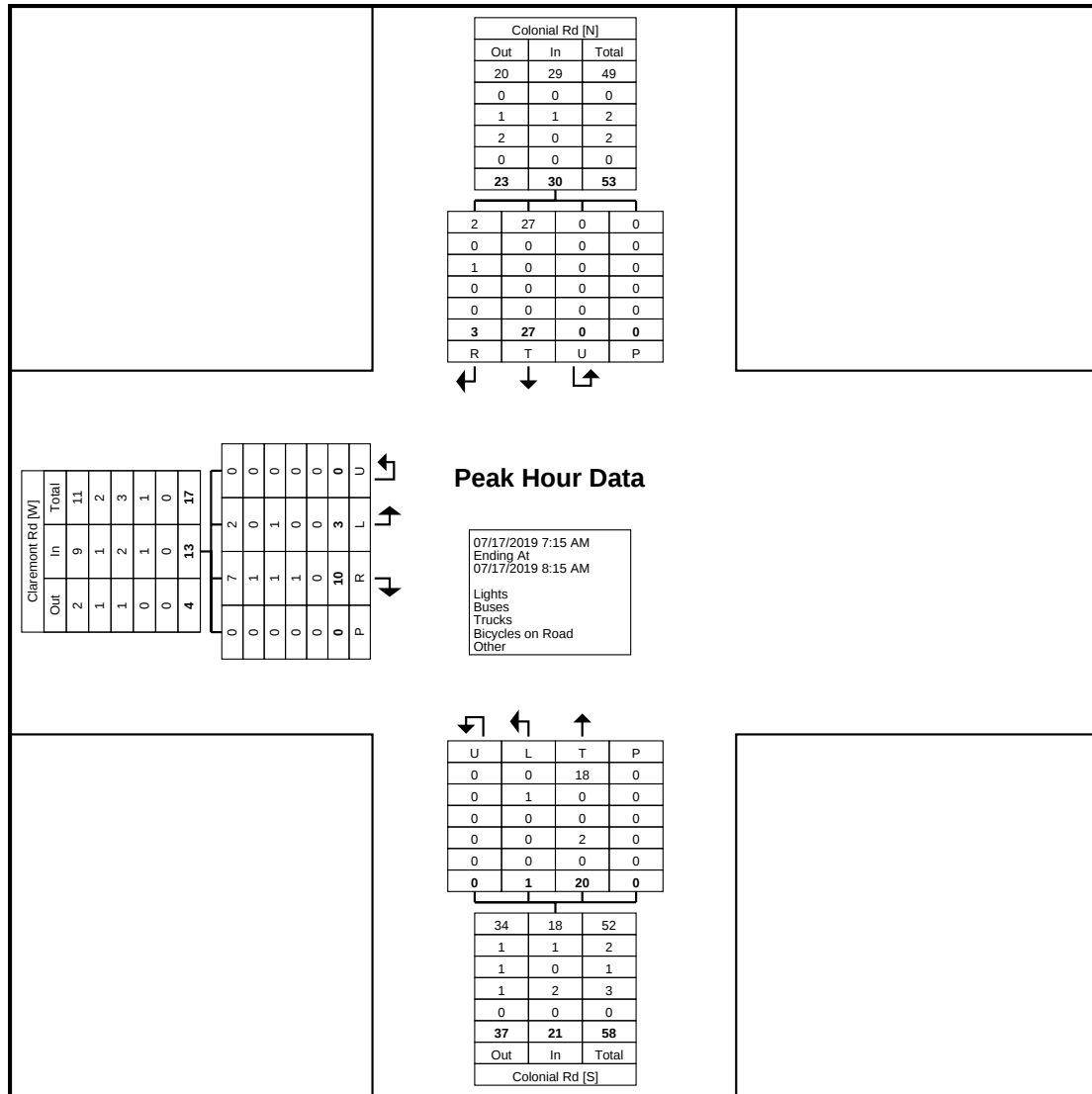




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Page No: 3

Start Time	Claremont Rd Eastbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
7:15 AM	0	1	0	0	1	0	8	0	0	8	5	0	0	0	5	14
7:30 AM	1	3	0	0	4	0	7	0	0	7	8	0	0	0	8	19
7:45 AM	2	3	0	0	5	0	2	0	0	2	7	2	0	0	9	16
8:00 AM	0	3	0	0	3	1	3	0	0	4	7	1	0	0	8	15
Total	3	10	0	0	13	1	20	0	0	21	27	3	0	0	30	64
Approach %	23.1	76.9	0.0	-	-	4.8	95.2	0.0	-	-	90.0	10.0	0.0	-	-	-
Total %	4.7	15.6	0.0	-	20.3	1.6	31.3	0.0	-	32.8	42.2	4.7	0.0	-	46.9	-
PHF	0.375	0.833	0.000	-	0.650	0.250	0.625	0.000	-	0.656	0.844	0.375	0.000	-	0.833	0.842
Lights	2	7	0	-	9	0	18	0	-	18	27	2	0	-	29	56
% Lights	66.7	70.0	-	-	69.2	0.0	90.0	-	-	85.7	100.0	66.7	-	-	96.7	87.5
Buses	0	1	0	-	1	1	0	0	-	1	0	0	0	-	0	2
% Buses	0.0	10.0	-	-	7.7	100.0	0.0	-	-	4.8	0.0	0.0	-	-	0.0	3.1
Trucks	1	1	0	-	2	0	0	0	-	0	0	1	0	-	1	3
% Trucks	33.3	10.0	-	-	15.4	0.0	0.0	-	-	0.0	0.0	33.3	-	-	3.3	4.7
Bicycles on Road	0	1	0	-	1	0	2	0	-	2	0	0	0	-	0	3
% Bicycles on Road	0.0	10.0	-	-	7.7	0.0	10.0	-	-	9.5	0.0	0.0	-	-	0.0	4.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



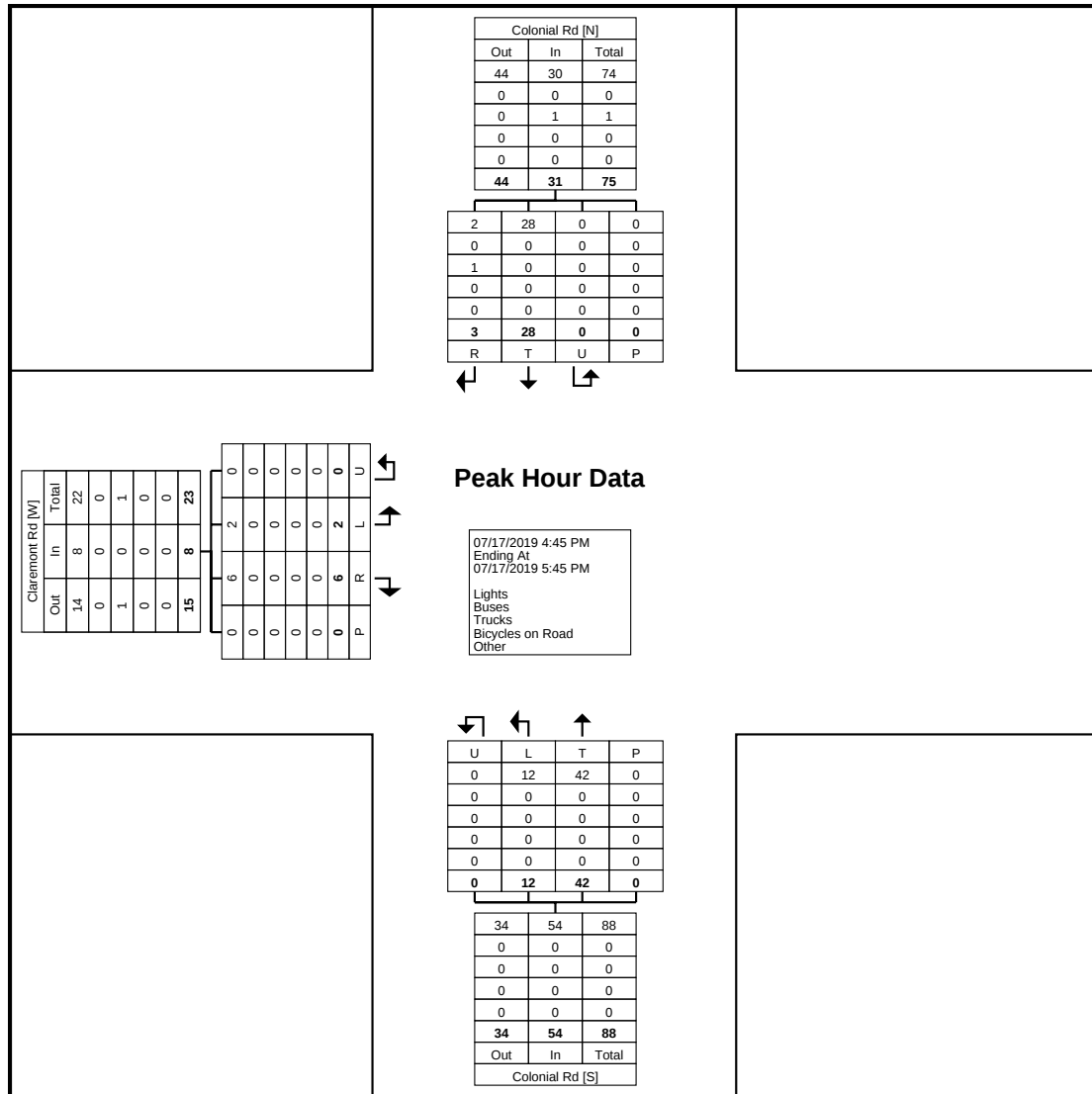
Turning Movement Peak Hour Data Plot (7:15 AM)



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Turning Movement Peak Hour Data (4:45 PM)

[illegible]



Turning Movement Peak Hour Data Plot (4:45 PM)



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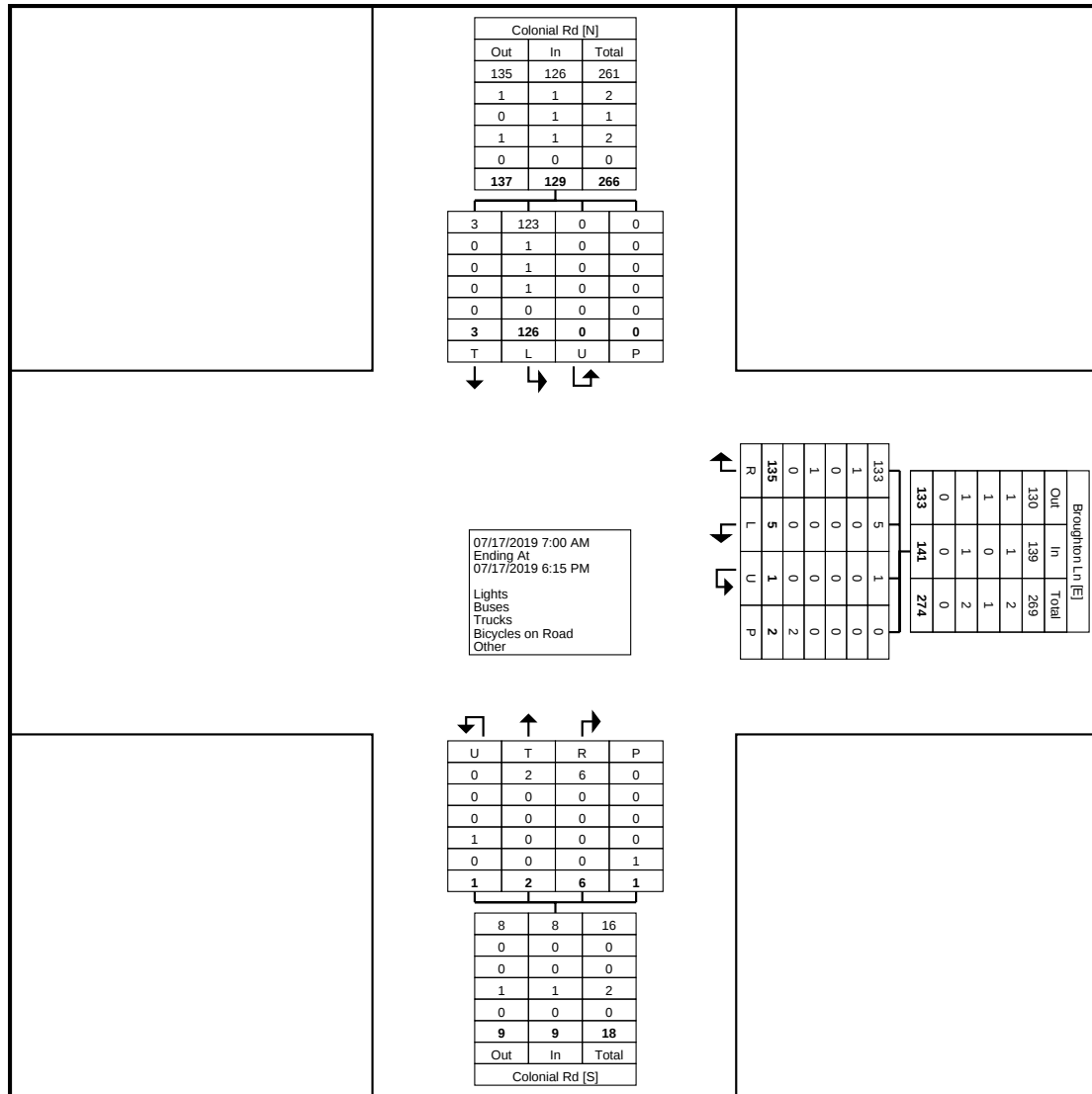
Stillwater, New York
Colonial Rd / Broughton Ln
July 17, 2019
Location: 42.941796, -
73.650583

Count Name: 4. Colonial Rd /
Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 1

Turning Movement Data

Start Time	Broughton Ln Westbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	2	0	0	2	0	0	0	0	0	8	0	0	0	8	10
7:15 AM	0	6	0	0	6	1	1	0	0	2	6	1	0	0	7	15
7:30 AM	0	8	0	0	8	0	0	0	0	0	13	0	0	0	13	21
7:45 AM	1	2	0	0	3	0	1	0	0	1	11	0	0	0	11	15
Hourly Total	1	18	0	0	19	1	2	0	0	3	38	1	0	0	39	61
8:00 AM	0	3	0	0	3	0	0	0	0	0	10	0	0	0	10	13
8:15 AM	0	5	0	0	5	0	0	0	0	0	7	0	0	0	7	12
8:30 AM	0	3	0	0	3	0	0	0	0	0	8	0	0	0	8	11
8:45 AM	0	7	0	0	7	0	0	0	0	0	6	0	0	0	6	13
Hourly Total	0	18	0	0	18	0	0	0	0	0	31	0	0	0	31	49
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	12	0	0	14	0	0	0	0	0	3	0	0	0	3	17
4:15 PM	0	11	0	0	11	0	1	0	0	1	4	0	0	0	4	16
4:30 PM	1	13	0	0	14	0	0	0	0	0	10	0	0	0	10	24
4:45 PM	0	18	0	0	18	0	1	0	0	1	8	1	0	0	9	28
Hourly Total	3	54	0	0	57	0	2	0	0	2	25	1	0	0	26	85
5:00 PM	1	11	0	0	12	1	1	0	0	2	4	0	0	0	4	18
5:15 PM	0	12	0	0	12	0	0	0	0	0	9	0	0	0	9	21
5:30 PM	0	14	1	2	15	0	0	1	1	1	13	1	0	0	14	30
5:45 PM	0	8	0	0	8	0	1	0	0	1	6	0	0	0	6	15
Hourly Total	1	45	1	2	47	1	2	1	1	4	32	1	0	0	33	84
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	5	135	1	2	141	2	6	1	1	9	126	3	0	0	129	279
Approach %	3.5	95.7	0.7	-	-	22.2	66.7	11.1	-	-	97.7	2.3	0.0	-	-	-
Total %	1.8	48.4	0.4	-	50.5	0.7	2.2	0.4	-	3.2	45.2	1.1	0.0	-	46.2	-
Lights	5	133	1	-	139	2	6	0	-	8	123	3	0	-	126	273
% Lights	100.0	98.5	100.0	-	98.6	100.0	100.0	0.0	-	88.9	97.6	100.0	-	-	97.7	97.8
Buses	0	1	0	-	1	0	0	0	-	0	1	0	0	-	1	2
% Buses	0.0	0.7	0.0	-	0.7	0.0	0.0	0.0	-	0.0	0.8	0.0	-	-	0.8	0.7
Trucks	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	1
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.8	0.0	-	-	0.8	0.4
Bicycles on Road	0	1	0	-	1	0	0	1	-	1	1	0	0	-	1	3
% Bicycles on Road	0.0	0.7	0.0	-	0.7	0.0	0.0	100.0	-	11.1	0.8	0.0	-	-	0.8	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	-	-	-

Stillwater, New York
Colonial Rd / Broughton Ln
July 17, 2019
Location: 42.941796, -
73.650583



