

September 1, 2022



Town of Orangetown Planning Board
Attn: Thomas Warren, Chairman
20 Greenbush Road
Orangeburg, NY 10962

RE: Traffic Impact Study for Proposed WPT Industrial REIT Warehouse Development, 13 Mountain View Avenue, Town of Orangetown, Rockland County, New York; CM Project No. 122-145

Dear Chairman Warren:

As requested by the Town of Orangetown Office of Building, Zoning, Planning Administration and Enforcement, Creighton Manning Engineering, LLP (CM) has completed this Traffic Impact Study (TIS) Report for the proposed warehouse development on Mountain View Avenue in the Town of Orangetown. This TIS was done to verify the findings of the project applicant's TIS prepared by Dynamic Traffic, dated November 18, 2021. This evaluation is based industry-standard traffic engineering guidelines and the Preliminary Site Plan (Site Plan) prepared by Colliers Engineering & Design, CT, PT, dated November 22, 2021, which is included under Attachment A.

1.0 Project Description

The subject site is defined on the Rockland County Tax Map as Section 74.07, Block 1, Lots 2, 33, and 36. The subject site is currently occupied by an approximately 106,000-square-foot vacant church, which is accessed via one full-movement driveway on Mountain View Avenue approximately 420-ft west of the NYS Route 303/Mountain View Avenue intersection. The proposed project consists of demolishing the existing site features and constructing a 175,760-square-foot warehouse. The proposed development will be accessed via two driveways: (i) a new right-in/right-out only driveway on NYS Route 303 between 522 and 516 NY-303; (ii) and the existing full-movement driveway on Mountain View Avenue, which will be reconstructed. The site will be supported by a total of 150 off-street parking spaces inclusive of five ADA-accessible spaces. Additionally, there are 30 land banked parking spaces, 34 loading bays, two drive-in ramps, and 30 trailer staging spaces. A map illustrating the project location and adjacent roadway network is shown on Exhibit 1.



Exhibit 1 – Site Location

2.0 Existing Conditions

Roadways Serving the Site

NYS Route 303 is an Urban Principal Arterial – Other roadway under the jurisdiction of the New York State Department of Transportation (NYSDOT). The roadway runs north-south from US Route 9W in Congers to CR 505 in Tappan. In the vicinity of the site, NYS Route 303 provides two 11-foot-wide travel lanes in each direction. The posted speed limit is 40 miles per hour. Sidewalks are provided intermittently along the roadway.

Mountain View Avenue is an Urban Local roadway under the jurisdiction of the Town of Orangetown Highway Department. The roadway runs east-west from South Greenbush Road to Western Highway within the Town of Orangetown. In the vicinity of the site, Mountain View Avenue provides one 13-foot-wide travel lane in each direction. The posted speed limit is 30 miles per hour. Sidewalks are provided on the north side of the roadway.

NYS Route 340 is an Urban Minor Arterial roadway under the jurisdiction of the NYSDOT. The roadway runs east-west from CR 501 in Tappan to NYS Route 303 in Orangeburg. In the vicinity of the site, NYS Route 340 provides one 12-foot-wide travel lane with four-foot-wide shoulders in each direction. The posted speed limit is 40 miles per hour. Sidewalk is provided on the south side of the road.

Orangeburg Road (County Route 20) is an Urban Minor Arterial roadway under the jurisdiction of the Rockland County Highway Department. The roadway runs east-west from NYS Route 303 to South Main Street in the Town of Orangetown. In the vicinity of the site, Orangeburg Road provides two 11-foot-wide travel lanes in each direction. The posted speed limit is 30 miles per hour. Sidewalk is provided on the south side of the road.

Greenbush Road is an Urban Local roadway under the jurisdiction of the Town of Orangetown Highway Department. The roadway runs north-south from NYS Route 303 to a dead-end just south of Steven. In the vicinity of the site, Greenbush Road provides one 13-foot-wide travel lane in each direction. The posted speed limit is 30 miles per hour. There is no sidewalk provided along the roadway.

Glenshaw Street is an Urban Local roadway under the jurisdiction of the Town of Orangetown Highway Department. The roadway runs east-west from NYS Route 303 to a dead-end. In the vicinity of the site, Glenshaw Street provides one 12-foot-wide lane in each direction. The posted speed limit is 30 miles per hour.

Study Intersections

NYS Route 303 and NYS Route 340/S Greenbush Road is a four-leg signalized intersection. The eastbound S Greenbush Road approach provides one shared left-turn/through/right-turn lane. The westbound NYS Route 340 approach provides one shared left-turn/through/right-turn lane. The northbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. The southbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. Pedestrian signals, countdown timers, ramps and crosswalks are provided to cross all legs of the intersection. Exhibit 2 depicts the intersection.



Exhibit 2 – NYS Route 303 and NYS 340/Greenbush Rd Intersection

NYS Route 303 and Orangeburg Road/Chase Bank Driveway is a four-leg signalized intersection. The eastbound Orangeburg Road approach provides one shared left-turn/through lane and an exclusive right-turn lane. The westbound Chase Bank Driveway approach provides one shared left-turn/through and an exclusive right-turn lane. The northbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. The southbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. Pedestrian signals, countdown timers, ramps and crosswalks are provided to cross the north and west legs of the intersection. Exhibit 3 depicts the intersection.



Exhibit 3 – NYS Route 303 & Orangeburg Rd/Chase Bank Driveway Intersection

NYS Route 303 and Mountain View Avenue is a four-leg signalized intersection. The eastbound Mountain View Avenue approach provides one shared left-turn/through/right-turn lane. The westbound Mountain View Avenue approach provides one shared left-turn/through/right-turn lane. The northbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. The southbound NYS Route 303 approach provides one shared left-turn/through lane and one shared through/right-turn lane. Pedestrian signals, countdown timers, ramps and crosswalks are provided to cross the north and west legs of the intersection. Exhibit 4 depicts the intersection.



Exhibit 4 – NYS Route 303 & Mountain View Ave Intersection

NYS Route 303 and Glenshaw Street is a three-way unsignalized intersection operating with stop-control on the eastbound Glenshaw Street approach. The eastbound Glenshaw Street approach provides one shared left-turn/right-turn lane. The northbound NYS Route 303 approach provides one shared left-turn/through lane and one through lane. The southbound NYS Route 303 approach provides one through lane and one shared through/right-turn lane. Exhibit 5 depicts the intersection.

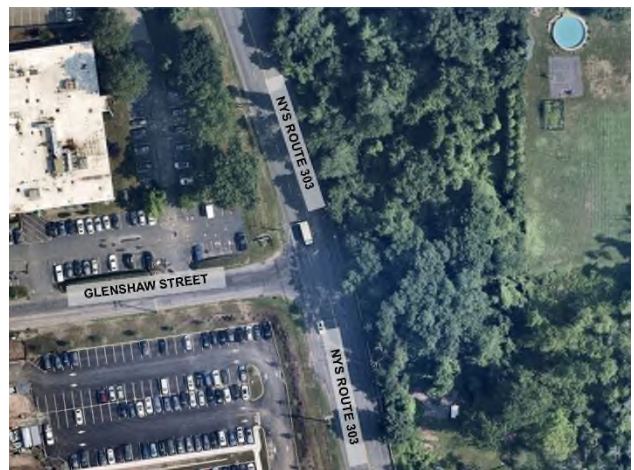


Exhibit 5 – NYS Route 303 & Glenshaw St Intersection

Data Collection

CM conducted turning movement counts at the study intersections on Thursday, June 2, 2022, during the typical weekday morning peak period from 7:00AM to 9:00 AM and the typical weekday evening peak period from 4:00PM to 6:00PM. These periods coincide with the expected peak operating times of the proposed development, as well as the adjacent street traffic. Furthermore, schools were in session and operating under typical conditions on Thursday, June 2, 2022. The observed peak hours were:

- Weekday morning – 7:45 AM to 8:45 AM
- Weekday evening – 4:15 PM to 5:15 PM

It is important to note that the Novel Coronavirus/COVID-19 pandemic was anticipated to have an effect on the observed traffic volumes. CM compared the observed volumes to historical data collected in November 2016 by NYSDOT Automatic Traffic Recorder (ATR), Station ID 850585, located on NYS Route 303 approximately 295-ft north of Greenbush Road. CM found that the observed traffic volumes were lower than the 2016 historical data for the weekday PM peak hour. A calibration factor was calculated by comparing the weekday PM peak period (4:00 PM to 6:00 PM) volumes in 2016 to the weekday PM peak period 2022 volumes. The calibration factor was applied to the observed weekday PM peak hour volumes in order to generate volumes that represent 2022 existing “pre-pandemic” traffic volumes.¹ Figure 1 shows the 2022 Existing traffic volumes for the study area. The raw traffic count data is included under Attachment B.

Transit

Transit service in the area is provided by Transport of Rockland (TOR). The 97 bus route is the closest TOR bus stop located at the intersection of NYS Route 303 and Orangeburg Road. This bus route runs from Stony Point in the north to Tappan in the south with headways of 40 minutes on weekdays.

Motor Vehicle Collision History

Motor vehicle collision data was obtained from NYSDOT for a three-year period – May 1, 2016 to April 30, 2019. The studied area consisted of Mountain View Avenue between Glenshaw Street and NYS Route 303. Table 1 summarizes the collisions by severity.

Table 1 – Summary of Motor Vehicle Collisions

Location	Collision Severity				Total
	Fatality	Injury	Property Damage	Non-Reportable	
Mountain View Avenue From: Glenshaw Street To: NYS Route 303	0	1	1	2	4

Table 1 shows that four collisions occurred along Mountain View Avenue between Glenshaw Street and NYS Route 303 over the three-year period of January 1, 2019 to December 31, 2021. Of those four collisions, one resulted in an injury, one resulted in property damage only, and two were non-reportable. There were zero collisions that resulted in a fatality and zero collisions that involved a pedestrian.

3.0 Traffic Assessment

Trip Generation

Trip generation determines the quantity of traffic expected to travel to and from a given site. The Institute of Transportation Engineers’ (ITE) *Trip Generation Manual*, 11th Edition, is the industry standard used for estimating trip generation for proposed land uses based on data collected at similar uses. It is important to note that the *Trip*

¹ A COVID-19 calibration factor of 1.09 was applied to the PM volumes. The observed weekday AM peak period volumes were higher than the 2016 volumes; therefore, no calibration factor was applied.

Generation Manual contains a number of Land Use Codes (LUC) (e.g., 110, 150, and 156) to calculate the trip generation for commercial developments. The *Trip Generation Manual* attempts to clarify the differences between these similar land uses:

- a. LUC 110 General Light Industrial: “A light industrial facility is a free-standing facility devoted to a single use. The facility has an emphasis on activities other than manufacturing and typically has minimal office space. Typical light industrial activities include printing, material testing, and assembly of data processing equipment.”
- b. LUC 150 Warehousing: “A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas.”
- c. LUC 156 High-Cube Parcel Hub Warehouse: “A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/ or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses.”

The study herein evaluates three Build conditions, one each LUC listed above. Tables 2a, 2b, and 2c summarize the trip generation estimate of each LUC for the weekday AM peak hour and weekday PM peak hour in terms of passenger vehicles (PV) and truck trips (Truck).

Table 2a – LUC 110 Trip Generation Summary

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
General Light Industrial – LUC 110 PV	175,760 SF	107	14	121	7	51	58
General Light Industrial – LUC 110 Truck	175,760 SF	1	1	2	1	1	2
Total Site-Generated Trips		108	15	123	8	52	60

Table 2b – LUC 150 Trip Generation Summary

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Warehousing – LUC 150 PV	175,760 SF	32	9	41	11	32	43
Warehousing – LUC 150 Truck	175,760 SF	2	2	4	2	3	5
Total Site-Generated Trips		34	11	45	13	35	48

Table 2c – LUC 156 Trip Generation Summary

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
High-Cube Parcel Hub – LUC 156 PV	175,760 SF	53	54	107	71	30	101
High-Cube Parcel Hub – LUC 156 Truck	175,760 SF	8	8	16	5	6	11
Total Site-Generated Trips		61	62	123	76	36	112

Tables 2a, 2b, and 2c show that the proposed development could generate between 45 and 123 total trips during the weekday AM peak hour and between 48 and 112 trip during the weekday PM peak hour. It is important to note that there is no “pass-by” component of the traffic associated with the proposed development.

Future Traffic Volumes

To evaluate the impact of the proposed development, traffic projections were prepared for the anticipated year of completion – 2023 and a design year that is 20 years beyond the estimated time of completion (ETC+20) – 2043. CM reviewed traffic volume data from various ATRs published on the NYSDOT Traffic Data Viewer and found that traffic has generally decreased on an annual basis.² However, in order to provide a conservative analysis, an annual growth rate of +1.0% was applied to the 2022 existing volumes and compounded annually for one year resulting in the Background Growth Traffic volumes as shown on Figure 2. The Town of Orangetown provided information about other development projects in the area. If approved and constructed, the following proposed development projects could potentially increase traffic within the study area. Table 3 summarizes the other planned development projects that are considered in this analysis.

Table 3 – Other Planned Development Project

Project	Type	Location	Source of Trip Generation	Trips Generated in Study Area by Projects	
				Weekday AM Peak Hour	Weekday PM Peak Hour
"S" Corner Plaza	Retail	Southeast Corner of NYS Route 303/NYS Route 304	Colliers	13	47
Instrumentation Laboratory	Industrial	Glenshaw Street	Colliers	17	14
Hudson Crossing Industrial Park (aka UPS Development)	Industrial	700 Bradley Hill Road	Maser	25	8
125-155 Greenbush Road Redevelopment	Industrial	125-155 Greenbush Road	Maser	108	120

The volumes generated by other developments are shown in Figure 3. These volumes were then added to the 2023 Background Growth Volumes to represent the 2023 No-Build conditions shown on Figure 4, which represent the traffic volumes *without* the proposed development.

The 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 route of truck drivers and employees. Non-truck trip distribution patterns for the site are shown in Figure 5. Truck traffic is expected to arrive and depart north on NYS Route 303 towards Interstate 87/287 (Thruway) using Exit 12 as shown in Figure 6. The non-truck and truck trip assignments based on each studied LUC are shown in the following Figures:

- a. LUC 110 – Non-Trucks: Figure 7A | Trucks: Figure 7B
- b. LUC 150 – Non-Trucks: Figure 8A | Trucks: Figure 8B
- c. LUC 156 – Non-Trucks: Figure 9A | Trucks: Figure 9B

The totaled assigned volumes for non-trucks and trucks for each LUC were added to the 2023 No-Build traffic volumes, resulting in the 2024 Build traffic volumes shown in Figure 7C, Figure 8C, and Figure 9C for LUC 110, 150, and 156, respectively. In order to evaluate the ETC+20 analysis, the annual growth rate was applied to the 2023 Background traffic volumes and compounded annually for 20 years resulting in the 2043 Background Growth traffic volumes as shown in the Figure 10. Other development volumes (Figure 2) and site generated volumes (Figures 7A-9B) were then added to the 2043 Background Growth traffic volumes, resulting in the 2043 Build ETC+20 volumes as shown in Figure 11A, Figure 11B, and Figure 11C for LUC 110, 150, and 156, respectively.

² NYSDOT ATR's | NYS Route 303 Station 850584 & 850585 | NYS Route 340 850602 | County Road 20 856003

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 Version 11 software, which automates the procedures contained in the Highway Capacity Manual. Table 4 and Table 5 summarize the results of the level of service calculation for the Existing, No-Build, Build 2023, and Build 2043 conditions during the weekday AM and weekday PM peak hours, respectively. The detailed level of service analysis reports are included under Attachment C.

Table 4 – Weekday AM Peak Hour Level of Service Summary

Intersection	Control	Weekday AM Peak Hour							
		2022 Existing	2023 No-Build	LUC 110		LUC 150		LUC 156	
				2023 Build	2043 Build	2023 Build	2043 Build	2023 Build	2043 Build
NYS Route 303/NYS Route 340/South Greenbush Rd	S								
S. Greenbush Rd, EB LTR		D (38.7)	D (38.5)	D (37.7)	C (33.9)	D (38.3)	C (34.4)	D (38.0)	C (34.2)
NY Route 340, WB LTR		E (56.6)	E (56.6)	E (57.2)	E (59.7)	E (56.8)	E (58.6)	E (56.7)	E (58.7)
NYS Route 303, NB LTR		A (5.6)	A (6.0)	A (6.3)	A (9.2)	A (6.1)	A (8.9)	A (6.2)	A (9.0)
NYS Route 303, SB LTR		A (7.1)	A (7.9)	A (8.5)	B (18.7)	A (8.1)	B (17.6)	A (8.4)	B (18.7)
Overall		B (16.4)	B (16.3)	B (17.1)	C (22.9)	B (16.5)	C (22.0)	B (16.7)	C (22.5)
NYS Route 303/Orangeburg Rd/Dwy	S								
Orangeburg Rd, EB LT		E (67.9)	E (68.2)	E (70.7)	F (84.0)	E (69.7)	E (78.9)	E (69.6)	E (78.2)
R		D (39.5)	D (39.5)	D (38.7)	D (37.8)	D (39.3)	D (38.1)	D (39.1)	D (37.9)
Chase Bank Dwy, WB LT		E (67.0)	E (67.0)	E (67.4)	E (70.8)	E (67.4)	E (70.8)	E (67.4)	E (70.8)
R		E (60.0)	E (60.0)	E (60.0)	E (59.6)	E (60.0)	E (59.6)	E (60.0)	E (59.6)
NYS Route 303, NB LTR		B (14.7)	B (12.0)	B (17.8)	D (35.1)	B (16.6)	C (31.5)	B (17.1)	C (33.4)
NYS Route 303, SB LTR	B (17.4)	B (17.9)	B (18.7)	C (22.7)	B (18.1)	C (22.3)	B (18.5)	C (22.8)	
Overall		C (25.3)	C (26.0)	C (27.0)	D (36.8)	C (26.1)	C (34.4)	C (26.4)	D (35.3)
NYS Route 303/Mountain View Ave	S								
Mountain View Ave, EB LTR		E (59.6)	D (49.0)	D (54.6)	E (60.1)	E (56.2)	E (60.9)	E (69.9)	F (84.5)
Mountain View Ave, WB LTR		E (76.4)	F (89.4)	F (83.0)	F (96.2)	F (84.7)	F (94.0)	E (66.8)	F (82.4)
NYS Route 303, NB LTR		C (25.9)	C (32.9)	C (34.1)	F (80.6)	C (32.3)	E (67.1)	D (35.1)	F (80.1)
NYS Route 303, SB LTR		D (46.2)	D (47.3)	D (46.4)	D (52.1)	D (46.5)	D (52.2)	D (46.8)	D (53.4)
Overall		D (41.4)	D (45.0)	D (45.3)	E (69.4)	D (44.9)	E (63.3)	D (46.7)	E (71.3)
NYS Route 303/Glenshaw St	U								
Glenshaw St, EB LR		C (23.3)	D (26.3)	D (28.0)	E (47.5)	D (27.0)	E (45.2)	D (28.0)	E (47.5)
NYS Route 303, NB LT		A (1.9)	A (1.9)	A (1.9)	A (2.3)	A (1.9)	A (0.9)	A (0.7)	A (2.3)
NYS Route 303/Site Driveway	U								
Site Driveway, EB R		--	--	B (10.7)	B (11.4)	B (10.6)	B (11.3)	B (10.9)	B (11.6)
Mountain View Road/Site Dwy	U								
Mountain View Road, EB LT		--	--	B (12.5)	B (13.6)	B (12.3)	B (13.4)	B (12.8)	B (14.1)
Site Dwy, SB LR		--	--	A (0.5)	A (0.4)	A (0.1)	A (0.1)	A (0.2)	A (0.2)

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

Table 5 – Weekday PM Peak Hour Level of Service Summary

Intersection	Control	Weekday PM Peak Hour							
		2022 Existing	2023 No-Build	LUC 110		LUC 150		LUC 156	
				2023 Build	2043 Build	2023 Build	2043 Build	2023 Build	2043 Build
NYS Route 303/NYS Route 340/South Greenbush Rd	S								
S. Greenbush Rd, EB LTR		C (28.9)	C (27.5)	C (27.6)	C (27.4)	C (27.5)	C (27.4)	C (27.1)	C (27.4)
NY Route 340, WB LTR		E (65.9)	E (70.0)	E (70.5)	F (136.9)	E (70.5)	F (137.7)	E (72.3)	F(146.7)
NYS Route 303, NB LTR		B (10.9)	B (12.2)	B (12.2)	B (14.0)	B (12.3)	B (14.0)	B (12.6)	B (14.1)
NYS Route 303, SB LTR		B (18.4)	C (27.2)	C (28.9)	F (118.0)	C (28.5)	F (115.3)	C (30.1)	F(116.7)
Overall		C (27.1)	C (32.0)	C (32.9)	F (88.8)	C (32.8)	F (87.7)	C (34.1)	F (90.4)
NYS Route 303/Orangeburg Rd/Dwy	S								
Orangeburg Rd, EB LT		F (89.3)	F (91.0)	F (91.7)	F (153.6)	F (92.7)	F (155.9)	F (99.3)	F(167.5)
R		D (36.5)	D (36.4)	D (36.4)	D (36.6)	D (36.4)	D (36.6)	D (36.3)	D (36.6)
Chase Bank Dwy, WB LT		E (69.7)	E (69.7)	E (69.7)	E (74.8)	E (69.7)	E (74.2)	E (69.7)	E (74.7)
R		E (55.9)	E (55.9)	E (55.9)	D (54.7)	E (55.9)	D (54.6)	E (55.8)	D (54.6)
NYS Route 303, NB LTR		C (29.7)	C (37.2)	D (36.7)	F (93.1)	D (37.2)	F (94.3)	D (40.7)	F(101.6)
NYS Route 303, SB LTR	C (26.2)	C (28.0)	C (28.4)	D (39.6)	C (28.3)	D (39.3)	C (28.5)	D (39.2)	
Overall		D (36.6)	D (39.9)	D (39.9)	E (72.0)	D (40.2)	E (72.7)	D (42.5)	E (77.0)
NYS Route 303/Mountain View Ave	S								
Mountain View Ave, EB LTR		D (40.2)	D (37.3)	D (39.9)	D (45.8)	D (39.1)	D (44.2)	D (39.9)	D (46.2)
Mountain View Ave, WB LTR		E (78.7)	F (138.1)	F (142.6)	F (252.5)	F (139.2)	F (247.1)	F (142.5)	F(254.6)
NYS Route 303, NB LTR		D (44.9)	D (70.1)	E (77.2)	F (169.4)	E (77.1)	F (170.8)	F (86.4)	F(183.1)
NYS Route 303, SB LTR		D (49.7)	D (55.5)	E (55.9)	F (113.3)	E (55.3)	F (110.2)	E (55.1)	F(109.8)
Overall		D (49.2)	E (69.7)	E (73.1)	F (145.8)	E (72.5)	F (144.9)	E (77.1)	F(151.3)
NYS Route 303/Glenshaw St	U								
Glenshaw St, EB LR		C (29.2)	D (33.6)	D (34.4)	F (90.1)	D (34.5)	F (90.2)	E (36.2)	F (97.7)
NYS Route 303, NB LT		A (0.9)	A (0.9)	A (0.9)	A (1.2)	A (0.9)	A (1.3)	A (0.9)	A (1.3)
NYS Route 303/Site Driveway	U								
Site Driveway, EB R		--	--	B (11.9)	B (13.1)	B (11.8)	B (13.0)	B (12.0)	B (13.0)
Mountain View Road/Site Dwy	U								
Mountain View Road, EB LT		--	--	B (11.6)	B (12.5)	B (11.9)	B (12.5)	B (12.4)	B (13.6)
Site Dwy, SB LR		--	--	A (0)	A (0)	A (0)	A (0)	A (0.4)	A (0.3)

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

The impact of the warehouse development can be described by comparing the analysis of the 2023 No-Build, 2023 Build, and 2043 Build operating conditions. The following observations are evident from the analysis:

- NYS Route 303/NYS Route 340/S Greenbush Road:** The level of service analysis indicates that the intersection currently operates at an overall LOS B during the weekday AM peak hour and a LOS C during the weekday PM peak hour. The overall LOS will remain at B and C in the 2023 No-Build and 2023 Build conditions during the weekday AM and weekday PM peak hours, respectively. It should be noted that the westbound NYS Route 340 approach operates at a LOS E during both study peak hours. Analysis of the 2043 Build conditions, indicates that during the weekday PM peak hour the overall intersection LOS will degrade to a LOS E with the westbound and southbound approaches operating with capacity constraints. This degradation in LOS is the result of 20 additional years of background growth of traffic volumes on the roadway network, which indicates that potential intersection improvements or traffic demand management should be considered for the corridor in the future. The LOS results of the Build conditions are similar regardless of the studied land use.

- **NYS Route 303/Orangeburg Road/Chase Bank Driveway:** The level of service analysis indicates that the intersection currently operates at an overall LOS C during the weekday AM peak hour and a LOS D during the weekday PM peak hour. The overall LOS will remain at C and D in the 2023 No-Build and 2023 Build conditions during the weekday AM and weekday PM peak hours, respectively. It should be noted that in the 2022 Existing, 2023 No-Build, and 2023 Build conditions the eastbound Orangeburg Road approach operates at a LOS E and a LOS F during the weekday AM peak hour and weekday PM peak hour, respectively. Likewise, in the 2022 Existing, 2023 No-Build, and 2023 Build conditions the westbound Chase Bank Driveway approach operates at a LOS E during both study peak hours. Analysis of the 2043 Build conditions, indicates that during the weekday PM peak hour the overall intersection LOS will degrade to a LOS E with the eastbound and northbound approaches operating with capacity constraints. This degradation in LOS is the result of 20 additional years of background growth of traffic volumes on the roadway network, which indicates that potential intersection improvements or traffic demand management should be considered for the corridor in the future. The LOS results of the Build conditions are similar regardless of the studied land use.
- **NYS Route 303/Mountain View Avenue:** The level of service analysis indicates that the intersection currently operates at an overall LOS D during both study peak hours. The overall LOS will remain at D in the 2023 No-Build and 2023 Build conditions during the weekday AM and weekday PM peak hours, respectively. It should be noted that in the 2022 Existing, 2023 No-Build, and 2023 Build conditions the eastbound and westbound Mountain View Avenue approaches operate at a LOS E during the weekday AM peak hour. During the weekday PM peak hour, eastbound Mountain View Avenue approach operates at a LOS D. The westbound Mountain View Avenue approach operates at a LOS E in the 2022 Existing condition and will degrade to a LOS F in the 2023 No-Build and Build conditions. Analysis of the 2043 Build conditions indicates that during the weekday PM peak hour, the overall intersection LOS will degrade to a LOS E with the westbound, northbound, and southbound approaches operating with capacity constraints. This degradation in LOS is the result of 20 additional years of background growth of traffic volumes on the roadway network, which indicates that potential intersection improvements or traffic demand management should be considered for the corridor in the future. The LOS results of the Build conditions are similar regardless of the studied land use.
- **NYS Route 303/Glenshaw Street:** The level of service analysis indicates that the intersection approaches currently operate at a LOS C or better during both study peak hours. In the 2023 Build condition, the northbound NYS Route 303 approach will remain at a LOS A, but the eastbound Glenshaw Road approach will degrade to an acceptable LOS D. Analysis of the 2043 Build conditions indicates that operation of the eastbound Glenshaw Road approach will continue to deteriorate. This degradation in LOS is the result of 20 additional years of background growth of traffic volumes on the roadway network, which indicates that potential intersection improvements or traffic demand management should be considered for the corridor in the future. The LOS results of the Build conditions are similar regardless of the studied land use.
- **NYS Route 303/Site Driveway:** The level of service analysis indicates that as a two-way stop controlled intersection with stop-control on the eastbound Site Driveway approach, the Site Driveway will operate at a LOS B during both study peak hours in the 2023 Build and 2043 Build conditions. The LOS results of the Build conditions are similar regardless of the studied land use.
- **Mountain View Avenue/Site Driveway:** The level of service analysis indicates that as a two-way stop controlled intersection with stop-control on the southbound Site Driveway approach, the Site Driveway will operate at a LOS B during both study peak hours in the 2023 Build and 2043 Build conditions. Likewise, the eastbound Mountain View Avenue approach will operate at a LOS A during both study peak hours. The LOS results of the Build conditions are similar regardless of the studied land use.

4.0 Sight Distance Evaluation

The available intersection sight distance from the site driveway intersections was measured from the perspective of a driver who would be exiting the site to determine if adequate sight lines are available. It should be noted that sight distance for a driver looking in both directions were measured for the driveway on Mountain View Avenue, while only the sight distance for a driver looking left was measured for the driveway on NYS Route 303. The intersection sight distance was also measured for drivers traveling east on Mountain View Avenue seeking to turn left into the proposed site driveway. 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 was also measured at the proposed site driveway. Stopping sight distance is the length of the roadway ahead that is visible to the driver on the mainline. 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. Exhibit 6 illustrates these sight distance measurements.

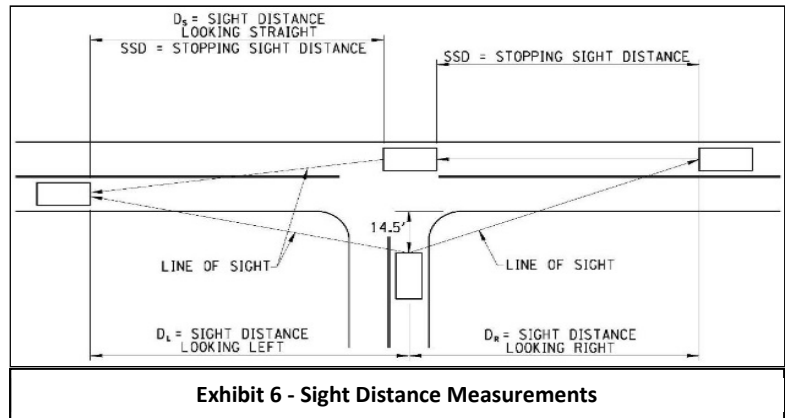


Exhibit 6 illustrates these sight distance measurements.

Along the project site’s frontages, Mountain View Avenue has a posted speed limit of 30 miles per hour, and NYS Route 303 has a posted speed limit of 40 miles per hour. In order to provide a conservative analysis, an operating speed of 35 miles per hour was assumed for Mountain View Avenue and an operating speed of 45 miles per hour was assumed for NYS Route 303. The sight distance field measurements from these driveway location were compared to the guidelines presented in *A Policy on Geometric Design of Highways and Streets*, 2018, published by the American Association of State Highway Transportation Officials (AASHTO) and NYSDOT design guidance (EB 17-007) for the associated operating speeds. The results of the analysis are summarized in Table 6.

Table 6 – Sight Distance Summary (Feet)

Intersection		Intersection Sight Distance ¹				Stopping Sight Distance ²	
		Right Turn from Site Driveway (D _L)	Left Turn from Site Driveway		Left Turn from Major St	SSD _{NB/EB}	SSD _{SB/WB}
			Looking Left (D _L)	Looking Right (D _R)			
Mountain View Ave/ Site Driveway	Available	420	420	150	330	305	305
	Recommended ³	335	390	390	285	250	250
NYS Route 303/ Site Driveway	Available	500+	500+	500+	500+	475+	475+
	Recommended ³	430	500	500	365	360	360

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

² SSD_{EB, WB} = Stopping sight distance measured for a 2-foot object located in the path of vehicles traveling on major street.

³ Assumed operating speed: Mountain View Avenue = 35-mph | NYS Route 303 = 45-mph.

The sight distance evaluation at the Mountain View Avenue/Site Driveway intersection indicated that the intersection sight distances for a driver exiting the site are limited for various reasons. Looking left (east), the sight distance of the driver is limited to the adjacent intersection of Mountain View Avenue and NYS Route 303. However, the available intersection sight distance does exceed the AASHTO recommended guidelines. Looking right (west), the sight distance of the driver is limited due to vegetation on the north side of Mountain View Avenue – See Exhibit 7. It is recommended that the Site Plan indicate the clearing necessary to achieve intersection sight distance that meets the AASHTO recommended guidelines. Specifically, the intersection sight distance looking right (west) is currently critically limited and should be addressed since the available intersection sight distance is less than the recommended stopping sight distance. It should be noted that the available stopping sight distances exceed the recommended AASHTO guidelines.



Exhibit 7 – Looking Right (West) from Site Driveway

The sight distance evaluation at the NYS Route 303/Site Driveway intersection indicated that the available sight distances exceed the AASHTO recommended guidelines for all turning movements. It should be noted that the driveway is proposed to be a right-in/right-out only driveway.

5.0 Site Access, Circulation, & Parking

CM reviewed the site access and site circulation as shown on the Preliminary Site Plan prepared by Colliers Engineering & Design, CT, PT, dated November 22, 2021. The site will be accessed via one full-movement driveway on Mountain View Avenue approximately 330 feet west of the Mountain View Avenue/NYS Route 303 intersection and one right-in/right-out driveway on NYS Route 303 between 522 and 516 NY-303. Stop signs and stop bars will be provided at both driveways. Internally, tractor trailer and passenger vehicle interactions will be separated with the loading docks located on the east side of the building and the passenger vehicle parking area located on the west side of the building. A 75-ft two-way drive aisle is provided for tractor trailers to navigate to and from the loading docks. A minimum 25-ft two-way drive aisle is provided to allow passenger vehicles to navigate to and from the parking area.

The site will be supported by a total of 150 off-street parking spaces inclusive of five ADA-accessible spaces. Additionally, there are 30 land banked parking spaces, 34 loading bays, two drive-in ramps, and 30 trailer staging spaces. According to the Table of General Use Regulation for the LI District in the Town of Orangetown Zoning Code, a light manufacturing use and a warehouse use are required to have one (1) space per two (2) employees or one (1) space per 300 square feet of gross floor area. Based on these requirements, and the applicant's engineer's assumption of one (1) employee per 1,500 square feet, the proposed development would require either 59 spaces or 586 spaces. A review of the ITE *Parking Generation Manual*, 5th Edition, which provides parking demand data based on various land uses, indicates that a 175,760-square-foot general light industrial use (LUC 110) and a warehouse use (LUC 150) would have a peak parking demands of 108 spaces and 68 spaces, respectively.³ Based on the ITE data and CM's experience working on numerous warehouses, the required 586 spaces is excessive with the proposed 150 parking spaces being sufficient for the proposed development.

³ The ITE *Parking Generation Manual*, 5th Edition does not provide parking data for the High-Cube Parcel Hub use (LUC 156).

6.0 Conclusion

As requested by the Town of Orangetown Office of Building, Zoning, Planning Administration and Enforcement, Creighton Manning Engineering, LLP (CM) has completed this Traffic Impact Study Report for the proposed warehouse development on Mountain View Avenue in the Town of Orangetown. This evaluation is based industry-standard traffic engineering guidelines and the Preliminary Site Plan prepared by Colliers Engineering & Design, CT, PT, dated November 22, 2021. As shown on the Preliminary Site Plan, the proposed project consists of demolishing the existing site features and constructing a 175,760-square-foot warehouse. Upon completion of this study, the following is noted:

- A review of three-year historical motor vehicle collision data along Mountain View Avenue in the vicinity of the subject site indicates that there have been four collisions. Of those four collisions, one resulted in an injury, one resulted in property damage only, and two were non-reportable. There were zero collisions that resulted in a fatality and zero collisions that involved a pedestrian.
- The proposed development could generate between 45 and 123 total trips during the weekday AM peak hour and between 48 and 112 trip during the weekday PM peak hour. It is important to note that there is no “pass-by” component of the traffic associated with the proposed development.
- The proposed development will result in a maximum traffic volume increase of 1.5-percent on the roadway network during the weekday AM peak hour and weekday PM peak hour. The level of service analysis indicates that the proposed project will not have a significant adverse impact on the roadway network.
- The level of service analysis indicates that in 2043, the anticipated background traffic growth will result in operational constraints along NYS Route 303. It is recommended that potential intersection improvements or traffic demand management be considered for the corridor in the future.
- The sight distance evaluation for the access driveway on Mountain View Avenue indicates that that vegetation clearing is necessary to achieve adequate intersection sight distance.
- The proposed development will be supported by 150 off-street parking spaces inclusive of five ADA-accessible spaces. Additionally, there are 30 land banked parking spaces, 34 loading bays, two drive-in ramps, and 30 trailer staging spaces. Based on review of the parking demand data in the ITE *Parking Generation Manual*, 5th Edition, the peak parking demand for a use of this size is 68 spaces. Based on the ITE data and CM’s experience working on numerous warehouses, the required 586 spaces is excessive with the proposed 150 parking spaces being sufficient for the proposed development.

