November 21, 2023 (**Revision #3)**

Town of Chester Planning Board
1786 Kings Highway
Chester, NY 10918
Attn: Don Serotta, Chairman

RE: Traffic Impact Study for Proposed Light Industrial Development, Davidson Drive, Town of Chester, Orange County, New York; CM Project No. 121-204

Dear Chairman Serotta:

Creighton Manning Engineering, LLP (CM) has completed a revised Traffic Impact Study for the proposed industrial development located on Davidson Drive in the Town of Chester, Orange County, NY. The revisions made to this study, which is based on traffic engineering industry standards, were made in consideration of the most recent Site Plan prepared by Arden Consulting Engineers, PLLC, last revised November 13, 2023, which is included under Attachment A. Notably, the project is no longer proposing access on Lake Station Road. The project now proposes access to Bellvale Road via Davidson Drive, which is intended to serve commercial/industrial uses such as the proposed development. This revised study also considers the comments raised by the Town of Chester Planning Board Traffic Consultant, Colliers Engineering and Design, in their November 6, 2023 letter.

1.0 Project Description

The subject site is defined on the Orange County Tax Map as Section 17, Block 1, Lots 22.1 through 22.8, and is currently undeveloped. The proposed project will construct a new 166,024-square-foot light industrial use building, which includes a 4,000-square-foot office space. The development will be supported by 70 parking spaces inclusive of 10 ADA-accessible spaces and 13 parking spaces for tractor-trailers. Access to the site is proposed via Davidson Drive, which is an existing roadway with a 26-foot-wide cross-section that intersects Bellvale Road approximately 450-ft north of Sugarloaf Mountain Road. When the proposed project ties into Davidson Drive, it will do so with a complete paved cross-section as shown on the Site Plan. The industrial facility will have one shift from 8:00 a.m. to 6:00 p.m. that will consist of 45 employees. The proposed project is expected to be completed and operational by 2025. A map illustrating the site location is shown in Exhibit 1.

Exhibit 1 – Site Location

2.0 Existing Conditions

Roadways Serving the Site

- **Lake Station Road** is classified as an Urban Local roadway and is under the jurisdiction of Town of Chester Highway Department. The roadway runs primarily east-west from Bellvale Road (CR 82) in the Town of Chester to Kings Highway (CR 13) in the Town of Warwick. In the vicinity of the project, Lake Station Road provides one 12-foot-wide travel lane in each direction. Turn lanes are not provided at intersections or driveways. The posted speed limit is 30 miles per hour. There are no sidewalks provided along the roadway.

- **Bellvale Road (County Road 82)** is classified as an Urban Major Collector roadway and is under the jurisdiction of the Orange County Department of Public Works (OCDPW). The roadway runs primarily north-south from County Road 13 to Gibson Hill Road. In the vicinity of the project, Bellvale Road provides one 12-foot-wide travel lane in each direction with four-foot-wide shoulders. Turns lanes are not provided at intersections or driveways. The posted speed limit is 45 miles per hour. There are no sidewalks provided along the roadway.

- **Kings Highway (County Road 13)** is classified as an Urban Minor Collector roadway and is under the jurisdiction of the OCDPW. The roadway runs primarily north-south from NYS Route 17M to the Village of Warwick. In the vicinity of the project, Kings Highway provides one 11-foot-wide travel lane in each direction with variable width shoulders. Turn lanes are typically not provided at intersections or driveways. The posted speed limit is 45 miles per hour. There are no sidewalks provided along the roadway.

- **Kings Highway Bypass (County Road 13A):** is classified as an Urban Local roadway and in under the jurisdiction of the OCDPW. The roadway runs north-south from Kings Highway (CR 13) to Bellvale Road within the Town of Chester. In the vicinity of the project, Kings Highway Bypass provides one 11-foot-wide travel lane in each direction with four-foot wide shoulders. Turn lanes are not provides at intersections or driveways. The posted speed limit is 45 miles per hour. There are no sidewalks along the roadway.

Study Intersections

- **Lake Station Road/Bellvale Road:** This is a three-leg unsignalized intersection. The eastbound Lake Station Road approach is stop-controlled and provides one shared lane for left-turn/right-turn movements onto Bellvale Road. The northbound Bellvale Road approach is uncontrolled and provides one shared lane for left-turn/through movements. The southbound Bellvale Road provides one shared lane for through/right-turn movements. Exhibit 2 is a Nearmap image that shows the study intersection.

Exhibit 2 – Lake Station Road/Bellvale Road

- **Lake Station Road/Kings Highway:** This is a three-leg unsignalized intersection. The westbound Lake Station Road approach is stopped-controlled and provides one shared lane for left-turn/right-turn movements onto Kings Highway. The northbound Kings Highway approach is uncontrolled and provides one shared lane for through/right-turn movements. The southbound Kings Highway approach is uncontrolled and provides one shared lane for left-turn/through movements. Exhibit 3 is a Nearmap image that shows the study intersection.

Exhibit 3 – Lake Station Road/Kings Highway

- **NYS Route 17M/Kings Highway/Lehigh Avenue:** This is a four-leg signalized intersection operating under actuated-uncoordinated traffic signal control. The northbound and southbound legs of the intersection are offset by approximatly 250 feet. The eastbound NYS Route 17M approach provides one shared left-turn/through lane and one exclusive right turn lane. The westbound NYS Route 17M approach provides one shared left-turn/through/right-turn lane. The northbound Kings Highway approach provides one exclusive left-turn lane and one channelized right-turn lane that serves as the de facto through lane to Lehigh Avenue and operates under yield control. The southbound Lehigh Avenue approach provides a shared left-turn/through/right-turn lane. Exhibit 4 depicts the intersection.

Exhibit 4 – NYS Route 17M/Kings Hwy/Lehigh Avenue Intersection

- **Bellvale Road/Kings Highway Bypass:** This is a three-leg unsignalized intersection. The eastbound Bellvale Road approach is uncontrolled and provides one shared lane for left-turn/through movements. The westbound Bellvale Road provides one shared lane for through/right-turn movements. The southbound Kings Highway Bypass approach is stop-controlled and provides one shared lane for left-turn/right-turn movements onto Bellvale Road. Exhibit 5 is a Nearmap image that shows the study intersection.

Exhibit 5 –Bellvale Road/Kings Highway Bypass Intersection

- **Kings Highway/Leone Lane/Laroe Road:** This is a four-leg signalized intersection. The eastbound Leone Lane approach provides a shared left-turn/through/right-turn lane. The westbound Laroe Road approach provides an exclusive left-turn lane and a shared through/right-turn lane. The northbound Kings Highway approach provides an exclusive left-turn lane and a shared through/right-turn lane. The southbound Kings Highway approach provides an exclusive left-turn lane, an exclusive through lane, and an exclusive channelized right-turn lane controlled by a yield sign. Analysis at this intersection was based on timings obtained from the New York State Department of Transportation. Exhibit 6 is a Nearmap image that shows the study intersection.

Exhibit 6 – Kings Highway/Leone Lane/Laroe Road Intersection

Town of Chester Truck Route Restrictions

The Town of Chester code does not identify Kings Highway as having a weight limit. However, there is existing signage indicating that there is a 10-ton weight limit on the roadway from Kings Highway Bypass to Bellvale Road. The weight limits prohibit most heavy vehicles including tractor-trailers from traversing this section of Kings Highway. It is important to note that the truck traffic related to the proposed project will be using the route identified on the truck routing map submitted with the Access Highway Designation Request to the NYSDOT on January 19, 2022 and approved by the NYSDOT on April 7, 2022. This approved route is also the optimal path as it is 0.2 miles shorter than if passing through the Hamlet of Sugar Loaf where Kings Highway also bears a lower speed limit. For these reasons, it is anticipated that traffic, especially truck traffic, will not have a significant adverse impact on the Hamlet of Sugar Loaf. Exhibit 7 shows the location of the weight limit signs, roadway segment with the weight restriction and the route that the trucks of the proposed project will be utilizing. Access highway designation request letter by CM and approval letter by NYSDOT are included under Attachment B.

Exhibit 7 – Truck Route Restrictions

Data Collection

Table 1 summarizes the intersections where Turning Movement Counts (TMCs) were conducted during the typical weekday morning peak period (7:00 a.m. – 9:00 a.m.) and the typical weekday evening peak period (4:00 p.m. – 6:00 p.m.). These studied periods coincide with the anticipated peak-hour operation times of the proposed use as well as the adjacent street traffic.

Table 1 – Summary of Turning Movement Count Data

Intersection		Date of Counts	Observed Peak Hour	
			Weekday AM	Weekday PM
1	Lake Station Road/Kings Highway	Thursday July, 22, 2021[1]	8:00 a.m. – 9:00 a.m.	4:30 p.m. – 5:30 p.m.
2	Lake Station Road/Bellvale Road	Thursday, July 22, 2021[1]	8:00 a.m. – 9:00 a.m.	4:15 p.m. – 5:15 p.m.
3	Davidson Drive/Bellvale Road	Tuesday, November 14, 2023 (PM) Wednesday, November 15, 2023 (AM)	7:00 a.m. – 8:00 a.m.	4:15 p.m. – 5:15 p.m.
4	Bellvale Road/Kings Highway Bypass	Friday, February 10, 2023	7:00 a.m. – 8:00 a.m.	4:00 p.m. – 5:00 p.m.
5	Kings Highway/ Leone Lane/Laroe Road	Friday, February 10, 2023	7:15 a.m. – 8:15 a.m.	4:15 p.m. – 5:15 p.m.
6	NYS Route 17M/ Kings Highway/Lehigh Avenue	Thursday, March 10, 2022	7:45 a.m. – 8:45 a.m.	4:30 p.m. – 5:30 p.m.

As shown in Table 1, the peak hours varied between each intersection. The analysis herein utilizes the respective peak hour turning movement counts for each study intersection and then balances between intersections one (1) through four (4) and intersections five (5) through (6). In order to obtain 2023 existing volumes, the 2021 and 2022 data sets were grown assuming a conservative growth rate of +1.0% annually that was applied for two years and one year, respectively.[2] Figure 1 shows the 2023 Existing traffic volumes for the study area. The raw TMC data is included under Attachment C.

Motor Vehicle Collisions

Motor vehicle collision data was obtained from the NYSDOT for the five-year period July 21, 20217 to July 31, 2022. The data includes collisions along Bellvale Road in the vicinity of Davidson Drive. Table 2 provides a summary of the collisions according to type and severity.

[1] CM conducted additional turning movement counts at the Lake Station Road/Bellvale Road intersection on Wednesday, February 8, 2023. CM compared these counts to the 2021 counts and found that the total two-hour intersection volumes varied by 10 or fewer trips (2021 vs 2023 | AM: 253 vs 263 | PM: 174 vs 168). Given the minor difference between the July 2021 and February 2023 counts, no adjustments were made to the 2021 volumes for the Lake Station Road/Bellvale Road and Lake Station Road/Kings Highway intersections. The traffic analysis is considered representative of current traffic operations and conditions.

[2] This growth rate was determined based on a review of historical traffic volume data collected by NYSDOT ATR Station 838149 on Bellvale Road and published on the NYSDOT Traffic Data Viewer indicates that traffic volumes have grown annually at +0.78%.

Table 2 – Summary of Collisions on Bellvale Road in Proximity to Davidson Drive

Collision Type	Number Collisions	Number of Collisions Resulting in Injury	Number of Collisions Resulting in Fatalities
Left-Turn (Against Other Car)	1	0	0
Collision with Fixed Object	4	1	0
Collision with Animal	2	0	0
Collision with Earth/Rock Cut/Ditch	5	0	0
Ran off Road	1	0	0
Total	13	1	0

As shown in Table 2, there were 13 collisions along Bellvale Road in the vicinity of Davidson Drive. Nine of the collisions were with a fixed object or earth/rock cut/ditch. One of those collisions resulted in an injury. There were no collisions that resulted in a fatality. The detailed collision data is included under Attachment D.

3.0 Traffic Assessment

Trip Generation

Trip generation determines the quantity of traffic expected to travel to/from a given site. The Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition, is the industry-standard resource used for estimating trip generation for proposed land uses based on data collected at similar uses. Upon review of the *Trip Generation Manual*, Land Use Code (LUC) 110 "General Light Industrial" was applied for the proposed development. It should be noted that the ITE description for LUC 110 states that the study sites are typically inclusive of minimal office space. Table 3 summarizes the trip generation estimate for the weekday AM peak hour and weekday PM peak hour for passenger vehicles (PV) and trucks.[3]

Table 3 – Peak-Hour Trip Generation Summary for Proposed Use

Land Use	Independent Variable	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
General Light Industrial – LUC 110 PV	166,024 SF	102	13	115	7	49	56
General Light Industrial – LUC 110 Trucks	166,024 SF	1	1	2	1	1	2
Total Site-Generated Trips		**103**	**14**	**117**	**8**	**50**	**58**

Table 3 shows that the project is expected to generate 117 total trips during weekday AM peak hour and 58 trips 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. These peak hour estimates are considered to be conservative as the largest shift size is 45 employees with only shift per day. Table 3A summarizes the daily truck trips for this the proposed development.

Table 3A – Daily Truck Trips Summary for Proposed Use

Land Use	Independent Variable	Enter	Exit	Total
General Light Industrial	166,024 SF	21	21	42

Table 3A shows that the project is expected to generate 42 total truck trips during a typical weekday. Given that the site's access will be on Davidson Drive, truck traffic will not need to utilize Lake Station Road when entering or exiting the site. For this reason, the increase in truck traffic on Lake Station Road is expected to decrease when compared to the prior version of the site plan.

[3] The Fitted Curve results were utilized in accordance with the ITE guidance to use those results when there are more than 20 studies for the land use.

Future Traffic Volumes

To evaluate the impact of the proposed project, traffic projections were prepared for the anticipated year of completion – 2025. A review of historical traffic volume data collected by NYSDOT ATR Station 838149 on Bellvale Road and published on the NYSDOT Traffic Data Viewer indicates that traffic volumes have grown annually at +0.78%.To conservatively forecast the 2025 traffic volume, a +1.0% growth rate was applied to the existing traffic volumes and compounded annually for four years.[4] Additionally, CM spoke with the Town of Chester Planning Board Chairman who identified other development projects that, if approved and constructed, could potentially increase traffic within the study area. Table 4 summarizes the other planned and completed development projects that are considered in this analysis.

Table 4 – Other Planned Development Project[1]

Project	Type	Location	Source of Trip Generation	Trips Generated in Study Area by Projects	
				Weekday AM Peak Hour	Weekday PM Peak Hour
Pomegranate Solutions	Light Industrial	Davidson Drive	Maser Consulting	80	73
1251 Kings Highway	Industrial	Kings Highway & Bellvale Road	ITE	56	62
The Greens at Chester	Residential	NYS Route 94	John Meyer Consulting	27	20
Trestle Tree	Industrial	NYS Route 17 and Trestle Tree Lane	Maser Consulting	15	4
208 Business Center	Retail	NYS Route 208	CME	9	18
Craigville Road	Industrial	Craigville Road	CME	28	30

[1] Used Clothes Collection Center – Based on discussion with the Planning Board Chairman, the traffic associated with this development will be minimal. Therefore, it is assumed that the background growth rate of 1.0% captures traffic volumes associated with this development.

The volumes generated by the other developments are shown in Figure 2. These volumes were then added to the grown 2025 volumes to present the 2025 No-Build Conditions, which are shown in Figure 3 represent the traffic volumes *without* the proposed project.

Traffic generated by the project was distributed on the adjacent roadway based on existing observed travel patterns in the project area and the probable travel routes of truck drivers and employees. The proximity of the site to NYS Route 17 is expected to influence trip-making behavior of the truck drivers. The analysis assumes that all truck trips (100%) will be drawn to and from Exit 126 on NYS Route 17. The distribution of employee vehicles is expected to be more balanced between Kings Highway and Bellvale Road. The primary trip distribution pattern for the proposed development is shown on Figure 4 for passenger vehicles and Figure 6 for trucks. The associated site-generated traffic volumes are shown on Figure 5 for passenger vehicles and Figure 7 for trucks. The site-generated trips were then added to the 2023 No-Build traffic volumes, resulting in the 2023 Build traffic volumes shown on Figure 8.

[4] Two years of growth were applied to the Kings Highway By-Pass/Bellvale Road and Kings Highway/Laroe Road/Leone Lane intersections as they were counted in 2023.

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 5 summarizes the results of the level of service calculations for the Existing, No-Build, and Build conditions during the weekday AM peak hour and weekday PM peak hour. The detailed level of service analyses are included under Attachment E.

Table 5 – Level of Service Summary

Intersection		Control	Weekday AM Peak Hour			Weekday PM Peak Hour		
			2021 Existing	2025 No-Build	2025 Build	2021 Existing	2025 No-Build	2025 Build
Lake Station Rd/Kings Hwy		U						
Lake Station Rd, WB	LR		C (15.5)	C (16.8)	C (17.7)	C (15.6)	C (16.8)	C (17.9)
Kings Hwy, SB	LT		A (7.9)	A (8.0)	A (8.2)	A (7.9)	A (7.9)	A (7.9)
Lake Station Rd/Bellvale Rd		U						
Lake Station Rd, EB	LR		A (9.4)	A (9.4)	B (10.3)	A (9.5)	A (9.5)	A (9.8)
Bellvale Rd, NB	LT		A (7.5)	A (7.5)	A (7.5)	A (7.5)	A (7.5)	A (7.6)
Davidson Dr/Bellvale Rd		U						
Davidson Dr, EB	LR		A (9.2)	A (9.6)	B (10.5)	A (9.3)	A (9.7)	B (10.0)
Bellvale Rd, NB	LT		A (7.3)	A (7.5)	A (7.7)	A (0.0)	A (7.4)	A (7.4)
Bellvale Rd/Kings Hwy Bypass[1]		U						
Bellvale Rd, EB	LT		A (7.6)	A (7.6)	A (7.6)	A (7.5)	A (7.7)	A (7.7)
Kings Hwy Bypass, SB	LR		A (9.9)	B (11.2)	B (12.1)	B (10.1)	B (10.6)	B (10.8)
Kings Highway/Leone Ln/Laroe Rd								
Leone Ln, EB	LTR		C (33.0)	C (33.2)	C (33.2)	C (34.6)	C (34.8)	C (34.8)
Laroe Rd, WB	L		C (25.1)	C (25.0)	C (25.0)	C (26.2)	C (26.1)	C (26.1)
	TR		C (30.5)	C (30.4)	C (30.4)	C (27.6)	C (27.5)	C (27.5)
Kings Hwy, NB	L		A (8.3)	A (8.6)	A (8.6)	B (10.2)	B (10.6)	B (10.6)
	TR		B (11.8)	B (12.4)	B (12.5)	B (13.7)	B (15.6)	B (15.9)
Kings Hwy, SB	L		A (8.1)	A (8.4)	A (8.4)	A (8.4)	A (9.5)	A (9.7)
	T		A (8.9)	A (9.9)	B (10.3)	B (12.4)	B (13.2)	B (13.3)
Overall			B (17.3)	B (17.0)	B (16.9)	B (16.8)	B (17.5)	B (17.6)
NY 17M/Kings Hwy/Lehigh Ave[2]								
NYS Route 17M, EB	T		C (35.3)	D (37.7)	D (38.2)	D (38.4)	D (38.8)	D (38.8)
	R		C (32.3)	C (33.9)	C (34.6)	D (37.6)	D (37.8)	D (37.8)
NYS Route 17M, WB	LTR		D (35.0)	D (37.3)	D (38.6)	D (46.0)	D (48.3)	D (48.4)
Kings Hwy, NB	L		C (33.4)	D (45.7)	D (50.0)	D (48.4)	E (60.1)	E (62.6)
	TR		C (23.6)	C (29.3)	C (31.0)	D (36.1)	D (38.5)	D (38.8)
Lehigh Ave, SB	LTR		C (32.4)	C (33.4)	C (33.6)	C (34.8)	D (35.4)	D (35.4)

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)
[2]There is no overall LOS provided for this intersection as it was evaluated as two separate intersections due to its operation as a clustered intersection.

The impact of the project can be described by comparing the analysis of the No-Build and Build operating conditions. The following observation are evident from the analysis:

- **Kings Highway/Lake Station Road:** The level of service analysis indicates that the minor street approach of the three-leg intersection will operate at an acceptable LOS of C or better in the Build condition, which is consistent with the anticipated LOS for the intersection in the No-Build condition. The maximum increase in delay of 1.1 seconds indicates that the proposed development is not anticipated to have a significant adverse impact on the operations of this intersection.

- **Lake Station Road/Bellvale Road:** The level of service analysis indicates that the minor street approach of the three-leg intersection will operate at an acceptable LOS of B or better in the Build condition, which is consistent with the anticipated LOS for the intersection in the No-Build condition. The maximum increase in delay of 0.9 seconds indicates that the proposed development is not anticipated to have a significant adverse impact on the operations of this intersection.

- **Davidson Drive/Bellvale Road:** The level of service analysis indicates that the minor street approach of the three-leg intersection will operate at an acceptable LOS of B or better in the Build condition, which is consistent with the anticipated LOS for the intersection in the No-Build condition. The maximum increase in delay of 0.9 seconds indicates that the proposed development is not anticipated to have a significant adverse impact on the operations of this intersection.

- **Bellvale Road/Kings Highway Bypass:** The level of service analysis indicates that the Kings Highway Bypass approach will operate at a LOS B in the Build conditions, which is consistent with the anticipated LOS for the intersection in the No-Build condition. The maximum increase in delay of 0.9 seconds indicates that the proposed development is not anticipated to have significant adverse impact on the operations of this intersection.

- **Kings Highway/Leone Lane/Laroe Road:** The level of service analysis indicates that in the Build conditions the intersection will operate at an acceptable overall LOS B, which is consistent with the anticipated LOS in the No-Build conditions. CM spoke with Michael Villarosa from the OCDPW on February 14, 2023 regarding potential improvements for this intersection. GPI is completing a study on behalf of the OCDPW of the intersection. While the results and recommendations are still forthcoming, Mr. Villarosa indicated that the improvements focused mainly on the side street approaches – Leone Land and Laroe Road.

- **NYS Route 17M/Kings Highway/Lehigh Avenue:** The level of service analysis indicates that in the Build conditions the intersection will operate at levels of service commensurate to those in the No-Build conditions. The maximum increase in delay of 4.3 seconds indicates that the proposed development is not anticipated to have a significant adverse impact on the operations of this intersection.

4.0 Site Access, Circulation, and Parking

Site Access

CM reviewed the site access, site circulation and parking layout as shown on the Site Plan prepared by Arden Consulting Engineers, PLLC, last revised November 13, 2023. Access to the site is proposed via Davidson Drive, which is an existing roadway with a 26-foot-wide cross-section that intersects Bellvale Road approximately 450-ft north of Sugarloaf Mountain Road. When the proposed project ties into Davidson Drive, it will do so with a complete paved cross-section as shown on the Site Plan.

The available intersection sight distance from Davidson Drive was measured from the perspective of a driver who would be departing the site and looking in both directions along Bellvale Road to determine if adequate sight lines are available. The intersection sight distance was also measured for drivers traveling north on Bellvale Road seeking to turn left onto Davidson Drive. 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 along Bellvale Road was also measured at Davidson Drive/Bellvale Road intersection. 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.

The posted speed limit on Bellvale Road along the subject site's frontage is 45 miles per hour. Therefore, the sight distances measured in the field were compared to the guidelines presented in the AASHTO *A Policy on Geometric Design of Highway and Streets* "Green Book", 2018, and NYSDOT design guidance (EB 17-007) for 50 miles per hour (Posted speed + 5MPH). The results of the analysis are summarized in Table 6.

Table 6 – Sight Distance Summary

Intersection		Intersection Sight Distance[1]				Stopping Sight Distance[2]	
		Right Turn from Davidson Dr (D_L)	Left Turn from Davidson Dr		Left Turn from Bellvale Rd (D_S)	SSD_{NB}	SSD_{SB}
			Looking Left (D_L)	Looking Right (D_R)			
Davidson Dr/Bellvale Rd	Available	775 ft	775 ft	575 ft	820 ft	520 ft	795 ft
	Recommended	480 ft	555 ft	555 ft	405 ft	390 ft	390 ft

[1]Intersection sight distance is measured 14.5 feet back from the traveled way at an object height of 3.5 feet and an eye height of 3.5 feet for a vehicle.

[2]Stopping sight distance is measured from an eye height of 3.5 feet for a passenger car to an object height of 2 feet located in the path of northbound and southbound vehicles.

The sight distance evaluation indicates the available intersection and stopping sight distances at the Davidson Drive/Bellvale Road intersection exceed the AASHTO recommended guidelines.

Circulation & Parking

A minimum 24-foot-wide drive aisle provides two-way circulation throughout the entire site. The truck parking area is 152 feet in width, which will allow these vehicles to turn around completely within the confines of the site as necessary. The development will be supported by 70 parking spaces inclusive of 10 ADA-accessible spaces for passenger vehicles and 13 parking spaces for tractor-trailers. The proposed number of off-street parking for passenger vehicles meets the Town of Chester zoning requirements for the combined total of the office use component (1 space/200SF) and the industrial use component (2 spaces/3 employees).

5.0 Kings Highway Intersection Review

CM performed a desktop review of Kings Highway in the vicinity of its intersection with Lake Station Road. Currently, there is a flashing yellow signal spanning the Kings Highway/Wickham Drive intersection, which is approximately 130-ft south of the Kings Highway/Lake Station Road intersection. Approaching these intersections, there are "Intersection Ahead" (W2-2) signs. Exhibits 8, 9, and 10 show these existing mitigation measures.

Exhibit 8 – Kings Highway Facing North at Wickham Drive

Based on feedback from the public regarding safety concerns at this intersection, consideration could be given to the existing "Intersection Ahead" (W2-2) signs be replaced with "Intersection Ahead – Offset" (W2-7L/R) signs as shown in Exhibit 11. These signs would better depict the intersection configuration drivers are approaching. These improvements would be subject to review and approval by the OCDPW since Kings Highway is a County Road.