Turning Movement Data Plot

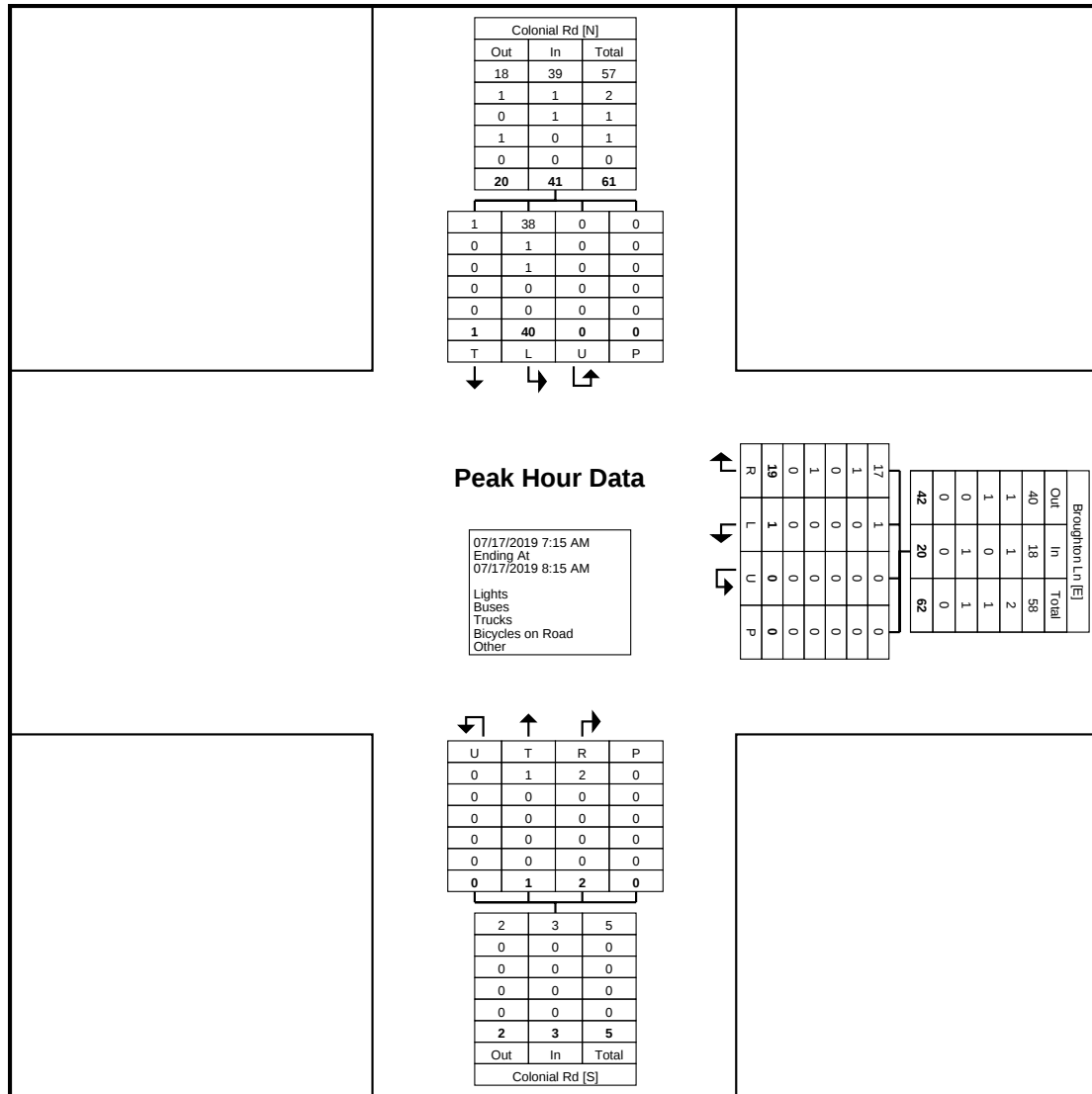


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Turning Movement Peak Hour Data (7:15 AM)

[illegible]

Stillwater, New York
Colonial Rd / Broughton Ln
July 17, 2019
Location: 42.941796, -
73.650583





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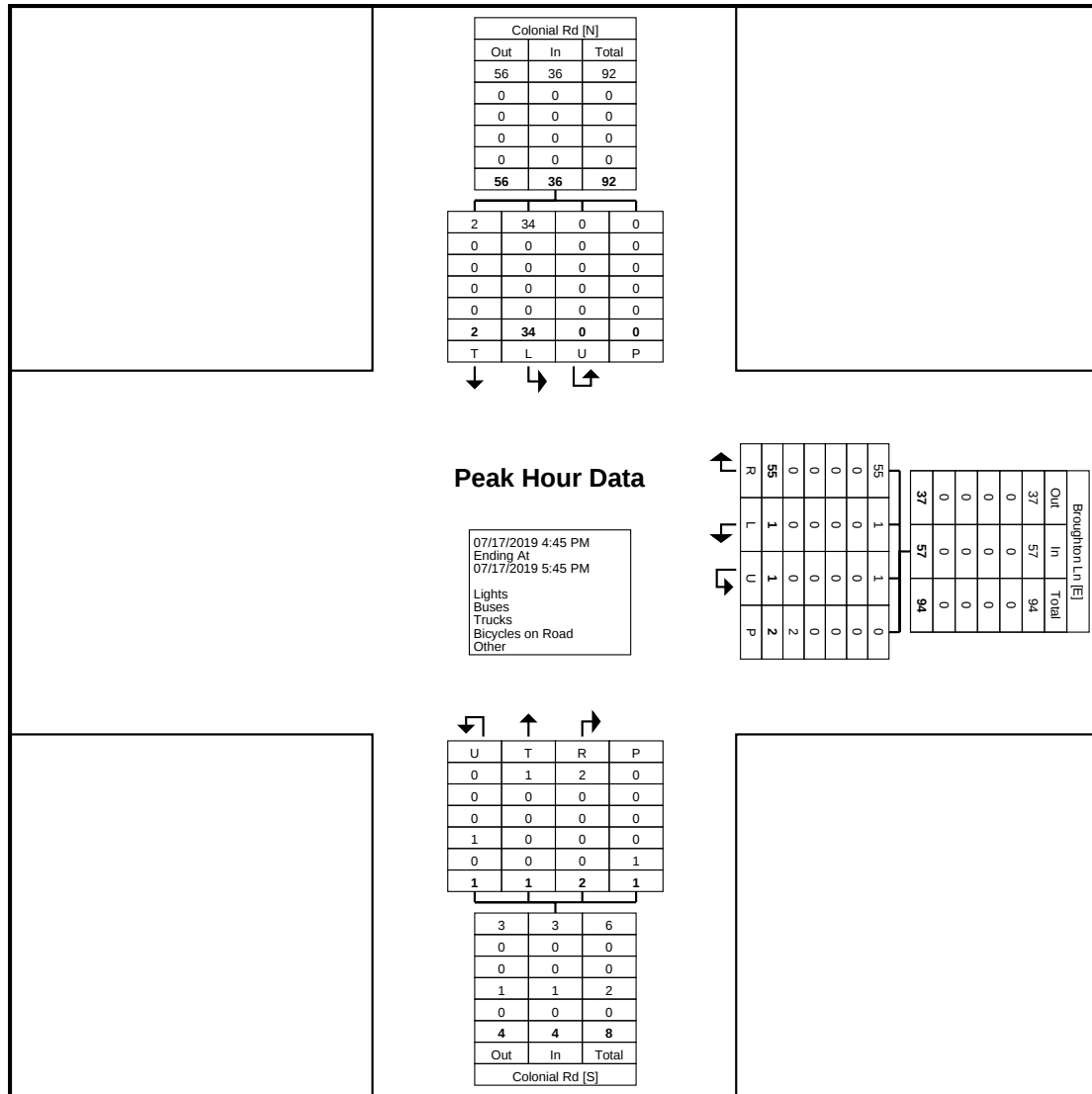
Stillwater, New York
Colonial Rd / Broughton Ln
July 17, 2019
Location: 42.941796, -
73.650583

Count Name: 4. Colonial Rd /
Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 5

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Broughton Ln Westbound					Colonial Rd Northbound					Colonial Rd Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
4:45 PM	0	18	0	0	18	0	1	0	0	1	8	1	0	0	9	28
5:00 PM	1	11	0	0	12	1	1	0	0	2	4	0	0	0	4	18
5:15 PM	0	12	0	0	12	0	0	0	0	0	9	0	0	0	9	21
5:30 PM	0	14	1	2	15	0	0	1	1	1	13	1	0	0	14	30
Total	1	55	1	2	57	1	2	1	1	4	34	2	0	0	36	97
Approach %	1.8	96.5	1.8	-	-	25.0	50.0	25.0	-	-	94.4	5.6	0.0	-	-	-
Total %	1.0	56.7	1.0	-	58.8	1.0	2.1	1.0	-	4.1	35.1	2.1	0.0	-	37.1	-
PHF	0.250	0.764	0.250	-	0.792	0.250	0.500	0.250	-	0.500	0.654	0.500	0.000	-	0.643	0.808
Lights	1	55	1	-	57	1	2	0	-	3	34	2	0	-	36	96
% Lights	100.0	100.0	100.0	-	100.0	100.0	100.0	0.0	-	75.0	100.0	100.0	-	-	100.0	99.0
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	1	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	100.0	-	25.0	0.0	0.0	-	-	0.0	1.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	-	-	-

Stillwater, New York
Colonial Rd / Broughton Ln
July 17, 2019
Location: 42.941796, -
73.650583





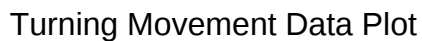
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Count Name: 5. Maj Dickinson
Ave / Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 1

Start Time	Broughton Ln Eastbound						Broughton Ln Westbound						Maj Dickinson Ave Northbound						Maj Dickinson Ave Southbound						Int. Total
	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	0	10	0	0	10	0	0	0	0	0	0	2	3	0	0	0	5	0	3	0	0	0	3	18
7:15 AM	1	0	5	0	0	6	0	0	0	0	0	0	7	0	0	0	0	7	0	1	0	0	0	1	14
7:30 AM	0	0	13	0	0	13	0	0	0	0	0	0	8	0	1	0	0	9	0	0	0	0	0	0	22
7:45 AM	1	0	11	0	0	12	0	1	0	0	0	1	2	2	0	0	0	4	0	1	0	0	0	1	18
Hourly Total	2	0	39	0	0	41	0	1	0	0	0	1	19	5	1	0	0	25	0	5	0	0	0	5	72
8:00 AM	0	1	8	0	0	9	0	0	0	0	0	0	2	1	1	0	0	4	0	2	0	0	0	2	15
8:15 AM	0	0	7	0	0	7	0	0	0	0	0	0	5	1	0	0	0	6	0	2	0	0	0	2	15
8:30 AM	1	0	7	0	0	8	0	0	0	0	0	0	4	0	0	0	0	4	0	1	0	0	0	1	13
8:45 AM	0	0	6	0	0	6	0	0	0	0	0	0	6	1	0	0	0	7	0	0	0	0	0	0	13
Hourly Total	1	1	28	0	0	30	0	0	0	0	0	0	17	3	1	0	0	21	0	5	0	0	0	5	56
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	3	0	0	3	0	0	0	0	0	0	16	3	0	0	0	19	0	0	0	0	0	0	22
4:15 PM	0	0	6	0	0	6	0	0	0	0	0	0	7	4	2	0	0	13	0	2	1	0	0	3	22
4:30 PM	0	0	9	0	0	9	0	0	0	0	0	0	14	3	0	0	0	17	0	0	0	0	0	0	26
4:45 PM	0	0	9	0	0	9	0	0	0	0	0	0	17	4	0	0	0	21	0	0	0	0	0	0	30
Hourly Total	0	0	27	0	0	27	0	0	0	0	0	0	54	14	2	0	0	70	0	2	1	0	0	3	100
5:00 PM	1	0	4	0	0	5	0	0	0	0	0	0	13	4	1	0	0	18	0	0	0	0	0	0	23
5:15 PM	0	0	10	0	0	10	0	0	0	0	0	0	13	6	1	0	0	20	0	1	0	0	0	1	31
5:30 PM	0	0	13	0	1	13	0	0	0	0	0	0	15	6	0	0	0	21	0	2	0	0	0	2	36
5:45 PM	1	0	6	0	0	7	0	0	0	0	0	0	7	5	1	1	0	14	0	0	0	0	0	0	21
Hourly Total	2	0	33	0	1	35	0	0	0	0	0	0	48	21	3	1	0	73	0	3	0	0	0	3	111
6:00 PM	0	0	0	0																					

Coatesville, Pennsylvania, United States 19320
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Count Name: 5. Maj Dickinson
Ave / Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 2

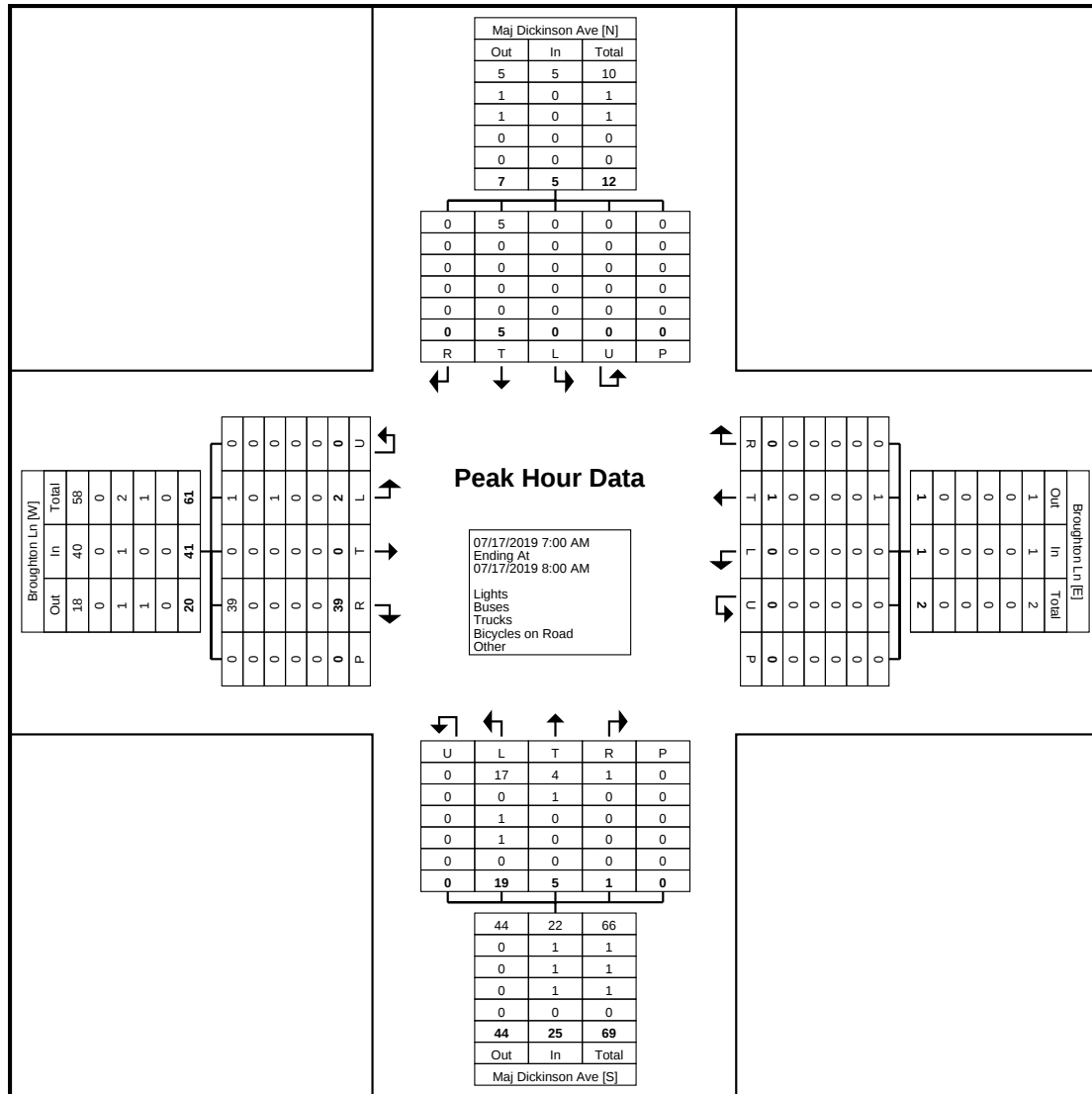




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Count Name: 5. Maj Dickinson
Ave / Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 3

[illegible]



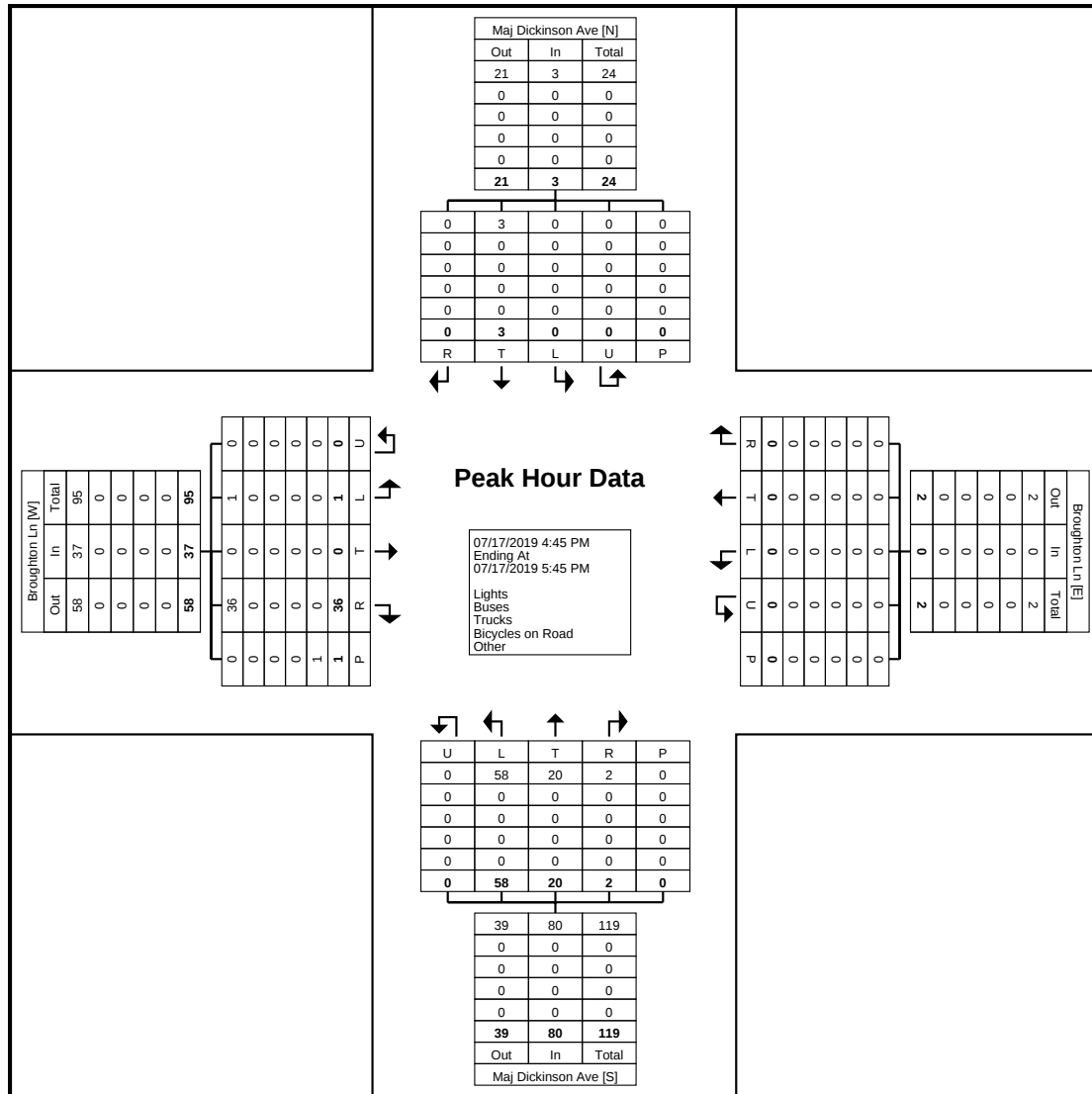
Turning Movement Peak Hour Data Plot (7:00 AM)