Respectfully submitted,
Creighton Manning Engineering, LLP



Frank A. Filiciotto, PE
Associate



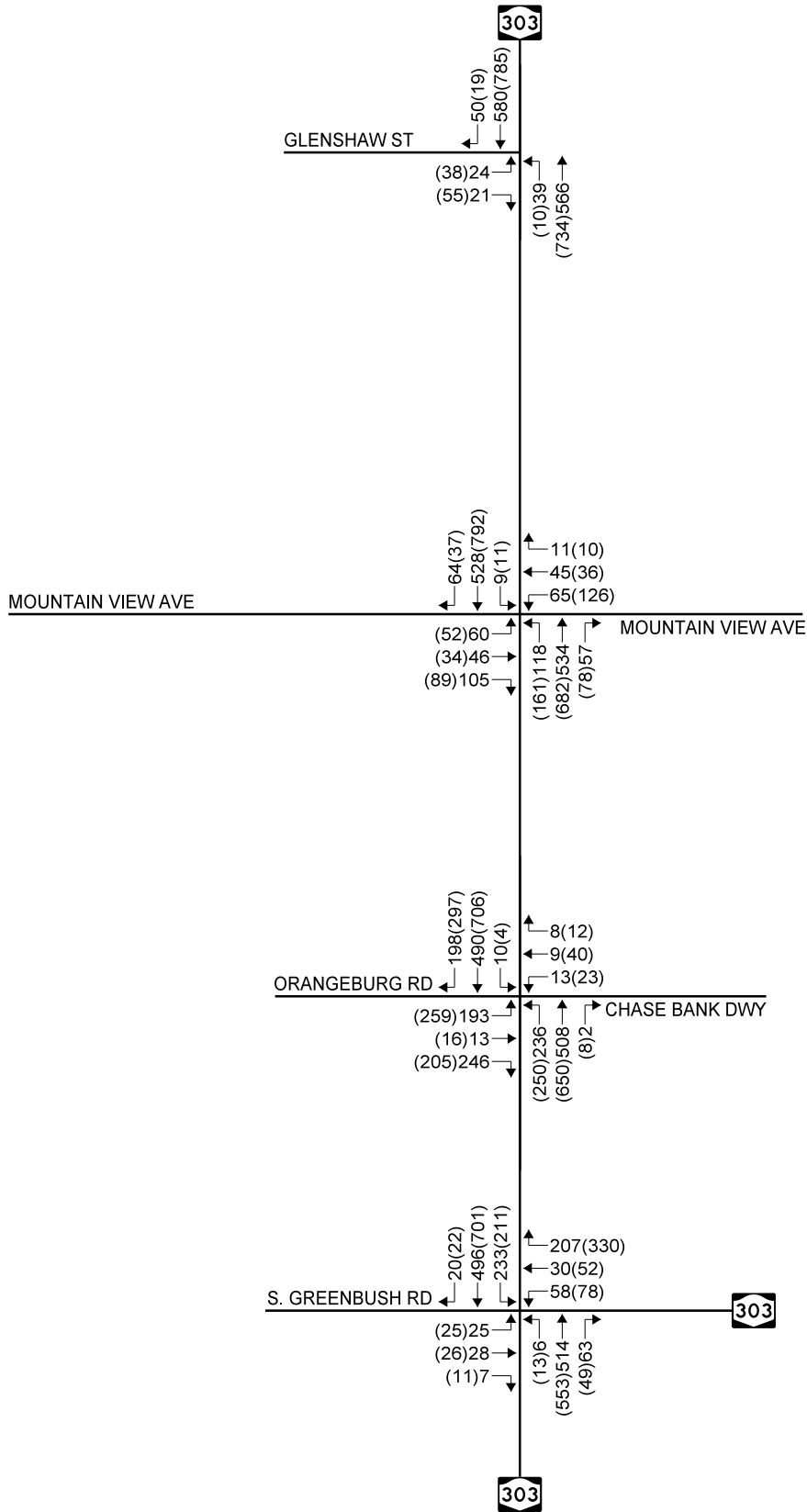
Starke W. Hipp, PE
Project Engineer

cc:

Attachments

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1



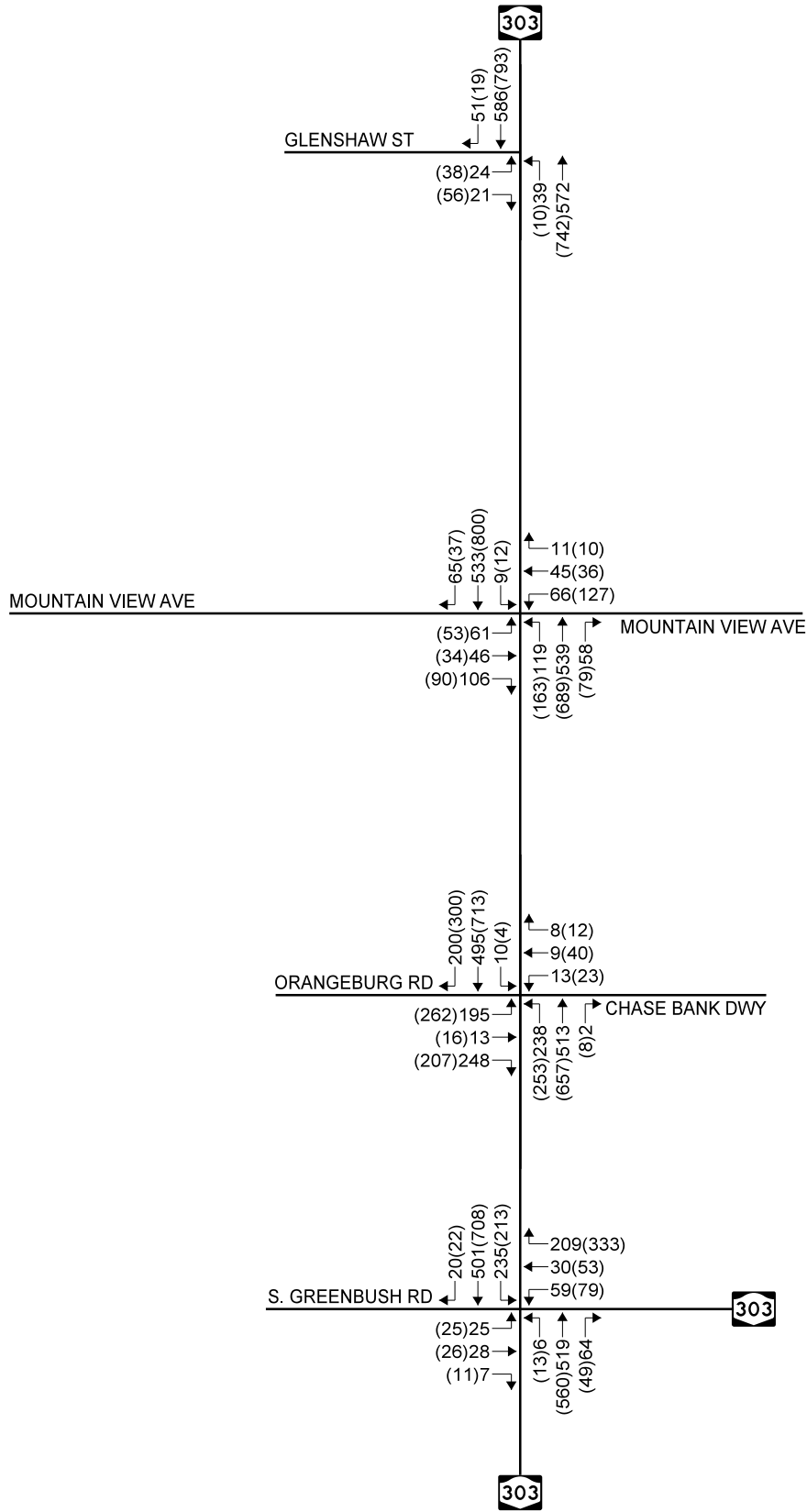
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2022 EXISTING TRAFFIC VOLUMES

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



1



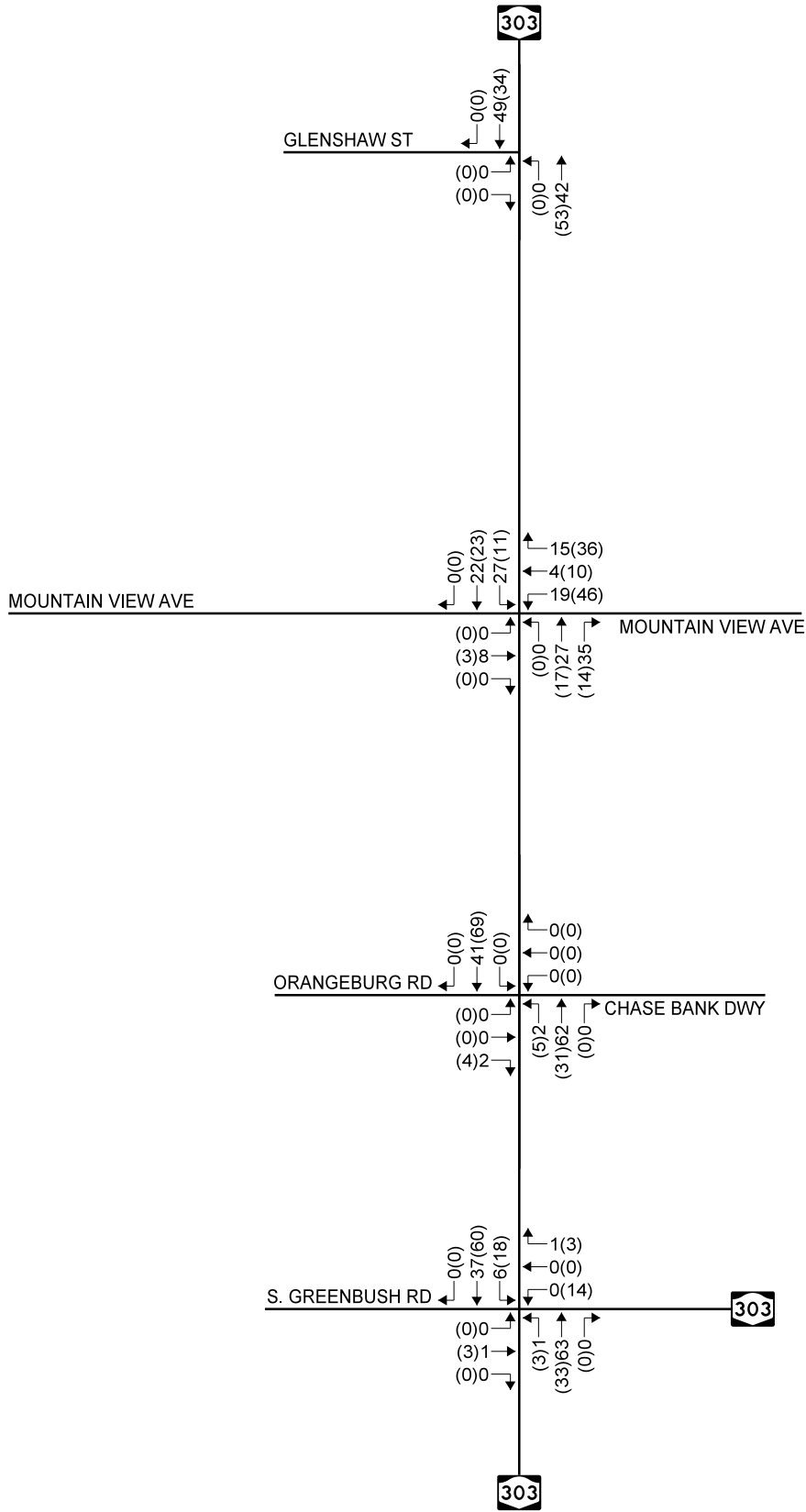
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2023 BACKGROUND GROWTH

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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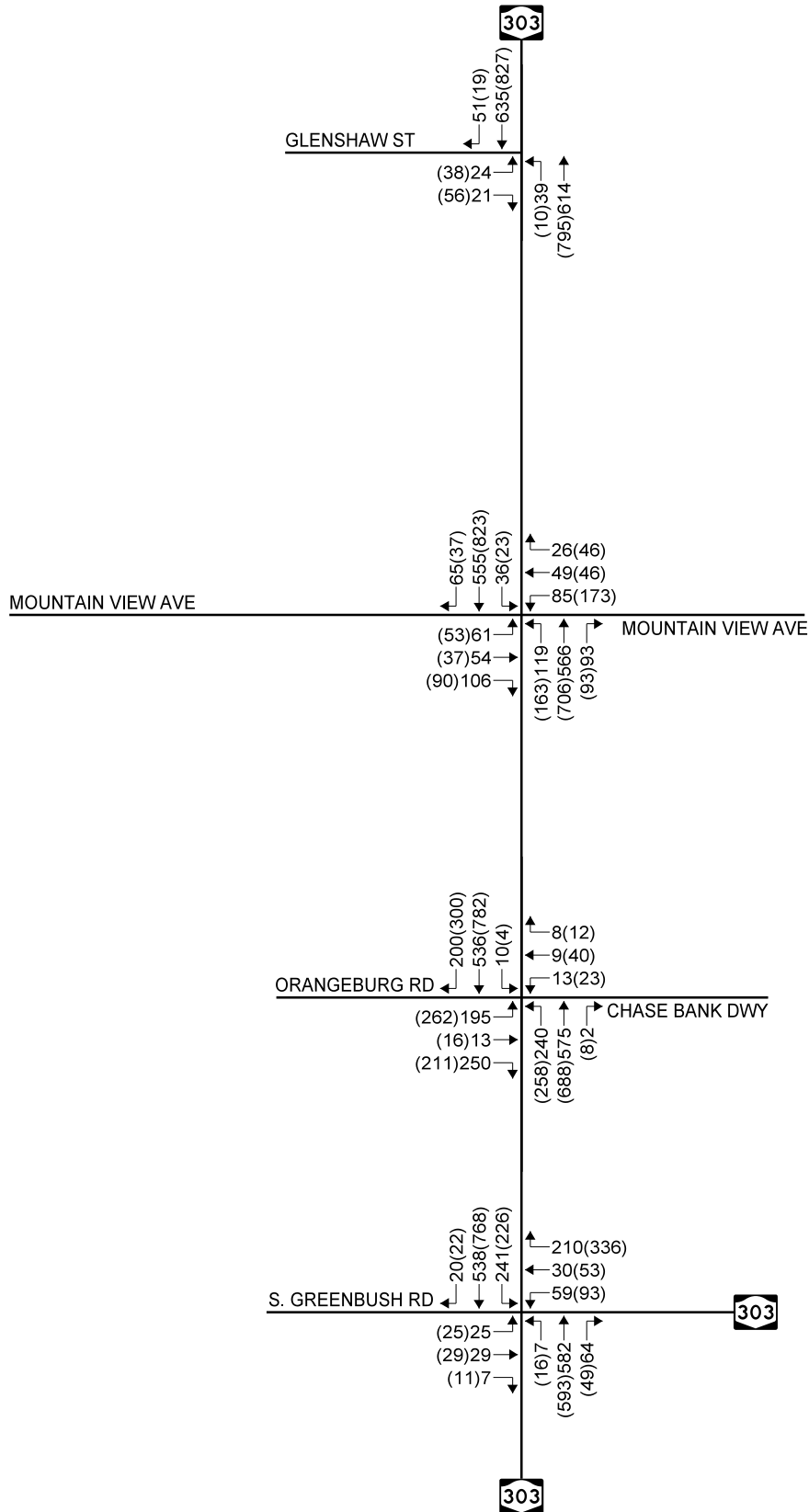
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OTHER DEVELOPMENTS

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



1



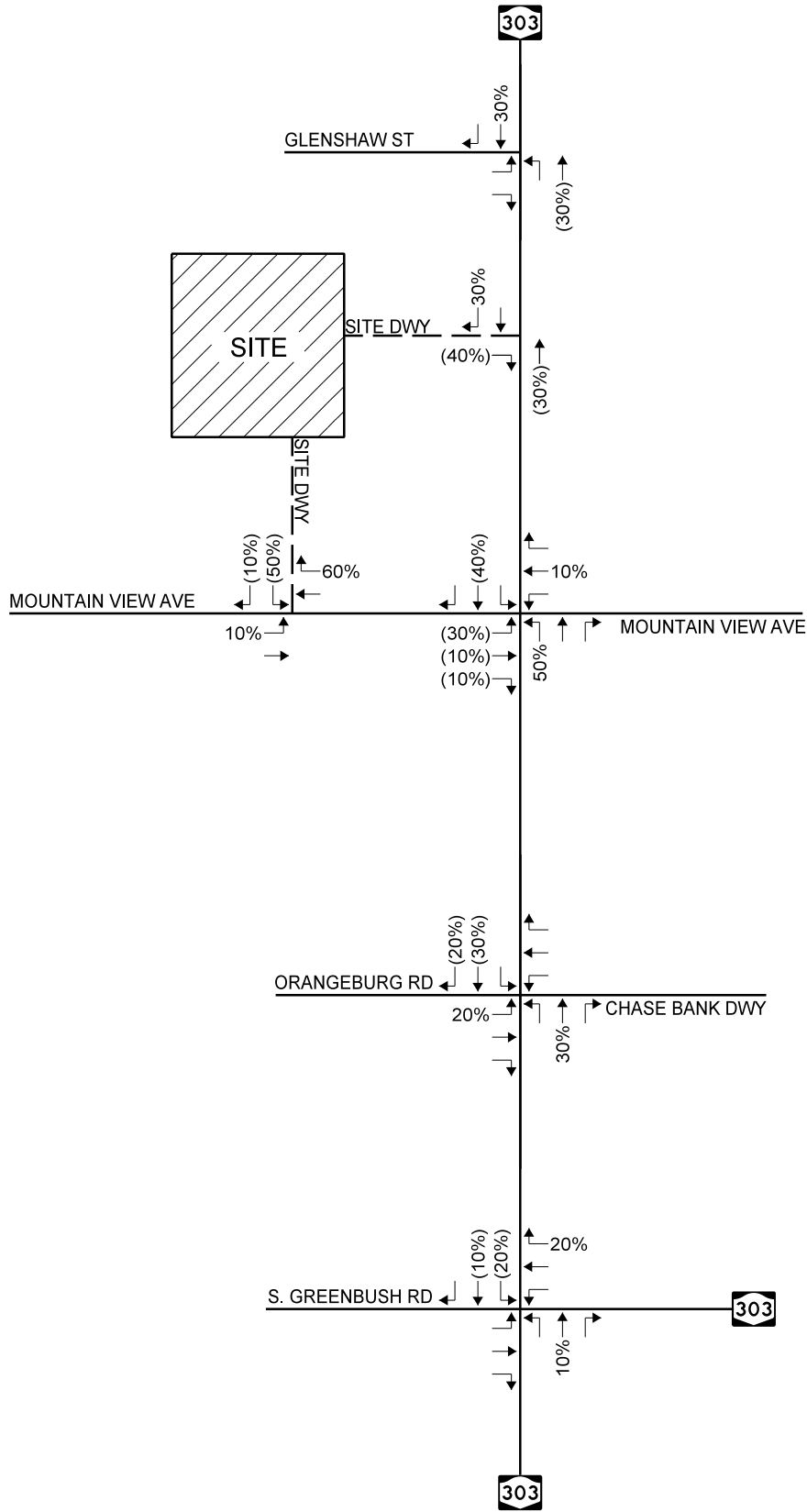
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2023 NO-BUILD
TRAFFIC VOLUMES

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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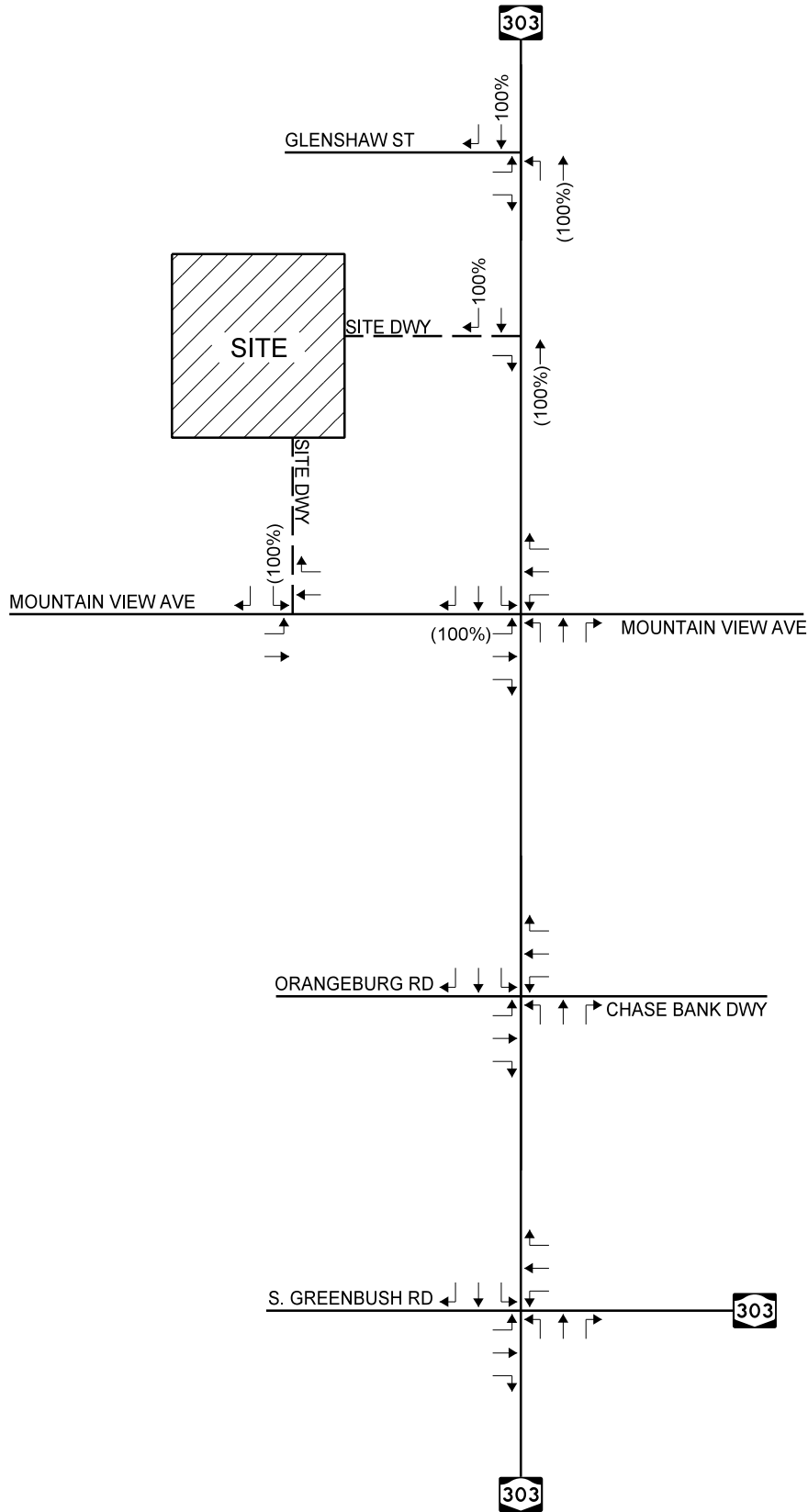
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TRIP DISTRIBUTION - NON TRUCKS

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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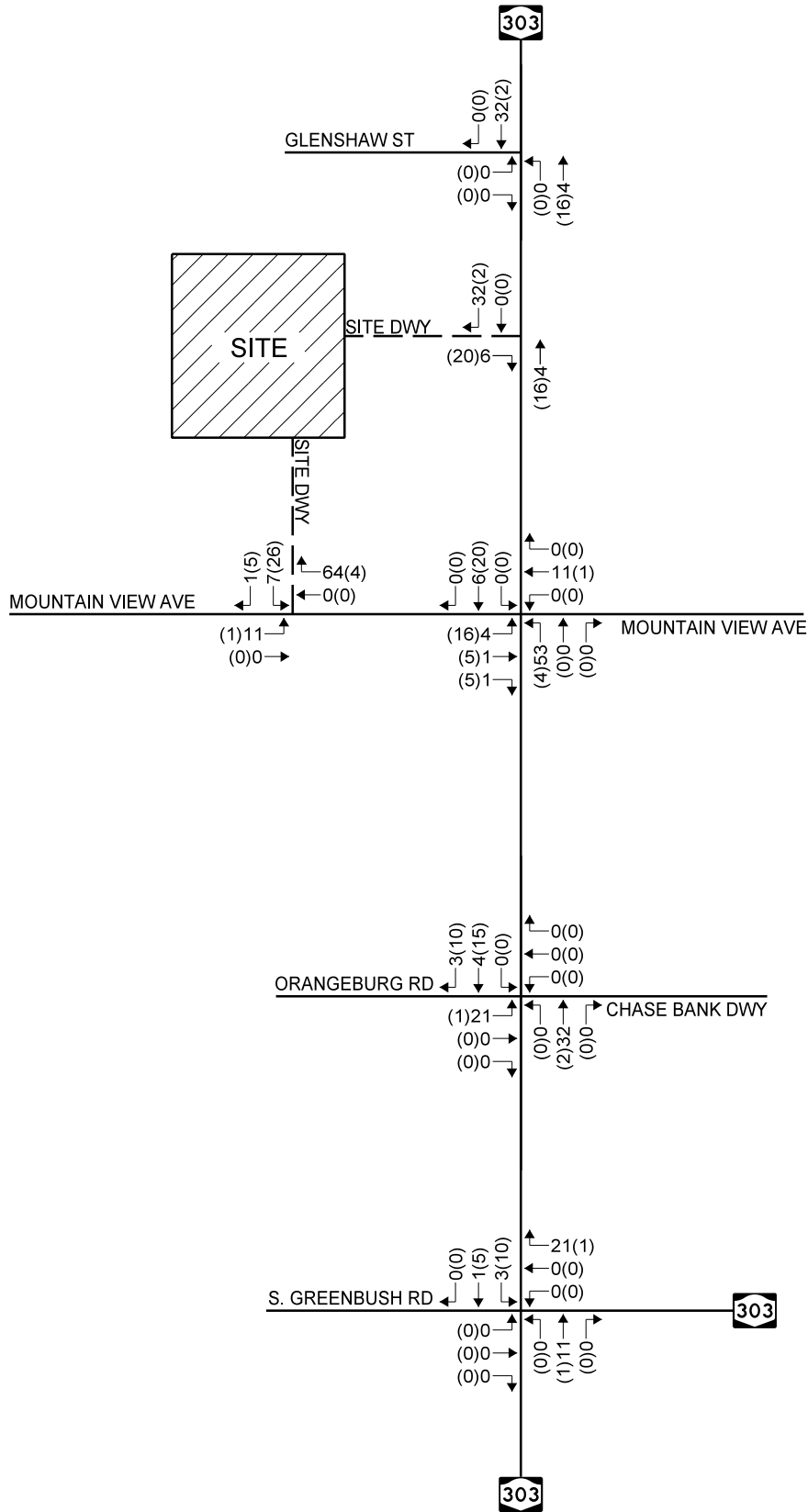
TRIP DISTRIBUTION - TRUCKS

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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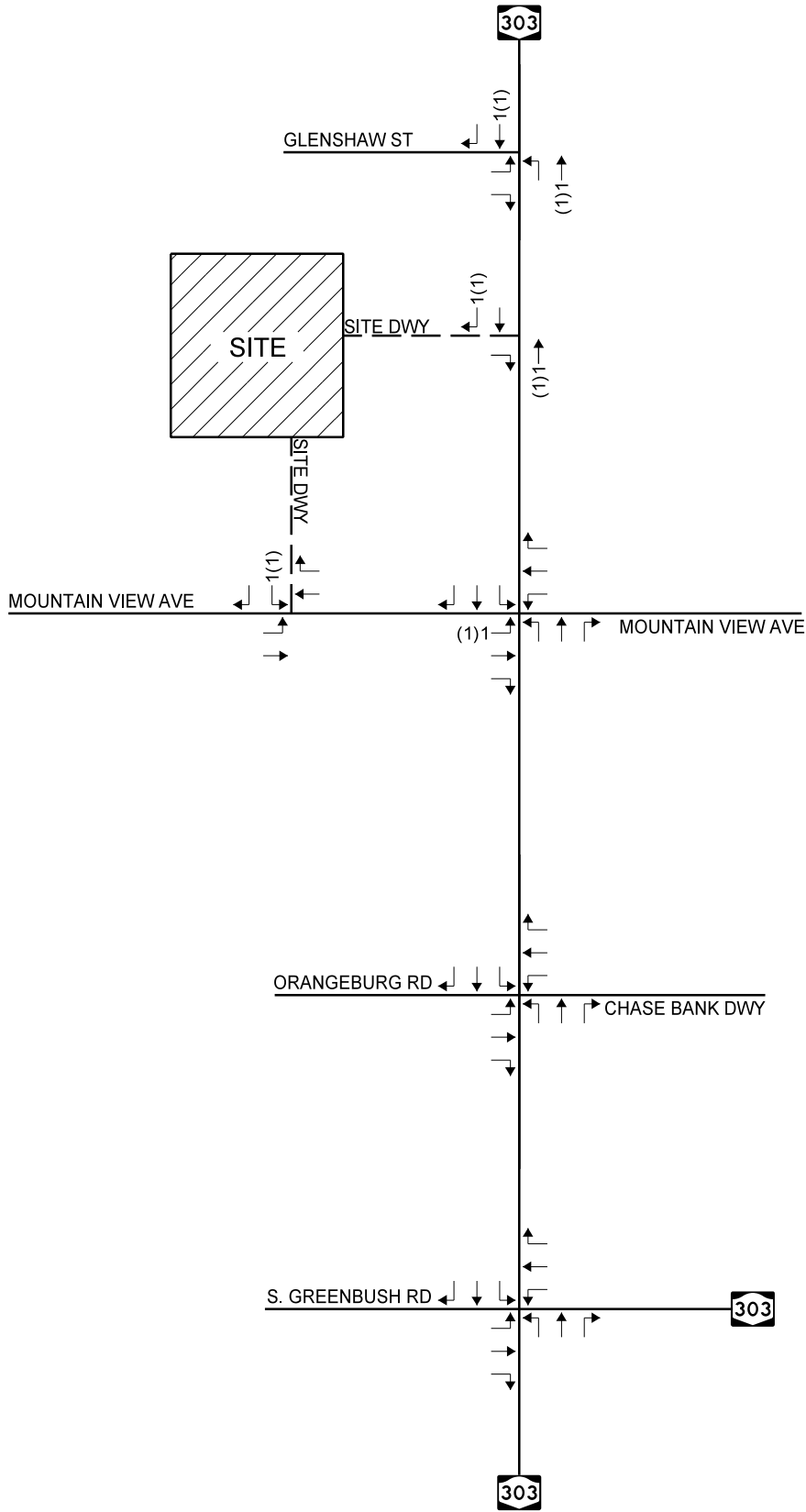
AM PEAK HOUR (PM PEAK HOUR)

TRIP ASSIGNMENT - NON-TRUCKS
LUC 110 "GEN LIGHT INDUSTRIAL"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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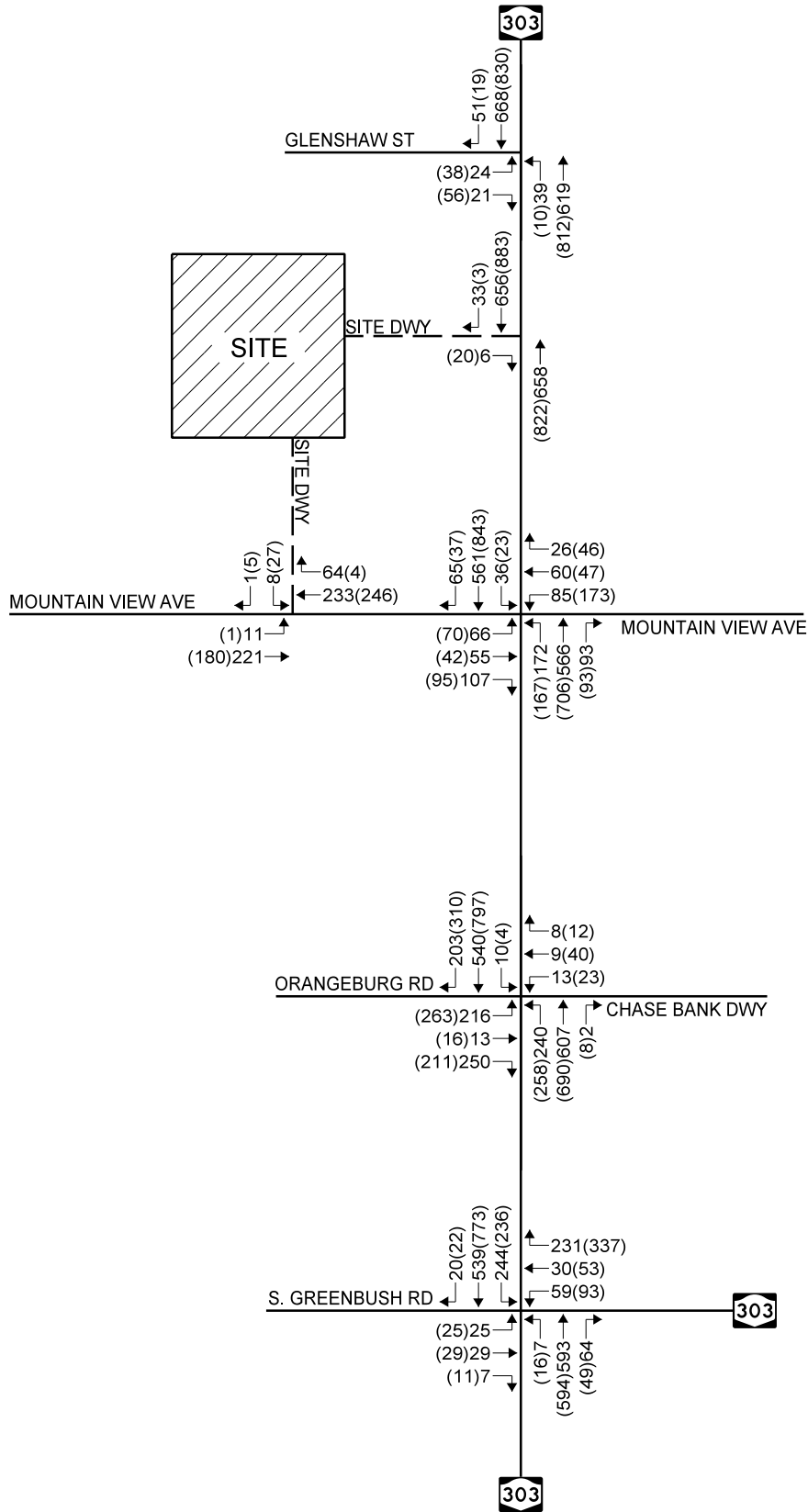
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LUC 110 "GEN LIGHT INDUSTRIAL"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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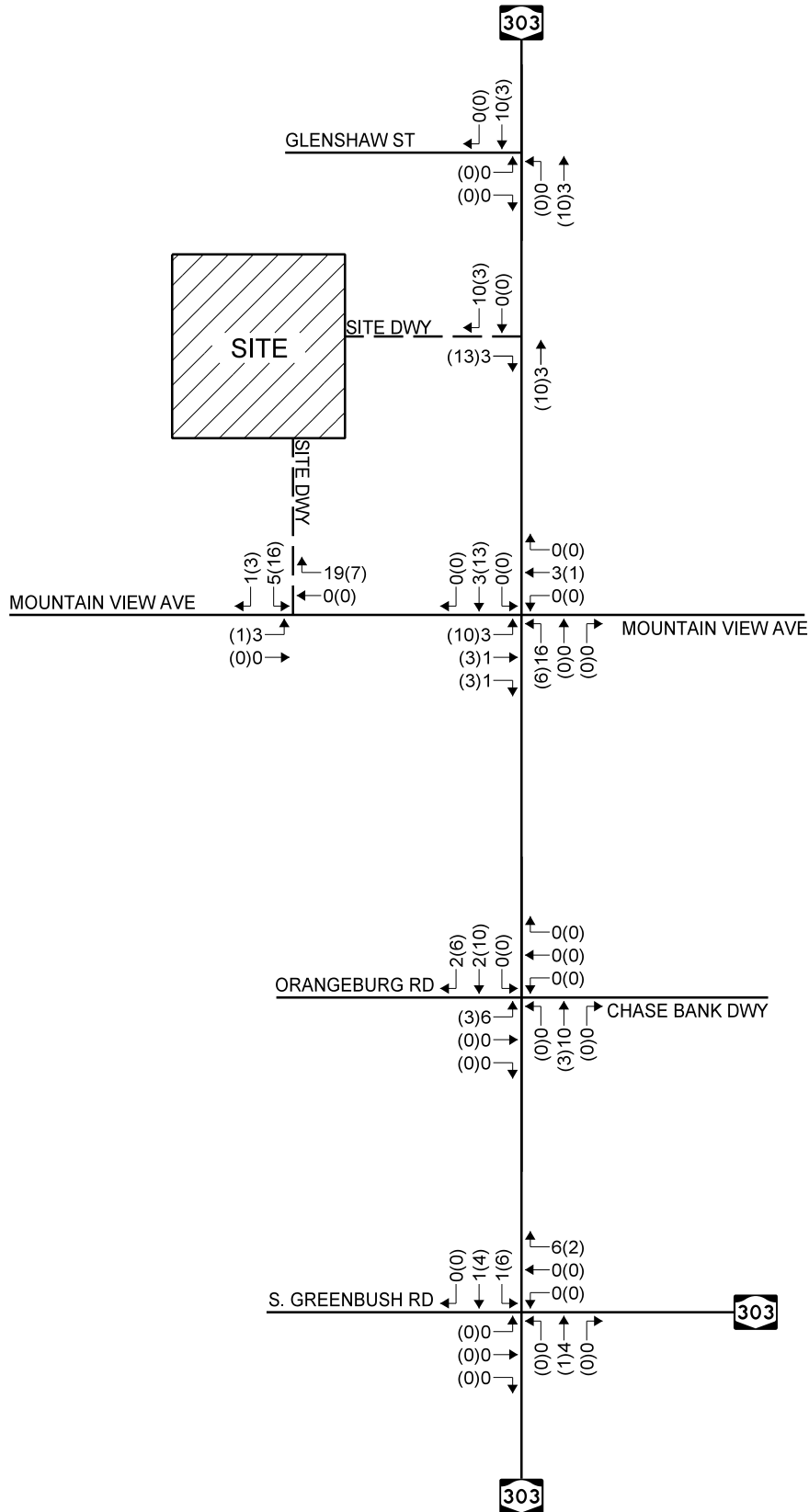
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2023 BUILD TRAFFIC VOLUMES
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WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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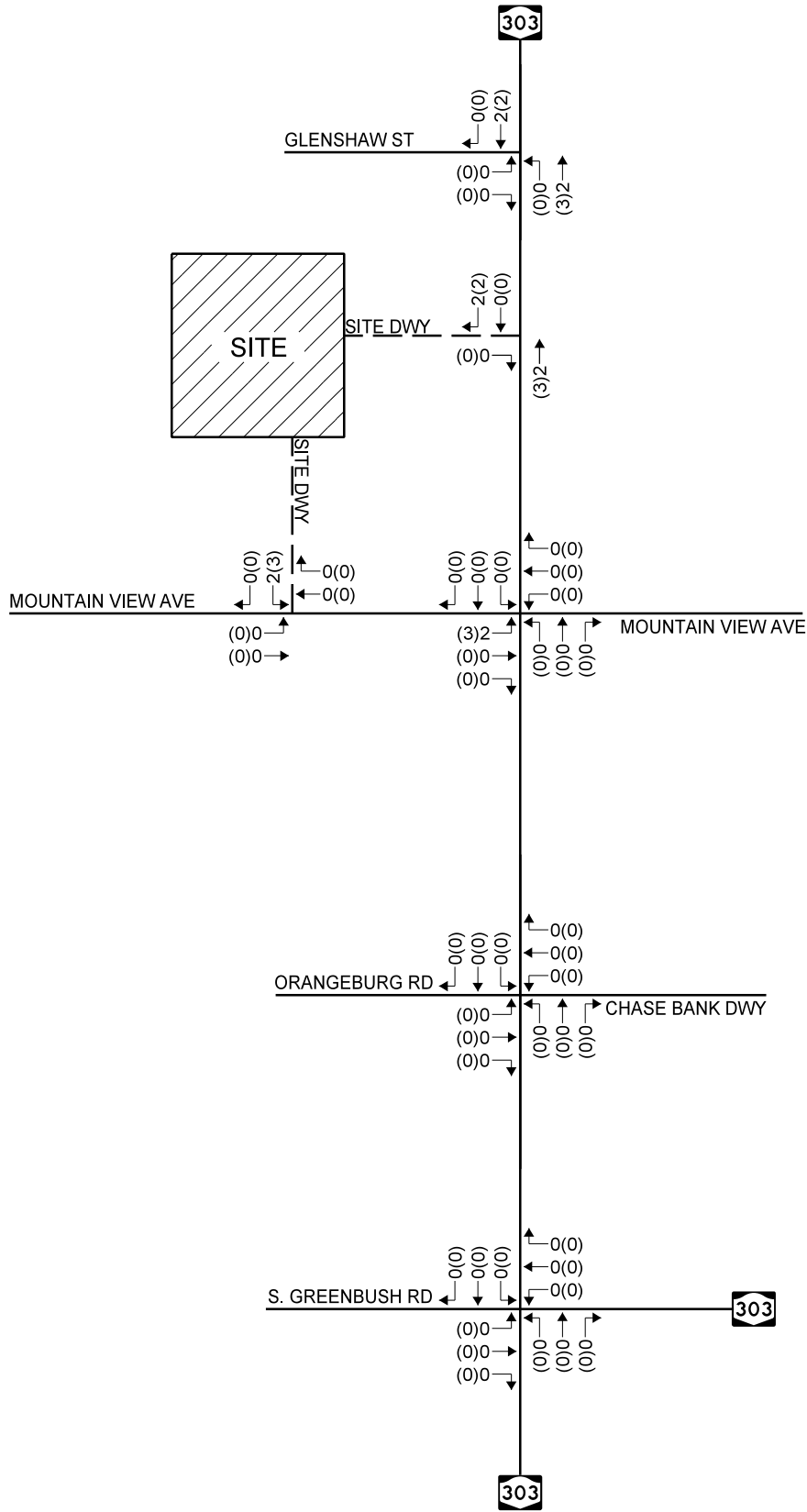
TRIP ASSIGNMENT - NON-TRUCKS
LUC 150 "WAREHOUSE"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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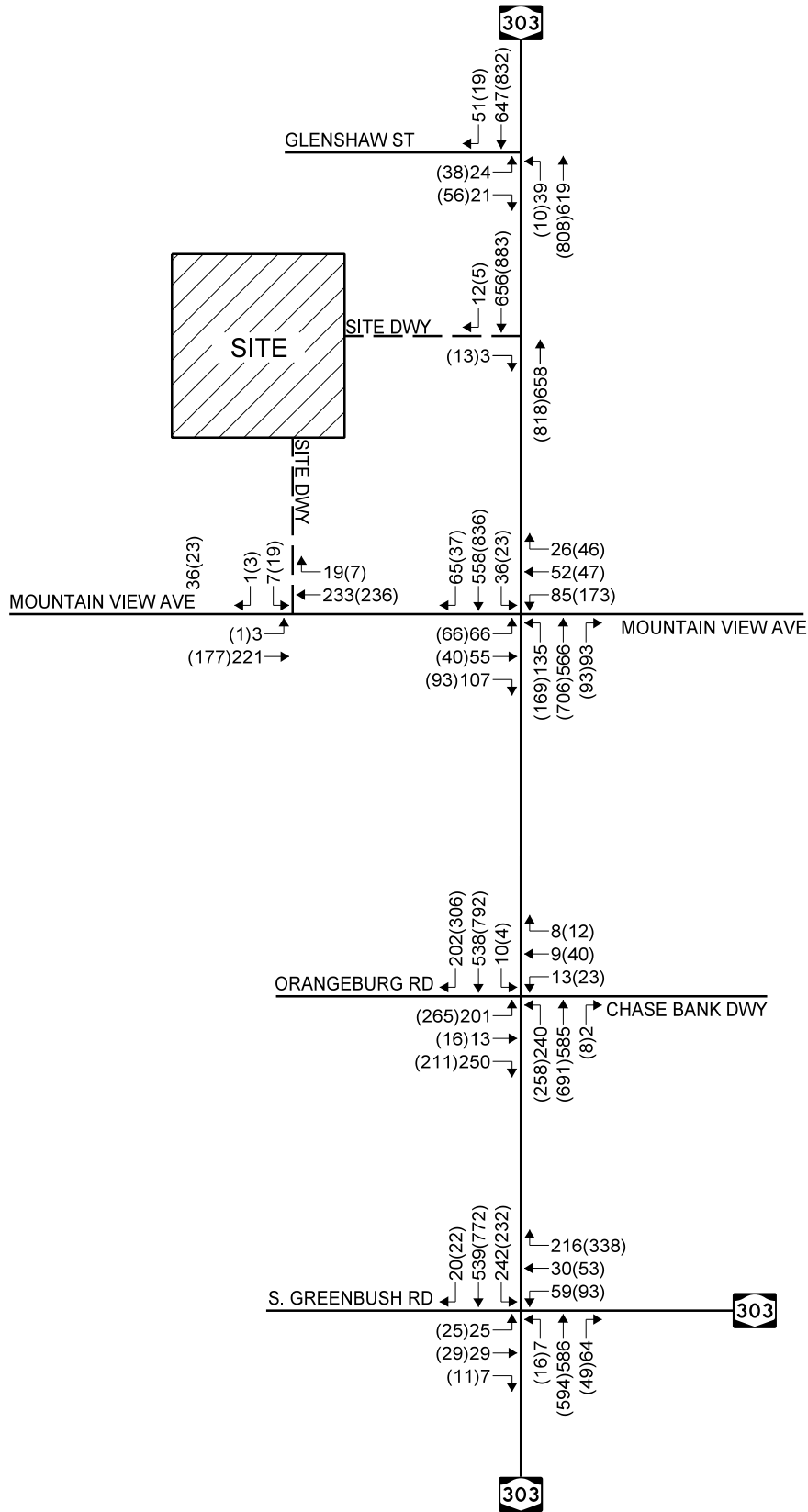
AM PEAK HOUR (PM PEAK HOUR)