Exhibit 9 – Kings Highway Facing South

Exhibit 10 – Kings Highway Facing North

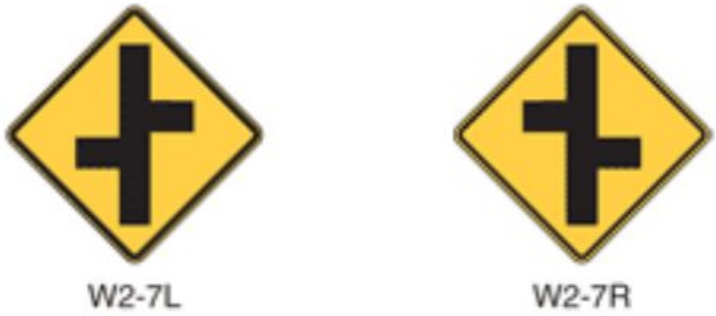

Exhibit 11 – MUTCD Compliant W2-7L/R Signs

6.0 Conclusion

The subject site is located on the parcel defined as Section 17, Block 1, Lots 22.1 through 22.8 on the Orange County Map. The proposed project will construct a new 166,024-square-foot light industrial use building which includes a 4,000-square-foot office space. It is anticipated that the largest shift will consist of 45 employees. The following is noted regarding the proposed project:

- Turning Movement Counts were conducted during the typical weekday morning peak period (7:00 a.m. – 9:00 a.m.) and the typical weekday evening peak period (4:00 p.m. – 6:00 p.m.). The studied periods coincide with the anticipated peak-hour operation times of the proposed use as well as the adjacent street traffic.
- The site is expected to generate 117 total trips during the weekday morning peak hour and 58 total trips during the weekday evening peak hour. These trip generation estimate are considered conservative as the facility will have a maximum of 45 employees with one shift per day.
- This revised site plan results in the reduction in truck traffic along Lake Station Road in comparison to the previous access plan.
- Site access to Bellvale Road is proposed from via Davidson Drive, which is an existing roadway intended to serve commercial/industrial uses.
- A sight distance evaluation of the Davidson Drive/Bellvale Road intersection found that the available intersection and stopping sight distances exceed the AASHTO recommend guidelines for the assumed operating speed of 50 miles per hour (Posted speed + 5MPH).

- Over a five-year study period, there were 13 motor vehicle collisions along Bellvale Road in the vicinity of Davidson Drive. Nine of the collisions were with a fixed object or earth/rock cut/ditch. One of those collisions resulted in an injury. There were no collisions that resulted in a fatality.
- The level of service analyses of the study intersections indicate that the intersections will operate at levels of service commensurate to the No-Build condition in the Build condition. There negligible increases in delay indicate that the proposed project is not anticipated to have a significant adverse impact on the roadway network.

Please do not hesitate to call our office if you have any questions or comments, or require additional information.

Respectfully submitted,
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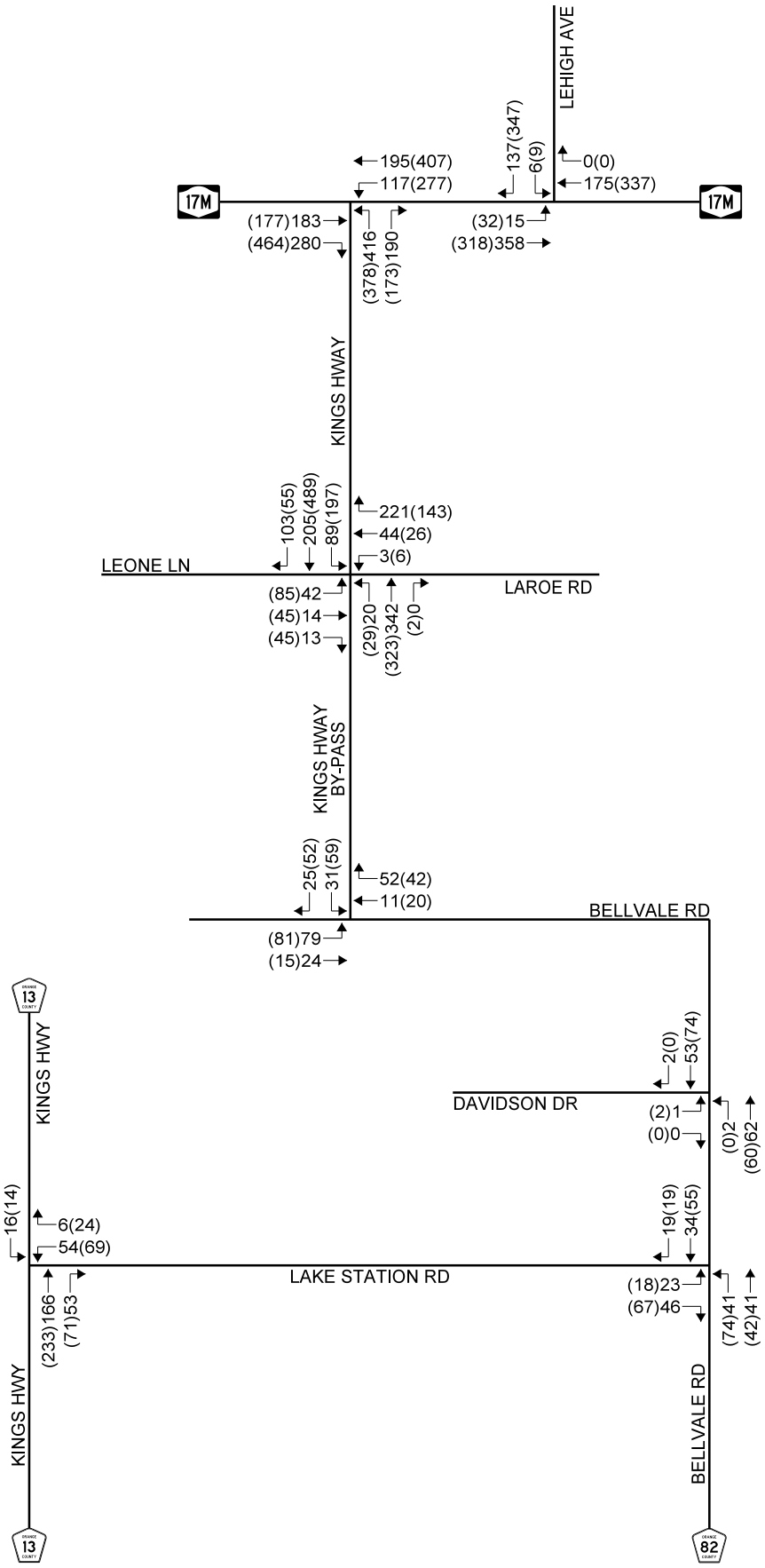
Israel Vanchozker
Joseph Herskovitz



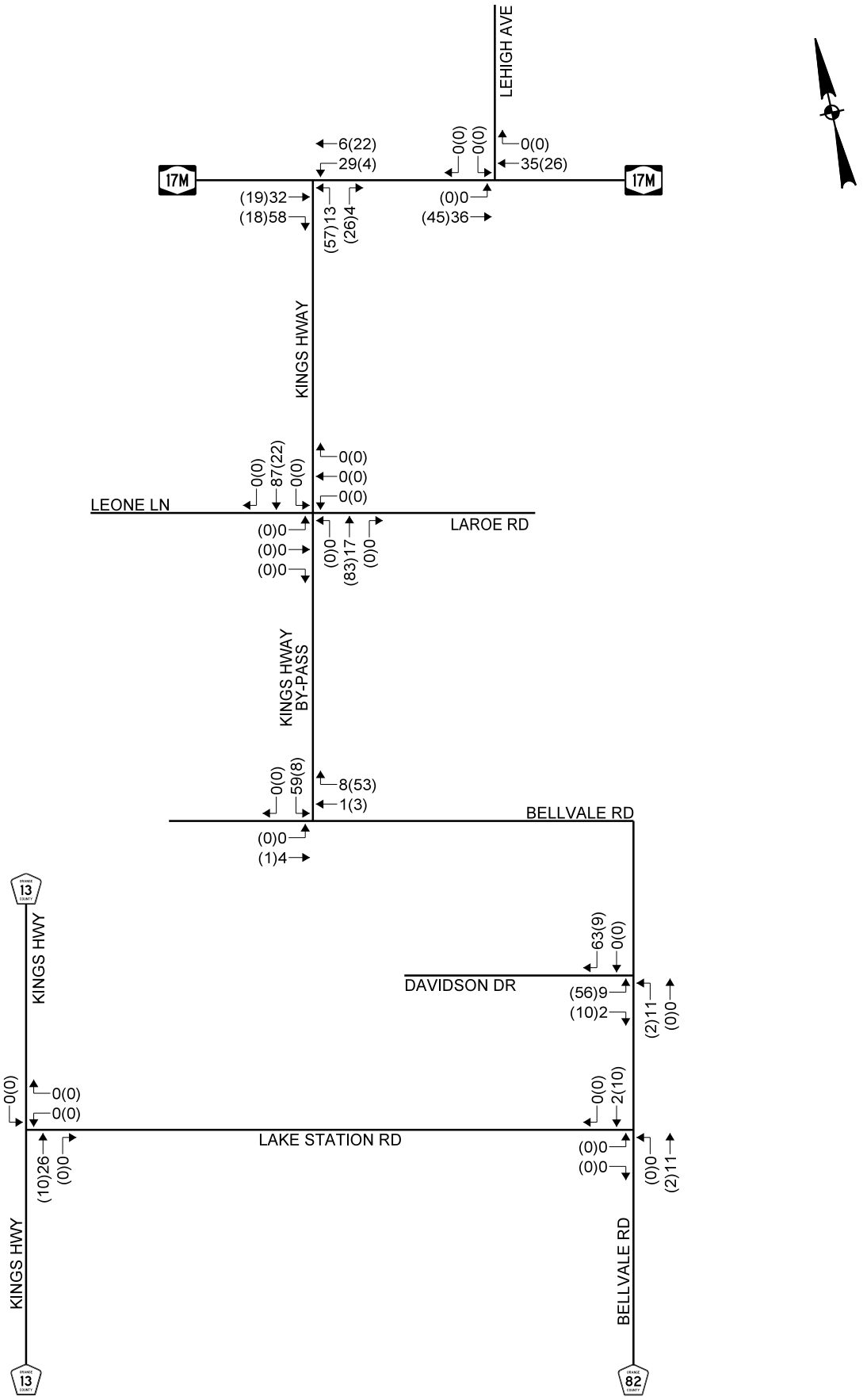
2023 EXISTING TRAFFIC VOLUMES

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT: 121-204	DATE: 11/2023	FIGURE: 1

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



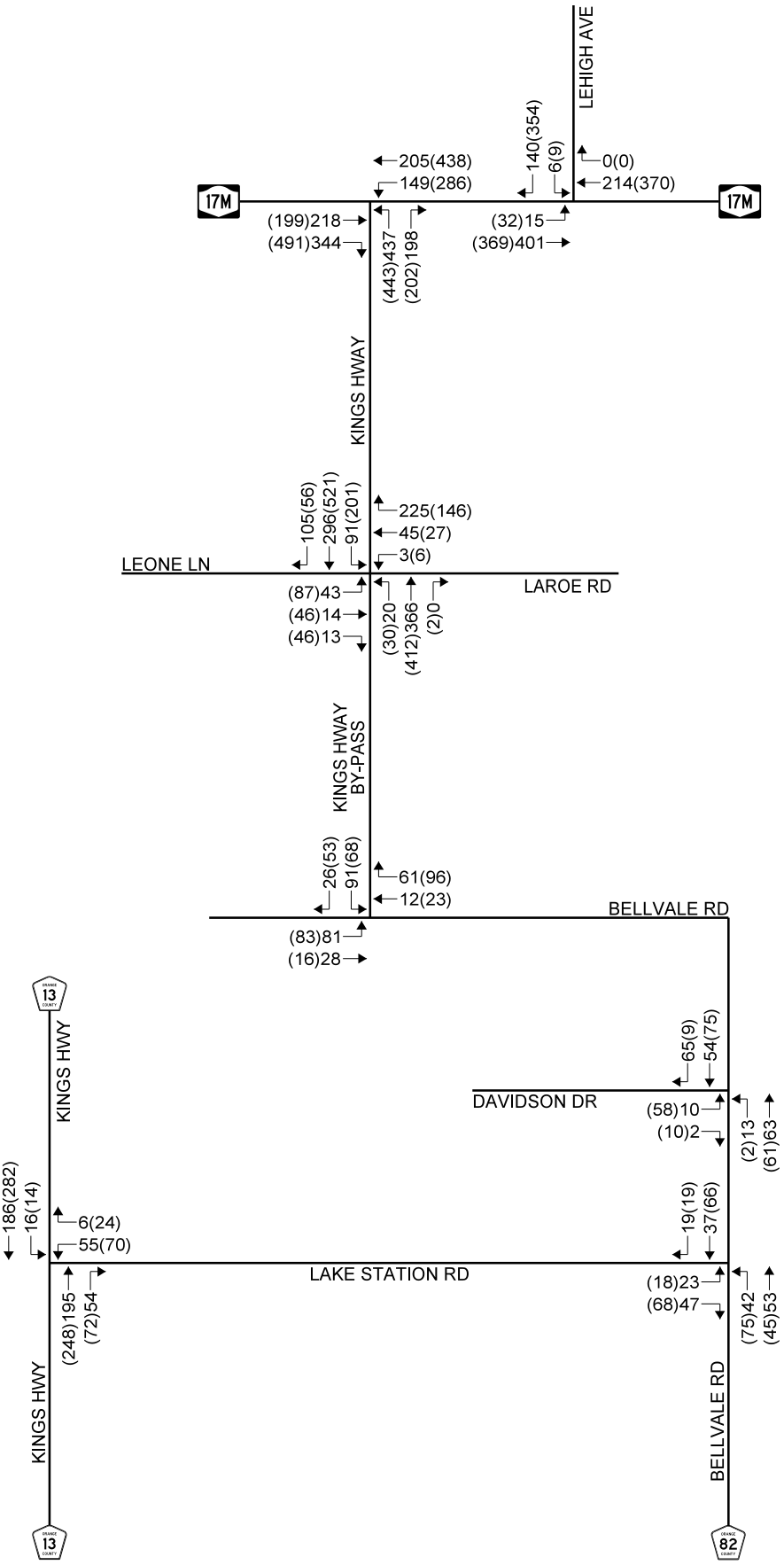
OTHER DEVELOPMENT TRAFFIC VOLUMES

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT:	121-204	DATE:	11/2023	FIGURE:	2

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



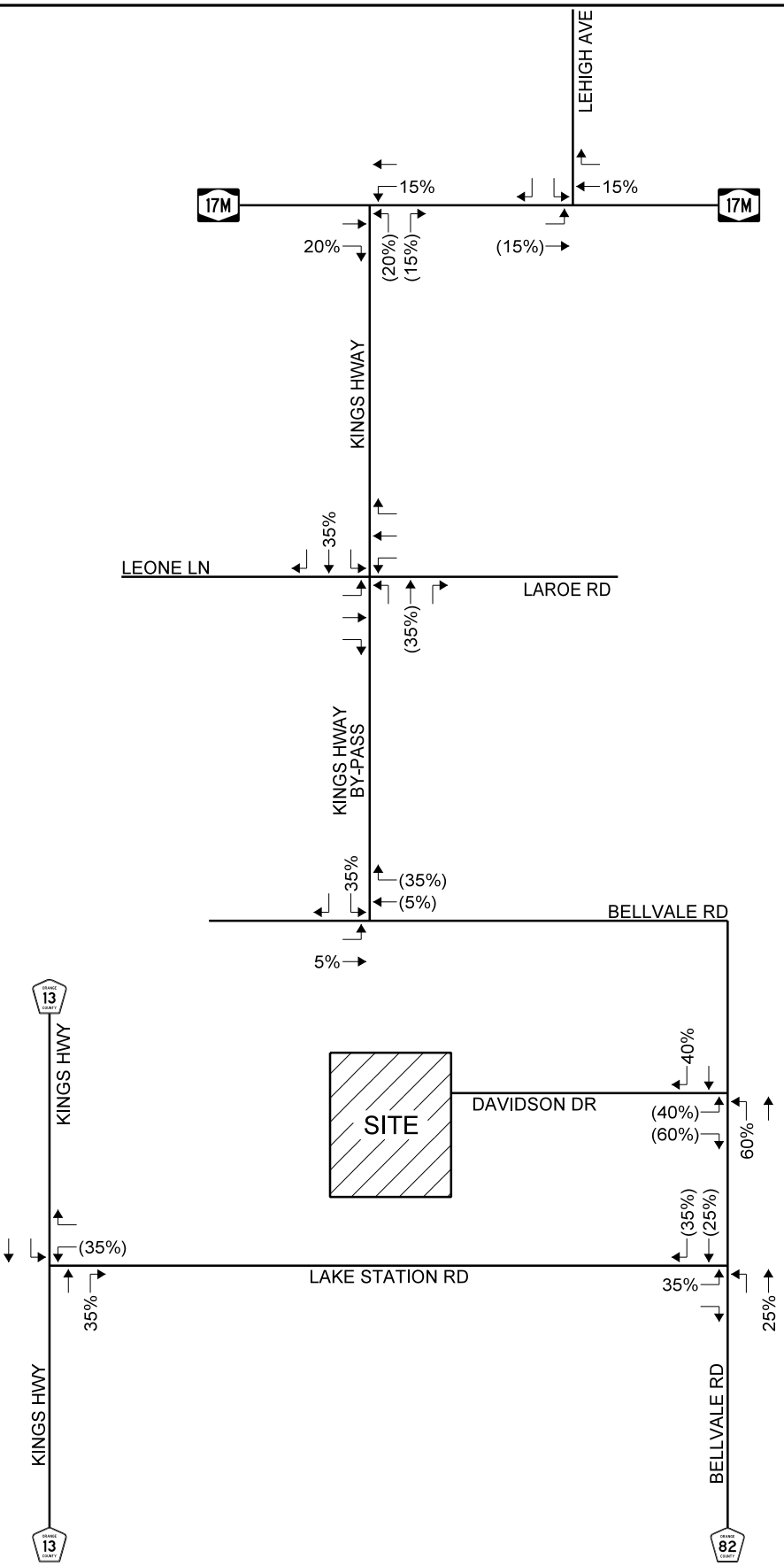
2025 NO-BUILD TRAFFIC VOLUMES

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT:	121-204	DATE:	11/2023	FIGURE:	3

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



LEGEND:
ENTERING(EXITING)

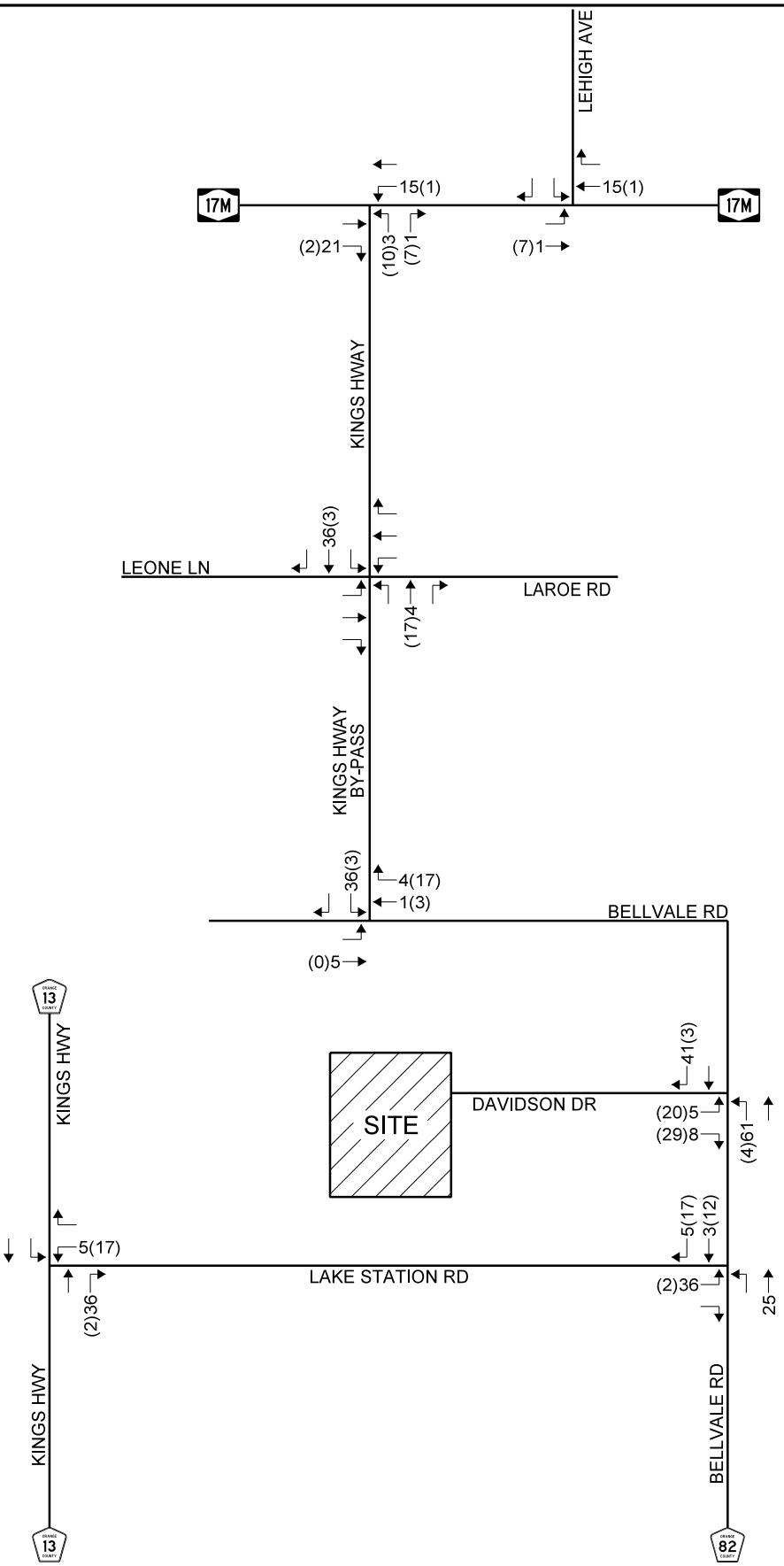
PASSENGER VEHICLE - TRIP DISTRIBUTION

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT:	121-204	DATE:	11/2023	FIGURE:	4

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



LEGEND:
AM (PM)

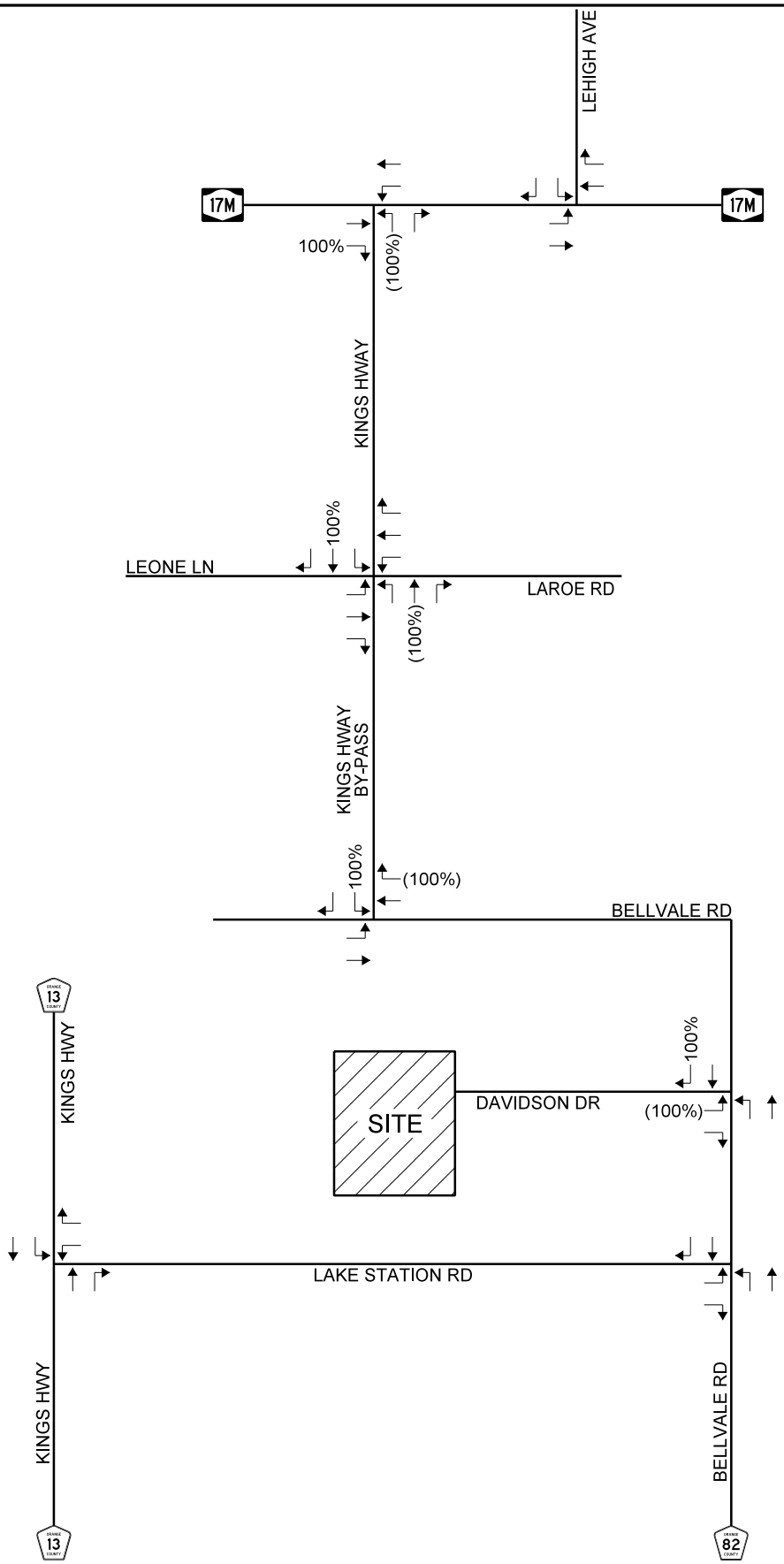
PASSENGER VEHICLE - TRIP ASSIGNMENT

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT: 121-204	DATE: 11/2023	FIGURE: 5

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



LEGEND:
ENTERING (EXITING)