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Count Name: 5. Maj Dickinson
Ave / Broughton Ln
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 5

[illegible]



Turning Movement Peak Hour Data Plot (4:45 PM)



Coatesville, Pennsylvania, United States 19320
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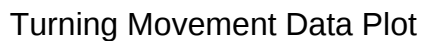
Count Name: 6. Maj Dickinson
Ave / Gen Schuyler Ln
Site Code: Stillwater, New York
Start Date: 07/24/2019
Page No: 1

Start Time	Gen Schuyler Lane Westbound					Maj Dickinson Ave Northbound					Maj Dickinson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
7:00 AM	0	1	0	1	1	2	0	0	0	2	0	8	0	0	8	11
7:15 AM	0	0	0	1	0	8	0	0	0	8	0	11	0	0	11	19
7:30 AM	0	1	0	1	1	6	0	0	0	6	0	18	0	0	18	25
7:45 AM	0	0	0	2	0	6	0	0	0	6	0	14	0	0	14	20
Hourly Total	0	2	0	5	2	22	0	0	0	22	0	51	0	0	51	75
8:00 AM	0	0	0	1	0	9	0	0	0	9	0	9	0	0	9	18
8:15 AM	0	0	0	0	0	3	1	0	0	4	0	4	0	0	4	8
8:30 AM	1	0	0	0	1	7	0	0	0	7	0	6	0	0	6	14
8:45 AM	1	2	0	0	3	7	1	0	0	8	1	6	0	1	7	18
Hourly Total	2	2	0	1	4	26	2	0	0	28	1	25	0	1	26	58
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	2	0	15	1	0	0	16	0	11	0	0	11	27
4:15 PM	1	0	0	0	1	12	0	0	0	12	1	4	0	0	5	18
4:30 PM	1	0	0	0	1	16	0	0	0	16	1	7	0	0	8	25
4:45 PM	0	0	0	2	0	14	0	0	0	14	0	7	0	0	7	21
Hourly Total	2	0	0	4	2	57	1	0	0	58	2	29	0	0	31	91
5:00 PM	0	1	0	0	1	18	0	0	0	18	1	6	0	0	7	26
5:15 PM	1	0	0	3	1	16	3	0	0	19	0	5	0	1	5	25
5:30 PM	0	0	0	8	0	11	1	0	0	12	1	7	0	3	8	20
5:45 PM	0	1	0	5	1	12	0	0	0	12	0	5	0	3	5	18
Hourly Total	1	2	0	16	3	57	4	0	0	61	2	23	0	7	25	89
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	5	6	0	26	11	162	7	0	0	169	5	128	0	8	133	313
Approach %	45.5	54.5	0.0	-	-	95.9	4.1	0.0	-	-	3.8	96.2	0.0	-	-	-
Total %	1.6	1.9	0.0	-	3.5	51.8	2.2	0.0	-	54.0	1.6	40.9	0.0	-	42.5	-
Lights	5	4	0	-	9	155	6	0	-	161	4	119	0	-	123	293
% Lights	100.0	66.7	-	-	81.8	95.7	85.7	-	-	95.3	80.0	93.0	-	-	92.5	93.6
Buses	0	0	0	-	0	2	0	0	-	2	0	1	0	-	1	3
% Buses	0.0	0.0	-	-	0.0	1.2	0.0	-	-	1.2	0.0	0.8	-	-	0.8	1.0
Trucks	0	0	0	-	0	1	0	0	-	1	0	4	0	-	4	5
% Trucks	0.0	0.0	-	-	0.0	0.6	0.0	-	-	0.6	0.0	3.1	-	-		



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Count Name: 6. Maj Dickinson
Ave / Gen Schuyler Ln
Site Code: Stillwater, New York
Start Date: 07/24/2019
Page No: 2

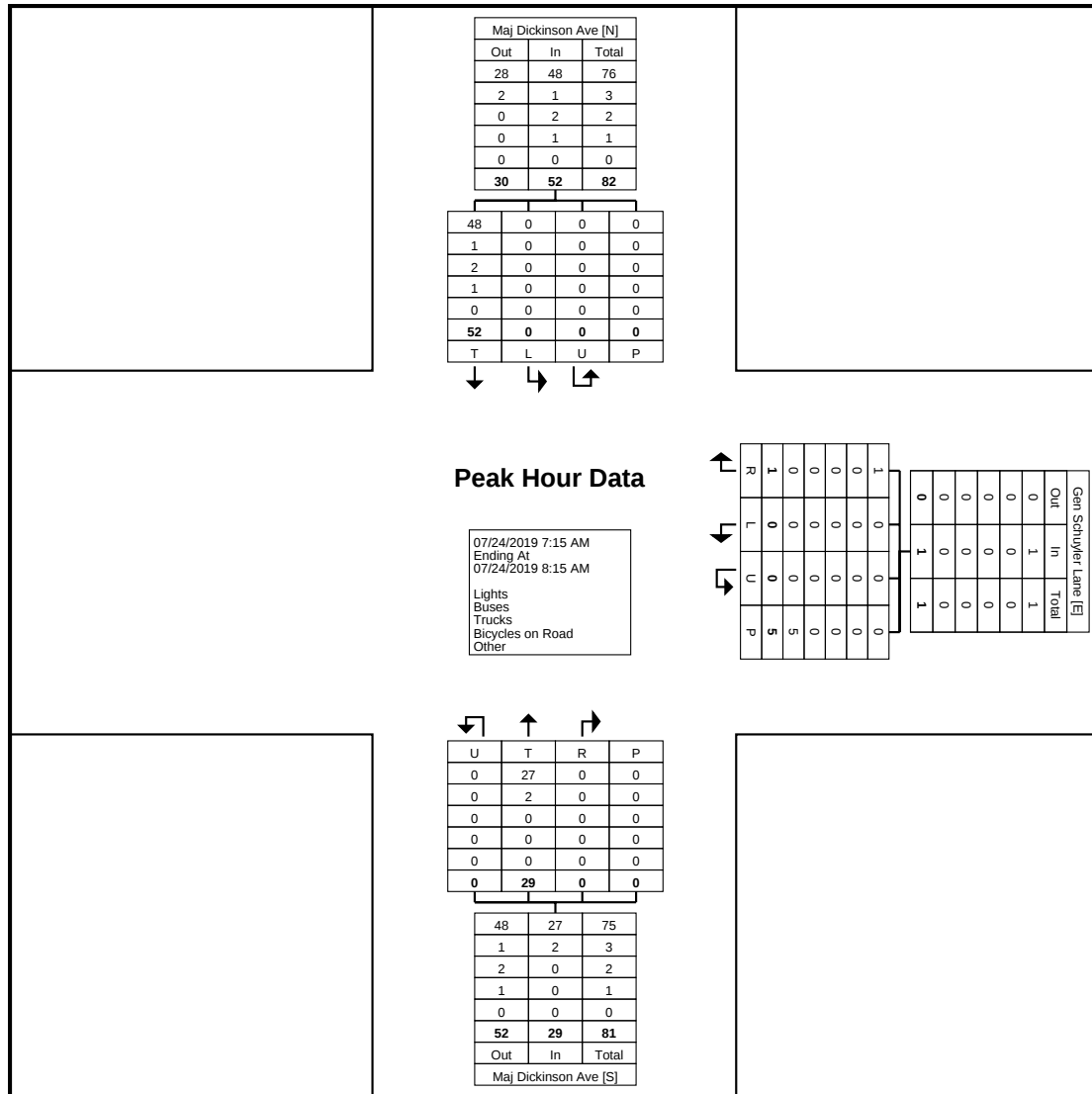




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Count Name: 6. Maj Dickinson
Ave / Gen Schuyler Ln
Site Code: Stillwater, New York
Start Date: 07/24/2019
Page No: 3

[illegible]





Stillwater, New York
Maj Dickinson Ave / Gen
Schuyler Ln
July 24, 2019
Location: 42.940899, -
73.650607

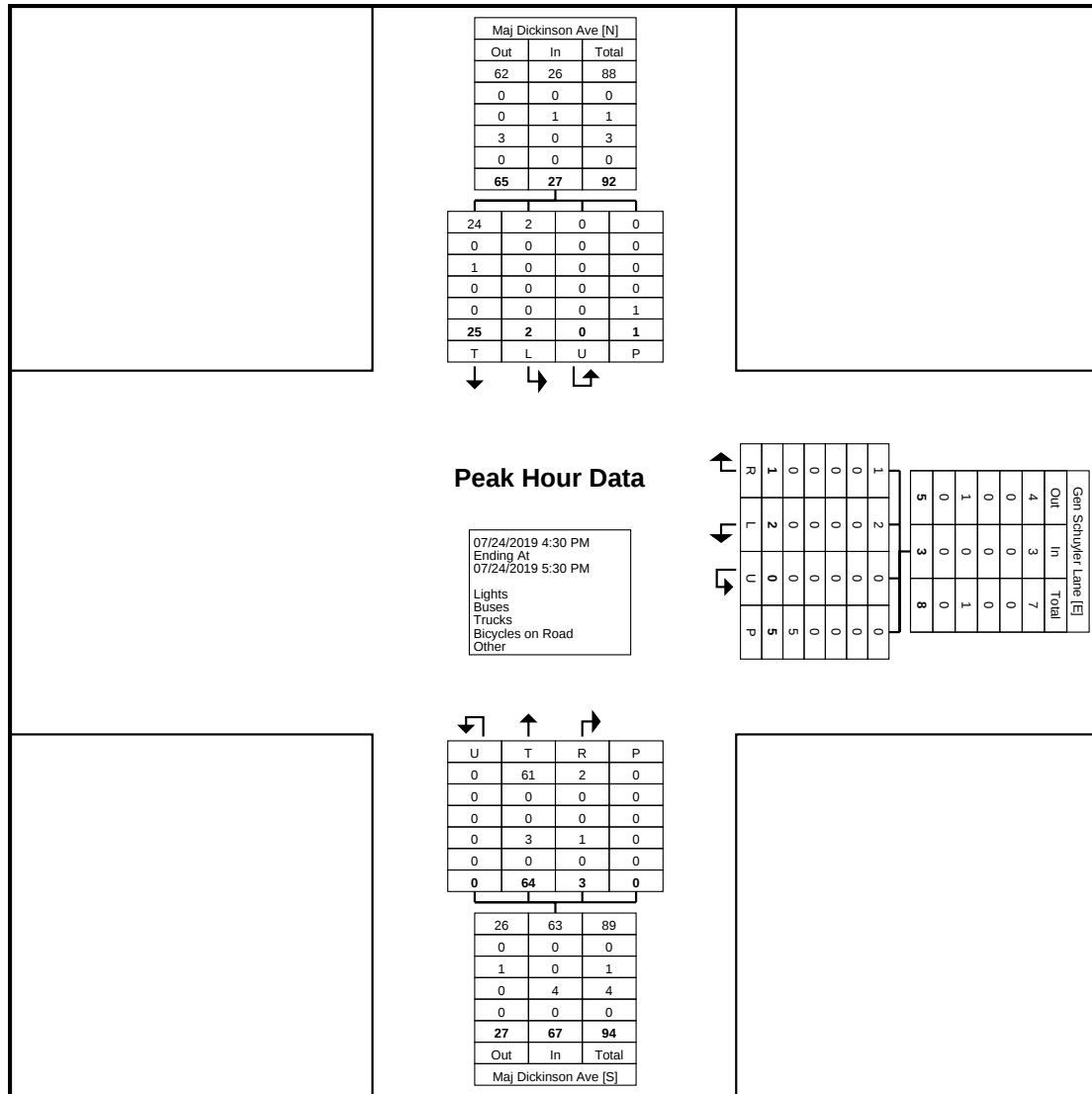
www.TSTData.com
184 Baker Rd

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Count Name: 6. Maj Dickinson
Ave / Gen Schuyler Ln
Site Code: Stillwater, New York
Start Date: 07/24/2019
Page No: 5

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Gen Schuyler Lane Westbound					Maj Dickinson Ave Northbound					Maj Dickinson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	
4:30 PM	1	0	0	0	1	16	0	0	0	16	1	7	0	0	8	25
4:45 PM	0	0	0	2	0	14	0	0	0	14	0	7	0	0	7	21
5:00 PM	0	1	0	0	1	18	0	0	0	18	1	6	0	0	7	26
5:15 PM	1	0	0	3	1	16	3	0	0	19	0	5	0	1	5	25
Total	2	1	0	5	3	64	3	0	0	67	2	25	0	1	27	97
Approach %	66.7	33.3	0.0	-	-	95.5	4.5	0.0	-	-	7.4	92.6	0.0	-	-	-
Total %	2.1	1.0	0.0	-	3.1	66.0	3.1	0.0	-	69.1	2.1	25.8	0.0	-	27.8	-
PHF	0.500	0.250	0.000	-	0.750	0.889	0.250	0.000	-	0.882	0.500	0.893	0.000	-	0.844	0.933
Lights	2	1	0	-	3	61	2	0	-	63	2	24	0	-	26	92
% Lights	100.0	100.0	-	-	100.0	95.3	66.7	-	-	94.0	100.0	96.0	-	-	96.3	94.8
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Trucks	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	4.0	-	-	3.7	1.0
Bicycles on Road	0	0	0	-	0	3	1	0	-	4	0	0	0	-	0	4
% Bicycles on Road	0.0	0.0	-	-	0.0	4.7	33.3	-	-	6.0	0.0	0.0	-	-	0.0	4.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	5	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-





Stillwater, New York
 NY 32 Hudson Ave / Maj
 Dickinson Ave
 July 17, 2019
 Location: 42.938711, -
 73.652487

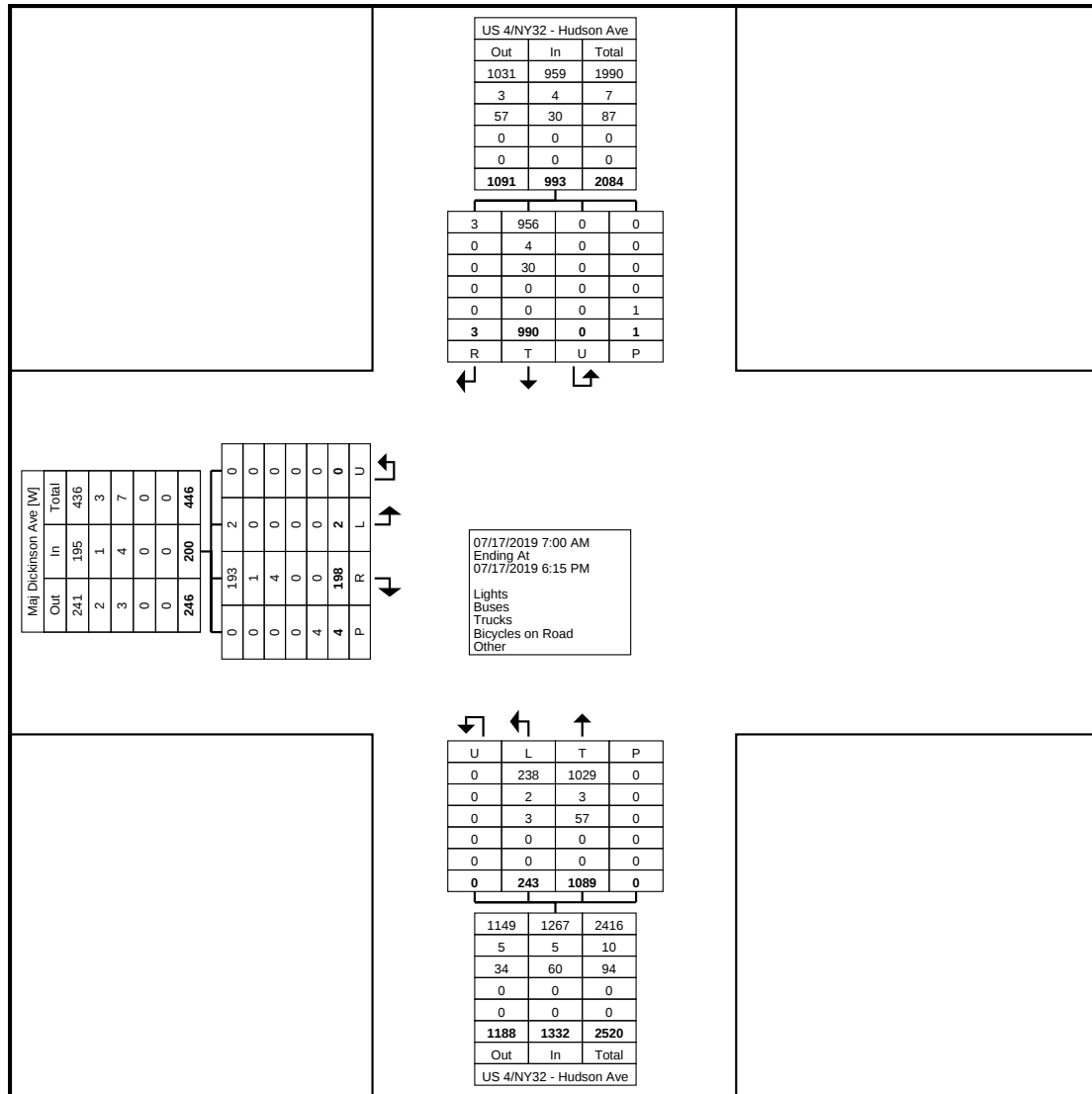
www.TSTData.com
 184 Baker Rd

Coatesville, Pennsylvania, United States 19320
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Count Name: 7. NY 32 Hudson
 Ave / Maj Dickinson Ave
 Site Code: Stillwater, New York
 Start Date: 07/17/2019
 Page No: 1