TRIP ASSIGNMENT - TRUCKS
LUC 150 "WAREHOUSE"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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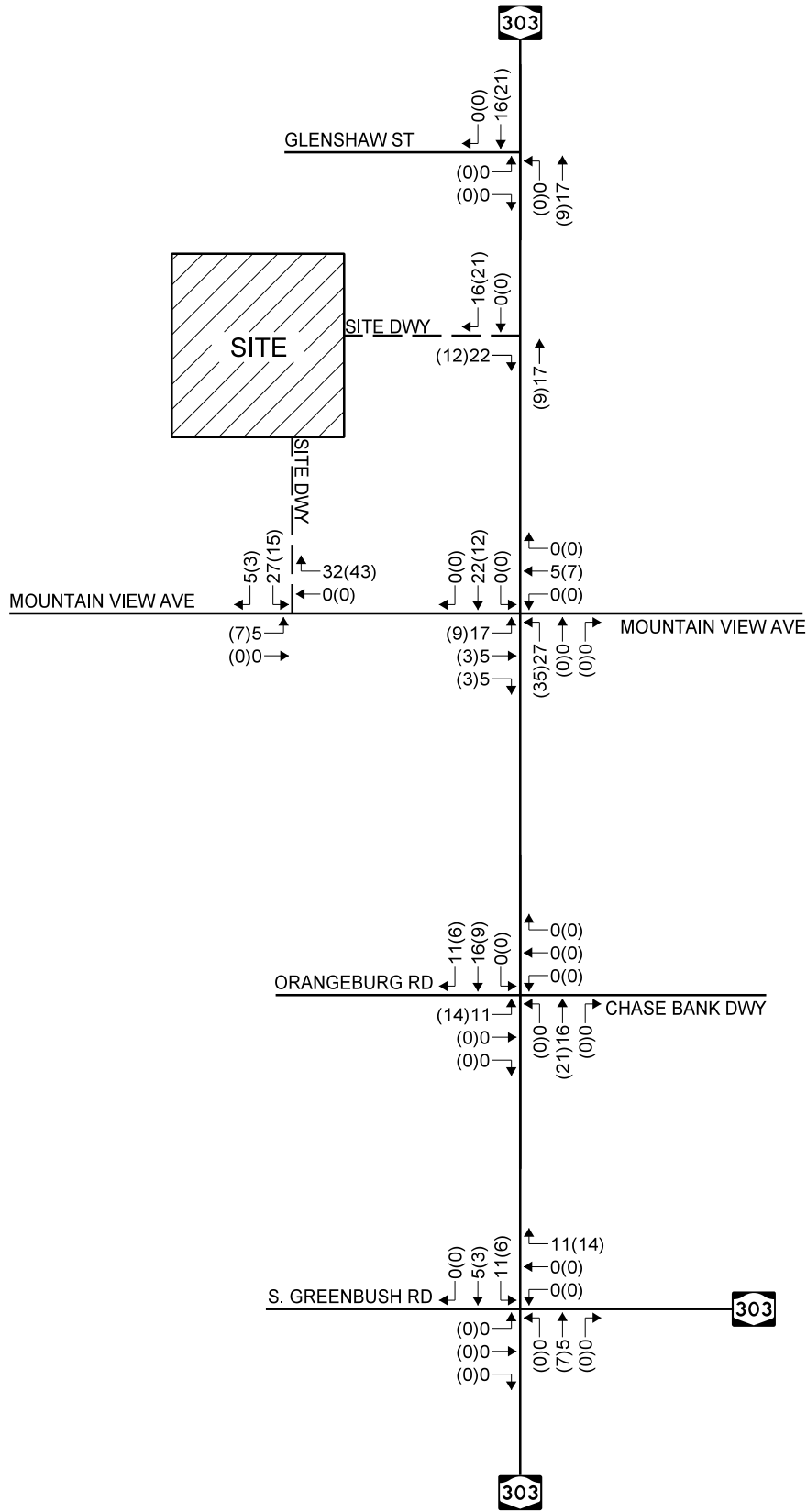
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2023 BUILD TRAFFIC VOLUMES
LUC 150 "WAREHOUSE"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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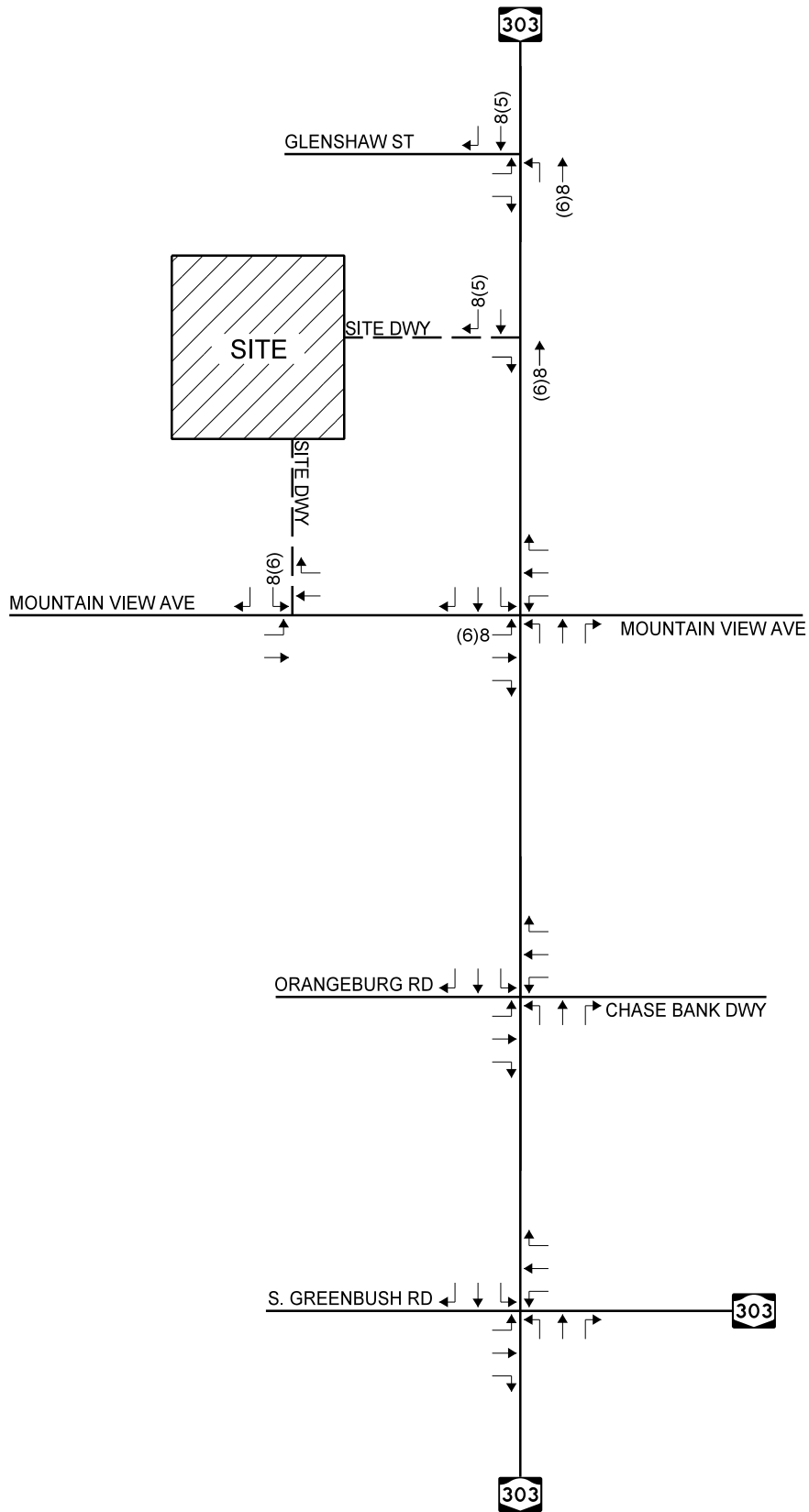
TRIP ASSIGNMENT - NON-TRUCKS
LUC 156 "HIGH CUBE PARCEL HUB"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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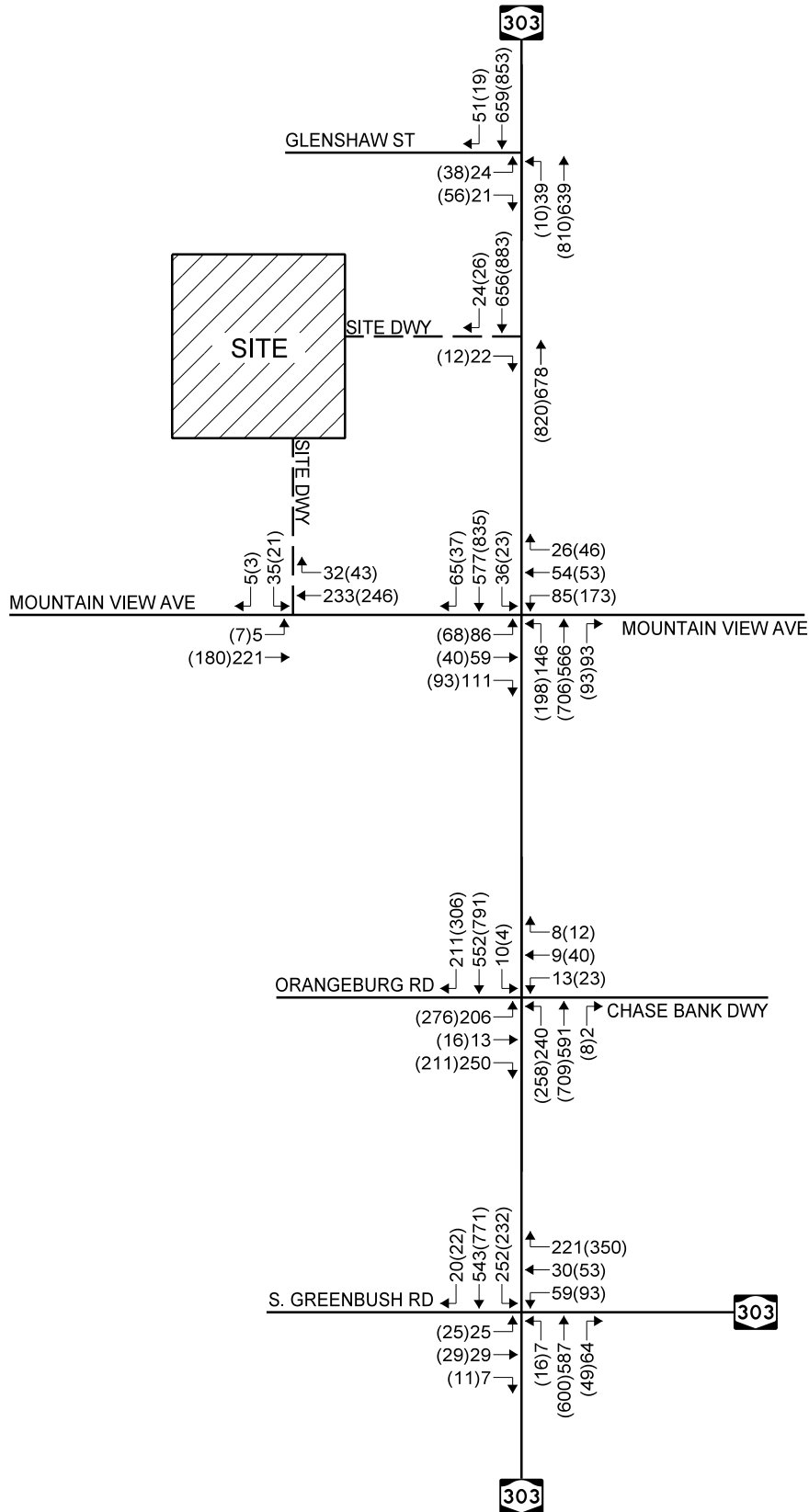
AM PEAK HOUR (PM PEAK HOUR)

TRIP ASSIGNMENT - TRUCKS
LUC 156 "HIGH CUBE PARCEL HUB"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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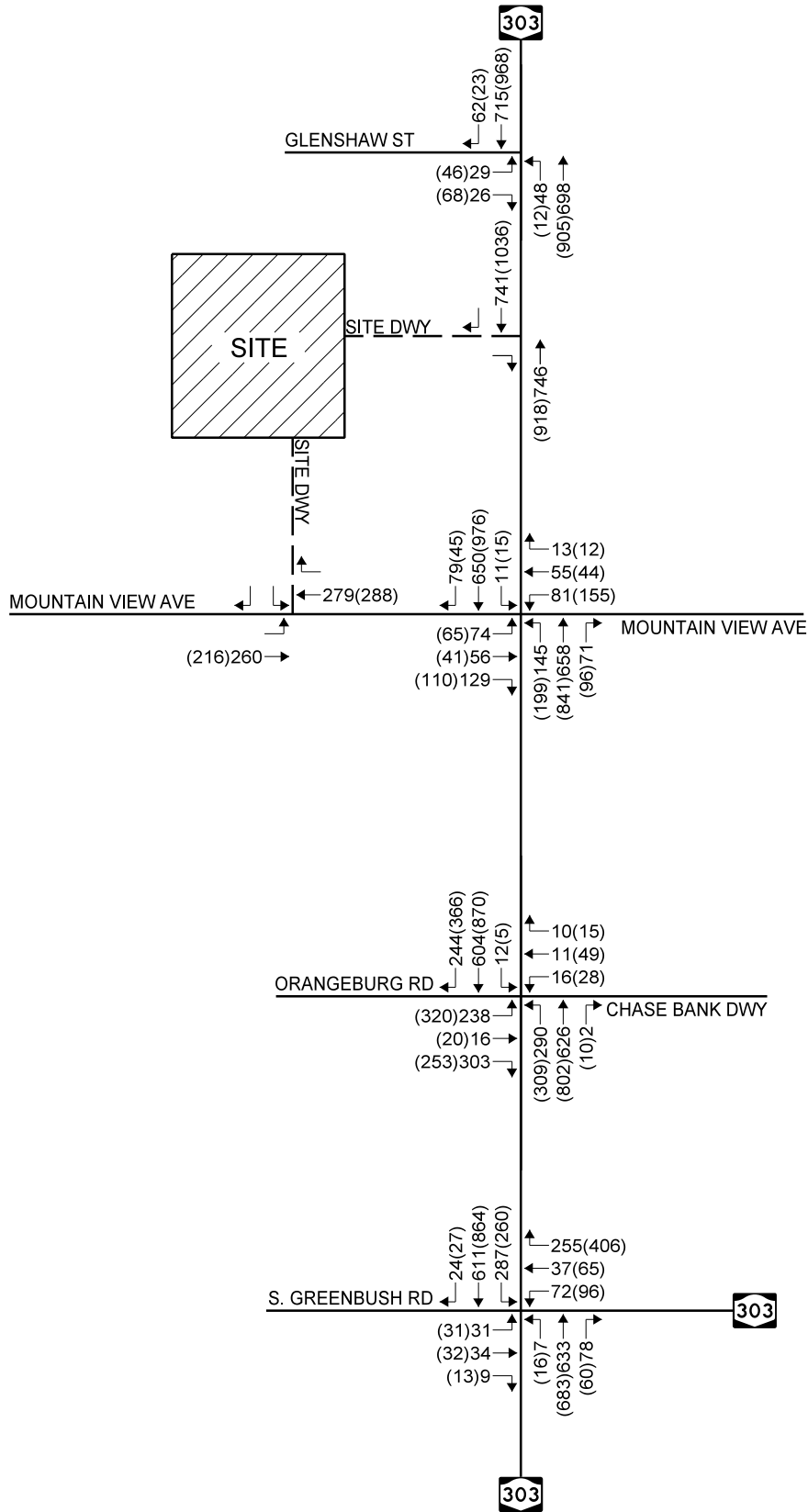
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2023 BUILD TRAFFIC VOLUMES
LUC 156 "HIGH CUBE PARCEL"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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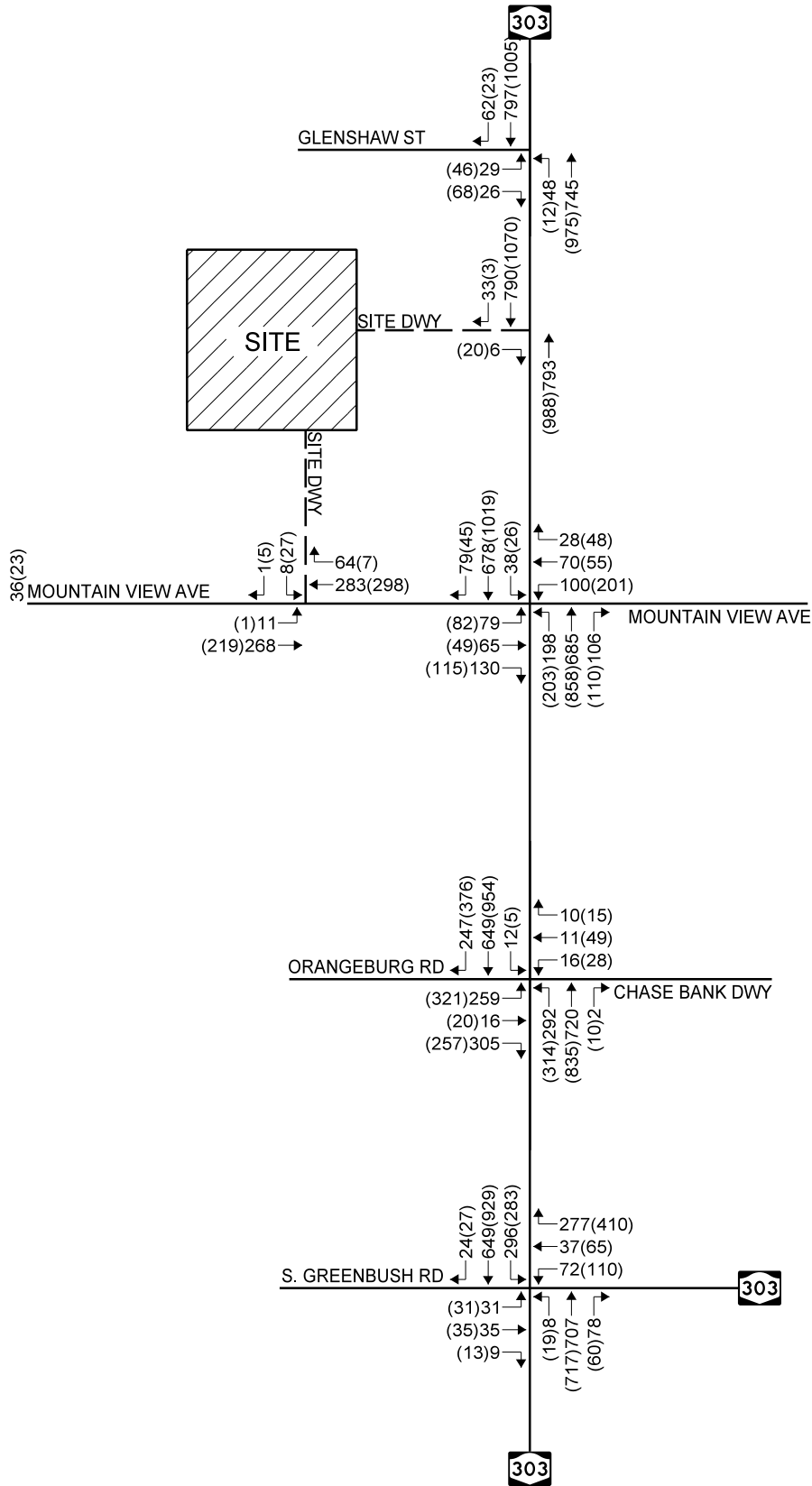
2043 ETC+20
BACKGROUND GROWTH

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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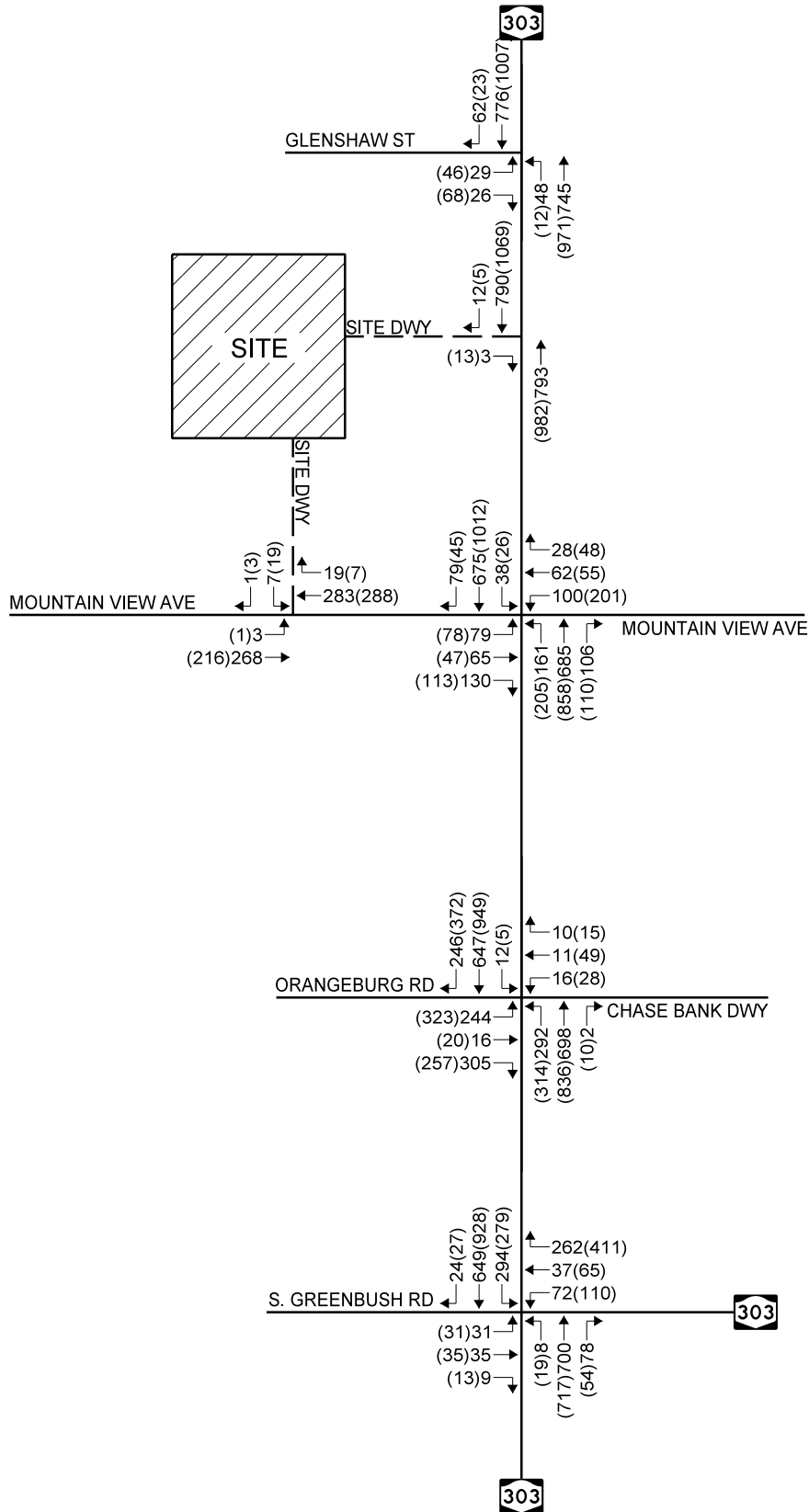
AM PEAK HOUR (PM PEAK HOUR)

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LUC 110 "GEN LIGHT INDUSTRIAL"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



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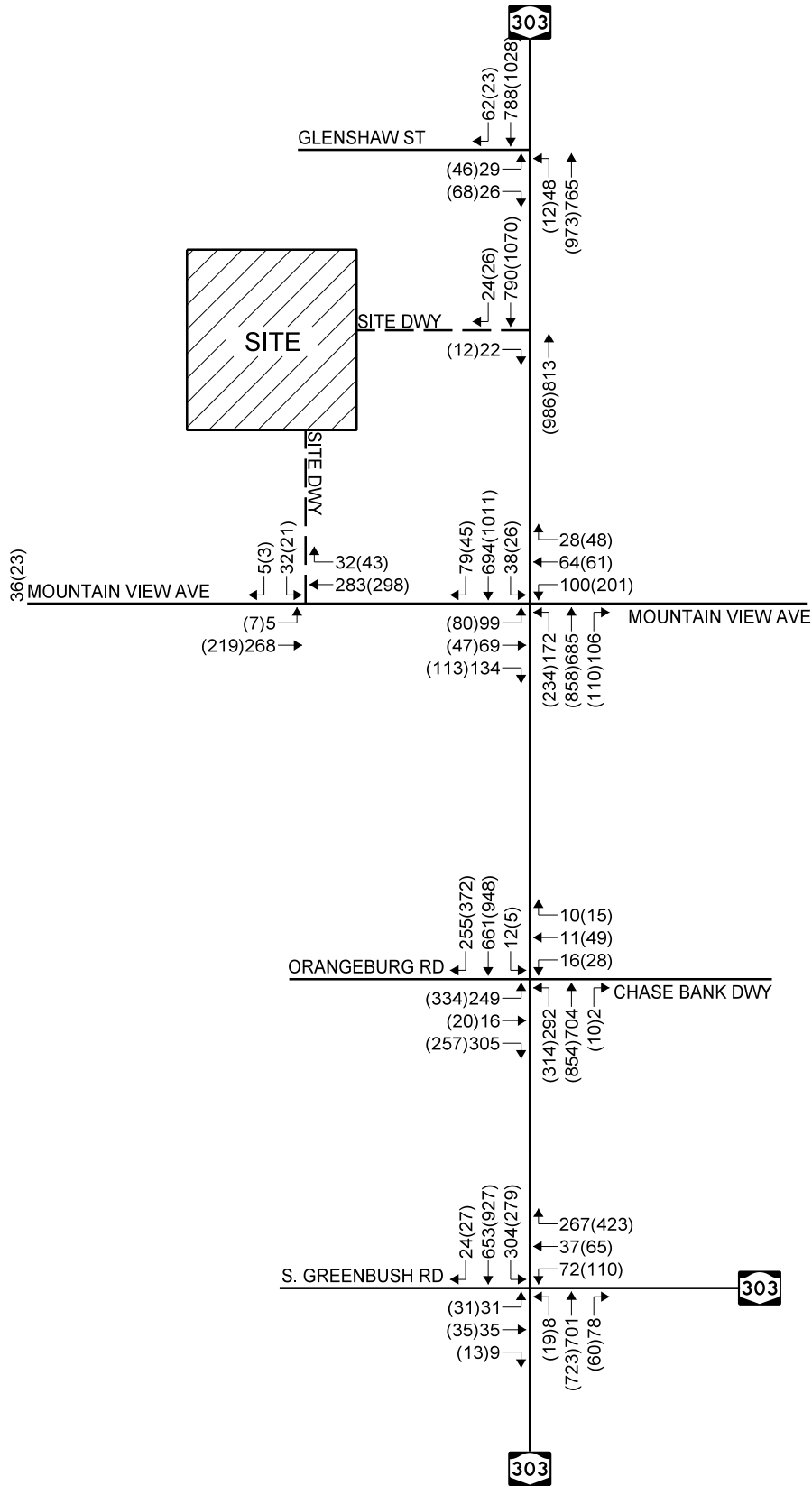


AM PEAK HOUR (PM PEAK HOUR)

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LUC 150 "WAREHOUSE"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK





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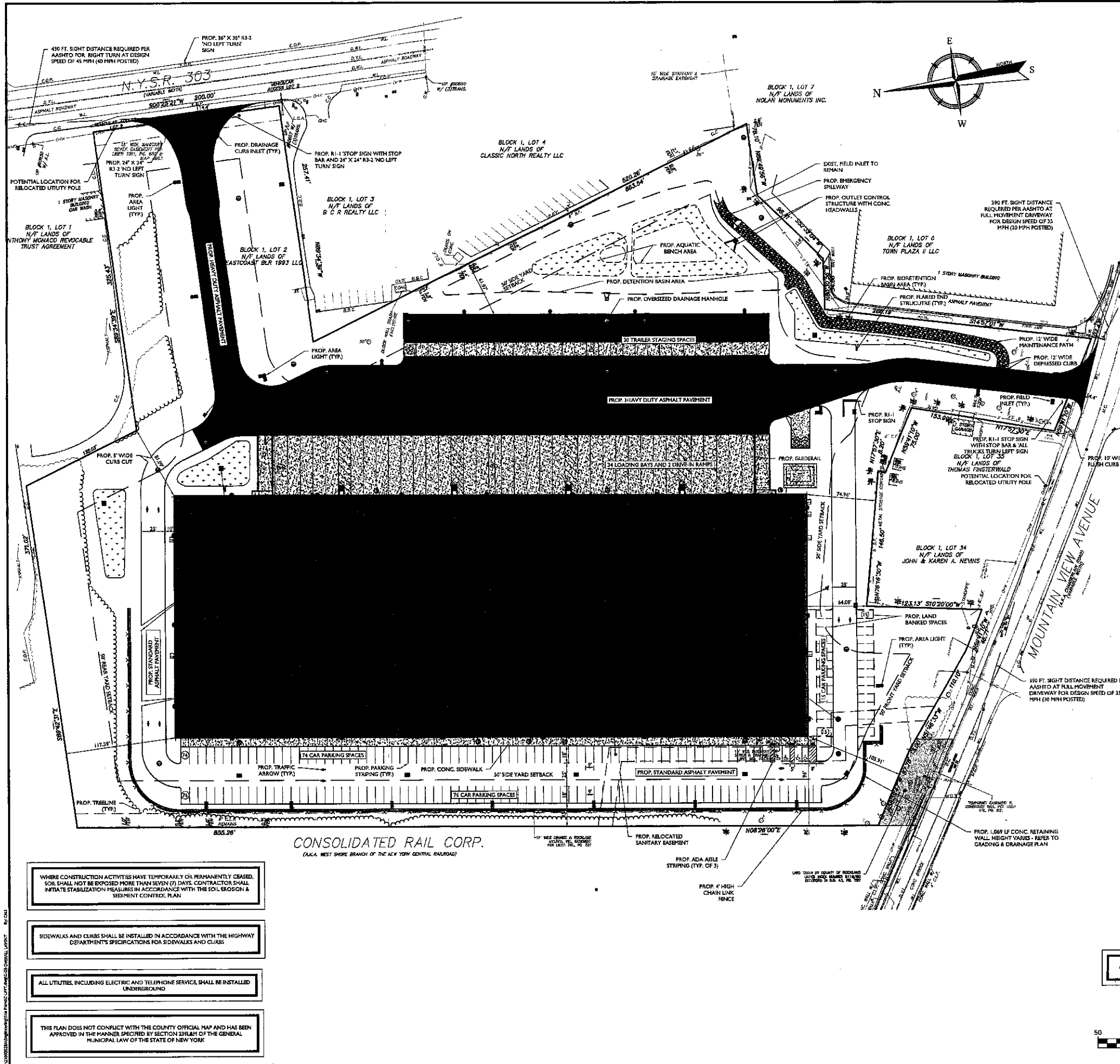
2043 ETC+20 TRAFFIC VOLUMES
LUC 156 "HIGH CUBE PARCEL"