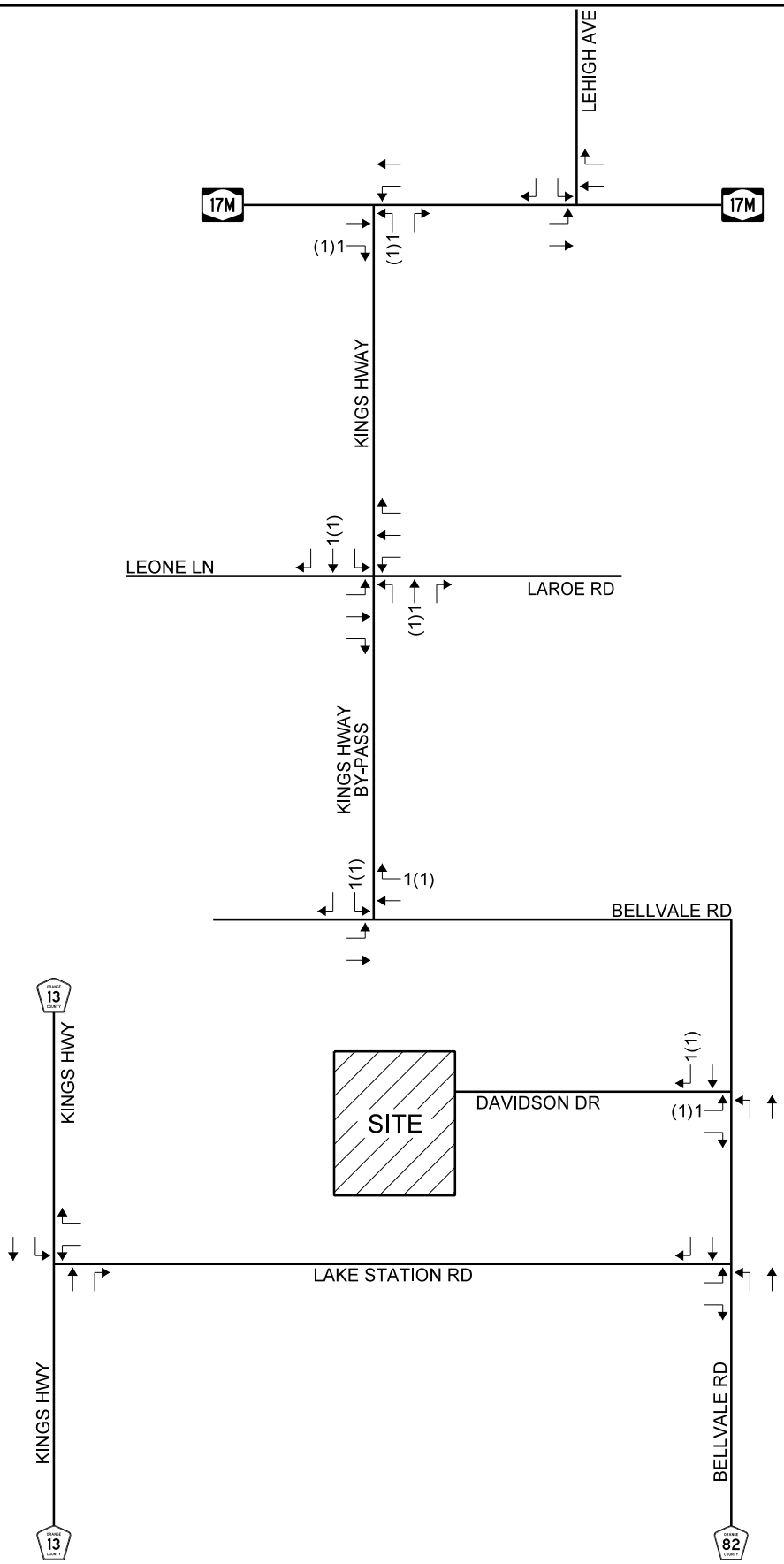
TRUCK - TRIP DISTRIBUTION

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT:	121-204	DATE:	11/2023	FIGURE:	6

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



LEGEND:
AM (PM)

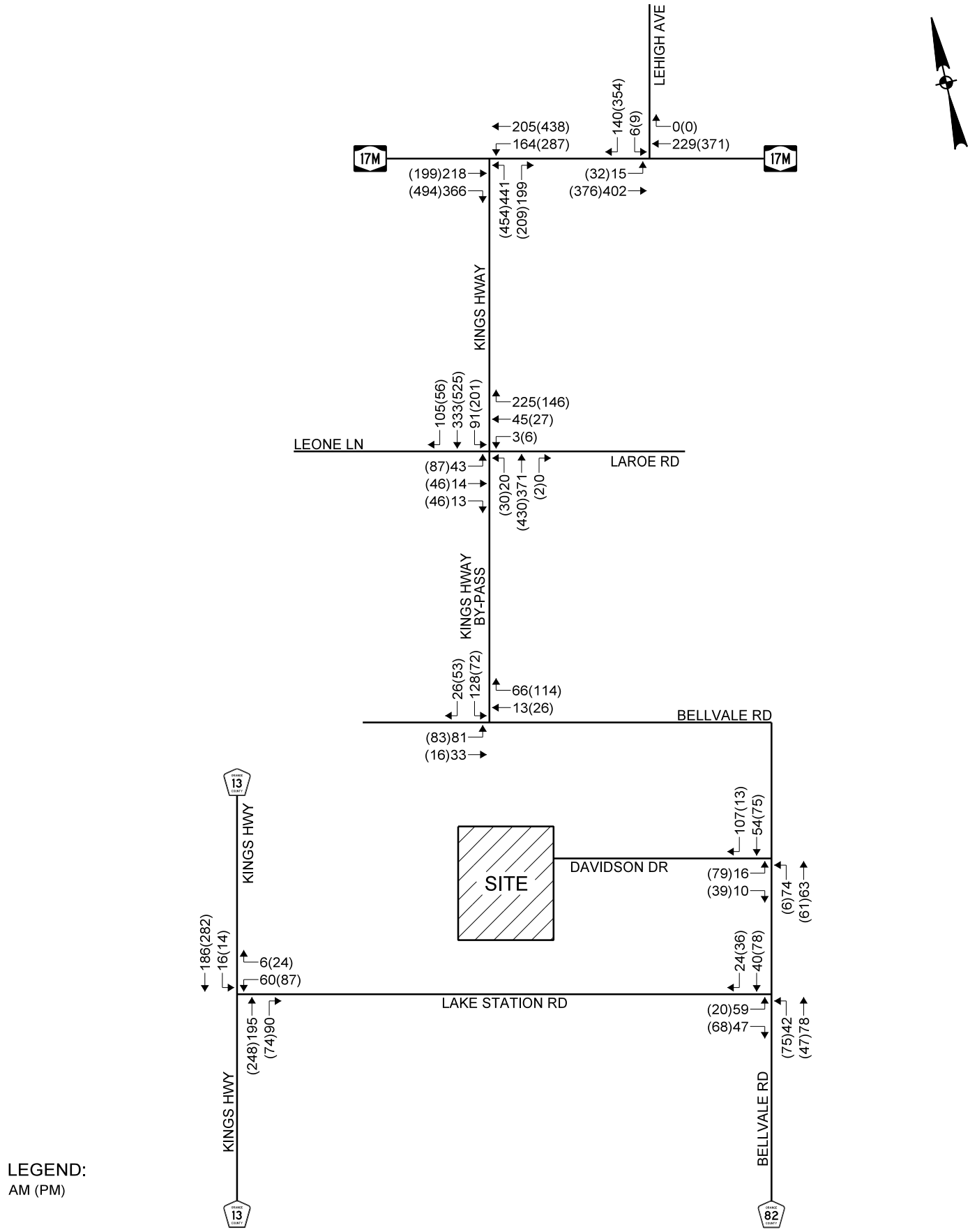
TRUCK - TRIP ASSIGNMENT

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT: 121-204	DATE: 11/2023	FIGURE: 7

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn



LEGEND:
AM (PM)

2025 BUILD TRAFFIC VOLUMES

DAVIDSON DRIVE HOLDINGS, LLC
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Creighton Manning

PROJECT:	121-204	DATE:	11/2023	FIGURE:	8

N:\Projects\2021\121-204 Davidson Drive Holdings - Chester\Working\CADD\dgn\121-204_fig_traf_01.dgn

ATTACHMENT A
SITE PLAN

PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
DAVIDSON DRIVE
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

TABLE OF ZONING REQUIREMENTS:

ZONE IP (LIGHT ENTERPRISE)
LIGHT INDUSTRIAL USE BUILDING

LOT DIMENSIONS

BULK TABLE: (MINIMUMS)	REQUIRED	PROVIDED
LOT AREA (AC)	2 AC.	16.07 AC.
LOT WIDTH (FEET)	200'	1000'+/-
FRONT YARD (FEET)	60'	199'
REAR YARD (FEET)	50'	107'
ONE SIDE YARD (FEET)	50'	152'
BOTH SIDE YARDS (FEET)	100'	313'
BULK TABLE: (MAXIMUMS)		
BUILDING HEIGHT (FEET)	45'	LESS THAN 45'
BUILDING COVERAGE	40%	LESS THAN 40%

PARKING CALCULATION TABLE

PROPOSED USE	PARKING REQUIREMENT	REQUIRED SPACES
OFFICE	ONE SPACE/200 SQ.FT.	4,000/200=20 SPACES
LIGHT INDUSTRIAL	2 SPACES PER 3 EMPLOYEES ON THE TWO LARGEST CONSECUTIVE SHIFTS	2/3*45 EMPLOYEES=30 SPACES
		TOTAL REQUIRED=50 SPACES
		PROVIDED=57 SPACES
TRUCK PARKING SPACES		PROVIDED=13 SPACES

LEGEND:

- EXISTING EDGE OF PAVEMENT
- EXISTING PROPERTY LINE
- EXISTING ADJACENT PROPERTY LINE
- EXISTING STONE WALL
- EXISTING OVERHEAD LINE
- EXISTING WETLAND
- EXISTING EASEMENT
- EXISTING STREAM
- 100' ADJACENT AREA LINE
- EXISTING CATCH BASIN
- EXISTING UTILITY POLE
- PROPOSED SETBACK LINE
- PROPOSED EDGE OF PAVEMENT
- PROPOSED TIMBER GUIDERAIL
- PROPOSED CURB
- PROPOSED SPLIT RAIL FENCE

PROPOSED LIGHT INDUSTRIAL USE BUILDING 166,024 SQFT TOTAL

PROPOSED WALL L=578'

PROPOSED WALL L=394'

PROPOSED WALL L=89'

PROPOSED SPLIT RAIL FENCE

PROPOSED TIMBER GUIDERAIL

9.5'x8' SCREENED DUMPSTER

9.5'x8' SCREENED DUMPSTER

APPROXIMATE SEPTIC SYSTEM LOCATION

NO SEPTIC/WELL WITHIN 200'

NO SEPTIC/WELL WITHIN 100'

PROPOSED AREA NO SEPTIC/WELL

PORTION OF LOT 7.1 M.P#10171

IRON ROD FOUND

IRON PIPE FOUND

WETLAND AREA

100' ADJACENT AREA

STONE WALL

STREAM BED

STREAM

PARADISE LANE

LAKE STATION ROAD (30mph)

SITE PLAN
SCALE: 1"=40'

SCALE
40 0 20 40 80
SCALE FEET

TOWN OF CHESTER PLANNING BOARD APPROVAL

REVISION	BY	DATE	DESCRIPTION
8.	MM	11/13/23	PER PH & PB COMMENTS
7.	MM	8/7/23	SITE RE-DESIGN
6.	MM	2/6/23	PH CONSULTANT COMMENTS
5.	MM	3/21/22	DEC EMAIL DATED 03/11/22
4.	MM	12/2/21	PER PB MTG & AF COMMENT LETTER
3.	MM	9/16/21	PREPARATION OF PRELIMINARY PLANS
2.	MM	5/19/21	REVISION PER PB MTG. & COMMENT LETTERS
1.	MM	3/23/21	ROAD LAYOUT REVISION PER PB MTG.

THIS SHEET IS NOT VALID WITHOUT ALL OF THE SHEETS THAT COMPRISE THE SET

ARDEN CONSULTING ENGINEERS, PLLC
P.O. BOX 340 MONROE, N.Y.
T: 845-782-8114 E: MAM@ARDENCONSULTING.NET

MICHAEL A. MORGANTE, P.E.
LIC. NO. 78577

SITE PLAN & LOT LINE COMBINATION FOR
DAVIDSON DRIVE HOLDINGS, LLC
LAKE STATION ROAD
TOWN OF CHESTER, COUNTY OF ORANGE, NY

SITE PLAN

JOB#:	20-030
SCALE:	AS NOTED
DATE:	03-21-22
DRAWN:	MM
CHECKED:	MM
SHEET NO.	04 OF 22

ATTACHMENT B
ACCESS HIGHWAY DESIGNATION REQUEST/APPROVAL LETTER

PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
DAVIDSON DRIVE
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

January 19, 2022

NYS Department of Transportation
4 Burnett Boulevard
Poughkeepsie, NY 12603
Attn: Lee Zimmer, PE, Acting RTE (via email)

RE: Access Highway Designation Request, Bellvale Road (CR 82) and Lake Station Road, Town of Chester, Orange County, New York; CM Project No. 121-204

Dear Mr. Zimmer:

On behalf of the proposed industrial development located on Lake Station Drive in the Town of Chester, Orange County, New York, Creighton Manning Engineering, LLP (CM) is submitting this request to designate two highway segments in Orange County as Access Highways. The subject property is known as Section 17, Block 1, Lots 22.1 through 22.8. Attached is a copy of the current Site Plan, prepared by Arden Consulting Engineers PLLC, showing the subject property, proposed industrial building, and proposed driveways on the Private Access Drive. It is the intent of the proposed industrial development to have Special Dimension Vehicles (SDVs), specifically WB-67s (53-foot trailers), visit the subject property from NYS Route 17, a qualifying highway, via Exit 126 (NYS Route 94) for northbound/southbound approaches.

In order to navigate to and from this exit, the segments of (A) Bellvale Road (CR 82) from Kings Highway Bypass (CR 13A) to Lake Station Road and (B) Lake Station Road from Bellvale Road to the Private Access Drive opposite Paradise Lane need to be designated as Access Highways. It should be noted that the segments of Kings Highway (CR 13)/Kings Highway Bypass (CR 13A) from Bellvale Road (CR 82) to NYS Route 17M, NYS Route 17M from Kings Highway (CR 13) to NYS Route 94, and NYS Route 94 from NYS Route 17M to NYS Route 17A in the neighboring Town/Village of Chester are currently designated as Access Highways as per the New York State Department of Transportation (NYSDOT) *Official Description of Designated Qualifying and Access Highways in New York State*, October 2020. Additionally, on September 1, 2021, the NYSDOT designated NYS Route 17M from Kings Highway (CR 13) to Craigville Road (CR 51) as an access highway (reference number T21-113). This segment will serve SDVs traveling eastbound to NYS Route 17 outbound from the site. These new designations would cover both the approach and departure paths for site-generated SDVs.

In summary, the following highway segments in Orange County (NYSDOT Region 8) are hereby requested for designation as access highways:

A. Bellvale Road (CR 82): from Kings Highway (CR 13A) to Lake Station Road in the Town of Chester, a distance of approximately 3,900 feet.
B. Lake Station Road: from Bellvale Road (CR 82) to Private Access Drive in the Town of Chester, a distance of approximately 1,070 feet.

Included herein is a map highlighting the highway segments associated with this request for designation as Access Highways. If it would be helpful, the project team can be available and is willing to facilitate a virtual meeting to discuss this request at a mutually convenient date and time. Please feel free to call me at 914.800.9202 if you have any questions or comments regarding this request.

Respectfully submitted,
Creighton Manning Engineering, LLP

Frank A. Filiciotto, PE
Associate

cc: Michael A. Morgante, PE
Israel Vanchozker
Joseph Herskovitz

Attachments

NEW YORK STATE OF OPPORTUNITY. | Department of Transportation

ANDREW M. CUOMO
Governor

MARIE THERESE DOMINGUEZ
Commissioner

LANCE MacMILLAN, P.E.
Regional Director

April 7, 2022

Mr. Frank Filiciotto, PE
Associate, Creighton Manning Engineering, LLP
145 Main Street
Ossining, NY 10562

Re: T22-039

Dear Mr. Filiciotto:

Thank you for your correspondence to the New York State Department of Transportation (NYSDOT) dated January 19, 2022, requesting the following roads be designated as access highways for Special Dimension Vehicles (53' tractor trailers) in the Town of Chester.

- Bellvale Road (CR 82) from Kings Highway (CR 13A) to Lake Station Road, a distance of approximately 3,900 feet; and,
- Lake Station Road from Bellvale Road (CR 82) to Private Access Drive, a distance of approximately 1,070 feet.

Please know that on April 18. 2022 it will be legal to drive special dimension vehicles on these segments of Bellvale Road (CR 82) and Lake Station Road.

Law enforcement officials are being notified of this change by copy of this letter.

Thank you for your interest in traffic safety and for bringing your concerns to our attention. If you require further information on this request, please contact the Regional Traffic and Safety Group at (845) 437-3320 and reference T22-039.

Sincerely,

Gayle Sudder
Transportation Analyst

Cc: D. Carey, Office of Traffic Safety and Mobility, Traffic Operations Bureau, POD 53
R. Gaupman, Resident Engineer, Residency 8-5
Sgt. M. Belgiovene, New York State Police, Troop F

NEW YORK
STATE OF
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Department of
Transportation

ANDREW M. CUOMO
Governor

MARIE THERESE DOMINGUEZ
Commissioner

LANCE MacMILLAN, P.E.
Regional Director

Sheriff C.E. Dubois, Orange County Sheriff's Department
Chief D. Doellinger, Town of Chester Police Department
Hon. E. Denega, Commissioner, Orange County Dept. of Public Works
M. Villarosa, P.E., Principal Engineer, Orange County Dept. of Public Works
Hon. R. Valentine, Supervisor, Town of Chester
Hon. J. Reilley III, Superintendent, Town of Chester Highway Department

ATTACHMENT C
TURNING MOVEMENT COUNTS

PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
DAVIDSON DRIVE
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

121-204 Bellvale Rd/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857862, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

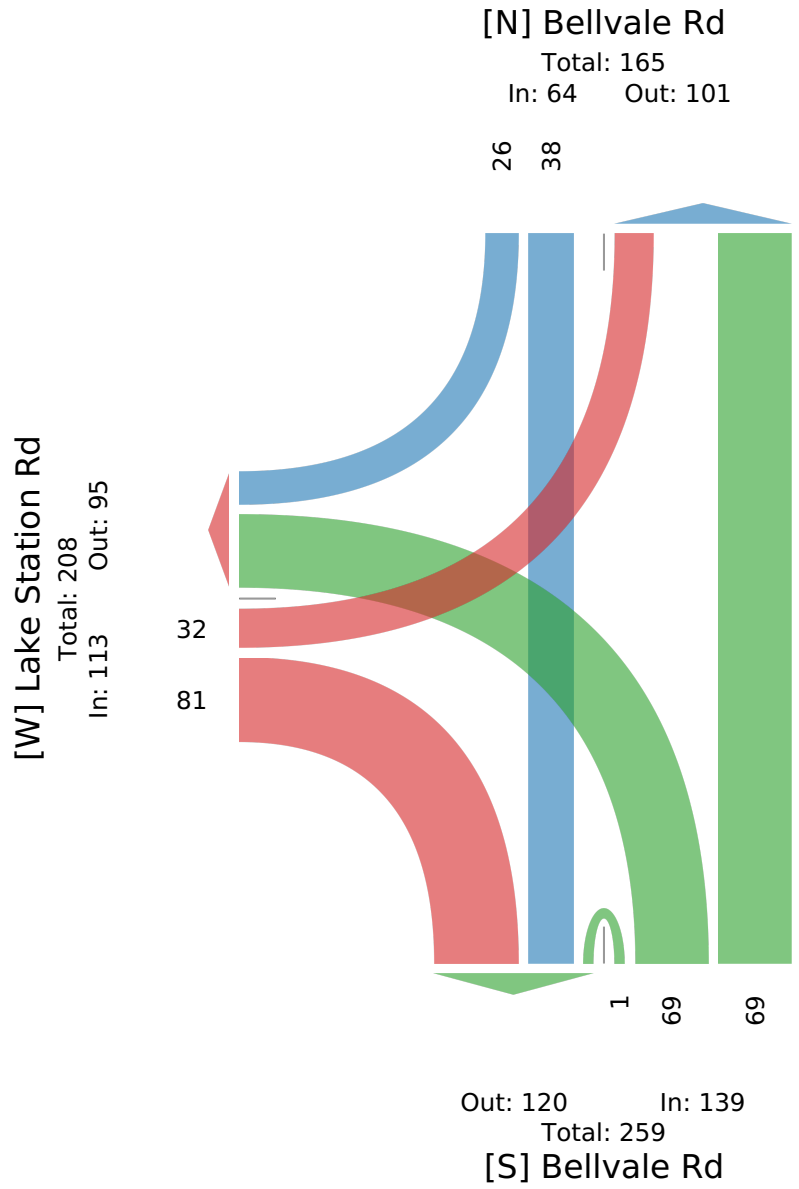
Leg	Lake Station Rd				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2021-07-22 7:00AM	1	6	0	**7**	9	7	0	**16**	1	6	0	**7**	**30**
7:15AM	6	6	0	**12**	5	13	0	**18**	2	4	0	**6**	**36**
7:30AM	3	13	0	**16**	6	6	0	**12**	10	1	0	**11**	**39**
7:45AM	1	11	0	**12**	9	6	0	**15**	5	4	0	**9**	**36**
Hourly Total	11	36	0	**47**	29	32	0	**61**	18	15	0	**33**	**141**
8:00AM	5	10	0	**15**	7	9	0	**16**	5	3	0	**8**	**39**
8:15AM	3	11	0	**14**	9	7	0	**16**	4	2	0	**6**	**36**
8:30AM	6	16	0	**22**	8	9	0	**17**	3	3	0	**6**	**45**
8:45AM	7	8	0	**15**	16	12	1	**29**	8	3	0	**11**	**55**
Hourly Total	21	45	0	**66**	40	37	1	**78**	20	11	0	**31**	**175**
9:00AM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	32	81	0	**113**	69	69	1	**139**	38	26	0	**64**	**316**
% Approach	28.3%	71.7%	0%	**-**	49.6%	49.6%	0.7%	**-**	59.4%	40.6%	0%	**-**	-
% Total	10.1%	25.6%	0%	**35.8%**	21.8%	21.8%	0.3%	**44.0%**	12.0%	8.2%	0%	**20.3%**	-
Lights	29	78	0	**107**	67	62	0	**129**	33	25	0	**58**	294
% Lights	90.6%	96.3%	0%	**94.7%**	97.1%	89.9%	0%	**92.8%**	86.8%	96.2%	0%	**90.6%**	93.0%
Articulated Trucks and Single-Unit Trucks	1	3	0	**4**	1	5	1	**7**	5	1	0	**6**	17
% Articulated Trucks and Single-Unit Trucks	3.1%	3.7%	0%	**3.5%**	1.4%	7.2%	100%	**5.0%**	13.2%	3.8%	0%	**9.4%**	5.4%
Buses	2	0	0	**2**	1	2	0	**3**	0	0	0	**0**	5
% Buses	6.3%	0%	0%	**1.8%**	1.4%	2.9%	0%	**2.2%**	0%	0%	0%	**0%**	1.6%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Bellvale Rd/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857862, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Bellvale Rd/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
AM Peak (8 AM - 9 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857862, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

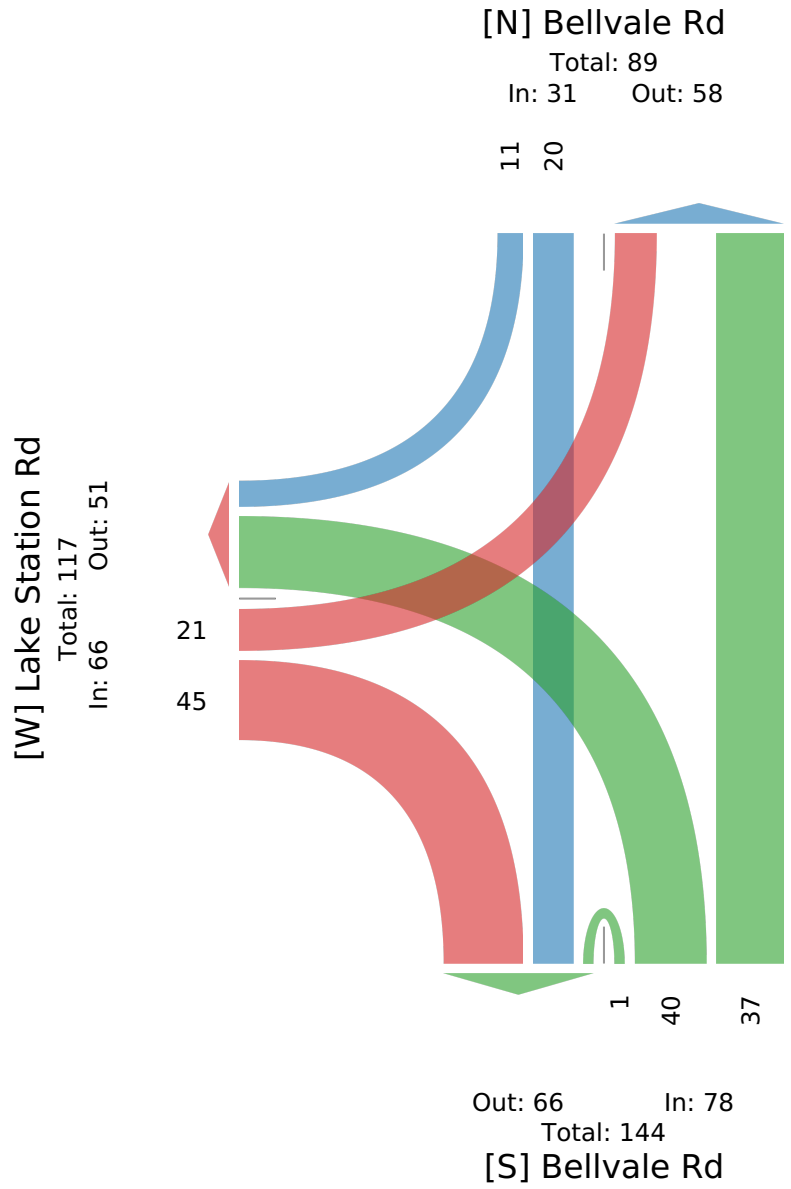
Leg	Lake Station Rd				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2021-07-22 8:00AM	5	10	0	**15**	7	9	0	**16**	5	3	0	**8**	**39**
8:15AM	3	11	0	**14**	9	7	0	**16**	4	2	0	**6**	**36**
8:30AM	6	16	0	**22**	8	9	0	**17**	3	3	0	**6**	**45**
8:45AM	7	8	0	**15**	16	12	1	**29**	8	3	0	**11**	**55**
Total	21	45	0	**66**	40	37	1	**78**	20	11	0	**31**	**175**
% Approach	31.8%	68.2%	0%	**-**	51.3%	47.4%	1.3%	**-**	64.5%	35.5%	0%	**-**	-
% Total	12.0%	25.7%	0%	**37.7%**	22.9%	21.1%	0.6%	**44.6%**	11.4%	6.3%	0%	**17.7%**	-
PHF	0.750	0.703	-	**0.750**	0.625	0.771	0.250	**0.672**	0.625	0.917	-	**0.705**	0.795
Lights	19	44	0	**63**	38	35	0	**73**	17	11	0	**28**	164
% Lights	90.5%	97.8%	0%	**95.5%**	95.0%	94.6%	0%	**93.6%**	85.0%	100%	0%	**90.3%**	93.7%
Articulated Trucks and Single-Unit Trucks	1	1	0	**2**	1	1	1	**3**	3	0	0	**3**	8
% Articulated Trucks and Single-Unit Trucks	4.8%	2.2%	0%	**3.0%**	2.5%	2.7%	100%	**3.8%**	15.0%	0%	0%	**9.7%**	4.6%
Buses	1	0	0	**1**	1	1	0	**2**	0	0	0	**0**	3
% Buses	4.8%	0%	0%	**1.5%**	2.5%	2.7%	0%	**2.6%**	0%	0%	0%	**0%**	1.7%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Bellvale Rd/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
AM Peak (8 AM - 9 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857862, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Kings Hwy/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857857, Location: 41.295737, -74.291344