Turning Movement Data

Start Time	Maj Dickinson Ave Eastbound					US 4/NY32 - Hudson Ave Northbound					US 4/NY32 - Hudson Ave Southbound					Int. Total
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	
7:00 AM	0	18	0	0	18	6	31	0	0	37	72	0	0	0	72	127
7:15 AM	0	12	0	0	12	10	32	0	0	42	107	1	0	0	108	162
7:30 AM	0	21	0	0	21	11	38	0	0	49	77	1	0	0	78	148
7:45 AM	0	16	0	0	16	10	45	0	0	55	87	0	0	0	87	158
Hourly Total	0	67	0	0	67	37	146	0	0	183	343	2	0	0	345	595
8:00 AM	0	19	0	1	19	5	38	0	0	43	63	0	0	0	63	125
8:15 AM	0	8	0	0	8	8	44	0	0	52	57	0	0	0	57	117
8:30 AM	0	13	0	2	13	11	43	0	0	54	63	1	0	0	64	131
8:45 AM	0	7	0	0	7	5	41	0	0	46	56	0	0	0	56	109
Hourly Total	0	47	0	3	47	29	166	0	0	195	239	1	0	0	240	482
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	5	0	0	5	21	87	0	0	108	55	0	0	0	55	168
4:15 PM	0	14	0	0	14	20	83	0	0	103	39	0	0	0	39	156
4:30 PM	0	9	0	0	9	19	91	0	0	110	61	0	0	0	61	180
4:45 PM	1	12	0	0	13	30	117	0	0	147	53	0	0	0	53	213
Hourly Total	1	40	0	0	41	90	378	0	0	468	208	0	0	0	208	717
5:00 PM	0	7	0	0	7	17	99	0	0	116	47	0	0	0	47	170
5:15 PM	0	8	0	0	8	20	117	0	0	137	51	0	0	0	51	196
5:30 PM	1	18	0	0	19	30	103	0	0	133	52	0	0	0	52	204
5:45 PM	0	10	0	1	10	20	80	0	0	100	50	0	0	1	50	160
Hourly Total	1	43	0	1	44	87	399	0	0	486	200	0	0	1	200	730
6:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	2	198	0	4	200	243	1089	0	0	1332	990	3	0	1	993	2525
Approach %	1.0	99.0	0.0	-	-	18.2	81.8	0.0	-	-	99.7	0.3	0.0	-	-	-
Total %	0.1	7.8	0.0	-	7.9	9.6	43.1	0.0	-	52.8	39.2	0.1	0.0	-	39.3	-
Lights	2	193	0	-	195	238	1029	0	-	1267	956	3	0	-	959	2421
% Lights	100.0	97.5	-	-	97.5	97.9	94.5	-	-	95.1	96.6	100.0	-	-	96.6	95.9
Buses	0	1	0	-	1	2	3	0	-	5	4	0	0	-	4	10
% Buses	0.0	0.5	-	-	0.5	0.8	0.3	-	-	0.4	0.4	0.0	-	-	0.4	0.4
Trucks	0	4	0	-	4	3	57	0	-	60	30	0	0	-	30	94
% Trucks	0.0	2.0	-	-	2.0	1.2	5.2	-	-	4.5	3.0	0.0	-	-	3.0	3.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	4	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



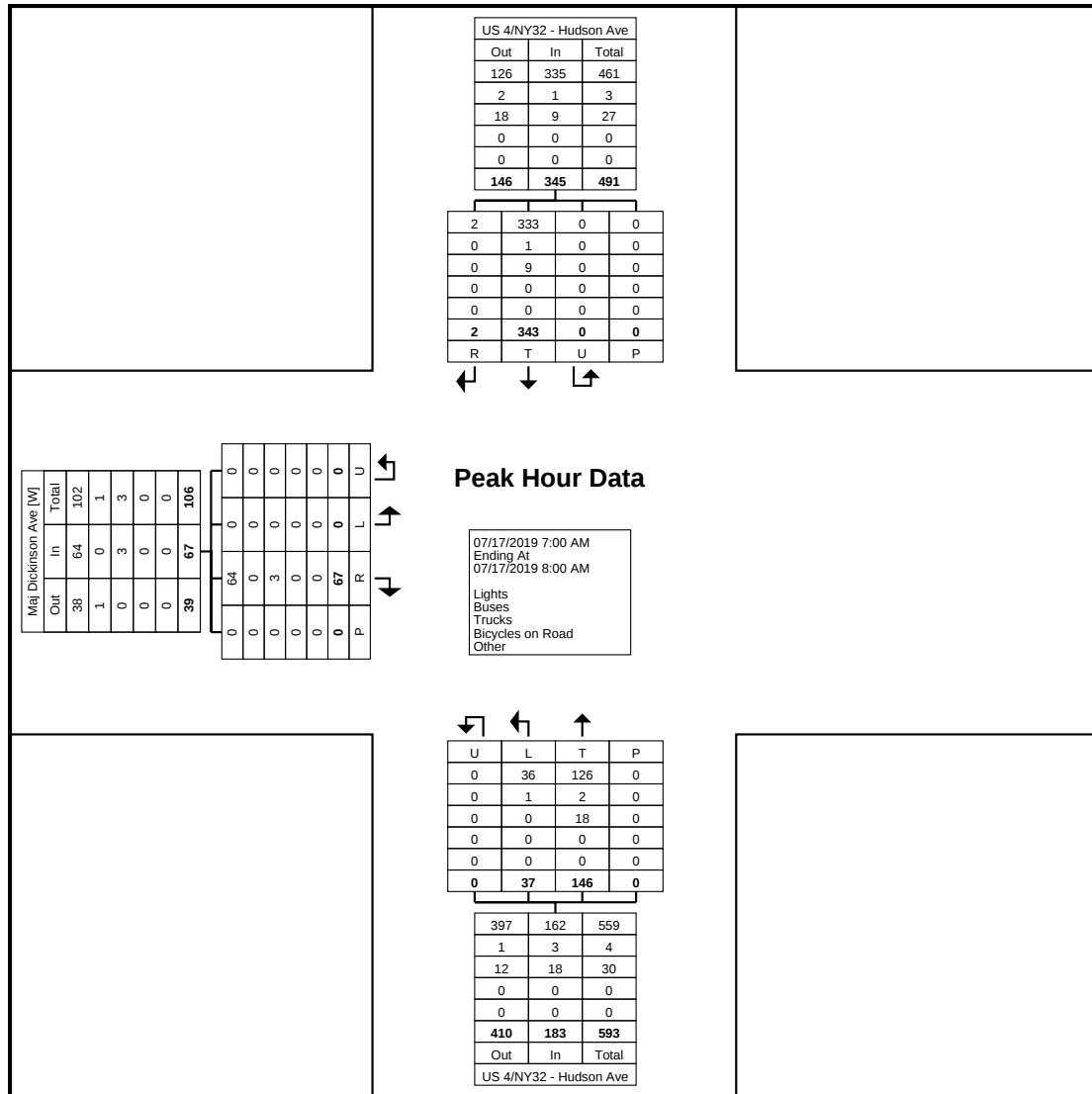


Coatesville, Pennsylvania, United States 19320
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Turning Movement Peak Hour Data (7:00 AM)

[illegible]

Stillwater, New York
NY 32 Hudson Ave / Maj
Dickinson Ave
July 17, 2019
Location: 42.938711, -
73.652487



Turning Movement Peak Hour Data Plot (7:00 AM)

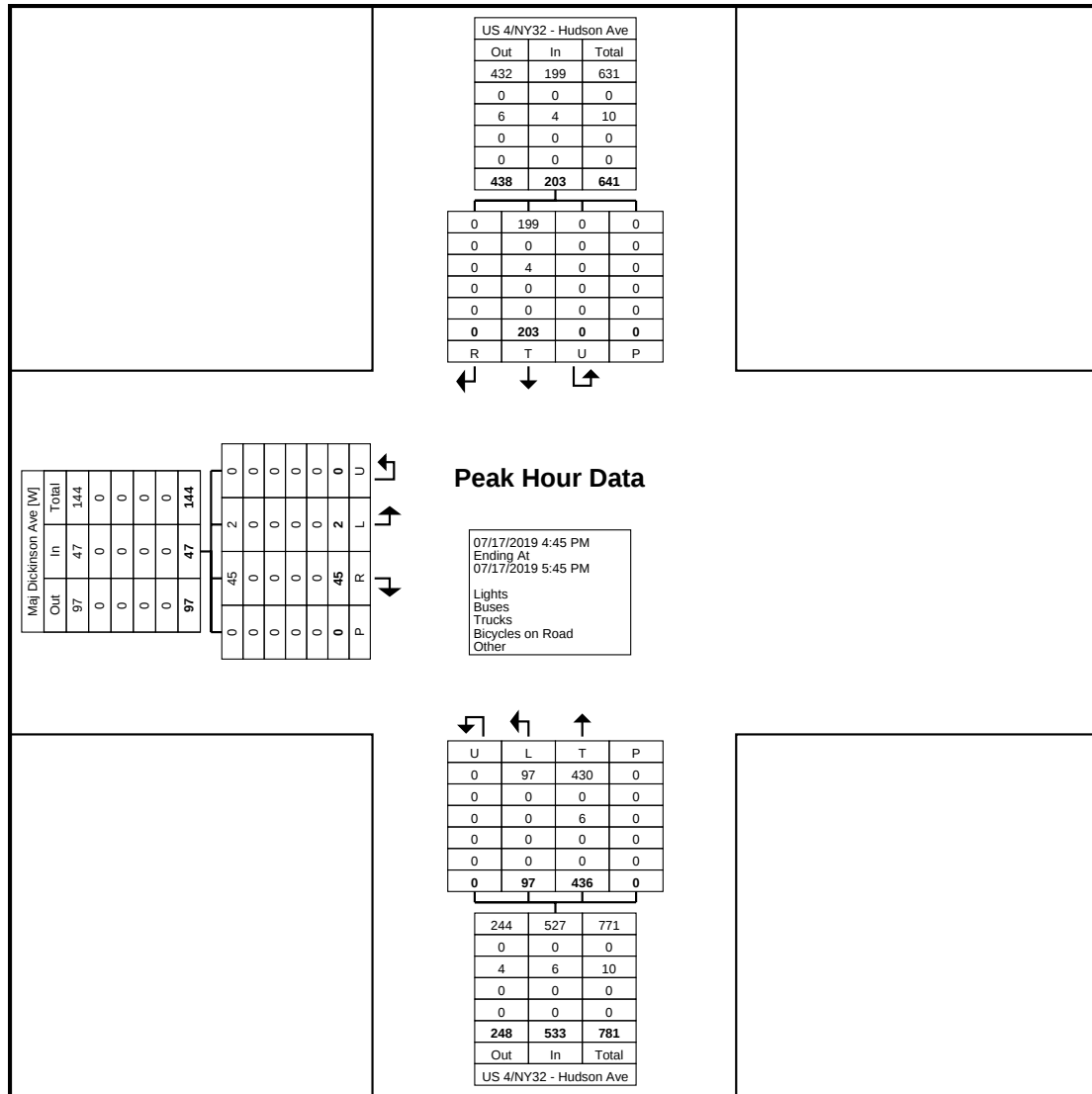


Coatesville, Pennsylvania, United States 19320
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Count Name: 7. NY 32 Hudson
Ave / Maj Dickinson Ave
Site Code: Stillwater, New York
Start Date: 07/17/2019
Page No: 5

[illegible]

Stillwater, New York
NY 32 Hudson Ave / Maj
Dickinson Ave
July 17, 2019
Location: 42.938711, -
73.652487



Turning Movement Peak Hour Data Plot (4:45 PM)

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Brouhton Lane
Ctr#: 35246

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

GPS: 42.943496, -73.640110

Start Time	15-Jul-19		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou	Northbou	Southbou
12:00 AM	*	*	*	*	3	2	2	3	*	*	*	*	*	*	2	2
01:00	*	*	*	*	1	0	2	0	*	*	*	*	*	*	2	0
02:00	*	*	*	*	1	1	2	2	*	*	*	*	*	*	2	2
03:00	*	*	*	*	1	1	0	1	*	*	*	*	*	*	0	1
04:00	*	*	*	*	9	0	5	1	*	*	*	*	*	*	7	0
05:00	*	*	*	*	16	3	11	6	*	*	*	*	*	*	14	4
06:00	*	*	*	*	40	10	48	11	*	*	*	*	*	*	44	10
07:00	*	*	*	*	39	19	47	19	*	*	*	*	*	*	43	19
08:00	*	*	*	*	29	19	29	17	*	*	*	*	*	*	29	18
09:00	*	*	*	*	19	19	20	15	*	*	*	*	*	*	20	17
10:00	*	*	*	*	27	15	19	19	*	*	*	*	*	*	23	17
11:00	*	*	31	27	24	15	19	21	*	*	*	*	*	*	25	21
12:00 PM	*	*	30	32	28	26	*	*	*	*	*	*	*	*	29	29
01:00	*	*	34	28	19	26	*	*	*	*	*	*	*	*	26	27
02:00	*	*	24	34	20	29	*	*	*	*	*	*	*	*	22	32
03:00	*	*	33	52	18	34	*	*	*	*	*	*	*	*	26	43
04:00	*	*	30	52	26	54	*	*	*	*	*	*	*	*	28	53
05:00	*	*	30	50	32	45	*	*	*	*	*	*	*	*	31	48
06:00	*	*	34	42	25	39	*	*	*	*	*	*	*	*	30	40
07:00	*	*	29	42	20	29	*	*	*	*	*	*	*	*	24	36
08:00	*	*	14	30	19	24	*	*	*	*	*	*	*	*	16	27
09:00	*	*	15	23	9	15	*	*	*	*	*	*	*	*	12	19
10:00	*	*	5	10	7	7	*	*	*	*	*	*	*	*	6	8
11:00	*	*	2	4	0	0	*	*	*	*	*	*	*	*	1	2
Lane	0	0	311	426	432	432	204	115	0	0	0	0	0	0	462	475
Day	0		737		864		319		0		0		0		937	
AM Peak	-	-	11:00	11:00	06:00	07:00	06:00	11:00	-	-	-	-	-	-	06:00	11:00
Vol.	-	-	31	27	40	19	48	21	-	-	-	-	-	-	44	21
PM Peak	-	-	13:00	15:00	17:00	16:00	-	-	-	-	-	-	-	-	17:00	16:00
Vol.	-	-	34	52	32	54	-	-	-	-	-	-	-	-	31	53

Comb. Total	0	737	864	319	0	0	0	937
ADT	ADT 935	AADT 935						

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Northbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/16/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	1	4	12	9	5	0	0	0	0	0	0	0	0	0	0	31
12 PM	4	1	8	10	5	2	0	0	0	0	0	0	0	0	0	30
13:00	0	2	9	15	6	2	0	0	0	0	0	0	0	0	0	34
14:00	6	1	5	7	3	2	0	0	0	0	0	0	0	0	0	24
15:00	3	0	4	17	8	1	0	0	0	0	0	0	0	0	0	33
16:00	2	1	0	15	10	2	0	0	0	0	0	0	0	0	0	30
17:00	0	2	5	11	10	1	1	0	0	0	0	0	0	0	0	30
18:00	2	0	9	14	7	1	1	0	0	0	0	0	0	0	0	34
19:00	0	2	11	9	6	1	0	0	0	0	0	0	0	0	0	29
20:00	1	0	4	4	3	2	0	0	0	0	0	0	0	0	0	14
21:00	1	0	4	4	6	0	0	0	0	0	0	0	0	0	0	15
22:00	0	0	1	3	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Total	20	13	72	119	71	14	2	0	0	0	0	0	0	0	0	311

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Northbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/17/19	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	2	1	0	2	2	1	1	0	0	0	0	0	0	0	0	9
05:00	0	0	6	3	5	1	1	0	0	0	0	0	0	0	0	16
06:00	0	3	8	15	9	3	2	0	0	0	0	0	0	0	0	40
07:00	0	1	4	14	16	3	1	0	0	0	0	0	0	0	0	39
08:00	0	0	5	10	9	5	0	0	0	0	0	0	0	0	0	29
09:00	0	0	3	9	6	1	0	0	0	0	0	0	0	0	0	19
10:00	3	1	5	12	4	0	2	0	0	0	0	0	0	0	0	27
11:00	1	2	4	11	3	2	1	0	0	0	0	0	0	0	0	24
12 PM	2	2	6	9	8	0	1	0	0	0	0	0	0	0	0	28
13:00	0	3	2	10	3	1	0	0	0	0	0	0	0	0	0	19
14:00	0	1	2	9	5	3	0	0	0	0	0	0	0	0	0	20
15:00	0	2	0	6	8	2	0	0	0	0	0	0	0	0	0	18
16:00	0	0	3	17	6	0	0	0	0	0	0	0	0	0	0	26
17:00	0	1	6	10	8	7	0	0	0	0	0	0	0	0	0	32
18:00	1	1	7	12	3	1	0	0	0	0	0	0	0	0	0	25
19:00	1	0	7	6	3	3	0	0	0	0	0	0	0	0	0	20
20:00	0	1	6	8	3	1	0	0	0	0	0	0	0	0	0	19
21:00	0	1	4	2	2	0	0	0	0	0	0	0	0	0	0	9
22:00	0	1	3	1	2	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	10	21	81	168	108	35	9	0	0	0	0	0	0	0	0	432