WPT INDUSTRIAL WAREHOUSE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



ATTACHMENT A
SITE PLAN

13 MOUNTAIN VIEW AVENUE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK



ZONING TABLE

TABLE OF BULK REQUIREMENTS ZONE: LI (LIGHT INDUSTRIAL) DISTRICT				
ITEM	REQUIRED	EXISTING	PROPOSED	COMPLIES
MIN. LOT AREA	2 ACRES	4601,333.76 SF (13.80 ACRES)	4601,333.76 SF (13.80 ACRES)	YES
MAX. F.A.R.	0.5	0.17	0.29	YES
MAX. LOT COVERAGE	80%	445,376 (273,202.76 SF)	463,766 (438,328 SF)*	YES
MIN. LOT WIDTH	150'	522.6 SF	522.6 SF	YES
MIN. STREET FRONTAGE	150'	565.02'	565.02'	YES
REQUIRED FRONT YARD	50'	395.8'	108.91'	YES
REQUIRED SIDE YARD	50'	50.7'	90' - 61.00'	YES
TOTAL SIDE YARD	100'	> 100'	177.09'	YES
REQUIRED REAR YARD	50'	142.3'	117.39'	YES
MAX. BUILDING HEIGHT**	6' PER FOOT OF DISTANCE FROM LOT LINE** (32.96')	< 50'	49' - 3.4'	YES

* LOT COVERAGE ASSUMING LAND BANKED SPACES ARE NEVER CONSTRUCTED = 462,956 (4378,438 SF)
 ** BUILDING HEIGHT: THE VERTICAL DISTANCE MEASURED FROM THE AVERAGE ELEVATION OF THE PROPOSED FINISHED GRADE ALONG THE WALL OF A BUILDING, OR ADJACENT TO THE SIDE OF A NONBUILDING USE, TO THE HIGHEST POINT OF THE ROOF OR PARAPET FOR FLAT ROOFS OR SLOPED ROOFS, TO THE DECK LEVEL FOR MANSARD ROOFS, AND TO THE HIGHEST POINT OF THE ROOF OR PARAPET FOR GABLE, HIP AND GAMBREL ROOFS OF SUCH BUILDINGS, OR NONBUILDING USE, EXCEPT AS SPECIFICALLY EXEMPTED IN § 5.33
 *** PER CHAPTER 43 ATTACHMENT 16, NOTE #9 STATES THAT REQUIRED FRONT YARD AND MAXIMUM BUILDING HEIGHT ARE SUBJECT TO § 5.11 WHERE THE DESIGNATED STREET LINE CAN BE USED AS A LOT LINE. IN THIS INSTANCE THE DESIGNATED STREET LINE IS THE LOT LINE BORDERING MOUNTAIN VIEW AVENUE (105.91' FROM PROPOSED BUILDING)

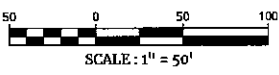
PARKING AND LOADING

- PARKING:**
- A. WAREHOUSE USES SHALL PROVIDE ONE (1) PARKING SPACE FOR EVERY TWO (2) EMPLOYEES, OR ONE (1) PARKING SPACE PER 300 SQUARE FEET OF GROSS FLOOR AREA (43-3.1)
 - REQUIRED: 1 EMPLOYEE PER (300 SF = (175,740 SF) / (1,500 SF) = 117 EMPLOYEES = 117 EMPLOYEES / 2 = 58 SPACES REQUIRED
 - PROVIDED: 145 STANDARD SPACES
5 HANDICAP SPACES
30 LAND BANKED SPACES
180 TOTAL PARKING SPACES
- LOADING:**
- A. LOADING BERTHS SHALL BE AT LEAST 12 FEET WIDE AND 45 FEET LONG, WITH A CLEAR HEIGHT OF 15 FEET (343-4.2)
 - B. FOR MANUFACTURING, WHOLESALE AND STORAGE USES AND FOR DRY-CLEANING AND RUG-CLEANING ESTABLISHMENTS AND LAUNDRIES: ONE LOADING BERTH SHALL BE PROVIDED FOR EACH 10,000 SQUARE FEET OF FLOOR AREA OR LESS AND ONE ADDITIONAL BERTH FOR EACH ADDITIONAL 20,000 SQUARE FEET OF FLOOR AREA, OR MAJOR FRACTION THEREOF, SO LONG AS (414-4.1)
 - 1 = (165,740 SF) / (10,000 SF) = 16 SPACES REQUIRED
16 SPACES PROVIDED (INCLUDES 2 DRIVE-UP RAMPS, COMPLIES)

DISTRICTS

- ZONE DISTRICT: LI ZONE
- SCHOOL DISTRICT: SOUTH ORANGETOWN
- CENTRAL SCHOOL DISTRICT
- WATER DISTRICT: SUZIE WATER
- SEWER DISTRICT: ORANGETOWN
- FIRE DISTRICT: BLAUVELT

EXISTING	LEGEND	PROPOSED
(12+00) 1/2" 13+00	TRAVERSE LINE, CENTER LINE OR BASELINE (LABEL AS SUCH)	(12+00) 1/2" 13+00
---	RIGHT-OF-WAY LINE	---
---	PROPERTY LINE	---
---	EDGE OF PAVEMENT	---
---	CURB	---
---	DEPRESSED CURB	---
---	SIDEWALK	---
---	FENCES	---
---	TRAILLINE	---
---	ROADWAY SIGNS	---
---	STALL COUNT	---
---	ADA ACCESSIBLE STALL	---
---	DEPRESSED CURB AND ADA RAMP	---
---	DIRECTION OF TRAFFIC FLOW	---
---	DOOR LOCATION	---



- WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, SOIL SHALL NOT BE EXPOSED MORE THAN SEVEN (7) DAYS. CONTRACTOR SHALL INITIATE STABILIZATION MEASURES IN ACCORDANCE WITH THE SOIL EROSION & SEDIMENT CONTROL PLAN
- SIDEWALKS AND CURBS SHALL BE INSTALLED IN ACCORDANCE WITH THE HIGHWAY DEPARTMENT'S SPECIFICATIONS FOR SIDEWALKS AND CURBS
- ALL UTILITIES, INCLUDING ELECTRIC AND TELEPHONE SERVICE, SHALL BE INSTALLED UNDERGROUND
- THIS PLAN DOES NOT CONFLICT WITH THE COUNTY OFFICIAL MAP AND HAS BEEN APPROVED IN THE MANNER SPECIFIED BY SECTION 2381-B4 OF THE GENERAL MUNICIPAL LAW OF THE STATE OF NEW YORK

GENERAL NOTES SHOWN ON SHEET A

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J. Barret Coleley
 Jesse Barret Coleley
 NEW YORK LICENSED PROFESSIONAL ENGINEER
 LICENSE NUMBER: 090987-1
 COLLIER ENGINEERING & DESIGN CT, P.C.
 N.Y. C.C.P.A. # 071609

PRELIMINARY SITE PLAN
 FOR
WPT ACQUISITIONS, LLC
 SECTION 74.07
 BLOCK 1
 LOTS 2, 33 & 36
 518 NYSR 303 AND 13 & 21 MOUNTAINVIEW AVENUE
 TOWN OF ORANGETOWN
 ROCKLAND COUNTY
 NEW YORK

Colliers Engineering & Design
 MONTVALE
 50 Chestnut Ridge Road,
 Suite 101
 Montvale, NJ 07645
 Phone: 945.332.0411
 COLLIERS ENGINEERING & DESIGN, P.C.
 DOES BUSINESS AS MASER CONSULTING
 ENGINEERING AND DESIGN

SCALE: AS SHOWN
 DATE: 11/22/2021
 PROJECT NUMBER: 21005528A
 DRAWING NUMBER: C-LAY1

DESIGNED BY: JBC
 CHECKED BY: JBC
 SHEET NUMBER: 3 of 22

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

ATTACHMENT B
TURNING MOVEMENT COUNTS

13 MOUNTAIN VIEW AVENUE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, NEW YORK

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Mountain View Ave/ Greenbush Rd
City: Orangeburg
Control: Signalized

Project ID: 22-380027-001
Date: 6/2/2022

Data - Total

NS/EW Streets:	Route 303				Route 303				Mountain View Ave/ Greenbush Rd				Mountain View Ave/ Greenbush Rd						
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND						
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL	
7:00 AM	15	77	24	0	2	80	2	0	11	5	11	0	30	9	4	0		270	
7:15 AM	12	116	25	0	6	94	3	0	8	9	13	0	29	8	3	0		326	
7:30 AM	21	163	20	0	2	100	6	0	13	12	16	0	23	7	6	0		389	
7:45 AM	36	162	16	0	2	109	10	0	14	13	27	0	20	10	1	0		420	
8:00 AM	28	128	13	0	2	120	20	0	14	16	25	0	12	14	4	0		396	
8:15 AM	25	110	10	0	2	107	12	0	22	12	29	0	11	9	3	0		352	
8:30 AM	29	134	18	0	2	117	13	0	10	5	24	0	22	12	3	0		389	
8:45 AM	20	136	10	0	3	117	11	0	12	5	22	0	19	11	2	0		368	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL	
APPROACH %'s :	13.80%	76.11%	10.09%	0.00%	2.23%	89.60%	8.17%	0.00%	29.89%	22.13%	47.99%	0.00%	61.03%	29.41%	9.56%	0.00%		2910	
PEAK HR :	07:45 AM - 08:45 AM																		
PEAK HR VOL :	118	534	57	0	8	453	55	0	60	46	105	0	65	45	11	0		1557	
PEAK HR FACTOR :	0.819	0.824	0.792	0.000	1.000	0.944	0.688	0.000	0.682	0.719	0.905	0.000	0.739	0.804	0.688	0.000		0.927	
	0.828				0.908				0.837				0.818						
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND						
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL	
4:00 PM	30	165	9	0	2	134	13	0	10	8	23	0	16	5	4	0		419	
4:15 PM	31	170	25	0	3	147	3	0	12	9	14	0	20	7	2	0		443	
4:30 PM	49	176	21	0	2	172	9	0	8	11	23	0	35	9	1	0		516	
4:45 PM	31	139	17	0	3	196	4	0	15	7	24	0	28	8	2	0		474	
5:00 PM	37	126	9	0	2	212	18	0	13	4	21	0	33	9	3	0		487	
5:15 PM	24	140	7	0	1	174	13	0	9	5	13	0	44	8	2	0		440	
5:30 PM	20	143	19	0	2	209	6	0	5	4	21	0	50	14	1	0		494	
5:45 PM	25	132	11	0	2	176	8	0	5	4	25	0	36	14	1	0		439	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		TOTAL	
APPROACH %'s :	15.87%	76.54%	7.58%	0.00%	1.13%	93.98%	4.90%	0.00%	26.28%	17.75%	55.97%	0.00%	74.43%	21.02%	4.55%	0.00%		3712	
PEAK HR :	04:15 PM - 05:15 PM																		
PEAK HR VOL :	148	611	72	0	10	727	34	0	48	31	82	0	116	33	8	0		1920	
PEAK HR FACTOR :	0.755	0.868	0.720	0.000	0.833	0.857	0.472	0.000	0.800	0.705	0.854	0.000	0.829	0.917	0.667	0.000		0.930	
	0.845				0.831				0.875				0.872						

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Mountain View Ave/ Greenbush Rd
City: Orangeburg
Control: Signalized

Project ID: 22-380027-001
Date: 6/2/2022

Data - Cars

NS/EW Streets:	Route 303				Route 303				Mountain View Ave/ Greenbush Rd				Mountain View Ave/ Greenbush Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	15	71	23	0	2	63	2	0	11	5	10	0	28	7	4	0	241
7:15 AM	9	105	23	0	5	67	3	0	8	9	12	0	22	6	2	0	271
7:30 AM	20	151	20	0	2	84	6	0	13	11	14	0	11	5	2	0	339
7:45 AM	35	136	16	0	1	95	8	0	12	10	26	0	13	8	0	0	360
8:00 AM	25	115	13	0	1	103	19	0	14	5	25	0	12	14	1	0	347
8:15 AM	22	91	9	0	1	91	11	0	16	8	26	0	9	8	0	0	292
8:30 AM	26	115	17	0	1	100	11	0	8	5	23	0	19	6	0	0	331
8:45 AM	19	115	10	0	2	89	9	0	11	4	19	0	13	9	0	0	300
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	171	899	131	0	15	692	69	0	93	57	155	0	127	63	9	0	2481
APPROACH %'s:	14.24%	74.85%	10.91%	0.00%	1.93%	89.18%	8.89%	0.00%	30.49%	18.69%	50.82%	0.00%	63.82%	31.66%	4.52%	0.00%	
PEAK HR:	07:45 AM - 08:45 AM																
PEAK HR VOL:	108	457	55	0	4	389	49	0	50	28	100	0	53	36	1	0	TOTAL
PEAK HR FACTOR:	0.771	0.840	0.809	0.000	1.000	0.944	0.645	0.000	0.781	0.700	0.962	0.000	0.697	0.643	0.250	0.000	0.924
	0.829				0.898				0.890				0.833				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	28	158	4	0	0	123	13	0	9	7	19	0	15	2	3	0	381
4:15 PM	30	155	18	0	1	130	3	0	12	7	13	0	18	7	1	0	395
4:30 PM	47	163	15	0	1	166	8	0	8	8	23	0	34	8	1	0	482
4:45 PM	30	126	12	0	2	191	4	0	15	7	23	0	27	8	2	0	447
5:00 PM	36	109	9	0	1	202	18	0	13	4	20	0	33	9	3	0	457
5:15 PM	23	135	7	0	0	170	13	0	9	5	13	0	44	7	1	0	427
5:30 PM	20	138	19	0	0	203	6	0	4	4	21	0	49	14	1	0	479
5:45 PM	25	125	11	0	2	167	8	0	5	4	25	0	35	14	1	0	422
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	239	1109	95	0	7	1352	73	0	75	46	157	0	255	69	13	0	3490
APPROACH %'s:	16.56%	76.85%	6.58%	0.00%	0.49%	94.41%	5.10%	0.00%	26.98%	16.55%	56.47%	0.00%	75.67%	20.47%	3.86%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM																
PEAK HR VOL:	143	553	54	0	5	689	33	0	48	26	79	0	112	32	7	0	TOTAL
PEAK HR FACTOR:	0.761	0.848	0.750	0.000	0.625	0.853	0.458	0.000	0.800	0.813	0.859	0.000	0.824	0.889	0.583	0.000	0.924
	0.833				0.822				0.850				0.839				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Mountain View Ave/ Greenbush Rd
City: Orangeburg
Control: Signalized

Project ID: 22-380027-001
Date: 6/2/2022

Data - HT

NS/EW Streets:	Route 303				Route 303				Mountain View Ave/ Greenbush Rd				Mountain View Ave/ Greenbush Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	0	5	0	0	0	12	0	0	0	0	1	0	1	1	0	0	20	
	7:00 AM																	
	7:15 AM	2	9	2	0	1	24	0	0	0	0	1	0	0	0	1	0	40
	7:30 AM	1	12	0	0	0	13	0	0	0	1	2	0	3	0	0	0	32
	7:45 AM	0	22	0	0	1	12	1	0	1	1	0	0	6	0	1	0	45
	8:00 AM	2	12	0	0	1	16	0	0	0	1	0	0	0	0	3	0	35
	8:15 AM	3	17	1	0	1	15	0	0	0	0	2	0	0	0	3	0	42
8:30 AM	3	18	1	0	1	16	2	0	0	0	1	0	1	0	0	0	43	
8:45 AM	1	20	0	0	1	25	1	0	1	0	2	0	2	1	2	0	56	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	12	115	4	0	6	133	4	0	2	3	9	0	13	2	10	0	313	
	9.16%	87.79%	3.05%	0.00%	4.20%	93.01%	2.80%	0.00%	14.29%	21.43%	64.29%	0.00%	52.00%	8.00%	40.00%	0.00%		
PEAK HR :	07:45 AM - 08:45 AM																	
PEAK HR VOL :	8	69	2	0	4	59	3	0	1	2	3	0	7	0	7	0	165	
PEAK HR FACTOR :	0.667	0.784	0.500	0.000	1.000	0.922	0.375	0.000	0.250	0.500	0.375	0.000	0.292	0.000	0.583	0.000	0.917	
	0.898				0.868				0.750				0.500					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	0	5	0	0	2	9	0	0	1	0	2	0	0	2	1	0	22	
	4:00 PM																	
	4:15 PM	1	15	2	0	2	14	0	0	0	0	1	0	1	0	1	0	37
	4:30 PM	1	11	0	0	1	6	1	0	0	0	0	0	1	0	0	0	21
	4:45 PM	1	11	1	0	1	5	0	0	0	0	1	0	0	0	0	0	20
	5:00 PM	1	16	0	0	1	9	0	0	0	0	1	0	0	0	0	0	28
	5:15 PM	1	5	0	0	1	3	0	0	0	0	0	0	0	1	1	0	12
5:30 PM	0	5	0	0	2	6	0	0	1	0	0	0	1	0	0	0	15	
5:45 PM	0	4	0	0	0	9	0	0	0	0	0	0	1	0	0	0	14	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	5	72	3	0	10	61	1	0	2	0	5	0	4	3	3	0	169	
	6.25%	90.00%	3.75%	0.00%	13.89%	84.72%	1.39%	0.00%	28.57%	0.00%	71.43%	0.00%	40.00%	30.00%	30.00%	0.00%		
PEAK HR :	04:15 PM - 05:15 PM																	
PEAK HR VOL :	4	53	3	0	5	34	1	0	0	0	3	0	2	0	1	0	106	
PEAK HR FACTOR :	1.000	0.828	0.375	0.000	0.625	0.607	0.250	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.250	0.000	0.716	
	0.833				0.625				0.750				0.375					

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Mountain View Ave/ Greenbush Rd
City: Orangeburg
Control: Signalized

Project ID: 22-380027-001
Date: 6/2/2022

Data - Buses

NS/EW Streets:	Route 303				Route 303				Mountain View Ave/ Greenbush Rd				Mountain View Ave/ Greenbush Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
7:00 AM	0	1	1	0	0	5	0	0	0	0	0	0	1	1	0	0	9	
7:15 AM	1	2	0	0	0	3	0	0	0	0	0	0	7	2	0	0	15	
7:30 AM	0	0	0	0	0	3	0	0	0	0	0	0	9	2	4	0	18	
7:45 AM	1	4	0	0	0	2	1	0	1	2	1	0	1	2	0	0	15	
8:00 AM	1	1	0	0	0	1	1	0	0	10	0	0	0	0	0	0	14	
8:15 AM	0	2	0	0	0	1	1	0	6	4	1	0	2	1	0	0	18	
8:30 AM	0	1	0	0	0	1	0	0	2	0	0	0	2	6	3	0	15	
8:45 AM	0	1	0	0	0	3	1	0	0	1	1	0	4	1	0	0	12	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	18.75%	75.00%	6.25%	0.00%	0.00%	82.61%	17.39%	0.00%	31.03%	58.62%	10.34%	0.00%	54.17%	31.25%	14.58%	0.00%	116	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL :	2	8	0	0	0	5	3	0	9	16	2	0	5	9	3	0	62	
PEAK HR FACTOR :	0.500	0.500	0.000	0.000	0.000	0.625	0.750	0.000	0.375	0.400	0.500	0.000	0.625	0.375	0.250	0.000	0.861	
	0.500				0.667				0.614				0.386					
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
4:00 PM	2	2	5	0	0	2	0	0	0	1	2	0	1	1	0	0	16	
4:15 PM	0	0	5	0	0	3	0	0	0	2	0	0	1	0	0	0	11	
4:30 PM	1	2	6	0	0	0	0	0	0	3	0	0	0	1	0	0	13	
4:45 PM	0	2	4	0	0	0	0	0	0	0	0	0	1	0	0	0	7	
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	9.09%	30.30%	60.61%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	75.00%	25.00%	0.00%	60.00%	40.00%	0.00%	0.00%	53	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	1	5	15	0	0	4	0	0	0	5	0	0	2	1	0	0	33	
PEAK HR FACTOR :	0.250	0.625	0.625	0.000	0.000	0.333	0.000	0.000	0.000	0.417	0.000	0.000	0.500	0.250	0.000	0.000	0.635	
	0.583				0.333				0.417				0.750					

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Mountain View Ave/ Greenbush Rd
City: Orangeburg
Control: Signalized

Project ID: 22-380027-001
Date: 6/2/2022

Data - Bikes

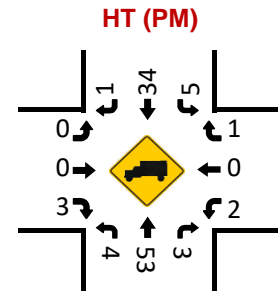
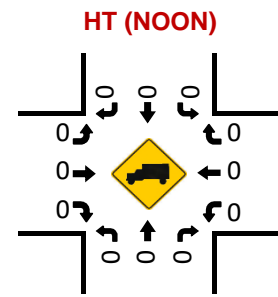
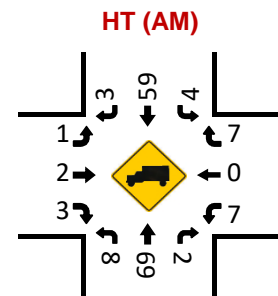
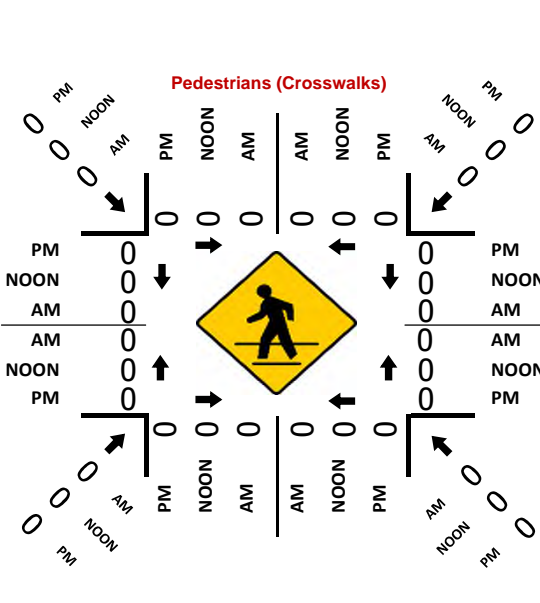
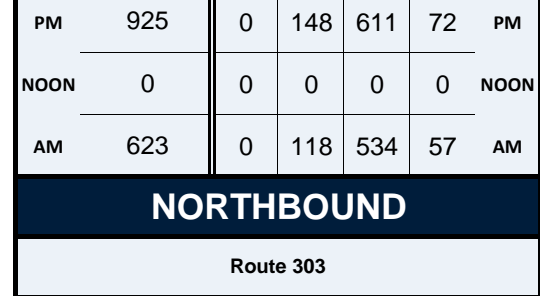
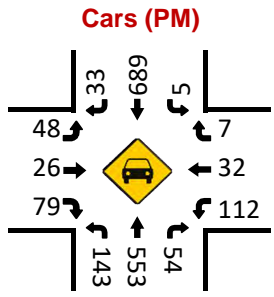
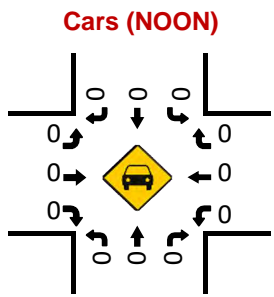
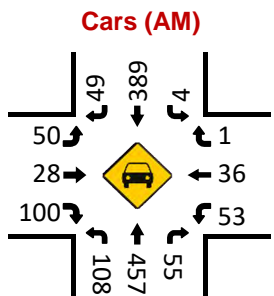
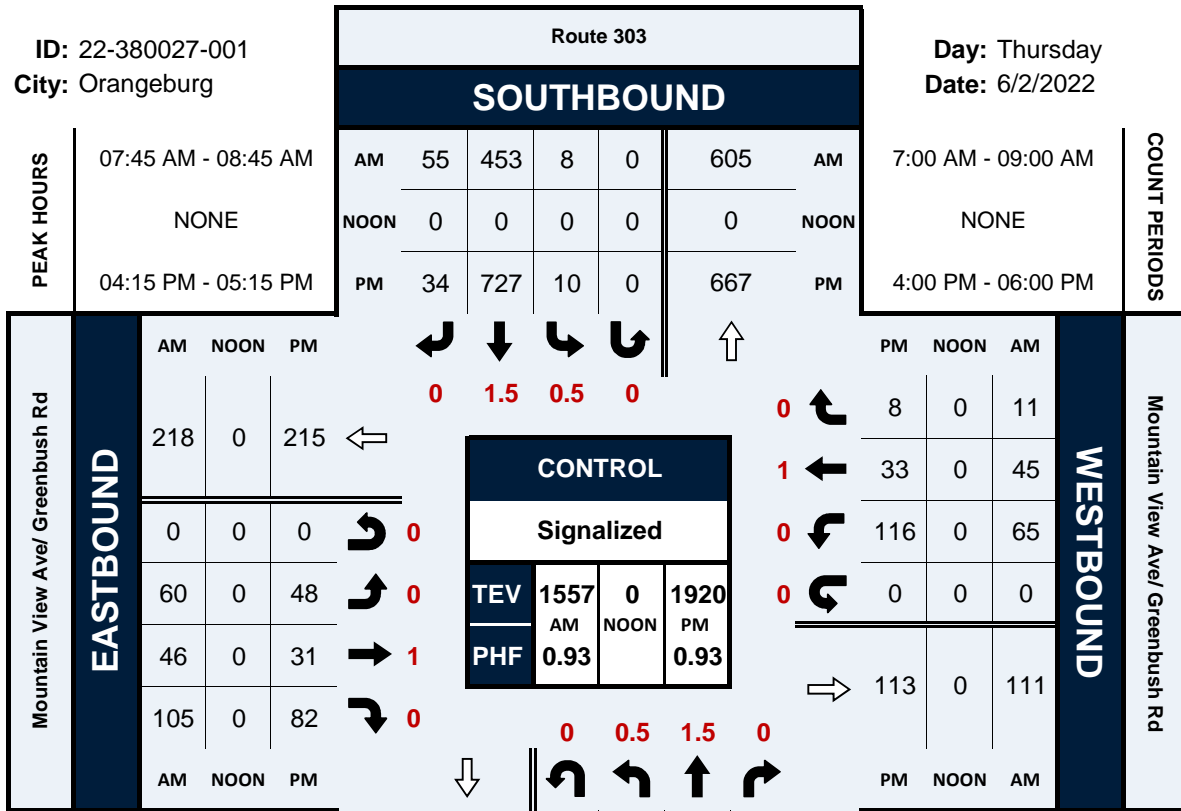
NS/EW Streets:	Route 303				Route 303				Mountain View Ave/ Greenbush Rd				Mountain View Ave/ Greenbush Rd					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	0.00%	100.00%	0.00%	0.00%														
PEAK HR :	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL :	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
PEAK HR FACTOR :	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
	0.250																	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0.5	1.5	0	0	0.5	1.5	0	0	0	1	0	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	100.00%	0.00%	0.00%	0.00%														
PEAK HR :	04:15 PM - 05:15 PM																TOTAL	
PEAK HR VOL :	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
PEAK HR FACTOR :	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
	0.250																	

Route 303 & Mountain View Ave/ Greenbush Rd

Peak Hour Turning Movement Count

ID: 22-380027-001
City: Orangeburg

Day: Thursday
Date: 6/2/2022



National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
City: Orangeburg
Control: Signalized

Project ID: 22-380027-002
Date: 6/2/2022

Data - Total

NS/EW Streets:	Route 303				Route 303				Orangeburg Rd/Chase Bank Dwy				Orangeburg Rd/Chase Bank Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	22	83	2	0	2	72	39	0	43	2	44	0	1	3	2	0	315
7:15 AM	29	109	2	0	2	87	40	0	53	0	41	0	0	3	0	0	366
7:30 AM	54	140	1	0	2	101	48	0	75	2	44	0	3	0	2	0	472
7:45 AM	48	152	0	0	1	111	43	0	48	1	58	0	1	3	1	0	467
8:00 AM	95	127	1	0	3	93	55	0	37	2	63	0	4	3	2	0	485
8:15 AM	50	92	0	0	2	101	34	0	51	6	71	0	3	1	4	0	415
8:30 AM	43	134	1	0	2	115	38	0	56	4	54	0	5	2	1	0	455
8:45 AM	47	119	3	0	1	100	44	0	53	3	59	0	3	3	0	0	435
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	388	956	10	0	15	780	341	0	416	20	434	0	20	18	12	0	3410
	28.66%	70.61%	0.74%	0.00%	1.32%	68.66%	30.02%	0.00%	47.82%	2.30%	49.89%	0.00%	40.00%	36.00%	24.00%	0.00%	
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	247	511	2	0	8	406	180	0	211	11	236	0	11	7	9	0	1839
PEAK HR FACTOR:	0.650	0.840	0.500	0.000	0.667	0.914	0.818	0.000	0.703	0.458	0.831	0.000	0.688	0.583	0.563	0.000	0.948
	0.852				0.958				0.895				0.750				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	48	141	3	0	0	125	59	0	46	5	64	0	1	6	4	0	502
4:15 PM	59	155	2	0	1	134	63	0	62	3	49	0	3	7	4	0	542
4:30 PM	62	157	3	0	0	172	64	0	56	1	51	0	5	10	0	0	581
4:45 PM	55	122	0	0	1	170	63	0	53	6	42	0	7	5	2	0	526
5:00 PM	53	122	2	0	2	163	79	0	51	5	46	0	6	15	4	0	548
5:15 PM	37	112	1	0	2	176	78	0	48	3	38	0	5	13	2	0	515
5:30 PM	35	123	3	0	2	201	83	0	49	3	44	0	2	3	2	0	550
5:45 PM	56	120	0	0	1	182	54	0	43	4	54	0	2	2	2	0	520
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	405	1052	14	0	9	1323	543	0	408	30	388	0	31	61	20	0	4284
	27.53%	71.52%	0.95%	0.00%	0.48%	70.56%	28.96%	0.00%	49.39%	3.63%	46.97%	0.00%	27.68%	54.46%	17.86%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL:	229	556	7	0	4	639	269	0	222	15	188	0	21	37	10	0	2197
PEAK HR FACTOR:	0.923	0.885	0.583	0.000	0.500	0.929	0.851	0.000	0.895	0.625	0.922	0.000	0.750	0.617	0.625	0.000	0.945
	0.892				0.934				0.932				0.680				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
City: Orangeburg
Control: Signalized

Project ID: 22-380027-002
Date: 6/2/2022

Data - Cars

NS/EW Streets:	Route 303				Route 303				Orangeburg Rd/Chase Bank Dwy				Orangeburg Rd/Chase Bank Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	15	77	2	0	2	58	34	0	42	2	39	0	1	3	2	0	277
7:15 AM	22	97	2	0	2	59	34	0	50	0	35	0	0	3	0	0	304
7:30 AM	49	124	1	0	2	85	36	0	72	2	41	0	3	0	2	0	417
7:45 AM	41	132	0	0	1	96	34	0	47	1	53	0	1	3	1	0	410
8:00 AM	84	113	1	0	1	83	49	0	36	2	55	0	4	3	2	0	433
8:15 AM	48	73	0	0	1	90	27	0	48	6	67	0	3	1	4	0	368
8:30 AM	40	118	1	0	2	99	33	0	48	4	48	0	5	2	1	0	401
8:45 AM	41	98	3	0	0	81	33	0	50	2	51	0	3	3	0	0	365
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	340	832	10	0	11	651	280	0	393	19	389	0	20	18	12	0	2975
APPROACH %'s:	28.76%	70.39%	0.85%	0.00%	1.17%	69.11%	29.72%	0.00%	49.06%	2.37%	48.56%	0.00%	40.00%	36.00%	24.00%	0.00%	
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	222	442	2	0	5	354	146	0	203	11	216	0	11	7	9	0	TOTAL
PEAK HR FACTOR:	0.661	0.837	0.500	0.000	0.625	0.922	0.745	0.000	0.705	0.458	0.806	0.000	0.688	0.583	0.563	0.000	0.940
	0.841				0.949				0.888				0.750				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	45	131	3	0	0	112	57	0	44	5	56	0	1	6	4	0	464
4:15 PM	58	143	2	0	1	117	61	0	54	3	46	0	3	7	4	0	499
4:30 PM	61	146	3	0	0	169	63	0	45	1	47	0	5	10	0	0	550
4:45 PM	53	110	0	0	1	166	61	0	45	6	41	0	7	5	2	0	497
5:00 PM	52	112	2	0	2	153	79	0	48	5	46	0	6	15	4	0	524
5:15 PM	36	109	1	0	2	173	77	0	45	3	38	0	5	13	2	0	504
5:30 PM	31	121	3	0	2	195	82	0	46	3	41	0	2	3	2	0	531
5:45 PM	54	115	0	0	1	174	51	0	41	4	52	0	2	2	2	0	498
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
	390	987	14	0	9	1259	531	0	368	30	367	0	31	61	20	0	4067
APPROACH %'s:	28.04%	70.96%	1.01%	0.00%	0.50%	69.98%	29.52%	0.00%	48.10%	3.92%	47.97%	0.00%	27.68%	54.46%	17.86%	0.00%	
PEAK HR:	04:15 PM - 05:15 PM																
PEAK HR VOL:	224	511	7	0	4	605	264	0	192	15	180	0	21	37	10	0	TOTAL
PEAK HR FACTOR:	0.918	0.875	0.583	0.000	0.500	0.895	0.835	0.000	0.889	0.625	0.957	0.000	0.750	0.617	0.625	0.000	0.941
	0.883				0.933				0.939				0.680				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
City: Orangeburg
Control: Signalized

Project ID: 22-380027-002
Date: 6/2/2022

Data - HT

NS/EW Streets:	Route 303				Route 303				Orangeburg Rd/Chase Bank Dwy				Orangeburg Rd/Chase Bank Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	28
7:15 AM	7	5	0	0	0	9	4	0	0	0	3	0	0	0	0	0	50
7:30 AM	7	10	0	0	0	22	4	0	2	0	5	0	0	0	0	0	43
7:45 AM	5	16	0	0	0	9	7	0	3	0	3	0	0	0	0	0	43
8:00 AM	2	15	0	0	0	13	7	0	1	0	5	0	0	0	0	0	42
8:15 AM	7	12	0	0	2	10	5	0	1	0	5	0	0	0	0	0	40
8:30 AM	2	18	0	0	1	9	6	0	1	0	3	0	0	0	0	0	47
8:45 AM	2	15	0	0	0	13	4	0	8	0	5	0	0	0	0	0	60
8:45 AM	5	20	0	0	1	14	9	0	3	1	7	0	0	0	0	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	37	111	0	0	4	99	46	0	19	1	36	0	0	0	0	0	353
PEAK HR:	07:30 AM - 08:30 AM																
PEAK HR VOL:	16	61	0	0	3	41	25	0	6	0	16	0	0	0	0	0	168
PEAK HR FACTOR:	0.571	0.847	0.000	0.000	0.375	0.788	0.893	0.000	0.500	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.977
	0.917				0.863				0.917								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	29
4:15 PM	3	5	0	0	0	10	2	0	1	0	8	0	0	0	0	0	33
4:30 PM	1	10	0	0	0	15	0	0	6	0	1	0	0	0	0	0	22
4:45 PM	1	6	0	0	0	3	1	0	7	0	4	0	0	0	0	0	23
5:00 PM	2	7	0	0	0	4	1	0	8	0	1	0	0	0	0	0	10
5:15 PM	1	9	0	0	0	10	0	0	3	0	0	0	0	0	0	0	17
5:30 PM	1	3	0	0	0	3	0	0	3	0	0	0	0	0	0	0	19
5:45 PM	4	2	0	0	0	5	1	0	3	0	2	0	0	0	0	0	
5:45 PM	2	3	0	0	0	8	3	0	1	0	2	0	0	0	0	0	
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	15	45	0	0	0	58	8	0	32	0	18	0	0	0	0	0	176
PEAK HR:	04:15 PM - 05:15 PM																
PEAK HR VOL:	5	32	0	0	0	32	2	0	24	0	6	0	0	0	0	0	101
PEAK HR FACTOR:	0.625	0.800	0.000	0.000	0.000	0.533	0.500	0.000	0.750	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.765
	0.841				0.567				0.682								

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
City: Orangeburg
Control: Signalized