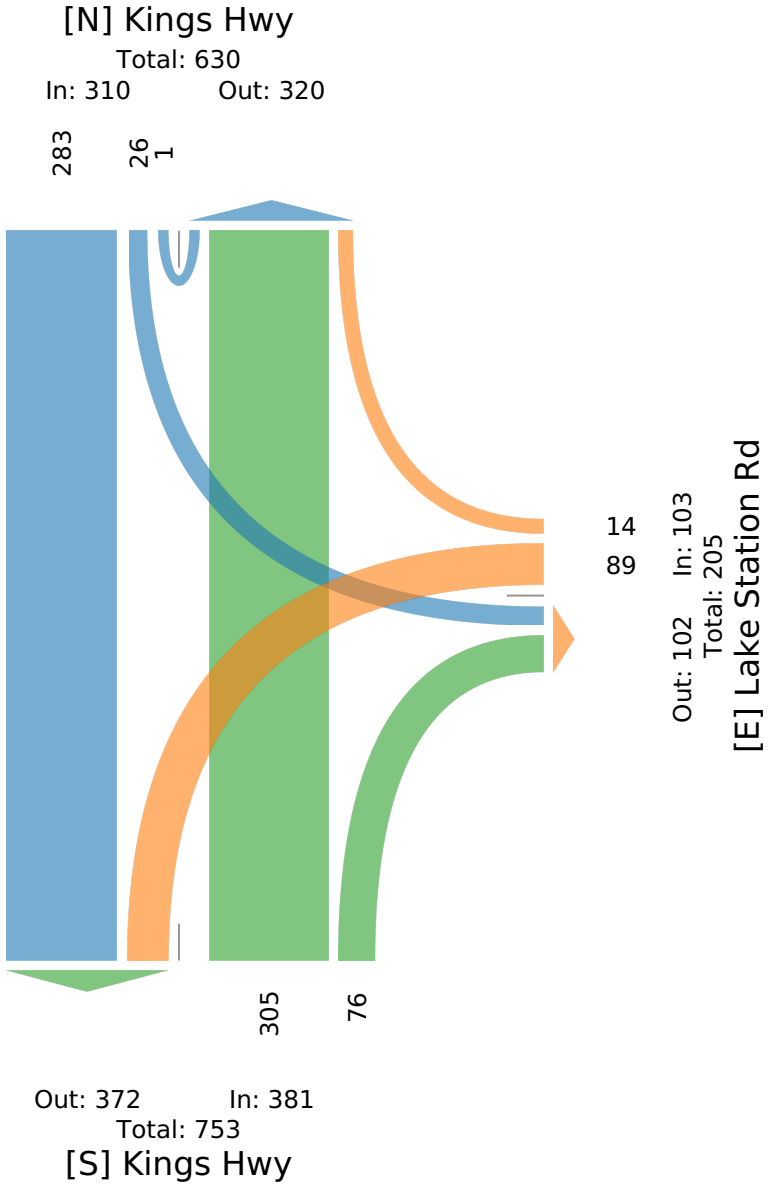
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Lake Station Rd				Kings Hwy				Kings Hwy				
Direction	Westbound				Northbound				Southbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-07-22 7:00AM	7	3	0	**10**	25	3	0	**28**	2	16	0	**18**	**56**
7:15AM	7	2	0	**9**	33	8	0	**41**	3	27	0	**30**	**80**
7:30AM	11	2	0	**13**	37	9	0	**46**	3	37	0	**40**	**99**
7:45AM	13	1	0	**14**	47	9	0	**56**	3	30	0	**33**	**103**
Hourly Total	38	8	0	**46**	142	29	0	**171**	11	110	0	**121**	**338**
8:00AM	10	0	0	**10**	27	12	0	**39**	4	36	0	**40**	**89**
8:15AM	14	1	0	**15**	40	15	0	**55**	3	30	0	**33**	**103**
8:30AM	11	4	0	**15**	40	13	0	**53**	3	42	0	**45**	**113**
8:45AM	16	1	0	**17**	56	7	0	**63**	5	65	1	**71**	**151**
Hourly Total	51	6	0	**57**	163	47	0	**210**	15	173	1	**189**	**456**
9:00AM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	89	14	0	**103**	305	76	0	**381**	26	283	1	**310**	**794**
% Approach	86.4%	13.6%	0%	**-**	80.1%	19.9%	0%	**-**	8.4%	91.3%	0.3%	**-**	-
% Total	11.2%	1.8%	0%	**13.0%**	38.4%	9.6%	0%	**48.0%**	3.3%	35.6%	0.1%	**39.0%**	-
Lights	85	13	0	**98**	283	71	0	**354**	24	266	1	**291**	743
% Lights	95.5%	92.9%	0%	**95.1%**	92.8%	93.4%	0%	**92.9%**	92.3%	94.0%	100%	**93.9%**	93.6%
Articulated Trucks and Single-Unit Trucks	3	0	0	**3**	17	3	0	**20**	1	13	0	**14**	37
% Articulated Trucks and Single-Unit Trucks	3.4%	0%	0%	**2.9%**	5.6%	3.9%	0%	**5.2%**	3.8%	4.6%	0%	**4.5%**	4.7%
Buses	1	1	0	**2**	5	2	0	**7**	1	4	0	**5**	14
% Buses	1.1%	7.1%	0%	**1.9%**	1.6%	2.6%	0%	**1.8%**	3.8%	1.4%	0%	**1.6%**	1.8%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Kings Hwy/Lake Station Rd - AM - TMC
Thu Jul 22, 2021
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857857, Location: 41.295737, -74.291344

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Kings Hwy/Lake Station Rd - AM - TMC

Thu Jul 22, 2021
AM Peak (8 AM - 9 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857857, Location: 41.295737, -74.291344

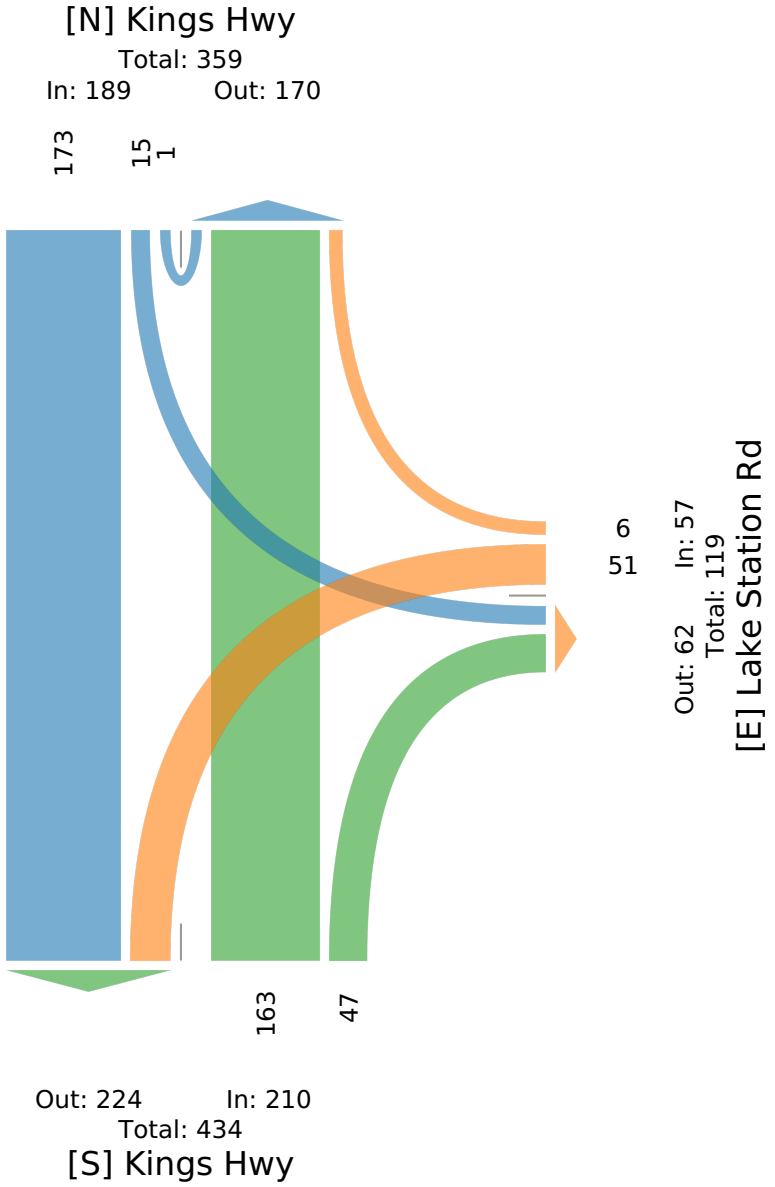
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Lake Station Rd				Kings Hwy				Kings Hwy				
Direction	Westbound				Northbound				Southbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-07-22 8:00AM	10	0	0	**10**	27	12	0	**39**	4	36	0	**40**	**89**
8:15AM	14	1	0	**15**	40	15	0	**55**	3	30	0	**33**	**103**
8:30AM	11	4	0	**15**	40	13	0	**53**	3	42	0	**45**	**113**
8:45AM	16	1	0	**17**	56	7	0	**63**	5	65	1	**71**	**151**
Total	51	6	0	**57**	163	47	0	**210**	15	173	1	**189**	**456**
% Approach	89.5%	10.5%	0%	**-**	77.6%	22.4%	0%	**-**	7.9%	91.5%	0.5%	**-**	-
% Total	11.2%	1.3%	0%	**12.5%**	35.7%	10.3%	0%	**46.1%**	3.3%	37.9%	0.2%	**41.4%**	-
PHF	0.797	0.375	-	**0.838**	0.728	0.783	-	**0.833**	0.750	0.665	0.250	**0.665**	0.755
Lights	48	6	0	**54**	153	44	0	**197**	14	162	1	**177**	428
% Lights	94.1%	100%	0%	**94.7%**	93.9%	93.6%	0%	**93.8%**	93.3%	93.6%	100%	**93.7%**	93.9%
Articulated Trucks and Single-Unit Trucks	2	0	0	**2**	9	2	0	**11**	1	8	0	**9**	22
% Articulated Trucks and Single-Unit Trucks	3.9%	0%	0%	**3.5%**	5.5%	4.3%	0%	**5.2%**	6.7%	4.6%	0%	**4.8%**	4.8%
Buses	1	0	0	**1**	1	1	0	**2**	0	3	0	**3**	6
% Buses	2.0%	0%	0%	**1.8%**	0.6%	2.1%	0%	**1.0%**	0%	1.7%	0%	**1.6%**	1.3%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Kings Hwy/Lake Station Rd - AM - TMC
Thu Jul 22, 2021
AM Peak (8 AM - 9 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857857, Location: 41.295737, -74.291344

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Bellvale Rd/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857863, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

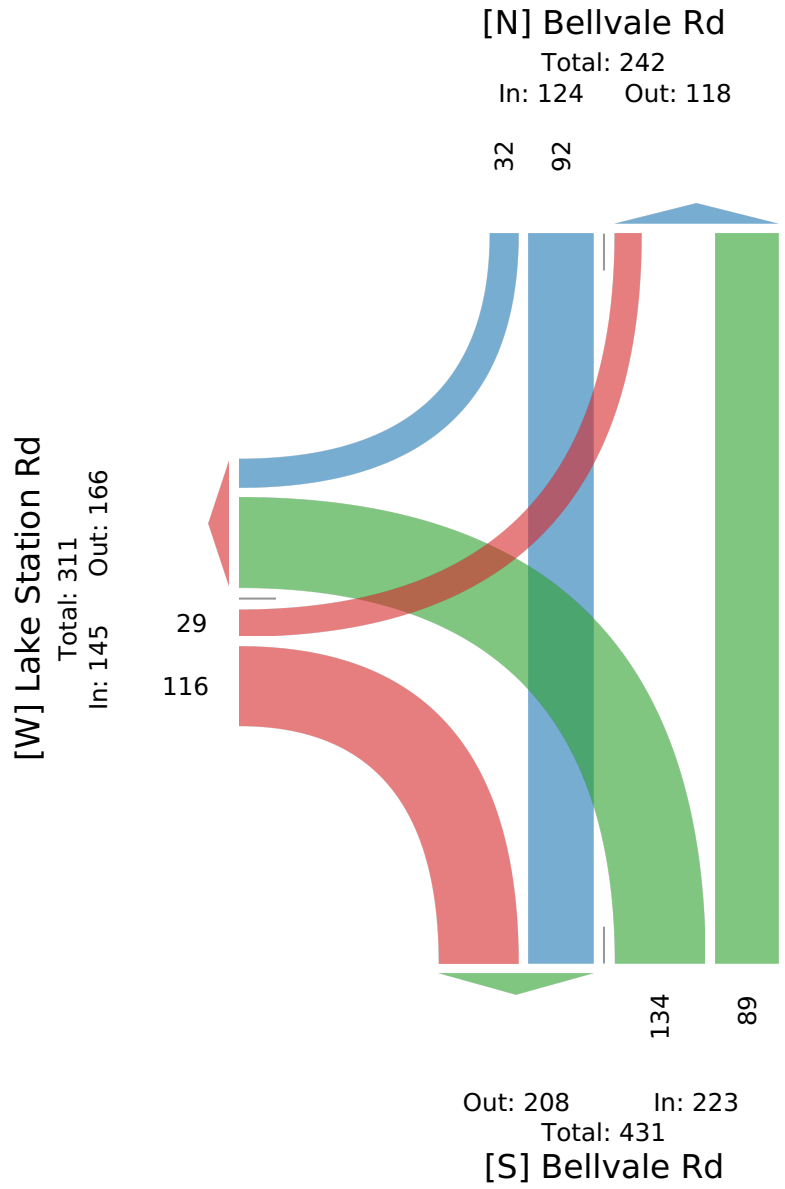
Leg	Lake Station Rd				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2021-07-22 4:00PM	5	14	0	**19**	16	12	0	**28**	7	5	0	**12**	**59**
4:15PM	5	26	0	**31**	20	8	0	**28**	10	3	0	**13**	**72**
4:30PM	6	15	0	**21**	22	6	0	**28**	8	6	0	**14**	**63**
4:45PM	2	13	0	**15**	13	10	0	**23**	15	3	0	**18**	**56**
Hourly Total	18	68	0	**86**	71	36	0	**107**	40	17	0	**57**	**250**
5:00PM	3	12	0	**15**	15	13	0	**28**	15	4	0	**19**	**62**
5:15PM	2	11	0	**13**	16	13	0	**29**	11	5	0	**16**	**58**
5:30PM	3	16	0	**19**	16	12	0	**28**	13	3	0	**16**	**63**
5:45PM	3	9	0	**12**	16	15	0	**31**	13	3	0	**16**	**59**
Hourly Total	11	48	0	**59**	63	53	0	**116**	52	15	0	**67**	**242**
6:00PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	29	116	0	**145**	134	89	0	**223**	92	32	0	**124**	**492**
% Approach	20.0%	80.0%	0%	**-**	60.1%	39.9%	0%	**-**	74.2%	25.8%	0%	**-**	-
% Total	5.9%	23.6%	0%	**29.5%**	27.2%	18.1%	0%	**45.3%**	18.7%	6.5%	0%	**25.2%**	-
Lights	29	114	0	**143**	132	87	0	**219**	90	32	0	**122**	484
% Lights	100%	98.3%	0%	**98.6%**	98.5%	97.8%	0%	**98.2%**	97.8%	100%	0%	**98.4%**	98.4%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	1	2	0	**3**	2	0	0	**2**	6
% Articulated Trucks and Single-Unit Trucks	0%	0.9%	0%	**0.7%**	0.7%	2.2%	0%	**1.3%**	2.2%	0%	0%	**1.6%**	1.2%
Buses	0	1	0	**1**	1	0	0	**1**	0	0	0	**0**	2
% Buses	0%	0.9%	0%	**0.7%**	0.7%	0%	0%	**0.4%**	0%	0%	0%	**0%**	0.4%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Bellvale Rd/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857863, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Bellvale Rd/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857863, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

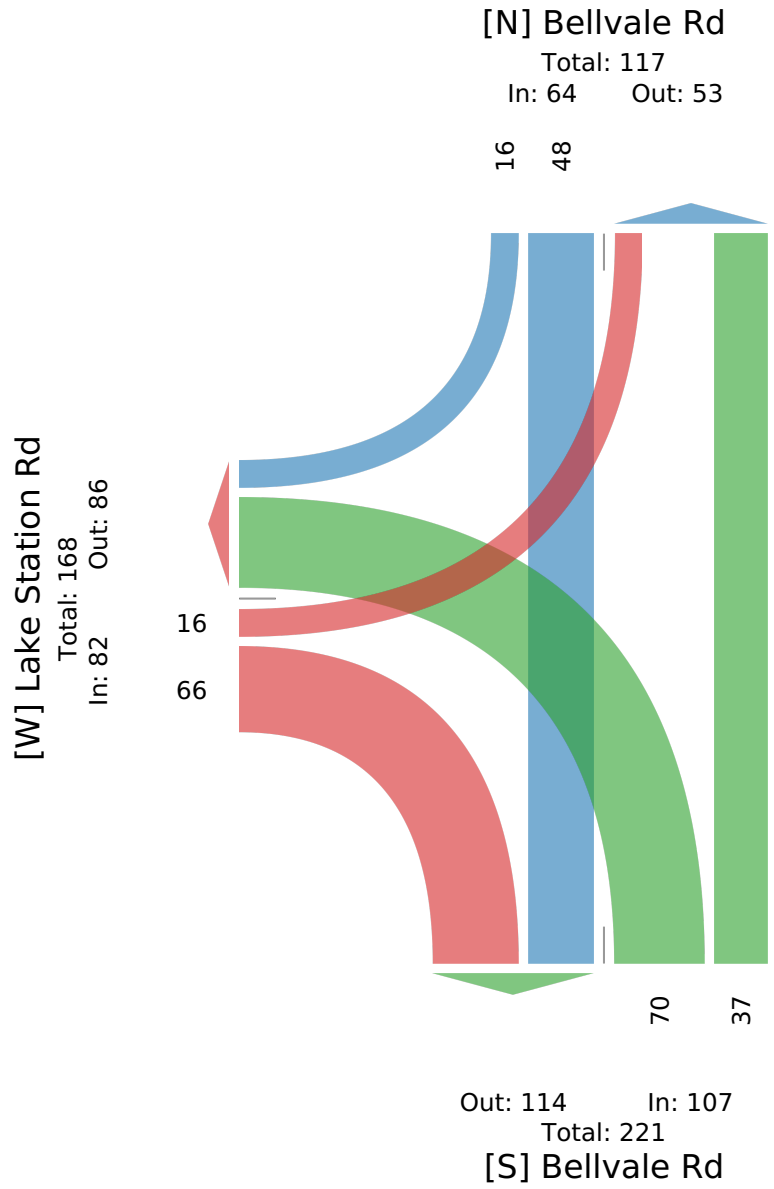
Leg	Lake Station Rd				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2021-07-22 4:15PM	5	26	0	**31**	20	8	0	**28**	10	3	0	**13**	**72**
4:30PM	6	15	0	**21**	22	6	0	**28**	8	6	0	**14**	**63**
4:45PM	2	13	0	**15**	13	10	0	**23**	15	3	0	**18**	**56**
5:00PM	3	12	0	**15**	15	13	0	**28**	15	4	0	**19**	**62**
Total	16	66	0	**82**	70	37	0	**107**	48	16	0	**64**	**253**
% Approach	19.5%	80.5%	0%	**-**	65.4%	34.6%	0%	**-**	75.0%	25.0%	0%	**-**	-
% Total	6.3%	26.1%	0%	**32.4%**	27.7%	14.6%	0%	**42.3%**	19.0%	6.3%	0%	**25.3%**	-
PHF	0.667	0.635	-	**0.661**	0.795	0.712	-	**0.955**	0.800	0.667	-	**0.842**	0.878
Lights	16	64	0	**80**	69	36	0	**105**	46	16	0	**62**	247
% Lights	100%	97.0%	0%	**97.6%**	98.6%	97.3%	0%	**98.1%**	95.8%	100%	0%	**96.9%**	97.6%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	0	1	0	**1**	2	0	0	**2**	4
% Articulated Trucks and Single-Unit Trucks	0%	1.5%	0%	**1.2%**	0%	2.7%	0%	**0.9%**	4.2%	0%	0%	**3.1%**	1.6%
Buses	0	1	0	**1**	1	0	0	**1**	0	0	0	**0**	2
% Buses	0%	1.5%	0%	**1.2%**	1.4%	0%	0%	**0.9%**	0%	0%	0%	**0%**	0.8%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Bellvale Rd/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857863, Location: 41.29903, -74.277448

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Kings Hwy/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857858, Location: 41.295737, -74.291344

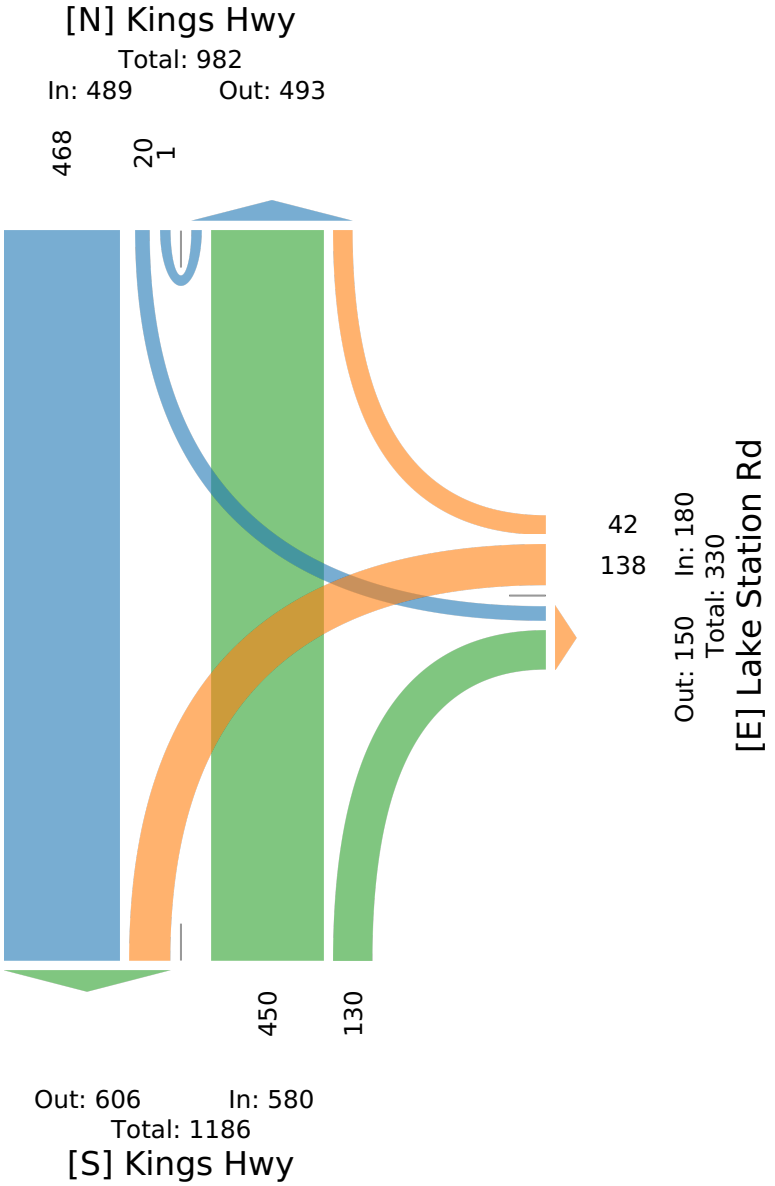
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Lake Station Rd				Kings Hwy				Kings Hwy				
Direction	Westbound				Northbound				Southbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-07-22 4:00PM	21	6	0	**27**	57	15	0	**72**	1	50	0	**51**	**150**
4:15PM	17	5	0	**22**	56	25	0	**81**	1	55	0	**56**	**159**
4:30PM	22	11	0	**33**	47	19	0	**66**	5	53	0	**58**	**157**
4:45PM	12	4	0	**16**	56	14	0	**70**	4	70	0	**74**	**160**
Hourly Total	72	26	0	**98**	216	73	0	**289**	11	228	0	**239**	**626**
5:00PM	22	6	0	**28**	54	13	0	**67**	4	61	0	**65**	**160**
5:15PM	12	3	0	**15**	71	19	0	**90**	0	62	1	**63**	**168**
5:30PM	12	5	0	**17**	49	14	0	**63**	1	52	0	**53**	**133**
5:45PM	20	2	0	**22**	60	11	0	**71**	4	65	0	**69**	**162**
Hourly Total	66	16	0	**82**	234	57	0	**291**	9	240	1	**250**	**623**
6:00PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	138	42	0	**180**	450	130	0	**580**	20	468	1	**489**	**1249**
% Approach	76.7%	23.3%	0%	**-**	77.6%	22.4%	0%	**-**	4.1%	95.7%	0.2%	**-**	-
% Total	11.0%	3.4%	0%	**14.4%**	36.0%	10.4%	0%	**46.4%**	1.6%	37.5%	0.1%	**39.2%**	-
Lights	138	38	0	**176**	442	126	0	**568**	20	462	1	**483**	1227
% Lights	100%	90.5%	0%	**97.8%**	98.2%	96.9%	0%	**97.9%**	100%	98.7%	100%	**98.8%**	98.2%
Articulated Trucks and Single-Unit Trucks	0	2	0	**2**	6	3	0	**9**	0	5	0	**5**	16
% Articulated Trucks and Single-Unit Trucks	0%	4.8%	0%	**1.1%**	1.3%	2.3%	0%	**1.6%**	0%	1.1%	0%	**1.0%**	1.3%
Buses	0	2	0	**2**	2	1	0	**3**	0	1	0	**1**	6
% Buses	0%	4.8%	0%	**1.1%**	0.4%	0.8%	0%	**0.5%**	0%	0.2%	0%	**0.2%**	0.5%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Kings Hwy/Lake Station Rd - PM - TMC
Thu Jul 22, 2021
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857858, Location: 41.295737, -74.291344

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Kings Hwy/Lake Station Rd - PM - TMC

Thu Jul 22, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857858, Location: 41.295737, -74.291344