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Northbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/18/19	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	3	1	0	0	0	0	0	0	0	0	0	0	5
05:00	0	0	3	5	2	1	0	0	0	0	0	0	0	0	0	11
06:00	1	1	8	23	8	6	1	0	0	0	0	0	0	0	0	48
07:00	0	1	2	22	15	6	0	1	0	0	0	0	0	0	0	47
08:00	1	2	3	12	6	1	4	0	0	0	0	0	0	0	0	29
09:00	2	1	3	5	3	4	2	0	0	0	0	0	0	0	0	20
10:00	2	0	2	9	4	0	1	1	0	0	0	0	0	0	0	19
11:00	0	2	6	6	4	1	0	0	0	0	0	0	0	0	0	19
12 PM	2	2	4	10	4	4	1	0	0	0	0	0	0	0	0	27
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	8	10	31	97	50	23	10	2	0	0	0	0	0	0	0	231
Grand Total	38	44	184	384	229	72	21	2	0	0	0	0	0	0	0	974

Stats
15th Percentile : 26 MPH
50th Percentile : 32 MPH
85th Percentile : 38 MPH
95th Percentile : 43 MPH

Mean Speed(Average) : 33 MPH
10 MPH Pace Speed : 31-40 MPH
Number in Pace : 613
Percent in Pace : 62.9%
Number of Vehicles > 30 MPH : 708
Percent of Vehicles > 30 MPH : 72.7%

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Southbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/16/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	2	3	11	9	2	0	0	0	0	0	0	0	0	0	0	27
12 PM	2	1	9	13	7	0	0	0	0	0	0	0	0	0	0	32
13:00	1	4	9	9	4	1	0	0	0	0	0	0	0	0	0	28
14:00	0	3	13	10	6	2	0	0	0	0	0	0	0	0	0	34
15:00	4	2	9	24	10	3	0	0	0	0	0	0	0	0	0	52
16:00	4	0	4	32	10	2	0	0	0	0	0	0	0	0	0	52
17:00	2	1	9	25	9	4	0	0	0	0	0	0	0	0	0	50
18:00	2	3	7	15	14	1	0	0	0	0	0	0	0	0	0	42
19:00	5	4	11	16	6	0	0	0	0	0	0	0	0	0	0	42
20:00	0	3	9	13	4	1	0	0	0	0	0	0	0	0	0	30
21:00	1	1	7	10	2	2	0	0	0	0	0	0	0	0	0	23
22:00	0	0	1	5	2	2	0	0	0	0	0	0	0	0	0	10
23:00	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	4
Total	23	25	100	184	76	18	0	0	0	0	0	0	0	0	0	426

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Southbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/17/19	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	3
06:00	1	3	4	1	1	0	0	0	0	0	0	0	0	0	0	10
07:00	0	1	6	8	4	0	0	0	0	0	0	0	0	0	0	19
08:00	1	1	6	10	1	0	0	0	0	0	0	0	0	0	0	19
09:00	0	2	8	7	2	0	0	0	0	0	0	0	0	0	0	19
10:00	2	1	6	3	2	1	0	0	0	0	0	0	0	0	0	15
11:00	1	2	4	4	4	0	0	0	0	0	0	0	0	0	0	15
12 PM	1	4	8	10	3	0	0	0	0	0	0	0	0	0	0	26
13:00	1	1	5	9	9	1	0	0	0	0	0	0	0	0	0	26
14:00	1	3	10	7	5	2	1	0	0	0	0	0	0	0	0	29
15:00	0	3	6	8	12	5	0	0	0	0	0	0	0	0	0	34
16:00	0	0	11	26	15	2	0	0	0	0	0	0	0	0	0	54
17:00	0	1	13	23	8	0	0	0	0	0	0	0	0	0	0	45
18:00	0	6	5	19	9	0	0	0	0	0	0	0	0	0	0	39
19:00	2	1	4	16	6	0	0	0	0	0	0	0	0	0	0	29
20:00	1	1	8	7	5	1	0	1	0	0	0	0	0	0	0	24
21:00	0	0	5	3	5	2	0	0	0	0	0	0	0	0	0	15
22:00	0	0	1	3	3	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	31	111	167	96	14	1	1	0	0	0	0	0	0	0	432

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Broughton Lane
Ctr#: 35246

GPS: 42.943496, -73.640110

Southbound

Start Time	1 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 80	81 85	86 9999	Total
07/18/19	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	6
06:00	1	0	1	6	2	1	0	0	0	0	0	0	0	0	0	11
07:00	1	1	7	5	4	1	0	0	0	0	0	0	0	0	0	19
08:00	0	0	5	5	5	2	0	0	0	0	0	0	0	0	0	17
09:00	1	2	2	6	1	2	1	0	0	0	0	0	0	0	0	15
10:00	0	2	10	5	2	0	0	0	0	0	0	0	0	0	0	19
11:00	1	2	11	6	1	0	0	0	0	0	0	0	0	0	0	21
12 PM	0	1	6	9	2	1	0	0	0	0	0	0	0	0	0	19
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	4	8	43	49	21	8	1	0	0	0	0	0	0	0	0	134
Grand Total	38	64	254	400	193	40	2	1	0	0	0	0	0	0	0	992

Stats
15th Percentile : 25 MPH
50th Percentile : 31 MPH
85th Percentile : 37 MPH
95th Percentile : 39 MPH

Mean Speed(Average) : 32 MPH
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 654
Percent in Pace : 65.9%
Number of Vehicles > 30 MPH : 636
Percent of Vehicles > 30 MPH : 64.1%

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Brouhton Lane
Ctr#: 35246

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

GPS: 42.943496, -73.640110

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/16/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	0	21	10	0	0	0	0	0	0	0	0	0	0	31
12 PM	4	18	7	0	1	0	0	0	0	0	0	0	0	30
13:00	0	25	9	0	0	0	0	0	0	0	0	0	0	34
14:00	2	16	4	0	2	0	0	0	0	0	0	0	0	24
15:00	3	21	9	0	0	0	0	0	0	0	0	0	0	33
16:00	2	23	4	0	1	0	0	0	0	0	0	0	0	30
17:00	1	19	9	0	1	0	0	0	0	0	0	0	0	30
18:00	1	23	9	0	1	0	0	0	0	0	0	0	0	34
19:00	0	24	4	0	1	0	0	0	0	0	0	0	0	29
20:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
21:00	1	10	4	0	0	0	0	0	0	0	0	0	0	15
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Day Total	14	218	72	0	7	0	0	0	0	0	0	0	0	311
Percent	4.5%	70.1%	23.2%	0.0%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		11:00 21	11:00 10											11:00 31
PM Peak Vol.	12:00 4	13:00 25	13:00 9		14:00 2									13:00 34

Road Name: Colonial Rd, Stillwater New York
 Segment: 625' N of Brouhton Lane
 Ctr#: 35246

Tri-State Traffic Data Inc

184 Baker Rd
 Coatesville, PA 19320

GPS: 42.943496, -73.640110

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/17/19	0	1	2	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	6	3	0	0	0	0	0	0	0	0	0	0	9
05:00	0	9	7	0	0	0	0	0	0	0	0	0	0	16
06:00	0	22	14	0	2	1	0	0	1	0	0	0	0	40
07:00	0	23	16	0	0	0	0	0	0	0	0	0	0	39
08:00	0	22	7	0	0	0	0	0	0	0	0	0	0	29
09:00	0	16	2	0	1	0	0	0	0	0	0	0	0	19
10:00	1	16	8	1	0	1	0	0	0	0	0	0	0	27
11:00	1	16	6	0	1	0	0	0	0	0	0	0	0	24
12 PM	0	19	9	0	0	0	0	0	0	0	0	0	0	28
13:00	0	12	7	0	0	0	0	0	0	0	0	0	0	19
14:00	0	13	7	0	0	0	0	0	0	0	0	0	0	20
15:00	0	10	8	0	0	0	0	0	0	0	0	0	0	18
16:00	0	20	6	0	0	0	0	0	0	0	0	0	0	26
17:00	0	22	10	0	0	0	0	0	0	0	0	0	0	32
18:00	0	17	7	0	1	0	0	0	0	0	0	0	0	25
19:00	0	16	4	0	0	0	0	0	0	0	0	0	0	20
20:00	1	12	5	0	1	0	0	0	0	0	0	0	0	19
21:00	0	7	2	0	0	0	0	0	0	0	0	0	0	9
22:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	3	285	134	1	6	2	0	0	1	0	0	0	0	432
Percent	0.7%	66.0%	31.0%	0.2%	1.4%	0.5%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	07:00	10:00	06:00	06:00			06:00					06:00
Vol.	1	23	16	1	2	1			1					40
PM Peak	20:00	17:00	17:00		18:00									17:00
Vol.	1	22	10		1									32

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Brouhton Lane
Ctr#: 35246

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

GPS: 42.943496, -73.640110

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/18/19	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5
05:00	0	5	6	0	0	0	0	0	0	0	0	0	0	11
06:00	1	21	21	1	3	0	0	0	1	0	0	0	0	48
07:00	0	27	19	0	1	0	0	0	0	0	0	0	0	47
08:00	1	19	8	0	1	0	0	0	0	0	0	0	0	29
09:00	1	13	3	0	3	0	0	0	0	0	0	0	0	20
10:00	0	14	5	0	0	0	0	0	0	0	0	0	0	19
11:00	0	12	7	0	0	0	0	0	0	0	0	0	0	19
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	3	119	72	1	8	0	0	0	1	0	0	0	0	204
Percent	1.5%	58.3%	35.3%	0.5%	3.9%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.	06:00 1	07:00 27	06:00 21	06:00 1	06:00 3				06:00 1					06:00 48
PM Peak Vol.														
Grand Total	20	622	278	2	21	2	0	0	2	0	0	0	0	947
Percent	2.1%	65.7%	29.4%	0.2%	2.2%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Brouhton Lane
Ctr#: 35246

Tri-State Traffic Data Inc

184 Baker Rd
Coatesville, PA 19320

GPS: 42.943496, -73.640110

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/16/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	0	21	5	0	1	0	0	0	0	0	0	0	0	27
12 PM	1	21	9	0	1	0	0	0	0	0	0	0	0	32
13:00	1	20	7	0	0	0	0	0	0	0	0	0	0	28
14:00	1	31	2	0	0	0	0	0	0	0	0	0	0	34
15:00	3	36	12	0	1	0	0	0	0	0	0	0	0	52
16:00	3	34	14	0	1	0	0	0	0	0	0	0	0	52
17:00	0	39	11	0	0	0	0	0	0	0	0	0	0	50
18:00	1	30	11	0	0	0	0	0	0	0	0	0	0	42
19:00	1	31	9	0	1	0	0	0	0	0	0	0	0	42
20:00	0	26	4	0	0	0	0	0	0	0	0	0	0	30
21:00	1	16	6	0	0	0	0	0	0	0	0	0	0	23
22:00	0	6	3	0	1	0	0	0	0	0	0	0	0	10
23:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
Day Total	12	314	94	0	6	0	0	0	0	0	0	0	0	426
Percent	2.8%	73.7%	22.1%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		11:00 21	11:00 5		11:00 1									11:00 27
PM Peak Vol.	15:00 3	17:00 39	16:00 14		12:00 1									15:00 52

Road Name: Colonial Rd, Stillwater New York
 Segment: 625' N of Brouhton Lane
 Ctr#: 35246

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Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/17/19	0	1	1	0	0	0	0	0	0	0	0	0	0	2
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3
06:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
07:00	0	10	9	0	0	0	0	0	0	0	0	0	0	19
08:00	1	15	3	0	0	0	0	0	0	0	0	0	0	19
09:00	0	15	3	1	0	0	0	0	0	0	0	0	0	19
10:00	0	12	1	0	1	1	0	0	0	0	0	0	0	15
11:00	0	10	3	0	2	0	0	0	0	0	0	0	0	15
12 PM	0	22	4	0	0	0	0	0	0	0	0	0	0	26
13:00	0	14	10	0	1	0	0	0	1	0	0	0	0	26
14:00	0	21	8	0	0	0	0	0	0	0	0	0	0	29
15:00	0	23	11	0	0	0	0	0	0	0	0	0	0	34
16:00	0	45	8	0	1	0	0	0	0	0	0	0	0	54
17:00	0	33	11	0	1	0	0	0	0	0	0	0	0	45
18:00	0	26	12	0	1	0	0	0	0	0	0	0	0	39
19:00	0	23	6	0	0	0	0	0	0	0	0	0	0	29
20:00	0	17	7	0	0	0	0	0	0	0	0	0	0	24
21:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
22:00	0	5	2	0	0	0	0	0	0	0	0	0	0	7
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	1	315	106	1	7	1	0	0	1	0	0	0	0	432
Percent	0.2%	72.9%	24.5%	0.2%	1.6%	0.2%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	09:00	11:00	10:00								07:00
Vol.	1	15	9	1	2	1								19
PM Peak		16:00	18:00		13:00				13:00					16:00
Vol.		45	12		1				1					54

Road Name: Colonial Rd, Stillwater New York
Segment: 625' N of Brouhton Lane
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Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
07/18/19	0	3	0	0	0	0	0	0	0	0	0	0	0	3
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	4	2	0	0	0	0	0	0	0	0	0	0	6
06:00	0	5	5	0	1	0	0	0	0	0	0	0	0	11
07:00	0	12	6	0	1	0	0	0	0	0	0	0	0	19
08:00	0	13	3	0	1	0	0	0	0	0	0	0	0	17
09:00	0	10	4	0	1	0	0	0	0	0	0	0	0	15
10:00	0	13	6	0	0	0	0	0	0	0	0	0	0	19
11:00	0	15	6	0	0	0	0	0	0	0	0	0	0	21
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Day Total	0	78	33	0	4	0	0	0	0	0	0	0	0	115
Percent	0.0%	67.8%	28.7%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		11:00 15	07:00 6		06:00 1									11:00 21
PM Peak Vol.														
Grand Total	13	707	233	1	17	1	0	0	1	0	0	0	0	973
Percent	1.3%	72.7%	23.9%	0.1%	1.7%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	

Attachment C
Level of Service Analyses

Colonial Apartments
Village of Stillwater, New York

LOS Definitions

The following is an excerpt from the Highway Capacity Manual, 6th Edition (HCM).

Level of Service for Signalized Intersections

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

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

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

LOS C describes operations with control delay between 20 and 35 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a v/c ratio greater than 1.0. This level is typically assigned when the v/c ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

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

Average control delay and queue length at roundabout controlled intersections are calculated using SIDRA Intersection. The physical geometry such as entry lane width and approach flare, and traffic volume at the roundabout are factors that influence the intersection's performance. The average delay reported using SIDRA Intersection is based on the signalized HCM Method of Delay for Level-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 20-2. 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 21-8. 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 20-2/21-8:
Level-of-Service Criteria for Stop Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c \geq 1.0$
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

Intersection

Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		P			↑
Traffic Vol, veh/h	4	1	17	6	15	27
Future Vol, veh/h	4	1	17	6	15	27
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	77	77	77	77	77	77
Heavy Vehicles, %	25	0	0	50	0	0
Mvmt Flow	5	1	22	8	19	35

Major/Minor	Minor1	Major1		Major2	
Conflicting Flow All	99	26	0	0	30
Stage 1	26	-	-	-	-
Stage 2	73	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1
Critical Hdwy Stg 1	5.65	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2
Pot Cap-1 Maneuver	847	1056	-	-	1596
Stage 1	940	-	-	-	-
Stage 2	895	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	837	1056	-	-	1596
Mov Cap-2 Maneuver	837	-	-	-	-
Stage 1	940	-	-	-	-
Stage 2	884	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	873	1596
HCM Lane V/C Ratio	-	-	0.007	0.012
HCM Control Delay (s)	-	-	9.2	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	1	17	6	15	28
Future Vol, veh/h	4	1	17	6	15	28
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	77	77	77	77	77	77
Heavy Vehicles, %	25	0	0	50	0	0
Mvmt Flow	5	1	22	8	19	36

Major/Minor	Minor1	Major1		Major2	
Conflicting Flow All	100	26	0	0	30
Stage 1	26	-	-	-	-
Stage 2	74	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1
Critical Hdwy Stg 1	5.65	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2
Pot Cap-1 Maneuver	846	1056	-	-	1596
Stage 1	940	-	-	-	-
Stage 2	894	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	836	1056	-	-	1596
Mov Cap-2 Maneuver	836	-	-	-	-
Stage 1	940	-	-	-	-
Stage 2	883	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	872	1596
HCM Lane V/C Ratio	-	-	0.007	0.012
HCM Control Delay (s)	-	-	9.2	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	1	35	13	15	33
Future Vol, veh/h	6	1	35	13	15	33
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	77	77	77	77	77	77
Heavy Vehicles, %	25	0	0	50	0	0
Mvmt Flow	8	1	45	17	19	43

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	135	54	0	0	62
Stage 1	54	-	-	-	-
Stage 2	81	-	-	-	-
Critical Hdwy	6.65	6.2	-	-	4.1
Critical Hdwy Stg 1	5.65	-	-	-	-
Critical Hdwy Stg 2	5.65	-	-	-	-
Follow-up Hdwy	3.725	3.3	-	-	2.2
Pot Cap-1 Maneuver	807	1019	-	-	1554
Stage 1	913	-	-	-	-
Stage 2	887	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	797	1019	-	-	1554
Mov Cap-2 Maneuver	797	-	-	-	-
Stage 1	913	-	-	-	-
Stage 2	875	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	2.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	823	1554
HCM Lane V/C Ratio	-	-	0.011	0.013
HCM Control Delay (s)	-	-	9.4	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh	2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	3	11	40	2	8	30
Future Vol, veh/h	3	11	40	2	8	30
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	74	74	74	74	74	74
Heavy Vehicles, %	33	18	0	0	12	0
Mvmt Flow	4	15	54	3	11	41