Project ID: 22-380027-002
Date: 6/2/2022

Data - Buses

NS/EW Streets:	Route 303				Route 303				Orangeburg Rd/Chase Bank Dwy				Orangeburg Rd/Chase Bank Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0	5	1	0	0.5	0	2	0	0	1	0	0	10
7:15 AM	0	2	0	0	0	6	2	0	1	0	1	0	0	0	0	0	12
7:30 AM	0	0	0	0	0	7	5	0	0	0	0	0	0	0	0	0	12
7:45 AM	5	5	0	0	0	2	2	0	0	0	0	0	0	0	0	0	14
8:00 AM	4	2	0	0	0	0	1	0	0	0	3	0	0	0	0	0	10
8:15 AM	0	1	0	0	0	2	1	0	2	0	1	0	0	0	0	0	7
8:30 AM	1	1	0	0	0	3	1	0	0	0	1	0	0	0	0	0	7
8:45 AM	1	1	0	0	0	5	2	0	0	0	1	0	0	0	0	0	10
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	11	13	0	0	0	30	15	0	4	0	9	0	0	0	0	0	82
	45.83%	54.17%	0.00%	0.00%	0.00%	66.67%	33.33%	0.00%	30.77%	0.00%	69.23%	0.00%	0	0	0	0	
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	9	8	0	0	0	11	9	0	2	0	4	0	0	0	0	0	43
PEAK HR FACTOR :	0.450	0.400	0.000	0.000	0.000	0.393	0.450	0.000	0.250	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.768
	0.425				0.417				0.500								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	5	0	0	0	3	0	0	1	0	0	0	0	0	0	0	9
4:15 PM	0	2	0	0	0	2	2	0	2	0	2	0	0	0	0	0	10
4:30 PM	0	5	0	0	0	0	0	0	4	0	0	0	0	0	0	0	9
4:45 PM	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
5:45 PM	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	20	0	0	0	6	4	0	8	0	3	0	0	0	0	0	41
	0.00%	100.00%	0.00%	0.00%	0.00%	60.00%	40.00%	0.00%	72.73%	0.00%	27.27%	0.00%	0	0	0	0	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	13	0	0	0	2	3	0	6	0	2	0	0	0	0	0	26
PEAK HR FACTOR :	0.000	0.650	0.000	0.000	0.000	0.250	0.375	0.000	0.375	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.650
	0.650				0.313				0.500								

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
 City: Orangeburg
 Control: Signalized

Project ID: 22-380027-002
 Date: 6/2/2022

Data - Bikes

NS/EW Streets:	Route 303				Route 303				Orangeburg Rd/Chase Bank Dwy				Orangeburg Rd/Chase Bank Dwy				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
PEAK HR :	07:30 AM - 08:30 AM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0	2	0	0	0.5	0.5	1	0	0	1	0	0	TOTAL
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR :	04:15 PM - 05:15 PM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Orangeburg Rd/Chase Bank Dwy
City: Orangeburg

Project ID: 22-380027-002
Date: 6/2/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Route 303		Route 303		Orangeburg Rd/Chase Bank Dwy		Orangeburg Rd/Chase Bank Dwy		TOTAL
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	2	1	0	0	3
8:15 AM	0	0	0	0	0	1	0	0	1
8:30 AM	0	0	0	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	1	2	2	0	0	5
			0.00%	100.00%	50.00%	50.00%			
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	2	2	0	0	4
PEAK HR FACTOR :					0.250	0.500			0.333

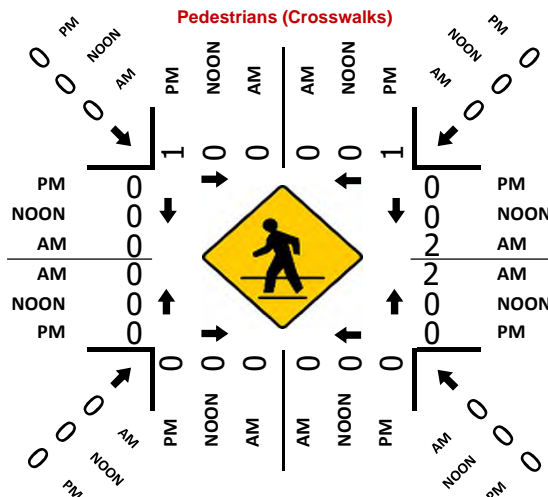
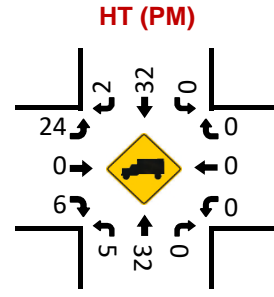
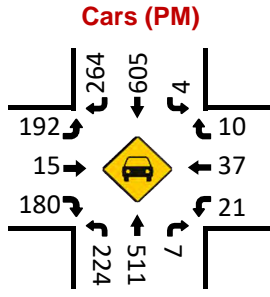
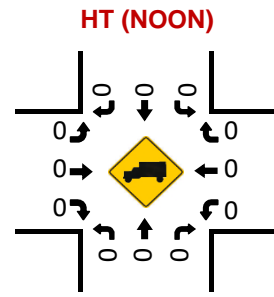
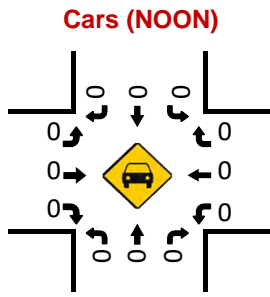
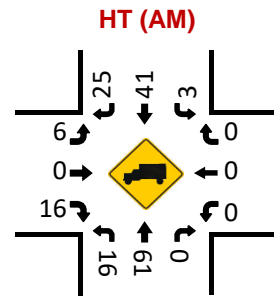
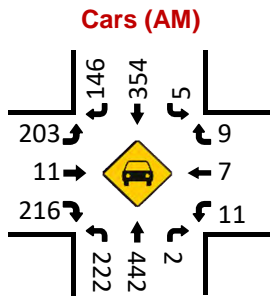
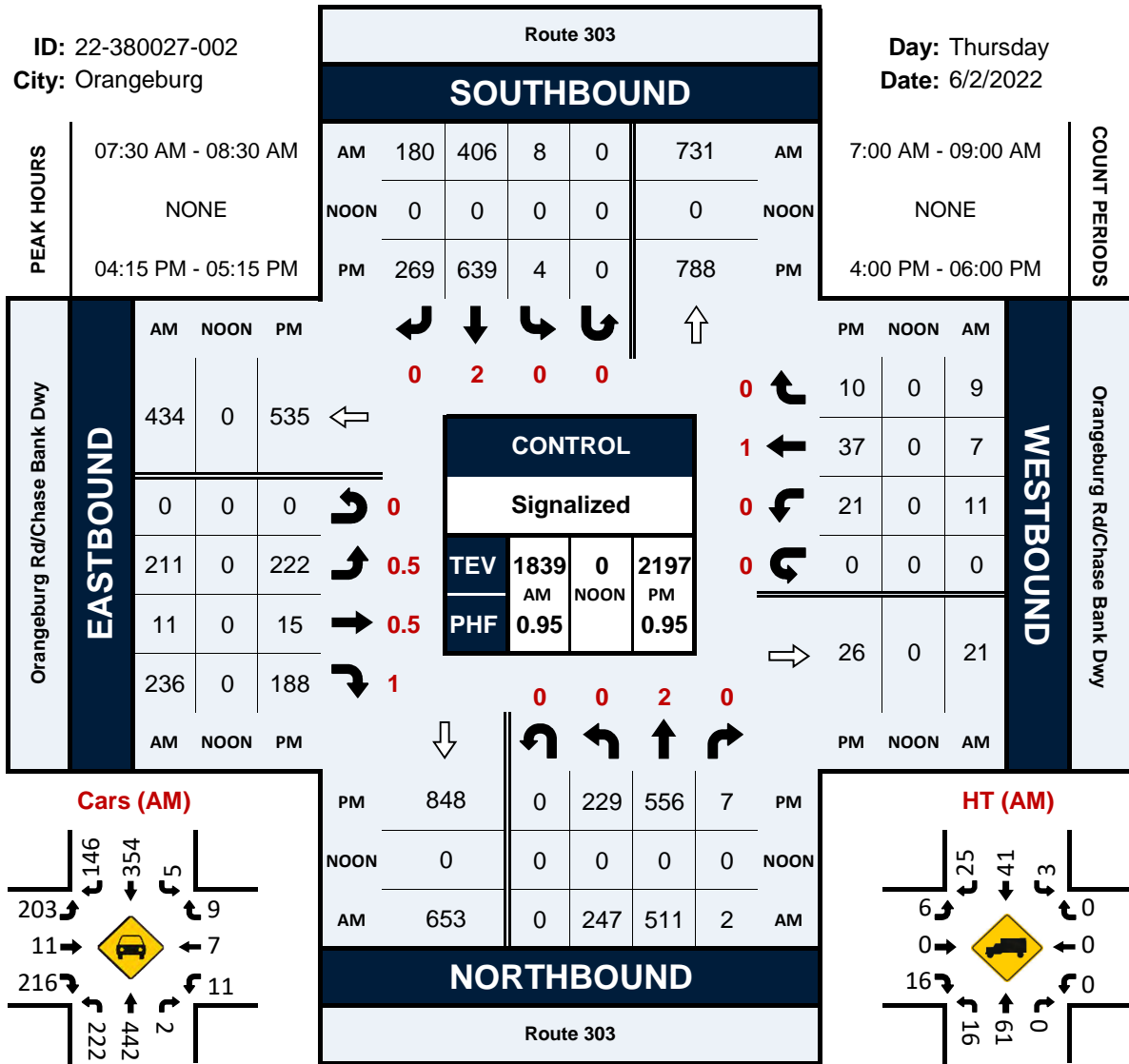
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	1	1	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	1	1	0	0	0	0	0	0	2
	50.00%	50.00%							
PEAK HR :	04:15 PM - 05:15 PM								TOTAL
PEAK HR VOL :	1	1	0	0	0	0	0	0	2
PEAK HR FACTOR :	0.250	0.250							0.250

Route 303 & Orangeburg Rd/Chase Bank Dwy

Peak Hour Turning Movement Count

ID: 22-380027-002
City: Orangeburg

Day: Thursday
Date: 6/2/2022



National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg
Control: Signalized

Project ID: 22-380027-003
Date: 6/2/2022

Data - Total

NS/EW Streets:	Route 303				Route 303				Greenbush/Rte 340				Greenbush/Rte 340				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	254
7:15 AM	2	89	9	0	32	75	7	0	0	7	1	0	11	1	20	0	296
7:30 AM	0	119	12	0	34	80	10	0	2	8	1	0	5	2	23	0	365
7:45 AM	1	158	9	0	39	87	9	0	5	5	5	0	7	3	37	0	411
8:00 AM	0	135	19	0	53	115	6	0	6	7	1	0	14	9	46	0	415
8:15 AM	1	144	11	0	49	103	2	0	8	4	1	0	14	9	69	0	342
8:30 AM	3	94	16	0	54	105	4	0	5	9	1	0	7	3	41	0	408
8:45 AM	2	124	17	0	50	116	6	0	5	8	4	0	23	9	44	0	372
	2	115	18	0	49	101	8	0	4	8	1	0	18	4	44	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	11	978	111	0	360	782	52	0	35	56	15	0	99	40	324	0	2863
	1.00%	88.91%	10.09%	0.00%	30.15%	65.49%	4.36%	0.00%	33.02%	52.83%	14.15%	0.00%	21.38%	8.64%	69.98%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	6	497	63	0	206	439	18	0	24	28	7	0	58	30	200	0	1576
PEAK HR FACTOR :	0.500	0.863	0.829	0.000	0.954	0.946	0.750	0.000	0.750	0.778	0.438	0.000	0.630	0.833	0.725	0.000	0.949
	0.907				0.953				0.868				0.783				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	451
4:15 PM	3	132	20	0	40	137	14	0	9	10	3	0	14	10	59	0	454
4:30 PM	1	143	10	0	49	132	4	0	7	7	2	0	22	11	66	0	507
4:45 PM	6	141	17	0	54	161	7	0	3	3	3	0	14	18	80	0	440
5:00 PM	2	111	10	0	42	172	6	0	7	9	1	0	11	8	61	0	442
5:15 PM	3	85	8	0	46	169	3	1	5	5	4	0	25	11	77	0	429
5:30 PM	2	98	20	0	43	161	9	0	10	9	3	0	20	7	47	0	447
5:45 PM	2	96	15	0	49	191	6	0	4	6	1	0	17	5	55	0	492
	4	110	21	0	58	170	14	0	11	11	8	0	22	10	53	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	23	916	121	0	381	1293	63	1	56	60	25	0	145	80	498	0	3662
	2.17%	86.42%	11.42%	0.00%	21.92%	74.40%	3.62%	0.06%	39.72%	42.55%	17.73%	0.00%	20.06%	11.07%	68.88%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	12	527	57	0	185	602	31	0	26	29	9	0	61	47	266	0	1852
PEAK HR FACTOR :	0.500	0.921	0.713	0.000	0.856	0.875	0.554	0.000	0.722	0.725	0.750	0.000	0.693	0.653	0.831	0.000	0.913
	0.909				0.921				0.727				0.835				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg
Control: Signalized

Project ID: 22-380027-003
Date: 6/2/2022

Data - HT

NS/EW Streets:	Route 303				Route 303				Greenbush/Rte 340				Greenbush/Rte 340					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	7:00 AM	0	11	0	0	3	8	0	0	0	0	0	0	2	0	1	0	25
	7:15 AM	0	15	1	0	5	20	0	0	0	0	0	0	1	0	6	0	48
	7:30 AM	1	15	3	0	3	10	0	0	0	0	0	0	0	0	3	0	35
	7:45 AM	0	16	1	0	5	13	0	0	2	0	0	0	3	0	1	0	41
	8:00 AM	1	13	0	0	4	10	0	0	2	0	0	0	2	0	2	0	34
	8:15 AM	0	17	3	0	2	9	3	0	2	1	0	0	0	0	2	0	37
	8:30 AM	0	10	2	0	5	13	0	0	1	1	0	0	2	1	8	0	43
8:45 AM	0	19	0	0	6	16	2	0	1	2	0	0	1	0	3	0	50	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	2	116	10	0	33	99	5	0	6	4	0	0	11	1	26	0	313	
	1.56%	90.63%	7.81%	0.00%	24.09%	72.26%	3.65%	0.00%	60.00%	40.00%	0.00%	0.00%	28.95%	2.63%	68.42%	0.00%		
PEAK HR :	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL :	1	56	6	0	16	45	3	0	5	2	0	0	7	1	13	0	155	
PEAK HR FACTOR :	0.250	0.824	0.500	0.000	0.800	0.865	0.250	0.000	0.625	0.500	0.000	0.000	0.583	0.250	0.406	0.000	0.901	
		0.788				0.889				0.875				0.477				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND					
	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	4:00 PM	0	4	0	0	2	12	2	0	0	1	0	0	0	0	4	0	25
	4:15 PM	0	4	0	0	4	10	1	0	0	0	0	0	0	0	7	0	26
	4:30 PM	0	5	1	0	2	6	0	0	0	0	0	0	0	2	3	0	19
	4:45 PM	0	6	0	0	0	3	3	0	0	0	0	0	0	1	1	0	14
	5:00 PM	0	5	0	0	1	9	0	0	1	0	0	0	1	0	3	0	20
	5:15 PM	0	6	1	0	0	1	1	0	0	0	0	0	0	0	1	0	10
	5:30 PM	0	3	0	0	2	6	0	0	0	0	0	0	0	0	1	0	12
5:45 PM	0	3	0	0	2	7	0	0	0	0	0	0	0	0	2	0	14	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	36	2	0	13	54	7	0	1	1	0	0	1	3	22	0	140	
	0.00%	94.74%	5.26%	0.00%	17.57%	72.97%	9.46%	0.00%	50.00%	50.00%	0.00%	0.00%	3.85%	11.54%	84.62%	0.00%		
PEAK HR :	04:00 PM - 05:00 PM																TOTAL	
PEAK HR VOL :	0	19	1	0	8	31	6	0	0	1	0	0	0	3	15	0	84	
PEAK HR FACTOR :	0.000	0.792	0.250	0.000	0.500	0.646	0.500	0.000	0.000	0.250	0.000	0.000	0.000	0.375	0.536	0.000	0.808	
		0.833				0.703				0.250				0.643				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg
Control: Signalized

Project ID: 22-380027-003
Date: 6/2/2022

Data - Cars

NS/EW Streets:	Route 303				Route 303				Greenbush/Rte 340				Greenbush/Rte 340				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	77	9	0	26	63	7	0	0	7	1	0	9	1	19	0	221
7:15 AM	0	103	10	0	25	58	9	0	2	8	1	0	4	2	16	0	238
7:30 AM	0	143	6	0	33	73	9	0	5	5	5	0	6	3	34	0	322
7:45 AM	0	116	18	0	48	101	5	0	4	7	1	0	11	9	38	0	358
8:00 AM	0	129	11	0	44	92	1	0	6	4	1	0	12	9	63	0	372
8:15 AM	3	76	13	0	50	95	1	0	5	8	1	0	7	3	39	0	301
8:30 AM	2	114	15	0	42	102	6	0	4	7	4	0	19	8	34	0	357
8:45 AM	2	95	18	0	39	83	6	0	3	5	1	0	16	4	40	0	312
TOTAL VOLUMES :	9	853	100	0	307	667	44	0	29	51	15	0	84	39	283	0	2481
APPROACH %'s :	0.94%	88.67%	10.40%	0.00%	30.16%	65.52%	4.32%	0.00%	30.53%	53.68%	15.79%	0.00%	20.69%	9.61%	69.70%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																
PEAK HR VOL :	5	435	57	0	184	390	13	0	19	26	7	0	49	29	174	0	1388
PEAK HR FACTOR :	0.417	0.843	0.792	0.000	0.920	0.956	0.542	0.000	0.792	0.813	0.438	0.000	0.645	0.806	0.690	0.000	0.933
			0.888			0.953				0.867				0.750			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	3	125	20	0	37	123	12	0	9	9	3	0	14	10	53	0	418
4:15 PM	1	137	10	0	43	120	3	0	7	7	2	0	22	11	59	0	422
4:30 PM	6	132	16	0	52	155	7	0	3	3	3	0	14	16	74	0	481
4:45 PM	2	105	10	0	42	169	3	0	7	9	1	0	11	7	57	0	423
5:00 PM	3	79	8	0	45	160	3	1	4	5	4	0	24	11	74	0	421
5:15 PM	2	92	19	0	43	160	8	0	10	9	3	0	20	7	46	0	419
5:30 PM	2	93	15	0	47	183	6	0	4	6	1	0	17	5	54	0	433
5:45 PM	4	106	21	0	55	163	14	0	11	11	8	0	22	10	50	0	475
TOTAL VOLUMES :	23	869	119	0	364	1233	56	1	55	59	25	0	144	77	467	0	3492
APPROACH %'s :	2.27%	85.95%	11.77%	0.00%	22.01%	74.55%	3.39%	0.06%	39.57%	42.45%	17.99%	0.00%	20.93%	11.19%	67.88%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																
PEAK HR VOL :	12	499	56	0	174	567	25	0	26	28	9	0	61	44	243	0	1744
PEAK HR FACTOR :	0.500	0.911	0.700	0.000	0.837	0.839	0.521	0.000	0.722	0.778	0.750	0.000	0.693	0.688	0.821	0.000	0.906
			0.920			0.895				0.750				0.837			

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg
Control: Signalized

Project ID: 22-380027-003
Date: 6/2/2022

Data - Buses

NS/EW Streets:	Route 303				Route 303				Greenbush/Rte 340				Greenbush/Rte 340				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	1	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	8
7:15 AM	0	1	1	0	4	2	1	0	0	0	0	0	0	0	1	0	10
7:30 AM	0	0	0	0	3	4	0	0	0	0	0	0	1	0	0	0	8
7:45 AM	0	3	0	0	0	1	1	0	0	0	0	0	0	0	7	0	12
8:00 AM	0	2	0	0	1	1	1	0	0	0	0	0	0	0	4	0	9
8:15 AM	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	4
8:30 AM	0	0	0	0	3	1	0	0	0	0	0	0	2	0	2	0	8
8:45 AM	0	1	0	0	4	2	0	0	0	1	0	0	1	0	1	0	10
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	69
	0.00%	90.00%	10.00%	0.00%	51.28%	41.03%	7.69%	0.00%	0.00%	100.00%	0.00%	0.00%	21.05%	0.00%	78.95%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	0	6	0	0	6	4	2	0	0	0	0	0	2	0	13	0	33
PEAK HR FACTOR :	0.000	0.500	0.000	0.000	0.500	1.000	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.464	0.000	0.688
	0.500				0.750								0.536				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	3	0	0	1	2	0	0	0	0	0	0	0	0	2	0	8
4:15 PM	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	6
4:30 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	3	0	7
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
5:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	3
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	2	0	0	0.5	1.5	0	0	0	1	0	0	0	1	0	0	30
	0.00%	100.00%	0.00%	0.00%	40.00%	60.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	04:00 PM - 05:00 PM																TOTAL
PEAK HR VOL :	0	9	0	0	3	4	0	0	0	0	0	0	0	0	8	0	24
PEAK HR FACTOR :	0.000	0.563	0.000	0.000	0.375	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.750
	0.563				0.438								0.667				

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg
Control: Signalized

Project ID: 22-380027-003
Date: 6/2/2022

Data - Bikes

NS/EW Streets:	Route 303				Route 303				Greenbush/Rte 340				Greenbush/Rte 340				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
	0.00%				100.00%				0.00%				0.00%				
PEAK HR :	07:45 AM - 08:45 AM																
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500
					0.250								0.250				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0.00%				0.00%				0.00%				0.00%				
PEAK HR :	04:00 PM - 05:00 PM																
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Greenbush/Rte 340
City: Orangeburg

Project ID: 22-380027-003
Date: 6/2/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Route 303		Route 303		Greenbush/Rte 340		Greenbush/Rte 340		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	1
8:45 AM	0	0	0	1	0	1	0	0	2
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	1	0	1	1	0	3
	0.00%		100.00%		0.00%		100.00%		
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :							0.250	0	0.250

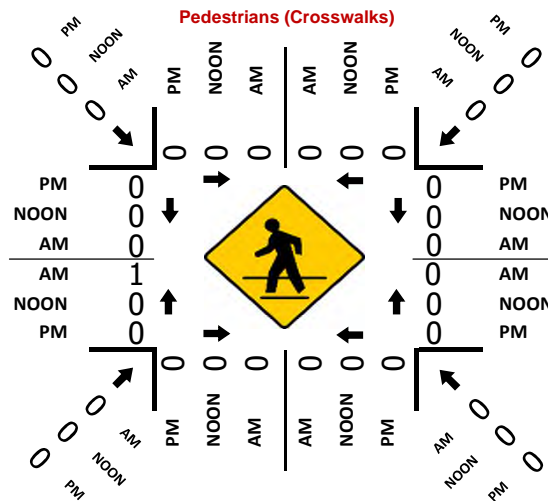
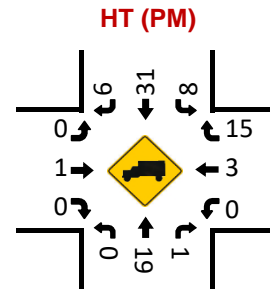
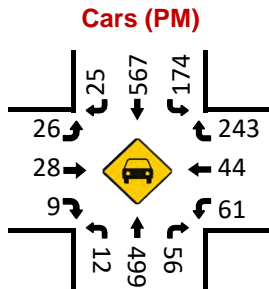
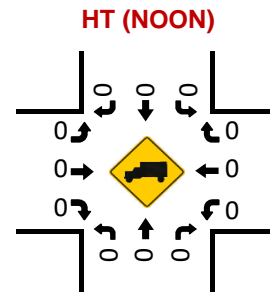
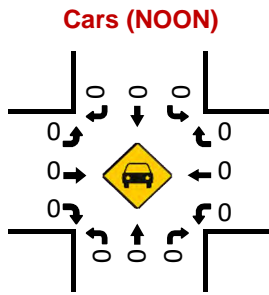
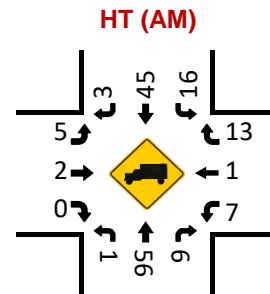
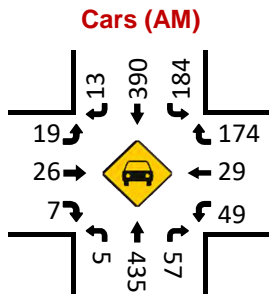
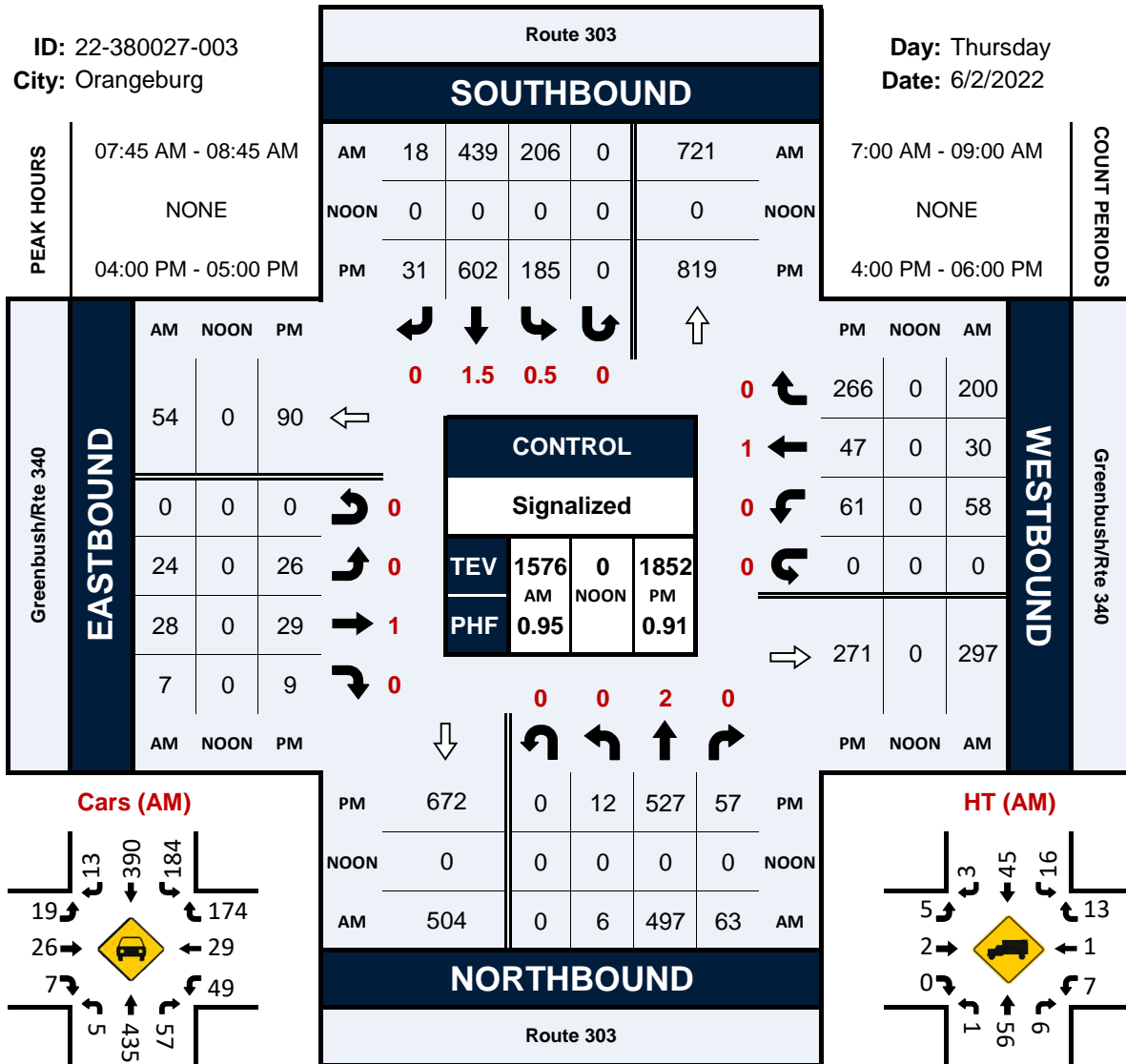
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	04:00 PM - 05:00 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

Route 303 & Greenbush/Rte 340

Peak Hour Turning Movement Count

ID: 22-380027-003
City: Orangeburg

Day: Thursday
Date: 6/2/2022



National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
City: Orangeburg
Control: Signalized

Project ID: 22-380027-004
Date: 6/2/2022

Data - Total

NS/EW Streets:	Route 303				Route 303				Glenshaw St				Glenshaw St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	185
7:15 AM	7	74	0	0	0	96	6	0	0	2	0	0	0	0	0	0	185
7:30 AM	9	110	0	0	0	101	4	0	1	0	2	0	0	0	0	0	227
7:45 AM	18	145	0	0	0	124	10	0	2	0	3	0	0	0	0	0	302
8:00 AM	3	149	0	0	0	144	18	0	5	0	1	0	0	0	0	0	320
8:15 AM	12	121	0	0	0	150	14	0	11	0	9	0	0	0	0	0	317
8:30 AM	11	116	0	0	0	136	8	0	2	0	5	0	0	0	0	0	278
8:45 AM	9	120	0	0	0	150	10	0	6	0	6	0	0	0	0	0	301
8:45 AM	11	122	0	0	0	125	11	0	4	0	2	0	0	0	0	0	275
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	80	957	0	0	0	1026	81	0	31	0	30	0	0	0	0	0	2205
	7.71%	92.29%	0.00%	0.00%	0.00%	92.68%	7.32%	0.00%	50.82%	0.00%	49.18%	0.00%					
PEAK HR:	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL:	44	531	0	0	0	554	50	0	20	0	18	0	0	0	0	0	1217
PEAK HR FACTOR:	0.611	0.891	0.000	0.000	0.000	0.923	0.694	0.000	0.455	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.951
	0.882				0.921				0.475								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	320
4:15 PM	2	165	0	0	0	132	3	0	9	0	9	0	0	0	0	0	330
4:30 PM	2	171	0	0	0	147	4	0	2	0	4	0	0	0	0	0	388
4:45 PM	2	196	0	0	0	167	8	0	7	0	8	0	0	0	0	0	399
5:00 PM	3	164	0	0	0	206	3	0	12	0	11	0	0	0	0	0	365
5:15 PM	2	142	0	0	0	179	2	0	14	0	26	0	0	0	0	0	351
5:30 PM	3	149	0	0	0	166	1	0	10	0	22	0	0	0	0	0	351
5:45 PM	3	135	0	0	0	193	1	0	3	0	16	0	0	0	0	0	341
5:45 PM	1	147	0	0	0	176	2	0	5	0	10	0	0	0	0	0	2845
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:	18	1269	0	0	0	1366	24	0	62	0	106	0	0	0	0	0	2845
	1.40%	98.60%	0.00%	0.00%	0.00%	98.27%	1.73%	0.00%	36.90%	0.00%	63.10%	0.00%					
PEAK HR:	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL:	10	651	0	0	0	718	14	0	43	0	67	0	0	0	0	0	1503
PEAK HR FACTOR:	0.833	0.830	0.000	0.000	0.000	0.871	0.438	0.000	0.768	0.000	0.644	0.000	0.000	0.000	0.000	0.000	0.942
	0.835				0.876				0.688								

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
City: Orangeburg
Control: Signalized

Project ID: 22-380027-004
Date: 6/2/2022

Data - Cars

NS/EW Streets:	Route 303				Route 303				Glenshaw St				Glenshaw St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	157
7:15 AM	7	66	0	0	0	79	4	0	0	0	1	0	0	0	0	0	188
7:30 AM	9	97	0	0	0	75	4	0	1	0	2	0	0	0	0	0	264
7:45 AM	18	129	0	0	0	105	8	0	1	0	3	0	0	0	0	0	269
8:00 AM	3	116	0	0	0	128	17	0	5	0	0	0	0	0	0	0	274
8:00 AM	12	105	0	0	0	132	12	0	6	0	7	0	0	0	0	0	231
8:15 AM	11	87	0	0	0	123	8	0	0	0	2	0	0	0	0	0	251
8:30 AM	8	101	0	0	0	130	8	0	1	0	3	0	0	0	0	0	222
8:45 AM	11	100	0	0	0	99	8	0	2	0	2	0	0	0	0	0	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	79	801	0	0	0	871	69	0	16	0	20	0	0	0	0	0	1856
	8.98%	91.02%	0.00%	0.00%	0.00%	92.66%	7.34%	0.00%	44.44%	0.00%	55.56%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	44	437	0	0	0	488	45	0	12	0	12	0	0	0	0	0	1038
PEAK HR FACTOR :	0.611	0.847	0.000	0.000	0.000	0.924	0.662	0.000	0.500	0.000	0.429	0.000	0.000	0.000	0.000	0.000	0.947
	0.818				0.919				0.462								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	159	0	0	0	120	3	0	8	0	9	0	0	0	0	0	299
4:15 PM	1	161	0	0	0	131	3	0	2	0	3	0	0	0	0	0	301
4:30 PM	0	182	0	0	0	159	3	0	5	0	6	0	0	0	0	0	355
4:45 PM	2	150	0	0	0	199	1	0	9	0	10	0	0	0	0	0	371
5:00 PM	0	128	0	0	0	172	2	0	13	0	25	0	0	0	0	0	340
5:15 PM	1	143	0	0	0	160	1	0	8	0	21	0	0	0	0	0	334
5:30 PM	1	131	0	0	0	188	0	0	3	0	15	0	0	0	0	0	338
5:45 PM	1	140	0	0	0	168	1	0	4	0	9	0	0	0	0	0	323
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	6	1194	0	0	0	1297	14	0	52	0	98	0	0	0	0	0	2661
	0.50%	99.50%	0.00%	0.00%	0.00%	98.93%	1.07%	0.00%	34.67%	0.00%	65.33%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	3	603	0	0	0	690	7	0	35	0	62	0	0	0	0	0	1400
PEAK HR FACTOR :	0.375	0.828	0.000	0.000	0.000	0.867	0.583	0.000	0.673	0.000	0.620	0.000	0.000	0.000	0.000	0.000	0.943
	0.832				0.871				0.638								

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
City: Orangeburg
Control: Signalized

Project ID: 22-380027-004
Date: 6/2/2022

Data - HT

NS/EW Streets:	Route 303				Route 303				Glenshaw St				Glenshaw St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	7	0	0	0	14	2	0	0	0	1	0	0	0	0	0	24
7:15 AM	0	11	0	0	0	23	0	0	0	0	0	0	0	0	0	0	34
7:30 AM	0	12	0	0	0	16	2	0	0	0	0	0	0	0	0	0	30
7:45 AM	0	28	0	0	0	13	1	0	0	0	1	0	0	0	0	0	43
8:00 AM	0	15	0	0	0	15	2	0	4	0	2	0	0	0	0	0	38
8:15 AM	0	21	0	0	0	12	0	0	2	0	3	0	0	0	0	0	38
8:30 AM	1	13	0	0	0	19	2	0	5	0	3	0	0	0	0	0	43
8:45 AM	0	21	0	0	0	22	3	0	2	0	0	0	0	0	0	0	48
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	1	128	0	0	0	134	12	0	13	0	10	0	0	0	0	0	298
	0.78%	99.22%	0.00%	0.00%	0.00%	91.78%	8.22%	0.00%	56.52%	0.00%	43.48%	0.00%					
PEAK HR :	07:30 AM - 08:30 AM																
PEAK HR VOL :	0	76	0	0	0	56	5	0	6	0	6	0	0	0	0	0	149
PEAK HR FACTOR :	0.000	0.679	0.000	0.000	0.000	0.875	0.625	0.000	0.375	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.866
		0.679				0.847					0.500						
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	2	4	0	0	0	10	0	0	1	0	0	0	0	0	0	0	17
4:15 PM	1	10	0	0	0	13	1	0	0	0	1	0	0	0	0	0	26
4:30 PM	2	12	0	0	0	8	5	0	2	0	2	0	0	0	0	0	31
4:45 PM	1	12	0	0	0	7	2	0	3	0	1	0	0	0	0	0	26
5:00 PM	2	13	0	0	0	6	0	0	1	0	1	0	0	0	0	0	23
5:15 PM	2	6	0	0	0	5	0	0	2	0	1	0	0	0	0	0	16
5:30 PM	2	4	0	0	0	5	1	0	0	0	1	0	0	0	0	0	13
5:45 PM	2	4	0	0	0	8	1	0	1	0	1	0	0	0	0	0	15
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	12	65	0	0	0	62	10	0	10	0	8	0	0	0	0	0	167
	15.58%	84.42%	0.00%	0.00%	0.00%	86.11%	13.89%	0.00%	55.56%	0.00%	44.44%	0.00%					
PEAK HR :	04:30 PM - 05:30 PM																
PEAK HR VOL :	7	43	0	0	0	26	7	0	8	0	5	0	0	0	0	0	96
PEAK HR FACTOR :	0.875	0.827	0.000	0.000	0.000	0.813	0.350	0.000	0.667	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.774
		0.833				0.635					0.813						

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
 City: Orangeburg
 Control: Signalized

Project ID: 22-380027-004
 Date: 6/2/2022

Data - Buses

NS/EW Streets:	Route 303				Route 303				Glenshaw St				Glenshaw St					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
7:00 AM	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	
7:15 AM	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
7:30 AM	0	4	0	0	0	3	0	0	1	0	0	0	0	0	0	0	8	
7:45 AM	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	0	8	
8:00 AM	0	1	0	0	0	3	0	0	1	0	0	0	0	0	0	0	5	
8:15 AM	0	8	0	0	0	1	0	0	0	0	0	0	0	0	0	0	9	
8:30 AM	0	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7	
8:45 AM	0	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	5	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	28	0	0	0	21	0	0	2	0	0	0	0	0	0	0	51	
	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0	0	0	0		
PEAK HR :	07:30 AM - 08:30 AM																TOTAL	
PEAK HR VOL :	0	18	0	0	0	10	0	0	2	0	0	0	0	0	0	0	30	
PEAK HR FACTOR :	0.000	0.563	0.000	0.000	0.000	0.833	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.833	
		0.563				0.833				0.500								
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
4:00 PM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4	
4:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	
4:30 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	
5:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s :	0	10	0	0	0	7	0	0	0	0	0	0	0	0	0	0	17	
	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0	0	0	0	0	0	0	0		
PEAK HR :	04:30 PM - 05:30 PM																TOTAL	
PEAK HR VOL :	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7	
PEAK HR FACTOR :	0.000	0.625	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.875	
		0.625				0.500												