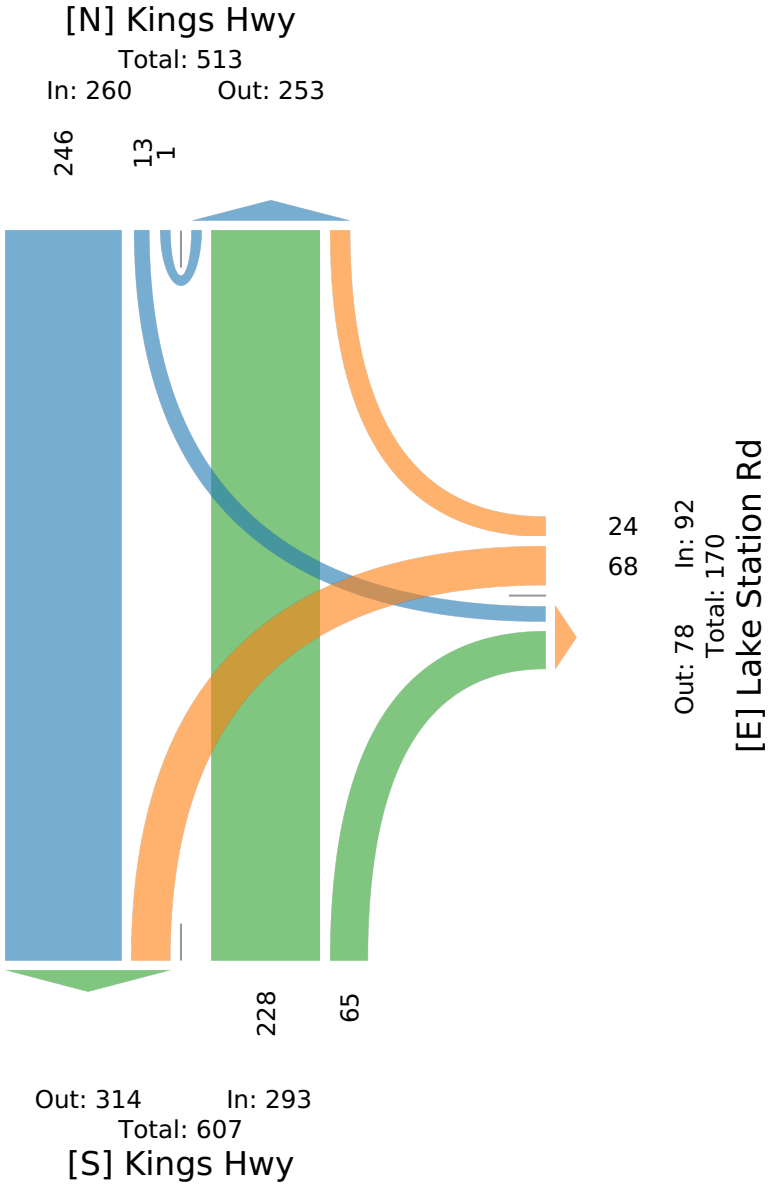
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Lake Station Rd				Kings Hwy				Kings Hwy				
Direction	Westbound				Northbound				Southbound				
Time	L	R	U	**App**	T	R	U	**App**	L	T	U	**App**	**Int**
2021-07-22 4:30PM	22	11	0	**33**	47	19	0	**66**	5	53	0	**58**	**157**
4:45PM	12	4	0	**16**	56	14	0	**70**	4	70	0	**74**	**160**
5:00PM	22	6	0	**28**	54	13	0	**67**	4	61	0	**65**	**160**
5:15PM	12	3	0	**15**	71	19	0	**90**	0	62	1	**63**	**168**
Total	68	24	0	**92**	228	65	0	**293**	13	246	1	**260**	**645**
% Approach	73.9%	26.1%	0%	**-**	77.8%	22.2%	0%	**-**	5.0%	94.6%	0.4%	**-**	-
% Total	10.5%	3.7%	0%	**14.3%**	35.3%	10.1%	0%	**45.4%**	2.0%	38.1%	0.2%	**40.3%**	-
PHF	0.773	0.545	-	**0.697**	0.803	0.855	-	**0.814**	0.650	0.879	0.250	**0.878**	0.960
Lights	68	23	0	**91**	224	64	0	**288**	13	242	1	**256**	635
% Lights	100%	95.8%	0%	**98.9%**	98.2%	98.5%	0%	**98.3%**	100%	98.4%	100%	**98.5%**	98.4%
Articulated Trucks and Single-Unit Trucks	0	1	0	**1**	3	0	0	**3**	0	3	0	**3**	7
% Articulated Trucks and Single-Unit Trucks	0%	4.2%	0%	**1.1%**	1.3%	0%	0%	**1.0%**	0%	1.2%	0%	**1.2%**	1.1%
Buses	0	0	0	**0**	1	1	0	**2**	0	1	0	**1**	3
% Buses	0%	0%	0%	**0%**	0.4%	1.5%	0%	**0.7%**	0%	0.4%	0%	**0.4%**	0.5%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Kings Hwy/Lake Station Rd - PM - TMC
Thu Jul 22, 2021
PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 857858, Location: 41.295737, -74.291344

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

Project No: 121-204; Davidson Drive
Counted By: EM
Date/Time: 2-8-2023/AM
Location: Lake Station Rd & Bellvale Rd

File Name : 20230208_Lake Station-Bellvale_Weekday AM_121204
Site Code : 00122223
Start Date : 2/8/2023
Page No : 1

Groups Printed- Vehicles - Trucks - Buses

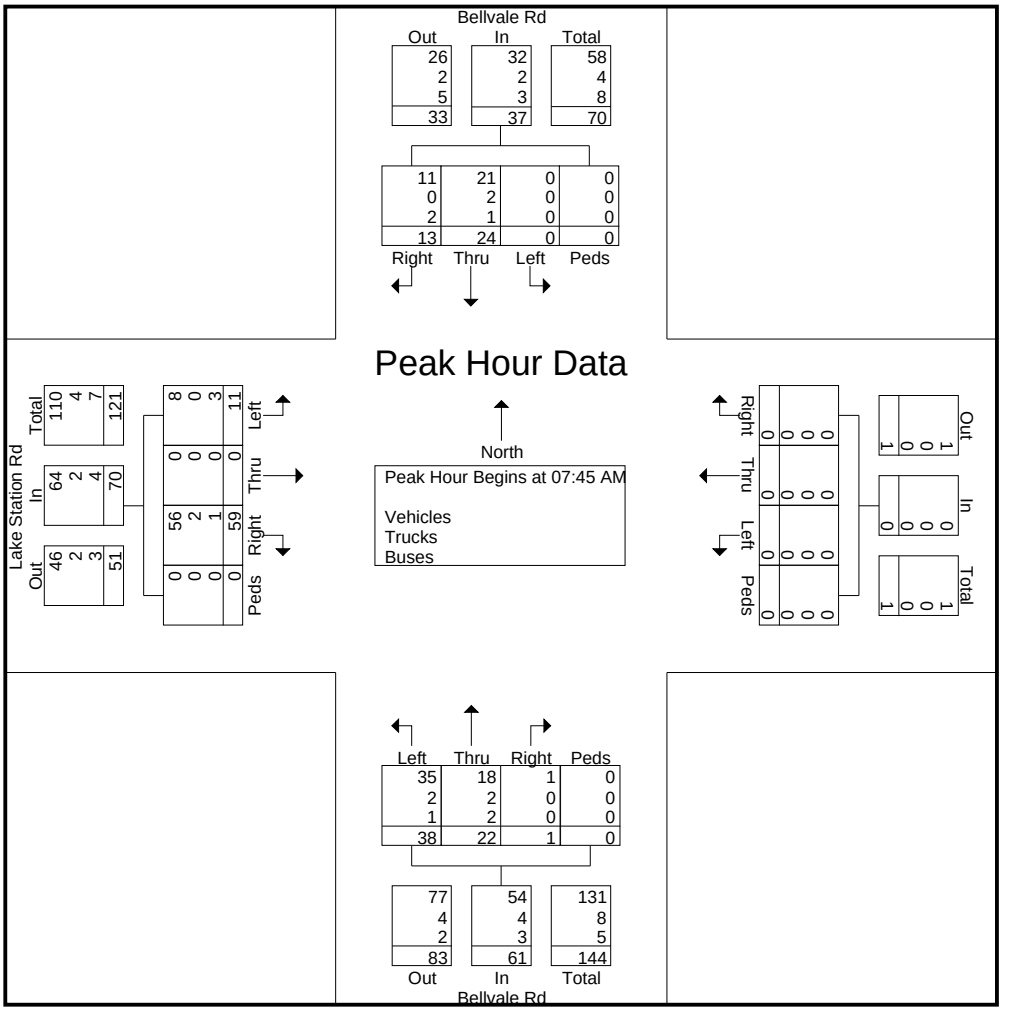
	Lake Station Rd Eastbound					Westbound					Bellvale Rd Northbound					Bellvale Rd Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	3	0	7	0	10	0	0	0	0	0	14	10	0	0	24	0	9	2	0	11	45
07:15 AM	4	0	12	0	16	0	0	0	0	0	11	6	0	0	17	0	8	2	0	10	43
07:30 AM	6	0	12	0	18	0	0	0	0	0	4	3	0	0	7	0	5	1	0	6	31
07:45 AM	4	0	14	0	18	0	0	0	0	0	11	6	1	0	18	0	3	3	0	6	42
Total	17	0	45	0	62	0	0	0	0	0	40	25	1	0	66	0	25	8	0	33	161
08:00 AM	3	0	11	0	14	0	0	0	0	0	7	3	0	0	10	0	6	4	0	10	34
08:15 AM	2	0	16	0	18	0	0	0	0	0	8	6	0	0	14	0	5	6	0	11	43
08:30 AM	2	0	18	0	20	0	0	0	0	0	12	7	0	0	19	0	10	0	0	10	49
08:45 AM	7	0	10	0	17	0	0	0	0	0	12	5	0	0	17	0	3	2	0	5	39
Total	14	0	55	0	69	0	0	0	0	0	39	21	0	0	60	0	24	12	0	36	165
Grand Total	31	0	100	0	131	0	0	0	0	0	79	46	1	0	126	0	49	20	0	69	326
Apprch %	23.7	0	76.3	0		0	0	0	0		62.7	36.5	0.8	0		0	71	29	0		
Total %	9.5	0	30.7	0	40.2	0	0	0	0	0	24.2	14.1	0.3	0	38.7	0	15	6.1	0	21.2	
Vehicles	28	0	97	0	125	0	0	0	0	0	75	42	1	0	118	0	44	17	0	61	304
% Vehicles	90.3	0	97	0	95.4	0	0	0	0	0	94.9	91.3	100	0	93.7	0	89.8	85	0	88.4	93.3
Trucks	0	0	2	0	2	0	0	0	0	0	3	2	0	0	5	0	4	1	0	5	12
% Trucks	0	0	2	0	1.5	0	0	0	0	0	3.8	4.3	0	0	4	0	8.2	5	0	7.2	3.7
Buses	3	0	1	0	4	0	0	0	0	0	1	2	0	0	3	0	1	2	0	3	10
% Buses	9.7	0	1	0	3.1	0	0	0	0	0	1.3	4.3	0	0	2.4	0	2	10	0	4.3	3.1

Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

File Name : 20230208_Lake Station-Bellvale_Weekday AM_121204
Site Code : 00122223
Start Date : 2/8/2023

	Lake Station Rd Eastbound					Westbound					Bellvale Rd Northbound					Bellvale Rd Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**4**	0	14	0	18	0	0	0	0	0	11	6	**1**	0	18	0	3	3	0	6	42
08:00 AM	3	0	11	0	14	0	0	0	0	0	7	3	0	0	10	0	6	4	0	10	34
08:15 AM	2	0	16	0	18	0	0	0	0	0	8	6	0	0	14	0	5	**6**	0	**11**	43
08:30 AM	2	0	**18**	0	**20**	0	0	0	0	0	**12**	**7**	0	0	**19**	0	**10**	0	0	10	**49**
Total Volume	11	0	59	0	70	0	0	0	0	0	38	22	1	0	61	0	24	13	0	37	168
% App. Total	15.7	0	84.3	0		0	0	0	0		62.3	36.1	1.6	0		0	64.9	35.1	0		
PHF	.688	.000	.819	.000	.875	.000	.000	.000	.000	.000	.792	.786	.250	.000	.803	.000	.600	.542	.000	.841	.857
Vehicles	8	0	56	0	64	0	0	0	0	0	35	18	1	0	54	0	21	11	0	32	150
% Vehicles	72.7	0	94.9	0	91.4	0	0	0	0	0	92.1	81.8	100	0	88.5	0	87.5	84.6	0	86.5	89.3
Trucks	0	0	2	0	2	0	0	0	0	0	2	2	0	0	4	0	2	0	0	2	8
% Trucks	0	0	3.4	0	2.9	0	0	0	0	0	5.3	9.1	0	0	6.6	0	8.3	0	0	5.4	4.8
Buses	3	0	1	0	4	0	0	0	0	0	1	2	0	0	3	0	1	2	0	3	10
% Buses	27.3	0	1.7	0	5.7	0	0	0	0	0	2.6	9.1	0	0	4.9	0	4.2	15.4	0	8.1	6.0



Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

Project No,: 121-204; Davidson P
Counted by EM
Date/Time: 2-08-2023/PM
Location: Lake Station Rd & Bellvale Rd

File Name : 20230208_Lake Station-Bellvale_Weekday PM_121204
Site Code : 00121064
Start Date : 2/8/2023
Page No : 1

Groups Printed- Vehicles - Trucks - Buses

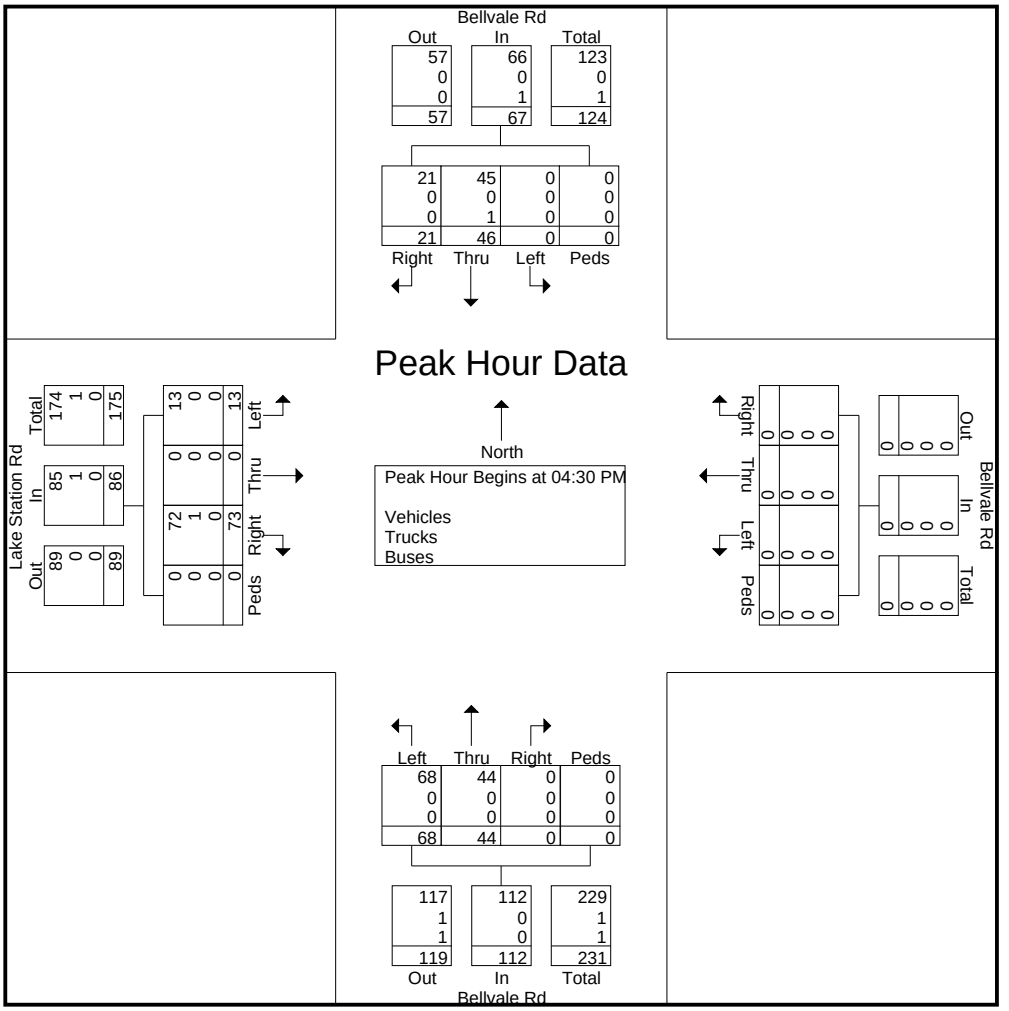
	Lake Station Rd Eastbound					Bellvale Rd Westbound					Bellvale Rd Northbound					Bellvale Rd Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	2	0	19	0	21	0	0	0	0	0	16	13	0	0	29	0	5	2	0	7	57
04:15 PM	7	0	15	0	22	0	0	0	0	0	18	6	0	0	24	0	9	6	0	15	61
04:30 PM	5	0	21	0	26	0	0	0	0	0	21	10	0	0	31	0	9	6	0	15	72
04:45 PM	2	0	16	0	18	0	0	0	0	0	12	15	0	0	27	0	15	4	0	19	64
Total	16	0	71	0	87	0	0	0	0	0	67	44	0	0	111	0	38	18	0	56	254
05:00 PM	4	0	17	0	21	0	0	0	0	0	17	8	0	0	25	0	12	4	0	16	62
05:15 PM	2	0	19	0	21	0	0	0	0	0	18	11	0	0	29	0	10	7	0	17	67
05:30 PM	2	0	9	0	11	0	0	0	0	0	17	5	0	0	22	0	4	8	0	12	45
05:45 PM	2	0	6	0	8	0	0	0	0	0	20	6	0	0	26	0	18	5	0	23	57
Total	10	0	51	0	61	0	0	0	0	0	72	30	0	0	102	0	44	24	0	68	231
Grand Total	26	0	122	0	148	0	0	0	0	0	139	74	0	0	213	0	82	42	0	124	485
Apprch %	17.6	0	82.4	0		0	0	0	0		65.3	34.7	0	0		0	66.1	33.9	0		
Total %	5.4	0	25.2	0	30.5	0	0	0	0	0	28.7	15.3	0	0	43.9	0	16.9	8.7	0	25.6	
Vehicles	25	0	119	0	144	0	0	0	0	0	135	72	0	0	207	0	81	42	0	123	474
% Vehicles	96.2	0	97.5	0	97.3	0	0	0	0	0	97.1	97.3	0	0	97.2	0	98.8	100	0	99.2	97.7
Trucks	0	0	1	0	1	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	4
% Trucks	0	0	0.8	0	0.7	0	0	0	0	0	1.4	1.4	0	0	1.4	0	0	0	0	0	0.8
Buses	1	0	2	0	3	0	0	0	0	0	2	1	0	0	3	0	1	0	0	1	7
% Buses	3.8	0	1.6	0	2	0	0	0	0	0	1.4	1.4	0	0	1.4	0	1.2	0	0	0.8	1.4

Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

File Name : 20230208_Lake Station-Bellvale_Weekday PM_121204
Site Code : 00121064
Start Date : 2/8/2023
Page No : 2

	Lake Station Rd Eastbound					Bellvale Rd Westbound					Bellvale Rd Northbound					Bellvale Rd Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**5**	0	**21**	0	**26**	0	0	0	0	0	**21**	10	0	0	**31**	0	9	6	0	15	**72**
04:45 PM	2	0	16	0	18	0	0	0	0	0	12	**15**	0	0	27	0	**15**	4	0	**19**	64
05:00 PM	4	0	17	0	21	0	0	0	0	0	17	8	0	0	25	0	12	4	0	16	62
05:15 PM	2	0	19	0	21	0	0	0	0	0	18	11	0	0	29	0	10	**7**	0	17	67
Total Volume	13	0	73	0	86	0	0	0	0	0	68	44	0	0	112	0	46	21	0	67	265
% App. Total	15.1	0	84.9	0		0	0	0	0		60.7	39.3	0	0		0	68.7	31.3	0		
PHF	.650	.000	.869	.000	.827	.000	.000	.000	.000	.000	.810	.733	.000	.000	.903	.000	.767	.750	.000	.882	.920
Vehicles	13	0	72	0	85	0	0	0	0	0	68	44	0	0	112	0	45	21	0	66	263
% Vehicles	100	0	98.6	0	98.8	0	0	0	0	0	100	100	0	0	100	0	97.8	100	0	98.5	99.2
Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Trucks	0	0	1.4	0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	0	0	1.5	0.4



121-204; Davidson Drive-Weekday/AM - TMC

Fri Feb 10, 2023
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037358, Location: 41.346752, -74.274781, Site Code: 121204

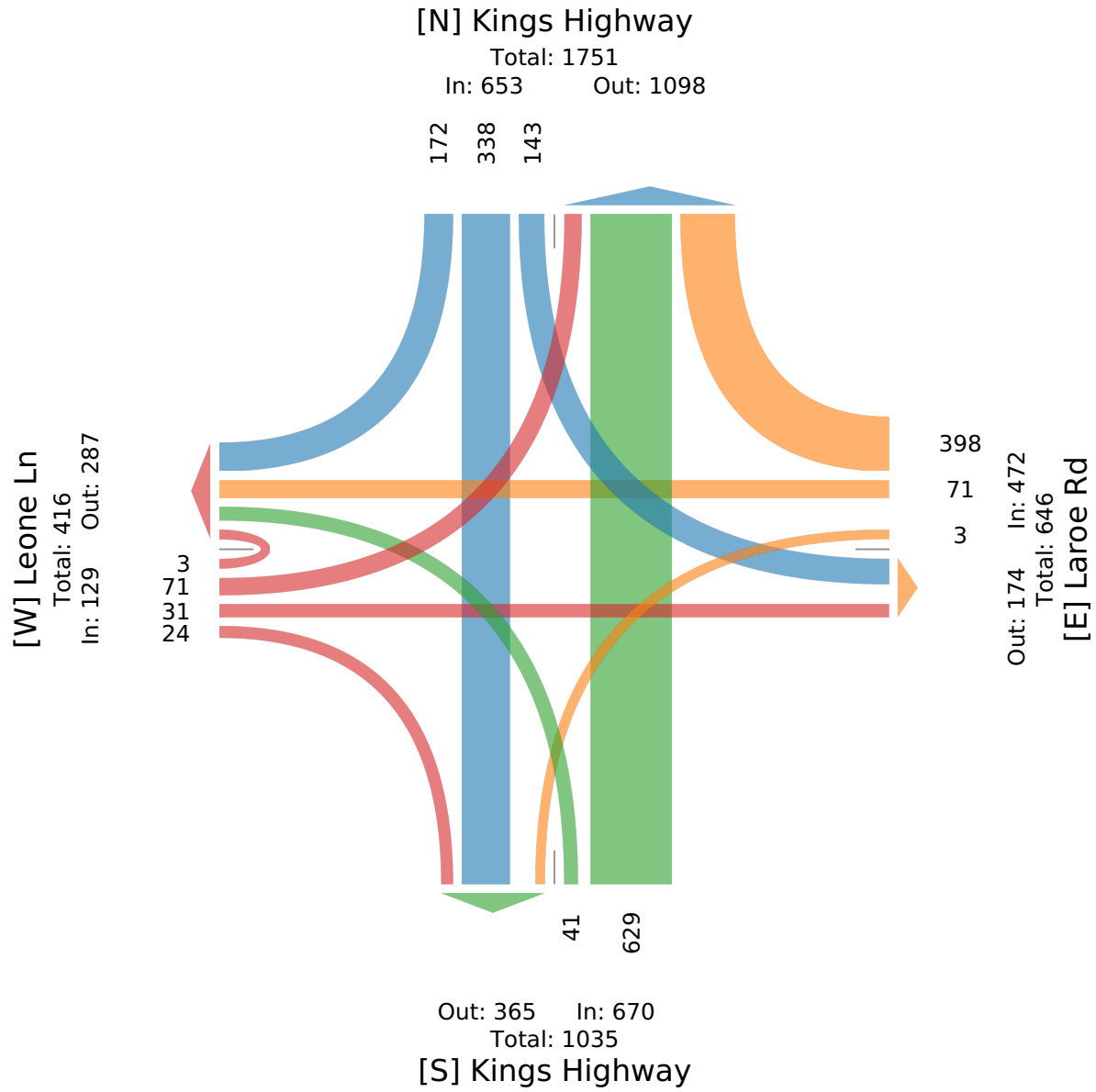
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Leone Ln					Laroe Rd					Kings Highway					Kings Highway					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2023-02-10 7:00AM	5	2	1	0	**8**	0	3	38	0	**41**	1	72	0	0	**73**	11	35	15	0	**61**	**183**
7:15AM	13	6	3	1	**23**	0	6	50	0	**56**	1	71	0	0	**72**	19	43	17	0	**79**	**230**
7:30AM	15	1	3	0	**19**	1	13	43	0	**57**	9	109	0	0	**118**	18	40	20	0	**78**	**272**
7:45AM	7	3	2	2	**14**	0	12	61	0	**73**	4	83	0	0	**87**	16	51	23	0	**90**	**264**
Hourly Total	40	12	9	3	**64**	1	34	192	0	**227**	15	335	0	0	**350**	64	169	75	0	**308**	**949**
8:00AM	7	4	5	0	**16**	2	13	67	0	**82**	6	79	0	0	**85**	18	30	22	0	**70**	**253**
8:15AM	9	7	1	0	**17**	0	5	45	0	**50**	10	67	0	0	**77**	19	36	25	0	**80**	**224**
8:30AM	6	6	8	0	**20**	0	10	53	0	**63**	0	86	0	0	**86**	19	40	24	0	**83**	**252**
8:45AM	9	2	1	0	**12**	0	9	41	0	**50**	10	62	0	0	**72**	23	63	26	0	**112**	**246**
Hourly Total	31	19	15	0	**65**	2	37	206	0	**245**	26	294	0	0	**320**	79	169	97	0	**345**	**975**
Total	71	31	24	3	**129**	3	71	398	0	**472**	41	629	0	0	**670**	143	338	172	0	**653**	**1924**
% Approach	55.0%	24.0%	18.6%	2.3%	-	0.6%	15.0%	84.3%	0%	-	6.1%	93.9%	0%	0%	-	21.9%	51.8%	26.3%	0%	-	-
% Total	3.7%	1.6%	1.2%	0.2%	**6.7%**	0.2%	3.7%	20.7%	0%	**24.5%**	2.1%	32.7%	0%	0%	**34.8%**	7.4%	17.6%	8.9%	0%	**33.9%**	-
Lights	43	26	22	3	**94**	1	70	385	0	**456**	41	611	0	0	**652**	124	317	151	0	**592**	1794
% Lights	60.6%	83.9%	91.7%	100%	**72.9%**	33.3%	98.6%	96.7%	0%	**96.6%**	100%	97.1%	0%	0%	**97.3%**	86.7%	93.8%	87.8%	0%	**90.7%**	93.2%
Articulated Trucks and Single-Unit Trucks	28	5	2	0	**35**	0	1	4	0	**5**	0	14	0	0	**14**	10	18	21	0	**49**	103
% Articulated Trucks and Single-Unit Trucks	39.4%	16.1%	8.3%	0%	**27.1%**	0%	1.4%	1.0%	0%	**1.1%**	0%	2.2%	0%	0%	**2.1%**	7.0%	5.3%	12.2%	0%	**7.5%**	5.4%
Buses	0	0	0	0	**0**	2	0	9	0	**11**	0	4	0	0	**4**	9	3	0	0	**12**	27
% Buses	0%	0%	0%	0%	**0%**	66.7%	0%	2.3%	0%	**2.3%**	0%	0.6%	0%	0%	**0.6%**	6.3%	0.9%	0%	0%	**1.8%**	1.4%
Bicycles on Road	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204; Davidson Drive-Weekday/AM - TMC
Fri Feb 10, 2023
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037358, Location: 41.346752, -74.274781, Site Code: 121204