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	119	56	0	0	57
Stage 1	56	-	-	-	-
Stage 2	63	-	-	-	-
Critical Hdwy	6.73	6.38	-	-	4.22
Critical Hdwy Stg 1	5.73	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-
Follow-up Hdwy	3.797	3.462	-	-	2.308
Pot Cap-1 Maneuver	808	967	-	-	1486
Stage 1	893	-	-	-	-
Stage 2	886	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	802	967	-	-	1486
Mov Cap-2 Maneuver	802	-	-	-	-
Stage 1	893	-	-	-	-
Stage 2	879	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	926	1486
HCM Lane V/C Ratio	-	-	0.02	0.007
HCM Control Delay (s)	-	-	9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	11	41	2	8	31
Future Vol, veh/h	3	11	41	2	8	31
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	74	74	74	74	74	74
Heavy Vehicles, %	33	18	0	0	12	0
Mvmt Flow	4	15	55	3	11	42

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	121	57	0	0	58
Stage 1	57	-	-	-	-
Stage 2	64	-	-	-	-
Critical Hdwy	6.73	6.38	-	-	4.22
Critical Hdwy Stg 1	5.73	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-
Follow-up Hdwy	3.797	3.462	-	-	2.308
Pot Cap-1 Maneuver	805	966	-	-	1485
Stage 1	892	-	-	-	-
Stage 2	886	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	799	966	-	-	1485
Mov Cap-2 Maneuver	799	-	-	-	-
Stage 1	892	-	-	-	-
Stage 2	879	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	925	1485
HCM Lane V/C Ratio	-	-	0.02	0.007
HCM Control Delay (s)	-	-	9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	11	51	6	8	48
Future Vol, veh/h	10	11	51	6	8	48
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	74	74	74	74	74	74
Heavy Vehicles, %	33	18	0	0	12	0
Mvmt Flow	14	15	69	8	11	65

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	160	73	0	0	77
Stage 1	73	-	-	-	-
Stage 2	87	-	-	-	-
Critical Hdwy	6.73	6.38	-	-	4.22
Critical Hdwy Stg 1	5.73	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-
Follow-up Hdwy	3.797	3.462	-	-	2.308
Pot Cap-1 Maneuver	764	946	-	-	1461
Stage 1	877	-	-	-	-
Stage 2	864	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	758	946	-	-	1461
Mov Cap-2 Maneuver	758	-	-	-	-
Stage 1	877	-	-	-	-
Stage 2	857	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	846	1461
HCM Lane V/C Ratio	-	-	0.034	0.007
HCM Control Delay (s)	-	-	9.4	7.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection

Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	11	15	1	120	172	6
Future Vol, veh/h	11	15	1	120	172	6
Conflicting Peds, #/hr	0	3	3	0	0	3
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	71	71	71	71	71	71
Heavy Vehicles, %	9	7	0	13	3	17
Mvmt Flow	15	21	1	169	242	8

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	420	252	253	0	-	0
Stage 1	249	-	-	-	-	-
Stage 2	171	-	-	-	-	-
Critical Hdwy	6.49	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	577	775	1324	-	-	-
Stage 1	776	-	-	-	-	-
Stage 2	842	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	573	771	1321	-	-	-
Mov Cap-2 Maneuver	573	-	-	-	-	-
Stage 1	773	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1321	-	673	-	-
HCM Lane V/C Ratio	0.001	-	0.054	-	-
HCM Control Delay (s)	7.7	0	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	15	1	143	183	6
Future Vol, veh/h	11	15	1	143	183	6
Conflicting Peds, #/hr	0	3	3	0	0	3
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	71	71	71	71	71	71
Heavy Vehicles, %	9	7	0	13	3	17
Mvmt Flow	15	21	1	201	258	8

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	468	268	269	0	0
Stage 1	265	-	-	-	-
Stage 2	203	-	-	-	-
Critical Hdwy	6.49	6.27	4.1	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-
Follow-up Hdwy	3.581	3.363	2.2	-	-
Pot Cap-1 Maneuver	541	759	1306	-	-
Stage 1	763	-	-	-	-
Stage 2	815	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	537	755	1303	-	-
Mov Cap-2 Maneuver	537	-	-	-	-
Stage 1	760	-	-	-	-
Stage 2	813	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1303	-	644	-	-
HCM Lane V/C Ratio	0.001	-	0.057	-	-
HCM Control Delay (s)	7.8	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	15	1	143	183	8
Future Vol, veh/h	18	15	1	143	183	8
Conflicting Peds, #/hr	0	3	3	0	0	3
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	71	71	71	71	71	71
Heavy Vehicles, %	9	7	0	13	3	17
Mvmt Flow	25	21	1	201	258	11

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	470	270	272	0	-	0
Stage 1	267	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.49	6.27	4.1	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.49	-	-	-	-	-
Follow-up Hdwy	3.581	3.363	2.2	-	-	-
Pot Cap-1 Maneuver	539	757	1303	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	535	753	1300	-	-	-
Mov Cap-2 Maneuver	535	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1300	-	616	-	-
HCM Lane V/C Ratio	0.001	-	0.075	-	-
HCM Control Delay (s)	7.8	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	8	246	120	1
Future Vol, veh/h	1	6	8	246	120	1
Conflicting Peds, #/hr	0	0	2	0	0	2
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	12	3	3	0
Mvmt Flow	1	6	9	265	129	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	415	132	132	0	0
Stage 1	132	-	-	-	-
Stage 2	283	-	-	-	-
Critical Hdwy	6.4	6.2	4.22	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.308	-	-
Pot Cap-1 Maneuver	598	923	1394	-	-
Stage 1	899	-	-	-	-
Stage 2	770	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	591	921	1392	-	-
Mov Cap-2 Maneuver	591	-	-	-	-
Stage 1	890	-	-	-	-
Stage 2	768	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	853	-	-
HCM Lane V/C Ratio	0.006	-	0.009	-	-
HCM Control Delay (s)	7.6	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	8	265	144	1
Future Vol, veh/h	1	6	8	265	144	1
Conflicting Peds, #/hr	0	0	2	0	0	2
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	12	3	3	0
Mvmt Flow	1	6	9	285	155	1

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	461	158	158	0	-	0
Stage 1	158	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.22	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.308	-	-	-
Pot Cap-1 Maneuver	562	893	1363	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	555	891	1361	-	-	-
Mov Cap-2 Maneuver	555	-	-	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1361	-	820	-	-
HCM Lane V/C Ratio	0.006	-	0.009	-	-
HCM Control Delay (s)	7.7	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	6	8	265	144	8
Future Vol, veh/h	5	6	8	265	144	8
Conflicting Peds, #/hr	0	0	2	0	0	2
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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	12	3	3	0
Mvmt Flow	5	6	9	285	155	9

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	465	162	166	0	-	0
Stage 1	162	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.22	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.308	-	-	-
Pot Cap-1 Maneuver	559	888	1354	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	552	886	1352	-	-	-
Mov Cap-2 Maneuver	552	-	-	-	-	-
Stage 1	863	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1352	-	695	-	-
HCM Lane V/C Ratio	0.006	-	0.017	-	-
HCM Control Delay (s)	7.7	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	3	10	1	20	27	3
Future Vol, veh/h	3	10	1	20	27	3
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	84	84	84	84	84	84
Heavy Vehicles, %	33	30	0	10	0	33
Mvmt Flow	4	12	1	24	32	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	60	34	36	0	-	0
Stage 1	34	-	-	-	-	-
Stage 2	26	-	-	-	-	-
Critical Hdwy	6.73	6.5	4.1	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	2.2	-	-	-
Pot Cap-1 Maneuver	875	964	1588	-	-	-
Stage 1	914	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	874	964	1588	-	-	-
Mov Cap-2 Maneuver	874	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1588	-	942	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	3	10	1	21	28	3
Future Vol, veh/h	3	10	1	21	28	3
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	84	84	84	84	84	84
Heavy Vehicles, %	33	30	0	10	0	33
Mvmt Flow	4	12	1	25	33	4

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	62	35	37	0	0
Stage 1	35	-	-	-	-
Stage 2	27	-	-	-	-
Critical Hdwy	6.73	6.5	4.1	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-
Follow-up Hdwy	3.797	3.57	2.2	-	-
Pot Cap-1 Maneuver	872	963	1587	-	-
Stage 1	913	-	-	-	-
Stage 2	921	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	871	963	1587	-	-
Mov Cap-2 Maneuver	871	-	-	-	-
Stage 1	912	-	-	-	-
Stage 2	921	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1587	-	940	-	-
HCM Lane V/C Ratio	0.001	-	0.016	-	-
HCM Control Delay (s)	7.3	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	10	1	46	35	3
Future Vol, veh/h	3	10	1	46	35	3
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	84	84	84	84	84	84
Heavy Vehicles, %	33	30	0	10	0	33
Mvmt Flow	4	12	1	55	42	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	101	44	46	0	-	0
Stage 1	44	-	-	-	-	-
Stage 2	57	-	-	-	-	-
Critical Hdwy	6.73	6.5	4.1	-	-	-
Critical Hdwy Stg 1	5.73	-	-	-	-	-
Critical Hdwy Stg 2	5.73	-	-	-	-	-
Follow-up Hdwy	3.797	3.57	2.2	-	-	-
Pot Cap-1 Maneuver	828	952	1575	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	827	952	1575	-	-	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1575	-	920	-	-
HCM Lane V/C Ratio	0.001	-	0.017	-	-
HCM Control Delay (s)	7.3	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	2	6	12	42	28	3
Future Vol, veh/h	2	6	12	42	28	3
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	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	33
Mvmt Flow	3	8	15	54	36	4

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	122	38	40	0	-
Stage 1	38	-	-	-	-
Stage 2	84	-	-	-	-
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	878	1040	1583	-	-
Stage 1	990	-	-	-	-
Stage 2	944	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	869	1040	1583	-	-
Mov Cap-2 Maneuver	869	-	-	-	-
Stage 1	980	-	-	-	-
Stage 2	944	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1583	-	991	-	-
HCM Lane V/C Ratio	0.01	-	0.01	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	2	6	12	43	29	3
Future Vol, veh/h	2	6	12	43	29	3
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	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	33
Mvmt Flow	3	8	15	55	37	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	124	39	41	0	-	0
Stage 1	39	-	-	-	-	-
Stage 2	85	-	-	-	-	-
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	876	1038	1581	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	867	1038	1581	-	-	-
Mov Cap-2 Maneuver	867	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1581	-	989	-	-
HCM Lane V/C Ratio	0.01	-	0.01	-	-
HCM Control Delay (s)	7.3	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	6	12	57	53	3
Future Vol, veh/h	2	6	12	57	53	3
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	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	33
Mvmt Flow	3	8	15	73	68	4

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	173	70	72	0	-	0
Stage 1	70	-	-	-	-	-
Stage 2	103	-	-	-	-	-
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	822	998	1541	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	814	998	1541	-	-	-
Mov Cap-2 Maneuver	814	-	-	-	-	-
Stage 1	948	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.9	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1541	-	945	-	-
HCM Lane V/C Ratio	0.01	-	0.011	-	-
HCM Control Delay (s)	7.4	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection

Int Delay, s/veh	8.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	19	1	2	40	1
Future Vol, veh/h	1	19	1	2	40	1
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	76	76	76	76	70	76
Heavy Vehicles, %	0	10	0	0	5	0
Mvmt Flow	1	25	1	3	57	1

Major/Minor	Major1	Minor2
Conflicting Flow All	0	0 3 4
Stage 1	-	- 0 0
Stage 2	-	- 3 4
Critical Hdwy	-	- 6.45 6.5
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- 5.45 5.5
Follow-up Hdwy	-	- 3.545 4
Pot Cap-1 Maneuver	-	- 1012 896
Stage 1	-	- - -
Stage 2	-	- 1012 897
Platoon blocked, %	-	- - -
Mov Cap-1 Maneuver	-	- 1012 0
Mov Cap-2 Maneuver	-	- 1012 0
Stage 1	-	- - 0
Stage 2	-	- 1012 0

Approach	NB	SB
HCM Control Delay, s	0	8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	1012
HCM Lane V/C Ratio	-	-	0.058
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh	8.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	1	20	1	2	41	1
Future Vol, veh/h	1	20	1	2	41	1
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	76	76	76	76	70	76
Heavy Vehicles, %	0	10	0	0	5	0
Mvmt Flow	1	26	1	3	59	1

Major/Minor	Major1	Minor2		
Conflicting Flow All	0	0	3	4
Stage 1	-	-	0	0
Stage 2	-	-	3	4
Critical Hdwy	-	-	6.45	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.45	5.5
Follow-up Hdwy	-	-	3.545	4
Pot Cap-1 Maneuver	-	-	1012	896
Stage 1	-	-	-	-
Stage 2	-	-	1012	897
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1012	0
Mov Cap-2 Maneuver	-	-	1012	0
Stage 1	-	-	-	0
Stage 2	-	-	1012	0

Approach	NB	SB
HCM Control Delay, s	0	8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	1012
HCM Lane V/C Ratio	-	-	0.059
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.2

Intersection

Int Delay, s/veh	8.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	1	34	1	2	86	1
Future Vol, veh/h	1	34	1	2	86	1
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	76	76	76	76	70	76
Heavy Vehicles, %	0	10	0	0	5	0
Mvmt Flow	1	45	1	3	123	1

Major/Minor	Major1	Minor2		
Conflicting Flow All	0	0	3	4
Stage 1	-	-	0	0
Stage 2	-	-	3	4
Critical Hdwy	-	-	6.45	6.5
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.45	5.5
Follow-up Hdwy	-	-	3.545	4
Pot Cap-1 Maneuver	-	-	1012	896
Stage 1	-	-	-	-
Stage 2	-	-	1012	897
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1012	0
Mov Cap-2 Maneuver	-	-	1012	0
Stage 1	-	-	-	0
Stage 2	-	-	1012	0

Approach	NB	SB
HCM Control Delay, s	0	9.1
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	1012
HCM Lane V/C Ratio	-	-	0.123
HCM Control Delay (s)	-	-	9.1
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.4

Intersection

Int Delay, s/veh	8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	1	57	1	2	35	2
Future Vol, veh/h	1	57	1	2	35	2
Conflicting Peds, #/hr	1	0	0	2	2	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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	70	1	2	43	2

Major/Minor	Major1	Minor2
Conflicting Flow All	0	4
Stage 1	-	0
Stage 2	-	5
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	5.5
Follow-up Hdwy	-	4
Pot Cap-1 Maneuver	-	1023
Stage 1	-	-
Stage 2	-	896
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	1023
Mov Cap-2 Maneuver	-	1023
Stage 1	-	0
Stage 2	-	1024

Approach	NB	SB
HCM Control Delay, s	0	8.7
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	1023
HCM Lane V/C Ratio	-	-	0.045
HCM Control Delay (s)	-	-	8.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection

Int Delay, s/veh	8.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	1	59	1	2	36	2
Future Vol, veh/h	1	59	1	2	36	2
Conflicting Peds, #/hr	1	0	0	2	2	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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	73	1	2	44	2

Major/Minor	Major1	Minor2
Conflicting Flow All	0	4
Stage 1	-	0
Stage 2	-	4
Critical Hdwy	-	6.4
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	5.4
Follow-up Hdwy	-	3.5
Pot Cap-1 Maneuver	-	1023
Stage 1	-	-
Stage 2	-	1024
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	1023
Mov Cap-2 Maneuver	-	1023
Stage 1	-	-
Stage 2	-	1024

Approach	NB	SB
HCM Control Delay, s	0	8.7
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR SBLn1
Capacity (veh/h)	-	- 1023
HCM Lane V/C Ratio	-	- 0.046
HCM Control Delay (s)	-	- 8.7
HCM Lane LOS	-	- A
HCM 95th %tile Q(veh)	-	- 0.1

Intersection

Int Delay, s/veh	8.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	103	1	2	62	2
Future Vol, veh/h	1	103	1	2	62	2
Conflicting Peds, #/hr	1	0	0	2	2	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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	127	1	2	77	2

Major/Minor	Major1	Minor2
Conflicting Flow All	0	0 4 5
Stage 1	-	- 0 0
Stage 2	-	- 4 5
Critical Hdwy	-	- 6.4 6.5
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- 5.4 5.5
Follow-up Hdwy	-	- 3.5 4
Pot Cap-1 Maneuver	-	- 1023 894
Stage 1	-	- - -
Stage 2	-	- 1024 896
Platoon blocked, %	-	- - -
Mov Cap-1 Maneuver	-	- 1023 0
Mov Cap-2 Maneuver	-	- 1023 0
Stage 1	-	- - 0
Stage 2	-	- 1024 0

Approach	NB	SB
HCM Control Delay, s	0	8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBT	NBR	SBLn1
Capacity (veh/h)	-	-	1023
HCM Lane V/C Ratio	-	-	0.077
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	2	0	40	0	0	0	19	5	1	0	5	0
Future Vol, veh/h	2	0	40	0	0	0	19	5	1	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	50	0	0	2	2	2	10	20	0	0	0	0
Mvmt Flow	2	0	49	0	0	0	23	6	1	0	6	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	59	59	6	6	0	0	7	0	0
Stage 1	6	6	-	-	-	-	-	-	-
Stage 2	53	53	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	841	836	1083	1564	-	-	1627	-	-
Stage 1	905	895	-	-	-	-	-	-	-
Stage 2	860	855	-	-	-	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	828	0	1083	1564	-	-	1627	-	-
Mov Cap-2 Maneuver	828	0	-	-	-	-	-	-	-
Stage 1	891	0	-	-	-	-	-	-	-
Stage 2	860	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1564	-	-	1067	1627	-	-
HCM Lane V/C Ratio	0.015	-	-	0.048	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	-	-