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
City: Orangeburg
Control: Signalized

Project ID: 22-380027-004
Date: 6/2/2022

Data - Bikes

NS/EW Streets:	Route 303				Route 303				Glenshaw St				Glenshaw St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	1
	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	07:30 AM - 08:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0
	0.00%	100.00%	0.00%	0.00%													
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0

National Data & Surveying Services Intersection Turning Movement Count

Location: Route 303 & Glenshaw St
City: Orangeburg

Project ID: 22-380027-004
Date: 6/2/2022

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Route 303		Route 303		Glenshaw St		Glenshaw St		TOTAL
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0
PEAK HR :	07:30 AM - 08:30 AM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0
PEAK HR FACTOR :									

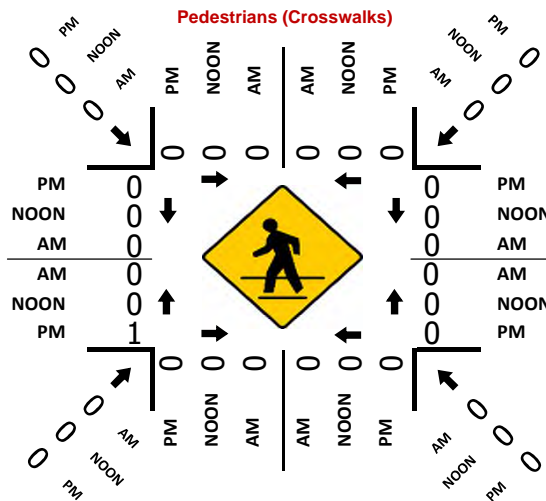
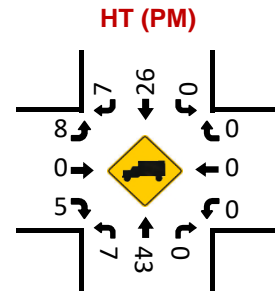
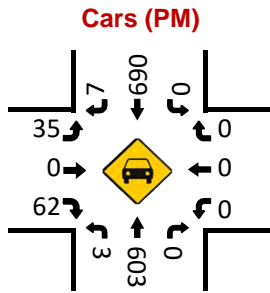
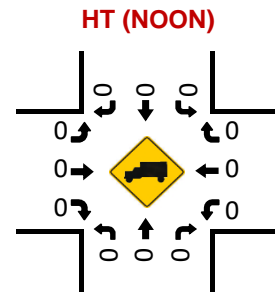
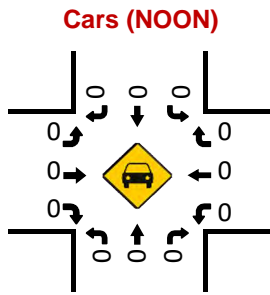
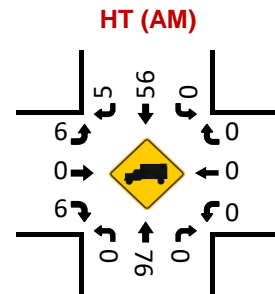
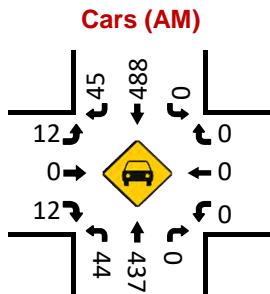
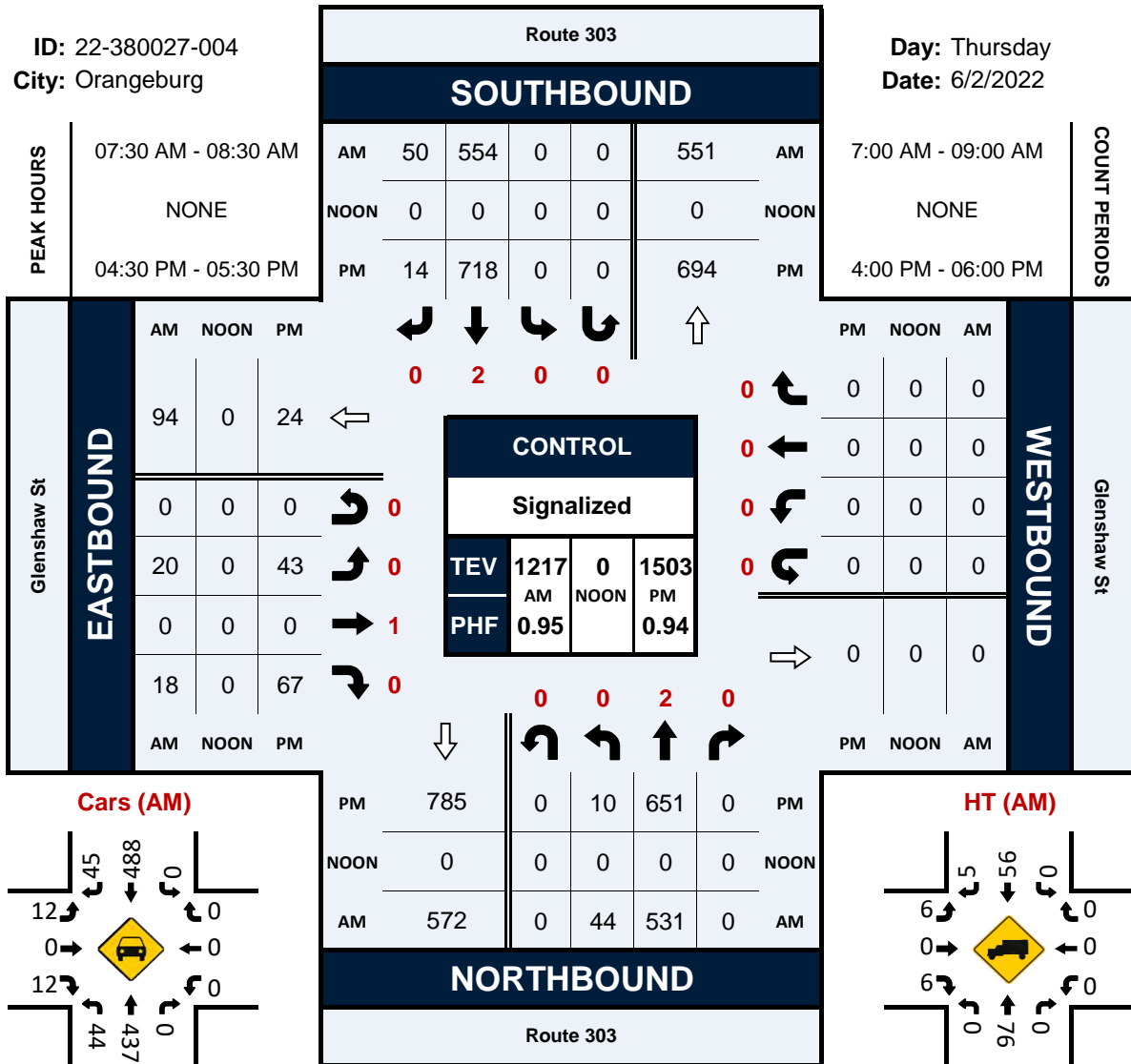
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
4:00 PM	0	0	0	0	0	0	1	0	
4:15 PM	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB	TOTAL
APPROACH %'s :	0	0	0	0	0	0	100.00%	0.00%	2
PEAK HR :	04:30 PM - 05:30 PM								TOTAL
PEAK HR VOL :	0	0	0	0	0	0	1	0	1
PEAK HR FACTOR :							0.250	0.250	0.250

Route 303 & Glenshaw St

Peak Hour Turning Movement Count

ID: 22-380027-004
City: Orangeburg

Day: Thursday
Date: 6/2/2022



ATTACHMENT C
LEVEL OF SERVICE ANALYSIS

13 MOUNTAIN VIEW AVENUE
TOWN OF ORANGETOWN
ROCKLAND COUNTY, 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 ≤ 1.0	v/c ≥ 1.0
10.0	A	F
>10.0 and ≤ 15.0	B	F
>15.0 and ≤ 25.0	C	F
>25.0 and ≤ 35.0	D	F
>35.0 and ≤ 50.0	E	F
>50.0	F	F

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS

Existing _AM Peak Hour























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	28	7	58	30	207	6	514	63	233	496	20
Future Volume (vph)	25	28	7	58	30	207	6	514	63	233	496	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.91			0.98			1.00	
Flt Protected		0.98			0.99			1.00			0.98	
Satd. Flow (prot)		1799			1594			3093			3122	
Flt Permitted		0.63			0.93			0.95			0.63	
Satd. Flow (perm)		1148			1491			2935			2012	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	29	7	61	32	218	6	541	66	245	522	21
RTOR Reduction (vph)	0	5	0	0	92	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	57	0	0	219	0	0	609	0	0	788	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	17%	11%	10%	8%	10%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		20.3			20.3			79.7			79.7	
Effective Green, g (s)		20.3			20.3			79.7			79.7	
Actuated g/C Ratio		0.18			0.18			0.72			0.72	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		211			275			2126			1457	
v/s Ratio Prot												
v/s Ratio Perm		0.05			0.15			0.21			0.39	
v/c Ratio		0.27			0.80			0.29			0.54	
Uniform Delay, d1		38.5			42.9			5.3			6.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			13.8			0.3			0.2	
Delay (s)		38.7			56.6			5.6			7.1	
Level of Service		D			E			A			A	
Approach Delay (s)		38.7			56.6			5.6			7.1	
Approach LOS		D			E			A			A	

Intersection Summary

HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Existing _AM Peak Hour

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	193	13	246	13	9	8	236	508	2	10	490	198	
Future Volume (vph)	193	13	246	13	9	8	236	508	2	10	490	198	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11	
Grade (%)		-3%			0%			0%			0%		
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0		
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95		
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00		
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00		
Frt		1.00	0.85		1.00	0.85		1.00			0.96		
Flt Protected		0.96	1.00		0.97	1.00		0.98			1.00		
Satd. Flow (prot)		1686	1468		1845	1615		3120			2982		
Flt Permitted		0.96	1.00		0.70	1.00		0.58			0.94		
Satd. Flow (perm)		1686	1468		1331	1615		1826			2804		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	205	14	262	14	10	9	251	540	2	11	521	211	
RTOR Reduction (vph)	0	0	199	0	0	9	0	0	0	0	22	0	
Lane Group Flow (vph)	0	219	63	0	24	0	0	793	0	0	721	0	
Confl. Peds. (#/hr)			1	1					4	4			
Heavy Vehicles (%)	6%	0%	7%	0%	0%	0%	6%	12%	0%	38%	11%	13%	
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA		
Protected Phases	3	3	1		4	4	1	12			2		
Permitted Phases			3	4			2			2			
Actuated Green, G (s)		21.1	31.1		5.2	5.2		83.7			73.7		
Effective Green, g (s)		21.1	31.1		5.2	5.2		83.7			73.7		
Actuated g/C Ratio		0.16	0.24		0.04	0.04		0.64			0.57		
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0		
Lane Grp Cap (vph)		273	351		53	64		1275			1589		
v/s Ratio Prot		c0.13	0.01			0.00		c0.05					
v/s Ratio Perm			0.03		c0.02			c0.35			0.26		
v/c Ratio		0.80	0.18		0.45	0.01		0.62			0.45		
Uniform Delay, d1		52.4	39.3		61.0	59.9		13.8			16.4		
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00		
Incremental Delay, d2		15.5	0.2		6.0	0.0		1.0			0.9		
Delay (s)		67.9	39.5		67.0	60.0		14.7			17.4		
Level of Service		E	D		E	E		B			B		
Approach Delay (s)		52.5			65.1			14.7			17.4		
Approach LOS		D			E			B			B		
Intersection Summary													
HCM 2000 Control Delay			25.3		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			130.0		Sum of lost time (s)						20.0		
Intersection Capacity Utilization			71.7%		ICU Level of Service						C		
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 31155 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Existing _AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Volume (vph)	60	46	105	65	45	11	118	534	57	9	528	64		
Future Volume (vph)	60	46	105	65	45	11	118	534	57	9	528	64		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11		
Total Lost time (s)		5.0			5.0			6.0			6.0			
Lane Util. Factor		1.00			1.00			0.95			0.95			
Frt		0.93			0.99			0.99			0.98			
Flt Protected		0.99			0.97			0.99			1.00			
Satd. Flow (prot)		1698			1634			3073			3041			
Flt Permitted		0.85			0.54			0.99			1.00			
Satd. Flow (perm)		1459			909			3073			3041			
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93		
Adj. Flow (vph)	65	49	113	70	48	12	127	574	61	10	568	69		
RTOR Reduction (vph)	0	35	0	0	3	0	0	0	0	0	9	0		
Lane Group Flow (vph)	0	192	0	0	127	0	0	762	0	0	638	0		
Heavy Vehicles (%)	2%	4%	3%	11%	0%	64%	7%	13%	4%	50%	13%	6%		
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA			
Protected Phases		3			3		2	2		1	1			
Permitted Phases	3			3										
Actuated Green, G (s)		18.2			18.2			47.0			27.8			
Effective Green, g (s)		18.2			18.2			47.0			27.8			
Actuated g/C Ratio		0.17			0.17			0.43			0.25			
Clearance Time (s)		5.0			5.0			6.0			6.0			
Vehicle Extension (s)		2.0			2.0			2.0			2.0			
Lane Grp Cap (vph)		241			150			1313			768			
v/s Ratio Prot								c0.25			c0.21			
v/s Ratio Perm		0.13			c0.14									
v/c Ratio		0.80			0.84			0.58			0.83			
Uniform Delay, d1		44.1			44.5			24.0			38.9			
Progression Factor		1.00			1.00			1.00			1.00			
Incremental Delay, d2		15.5			31.9			1.9			7.3			
Delay (s)		59.6			76.4			25.9			46.2			
Level of Service		E			E			C			D			
Approach Delay (s)		59.6			76.4			25.9			46.2			
Approach LOS		E			E			C			D			
Intersection Summary														
HCM 2000 Control Delay			41.4									HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio			0.71											
Actuated Cycle Length (s)			110.0								17.0		Sum of lost time (s)	
Intersection Capacity Utilization			64.0%										ICU Level of Service	B
Analysis Period (min)			15											

c Critical Lane Group

















HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

4: NYS Route 303 & Glenshaw St
Existing _AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	21	39	566	580	50
Future Volume (Veh/h)	24	21	39	566	580	50
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	22	41	596	611	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1018	332	664			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1018	332	664			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	85	96	96			
cM capacity (veh/h)	163	558	935			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	47	240	397	407	257	
Volume Left	25	41	0	0	0	
Volume Right	22	0	0	0	53	
cSH	244	935	1700	1700	1700	
Volume to Capacity	0.19	0.04	0.23	0.24	0.15	
Queue Length 95th (ft)	17	3	0	0	0	
Control Delay (s)	23.3	1.9	0.0	0.0	0.0	
Lane LOS	C	A				
Approach Delay (s)	23.3	0.7		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			47.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Existing_PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	26	11	78	52	330	13	553	49	211	701	22
Future Volume (vph)	25	26	11	78	52	330	13	553	49	211	701	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1969			1629			3320			3294	
Flt Permitted		0.68			0.93			0.93			0.64	
Satd. Flow (perm)		1374			1526			3075			2134	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	29	12	86	57	363	14	608	54	232	770	24
RTOR Reduction (vph)	0	7	0	0	86	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	61	0	0	420	0	0	672	0	0	1026	0
Heavy Vehicles (%)	4%	0%	0%	1%	6%	5%	0%	4%	2%	4%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		32.2			32.2			67.8			67.8	
Effective Green, g (s)		32.2			32.2			67.8			67.8	
Actuated g/C Ratio		0.29			0.29			0.62			0.62	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		402			446			1895			1315	
v/s Ratio Prot												
v/s Ratio Perm		0.04			0.28			0.22			0.48	
v/c Ratio		0.15			0.94			0.35			0.78	
Uniform Delay, d1		28.8			38.0			10.4			15.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			28.0			0.5			2.8	
Delay (s)		28.9			65.9			10.9			18.4	
Level of Service		C			E			B			B	
Approach Delay (s)		28.9			65.9			10.9			18.4	
Approach LOS		C			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			27.1									C
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			110.0							15.0		
Intersection Capacity Utilization			85.2%									E
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2145 Route 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Existing_PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	16	205	23	40	12	250	650	8	4	706	297
Future Volume (vph)	259	16	205	23	40	12	250	650	8	4	706	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1866	1615		3279			3212	
Flt Permitted		0.96	1.00		0.76	1.00		0.51			0.95	
Satd. Flow (perm)		1613	1538		1446	1615		1693			3059	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	273	17	216	24	42	13	263	684	8	4	743	313
RTOR Reduction (vph)	0	0	158	0	0	12	0	0	0	0	27	0
Lane Group Flow (vph)	0	290	58	0	66	1	0	955	0	0	1033	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	6%	0%	0%	5%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	12			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		24.7	34.7		9.5	9.5		75.8			65.8	
Effective Green, g (s)		24.7	34.7		9.5	9.5		75.8			65.8	
Actuated g/C Ratio		0.19	0.27		0.07	0.07		0.58			0.51	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		306	410		105	118		1109			1548	
v/s Ratio Prot		c0.18	0.01			0.00		c0.07				
v/s Ratio Perm			0.03		c0.05			c0.44			0.34	
v/c Ratio		0.95	0.14		0.63	0.01		0.90dl			0.67	
Uniform Delay, d1		52.0	36.3		58.5	55.9		22.7			23.9	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		37.3	0.2		11.2	0.0		7.0			2.3	
Delay (s)		89.3	36.5		69.7	55.9		29.7			26.2	
Level of Service		F	D		E	E		C			C	
Approach Delay (s)		66.7			67.5			29.7			26.2	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			36.6								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			130.0								Sum of lost time (s)	20.0
Intersection Capacity Utilization			89.0%								ICU Level of Service	E
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 3115 S. Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Existing_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	52	34	89	126	36	10	161	682	78	11	792	37
Future Volume (vph)	52	34	89	126	36	10	161	682	78	11	792	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.93			0.99			0.99			0.99	
Flt Protected		0.99			0.96			0.99			1.00	
Satd. Flow (prot)		1709			1780			3176			3283	
Flt Permitted		0.87			0.56			0.99			1.00	
Satd. Flow (perm)		1511			1035			3176			3283	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	56	37	96	135	39	11	173	733	84	12	852	40
RTOR Reduction (vph)	0	35	0	0	2	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	154	0	0	183	0	0	990	0	0	901	0
Heavy Vehicles (%)	0%	0%	4%	2%	0%	12%	3%	9%	4%	50%	5%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		21.6			21.6			38.4			33.0	
Effective Green, g (s)		21.6			21.6			38.4			33.0	
Actuated g/C Ratio		0.20			0.20			0.35			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		296			203			1108			984	
v/s Ratio Prot								c0.31			c0.27	
v/s Ratio Perm		0.10			c0.18							
v/c Ratio		0.52			0.90			0.89			0.92	
Uniform Delay, d1		39.6			43.1			33.9			37.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			35.6			11.1			12.5	
Delay (s)		40.2			78.7			44.9			49.7	
Level of Service		D			E			D			D	
Approach Delay (s)		40.2			78.7			44.9			49.7	
Approach LOS		D			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	55	10	734	785	19
Future Volume (Veh/h)	38	55	10	734	785	19
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	59	11	789	844	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1270	432	864			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1270	432	864			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	70	89	98			
cM capacity (veh/h)	138	550	470			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	100	274	526	563	301	
Volume Left	41	11	0	0	0	
Volume Right	59	0	0	0	20	
cSH	247	470	1700	1700	1700	
Volume to Capacity	0.41	0.02	0.31	0.33	0.18	
Queue Length 95th (ft)	46	2	0	0	0	
Control Delay (s)	29.2	0.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	29.2	0.3		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	39.5%			ICU Level of Service	A	
Analysis Period (min)	15					

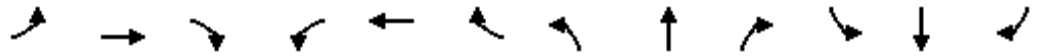
HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
122-145; WPT TIS

No-Build_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Volume (vph)	25	29	7	59	30	210	7	582	64	241	538	20		
Future Volume (vph)	25	29	7	59	30	210	7	582	64	241	538	20		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11		
Total Lost time (s)		5.0			5.0			5.0			5.0			
Lane Util. Factor		1.00			1.00			0.95			0.95			
Frbp, ped/bikes		1.00			1.00			1.00			1.00			
Flpb, ped/bikes		1.00			1.00			1.00			1.00			
Frt		0.99			0.91			0.99			1.00			
Flt Protected		0.98			0.99			1.00			0.99			
Satd. Flow (prot)		1803			1594			3097			3124			
Flt Permitted		0.63			0.93			0.95			0.62			
Satd. Flow (perm)		1167			1491			2935			1954			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Adj. Flow (vph)	26	31	7	62	32	221	7	613	67	254	566	21		
RTOR Reduction (vph)	0	5	0	0	92	0	0	4	0	0	0	0		
Lane Group Flow (vph)	0	59	0	0	223	0	0	683	0	0	841	0		
Confl. Peds. (#/hr)							1					1		
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	17%	11%	10%	8%	10%	17%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA			
Protected Phases		3			3			2		1	6			
Permitted Phases	3			3			2			6				
Actuated Green, G (s)		20.6			20.6			79.4			79.4			
Effective Green, g (s)		20.6			20.6			79.4			79.4			
Actuated g/C Ratio		0.19			0.19			0.72			0.72			
Clearance Time (s)		5.0			5.0			5.0			5.0			
Vehicle Extension (s)		2.0			2.0			2.0			2.0			
Lane Grp Cap (vph)		218			279			2118			1410			
v/s Ratio Prot														
v/s Ratio Perm		0.05			0.15			0.23			0.43			
v/c Ratio		0.27			0.80			0.32			0.60			
Uniform Delay, d1		38.3			42.7			5.5			7.5			
Progression Factor		1.00			1.00			1.00			1.00			
Incremental Delay, d2		0.2			13.9			0.4			0.5			
Delay (s)		38.5			56.6			6.0			7.9			
Level of Service		D			E			A			A			
Approach Delay (s)		38.5			56.6			6.0			7.9			
Approach LOS		D			E			A			A			
Intersection Summary														
HCM 2000 Control Delay			16.3									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.67											
Actuated Cycle Length (s)			110.0								15.0			
Intersection Capacity Utilization			72.6%										ICU Level of Service	C
Analysis Period (min)			15											
c Critical Lane Group														

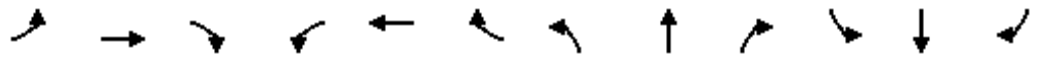
HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS No-Build_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗		
Traffic Volume (vph)	195	13	250	13	9	8	240	275	2	10	536	200	
Future Volume (vph)	195	13	250	13	9	8	240	275	2	10	536	200	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11	
Grade (%)		-3%			0%			0%				0%	
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0		
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95		
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00		
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00		
Frt		1.00	0.85		1.00	0.85		1.00			0.96		
Flt Protected		0.96	1.00		0.97	1.00		0.98			1.00		
Satd. Flow (prot)		1686	1468		1845	1615		3122			2991		
Flt Permitted		0.96	1.00		0.70	1.00		0.54			0.95		
Satd. Flow (perm)		1686	1468		1329	1615		1711			2829		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	207	14	266	14	10	9	255	293	2	11	570	213	
RTOR Reduction (vph)	0	0	202	0	0	9	0	0	0	0	19	0	
Lane Group Flow (vph)	0	221	64	0	24	0	0	550	0	0	775	0	
Confl. Peds. (#/hr)			1	1					4	4			
Heavy Vehicles (%)	6%	0%	7%	0%	0%	0%	6%	12%	0%	38%	11%	13%	
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA		
Protected Phases	3	3	1		4	4	1	1 2			2		
Permitted Phases			3	4			2			2			
Actuated Green, G (s)		21.2	31.2		5.2	5.2		83.6			73.6		
Effective Green, g (s)		21.2	31.2		5.2	5.2		83.6			73.6		
Actuated g/C Ratio		0.16	0.24		0.04	0.04		0.64			0.57		
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0		
Lane Grp Cap (vph)		274	352		53	64		1208			1601		
v/s Ratio Prot		c0.13	0.01			0.00		c0.03					
v/s Ratio Perm			0.03		c0.02			0.26			c0.27		
v/c Ratio		0.81	0.18		0.45	0.01		0.46			0.48		
Uniform Delay, d1		52.4	39.3		61.0	59.9		11.7			16.9		
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00		
Incremental Delay, d2		15.8	0.2		6.0	0.0		0.3			1.0		
Delay (s)		68.2	39.5		67.0	60.0		12.0			17.9		
Level of Service		E	D		E	E		B			B		
Approach Delay (s)		52.5			65.1			12.0			17.9		
Approach LOS		D			E			B			B		
Intersection Summary													
HCM 2000 Control Delay			26.0		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.54										
Actuated Cycle Length (s)			130.0		Sum of lost time (s)						20.0		
Intersection Capacity Utilization			66.8%		ICU Level of Service						C		
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANMS Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS No-Build_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	61	54	106	85	45	26	119	566	93	36	555	65
Future Volume (vph)	61	54	106	85	45	26	119	566	93	36	555	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.97			0.99			1.00	
Satd. Flow (prot)		1702			1549			3064			2998	
Flt Permitted		0.85			0.56			0.99			1.00	
Satd. Flow (perm)		1459			890			3064			2998	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	66	58	114	91	48	28	128	609	100	39	597	70
RTOR Reduction (vph)	0	31	0	0	7	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	207	0	0	160	0	0	837	0	0	698	0
Heavy Vehicles (%)	2%	4%	3%	11%	0%	64%	7%	13%	4%	50%	13%	6%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		21.5			21.5			41.8			29.7	
Effective Green, g (s)		21.5			21.5			41.8			29.7	
Actuated g/C Ratio		0.20			0.20			0.38			0.27	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		285			173			1164			809	
v/s Ratio Prot								c0.27			c0.23	
v/s Ratio Perm		0.14			c0.18							
v/c Ratio		0.72			0.92			0.72			0.86	
Uniform Delay, d1		41.5			43.4			29.1			38.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.5			46.0			3.8			9.1	
Delay (s)		49.0			89.4			32.9			47.3	
Level of Service		D			F			C			D	
Approach Delay (s)		49.0			89.4			32.9			47.3	
Approach LOS		D			F			C			D	

Intersection Summary		
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.81	D
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	70.8%	17.0
Analysis Period (min)	15	ICU Level of Service
		C

c Critical Lane Group

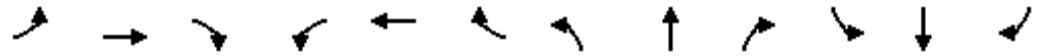
HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

4: NYS Route 303 & Glenshaw St
No-Build_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	21	39	614	635	51
Future Volume (Veh/h)	24	21	39	614	635	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	22	41	646	668	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1100	361	722			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1100	361	722			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	82	96	95			
cM capacity (veh/h)	141	531	889			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	47	256	431	445	277	
Volume Left	25	41	0	0	0	
Volume Right	22	0	0	0	54	
cSH	215	889	1700	1700	1700	
Volume to Capacity	0.22	0.05	0.25	0.26	0.16	
Queue Length 95th (ft)	20	4	0	0	0	
Control Delay (s)	26.3	1.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	26.3	0.7		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	50.6%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS No-Build _PM Peak Hour

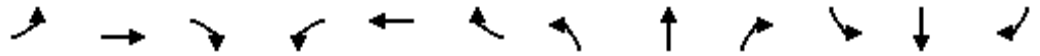


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	29	11	93	53	336	16	593	49	226	768	22
Future Volume (vph)	25	29	11	93	53	336	16	593	49	226	768	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.91			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1974			1634			3322			3297	
Flt Permitted		0.71			0.92			0.91			0.63	
Satd. Flow (perm)		1424			1515			3027			2084	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	32	12	102	58	369	18	652	54	248	844	24
RTOR Reduction (vph)	0	7	0	0	77	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	64	0	0	452	0	0	720	0	0	1116	0
Heavy Vehicles (%)	4%	0%	0%	1%	6%	5%	0%	4%	2%	4%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		34.0			34.0			66.0			66.0	
Effective Green, g (s)		34.0			34.0			66.0			66.0	
Actuated g/C Ratio		0.31			0.31			0.60			0.60	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		440			468			1816			1250	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.30			0.24			c0.54	
v/c Ratio		0.15			0.97			0.40			0.89	
Uniform Delay, d1		27.5			37.4			11.5			19.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			32.6			0.7			8.2	
Delay (s)		27.5			70.0			12.2			27.2	
Level of Service		C			E			B			C	
Approach Delay (s)		27.5			70.0			12.2			27.2	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	90.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS No-Build _PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	262	16	211	23	40	12	258	688	8	4	782	300
Future Volume (vph)	262	16	211	23	40	12	258	688	8	4	782	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1866	1615		3279			3220	
Flt Permitted		0.96	1.00		0.76	1.00		0.50			0.95	
Satd. Flow (perm)		1613	1538		1444	1615		1653			3066	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	276	17	222	24	42	13	272	724	8	4	823	316
RTOR Reduction (vph)	0	0	163	0	0	12	0	0	0	0	23	0
Lane Group Flow (vph)	0	293	59	0	66	1	0	1004	0	0	1120	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	6%	0%	0%	5%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA			Perm	NA
Protected Phases	3	3	1		4	4	1	12				2
Permitted Phases			3	4			2				2	
Actuated Green, G (s)		24.8	34.8		9.5	9.5		75.7			65.7	
Effective Green, g (s)		24.8	34.8		9.5	9.5		75.7			65.7	
Actuated g/C Ratio		0.19	0.27		0.07	0.07		0.58			0.51	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		307	411		105	118		1087			1549	
v/s Ratio Prot		c0.18	0.01			0.00		c0.07				
v/s Ratio Perm			0.03		c0.05			c0.47			0.37	
v/c Ratio		0.95	0.14		0.63	0.01		1.03dl			0.72	
Uniform Delay, d1		52.0	36.3		58.5	55.9		24.5			25.1	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		39.0	0.2		11.2	0.0		12.7			3.0	
Delay (s)		91.0	36.4		69.7	55.9		37.2			28.0	
Level of Service		F	D		E	E		D			C	
Approach Delay (s)		67.5			67.5			37.2			28.0	
Approach LOS		E			E			D			C	

Intersection Summary		
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.90	
Actuated Cycle Length (s)	130.0	Sum of lost time (s) 20.0
Intersection Capacity Utilization	92.6%	ICU Level of Service F
Analysis Period (min)	15	

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANMS Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS No-Build _PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	53	37	90	173	46	46	163	706	73	23	823	37
Future Volume (vph)	53	37	90	173	46	46	163	706	73	23	823	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.93			0.98			0.99			0.99	
Flt Protected		0.99			0.97			0.99			1.00	
Satd. Flow (prot)		1712			1738			3179			3264	
Flt Permitted		0.85			0.60			0.99			1.00	
Satd. Flow (perm)		1479			1083			3179			3264	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	57	40	97	186	49	49	175	759	78	25	885	40
RTOR Reduction (vph)	0	32	0	0	7	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	162	0	0	277	0	0	1012	0	0	947	0
Heavy Vehicles (%)	0%	0%	4%	2%	0%	12%	3%	9%	4%	50%	5%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.5			33.5	
Effective Green, g (s)		25.0			25.0			34.5			33.5	
Actuated g/C Ratio		0.23			0.23			0.31			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		336			246			997			994	
v/s Ratio Prot								c0.32			c0.29	
v/s Ratio Perm		0.11			c0.26							
v/c Ratio		0.48			1.13			1.02			0.95	
Uniform Delay, d1		36.9			42.5			37.8			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.4			95.6			32.3			18.0	
Delay (s)		37.3			138.1			70.1			55.5	
Level of Service		D			F			E			E	
Approach Delay (s)		37.3			138.1			70.1			55.5	
Approach LOS		D			F			E			E	

Intersection Summary		
HCM 2000 Control Delay	69.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.02	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	94.7%	17.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	56	10	795	827	19
Future Volume (Veh/h)	38	56	10	795	827	19
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	60	11	855	889	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1348	454	909			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1348	454	909			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	66	89	98			
cM capacity (veh/h)	121	531	446			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	101	296	570	593	316	
Volume Left	41	11	0	0	0	
Volume Right	60	0	0	0	20	
cSH	224	446	1700	1700	1700	
Volume to Capacity	0.45	0.02	0.34	0.35	0.19	
Queue Length 95th (ft)	54	2	0	0	0	
Control Delay (s)	33.6	0.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	33.6	0.3		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.9					
Intersection Capacity Utilization	41.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS

Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕			↕			↕			↕			
Traffic Volume (vph)	25	29	7	59	30	231	7	593	64	244	539	20		
Future Volume (vph)	25	29	7	59	30	231	7	593	64	244	539	20		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11		
Total Lost time (s)		5.0			5.0			5.0			5.0			
Lane Util. Factor		1.00			1.00			0.95			0.95			
Frbp, ped/bikes		1.00			1.00			1.00			1.00			
Flpb, ped/bikes		1.00			1.00			1.00			1.00			
Frt		0.99			0.90			0.99			1.00			
Flt Protected		0.98			0.99			1.00			0.99			
Satd. Flow (prot)		1803			1591			3127			3152			
Flt Permitted		0.63			0.93			0.95			0.61			
Satd. Flow (perm)		1157			1492			2963			1957			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95		
Adj. Flow (vph)	26	31	7	62	32	243	7	624	67	257	567	21		
RTOR Reduction (vph)	0	5	0	0	100	0	0	3	0	0	0	0		
Lane Group Flow (vph)	0	59	0	0	237	0	0	695	0	0	845	0		
Confl. Peds. (#/hr)							1					1		
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA			
Protected Phases		3			3			2		1	6			
Permitted Phases	3			3			2			6				
Actuated Green, G (s)		21.6			21.6			78.4			78.4			
Effective Green, g (s)		21.6			21.6			78.4			78.4			
Actuated g/C Ratio		0.20			0.20			0.71			0.71			
Clearance Time (s)		5.0			5.0			5.0			5.0			
Vehicle Extension (s)		2.0			2.0			2.0			2.0			
Lane Grp Cap (vph)		227			292			2111			1394			
v/s Ratio Prot														
v/s Ratio Perm		0.05			0.16			0.23			0.43			
v/c Ratio		0.26			0.81			0.33			0.61			
Uniform Delay, d1		37.4			42.3			5.9			8.0			
Progression Factor		1.00			1.00			1.00			1.00			
Incremental Delay, d2		0.2			15.0			0.4			0.5			
Delay (s)		37.7			57.2			6.3			8.5			
Level of Service		D			E			A			A			
Approach Delay (s)		37.7			57.2			6.3			8.5			
Approach LOS		D			E			A			A			
Intersection Summary														
HCM 2000 Control Delay			17.1									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.68											
Actuated Cycle Length (s)			110.0								15.0			
Intersection Capacity Utilization			74.3%										ICU Level of Service	D
Analysis Period (min)			15											
c Critical Lane Group														

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	216	13	250	13	9	8	240	607	2	10	540	203
Future Volume (vph)	216	13	250	13	9	8	240	607	2	10	540	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%			0%	
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.95	1.00		0.97	1.00		0.99			1.00	
Satd. Flow (prot)		1700	1467		1845	1615		3168			3009	
Flt Permitted		0.95	1.00		0.69	1.00		0.57			0.94	
Satd. Flow (perm)		1700	1467		1307	1615		1831			2826	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	230	14	266	14	10	9	255	646	2	11	574	216
RTOR Reduction (vph)	0	0	200	0	0	9	0	0	0	0	19	0
Lane Group Flow (vph)	0	244	66	0	24	0	0	903	0	0	782	0
Confl. Peds. (#/hr)			1	1					4	4		
Heavy Vehicles (%)	5%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	13%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	12			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		22.3	32.3		5.2	5.2		82.5			72.5	
Effective Green, g (s)		22.3	32.3		5.2	5.2		82.5			72.5	
Actuated g/C Ratio		0.17	0.25		0.04	0.04		0.63			0.56	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		291	364		52	64		1264			1576	
v/s Ratio Prot		c0.14	0.01			0.00		c0.05				
v/s Ratio Perm			0.03		c0.02			c0.40			0.28	
v/c Ratio		0.84	0.18		0.46	0.01		0.71			0.50	
Uniform Delay, d1		52.1	38.4		61.0	59.9		15.9			17.6	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		18.6	0.2		6.4	0.0		1.9			1.1	
Delay (s)		70.7	38.7		67.4	60.0		17.8			18.7	
Level of Service		E	D		E	E		B			B	
Approach Delay (s)		54.0			65.4			17.8			18.7	
Approach LOS		D			E			B			B	

Intersection Summary		
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.73	C
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	77.3%	20.0
Analysis Period (min)	15	ICU Level of Service
		D