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204; Davidson Drive-Weekday/AM - TMC

Fri Feb 10, 2023
AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037358, Location: 41.346752, -74.274781, Site Code: 121204

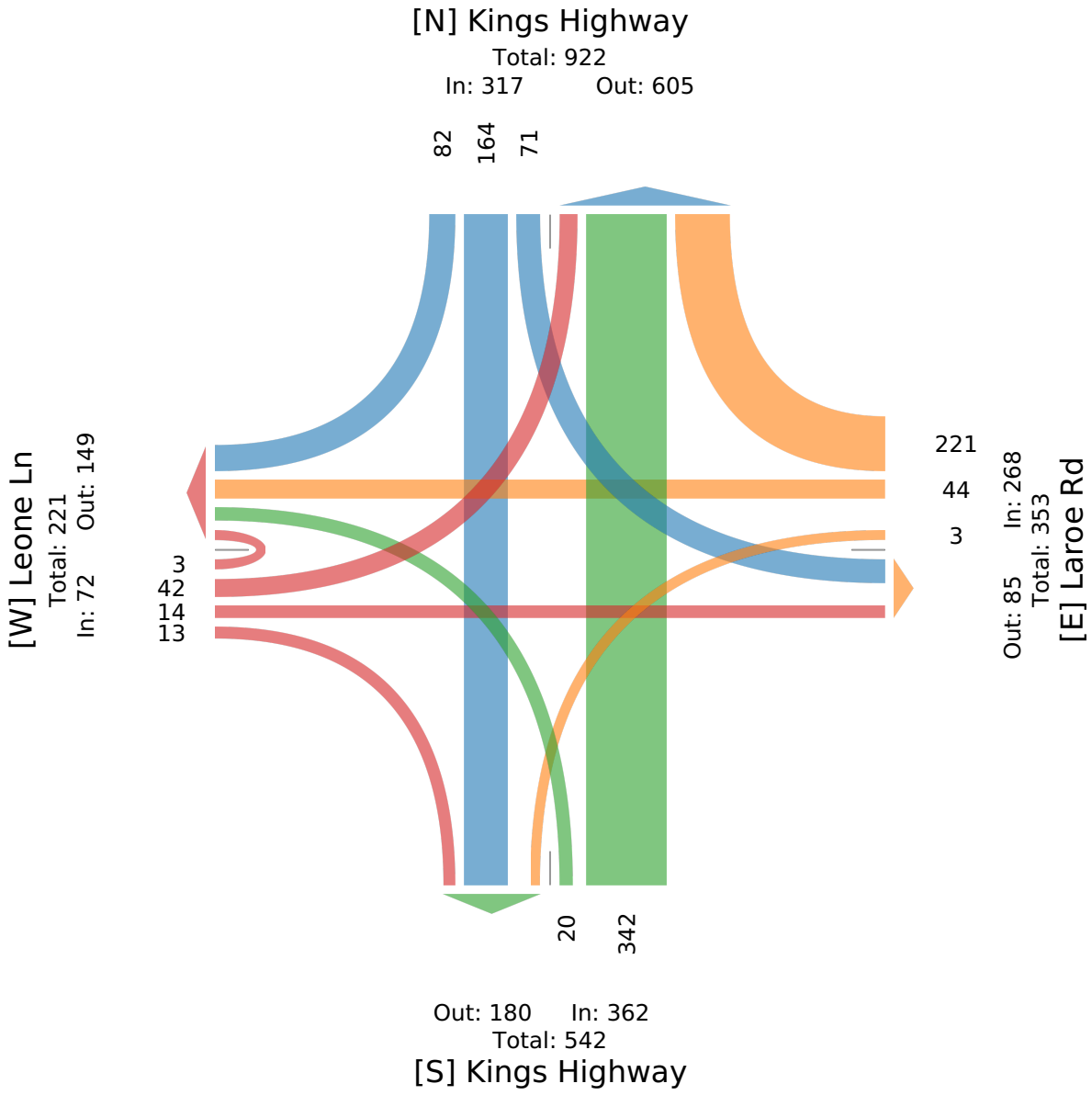
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Leone Ln					Laroe Rd					Kings Highway					Kings Highway					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2023-02-10 7:15AM	13	6	3	1	**23**	0	6	50	0	**56**	1	71	0	0	**72**	19	43	17	0	**79**	**230**
7:30AM	15	1	3	0	**19**	1	13	43	0	**57**	9	109	0	0	**118**	18	40	20	0	**78**	**272**
7:45AM	7	3	2	2	**14**	0	12	61	0	**73**	4	83	0	0	**87**	16	51	23	0	**90**	**264**
8:00AM	7	4	5	0	**16**	2	13	67	0	**82**	6	79	0	0	**85**	18	30	22	0	**70**	**253**
Total	42	14	13	3	**72**	3	44	221	0	**268**	20	342	0	0	**362**	71	164	82	0	**317**	**1019**
% Approach	58.3%	19.4%	18.1%	4.2%	**-**	1.1%	16.4%	82.5%	0%	**-**	5.5%	94.5%	0%	0%	**-**	22.4%	51.7%	25.9%	0%	**-**	-
% Total	4.1%	1.4%	1.3%	0.3%	**7.1%**	0.3%	4.3%	21.7%	0%	**26.3%**	2.0%	33.6%	0%	0%	**35.5%**	7.0%	16.1%	8.0%	0%	**31.1%**	-
PHF	0.700	0.583	0.650	0.375	**0.783**	0.375	0.846	0.825	-	**0.817**	0.556	0.784	-	-	**0.767**	0.934	0.804	0.891	-	**0.881**	0.937
Lights	26	12	12	3	**53**	1	43	213	0	**257**	20	333	0	0	**353**	60	157	68	0	**285**	948
% Lights	61.9%	85.7%	92.3%	100%	**73.6%**	33.3%	97.7%	96.4%	0%	**95.9%**	100%	97.4%	0%	0%	**97.5%**	84.5%	95.7%	82.9%	0%	**89.9%**	93.0%
Articulated Trucks and Single-Unit Trucks	16	2	1	0	**19**	0	1	1	0	**2**	0	6	0	0	**6**	5	6	14	0	**25**	52
% Articulated Trucks and Single-Unit Trucks	38.1%	14.3%	7.7%	0%	**26.4%**	0%	2.3%	0.5%	0%	**0.7%**	0%	1.8%	0%	0%	**1.7%**	7.0%	3.7%	17.1%	0%	**7.9%**	5.1%
Buses	0	0	0	0	**0**	2	0	7	0	**9**	0	3	0	0	**3**	6	1	0	0	**7**	19
% Buses	0%	0%	0%	0%	**0%**	66.7%	0%	3.2%	0%	**3.4%**	0%	0.9%	0%	0%	**0.8%**	8.5%	0.6%	0%	0%	**2.2%**	1.9%
Bicycles on Road	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204; Davidson Drive-Weekday/AM - TMC
Fri Feb 10, 2023
AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037358, Location: 41.346752, -74.274781, Site Code: 121204

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204; Davidson Drive-Weekday/PM - TMC

Fri Feb 10, 2023
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037627, Location: 41.346752, -74.274781, Site Code: 121204

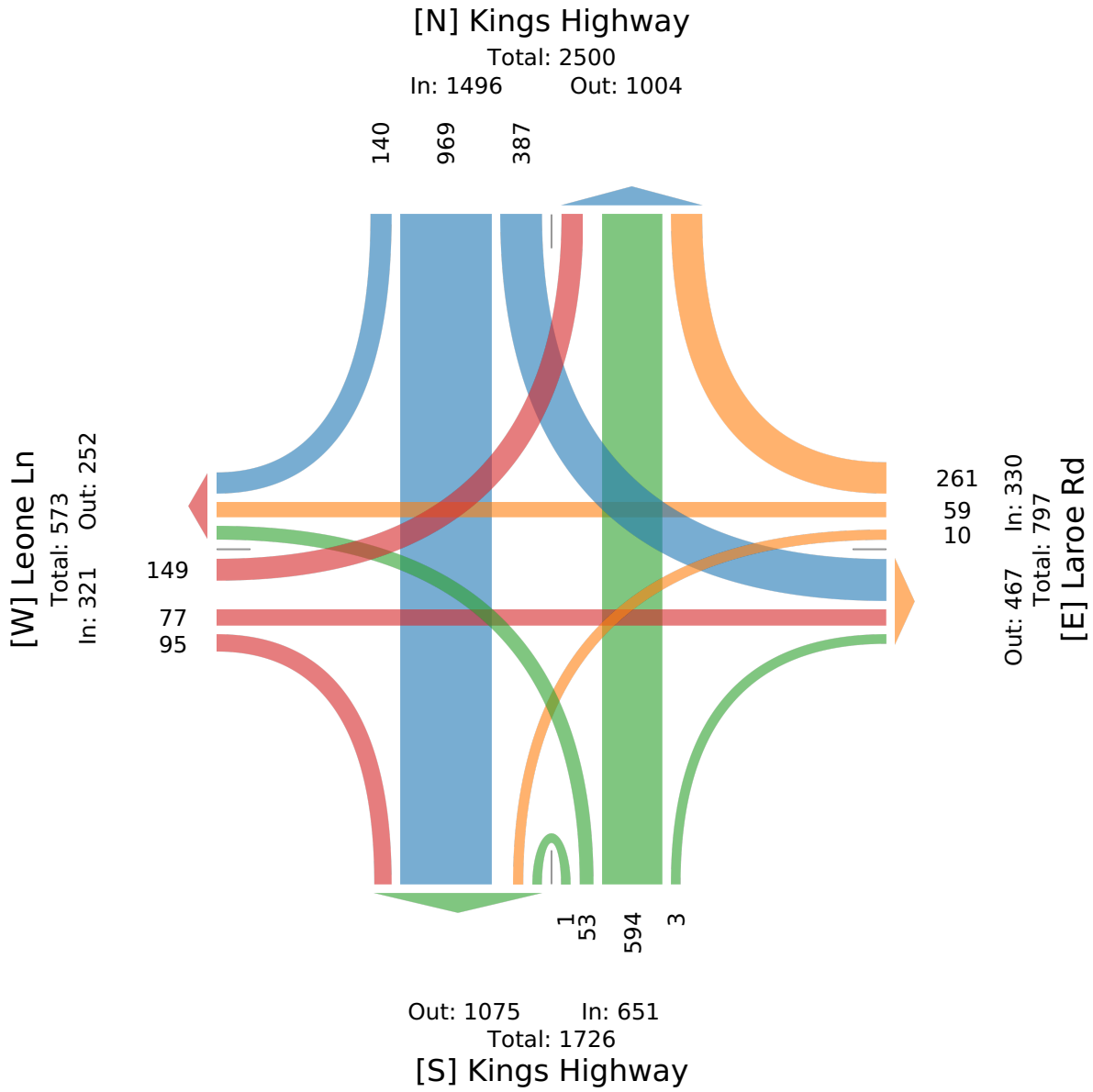
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Leone Ln					Laroe Rd					Kings Highway					Kings Highway					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2023-02-10 4:00PM	24	7	10	0	**41**	1	5	33	0	**39**	7	77	1	0	**85**	48	107	14	0	**169**	**334**
4:15PM	13	13	14	0	**40**	4	7	40	0	**51**	7	88	1	1	**97**	57	128	17	0	**202**	**390**
4:30PM	26	14	11	0	**51**	0	7	36	0	**43**	5	81	0	0	**86**	54	144	8	0	**206**	**386**
4:45PM	17	13	5	0	**35**	1	3	35	0	**39**	7	79	0	0	**86**	38	104	14	0	**156**	**316**
Hourly Total	80	47	40	0	**167**	6	22	144	0	**172**	26	325	2	1	**354**	197	483	53	0	**733**	**1426**
5:00PM	29	5	15	0	**49**	1	9	32	0	**42**	10	75	1	0	**86**	48	113	16	0	**177**	**354**
5:15PM	13	12	8	0	**33**	0	5	41	0	**46**	5	72	0	0	**77**	54	128	20	0	**202**	**358**
5:30PM	16	3	19	0	**38**	1	11	26	0	**38**	4	56	0	0	**60**	42	126	28	0	**196**	**332**
5:45PM	11	10	13	0	**34**	2	12	18	0	**32**	8	66	0	0	**74**	46	119	23	0	**188**	**328**
Hourly Total	69	30	55	0	**154**	4	37	117	0	**158**	27	269	1	0	**297**	190	486	87	0	**763**	**1372**
Total	149	77	95	0	**321**	10	59	261	0	**330**	53	594	3	1	**651**	387	969	140	0	**1496**	**2798**
% Approach	46.4%	24.0%	29.6%	0%	-	3.0%	17.9%	79.1%	0%	-	8.1%	91.2%	0.5%	0.2%	-	25.9%	64.8%	9.4%	0%	-	-
% Total	5.3%	2.8%	3.4%	0%	**11.5%**	0.4%	2.1%	9.3%	0%	**11.8%**	1.9%	21.2%	0.1%	0%	**23.3%**	13.8%	34.6%	5.0%	0%	**53.5%**	-
Lights	146	75	93	0	**314**	8	58	251	0	**317**	51	585	2	1	**639**	384	963	111	0	**1458**	2728
% Lights	98.0%	97.4%	97.9%	0%	**97.8%**	80.0%	98.3%	96.2%	0%	**96.1%**	96.2%	98.5%	66.7%	100%	**98.2%**	99.2%	99.4%	79.3%	0%	**97.5%**	97.5%
Articulated Trucks and Single-Unit Trucks	3	2	2	0	**7**	0	1	4	0	**5**	2	7	1	0	**10**	1	5	29	0	**35**	57
% Articulated Trucks and Single-Unit Trucks	2.0%	2.6%	2.1%	0%	**2.2%**	0%	1.7%	1.5%	0%	**1.5%**	3.8%	1.2%	33.3%	0%	**1.5%**	0.3%	0.5%	20.7%	0%	**2.3%**	2.0%
Buses	0	0	0	0	**0**	2	0	6	0	**8**	0	2	0	0	**2**	2	1	0	0	**3**	13
% Buses	0%	0%	0%	0%	**0%**	20.0%	0%	2.3%	0%	**2.4%**	0%	0.3%	0%	0%	**0.3%**	0.5%	0.1%	0%	0%	**0.2%**	0.5%
Bicycles on Road	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204; Davidson Drive-Weekday/PM - TMC
Fri Feb 10, 2023
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037627, Location: 41.346752, -74.274781, Site Code: 121204

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204; Davidson Drive-Weekday/PM - TMC

Fri Feb 10, 2023
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037627, Location: 41.346752, -74.274781, Site Code: 121204

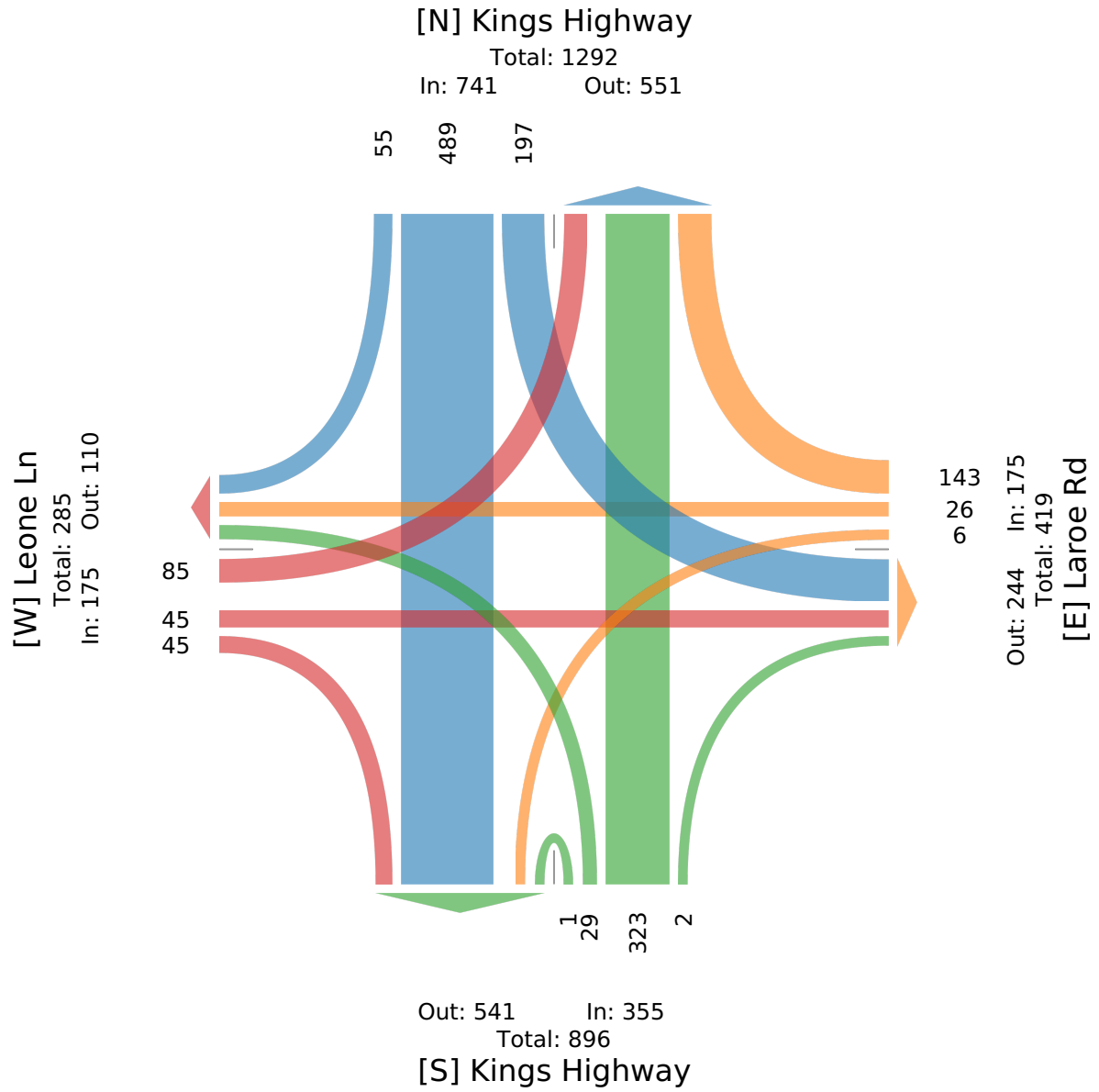
Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Leone Ln					Laroe Rd					Kings Highway					Kings Highway					
Direction	Eastbound					Westbound					Northbound					Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2023-02-10 4:15PM	13	13	14	0	**40**	4	7	40	0	**51**	7	88	1	1	**97**	57	128	17	0	**202**	**390**
4:30PM	26	14	11	0	**51**	0	7	36	0	**43**	5	81	0	0	**86**	54	144	8	0	**206**	**386**
4:45PM	17	13	5	0	**35**	1	3	35	0	**39**	7	79	0	0	**86**	38	104	14	0	**156**	**316**
5:00PM	29	5	15	0	**49**	1	9	32	0	**42**	10	75	1	0	**86**	48	113	16	0	**177**	**354**
Total	85	45	45	0	**175**	6	26	143	0	**175**	29	323	2	1	**355**	197	489	55	0	**741**	**1446**
% Approach	48.6%	25.7%	25.7%	0%	-	3.4%	14.9%	81.7%	0%	-	8.2%	91.0%	0.6%	0.3%	-	26.6%	66.0%	7.4%	0%	-	-
% Total	5.9%	3.1%	3.1%	0%	**12.1%**	0.4%	1.8%	9.9%	0%	**12.1%**	2.0%	22.3%	0.1%	0.1%	**24.6%**	13.6%	33.8%	3.8%	0%	**51.2%**	-
PHF	0.733	0.804	0.750	-	**0.858**	0.375	0.722	0.894	-	**0.858**	0.725	0.918	0.500	0.250	**0.915**	0.864	0.849	0.809	-	**0.899**	0.927
Lights	83	45	43	0	**171**	5	26	137	0	**168**	28	320	1	1	**350**	196	486	44	0	**726**	1415
% Lights	97.6%	100%	95.6%	0%	**97.7%**	83.3%	100%	95.8%	0%	**96.0%**	96.6%	99.1%	50.0%	100%	**98.6%**	99.5%	99.4%	80.0%	0%	**98.0%**	97.9%
Articulated Trucks and Single-Unit Trucks	2	0	2	0	**4**	0	0	2	0	**2**	1	2	1	0	**4**	1	3	11	0	**15**	25
% Articulated Trucks and Single-Unit Trucks	2.4%	0%	4.4%	0%	**2.3%**	0%	0%	1.4%	0%	**1.1%**	3.4%	0.6%	50.0%	0%	**1.1%**	0.5%	0.6%	20.0%	0%	**2.0%**	1.7%
Buses	0	0	0	0	**0**	1	0	4	0	**5**	0	1	0	0	**1**	0	0	0	0	**0**	6
% Buses	0%	0%	0%	0%	**0%**	16.7%	0%	2.8%	0%	**2.9%**	0%	0.3%	0%	0%	**0.3%**	0%	0%	0%	0%	**0%**	0.4%
Bicycles on Road	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0	0	0	0	**0**	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%	0%	0%	0%	**0%**	0%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204; Davidson Drive-Weekday/PM - TMC
Fri Feb 10, 2023
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Bicycles on Road)
All Movements
ID: 1037627, Location: 41.346752, -74.274781, Site Code: 121204

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



National Data & Surveying Services Intersection Turning Movement Count

Location: Kings Hwy/Lehigh Ave & NYS Rte 17M
City: Chester
Control: Signalized

Project ID: 22-380005-005
Date: 3/10/2022

Data - Total

NS/EW Streets:	Kings Hwy/Lehigh Ave				Kings Hwy/Lehigh Ave				NYS Rte 17M				NYS Rte 17M				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	1	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	65	0	58	0	1	21	16	0	8	35	43	0	1	25	0	0	273
7:15 AM	95	1	60	0	2	15	8	0	6	56	41	0	7	33	1	0	325
7:30 AM	87	1	38	0	3	19	11	0	0	44	63	0	2	28	0	0	296
7:45 AM	105	0	42	0	0	33	12	0	1	52	79	0	5	45	0	0	374
8:00 AM	95	1	39	0	3	19	13	0	3	39	57	0	7	31	0	0	307
8:15 AM	77	0	39	0	3	16	16	0	2	33	70	0	10	30	0	0	296
8:30 AM	88	3	43	0	0	19	8	0	5	46	71	0	7	39	0	0	329
8:45 AM	84	4	43	0	3	45	10	0	6	43	66	0	8	39	0	0	351
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	696	10	362	0	15	187	94	0	31	348	490	0	47	270	1	0	2551
APPROACH %'s :	65.17%	0.94%	33.90%	0.00%	5.07%	63.18%	31.76%	0.00%	3.57%	40.05%	56.39%	0.00%	14.78%	84.91%	0.31%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	365	4	163	0	6	87	49	0	11	170	277	0	29	145	0	0	1306
PEAK HR FACTOR :	0.869	0.333	0.948	0.000	0.500	0.659	0.766	0.000	0.550	0.817	0.877	0.000	0.725	0.806	0.000	0.000	0.873
	0.905				0.789				0.867				0.870				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	1	1	0	0	1	0	0	0	1	1	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	94	1	37	0	2	46	31	0	8	25	84	0	10	57	1	0	396
4:15 PM	110	2	30	0	3	50	30	0	0	37	95	0	9	56	0	0	422
4:30 PM	94	1	33	0	0	49	36	0	3	32	140	0	8	45	0	0	441
4:45 PM	76	3	39	0	5	59	32	0	7	36	116	0	13	73	0	0	459
5:00 PM	91	3	48	0	0	42	29	0	4	47	96	0	13	80	0	0	453
5:15 PM	90	2	31	0	4	64	29	0	8	38	98	0	21	79	0	0	464
5:30 PM	92	5	25	0	1	55	27	0	6	40	99	0	14	47	0	0	411
5:45 PM	87	1	32	0	0	41	28	0	11	27	106	0	12	48	0	0	393
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	734	18	275	0	15	406	242	0	47	282	834	0	100	485	1	0	3439
APPROACH %'s :	71.47%	1.75%	26.78%	0.00%	2.26%	61.24%	36.50%	0.00%	4.04%	24.25%	71.71%	0.00%	17.06%	82.76%	0.17%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	351	9	151	0	9	214	126	0	22	153	450	0	55	277	0	0	1817
PEAK HR FACTOR :	0.934	0.750	0.786	0.000	0.450	0.836	0.875	0.000	0.688	0.814	0.804	0.000	0.655	0.866	0.000	0.000	0.979
	0.900				0.899				0.893				0.830				

Prepared by National Data & Surveying Services

Kings Hwy/Lehigh Ave & NYS Rte 17M

Peak Hour Turning Movement Count

ID: 22-380005-005
City: Chester

Day: Thursday
Date: 3/10/2022

PEAK HOURS

AM: 07:45 AM - 08:45 AM
NOON: NONE
PM: 04:30 PM - 05:30 PM

COUNT PERIODS

AM: 7:00 AM - 09:00 AM
NOON: NONE
PM: 4:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	1306	0	1817
PHF	0.87		0.98

SOUTHBOUND (Kings Hwy/Lehigh Ave)

	Left	Thru	Right	U-turn	
AM	49	87	6	0	15 AM
NOON	0	0	0	0	0 NOON
PM	126	214	9	0	31 PM
	0	1	0	0	

EASTBOUND (NYS Rte 17M)

	AM	NOON	PM	
	559	0	754	
	0	0	0	0
	11	0	22	0
	170	0	153	1
	277	0	450	1

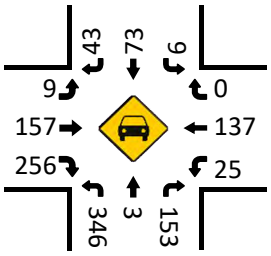
WESTBOUND (NYS Rte 17M)

	PM	NOON	AM	
	0	0	0	0
	277	0	145	1
	55	0	29	0
	0	0	0	0
	313	0	339	

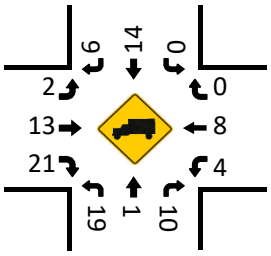
NORTHBOUND (Kings Hwy/Lehigh Ave)