Intersection

Int Delay, s/veh 6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	2	0	41	0	0	0	20	5	1	0	5	0
Future Vol, veh/h	2	0	41	0	0	0	20	5	1	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	50	0	0	2	2	2	10	20	0	0	0	0
Mvmt Flow	2	0	50	0	0	0	24	6	1	0	6	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	61	61	6	6	0	0	7	0	0
Stage 1	6	6	-	-	-	-	-	-	-
Stage 2	55	55	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	838	834	1083	1564	-	-	1627	-	-
Stage 1	905	895	-	-	-	-	-	-	-
Stage 2	858	853	-	-	-	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	825	0	1083	1564	-	-	1627	-	-
Mov Cap-2 Maneuver	825	0	-	-	-	-	-	-	-
Stage 1	891	0	-	-	-	-	-	-	-
Stage 2	858	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1564	-	-	1067	1627	-	-
HCM Lane V/C Ratio	0.016	-	-	0.049	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	-	-

Intersection

Int Delay, s/veh 7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	2	0	86	0	0	0	34	5	1	0	5	0
Future Vol, veh/h	2	0	86	0	0	0	34	5	1	0	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	50	0	0	2	2	2	10	20	0	0	0	0
Mvmt Flow	2	0	105	0	0	0	41	6	1	0	6	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	95	95	6	6	0	0	7	0	0
Stage 1	6	6	-	-	-	-	-	-	-
Stage 2	89	89	-	-	-	-	-	-	-
Critical Hdwy	6.9	6.5	6.2	4.2	-	-	4.1	-	-
Critical Hdwy Stg 1	5.9	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.9	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.95	4	3.3	2.29	-	-	2.2	-	-
Pot Cap-1 Maneuver	800	799	1083	1564	-	-	1627	-	-
Stage 1	905	895	-	-	-	-	-	-	-
Stage 2	827	825	-	-	-	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	779	0	1083	1564	-	-	1627	-	-
Mov Cap-2 Maneuver	779	0	-	-	-	-	-	-	-
Stage 1	881	0	-	-	-	-	-	-	-
Stage 2	827	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	6.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1564	-	-	1073	1627	-	-
HCM Lane V/C Ratio	0.027	-	-	0.1	-	-	-
HCM Control Delay (s)	7.4	0	-	8.7	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	-	-

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	1	0	36	0	0	0	58	20	2	0	3	0
Future Vol, veh/h	1	0	36	0	0	0	58	20	2	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	0	43	0	0	0	70	24	2	0	4	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	170	171	5	5	0	0	26	0	0
Stage 1	5	5	-	-	-	-	-	-	-
Stage 2	165	166	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	825	726	1084	1630	-	-	1601	-	-
Stage 1	1023	896	-	-	-	-	-	-	-
Stage 2	869	765	-	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-	-	-
Mov Cap-1 Maneuver	787	0	1083	1628	-	-	1601	-	-
Mov Cap-2 Maneuver	787	0	-	-	-	-	-	-	-
Stage 1	977	0	-	-	-	-	-	-	-
Stage 2	868	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	1072	1601	-	-
HCM Lane V/C Ratio	0.043	-	-	0.042	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	-	-

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	1	0	37	0	0	0	60	21	2	0	3	0
Future Vol, veh/h	1	0	37	0	0	0	60	21	2	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	0	45	0	0	0	72	25	2	0	4	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	175	176	5	5	0	0	27	0	0
Stage 1	5	5	-	-	-	-	-	-	-
Stage 2	170	171	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	819	721	1084	1630	-	-	1600	-	-
Stage 1	1023	896	-	-	-	-	-	-	-
Stage 2	865	761	-	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-	-	-
Mov Cap-1 Maneuver	781	0	1083	1628	-	-	1600	-	-
Mov Cap-2 Maneuver	781	0	-	-	-	-	-	-	-
Stage 1	976	0	-	-	-	-	-	-	-
Stage 2	864	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	5.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	1072	1600	-	-
HCM Lane V/C Ratio	0.044	-	-	0.043	-	-	-
HCM Control Delay (s)	7.3	0	-	8.5	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0	-	-

Intersection

Int Delay, s/veh 6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔						↔			↔	
Traffic Vol, veh/h	1	0	63	0	0	0	104	21	2	0	3	0
Future Vol, veh/h	1	0	63	0	0	0	104	21	2	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0	1	0	0	0	0	1
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	16979	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	0	0	0
Mvmt Flow	1	0	76	0	0	0	125	25	2	0	4	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	281	282	5	5	0	0	27	0	0
Stage 1	5	5	-	-	-	-	-	-	-
Stage 2	276	277	-	-	-	-	-	-	-
Critical Hdwy	6.4	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	5.4	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.4	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	713	630	1084	1630	-	-	1600	-	-
Stage 1	1023	896	-	-	-	-	-	-	-
Stage 2	775	685	-	-	-	-	-	-	-
Platoon blocked, %									
Mov Cap-1 Maneuver	656	0	1083	1628	-	-	1600	-	-
Mov Cap-2 Maneuver	656	0	-	-	-	-	-	-	-
Stage 1	942	0	-	-	-	-	-	-	-
Stage 2	774	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	6.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1628	-	-	1072	1600	-	-
HCM Lane V/C Ratio	0.077	-	-	0.072	-	-	-
HCM Control Delay (s)	7.4	0	-	8.6	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0	-	-

Intersection

Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	0	1	29	0	0	52
Future Vol, veh/h	0	1	29	0	0	52
Conflicting Peds, #/hr	0	0	0	5	5	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	82	82	82	82	82	82
Heavy Vehicles, %	0	0	7	0	0	8
Mvmt Flow	0	1	35	0	0	63

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	103	40	0	0	40
Stage 1	40	-	-	-	-
Stage 2	63	-	-	-	-
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	900	1037	-	-	1583
Stage 1	988	-	-	-	-
Stage 2	965	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	896	1033	-	-	1577
Mov Cap-2 Maneuver	896	-	-	-	-
Stage 1	984	-	-	-	-
Stage 2	965	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 1033	1577	-
HCM Lane V/C Ratio	-	- 0.001	-	-
HCM Control Delay (s)	-	- 8.5	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- 0	0	-

Intersection

Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	1	30	0	0	53
Future Vol, veh/h	0	1	30	0	0	53
Conflicting Peds, #/hr	0	0	0	5	5	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	82	82	82	82	82	82
Heavy Vehicles, %	0	0	7	0	0	8
Mvmt Flow	0	1	37	0	0	65

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	107	42	0	0	42
Stage 1	42	-	-	-	-
Stage 2	65	-	-	-	-
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	895	1034	-	-	1580
Stage 1	986	-	-	-	-
Stage 2	963	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	891	1030	-	-	1574
Mov Cap-2 Maneuver	891	-	-	-	-
Stage 1	982	-	-	-	-
Stage 2	963	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 1030	1574	-
HCM Lane V/C Ratio	-	- 0.001	-	-
HCM Control Delay (s)	-	- 8.5	0	-
HCM Lane LOS	-	- A	A	-
HCM 95th %tile Q(veh)	-	- 0	0	-

Intersection

Int Delay, s/veh	0.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	4	41	0	10	88
Future Vol, veh/h	0	4	41	0	10	88
Conflicting Peds, #/hr	0	0	0	5	5	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	82	82	82	82	82	82
Heavy Vehicles, %	0	0	7	0	0	8
Mvmt Flow	0	5	50	0	12	107

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	186	55	0	0	55
Stage 1	55	-	-	-	-
Stage 2	131	-	-	-	-
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	808	1018	-	-	1563
Stage 1	973	-	-	-	-
Stage 2	900	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	798	1014	-	-	1557
Mov Cap-2 Maneuver	798	-	-	-	-
Stage 1	969	-	-	-	-
Stage 2	893	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1014	1557
HCM Lane V/C Ratio	-	-	0.005	0.008
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

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	2	1	64	3	2	25
Future Vol, veh/h	2	1	64	3	2	25
Conflicting Peds, #/hr	0	1	0	5	5	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	5	33	0	4
Mvmt Flow	2	1	69	3	2	27

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	107	77	0
Stage 1	76	-	-
Stage 2	31	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	895	990	-
Stage 1	952	-	-
Stage 2	997	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	891	985	-
Mov Cap-2 Maneuver	891	-	-
Stage 1	948	-	-
Stage 2	996	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	920	1530
HCM Lane V/C Ratio	-	-	0.004	0.001
HCM Control Delay (s)	-	-	8.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	2	1	66	3	2	26
Future Vol, veh/h	2	1	66	3	2	26
Conflicting Peds, #/hr	0	1	0	5	5	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	5	33	0	4
Mvmt Flow	2	1	71	3	2	28

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	110	79	0	0	79
Stage 1	78	-	-	-	-
Stage 2	32	-	-	-	-
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	892	987	-	-	1532
Stage 1	950	-	-	-	-
Stage 2	996	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	888	982	-	-	1527
Mov Cap-2 Maneuver	888	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	995	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	917	1527
HCM Lane V/C Ratio	-	-	0.004	0.001
HCM Control Delay (s)	-	-	8.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh	1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W	W	T	T	T	T
Traffic Vol, veh/h	2	11	100	3	8	46
Future Vol, veh/h	2	11	100	3	8	46
Conflicting Peds, #/hr	0	1	0	5	5	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	93	93	93	93	93	93
Heavy Vehicles, %	0	0	5	33	0	4
Mvmt Flow	2	12	108	3	9	49

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	182	116	0	0	116
Stage 1	115	-	-	-	-
Stage 2	67	-	-	-	-
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	812	942	-	-	1485
Stage 1	915	-	-	-	-
Stage 2	961	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	804	938	-	-	1480
Mov Cap-2 Maneuver	804	-	-	-	-
Stage 1	911	-	-	-	-
Stage 2	955	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	915	1480
HCM Lane V/C Ratio	-	-	0.015	0.006
HCM Control Delay (s)	-	-	9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱		↰	↱
Traffic Vol, veh/h	37	146	343	2	0	64
Future Vol, veh/h	37	146	343	2	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	14	3	0	0	4
Mvmt Flow	40	159	373	2	0	70

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	375	0	0	613	374
Stage 1	-	-	-	374	-
Stage 2	-	-	-	239	-
Critical Hdwy	4.13	-	-	6.4	6.24
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	3.5	3.336
Pot Cap-1 Maneuver	1178	-	-	459	668
Stage 1	-	-	-	700	-
Stage 2	-	-	-	805	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1178	-	-	442	668
Mov Cap-2 Maneuver	-	-	-	442	-
Stage 1	-	-	-	674	-
Stage 2	-	-	-	805	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1178	-	-	-	668
HCM Lane V/C Ratio	0.034	-	-	-	0.104
HCM Control Delay (s)	8.2	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection

Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	201	368	2	0	66
Future Vol, veh/h	38	201	368	2	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	14	3	0	0	4
Mvmt Flow	41	218	400	2	0	72

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	402	0	0	701	401
Stage 1	-	-	-	401	-
Stage 2	-	-	-	300	-
Critical Hdwy	4.13	-	-	6.4	6.24
Critical Hdwy Stg 1	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	3.5	3.336
Pot Cap-1 Maneuver	1151	-	-	408	645
Stage 1	-	-	-	681	-
Stage 2	-	-	-	756	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1151	-	-	391	645
Mov Cap-2 Maneuver	-	-	-	391	-
Stage 1	-	-	-	653	-
Stage 2	-	-	-	756	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1151	-	-	-	645
HCM Lane V/C Ratio	0.036	-	-	-	0.111
HCM Control Delay (s)	8.2	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Traffic Vol, veh/h	48	201	368	2	0	101
Future Vol, veh/h	48	201	368	2	0	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	14	3	0	0	4
Mvmt Flow	52	218	400	2	0	110

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	402	0	723
Stage 1	-	-	401
Stage 2	-	-	322
Critical Hdwy	4.13	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.227	-	3.5
Pot Cap-1 Maneuver	1151	-	396
Stage 1	-	-	681
Stage 2	-	-	739
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1151	-	376
Mov Cap-2 Maneuver	-	-	376
Stage 1	-	-	646
Stage 2	-	-	739

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1151	-	-	-	645
HCM Lane V/C Ratio	0.045	-	-	-	0.17
HCM Control Delay (s)	8.3	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection

Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	97	436	203	0	2	45
Future Vol, veh/h	97	436	203	0	2	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	105	474	221	0	2	49

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	221	0	905
Stage 1	-	-	221
Stage 2	-	-	684
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	1360	-	309
Stage 1	-	-	821
Stage 2	-	-	505
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1360	-	277
Mov Cap-2 Maneuver	-	-	277
Stage 1	-	-	735
Stage 2	-	-	505

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1360	-	-	-	760
HCM Lane V/C Ratio	0.078	-	-	-	0.067
HCM Control Delay (s)	7.9	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection

Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	100	479	261	0	2	46
Future Vol, veh/h	100	479	261	0	2	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	109	521	284	0	2	50

Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	284	0	-	0	1023	284
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	739	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1290	-	-	-	263	760
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	476	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1290	-	-	-	232	760
Mov Cap-2 Maneuver	-	-	-	-	232	-
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	476	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1290	-	-	-	694
HCM Lane V/C Ratio	0.084	-	-	-	0.075
HCM Control Delay (s)	8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection

Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	134	479	261	0	2	66
Future Vol, veh/h	134	479	261	0	2	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	146	521	284	0	2	72

Major/Minor	Major1	Major2		Minor2	
Conflicting Flow All	284	0	-	0	1097
Stage 1	-	-	-	-	284
Stage 2	-	-	-	-	813
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1290	-	-	-	238
Stage 1	-	-	-	-	769
Stage 2	-	-	-	-	440
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1290	-	-	-	200
Mov Cap-2 Maneuver	-	-	-	-	200
Stage 1	-	-	-	-	647
Stage 2	-	-	-	-	440

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1290	-	-	-	702
HCM Lane V/C Ratio	0.113	-	-	-	0.105
HCM Control Delay (s)	8.1	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.4

Intersection

Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	25	45	14	22	42	7
Future Vol, veh/h	25	45	14	22	42	7
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	76	76	76	76	76	76
Heavy Vehicles, %	2	2	2	10	5	2
Mvmt Flow	33	59	18	29	55	9

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	125	60	64	0	-	0
Stage 1	60	-	-	-	-	-
Stage 2	65	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	870	1005	1538	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	860	1005	1538	-	-	-
Mov Cap-2 Maneuver	860	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	958	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1538	-	948	-	-
HCM Lane V/C Ratio	0.012	-	0.097	-	-
HCM Control Delay (s)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh	3.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	26	44	43	38	24
Future Vol, veh/h	14	26	44	43	38	24
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	0	0	2
Mvmt Flow	18	33	56	55	49	31

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	232	65	80	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	756	999	1518	-	-	-
Stage 1	958	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	727	999	1518	-	-	-
Mov Cap-2 Maneuver	727	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	863	-	-	-	-	-

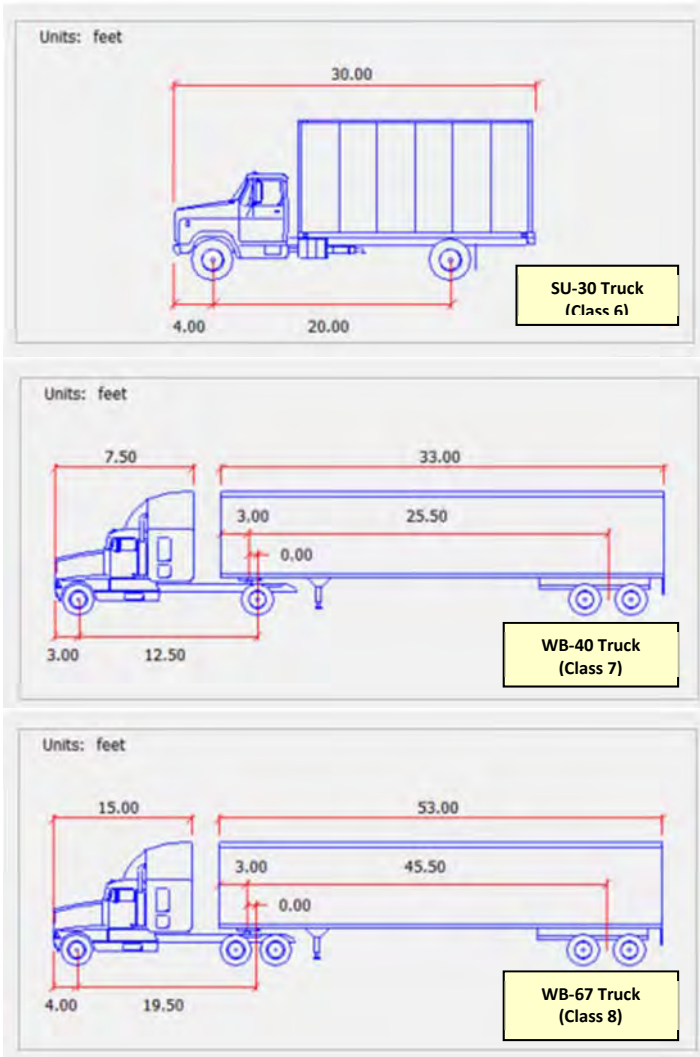
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HCM Control Delay, s	9.3	3.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1518	-	883	-	-
HCM Lane V/C Ratio	0.037	-	0.058	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Attachment D
AutoTurn Assessment

Colonial Apartments
Village of Stillwater, New York

Design Vehicles



Class One: 6,000 lbs. or less



Class Two: 6,001 to 10,000 lbs.



Class Three: 10,001 to 14,000 lbs.



Class Four: 14,001 to 16,000 lbs.



Class Five: 16,001 to 19,500 lbs.



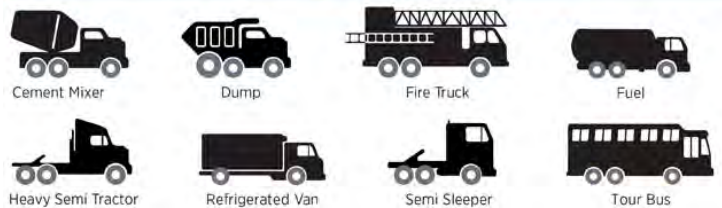
Class Six: 19,501 to 26,000 lbs.