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANMS Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	66	55	107	85	60	26	172	566	93	36	561	65
Future Volume (vph)	66	55	107	85	60	26	172	566	93	36	561	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.98			0.99			1.00	
Satd. Flow (prot)		1699			1681			3100			3079	
Flt Permitted		0.82			0.58			0.99			1.00	
Satd. Flow (perm)		1409			1000			3100			3079	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	71	59	115	91	65	28	185	609	100	39	603	70
RTOR Reduction (vph)	0	30	0	0	6	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	215	0	0	178	0	0	894	0	0	704	0
Heavy Vehicles (%)	3%	4%	3%	8%	0%	27%	5%	12%	3%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		21.5			21.5			42.0			29.5	
Effective Green, g (s)		21.5			21.5			42.0			29.5	
Actuated g/C Ratio		0.20			0.20			0.38			0.27	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		275			195			1183			825	
v/s Ratio Prot								c0.29			c0.23	
v/s Ratio Perm		0.15			c0.18							
v/c Ratio		0.78			0.91			0.76			0.85	
Uniform Delay, d1		42.0			43.3			29.5			38.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		12.5			39.7			4.5			8.2	
Delay (s)		54.6			83.0			34.1			46.4	
Level of Service		D			F			C			D	
Approach Delay (s)		54.6			83.0			34.1			46.4	
Approach LOS		D			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	45.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	21	39	619	668	51
Future Volume (Veh/h)	24	21	39	619	668	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	22	41	652	703	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1138	378	757			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1138	378	757			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	81	96	95			
cM capacity (veh/h)	132	516	863			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	47	258	435	469	288	
Volume Left	25	41	0	0	0	
Volume Right	22	0	0	0	54	
cSH	203	863	1700	1700	1700	
Volume to Capacity	0.23	0.05	0.26	0.28	0.17	
Queue Length 95th (ft)	22	4	0	0	0	
Control Delay (s)	28.0	1.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	28.0	0.7		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	51.7%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	221	233	64	8	1
Future Volume (Veh/h)	11	221	233	64	8	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	12	238	251	69	9	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	320			548	286	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	320			548	286	
tC, single (s)	4.1			6.5	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.6	3.3	
p0 queue free %	99			98	100	
cM capacity (veh/h)	1251			475	758	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	250	320	10			
Volume Left	12	0	9			
Volume Right	0	69	1			
cSH	1251	1700	493			
Volume to Capacity	0.01	0.19	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.5	0.0	12.5			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			30.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕↗	
Traffic Volume (veh/h)	0	6	0	658	656	33
Future Volume (Veh/h)	0	6	0	658	656	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	6	0	708	705	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.88					
vC, conflicting volume	1076	370	740			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	825	370	740			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	278	633	876			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	6	354	354	470	270	
Volume Left	0	0	0	0	0	
Volume Right	6	0	0	0	35	
cSH	633	1700	1700	1700	1700	
Volume to Capacity	0.01	0.21	0.21	0.28	0.16	
Queue Length 95th (ft)	1	0	0	0	0	
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.7	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	29.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS

Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	29	11	93	53	337	16	594	49	236	773	22
Future Volume (vph)	25	29	11	93	53	337	16	594	49	236	773	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.91			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1967			1634			3322			3303	
Flt Permitted		0.71			0.92			0.91			0.62	
Satd. Flow (perm)		1418			1515			3025			2078	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	32	12	102	58	370	18	653	54	259	849	24
RTOR Reduction (vph)	0	7	0	0	77	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	64	0	0	453	0	0	721	0	0	1132	0
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		34.0			34.0			66.0			66.0	
Effective Green, g (s)		34.0			34.0			66.0			66.0	
Actuated g/C Ratio		0.31			0.31			0.60			0.60	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		438			468			1815			1246	
v/s Ratio Prot												
v/s Ratio Perm		0.05			0.30			0.24			0.54	
v/c Ratio		0.15			0.97			0.40			0.91	
Uniform Delay, d1		27.5			37.5			11.6			19.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			33.0			0.7			9.5	
Delay (s)		27.6			70.5			12.2			28.9	
Level of Service		C			E			B			C	
Approach Delay (s)		27.6			70.5			12.2			28.9	
Approach LOS		C			E			B			C	

Intersection Summary

HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	263	16	211	23	40	12	258	690	8	4	797	310
Future Volume (vph)	263	16	211	23	40	12	258	690	8	4	797	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1866	1615		3302			3241	
Flt Permitted		0.96	1.00		0.76	1.00		0.50			0.95	
Satd. Flow (perm)		1613	1538		1443	1615		1661			3086	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	277	17	222	24	42	13	272	726	8	4	839	326
RTOR Reduction (vph)	0	0	163	0	0	12	0	0	0	0	24	0
Lane Group Flow (vph)	0	294	59	0	66	1	0	1006	0	0	1145	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA			Perm	NA
Protected Phases	3	3	1		4	4	1	12				2
Permitted Phases			3	4			2				2	
Actuated Green, G (s)		24.8	34.8		9.5	9.5		75.7			65.7	
Effective Green, g (s)		24.8	34.8		9.5	9.5		75.7			65.7	
Actuated g/C Ratio		0.19	0.27		0.07	0.07		0.58			0.51	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		307	411		105	118		1093			1559	
v/s Ratio Prot		c0.18	0.01			0.00		c0.07				
v/s Ratio Perm			0.03		c0.05			c0.46			0.37	
v/c Ratio		0.96	0.14		0.63	0.01		1.05dl			0.73	
Uniform Delay, d1		52.1	36.3		58.5	55.9		24.4			25.3	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		39.6	0.2		11.2	0.0		12.3			3.1	
Delay (s)		91.7	36.4		69.7	55.9		36.7			28.4	
Level of Service		F	D		E	E		D			C	
Approach Delay (s)		67.9			67.5			36.7			28.4	
Approach LOS		E			E			D			C	

Intersection Summary		
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.90	D
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	93.5%	20.0
Analysis Period (min)	15	ICU Level of Service
		F

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	70	42	95	173	47	46	167	706	93	23	843	37
Future Volume (vph)	70	42	95	173	47	46	167	706	93	23	843	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1723			1777			3197			3315	
Flt Permitted		0.82			0.59			0.99			1.00	
Satd. Flow (perm)		1441			1080			3197			3315	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	75	45	102	186	51	49	180	759	100	25	906	40
RTOR Reduction (vph)	0	28	0	0	7	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	194	0	0	279	0	0	1039	0	0	968	0
Heavy Vehicles (%)	1%	0%	3%	1%	0%	3%	3%	8%	3%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.4			33.6	
Effective Green, g (s)		25.0			25.0			34.4			33.6	
Actuated g/C Ratio		0.23			0.23			0.31			0.31	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		327			245			999			1012	
v/s Ratio Prot								c0.32			c0.29	
v/s Ratio Perm		0.13			c0.26							
v/c Ratio		0.59			1.14			1.04			0.96	
Uniform Delay, d1		38.0			42.5			37.8			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.9			100.1			39.4			18.4	
Delay (s)		39.9			142.6			77.2			55.9	
Level of Service		D			F			E			E	
Approach Delay (s)		39.9			142.6			77.2			55.9	
Approach LOS		D			F			E			E	

Intersection Summary		
HCM 2000 Control Delay	73.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.04	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	93.8%	17.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	56	10	812	830	19
Future Volume (Veh/h)	38	56	10	812	830	19
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	60	11	873	892	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1360	456	912			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1360	456	912			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	66	89	98			
cM capacity (veh/h)	119	530	445			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	101	302	582	595	317	
Volume Left	41	11	0	0	0	
Volume Right	60	0	0	0	20	
cSH	221	445	1700	1700	1700	
Volume to Capacity	0.46	0.02	0.34	0.35	0.19	
Queue Length 95th (ft)	55	2	0	0	0	
Control Delay (s)	34.4	0.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	34.4	0.3		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	2.0					
Intersection Capacity Utilization	41.7%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↘	
Traffic Volume (veh/h)	1	180	246	4	27	5
Future Volume (Veh/h)	1	180	246	4	27	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	194	265	4	29	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	269			463	267	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	269			463	267	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			95	99	
cM capacity (veh/h)	1306			553	777	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	195	269	34			
Volume Left	1	0	29			
Volume Right	0	4	5			
cSH	1306	1700	577			
Volume to Capacity	0.00	0.16	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			23.2%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (veh/h)	0	20	0	822	882	3
Future Volume (Veh/h)	0	20	0	822	882	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	22	0	884	948	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.78					
vC, conflicting volume	1392	476	951			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	944	476	951			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	207	541	730			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	22	442	442	632	319	
Volume Left	0	0	0	0	0	
Volume Right	22	0	0	0	3	
cSH	541	1700	1700	1700	1700	
Volume to Capacity	0.04	0.26	0.26	0.37	0.19	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	11.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	11.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	34.5%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	9	72	37	277	8	707	78	296	649	24
Future Volume (vph)	31	35	9	72	37	277	8	707	78	296	649	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.98	
Satd. Flow (prot)		1799			1591			3126			3152	
Flt Permitted		0.63			0.93			0.94			0.57	
Satd. Flow (perm)		1158			1487			2954			1833	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	37	9	76	39	292	8	744	82	312	683	25
RTOR Reduction (vph)	0	5	0	0	92	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	74	0	0	315	0	0	830	0	0	1020	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		26.7			26.7			73.3			73.3	
Effective Green, g (s)		26.7			26.7			73.3			73.3	
Actuated g/C Ratio		0.24			0.24			0.67			0.67	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		281			360			1968			1221	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.21			0.28			c0.56	
v/c Ratio		0.26			0.87			0.42			0.89dl	
Uniform Delay, d1		33.7			40.0			8.5			13.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			19.7			0.7			4.9	
Delay (s)		33.9			59.7			9.2			18.7	
Level of Service		C			E			A			B	
Approach Delay (s)		33.9			59.7			9.2			18.7	
Approach LOS		C			E			A			B	

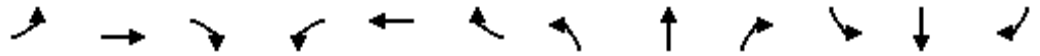
Intersection Summary

HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2043_AM Peak Hour

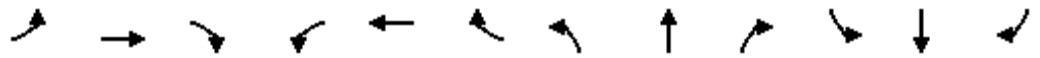


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	259	16	305	16	11	10	292	720	2	12	649	247
Future Volume (vph)	259	16	305	16	11	10	292	720	2	12	649	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.97	1.00		0.99			1.00	
Satd. Flow (prot)		1700	1467		1845	1615		3168			3008	
Flt Permitted		0.96	1.00		0.66	1.00		0.53			0.93	
Satd. Flow (perm)		1700	1467		1258	1615		1700			2806	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	276	17	324	17	12	11	311	766	2	13	690	263
RTOR Reduction (vph)	0	0	239	0	0	11	0	0	0	0	21	0
Lane Group Flow (vph)	0	293	85	0	29	0	0	1079	0	0	945	0
Confl. Peds. (#/hr)			1	1					4	4		
Heavy Vehicles (%)	5%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	13%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	1 2			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		24.2	34.2		5.6	5.6		80.2			70.2	
Effective Green, g (s)		24.2	34.2		5.6	5.6		80.2			70.2	
Actuated g/C Ratio		0.19	0.26		0.04	0.04		0.62			0.54	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		316	385		54	69		1161			1515	
v/s Ratio Prot		c0.17	0.02			0.00		c0.07				
v/s Ratio Perm			0.04		c0.02			c0.50			0.34	
v/c Ratio		0.93	0.22		0.54	0.01		0.93			0.62	
Uniform Delay, d1		52.0	37.5		60.9	59.5		22.4			20.7	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		32.0	0.3		9.9	0.0		12.7			1.9	
Delay (s)		84.0	37.8		70.8	59.6		35.1			22.7	
Level of Service		F	D		E	E		D			C	
Approach Delay (s)		59.7			67.7			35.1			22.7	
Approach LOS		E			E			D			C	

Intersection Summary		
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.91	D
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	89.0%	20.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	79	65	130	100	70	28	198	685	106	38	678	79
Future Volume (vph)	79	65	130	100	70	28	198	685	106	38	678	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.98			0.99			1.00	
Satd. Flow (prot)		1698			1685			3104			3080	
Flt Permitted		0.81			0.56			0.99			1.00	
Satd. Flow (perm)		1398			960			3104			3080	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	85	70	140	108	75	30	213	737	114	41	729	85
RTOR Reduction (vph)	0	30	0	0	5	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	265	0	0	208	0	0	1064	0	0	847	0
Heavy Vehicles (%)	3%	4%	3%	8%	0%	27%	5%	12%	2%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		24.5			24.5			35.8			32.7	
Effective Green, g (s)		24.5			24.5			35.8			32.7	
Actuated g/C Ratio		0.22			0.22			0.33			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		311			213			1010			915	
v/s Ratio Prot								c0.34			c0.28	
v/s Ratio Perm		0.19			c0.22							
v/c Ratio		0.85			0.97			1.05			0.93	
Uniform Delay, d1		41.0			42.4			37.1			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		19.1			53.7			43.5			14.6	
Delay (s)		60.1			96.2			80.6			52.1	
Level of Service		E			F			F			D	
Approach Delay (s)		60.1			96.2			80.6			52.1	
Approach LOS		E			F			F			D	

Intersection Summary		
HCM 2000 Control Delay	69.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.99	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	83.5%	17.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	26	48	745	797	62
Future Volume (Veh/h)	29	26	48	745	797	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	27	51	784	839	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	452	904			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	452	904			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	65	94	93			
cM capacity (veh/h)	88	456	761			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	58	312	523	559	345	
Volume Left	31	51	0	0	0	
Volume Right	27	0	0	0	65	
cSH	141	761	1700	1700	1700	
Volume to Capacity	0.41	0.07	0.31	0.33	0.20	
Queue Length 95th (ft)	45	5	0	0	0	
Control Delay (s)	47.5	2.3	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	47.5	0.9		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay	1.9					
Intersection Capacity Utilization	59.3%			ICU Level of Service	B	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↙	↘
Traffic Volume (veh/h)	11	268	283	64	8	1
Future Volume (Veh/h)	11	268	283	64	8	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	12	288	304	69	9	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			489			
pX, platoon unblocked						
vC, conflicting volume	373				650	338
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	373				650	338
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.6	3.3
p0 queue free %	99				98	100
cM capacity (veh/h)	1197				412	708
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	300	373	10			
Volume Left	12	0	9			
Volume Right	0	69	1			
cSH	1197	1700	430			
Volume to Capacity	0.01	0.22	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.4	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			33.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2043_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↘
Traffic Volume (veh/h)	0	6	0	793	790	33
Future Volume (Veh/h)	0	6	0	793	790	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	6	0	853	849	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.77					
vC, conflicting volume	1293	442	884			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	783	442	884			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	258	569	774			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	6	426	426	566	318	
Volume Left	0	0	0	0	0	
Volume Right	6	0	0	0	35	
cSH	569	1700	1700	1700	1700	
Volume to Capacity	0.01	0.25	0.25	0.33	0.19	
Queue Length 95th (ft)	1	0	0	0	0	
Control Delay (s)	11.4	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	11.4	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	32.9%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	13	110	65	410	19	717	60	283	929	27
Future Volume (vph)	31	35	13	110	65	410	19	717	60	283	929	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.91			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1966			1633			3321			3303	
Flt Permitted		0.62			0.92			0.89			0.58	
Satd. Flow (perm)		1248			1513			2969			1933	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	34	38	14	121	71	451	21	788	66	311	1021	30
RTOR Reduction (vph)	0	6	0	0	77	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	80	0	0	566	0	0	871	0	0	1362	0
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		35.0			35.0			65.0			65.0	
Effective Green, g (s)		35.0			35.0			65.0			65.0	
Actuated g/C Ratio		0.32			0.32			0.59			0.59	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		397			481			1754			1142	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.37			0.29			c0.70	
v/c Ratio		0.20			1.18			0.50			1.19	
Uniform Delay, d1		27.3			37.5			13.0			22.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			99.4			1.0			95.5	
Delay (s)		27.4			136.9			14.0			118.0	
Level of Service		C			F			B			F	
Approach Delay (s)		27.4			136.9			14.0			118.0	
Approach LOS		C			F			B			F	
Intersection Summary												
HCM 2000 Control Delay			88.8									F
HCM 2000 Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			110.0						15.0			
Intersection Capacity Utilization			107.4%									G
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2145 Route 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS

Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↖↗			↖↗	
Traffic Volume (vph)	321	20	257	28	49	15	314	835	10	5	954	376
Future Volume (vph)	321	20	257	28	49	15	314	835	10	5	954	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1867	1615		3302			3240	
Flt Permitted		0.96	1.00		0.74	1.00		0.51			0.95	
Satd. Flow (perm)		1613	1538		1400	1615		1699			3080	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	338	21	271	29	52	16	331	879	11	5	1004	396
RTOR Reduction (vph)	0	0	198	0	0	15	0	0	0	0	25	0
Lane Group Flow (vph)	0	359	73	0	81	1	0	1221	0	0	1380	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA			Perm	NA
Protected Phases	3	3	1		4	4	1	1 2				2
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		25.0	35.0		10.8	10.8		74.2			64.2	
Effective Green, g (s)		25.0	35.0		10.8	10.8		74.2			64.2	
Actuated g/C Ratio		0.19	0.27		0.08	0.08		0.57			0.49	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		310	414		116	134		1093			1521	
v/s Ratio Prot		c0.22	0.01			0.00		c0.09				
v/s Ratio Perm			0.03		c0.06			c0.55			0.45	
v/c Ratio		1.16	0.18		0.70	0.01		1.71dl			0.91	
Uniform Delay, d1		52.5	36.4		58.0	54.7		27.9			30.2	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		101.1	0.2		16.8	0.0		65.2			9.5	
Delay (s)		153.6	36.6		74.8	54.7		93.1			39.6	
Level of Service		F	D		E	D		F			D	
Approach Delay (s)		103.3			71.5			93.1			39.6	
Approach LOS		F			E			F			D	

Intersection Summary		
HCM 2000 Control Delay	72.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.08	E
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	109.1%	ICU Level of Service
Analysis Period (min)	15	H

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	82	49	115	201	55	48	203	858	110	26	1019	45
Future Volume (vph)	82	49	115	201	55	48	203	858	110	26	1019	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1721			1780			3198			3317	
Flt Permitted		0.82			0.54			0.99			1.00	
Satd. Flow (perm)		1442			1001			3198			3317	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	88	53	124	216	59	52	218	923	118	28	1096	48
RTOR Reduction (vph)	0	29	0	0	6	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	236	0	0	321	0	0	1259	0	0	1169	0
Heavy Vehicles (%)	1%	0%	3%	1%	0%	3%	3%	8%	3%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.0			34.0	
Effective Green, g (s)		25.0			25.0			34.0			34.0	
Actuated g/C Ratio		0.23			0.23			0.31			0.31	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		327			227			988			1025	
v/s Ratio Prot								c0.39			c0.35	
v/s Ratio Perm		0.16			c0.32							
v/c Ratio		0.72			1.41			1.27			1.14	
Uniform Delay, d1		39.3			42.5			38.0			38.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.6			210.0			131.4			75.3	
Delay (s)		45.8			252.5			169.4			113.3	
Level of Service		D			F			F			F	
Approach Delay (s)		45.8			252.5			169.4			113.3	
Approach LOS		D			F			F			F	

Intersection Summary		
HCM 2000 Control Delay	145.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.26	F
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	109.3%	17.0
Analysis Period (min)	15	ICU Level of Service
		H

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	68	12	975	1005	23
Future Volume (Veh/h)	46	68	12	975	1005	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	49	73	13	1048	1081	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1644	553	1106			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1644	553	1106			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	35	84	96			
cM capacity (veh/h)	75	457	355			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	122	362	699	721	385	
Volume Left	49	13	0	0	0	
Volume Right	73	0	0	0	25	
cSH	150	355	1700	1700	1700	
Volume to Capacity	0.81	0.04	0.41	0.42	0.23	
Queue Length 95th (ft)	131	3	0	0	0	
Control Delay (s)	90.1	1.2	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	90.1	0.4		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	5.0					
Intersection Capacity Utilization	48.8%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	219	298	4	27	5
Future Volume (Veh/h)	1	219	298	4	27	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	235	320	4	29	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	324				559	322
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324				559	322
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	99
cM capacity (veh/h)	1247				486	724
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	236	324	34			
Volume Left	1	0	29			
Volume Right	0	4	5			
cSH	1247	1700	511			
Volume to Capacity	0.00	0.19	0.07			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.0	0.0	12.5			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			25.9%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	20	0	988	1070	3
Future Volume (Veh/h)	0	20	0	988	1070	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	22	0	1062	1151	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.73					
vC, conflicting volume	1684	577	1154			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1208	577	1154			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	95	100			
cM capacity (veh/h)	131	465	613			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	22	531	531	767	387	
Volume Left	0	0	0	0	0	
Volume Right	22	0	0	0	3	
cSH	465	1700	1700	1700	1700	
Volume to Capacity	0.05	0.31	0.31	0.45	0.23	
Queue Length 95th (ft)	4	0	0	0	0	
Control Delay (s)	13.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	13.1	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	39.7%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	29	7	59	30	216	7	586	64	242	539	20
Future Volume (vph)	25	29	7	59	30	216	7	586	64	242	539	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1803			1593			3126			3152	
Flt Permitted		0.63			0.93			0.95			0.61	
Satd. Flow (perm)		1166			1491			2962			1967	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	31	7	62	32	227	7	617	67	255	567	21
RTOR Reduction (vph)	0	5	0	0	94	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	59	0	0	227	0	0	688	0	0	843	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		20.9			20.9			79.1			79.1	
Effective Green, g (s)		20.9			20.9			79.1			79.1	
Actuated g/C Ratio		0.19			0.19			0.72			0.72	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		221			283			2129			1414	
v/s Ratio Prot												
v/s Ratio Perm		0.05			0.15			0.23			0.43	
v/c Ratio		0.27			0.80			0.32			0.60	
Uniform Delay, d1		38.0			42.6			5.7			7.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			14.2			0.4			0.5	
Delay (s)		38.3			56.8			6.1			8.1	
Level of Service		D			E			A			A	
Approach Delay (s)		38.3			56.8			6.1			8.1	
Approach LOS		D			E			A			A	

Intersection Summary

HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	201	13	250	13	9	8	240	585	2	10	538	202
Future Volume (vph)	201	13	250	13	9	8	240	585	2	10	538	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.97	1.00		0.99			1.00	
Satd. Flow (prot)		1686	1468		1845	1615		3168			3009	
Flt Permitted		0.96	1.00		0.70	1.00		0.57			0.94	
Satd. Flow (perm)		1686	1468		1322	1615		1829			2828	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	214	14	266	14	10	9	255	622	2	11	572	215
RTOR Reduction (vph)	0	0	202	0	0	9	0	0	0	0	19	0
Lane Group Flow (vph)	0	228	64	0	24	0	0	879	0	0	779	0
Confl. Peds. (#/hr)			1	1					4	4		
Heavy Vehicles (%)	6%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	13%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	12			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		21.5	31.5		5.2	5.2		83.3			73.3	
Effective Green, g (s)		21.5	31.5		5.2	5.2		83.3			73.3	
Actuated g/C Ratio		0.17	0.24		0.04	0.04		0.64			0.56	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		278	355		52	64		1274			1594	
v/s Ratio Prot		c0.14	0.01			0.00		c0.05				
v/s Ratio Perm			0.03		c0.02			c0.39			0.28	
v/c Ratio		0.82	0.18		0.46	0.01		0.69			0.49	
Uniform Delay, d1		52.4	39.0		61.0	59.9		15.0			17.1	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		17.3	0.2		6.4	0.0		1.6			1.1	
Delay (s)		69.7	39.3		67.4	60.0		16.6			18.1	
Level of Service		E	D		E	E		B			B	
Approach Delay (s)		53.3			65.4			16.6			18.1	
Approach LOS		D			E			B			B	

Intersection Summary		
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.70	
Actuated Cycle Length (s)	130.0	Sum of lost time (s) 20.0
Intersection Capacity Utilization	75.8%	ICU Level of Service D
Analysis Period (min)	15	

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANMS Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	66	55	107	85	52	26	135	566	93	36	558	65
Future Volume (vph)	66	55	107	85	52	26	135	566	93	36	558	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Fr _t		0.94			0.98			0.98			0.99	
Fl _t Protected		0.99			0.97			0.99			1.00	
Satd. Flow (prot)		1690			1670			3096			3079	
Fl _t Permitted		0.83			0.56			0.99			1.00	
Satd. Flow (perm)		1416			968			3096			3079	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	71	59	115	91	56	28	145	609	100	39	600	70
RTOR Reduction (vph)	0	30	0	0	6	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	215	0	0	169	0	0	854	0	0	701	0
Heavy Vehicles (%)	5%	4%	3%	8%	0%	27%	6%	12%	2%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		21.1			21.1			42.5			29.4	
Effective Green, g (s)		21.1			21.1			42.5			29.4	
Actuated g/C Ratio		0.19			0.19			0.39			0.27	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		271			185			1196			822	
v/s Ratio Prot								c0.28			c0.23	
v/s Ratio Perm		0.15			c0.17							
v/c Ratio		0.79			0.91			0.71			0.85	
Uniform Delay, d ₁		42.4			43.5			28.6			38.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d ₂		13.8			41.2			3.7			8.2	
Delay (s)		56.2			84.7			32.3			46.5	
Level of Service		E			F			C			D	
Approach Delay (s)		56.2			84.7			32.3			46.5	
Approach LOS		E			F			C			D	

Intersection Summary			
HCM 2000 Control Delay	44.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	21	39	619	647	51
Future Volume (Veh/h)	24	21	39	619	647	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	22	41	652	681	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1116	368	735			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1116	368	735			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	82	96	95			
cM capacity (veh/h)	137	526	879			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	47	258	435	454	281	
Volume Left	25	41	0	0	0	
Volume Right	22	0	0	0	54	
cSH	210	879	1700	1700	1700	
Volume to Capacity	0.22	0.05	0.26	0.27	0.17	
Queue Length 95th (ft)	21	4	0	0	0	
Control Delay (s)	27.0	1.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	27.0	0.7		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	51.1%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	221	233	19	7	1
Future Volume (Veh/h)	3	221	233	19	7	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	238	251	20	8	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			489			
pX, platoon unblocked						
vC, conflicting volume	271				505	261
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	271				505	261
tC, single (s)	4.1				6.7	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.8	3.3
p0 queue free %	100				98	100
cM capacity (veh/h)	1304				481	783
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	241	271	9			
Volume Left	3	0	8			
Volume Right	0	20	1			
cSH	1304	1700	502			
Volume to Capacity	0.00	0.16	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.1	0.0	12.3			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		24.0%		ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	↘
Traffic Volume (veh/h)	0	3	0	658	656	12
Future Volume (Veh/h)	0	3	0	658	656	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	3	0	708	705	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.87					
vC, conflicting volume	1066	359	718			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	780	359	718			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	293	643	892			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	3	354	354	470	248	
Volume Left	0	0	0	0	0	
Volume Right	3	0	0	0	13	
cSH	643	1700	1700	1700	1700	
Volume to Capacity	0.00	0.21	0.21	0.28	0.15	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	28.5%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕			↕			↕			↕		
Traffic Volume (vph)	25	29	11	93	53	338	16	594	49	232	772	22	
Future Volume (vph)	25	29	11	93	53	338	16	594	49	232	772	22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11	
Total Lost time (s)		5.0			5.0			5.0			5.0		
Lane Util. Factor		1.00			1.00			0.95			0.95		
Frt		0.98			0.91			0.99			1.00		
Flt Protected		0.98			0.99			1.00			0.99		
Satd. Flow (prot)		1967			1634			3322			3304		
Flt Permitted		0.71			0.92			0.91			0.62		
Satd. Flow (perm)		1419			1515			3026			2081		
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Adj. Flow (vph)	27	32	12	102	58	371	18	653	54	255	848	24	
RTOR Reduction (vph)	0	7	0	0	77	0	0	4	0	0	0	0	
Lane Group Flow (vph)	0	64	0	0	454	0	0	721	0	0	1127	0	
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA		
Protected Phases		3			3			2		1	6		
Permitted Phases	3			3			2			6			
Actuated Green, G (s)		34.1			34.1			65.9			65.9		
Effective Green, g (s)		34.1			34.1			65.9			65.9		
Actuated g/C Ratio		0.31			0.31			0.60			0.60		
Clearance Time (s)		5.0			5.0			5.0			5.0		
Vehicle Extension (s)		2.0			2.0			2.0			2.0		
Lane Grp Cap (vph)		439			469			1812			1246		
v/s Ratio Prot													
v/s Ratio Perm		0.05			c0.30			0.24			c0.54		
v/c Ratio		0.15			0.97			0.40			0.90		
Uniform Delay, d1		27.4			37.4			11.6			19.3		
Progression Factor		1.00			1.00			1.00			1.00		
Incremental Delay, d2		0.1			33.0			0.7			9.2		
Delay (s)		27.5			70.5			12.3			28.5		
Level of Service		C			E			B			C		
Approach Delay (s)		27.5			70.5			12.3			28.5		
Approach LOS		C			E			B			C		
Intersection Summary													
HCM 2000 Control Delay			32.8									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.97										
Actuated Cycle Length (s)			110.0									Sum of lost time (s)	15.0
Intersection Capacity Utilization			91.3%									ICU Level of Service	F
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	265	16	211	23	40	12	258	691	8	4	792	306
Future Volume (vph)	265	16	211	23	40	12	258	691	8	4	792	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.95	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1866	1615		3302			3242	
Flt Permitted		0.95	1.00		0.76	1.00		0.50			0.95	
Satd. Flow (perm)		1613	1538		1442	1615		1660			3087	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	279	17	222	24	42	13	272	727	8	4	834	322
RTOR Reduction (vph)	0	0	162	0	0	12	0	0	0	0	23	0
Lane Group Flow (vph)	0	296	60	0	66	1	0	1007	0	0	1137	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	12			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		24.9	34.9		9.5	9.5		75.6			65.6	
Effective Green, g (s)		24.9	34.9		9.5	9.5		75.6			65.6	
Actuated g/C Ratio		0.19	0.27		0.07	0.07		0.58			0.50	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		308	412		105	118		1091			1557	
v/s Ratio Prot		c0.18	0.01			0.00		c0.07				
v/s Ratio Perm			0.03		c0.05			c0.47			0.37	
v/c Ratio		0.96	0.14		0.63	0.01		1.05dl			0.73	
Uniform Delay, d1		52.1	36.2		58.5	55.9		24.6			25.3	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		40.7	0.2		11.2	0.0		12.6			3.1	
Delay (s)		92.7	36.4		69.7	55.9		37.2			28.3	
Level of Service		F	D		E	E		D			C	
Approach Delay (s)		68.6			67.5			37.2			28.3	
Approach LOS		E			E			D			C	

Intersection Summary		
HCM 2000 Control Delay	40.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.90	D
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	93.3%	20.0
Analysis Period (min)	15	ICU Level of Service
		F

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 31155 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	66	40	93	173	47	46	169	706	93	23	836	37
Future Volume (vph)	66	40	93	173	47	46	169	706	93	23	836	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1708			1777			3194			3315	
Flt Permitted		0.83			0.59			0.99			1.00	
Satd. Flow (perm)		1436			1090			3194			3315	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	71	43	100	186	51	49	182	759	100	25	899	40
RTOR Reduction (vph)	0	29	0	0	7	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	185	0	0	279	0	0	1041	0	0	961	0
Heavy Vehicles (%)	2%	0%	4%	1%	0%	3%	3%	8%	4%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.5			33.5	
Effective Green, g (s)		25.0			25.0			34.5			33.5	
Actuated g/C Ratio		0.23			0.23			0.31			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		326			247			1001			1009	
v/s Ratio Prot								c0.33			c0.29	
v/s Ratio Perm		0.13			c0.26							
v/c Ratio		0.57			1.13			1.04			0.95	
Uniform Delay, d1		37.7			42.5			37.8			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			96.7			39.4			17.8	
Delay (s)		39.1			139.2			77.1			55.3	
Level of Service		D			F			E			E	
Approach Delay (s)		39.1			139.2			77.1			55.3	
Approach LOS		D			F			E			E	
Intersection Summary												
HCM 2000 Control Delay			72.5									E
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			110.0						17.0			
Intersection Capacity Utilization			94.0%									F
Analysis Period (min)			15									

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

4: NYS Route 303 & Glenshaw St
Build 2023_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	56	10	808	832	19
Future Volume (Veh/h)	38	56	10	808	832	19
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	60	11	869	895	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1362	458	915			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1362	458	915			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	66	89	98			
cM capacity (veh/h)	119	529	443			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	101	301	579	597	318	
Volume Left	41	11	0	0	0	
Volume Right	60	0	0	0	20	
cSH	220	443	1700	1700	1700	
Volume to Capacity	0.46	0.02	0.34	0.35	0.19	
Queue Length 95th (ft)	55	2	0	0	0	
Control Delay (s)	34.5	0.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	34.5	0.3		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			41.6%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	180	246	7	19	3
Future Volume (Veh/h)	1	180	246	7	19	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	194	265	8	20	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	273			465	269	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	273			465	269	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			96	100	
cM capacity (veh/h)	1302			550	775	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	195	273	23			
Volume Left	1	0	20			
Volume Right	0	8	3			
cSH	1302	1700	571			
Volume to Capacity	0.00	0.16	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			23.4%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	↘
Traffic Volume (veh/h)	0	13	0	818	883	5
Future Volume (Veh/h)	0	13	0	818	883	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	14	0	880	949	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.78					
vC, conflicting volume	1392	477	954			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	944	477	954			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	207	540	729			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	14	440	440	633	321	
Volume Left	0	0	0	0	0	
Volume Right	14	0	0	0	5	
cSH	540	1700	1700	1700	1700	
Volume to Capacity	0.03	0.26	0.26	0.37	0.19	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	11.8	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	11.8	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	34.6%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS

Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	9	72	37	262	8	700	78	294	649	24
Future Volume (vph)	31	35	9	72	37	262	8	700	78	294	649	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1799			1593			3125			3152	
Flt Permitted		0.64			0.92			0.94			0.58	
Satd. Flow (perm)		1168			1484			2954			1841	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	37	9	76	39	276	8	737	82	309	683	25
RTOR Reduction (vph)	0	5	0	0	88	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	74	0	0	303	0	0	823	0	0	1017	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		26.1			26.1			73.9			73.9	
Effective Green, g (s)		26.1			26.1			73.9			73.9	
Actuated g/C Ratio		0.24			0.24			0.67			0.67	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		277			352			1984			1236	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.20			0.28			c0.55	
v/c Ratio		0.27			0.86			0.41			0.87dl	
Uniform Delay, d1		34.2			40.2			8.2			13.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			18.4			0.6			4.3	
Delay (s)		34.4			58.6			8.9			17.6	
Level of Service		C			E			A			B	
Approach Delay (s)		34.4			58.6			8.9			17.6	
Approach LOS		C			E			A			B	

Intersection Summary

HCM 2000 Control Delay	22.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2043_AM Peak Hour



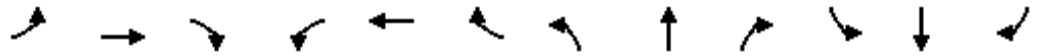
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	244	16	305	16	11	10	292	698	2	12	647	246
Future Volume (vph)	244	16	305	16	11	10	292	698	2	12	647	246
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.97	1.00		0.99			1.00	
Satd. Flow (prot)		1686	1467		1845	1615		3168			3008	
Flt Permitted		0.96	1.00		0.67	1.00		0.53			0.93	
Satd. Flow (perm)		1686	1467		1273	1615		1700			2808	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	260	17	324	17	12	11	311	743	2	13	688	262
RTOR Reduction (vph)	0	0	240	0	0	11	0	0	0	0	21	0
Lane Group Flow (vph)	0	277	84	0	29	0	0	1056	0	0	942	0
Confl. Peds. (#/hr)			1	1					4	4		
Heavy Vehicles (%)	6%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	13%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	12			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		23.8	33.8		5.6	5.6		80.6			70.6	
Effective Green, g (s)		23.8	33.8		5.6	5.6		80.6			70.6	
Actuated g/C Ratio		0.18	0.26		0.04	0.04		0.62			0.54	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		308	381		54	69		1166			1524	
v/s Ratio Prot		c0.16	0.02			0.00		c0.07				
v/s Ratio Perm			0.04		c0.02			c0.49			0.34	
v/c Ratio		0.90	0.22		0.54	0.01		0.91dl			0.62	
Uniform Delay, d1		51.9	37.8		60.9	59.5		21.4			20.4	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		27.0	0.3		9.9	0.0		10.1			1.9	
Delay (s)		78.9	38.1		70.8	59.6		31.5			22.3	
Level of Service		E	D		E	E		C			C	
Approach Delay (s)		56.9			67.7			31.5			22.3	
Approach LOS		E			E			C			C	

Intersection Summary		
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.88	
Actuated Cycle Length (s)	130.0	Sum of lost time (s) 20.0
Intersection Capacity Utilization	87.5%	ICU Level of Service E
Analysis Period (min)	15	

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANYSR
 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	79	65	130	100	62	28	161	685	106	38	675	79
Future Volume (vph)	79	65	130	100	62	28	161	685	106	38	675	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.97			0.99			1.00	
Satd. Flow (prot)		1689			1678			3097			3080	
Flt Permitted		0.82			0.55			0.99			1.00	
Satd. Flow (perm)		1403			938			3097			3080	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	85	70	140	108	67	30	173	737	114	41	726	85
RTOR Reduction (vph)	0	30	0	0	5	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	265		0	0	200	0	0	1024	0	0	844
Heavy Vehicles (%)	5%	4%	3%	8%	0%	27%	6%	12%	2%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split		NA		Split	
Protected Phases		3			3		2		2		1	
Permitted Phases	3				3						1	
Actuated Green, G (s)		24.3			24.3			36.1			32.6	
Effective Green, g (s)		24.3			24.3			36.1			32.6	
Actuated g/C Ratio		0.22			0.22			0.33			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		309			207			1016			912	
v/s Ratio Prot								c0.33			c0.27	
v/s Ratio Perm		0.19			c0.21							
v/c Ratio		0.86			0.96			1.01			0.93	
Uniform Delay, d1		41.2			42.4			37.0			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		19.7			51.6			30.2			14.6	
Delay (s)		60.9			94.0			67.1			52.2	
Level of Service		E			F			E			D	
Approach Delay (s)		60.9			94.0			67.1			52.2	
Approach LOS		E			F			E			D	