	Left	Thru	Right	U-turn	
PM	719	0	351	9	151 PM
NOON	0	0	0	0	0 NOON
AM	393	0	365	4	163 AM
	0	0	1	1	

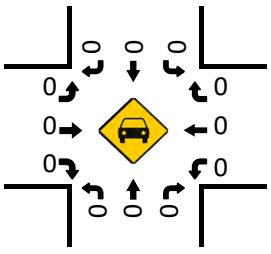
Cars (AM)



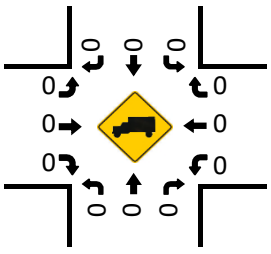
HT (AM)



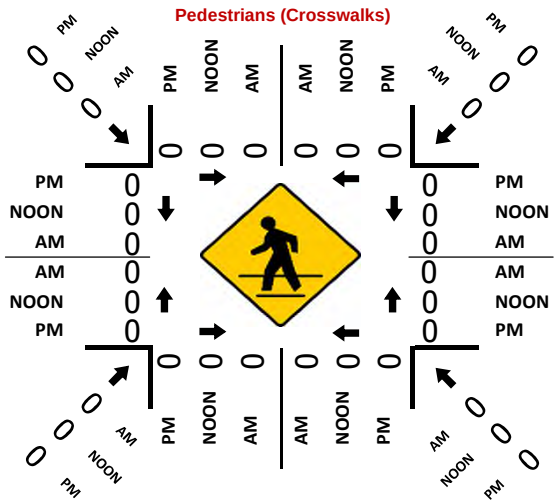
Cars (NOON)



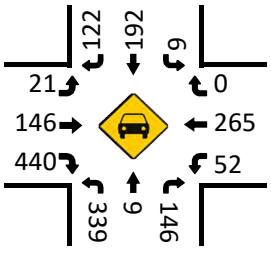
HT (NOON)



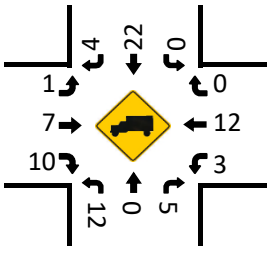
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

Project No.: 121-204; Davidson Dr
Recorded By: EM
Date/Time: 2/10/2023/AM
Locaton: Kings Hwy Bypass & Bellvale Rd

File Name : Not Named 6
Site Code : 11111111
Start Date : 2/10/2023
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

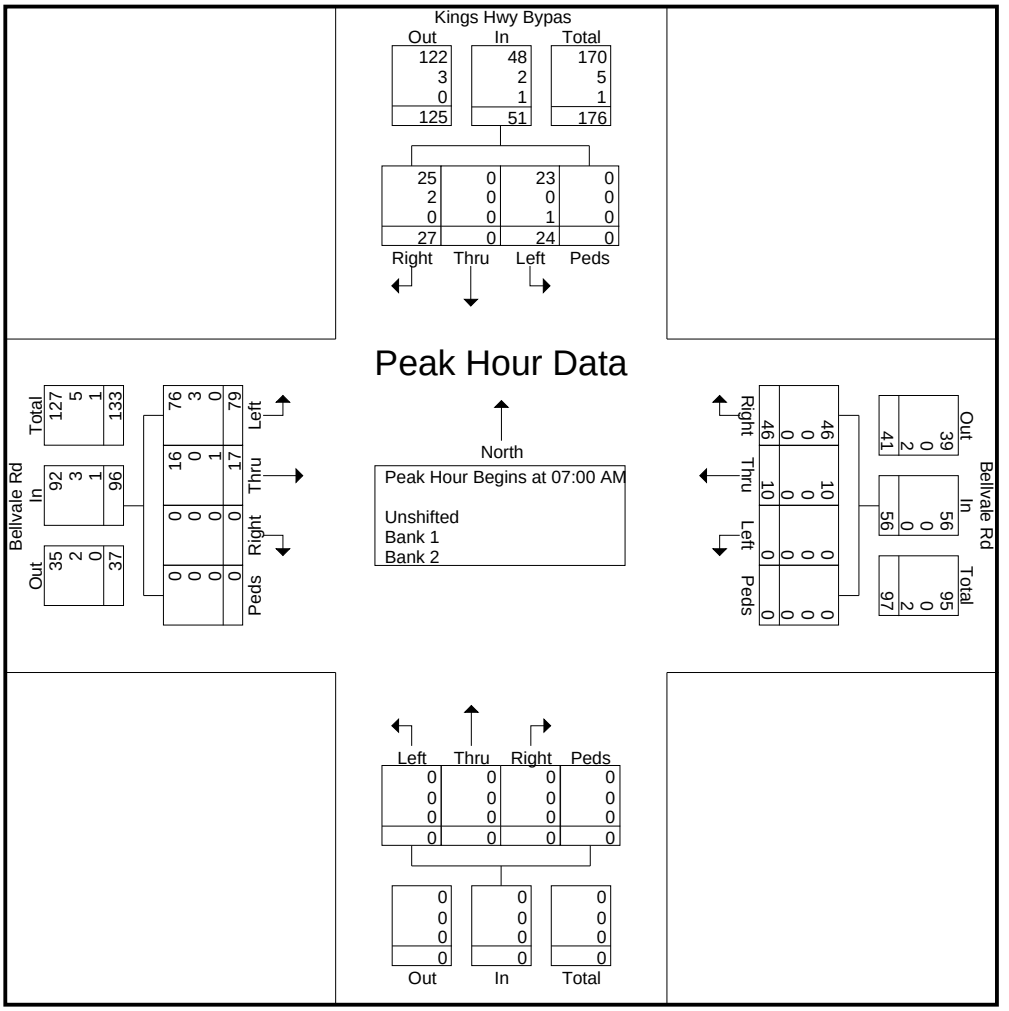
	Bellvale Rd Eastbound					Bellvale Rd Westbound					Northbound					Kings Hwy Bypas Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	18	2	0	0	20	0	3	9	0	12	0	0	0	0	0	5	0	4	0	9	41
07:15 AM	17	8	0	0	25	0	3	20	0	23	0	0	0	0	0	6	0	2	0	8	56
07:30 AM	29	5	0	0	34	0	2	10	0	12	0	0	0	0	0	6	0	13	0	19	65
07:45 AM	15	2	0	0	17	0	2	7	0	9	0	0	0	0	0	7	0	8	0	15	41
Total	79	17	0	0	96	0	10	46	0	56	0	0	0	0	0	24	0	27	0	51	203
08:00 AM	13	3	0	0	16	0	8	7	0	15	0	0	0	0	0	3	0	7	0	10	41
08:15 AM	11	1	0	0	12	0	1	5	0	6	0	0	0	0	0	5	0	3	0	8	26
08:30 AM	14	5	0	0	19	0	2	6	0	8	0	0	0	0	0	4	0	6	0	10	37
08:45 AM	17	3	0	0	20	0	5	8	0	13	0	0	0	0	0	4	0	5	0	9	42
Total	55	12	0	0	67	0	16	26	0	42	0	0	0	0	0	16	0	21	0	37	146
Grand Total	134	29	0	0	163	0	26	72	0	98	0	0	0	0	0	40	0	48	0	88	349
Apprch %	82.2	17.8	0	0		0	26.5	73.5	0		0	0	0	0		45.5	0	54.5	0		
Total %	38.4	8.3	0	0	46.7	0	7.4	20.6	0	28.1	0	0	0	0	0	11.5	0	13.8	0	25.2	
Unshifted	127	27	0	0	154	0	22	72	0	94	0	0	0	0	0	38	0	41	0	79	327
% Unshifted	94.8	93.1	0	0	94.5	0	84.6	100	0	95.9	0	0	0	0	0	95	0	85.4	0	89.8	93.7
Bank 1	6	0	0	0	6	0	1	0	0	1	0	0	0	0	0	1	0	7	0	8	15
% Bank 1	4.5	0	0	0	3.7	0	3.8	0	0	1	0	0	0	0	0	2.5	0	14.6	0	9.1	4.3
Bank 2	1	2	0	0	3	0	3	0	0	3	0	0	0	0	0	1	0	0	0	1	7
% Bank 2	0.7	6.9	0	0	1.8	0	11.5	0	0	3.1	0	0	0	0	0	2.5	0	0	0	1.1	2

Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

File Name : Not Named 6
Site Code : 11111111
Start Date : 2/10/2023
Page No : 2

	Bellvale Rd Eastbound					Bellvale Rd Westbound					Northbound					Kings Hwy Bypas Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	18	2	0	0	20	0	**3**	9	0	12	0	0	0	0	0	5	0	4	0	9	41
07:15 AM	17	**8**	0	0	25	0	3	**20**	0	**23**	0	0	0	0	0	6	0	2	0	8	56
07:30 AM	**29**	5	0	0	**34**	0	2	10	0	12	0	0	0	0	0	6	0	**13**	0	**19**	**65**
07:45 AM	15	2	0	0	17	0	2	7	0	9	0	0	0	0	0	**7**	0	8	0	15	41
Total Volume	79	17	0	0	96	0	10	46	0	56	0	0	0	0	0	24	0	27	0	51	203
% App. Total	82.3	17.7	0	0		0	17.9	82.1	0		0	0	0	0		47.1	0	52.9	0		
PHF	.681	.531	.000	.000	.706	.000	.833	.575	.000	.609	.000	.000	.000	.000	.000	.857	.000	.519	.000	.671	.781
Unshifted	76	16	0	0	92	0	10	46	0	56	0	0	0	0	0	23	0	25	0	48	196
% Unshifted	96.2	94.1	0	0	95.8	0	100	100	0	100	0	0	0	0	0	95.8	0	92.6	0	94.1	96.6
Bank 1	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	5
% Bank 1	3.8	0	0	0	3.1	0	0	0	0	0	0	0	0	0	0	0	0	7.4	0	3.9	2.5
Bank 2	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Bank 2	0	5.9	0	0	1.0	0	0	0	0	0	0	0	0	0	0	4.2	0	0	0	2.0	1.0



Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

Project No.: 121-204; Davidson Dr
Recorded By: EM
Date/Time: 2/10/23/PM
Location: Kings Hwy Bypass & Bellvale Rd

File Name : Not Named 7
Site Code : 00121204
Start Date : 2/10/2023
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

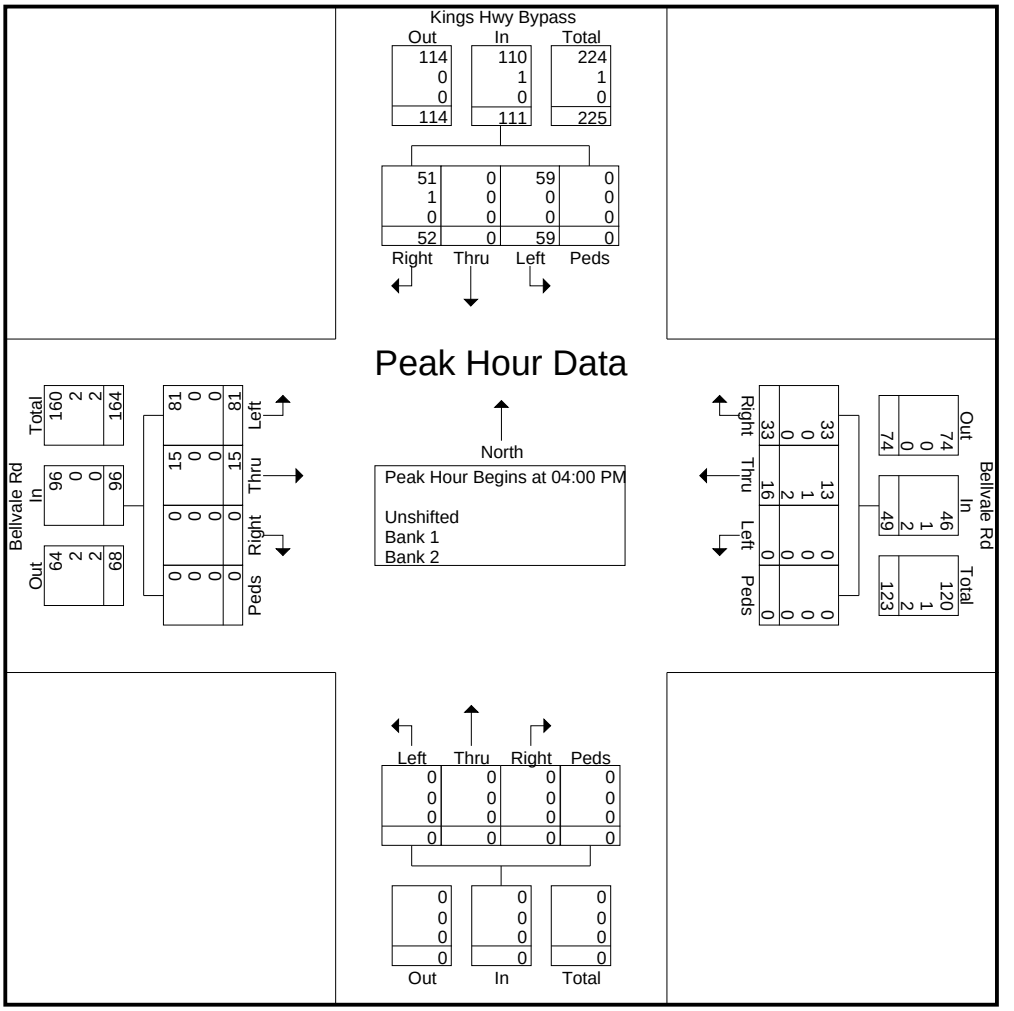
	Bellvale Rd Eastbound					Bellvale Rd Westbound					Northbound					Kings Hwy Bypass Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	30	4	0	0	34	0	3	7	0	10	0	0	0	0	0	15	0	17	0	32	76
04:15 PM	20	6	0	0	26	0	5	9	0	14	0	0	0	0	0	10	0	14	0	24	64
04:30 PM	17	1	0	0	18	0	4	7	0	11	0	0	0	0	0	22	0	11	0	33	62
04:45 PM	14	4	0	0	18	0	4	10	0	14	0	0	0	0	0	12	0	10	0	22	54
Total	81	15	0	0	96	0	16	33	0	49	0	0	0	0	0	59	0	52	0	111	256
05:00 PM	20	2	0	0	22	0	7	13	0	20	0	0	0	0	0	15	0	13	0	28	70
05:15 PM	14	2	0	0	16	0	5	11	0	16	0	0	0	0	0	9	0	15	0	24	56
05:30 PM	12	5	0	0	17	0	8	9	0	17	0	0	0	0	0	11	0	20	0	31	65
05:45 PM	21	2	0	0	23	0	7	11	0	18	0	0	0	0	0	10	0	14	0	24	65
Total	67	11	0	0	78	0	27	44	0	71	0	0	0	0	0	45	0	62	0	107	256
Grand Total	148	26	0	0	174	0	43	77	0	120	0	0	0	0	0	104	0	114	0	218	512
Apprch %	85.1	14.9	0	0		0	35.8	64.2	0		0	0	0	0		47.7	0	52.3	0		
Total %	28.9	5.1	0	0	34	0	8.4	15	0	23.4	0	0	0	0	0	20.3	0	22.3	0	42.6	
Unshifted	146	26	0	0	172	0	40	76	0	116	0	0	0	0	0	104	0	113	0	217	505
% Unshifted	98.6	100	0	0	98.9	0	93	98.7	0	96.7	0	0	0	0	0	100	0	99.1	0	99.5	98.6
Bank 1	2	0	0	0	2	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	4
% Bank 1	1.4	0	0	0	1.1	0	2.3	0	0	0.8	0	0	0	0	0	0	0	0.9	0	0.5	0.8
Bank 2	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0	3
% Bank 2	0	0	0	0	0	0	4.7	1.3	0	2.5	0	0	0	0	0	0	0	0	0	0	0.6

Creighton Manning Engineering, LLP

145 Main St, 3rd Floor
Ossining, NY 10562

File Name : Not Named 7
Site Code : 00121204
Start Date : 2/10/2023
Page No : 2

	Bellvale Rd Eastbound					Bellvale Rd Westbound					Northbound					Kings Hwy Bypass Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**30**	4	0	0	**34**	0	3	7	0	10	0	0	0	0	0	15	0	**17**	0	32	**76**
04:15 PM	20	**6**	0	0	26	0	**5**	9	0	**14**	0	0	0	0	0	10	0	14	0	24	64
04:30 PM	17	1	0	0	18	0	4	7	0	11	0	0	0	0	0	**22**	0	11	0	**33**	62
04:45 PM	14	4	0	0	18	0	4	**10**	0	14	0	0	0	0	0	12	0	10	0	22	54
Total Volume	81	15	0	0	96	0	16	33	0	49	0	0	0	0	0	59	0	52	0	111	256
% App. Total	84.4	15.6	0	0		0	32.7	67.3	0		0	0	0	0		53.2	0	46.8	0		
PHF	.675	.625	.000	.000	.706	.000	.800	.825	.000	.875	.000	.000	.000	.000	.000	.670	.000	.765	.000	.841	.842
Unshifted	81	15	0	0	96	0	13	33	0	46	0	0	0	0	0	59	0	51	0	110	252
% Unshifted	100	100	0	0	100	0	81.3	100	0	93.9	0	0	0	0	0	100	0	98.1	0	99.1	98.4
Bank 1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	2
% Bank 1	0	0	0	0	0	0	6.3	0	0	2.0	0	0	0	0	0	0	0	1.9	0	0.9	0.8
Bank 2	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% Bank 2	0	0	0	0	0	0	12.5	0	0	4.1	0	0	0	0	0	0	0	0	0	0	0.8



121-204 Davidson Drive Wkdy AM - TMC

Wed Nov 15, 2023
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133161, Location: 41.303899, -74.280977

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

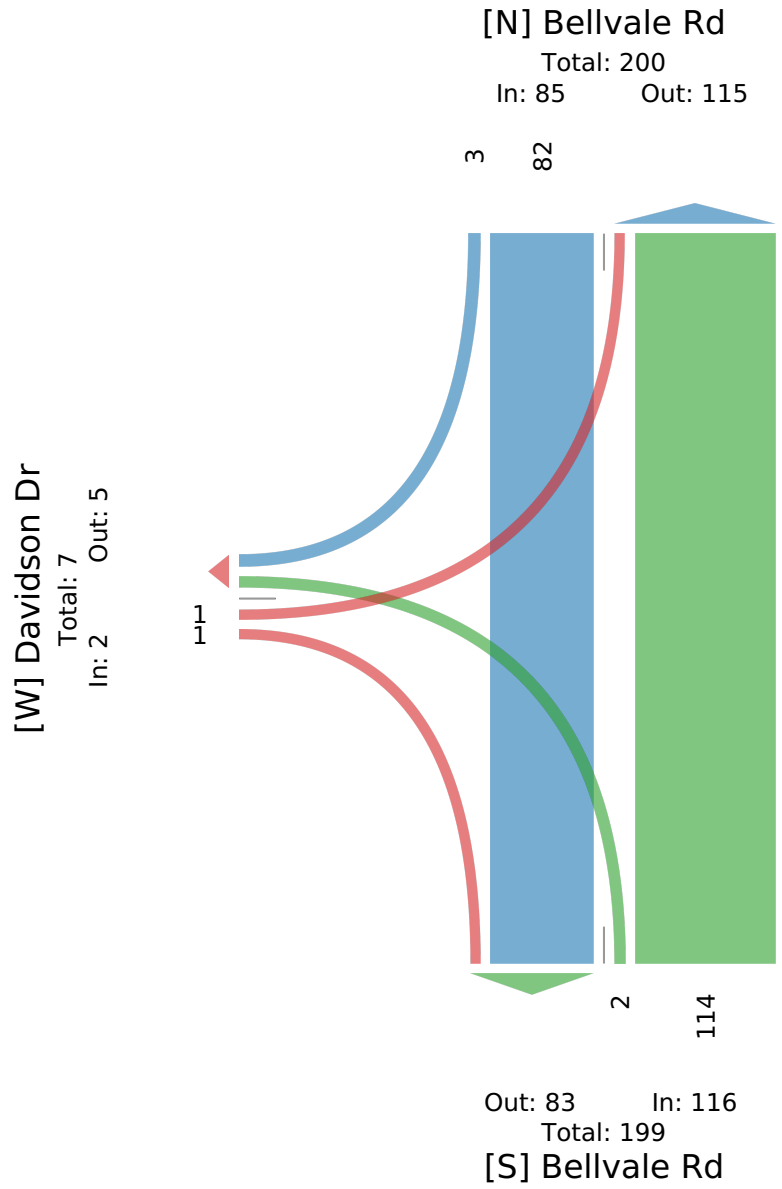
Leg	Davidson Dr				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2023-11-15 7:00AM	0	0	0	**0**	0	10	0	**10**	15	0	0	**15**	**25**
7:15AM	0	0	0	**0**	2	14	0	**16**	12	1	0	**13**	**29**
7:30AM	0	0	0	**0**	0	20	0	**20**	11	0	0	**11**	**31**
7:45AM	1	0	0	**1**	0	18	0	**18**	15	1	0	**16**	**35**
Hourly Total	1	0	0	**1**	2	62	0	**64**	53	2	0	**55**	**120**
8:00AM	0	1	0	**1**	0	10	0	**10**	9	0	0	**9**	**20**
8:15AM	0	0	0	**0**	0	9	0	**9**	7	0	0	**7**	**16**
8:30AM	0	0	0	**0**	0	11	0	**11**	9	0	0	**9**	**20**
8:45AM	0	0	0	**0**	0	22	0	**22**	4	1	0	**5**	**27**
Hourly Total	0	1	0	**1**	0	52	0	**52**	29	1	0	**30**	**83**
9:00AM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	1	1	0	**2**	2	114	0	**116**	82	3	0	**85**	**203**
% Approach	50.0%	50.0%	0%	**-**	1.7%	98.3%	0%	**-**	96.5%	3.5%	0%	**-**	-
% Total	0.5%	0.5%	0%	**1.0%**	1.0%	56.2%	0%	**57.1%**	40.4%	1.5%	0%	**41.9%**	-
Lights	1	1	0	**2**	2	104	0	**106**	77	3	0	**80**	188
% Lights	100%	100%	0%	**100%**	100%	91.2%	0%	**91.4%**	93.9%	100%	0%	**94.1%**	92.6%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	0	6	0	**6**	5	0	0	**5**	11
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	0%	5.3%	0%	**5.2%**	6.1%	0%	0%	**5.9%**	5.4%
Buses	0	0	0	**0**	0	4	0	**4**	0	0	0	**0**	4
% Buses	0%	0%	0%	**0%**	0%	3.5%	0%	**3.4%**	0%	0%	0%	**0%**	2.0%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Davidson Drive Wkdy AM - TMC

Wed Nov 15, 2023
Full Length (7 AM-9 AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133161, Location: 41.303899, -74.280977

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US



121-204 Davidson Drive Wkdy AM - TMC

Wed Nov 15, 2023
AM Peak (7 AM - 8 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133161, Location: 41.303899, -74.280977

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg	Davidson Dr				Bellvale Rd				Bellvale Rd				
Direction	Eastbound				Northbound				Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2023-11-15 7:00AM	0	0	0	**0**	0	10	0	**10**	15	0	0	**15**	**25**
7:15AM	0	0	0	**0**	2	14	0	**16**	12	1	0	**13**	**29**
7:30AM	0	0	0	**0**	0	20	0	**20**	11	0	0	**11**	**31**
7:45AM	1	0	0	**1**	0	18	0	**18**	15	1	0	**16**	**35**
Total	1	0	0	**1**	2	62	0	**64**	53	2	0	**55**	**120**
% Approach	100%	0%	0%	**-**	3.1%	96.9%	0%	**-**	96.4%	3.6%	0%	**-**	-
% Total	0.8%	0%	0%	**0.8%**	1.7%	51.7%	0%	**53.3%**	44.2%	1.7%	0%	**45.8%**	-
PHF	0.250	-	-	**0.250**	0.250	0.775	-	**0.800**	0.883	0.500	-	**0.859**	0.857
Lights	1	0	0	**1**	2	60	0	**62**	48	2	0	**50**	113
% Lights	100%	0%	0%	**100%**	100%	96.8%	0%	**96.9%**	90.6%	100%	0%	**90.9%**	94.2%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	5	0	0	**5**	5
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	0%	0%	0%	**0%**	9.4%	0%	0%	**9.1%**	4.2%
Buses	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	2
% Buses	0%	0%	0%	**0%**	0%	3.2%	0%	**3.1%**	0%	0%	0%	**0%**	1.7%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Davidson Drive Wkdy AM - TMC

Wed Nov 15, 2023
AM Peak (7 AM - 8 AM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133161, Location: 41.303899, -74.280977

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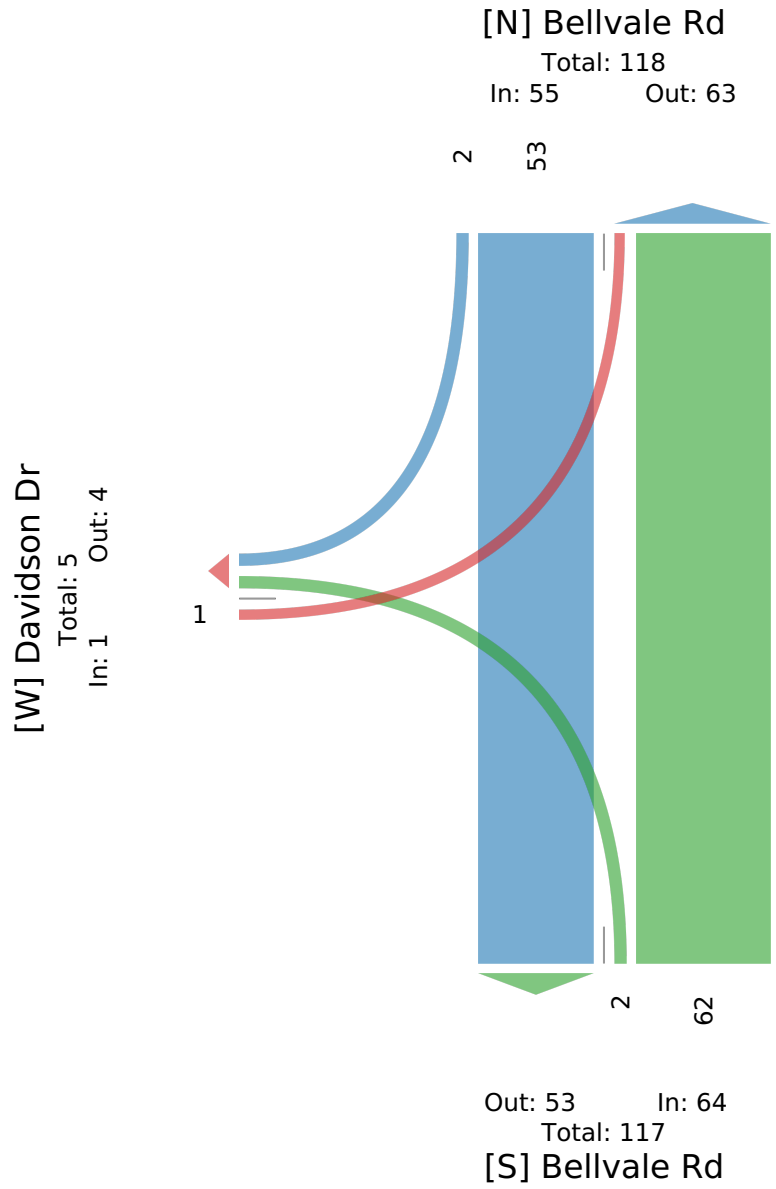