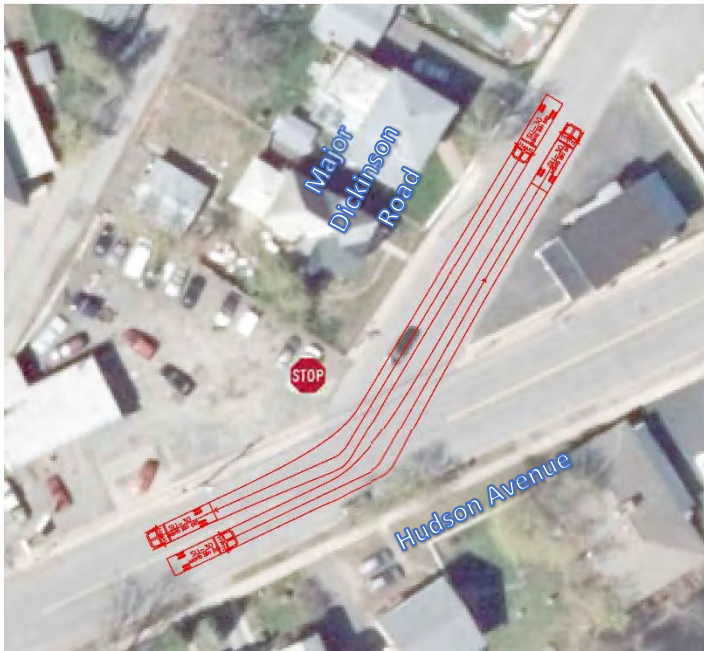
Class Seven: 26,001 to 33,000 lbs.



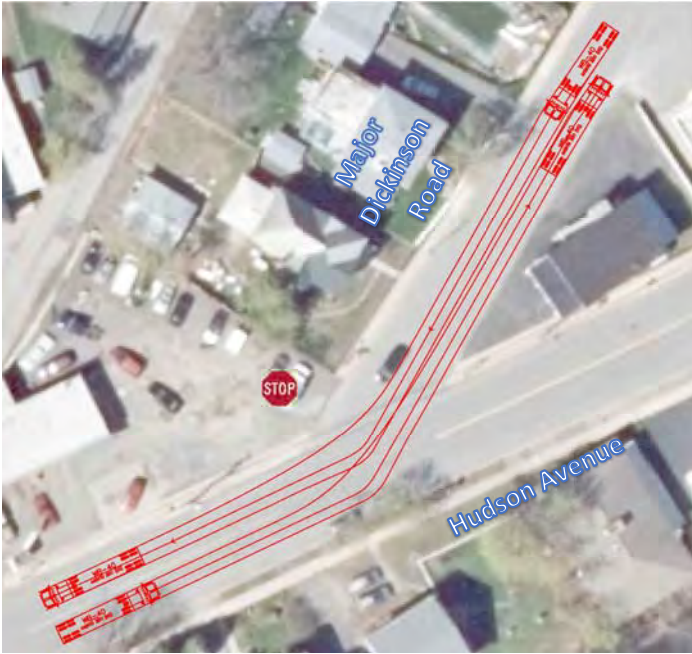
Class Eight: 33,001 lbs. & over



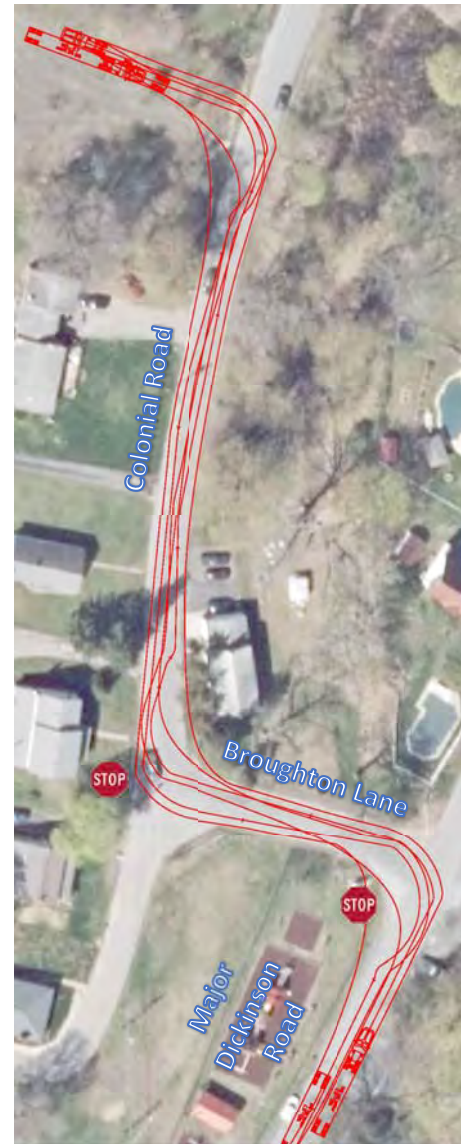
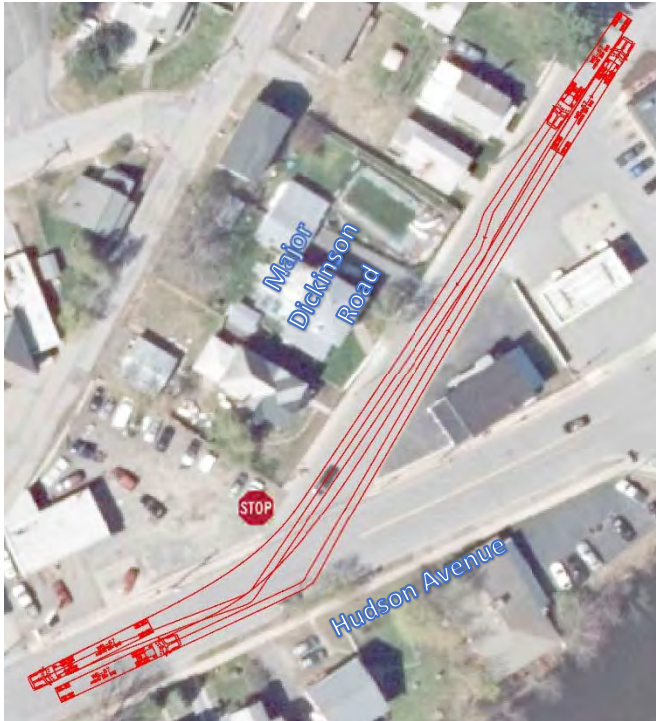
SU-30 Truck



WB -40 Truck



WB-67 Truck



Attachment A Site Plan

Colonial Apartments
Village of Stillwater, New York

Attachment B
Turning Movement Counts

Colonial Apartments
Village of Stillwater, New York

Attachment C
Level of Service Analyses

Colonial Apartments
Village of Stillwater, New York

LOS Definitions

The following is an excerpt from the Highway Capacity Manual, 6th Edition (HCM).

Level of Service for Signalized Intersections

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

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

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

LOS C describes operations with control delay between 20 and 35 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D describes operations with control delay between 35 and 55 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E describes operations with control delay between 55 and 80 s/veh and a v/c ratio no greater than 1.0. This level is typically assigned when the v/c ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F describes operations with control delay exceeding 80 s/veh or a v/c ratio greater than 1.0. This level is typically assigned when the v/c ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

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

Average control delay and queue length at roundabout controlled intersections are calculated using SIDRA Intersection. The physical geometry such as entry lane width and approach flare, and traffic volume at the roundabout are factors that influence the intersection's performance. The average delay reported using SIDRA Intersection is based on the signalized HCM Method of Delay for Level-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 20-2. 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 21-8. 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.

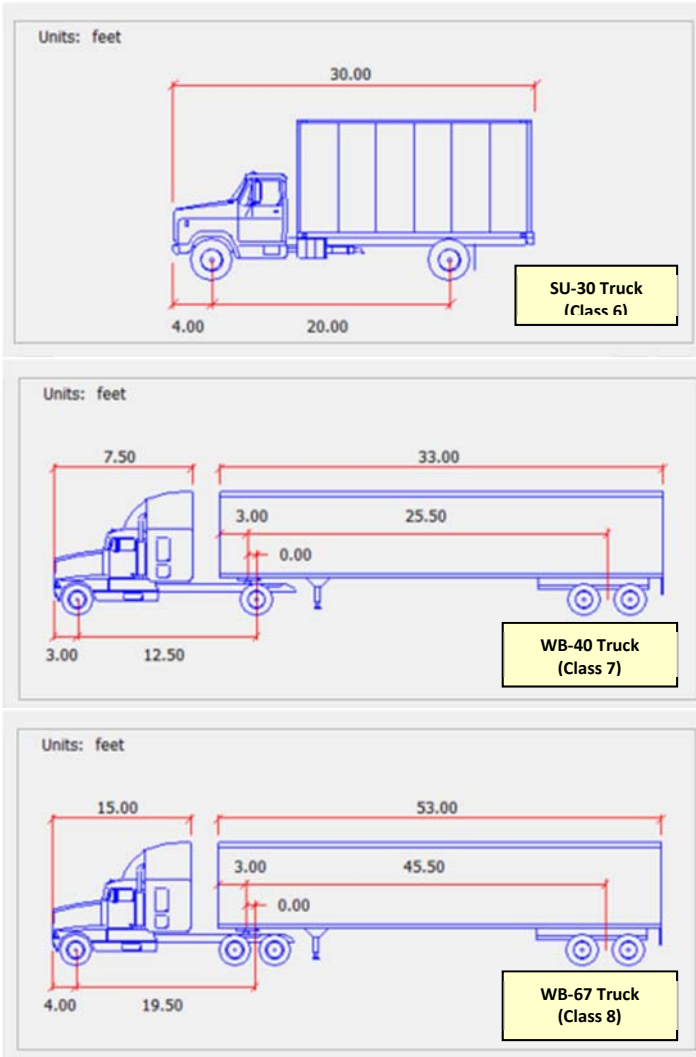
Exhibits 20-2/21-8:
Level-of-Service Criteria for Stop Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	$v/c \leq 1.0$	$v/c \geq 1.0$
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

Attachment D
AutoTurn Assessment

Colonial Apartments
Village of Stillwater, New York

Design Vehicles



Class One: 6,000 lbs. or less



Class Two: 6,001 to 10,000 lbs.



Class Three: 10,001 to 14,000 lbs.



Class Four: 14,001 to 16,000 lbs.



Class Five: 16,001 to 19,500 lbs.



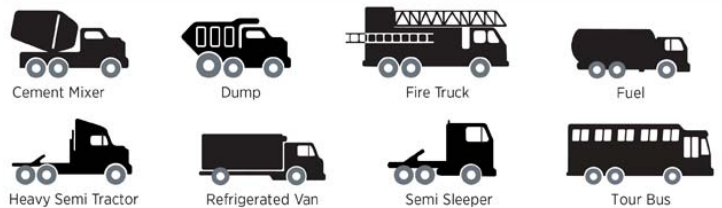
Class Six: 19,501 to 26,000 lbs.



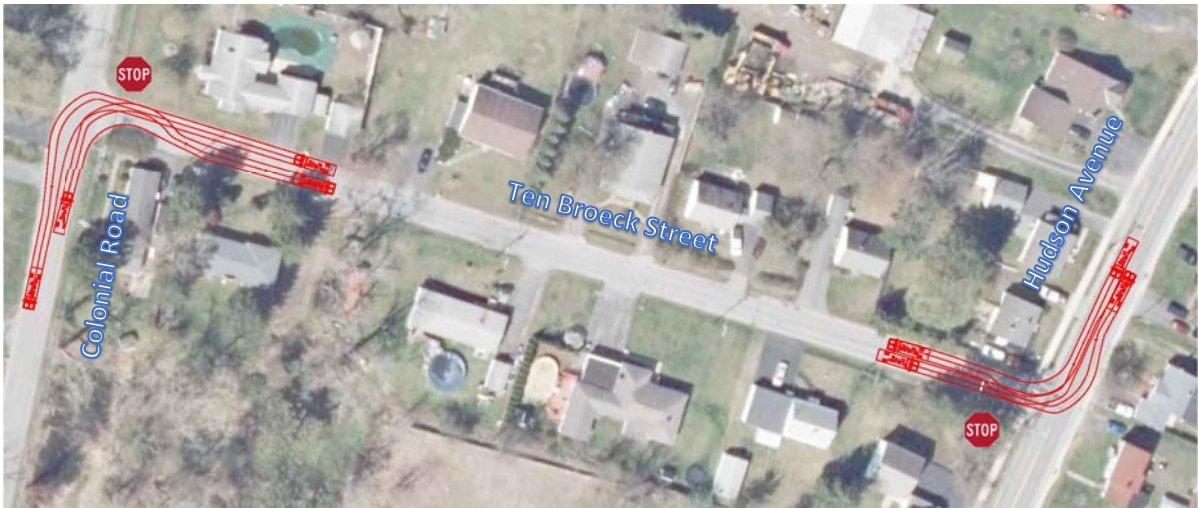
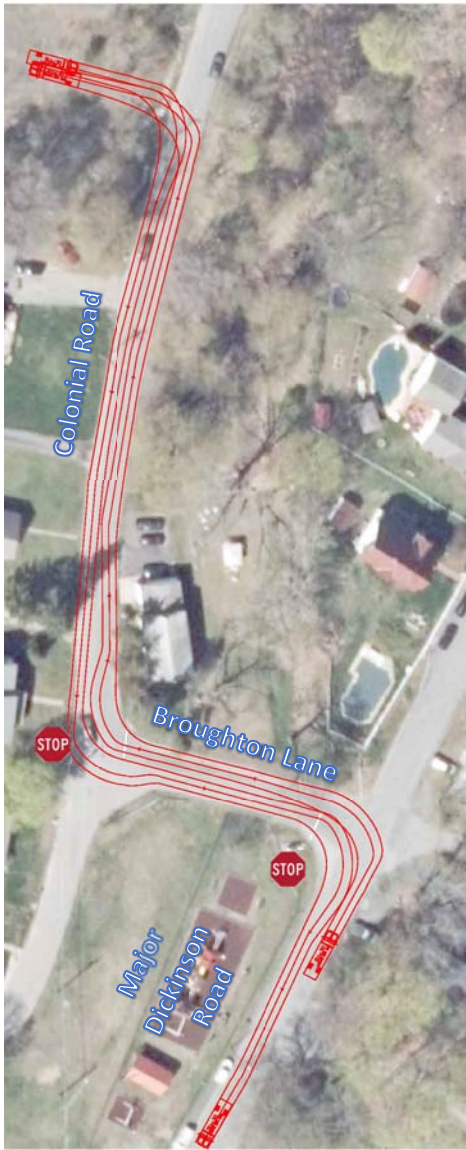
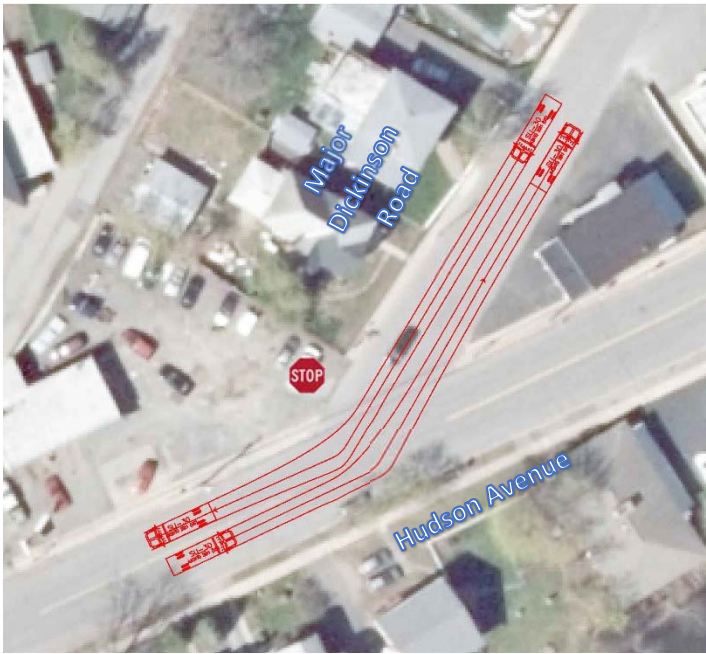
Class Seven: 26,001 to 33,000 lbs.



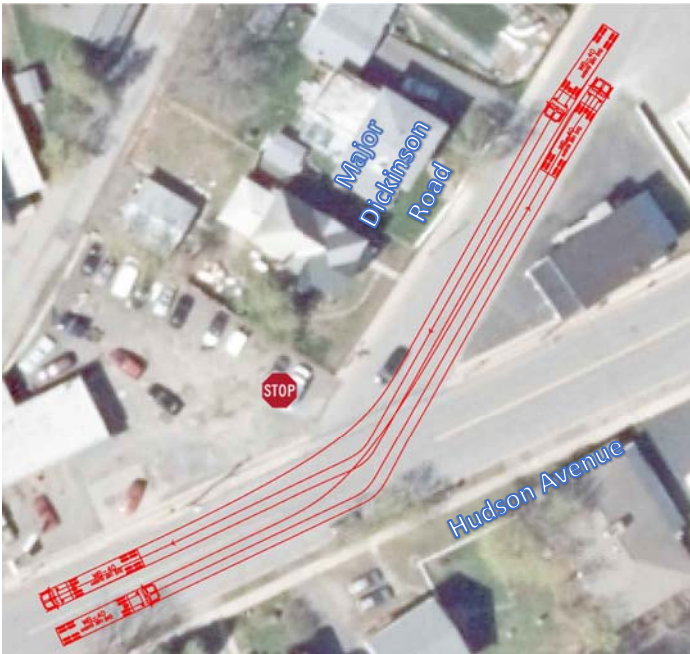
Class Eight: 33,001 lbs. & over



SU-30 Truck



WB -40 Truck



WB-67 Truck