Intersection Summary		
HCM 2000 Control Delay	63.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.97	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	82.1%	17.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	26	48	745	776	62
Future Volume (Veh/h)	29	26	48	745	776	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	27	51	784	817	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1344	441	882			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1344	441	882			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	66	94	93			
cM capacity (veh/h)	91	465	775			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	58	312	523	545	337	
Volume Left	31	51	0	0	0	
Volume Right	27	0	0	0	65	
cSH	146	775	1700	1700	1700	
Volume to Capacity	0.40	0.07	0.31	0.32	0.20	
Queue Length 95th (ft)	43	5	0	0	0	
Control Delay (s)	45.2	2.3	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	45.2	0.9		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay	1.9					
Intersection Capacity Utilization	58.7%			ICU Level of Service	B	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	3	268	283	19	7	1
Future Volume (Veh/h)	3	268	283	19	7	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	3	288	304	20	8	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	324			608	314	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324			608	314	
tC, single (s)	4.1			6.7	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.8	3.3	
p0 queue free %	100			98	100	
cM capacity (veh/h)	1247			417	731	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	291	324	9			
Volume Left	3	0	8			
Volume Right	0	20	1			
cSH	1247	1700	438			
Volume to Capacity	0.00	0.19	0.02			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.1	0.0	13.4			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	13.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			26.5%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2043_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	↘
Traffic Volume (veh/h)	0	3	0	793	790	12
Future Volume (Veh/h)	0	3	0	793	790	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	3	0	853	849	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.77					
vC, conflicting volume	1282	431	862			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	770	431	862			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	263	578	789			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	3	426	426	566	296	
Volume Left	0	0	0	0	0	
Volume Right	3	0	0	0	13	
cSH	578	1700	1700	1700	1700	
Volume to Capacity	0.01	0.25	0.25	0.33	0.17	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	11.3	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	32.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2043_PM Peak Hour























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	13	110	65	411	19	717	60	279	928	27
Future Volume (vph)	31	35	13	110	65	411	19	717	60	279	928	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.91			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1966			1633			3321			3303	
Flt Permitted		0.62			0.92			0.89			0.58	
Satd. Flow (perm)		1247			1513			2970			1936	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	34	38	14	121	71	452	21	788	66	307	1020	30
RTOR Reduction (vph)	0	6	0	0	77	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	80	0	0	567	0	0	871	0	0	1357	0
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		35.0			35.0			65.0			65.0	
Effective Green, g (s)		35.0			35.0			65.0			65.0	
Actuated g/C Ratio		0.32			0.32			0.59			0.59	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		396			481			1755			1144	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.37			0.29			c0.70	
v/c Ratio		0.20			1.18			0.50			1.19	
Uniform Delay, d1		27.3			37.5			13.0			22.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			100.2			1.0			92.8	
Delay (s)		27.4			137.7			14.0			115.3	
Level of Service		C			F			B			F	
Approach Delay (s)		27.4			137.7			14.0			115.3	
Approach LOS		C			F			B			F	

Intersection Summary			
HCM 2000 Control Delay	87.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	107.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis - Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2043_PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	323	20	257	28	49	15	314	836	10	5	949	372
Future Volume (vph)	323	20	257	28	49	15	314	836	10	5	949	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1613	1538		1867	1615		3302			3240	
Flt Permitted		0.96	1.00		0.74	1.00		0.51			0.95	
Satd. Flow (perm)		1613	1538		1399	1615		1698			3080	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	340	21	271	29	52	16	331	880	11	5	999	392
RTOR Reduction (vph)	0	0	198	0	0	15	0	0	0	0	24	0
Lane Group Flow (vph)	0	361	73	0	81	1	0	1222	0	0	1372	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	11%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	1 2			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		25.0	35.0		10.9	10.9		74.1			64.1	
Effective Green, g (s)		25.0	35.0		10.9	10.9		74.1			64.1	
Actuated g/C Ratio		0.19	0.27		0.08	0.08		0.57			0.49	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		310	414		117	135		1091			1518	
v/s Ratio Prot		c0.22	0.01			0.00		c0.09				
v/s Ratio Perm			0.03		c0.06			c0.55			0.45	
v/c Ratio		1.16	0.18		0.69	0.01		1.70dl			0.90	
Uniform Delay, d1		52.5	36.4		57.9	54.6		28.0			30.1	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		103.4	0.2		16.2	0.0		66.4			9.2	
Delay (s)		155.9	36.6		74.2	54.6		94.3			39.3	
Level of Service		F	D		E	D		F			D	
Approach Delay (s)		104.8			70.9			94.3			39.3	
Approach LOS		F			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			72.7									E
HCM 2000 Volume to Capacity ratio			1.09									
Actuated Cycle Length (s)			130.0							20.0		
Intersection Capacity Utilization			108.9%									G
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	78	47	113	201	55	48	205	858	110	26	1012	45
Future Volume (vph)	78	47	113	201	55	48	205	858	110	26	1012	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1706			1780			3195			3317	
Flt Permitted		0.83			0.55			0.99			1.00	
Satd. Flow (perm)		1436			1009			3195			3317	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	84	51	122	216	59	52	220	923	118	28	1088	48
RTOR Reduction (vph)	0	29	0	0	6	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	228	0	0	321	0	0	1261	0	0	1161	0
Heavy Vehicles (%)	2%	0%	4%	1%	0%	3%	3%	8%	4%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.0			34.0	
Effective Green, g (s)		25.0			25.0			34.0			34.0	
Actuated g/C Ratio		0.23			0.23			0.31			0.31	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		326			229			987			1025	
v/s Ratio Prot								c0.39			c0.35	
v/s Ratio Perm		0.16			c0.32							
v/c Ratio		0.70			1.40			1.28			1.13	
Uniform Delay, d1		39.0			42.5			38.0			38.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.2			204.6			132.8			72.2	
Delay (s)		44.2			247.1			170.8			110.2	
Level of Service		D			F			F			F	
Approach Delay (s)		44.2			247.1			170.8			110.2	
Approach LOS		D			F			F			F	

Intersection Summary		
HCM 2000 Control Delay	144.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.26	F
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	109.5%	17.0
Analysis Period (min)	15	ICU Level of Service
		H

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	68	12	971	1007	23
Future Volume (Veh/h)	46	68	12	971	1007	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	49	73	13	1044	1083	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1644	554	1108			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1644	554	1108			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	34	84	96			
cM capacity (veh/h)	75	456	354			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	122	361	696	722	386	
Volume Left	49	13	0	0	0	
Volume Right	73	0	0	0	25	
cSH	150	354	1700	1700	1700	
Volume to Capacity	0.82	0.04	0.41	0.42	0.23	
Queue Length 95th (ft)	131	3	0	0	0	
Control Delay (s)	90.2	1.3	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	90.2	0.4		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	5.0					
Intersection Capacity Utilization	48.7%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↗	↖		↘	
Traffic Volume (veh/h)	1	219	298	7	19	3
Future Volume (Veh/h)	1	219	298	7	19	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	1	235	320	8	20	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	328			561	324	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	328			561	324	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			96	100	
cM capacity (veh/h)	1243			483	722	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	236	328	23			
Volume Left	1	0	20			
Volume Right	0	8	3			
cSH	1243	1700	505			
Volume to Capacity	0.00	0.19	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.0	0.0	12.5			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			26.1%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2043_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (veh/h)	0	13	0	984	1070	5
Future Volume (Veh/h)	0	13	0	984	1070	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	14	0	1058	1151	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.73					
vC, conflicting volume	1682	578	1156			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1207	578	1156			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	131	464	612			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	14	529	529	767	389	
Volume Left	0	0	0	0	0	
Volume Right	14	0	0	0	5	
cSH	464	1700	1700	1700	1700	
Volume to Capacity	0.03	0.31	0.31	0.45	0.23	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	13.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	13.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	39.7%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS

Build 2023_AM Peak Hour

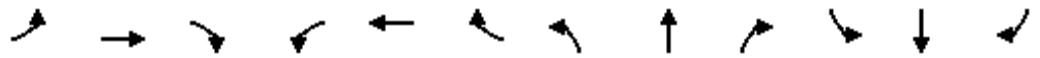


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	29	7	59	30	221	7	587	64	252	543	20
Future Volume (vph)	25	29	7	59	30	221	7	587	64	252	543	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.98	
Satd. Flow (prot)		1803			1592			3126			3152	
Flt Permitted		0.63			0.93			0.95			0.61	
Satd. Flow (perm)		1164			1492			2962			1958	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	31	7	62	32	233	7	618	67	265	572	21
RTOR Reduction (vph)	0	5	0	0	96	0	0	3	0	0	0	0
Lane Group Flow (vph)	0	59	0	0	231	0	0	689	0	0	858	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		21.2			21.2			78.8			78.8	
Effective Green, g (s)		21.2			21.2			78.8			78.8	
Actuated g/C Ratio		0.19			0.19			0.72			0.72	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		224			287			2121			1402	
v/s Ratio Prot												
v/s Ratio Perm		0.05			0.15			0.23			0.44	
v/c Ratio		0.26			0.80			0.32			0.61	
Uniform Delay, d1		37.8			42.4			5.8			7.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			14.2			0.4			0.6	
Delay (s)		38.0			56.7			6.2			8.4	
Level of Service		D			E			A			A	
Approach Delay (s)		38.0			56.7			6.2			8.4	
Approach LOS		D			E			A			A	

Intersection Summary

HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	73.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗		
Traffic Volume (vph)	206	13	250	13	9	8	240	591	2	10	552	211	
Future Volume (vph)	206	13	250	13	9	8	240	591	2	10	552	211	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11	
Grade (%)		-3%			0%			0%				0%	
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0		
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95		
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00		
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00		
Frt		1.00	0.85		1.00	0.85		1.00			0.96		
Flt Protected		0.96	1.00		0.97	1.00		0.99			1.00		
Satd. Flow (prot)		1701	1468		1845	1615		3168			3015		
Flt Permitted		0.96	1.00		0.69	1.00		0.56			0.94		
Satd. Flow (perm)		1701	1468		1317	1615		1812			2834		
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	219	14	266	14	10	9	255	629	2	11	587	224	
RTOR Reduction (vph)	0	0	201	0	0	9	0	0	0	0	20	0	
Lane Group Flow (vph)	0	233	65	0	24	0	0	886	0	0	802	0	
Confl. Peds. (#/hr)			1	1					4	4			
Heavy Vehicles (%)	5%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	12%	
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA		
Protected Phases	3	3	1		4	4	1	1 2			2		
Permitted Phases			3	4			2			2			
Actuated Green, G (s)		21.7	31.7		5.2	5.2		83.1			73.1		
Effective Green, g (s)		21.7	31.7		5.2	5.2		83.1			73.1		
Actuated g/C Ratio		0.17	0.24		0.04	0.04		0.64			0.56		
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0		
Lane Grp Cap (vph)		283	357		52	64		1262			1593		
v/s Ratio Prot		c0.14	0.01			0.00		c0.05					
v/s Ratio Perm			0.03		c0.02			c0.39			0.28		
v/c Ratio		0.82	0.18		0.46	0.01		0.70			0.50		
Uniform Delay, d1		52.3	38.9		61.0	59.9		15.3			17.4		
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00		
Incremental Delay, d2		17.3	0.2		6.4	0.0		1.8			1.1		
Delay (s)		69.6	39.1		67.4	60.0		17.1			18.5		
Level of Service		E	D		E	E		B			B		
Approach Delay (s)		53.4			65.4			17.1			18.5		
Approach LOS		D			E			B			B		
Intersection Summary													
HCM 2000 Control Delay			26.4		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.71										
Actuated Cycle Length (s)			130.0		Sum of lost time (s)						20.0		
Intersection Capacity Utilization			76.9%		ICU Level of Service						D		
Analysis Period (min)			15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	86	59	111	85	54	26	146	566	93	36	577	65
Future Volume (vph)	86	59	111	85	54	26	146	566	93	36	577	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1670			1673			3101			3080	
Flt Permitted		0.80			0.58			0.99			1.00	
Satd. Flow (perm)		1360			996			3101			3080	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	92	63	119	91	58	28	157	609	100	39	620	70
RTOR Reduction (vph)	0	26	0	0	6	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	248		0	0	171	0	0	866	0	0	721
Heavy Vehicles (%)	10%	3%	3%	8%	0%	27%	5%	12%	2%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3		3									
Actuated Green, G (s)		22.5			22.5			40.6			29.9	
Effective Green, g (s)		22.5			22.5			40.6			29.9	
Actuated g/C Ratio		0.20			0.20			0.37			0.27	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		278			203			1144			837	
v/s Ratio Prot								c0.28			c0.23	
v/s Ratio Perm		c0.18			0.17							
v/c Ratio		0.89			0.84			0.76			0.86	
Uniform Delay, d1		42.6			42.0			30.4			38.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		27.3			24.7			4.7			8.8	
Delay (s)		69.9			66.8			35.1			46.8	
Level of Service		E			E			D			D	
Approach Delay (s)		69.9			66.8			35.1			46.8	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	21	39	639	659	51
Future Volume (Veh/h)	24	21	39	639	659	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	25	22	41	673	694	54
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1140	374	748			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1140	374	748			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	81	96	95			
cM capacity (veh/h)	132	520	870			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	47	265	449	463	285	
Volume Left	25	41	0	0	0	
Volume Right	22	0	0	0	54	
cSH	203	870	1700	1700	1700	
Volume to Capacity	0.23	0.05	0.26	0.27	0.17	
Queue Length 95th (ft)	22	4	0	0	0	
Control Delay (s)	28.0	1.9	0.0	0.0	0.0	
Lane LOS	D	A				
Approach Delay (s)	28.0	0.7		0.0		
Approach LOS	D					
Intersection Summary						
Average Delay	1.2					
Intersection Capacity Utilization	52.0%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	221	233	32	35	5
Future Volume (Veh/h)	5	221	233	32	35	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	5	238	251	34	38	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	285			516	268	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	285			516	268	
tC, single (s)	4.1			6.6	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.7	3.3	
p0 queue free %	100			92	99	
cM capacity (veh/h)	1289			482	776	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	243	285	43			
Volume Left	5	0	38			
Volume Right	0	34	5			
cSH	1289	1700	504			
Volume to Capacity	0.00	0.17	0.09			
Queue Length 95th (ft)	0	0	7			
Control Delay (s)	0.2	0.0	12.8			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	12.8			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			25.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (veh/h)	0	22	0	678	656	24
Future Volume (Veh/h)	0	22	0	678	656	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	0	729	705	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.87					
vC, conflicting volume	1082	366	731			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	789	366	731			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	288	637	883			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	24	364	364	470	261	
Volume Left	0	0	0	0	0	
Volume Right	24	0	0	0	26	
cSH	637	1700	1700	1700	1700	
Volume to Capacity	0.04	0.21	0.21	0.28	0.15	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	10.9	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	10.9	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	28.9%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	25	29	11	93	53	350	16	600	49	232	771	22
Future Volume (vph)	25	29	11	93	53	350	16	600	49	232	771	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1967			1632			3322			3304	
Flt Permitted		0.71			0.92			0.91			0.62	
Satd. Flow (perm)		1413			1514			3027			2073	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	27	32	12	102	58	385	18	659	54	255	847	24
RTOR Reduction (vph)	0	7	0	0	80	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	64	0	0	465	0	0	727	0	0	1126	0
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		34.6			34.6			65.4			65.4	
Effective Green, g (s)		34.6			34.6			65.4			65.4	
Actuated g/C Ratio		0.31			0.31			0.59			0.59	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		444			476			1799			1232	
v/s Ratio Prot												
v/s Ratio Perm		0.05			c0.31			0.24			c0.54	
v/c Ratio		0.14			0.98			0.40			0.91	
Uniform Delay, d1		27.1			37.3			11.9			19.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			35.0			0.7			10.3	
Delay (s)		27.1			72.3			12.6			30.1	
Level of Service		C			E			B			C	
Approach Delay (s)		27.1			72.3			12.6			30.1	
Approach LOS		C			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	34.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 2145 Route 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2023_PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	276	16	211	23	40	12	258	709	8	4	791	306	
Future Volume (vph)	276	16	211	23	40	12	258	709	8	4	791	306	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11	
Grade (%)		-3%			0%			0%				0%	
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0		
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95		
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00		
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00		
Frt		1.00	0.85		1.00	0.85		1.00			0.96		
Flt Protected		0.95	1.00		0.98	1.00		0.99			1.00		
Satd. Flow (prot)		1626	1538		1866	1615		3302			3241		
Flt Permitted		0.95	1.00		0.75	1.00		0.50			0.95		
Satd. Flow (perm)		1626	1538		1433	1615		1659			3086		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Adj. Flow (vph)	291	17	222	24	42	13	272	746	8	4	833	322	
RTOR Reduction (vph)	0	0	162	0	0	12	0	0	0	0	23	0	
Lane Group Flow (vph)	0	308	60	0	66	1	0	1026	0	0	1136	0	
Confl. Peds. (#/hr)	2					2							
Heavy Vehicles (%)	10%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%	
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA		
Protected Phases	3	3	1		4	4	1	12			2		
Permitted Phases			3	4			2			2			
Actuated Green, G (s)		25.0	35.0		9.6	9.6		75.4			65.4		
Effective Green, g (s)		25.0	35.0		9.6	9.6		75.4			65.4		
Actuated g/C Ratio		0.19	0.27		0.07	0.07		0.58			0.50		
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0		
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0		
Lane Grp Cap (vph)		312	414		105	119		1088			1552		
v/s Ratio Prot		c0.19	0.01			0.00		c0.07					
v/s Ratio Perm			0.03		c0.05			c0.47			0.37		
v/c Ratio		0.99	0.14		0.63	0.01		1.05dl			0.73		
Uniform Delay, d1		52.3	36.1		58.5	55.8		25.3			25.4		
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00		
Incremental Delay, d2		47.0	0.2		11.2	0.0		15.4			3.1		
Delay (s)		99.3	36.3		69.7	55.8		40.7			28.5		
Level of Service		F	D		E	E		D			C		
Approach Delay (s)		72.9			67.4			40.7			28.5		
Approach LOS		E			E			D			C		
Intersection Summary													
HCM 2000 Control Delay			42.5		HCM 2000 Level of Service						D		
HCM 2000 Volume to Capacity ratio			0.92										
Actuated Cycle Length (s)			130.0		Sum of lost time (s)						20.0		
Intersection Capacity Utilization			94.4%		ICU Level of Service						F		
Analysis Period (min)			15										
dl Defacto Left Lane. Recode with 1 though lane as a left lane.													
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
 31155 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2023_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	68	40	93	173	53	46	198	706	93	23	835	37
Future Volume (vph)	68	40	93	173	53	46	198	706	93	23	835	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1670			1779			3201			3315	
Flt Permitted		0.82			0.60			0.99			1.00	
Satd. Flow (perm)		1391			1100			3201			3315	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	73	43	100	186	57	49	213	759	100	25	898	40
RTOR Reduction (vph)	0	29	0	0	7	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	187	0	0	285	0	0	1072	0	0	960	0
Heavy Vehicles (%)	9%	0%	4%	1%	0%	3%	2%	8%	4%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.5			33.5	
Effective Green, g (s)		25.0			25.0			34.5			33.5	
Actuated g/C Ratio		0.23			0.23			0.31			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		316			250			1003			1009	
v/s Ratio Prot								c0.33			c0.29	
v/s Ratio Perm		0.13			c0.26							
v/c Ratio		0.59			1.14			1.07			0.95	
Uniform Delay, d1		38.0			42.5			37.8			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			100.0			48.7			17.6	
Delay (s)		39.9			142.5			86.4			55.1	
Level of Service		D			F			F			E	
Approach Delay (s)		39.9			142.5			86.4			55.1	
Approach LOS		D			F			F			E	

Intersection Summary		
HCM 2000 Control Delay	77.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.05	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	94.6%	17.0
Analysis Period (min)	15	ICU Level of Service
		F

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	56	10	810	853	19
Future Volume (Veh/h)	38	56	10	810	853	19
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	41	60	11	871	917	20
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1384	468	937			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1384	468	937			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	64	88	97			
cM capacity (veh/h)	115	520	432			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	101	301	581	611	326	
Volume Left	41	11	0	0	0	
Volume Right	60	0	0	0	20	
cSH	213	432	1700	1700	1700	
Volume to Capacity	0.47	0.03	0.34	0.36	0.19	
Queue Length 95th (ft)	58	2	0	0	0	
Control Delay (s)	36.2	0.9	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	36.2	0.3		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			41.7%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↶	
Traffic Volume (veh/h)	7	180	246	43	18	3
Future Volume (Veh/h)	7	180	246	43	18	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	194	265	46	19	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	311			498	288	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	311			498	288	
tC, single (s)	4.1			6.7	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.8	3.3	
p0 queue free %	99			96	100	
cM capacity (veh/h)	1261			484	756	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	202	311	22			
Volume Left	8	0	19			
Volume Right	0	46	3			
cSH	1261	1700	508			
Volume to Capacity	0.01	0.18	0.04			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.4	0.0	12.4			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	12.4			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			25.6%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2023_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	↘
Traffic Volume (veh/h)	0	12	0	820	883	26
Future Volume (Veh/h)	0	12	0	820	883	26
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	13	0	882	949	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.78					
vC, conflicting volume	1404	488	977			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	960	488	977			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	202	531	714			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	13	441	441	633	344	
Volume Left	0	0	0	0	0	
Volume Right	13	0	0	0	28	
cSH	531	1700	1700	1700	1700	
Volume to Capacity	0.02	0.26	0.26	0.37	0.20	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	12.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	12.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	35.2%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	9	72	37	267	8	701	78	304	653	24
Future Volume (vph)	31	35	9	72	37	267	8	701	78	304	653	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frbp, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.98	
Satd. Flow (prot)		1799			1592			3125			3152	
Flt Permitted		0.63			0.92			0.94			0.57	
Satd. Flow (perm)		1165			1485			2953			1835	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	33	37	9	76	39	281	8	738	82	320	687	25
RTOR Reduction (vph)	0	5	0	0	89	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	74	0	0	307	0	0	824	0	0	1032	0
Confl. Peds. (#/hr)							1					1
Heavy Vehicles (%)	21%	7%	0%	12%	3%	6%	14%	10%	9%	7%	9%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		26.3			26.3			73.7			73.7	
Effective Green, g (s)		26.3			26.3			73.7			73.7	
Actuated g/C Ratio		0.24			0.24			0.67			0.67	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		278			355			1978			1229	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.21			0.28			c0.56	
v/c Ratio		0.27			0.86			0.42			0.90dl	
Uniform Delay, d1		34.0			40.1			8.3			13.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			18.6			0.6			5.0	
Delay (s)		34.2			58.7			9.0			18.7	
Level of Service		C			E			A			B	
Approach Delay (s)		34.2			58.7			9.0			18.7	
Approach LOS		C			E			A			B	

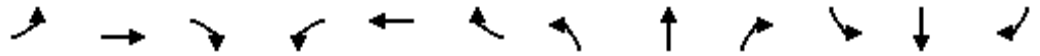
Intersection Summary

HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	249	16	305	16	11	10	292	704	2	12	661	255
Future Volume (vph)	249	16	305	16	11	10	292	704	2	12	661	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	0.99		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.96	1.00		0.97	1.00		0.99			1.00	
Satd. Flow (prot)		1701	1467		1845	1615		3168			3015	
Flt Permitted		0.96	1.00		0.67	1.00		0.52			0.93	
Satd. Flow (perm)		1701	1467		1269	1615		1686			2815	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	265	17	324	17	12	11	311	749	2	13	703	271
RTOR Reduction (vph)	0	0	239	0	0	11	0	0	0	0	21	0
Lane Group Flow (vph)	0	282	85	0	29	0	0	1062	0	0	966	0
Confl. Peds. (#/hr)			1	1					4	4		
Heavy Vehicles (%)	5%	0%	7%	0%	0%	0%	5%	10%	0%	38%	10%	12%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA		Perm	NA	
Protected Phases	3	3	1		4	4	1	1 2			2	
Permitted Phases			3	4			2			2		
Actuated Green, G (s)		24.0	34.0		5.6	5.6		80.4			70.4	
Effective Green, g (s)		24.0	34.0		5.6	5.6		80.4			70.4	
Actuated g/C Ratio		0.18	0.26		0.04	0.04		0.62			0.54	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		314	383		54	69		1156			1524	
v/s Ratio Prot		c0.17	0.02			0.00		c0.07				
v/s Ratio Perm			0.04		c0.02			c0.50			0.34	
v/c Ratio		0.90	0.22		0.54	0.01		0.93dl			0.63	
Uniform Delay, d1		51.8	37.6		60.9	59.5		21.9			20.8	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		26.4	0.3		9.9	0.0		11.5			2.0	
Delay (s)		78.2	37.9		70.8	59.6		33.4			22.8	
Level of Service		E	D		E	E		C			C	
Approach Delay (s)		56.7			67.7			33.4			22.8	
Approach LOS		E			E			C			C	

Intersection Summary		
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.89	D
Actuated Cycle Length (s)	130.0	Sum of lost time (s)
Intersection Capacity Utilization	88.6%	20.0
Analysis Period (min)	15	ICU Level of Service
		E

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
 c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANYSR
 Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	99	69	134	100	64	28	172	685	106	38	694	79
Future Volume (vph)	99	69	134	100	64	28	172	685	106	38	694	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1669			1680			3102			3080	
Flt Permitted		0.80			0.56			0.99			1.00	
Satd. Flow (perm)		1353			959			3102			3080	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	106	74	144	108	69	30	185	737	114	41	746	85
RTOR Reduction (vph)	0	26	0	0	5	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	298	0	0	202	0	0	1036	0	0	864	0
Heavy Vehicles (%)	10%	3%	3%	8%	0%	27%	5%	12%	2%	13%	12%	5%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			35.0			33.0	
Effective Green, g (s)		25.0			25.0			35.0			33.0	
Actuated g/C Ratio		0.23			0.23			0.32			0.30	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		307			217			987			924	
v/s Ratio Prot								c0.33			c0.28	
v/s Ratio Perm		c0.22			0.21							
v/c Ratio		0.97			0.93			1.05			0.94	
Uniform Delay, d1		42.1			41.6			37.5			37.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		42.4			40.8			42.6			15.9	
Delay (s)		84.5			82.4			80.1			53.4	
Level of Service		F			F			F			D	
Approach Delay (s)		84.5			82.4			80.1			53.4	
Approach LOS		F			F			F			D	

Intersection Summary		
HCM 2000 Control Delay	71.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.99	E
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	83.2%	17.0
Analysis Period (min)	15	ICU Level of Service
		E

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

4: NYS Route 303 & Glenshaw St
Build 2043_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	29	26	48	765	788	62
Future Volume (Veh/h)	29	26	48	765	788	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	31	27	51	805	829	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	447	894			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	447	894			
tC, single (s)	7.7	7.8	4.1			
tC, 2 stage (s)						
tF (s)	4.0	3.7	2.2			
p0 queue free %	65	94	93			
cM capacity (veh/h)	88	460	767			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	58	319	537	553	341	
Volume Left	31	51	0	0	0	
Volume Right	27	0	0	0	65	
cSH	141	767	1700	1700	1700	
Volume to Capacity	0.41	0.07	0.32	0.33	0.20	
Queue Length 95th (ft)	45	5	0	0	0	
Control Delay (s)	47.5	2.3	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	47.5	0.8		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay	1.9					
Intersection Capacity Utilization	59.6%			ICU Level of Service	B	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↘	
Traffic Volume (veh/h)	5	268	283	32	35	5
Future Volume (Veh/h)	5	268	283	32	35	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	5	288	304	34	38	5
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	338			619	321	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	338			619	321	
tC, single (s)	4.1			6.6	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.7	3.3	
p0 queue free %	100			91	99	
cM capacity (veh/h)	1232			418	724	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	293	338	43			
Volume Left	5	0	38			
Volume Right	0	34	5			
cSH	1232	1700	440			
Volume to Capacity	0.00	0.20	0.10			
Queue Length 95th (ft)	0	0	8			
Control Delay (s)	0.2	0.0	14.1			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	14.1			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			28.1%	ICU Level of Service	A	
Analysis Period (min)			15			

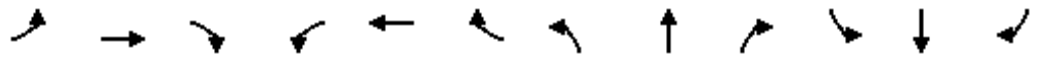
HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2043_AM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↓	
Traffic Volume (veh/h)	0	22	0	813	790	24
Future Volume (Veh/h)	0	22	0	813	790	24
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	0	874	849	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.77					
vC, conflicting volume	1299	438	875			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	787	438	875			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	96	100			
cM capacity (veh/h)	256	573	780			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	24	437	437	566	309	
Volume Left	0	0	0	0	0	
Volume Right	24	0	0	0	26	
cSH	573	1700	1700	1700	1700	
Volume to Capacity	0.04	0.26	0.26	0.33	0.18	
Queue Length 95th (ft)	3	0	0	0	0	
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	11.6	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.2					
Intersection Capacity Utilization	32.6%			ICU Level of Service	A	
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis NYS Route 303 & Greenbush Rd/NYS Route 340
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	31	35	13	110	65	423	19	723	60	279	927	27
Future Volume (vph)	31	35	13	110	65	423	19	723	60	279	927	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	15	15	15	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.98			0.90			0.99			1.00	
Flt Protected		0.98			0.99			1.00			0.99	
Satd. Flow (prot)		1966			1631			3322			3303	
Flt Permitted		0.61			0.92			0.89			0.58	
Satd. Flow (perm)		1233			1514			2971			1930	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	34	38	14	121	71	465	21	795	66	307	1019	30
RTOR Reduction (vph)	0	6	0	0	79	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	80	0	0	578	0	0	878	0	0	1356	0
Heavy Vehicles (%)	5%	0%	0%	1%	6%	5%	0%	4%	2%	3%	4%	20%
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		3			3			2		1	6	
Permitted Phases	3			3			2			6		
Actuated Green, G (s)		35.0			35.0			65.0			65.0	
Effective Green, g (s)		35.0			35.0			65.0			65.0	
Actuated g/C Ratio		0.32			0.32			0.59			0.59	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		392			481			1755			1140	
v/s Ratio Prot												
v/s Ratio Perm		0.06			c0.38			0.30			c0.70	
v/c Ratio		0.20			1.20			0.50			1.19	
Uniform Delay, d1		27.3			37.5			13.1			22.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			109.2			1.0			94.2	
Delay (s)		27.4			146.7			14.1			116.7	
Level of Service		C			F			B			F	
Approach Delay (s)		27.4			146.7			14.1			116.7	
Approach LOS		C			F			B			F	

Intersection Summary		
HCM 2000 Control Delay	90.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	1.26	F
Actuated Cycle Length (s)	110.0	Sum of lost time (s)
Intersection Capacity Utilization	108.2%	15.0
Analysis Period (min)	15	ICU Level of Service
		G

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis Site 303 & Orangeburg Rd/Chase Bank Driveway
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕↗	
Traffic Volume (vph)	334	20	257	28	49	15	314	854	10	5	948	372
Future Volume (vph)	334	20	257	28	49	15	314	854	10	5	948	372
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	11	11	11	12	12	12	11	11	11	11	11	11
Grade (%)		-3%			0%			0%				0%
Total Lost time (s)		5.0	5.0		5.0	5.0		5.0			5.0	
Lane Util. Factor		1.00	1.00		1.00	1.00		0.95			0.95	
Frbp, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00		1.00			1.00	
Frt		1.00	0.85		1.00	0.85		1.00			0.96	
Flt Protected		0.95	1.00		0.98	1.00		0.99			1.00	
Satd. Flow (prot)		1627	1538		1867	1615		3302			3240	
Flt Permitted		0.95	1.00		0.73	1.00		0.51			0.95	
Satd. Flow (perm)		1627	1538		1390	1615		1696			3080	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	352	21	271	29	52	16	331	899	11	5	998	392
RTOR Reduction (vph)	0	0	198	0	0	15	0	0	0	0	25	0
Lane Group Flow (vph)	0	373	73	0	81	1	0	1241	0	0	1370	0
Confl. Peds. (#/hr)	2					2						
Heavy Vehicles (%)	10%	0%	3%	0%	0%	0%	2%	5%	0%	0%	4%	1%
Turn Type	Split	NA	pm+ov	Perm	NA	Prot	D.P+P	NA			Perm	NA
Protected Phases	3	3	1		4	4	1	12				2
Permitted Phases			3	4			2				2	
Actuated Green, G (s)		25.0	35.0		10.9	10.9		74.1			64.1	
Effective Green, g (s)		25.0	35.0		10.9	10.9		74.1			64.1	
Actuated g/C Ratio		0.19	0.27		0.08	0.08		0.57			0.49	
Clearance Time (s)		5.0	5.0		5.0	5.0					5.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)		312	414		116	135		1090			1518	
v/s Ratio Prot		c0.23	0.01			0.00		c0.09				
v/s Ratio Perm			0.03		c0.06			c0.56			0.44	
v/c Ratio		1.20	0.18		0.70	0.01		1.70dl			0.90	
Uniform Delay, d1		52.5	36.4		57.9	54.6		28.0			30.1	
Progression Factor		1.00	1.00		1.00	1.00		1.00			1.00	
Incremental Delay, d2		115.0	0.2		16.8	0.0		73.6			9.1	
Delay (s)		167.5	36.6		74.7	54.6		101.6			39.2	
Level of Service		F	D		E	D		F			D	
Approach Delay (s)		112.4			71.4			101.6			39.2	
Approach LOS		F			E			F			D	

Intersection Summary

HCM 2000 Control Delay	77.0	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	20.0
Intersection Capacity Utilization	110.0%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
 3 ANMS Route 303 & Mountain View Rd/S Greenbush Rd
 122-145; WPT TIS Build 2043_PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	80	47	113	201	61	48	234	858	110	26	1011	45
Future Volume (vph)	80	47	113	201	61	48	234	858	110	26	1011	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)		5.0			5.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frt		0.94			0.98			0.99			0.99	
Flt Protected		0.98			0.97			0.99			1.00	
Satd. Flow (prot)		1669			1782			3204			3317	
Flt Permitted		0.82			0.55			0.99			1.00	
Satd. Flow (perm)		1392			1020			3204			3317	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	86	51	122	216	66	52	252	923	118	28	1087	48
RTOR Reduction (vph)	0	29	0	0	6	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	230	0	0	328	0	0	1293	0	0	1160	0
Heavy Vehicles (%)	9%	0%	4%	1%	0%	3%	2%	8%	3%	24%	4%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA		Split	NA	
Protected Phases		3			3		2	2		1	1	
Permitted Phases	3			3								
Actuated Green, G (s)		25.0			25.0			34.0			34.0	
Effective Green, g (s)		25.0			25.0			34.0			34.0	
Actuated g/C Ratio		0.23			0.23			0.31			0.31	
Clearance Time (s)		5.0			5.0			6.0			6.0	
Vehicle Extension (s)		2.0			2.0			2.0			2.0	
Lane Grp Cap (vph)		316			231			990			1025	
v/s Ratio Prot								c0.40			c0.35	
v/s Ratio Perm		0.17			c0.32							
v/c Ratio		0.73			1.42			1.31			1.13	
Uniform Delay, d1		39.3			42.5			38.0			38.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.9			212.1			145.1			71.8	
Delay (s)		46.2			254.6			183.1			109.8	
Level of Service		D			F			F			F	
Approach Delay (s)		46.2			254.6			183.1			109.8	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	151.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.27		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	110.1%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	68	12	971	1028	23
Future Volume (Veh/h)	46	68	12	971	1028	23
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	49	73	13	1044	1105	25
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1666	565	1130			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1666	565	1130			
tC, single (s)	7.1	7.1	5.4			
tC, 2 stage (s)						
tF (s)	3.7	3.4	2.9			
p0 queue free %	32	84	96			
cM capacity (veh/h)	72	448	345			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	122	361	696	737	393	
Volume Left	49	13	0	0	0	
Volume Right	73	0	0	0	25	
cSH	145	345	1700	1700	1700	
Volume to Capacity	0.84	0.04	0.41	0.43	0.23	
Queue Length 95th (ft)	137	3	0	0	0	
Control Delay (s)	97.7	1.3	0.0	0.0	0.0	
Lane LOS	F	A				
Approach Delay (s)	97.7	0.4		0.0		
Approach LOS	F					
Intersection Summary						
Average Delay	5.4					
Intersection Capacity Utilization	48.7%			ICU Level of Service	A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	7	219	298	43	21	3
Future Volume (Veh/h)	7	219	298	43	21	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	8	235	320	46	23	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	489					
pX, platoon unblocked						
vC, conflicting volume	366			594	343	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	366			594	343	
tC, single (s)	4.1			6.7	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.8	3.3	
p0 queue free %	99			95	100	
cM capacity (veh/h)	1204			423	704	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	243	366	26			
Volume Left	8	0	23			
Volume Right	0	46	3			
cSH	1204	1700	444			
Volume to Capacity	0.01	0.22	0.06			
Queue Length 95th (ft)	1	0	5			
Control Delay (s)	0.3	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			28.3%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
122-145; WPT TIS

18: NYS Route 303
Build 2043_PM Peak Hour



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↕	↕	↘
Traffic Volume (veh/h)	0	12	0	983	1070	3
Future Volume (Veh/h)	0	12	0	983	1070	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	13	0	1057	1151	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)	1059					
pX, platoon unblocked	0.74					
vC, conflicting volume	1681	577	1154			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1206	577	1154			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	100			
cM capacity (veh/h)	132	465	613			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	13	528	528	767	387	
Volume Left	0	0	0	0	0	
Volume Right	13	0	0	0	3	
cSH	465	1700	1700	1700	1700	
Volume to Capacity	0.03	0.31	0.31	0.45	0.23	
Queue Length 95th (ft)	2	0	0	0	0	
Control Delay (s)	13.0	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	13.0	0.0		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay	0.1					
Intersection Capacity Utilization	39.7%			ICU Level of Service	A	
Analysis Period (min)	15					