121-204 Davidson Drive Wkdy PM - TMC

Tue Nov 14, 2023
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133158, Location: 41.303899, -74.280977

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg Direction	Davidson Dr Eastbound				Bellvale Rd Northbound				Bellvale Rd Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2023-11-14 4:00PM	0	0	0	**0**	0	11	0	**11**	13	0	0	**13**	**24**
4:15PM	1	0	0	**1**	0	15	0	**15**	20	0	0	**20**	**36**
4:30PM	1	0	0	**1**	0	16	0	**16**	16	0	0	**16**	**33**
4:45PM	0	0	0	**0**	0	9	0	**9**	17	0	0	**17**	**26**
Hourly Total	2	0	0	**2**	0	51	0	**51**	66	0	0	**66**	**119**
5:00PM	0	0	0	**0**	0	20	0	**20**	19	0	0	**19**	**39**
5:15PM	0	0	0	**0**	0	13	0	**13**	17	0	0	**17**	**30**
5:30PM	0	0	0	**0**	0	23	0	**23**	15	0	0	**15**	**38**
5:45PM	0	0	0	**0**	0	7	0	**7**	12	0	0	**12**	**19**
Hourly Total	0	0	0	**0**	0	63	0	**63**	63	0	0	**63**	**126**
6:00PM	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Hourly Total	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
Total	2	0	0	**2**	0	114	0	**114**	129	0	0	**129**	**245**
% Approach	100%	0%	0%	**-**	0%	100%	0%	**-**	100%	0%	0%	**-**	-
% Total	0.8%	0%	0%	**0.8%**	0%	46.5%	0%	**46.5%**	52.7%	0%	0%	**52.7%**	-
Lights	2	0	0	**2**	0	107	0	**107**	124	0	0	**124**	233
% Lights	100%	0%	0%	**100%**	0%	93.9%	0%	**93.9%**	96.1%	0%	0%	**96.1%**	95.1%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	0	5	0	**5**	4	0	0	**4**	9
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	0%	4.4%	0%	**4.4%**	3.1%	0%	0%	**3.1%**	3.7%
Buses	0	0	0	**0**	0	2	0	**2**	1	0	0	**1**	3
% Buses	0%	0%	0%	**0%**	0%	1.8%	0%	**1.8%**	0.8%	0%	0%	**0.8%**	1.2%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Davidson Drive Wkdy PM - TMC

Tue Nov 14, 2023
Full Length (4 PM-6 PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133158, Location: 41.303899, -74.280977

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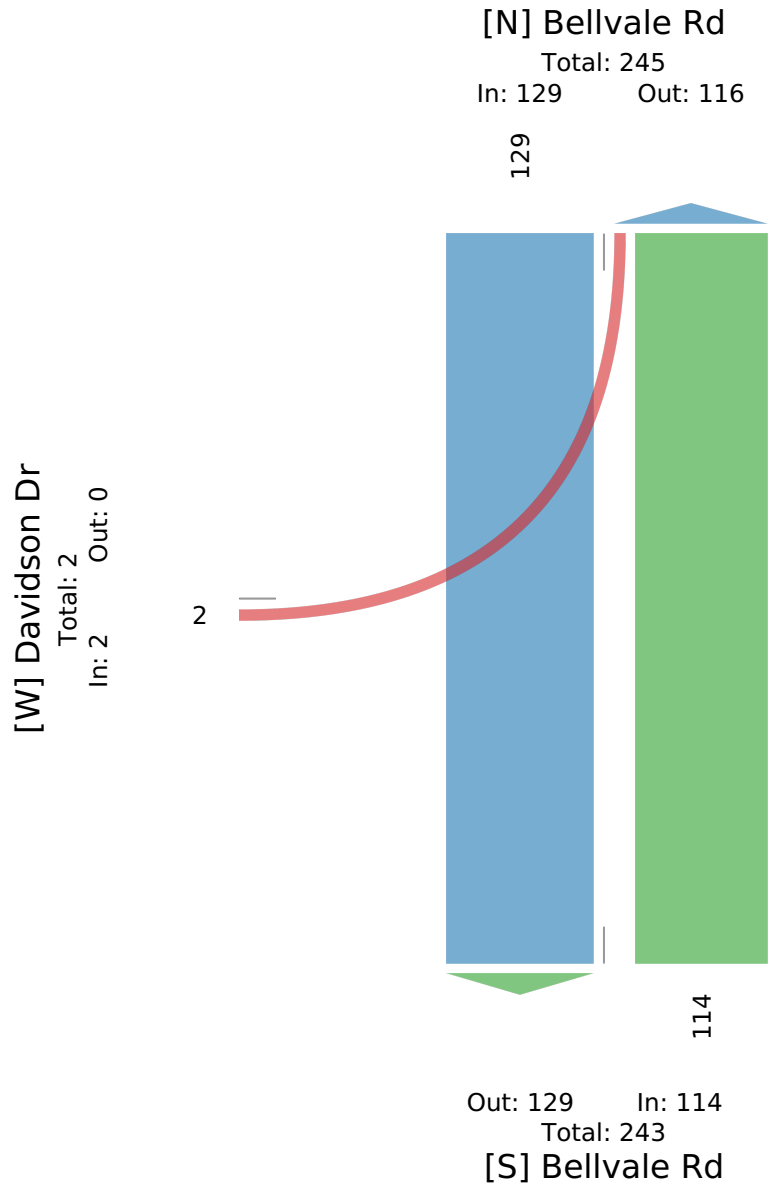

121-204 Davidson Drive Wkdy PM - TMC

Tue Nov 14, 2023
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
ID: 1133158, Location: 41.303899, -74.280977

Provided by: Creighton Manning Engineering, LLP
2 Winners Circle, Albany, NY, 12205, US

Leg Direction	Davidson Dr Eastbound				Bellvale Rd Northbound				Bellvale Rd Southbound				
Time	L	R	U	**App**	L	T	U	**App**	T	R	U	**App**	**Int**
2023-11-14 4:15PM	1	0	0	**1**	0	15	0	**15**	20	0	0	**20**	**36**
4:30PM	1	0	0	**1**	0	16	0	**16**	16	0	0	**16**	**33**
4:45PM	0	0	0	**0**	0	9	0	**9**	17	0	0	**17**	**26**
5:00PM	0	0	0	**0**	0	20	0	**20**	19	0	0	**19**	**39**
Total	2	0	0	**2**	0	60	0	**60**	72	0	0	**72**	**134**
% Approach	100%	0%	0%	**-**	0%	100%	0%	**-**	100%	0%	0%	**-**	-
% Total	1.5%	0%	0%	**1.5%**	0%	44.8%	0%	**44.8%**	53.7%	0%	0%	**53.7%**	-
PHF	0.500	-	-	**0.500**	-	0.750	-	**0.750**	0.900	-	-	**0.900**	0.859
Lights	2	0	0	**2**	0	57	0	**57**	68	0	0	**68**	127
% Lights	100%	0%	0%	**100%**	0%	95.0%	0%	**95.0%**	94.4%	0%	0%	**94.4%**	94.8%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	0	3	0	**3**	3	0	0	**3**	6
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	0%	5.0%	0%	**5.0%**	4.2%	0%	0%	**4.2%**	4.5%
Buses	0	0	0	**0**	0	0	0	**0**	1	0	0	**1**	1
% Buses	0%	0%	0%	**0%**	0%	0%	0%	**0%**	1.4%	0%	0%	**1.4%**	0.7%

*L: Left, R: Right, T: Thru, U: U-Turn

121-204 Davidson Drive Wkdy PM - TMC

Tue Nov 14, 2023
PM Peak (4:15 PM - 5:15 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Movements
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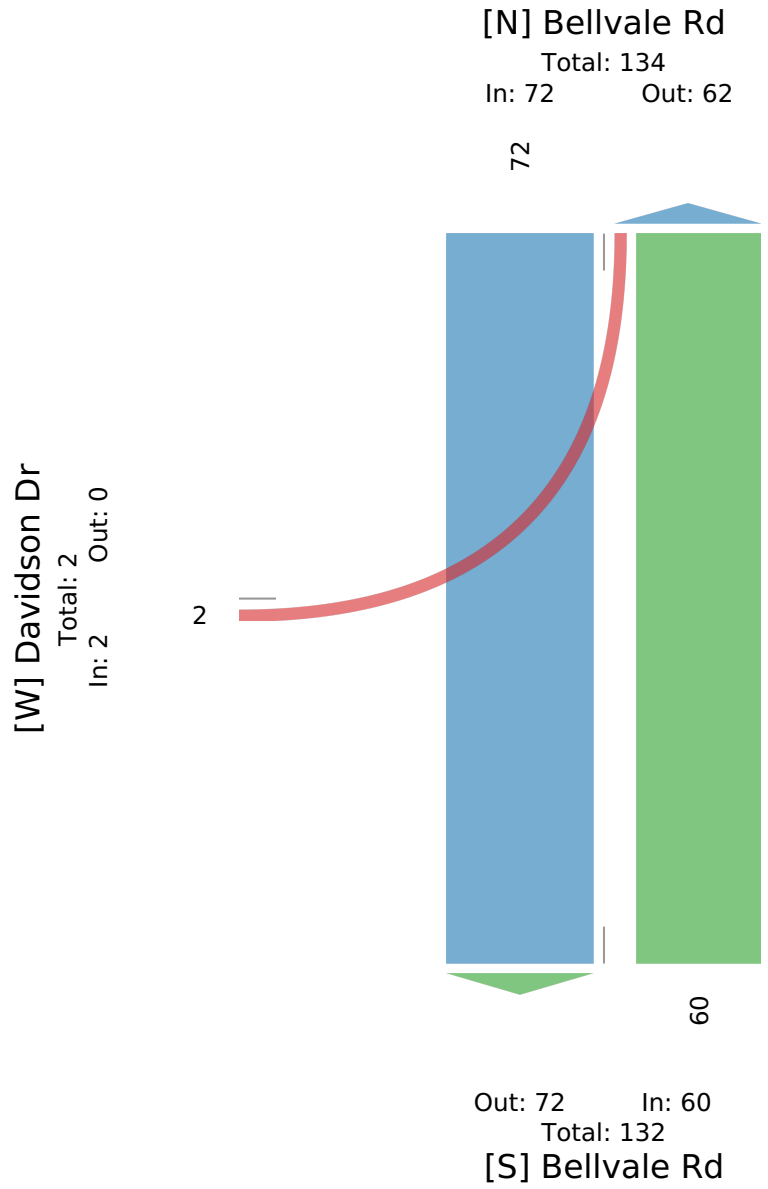


ATTACHMENT D
COLLISION DATA

PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
DAVIDSON DRIVE
TOWN OF CHESTER
ORANGE COUNTY, NEW YORK

Crash Level Details									
Case Number	Crash Severity	Collision Type	Crash Date	Crash Type	# of Fatalities	# of Injuries	Closest Cross Street	On Street	Apparent Contributing Factor
36865869	INJURY	OTHER	2017-08-23T00:00:00	COLL. W/LIGHT SUPPORT/UTILITY POLE	0	1	LAKE STATION RD	BELLVALE RD	V1:(PAVEMENT SLIPPERY,UNKNOWN)
37046869	PROPERTY DAMAGE	OTHER	2017-12-16T00:00:00	COLLISION WITH TREE	0	0	KINGS HIGHWAY BYP	BELLVALE RD	V1:(TRAFFIC CONTROL DEVICES DISREGARDED,DRIVER INATTENTION)
37063530	PROPERTY DAMAGE	OTHER	2017-12-26T00:00:00	COLL. W/EARTH ELE./ROCK CUT/DITCH	0	0	LAKE STATION RD	BELLVALE RD	V1:(DRIVER INATTENTION,NOT APPLICABLE)
37477591	PROPERTY DAMAGE	OTHER	2018-09-08T00:00:00	COLL. W/EARTH ELE./ROCK CUT/DITCH	0	0	LAKE STATION RD	BELLVALE RD	V1:(ANIMAL'S ACTION,NOT APPLICABLE)
37636690	PROPERTY DAMAGE	OTHER	2018-12-09T00:00:00	COLLISION WITH DEER	0	0	Kings Hwy Bypass	BELLVALE RD	V1:(ANIMAL'S ACTION,NOT APPLICABLE)
37640046	PROPERTY DAMAGE	OTHER	2018-12-02T00:00:00	COLL. W/EARTH ELE./ROCK CUT/DITCH	0	0	LAKE STATION RD	BELLVALE RD	V1:(UNSAFE SPEED,NOT APPLICABLE)
37662041	PROPERTY DAMAGE	OTHER	2018-11-03T00:00:00	COLLISION WITH TREE	0	0	KINGS HWY BYPASS	BELLVALE RD	V1:(FELL ASLEEP,NOT APPLICABLE)
38132419	PROPERTY DAMAGE	LEFT TURN (AGAINST OTHER CAR)	2019-10-17T00:00:00	COLLISION WITH MOTOR VEHICLE	0	0	LAKE STATION RD	BELLVALE RD	V1:(DRIVER INATTENTION,NOT APPLICABLE) / V2:(NOT APPLICABLE,NOT APPLICABLE)
38683044	PROPERTY DAMAGE	OTHER	2020-12-15T00:00:00	COLLISION WITH OTHER	0	0	Kings Hwy Bypass	BELLVALE RD	V1:(DRIVER INATTENTION,NOT APPLICABLE)
38688365	PROPERTY DAMAGE	OTHER	2020-12-05T00:00:00	RAN OFF ROAD ONLY	0	0	LAKE STATION RD	[Route] 82	V1:(UNSAFE SPEED,NOT APPLICABLE)
38720184	PROPERTY DAMAGE	OTHER	2021-02-01T00:00:00	COLL. W/EARTH ELE./ROCK CUT/DITCH	0	0	Kings Hwy Bypass	BELLVALE RD	V1:(PAVEMENT SLIPPERY,DRIVER INEXPERIENCE)
38917112	PROPERTY DAMAGE	OTHER	2021-07-03T00:00:00	COLL. W/EARTH ELE./ROCK CUT/DITCH	0	0	LAKE STATION RD	BELLVALE RD	V1:(UNSAFE SPEED,PAVEMENT SLIPPERY)
39160625	PROPERTY DAMAGE	OTHER	2021-12-13T00:00:00	COLLISION WITH DEER	0	0	Kings Hwy Bypass	BELLVALE RD	V1:(ANIMAL'S ACTION,NOT APPLICABLE)

ATTACHMENT E
LEVEL OF SERVICE ANALYSIS

PROPOSED LIGHT INDUSTRIAL DEVELOPMENT
DAVIDSON DRIVE
TOWN OF CHESTER
ORANGE 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

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	6	166	53	16	176
Future Vol, veh/h	54	6	166	53	16	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	6	0	6	6	7	6
Mvmt Flow	71	8	218	70	21	232

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	527	253	0	0	288	0
Stage 1	253	-	-	-	-	-
Stage 2	274	-	-	-	-	-
Critical Hdwy	7.86	6.9	-	-	4.17	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-
Critical Hdwy Stg 2	6.86	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.263	-
Pot Cap-1 Maneuver	411	753	-	-	1246	-
Stage 1	707	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	403	753	-	-	1246	-
Mov Cap-2 Maneuver	403	-	-	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	673	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	423	1246	-
HCM Lane V/C Ratio	-	-	0.187	0.017	-
HCM Control Delay (s)	-	-	15.5	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	46	41	41	34	19
Future Vol, veh/h	23	46	41	41	34	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	10	2	5	5	15	0
Mvmt Flow	29	58	51	51	43	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	208	55	67	0	-	0
Stage 1	55	-	-	-	-	-
Stage 2	153	-	-	-	-	-
Critical Hdwy	6.1	6.02	4.15	-	-	-
Critical Hdwy Stg 1	5.1	-	-	-	-	-
Critical Hdwy Stg 2	5.1	-	-	-	-	-
Follow-up Hdwy	3.59	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	781	1015	1516	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	754	1015	1516	-	-	-
Mov Cap-2 Maneuver	754	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	3.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1516	-	910	-	-
HCM Lane V/C Ratio	0.034	-	0.095	-	-
HCM Control Delay (s)	7.5	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	0	2	62	53	0
Future Vol, veh/h	1	0	2	62	53	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	3	9	0
Mvmt Flow	1	0	2	72	62	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	138	62	62	0	-	0
Stage 1	62	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	860	1009	1554	-	-	-
Stage 1	966	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	859	1009	1554	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	952	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1554	-	859	-	-
HCM Lane V/C Ratio	0.001	-	0.001	-	-
HCM Control Delay (s)	7.3	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

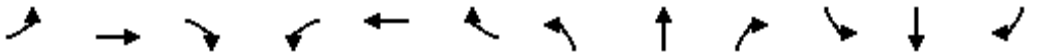
Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	79	24	11	52	31	25
Future Vol, veh/h	79	24	11	52	31	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	4	6	0	0	4	7
Mvmt Flow	101	31	14	67	40	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	281	48
Stage 1	-	-	-	-	48	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	4.14	-	-	-	5.84	5.97
Critical Hdwy Stg 1	-	-	-	-	4.84	-
Critical Hdwy Stg 2	-	-	-	-	4.84	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.363
Pot Cap-1 Maneuver	1504	-	-	-	739	1011
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	833	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1504	-	-	-	689	1011
Mov Cap-2 Maneuver	-	-	-	-	689	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	833	-

Approach	EB	WB	SB
HCM Control Delay, s	5.8	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1504	-	-	-	803
HCM Lane V/C Ratio	0.067	-	-	-	0.089
HCM Control Delay (s)	7.6	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	14	13	3	44	221	20	342	0	89	205	103
Future Volume (veh/h)	42	14	13	3	44	221	20	342	0	89	205	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1337	1693	1781	907	1870	1841	1900	1856	1900	1663	1841	1648
Adj Flow Rate, veh/h	45	15	14	3	47	235	21	364	0	95	218	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	38	14	8	67	2	4	0	3	0	16	4	17
Cap, veh/h	124	38	20	208	62	312	711	973	0	542	1030	
Arrive On Green	0.16	0.16	0.16	0.00	0.23	0.23	0.01	0.52	0.00	0.05	0.56	0.00
Sat Flow, veh/h	297	237	125	864	271	1355	1810	1856	0	1584	1841	1397
Grp Volume(v), veh/h	74	0	0	3	0	282	21	364	0	95	218	0
Grp Sat Flow(s),veh/h/ln	658	0	0	864	0	1626	1810	1856	0	1584	1841	1397
Q Serve(g_s), s	2.9	0.0	0.0	0.2	0.0	12.3	0.4	8.9	0.0	2.1	4.5	0.0
Cycle Q Clear(g_c), s	10.1	0.0	0.0	0.2	0.0	12.3	0.4	8.9	0.0	2.1	4.5	0.0
Prop In Lane	0.61		0.19	1.00		0.83	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	0	0	208	0	374	711	973	0	542	1030	
V/C Ratio(X)	0.41	0.00	0.00	0.01	0.00	0.75	0.03	0.37	0.00	0.18	0.21	
Avail Cap(c_a), veh/h	450	0	0	387	0	640	1065	973	0	796	1030	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.5	0.0	0.0	25.1	0.0	27.4	8.2	10.7	0.0	8.0	8.4	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.0	0.0	3.1	0.0	1.1	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	4.7	0.1	3.4	0.0	0.6	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.0	0.0	0.0	25.1	0.0	30.5	8.3	11.8	0.0	8.1	8.9	0.0
LnGrp LOS	C	A	A	C	A	C	A	B	A	A	A	
Approach Vol, veh/h		74			285			385			313	A
Approach Delay, s/veh		33.0			30.4			11.6			8.6	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	45.0		22.5	6.1	47.7	5.2	17.3				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	4.1	0.0		14.3	2.4	0.0	2.2	12.1				
Green Ext Time (p_c), s	0.3	0.0		1.3	0.0	0.0	0.0	0.3				

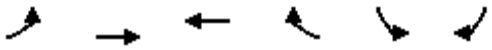
Intersection Summary			
HCM 6th Ctrl Delay		17.3	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	183	280	117	195	416	190
Future Volume (vph)	183	280	117	195	416	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1759	1495		1690	1719	1509
Flt Permitted	1.00	1.00		0.80	0.95	1.00
Satd. Flow (perm)	1759	1495		1372	1719	1509
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	210	322	134	224	478	218
RTOR Reduction (vph)	0	245	0	0	0	32
Lane Group Flow (vph)	210	77	0	358	478	186
Heavy Vehicles (%)	8%	8%	16%	7%	5%	7%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	25.1	25.1		53.9	40.9	40.9
Effective Green, g (s)	25.1	25.1		53.9	40.9	40.9
Actuated g/C Ratio	0.24	0.24		0.51	0.39	0.39
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	421	358		705	670	588
v/s Ratio Prot	0.12				c0.28	
v/s Ratio Perm		0.05		c0.26		0.12
v/c Ratio	0.50	0.22		0.51	0.71	0.32
Uniform Delay, d1	34.4	32.0		16.7	27.0	22.2
Progression Factor	1.00	1.00		0.44	1.00	1.00
Incremental Delay, d2	0.9	0.3		0.6	6.4	1.4
Delay (s)	35.3	32.3		7.8	33.4	23.6
Level of Service	D	C		A	C	C
Approach Delay (s)	33.5			7.8	30.3	
Approach LOS	C			A	C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	358	175	0	6	137
Future Volume (vph)	15	358	175	0	6	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1764	1776		1444	
Flt Permitted		0.99	1.00		1.00	
Satd. Flow (perm)		1744	1776		1444	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	17	411	201	0	7	157
RTOR Reduction (vph)	0	0	0	0	121	0
Lane Group Flow (vph)	0	428	201	0	43	0
Heavy Vehicles (%)	20%	7%	7%	0%	0%	15%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		71.0	25.1		23.8	
Effective Green, g (s)		71.0	25.1		23.8	
Actuated g/C Ratio		0.68	0.24		0.23	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1181	425		327	
v/s Ratio Prot			c0.11		c0.03	
v/s Ratio Perm		c0.25				
v/c Ratio		0.36	0.47		0.13	
Uniform Delay, d1		7.2	34.2		32.3	
Progression Factor		0.14	1.00		1.00	
Incremental Delay, d2		0.2	0.8		0.2	
Delay (s)		1.2	35.0		32.4	
Level of Service		A	D		C	
Approach Delay (s)		1.2	35.0		32.4	
Approach LOS		A	D		C	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	104.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	48.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	69	24	233	71	14	251
Future Vol, veh/h	69	24	233	71	14	251
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	2	0	2
Mvmt Flow	72	25	243	74	15	261

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	571	280	0	0	317	0
Stage 1	280	-	-	-	-	-
Stage 2	291	-	-	-	-	-
Critical Hdwy	7.8	6.94	-	-	4.1	-
Critical Hdwy Stg 1	6.8	-	-	-	-	-
Critical Hdwy Stg 2	6.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2	-
Pot Cap-1 Maneuver	389	714	-	-	1255	-
Stage 1	692	-	-	-	-	-
Stage 2	682	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	384	714	-	-	1255	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	672	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	436	1255	-
HCM Lane V/C Ratio	-	-	0.222	0.012	-
HCM Control Delay (s)	-	-	15.6	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	67	74	42	55	19
Future Vol, veh/h	18	67	74	42	55	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	1	3	4	0
Mvmt Flow	20	76	84	48	63	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	74	85	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	6	6.03	4.11	-	-	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	728	989	1518	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	687	989	1518	-	-	-
Mov Cap-2 Maneuver	687	-	-	-	-	-
Stage 1	907	-	-	-	-	-
Stage 2	845	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	4.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1518	-	905	-	-
HCM Lane V/C Ratio	0.055	-	0.107	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	0	0	60	74	0
Future Vol, veh/h	2	0	0	60	74	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	5	6	0
Mvmt Flow	2	0	0	70	86	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	156	86	86	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	70	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	840	978	1523	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	840	978	1523	-	-	-
Mov Cap-2 Maneuver	840	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	958	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1523	-	840	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	15	20	42	59	52
Future Vol, veh/h	81	15	20	42	59	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	18	0	0	2
Mvmt Flow	96	18	24	50	70	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	259	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.1	-	-	-	5.8	5.92
Critical Hdwy Stg 1	-	-	-	-	4.8	-
Critical Hdwy Stg 2	-	-	-	-	4.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1538	-	-	-	767	1024
Stage 1	-	-	-	-	987	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1538	-	-	-	719	1024
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1538	-	-	-	836
HCM Lane V/C Ratio	0.063	-	-	-	0.158
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	45	45	6	26	143	29	323	2	197	489	55
Future Volume (veh/h)	85	45	45	6	26	143	29	323	2	197	489	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1648	1900	1856	1856	1885	1159	1885	1885	1604
Adj Flow Rate, veh/h	91	48	48	6	28	154	31	347	2	212	526	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	4	17	0	3	3	1	50	1	1	20
Cap, veh/h	163	76	60	276	59	325	464	929	5	639	1060	
Arrive On Green	0.17	0.17	0.17	0.00	0.23	0.23	0.02	0.50	0.50	0.09	0.56	0.00
Sat Flow, veh/h	582	457	359	1570	254	1395	1767	1872	11	1795	1885	1359
Grp Volume(v), veh/h	187	0	0	6	0	182	31	0	349	212	526	0
Grp Sat Flow(s),veh/h/ln	1398	0	0	1570	0	1649	1767	0	1883	1795	1885	1359
Q Serve(g_s), s	8.2	0.0	0.0	0.2	0.0	7.7	0.7	0.0	9.2	4.3	13.7	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.2	0.0	7.7	0.7	0.0	9.2	4.3	13.7	0.0
Prop In Lane	0.49		0.26	1.00		0.85	1.00		0.01	1.00		1.00
Lane Grp Cap(c), veh/h	299	0	0	276	0	384	464	0	934	639	1060	
V/C Ratio(X)	0.63	0.00	0.00	0.02	0.00	0.47	0.07	0.00	0.37	0.33	0.50	
Avail Cap(c_a), veh/h	595	0	0	580	0	613	782	0	934	842	1060	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.5	0.0	0.0	26.2	0.0	26.7	10.1	0.0	12.6	8.1	10.7	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	0.0	0.0	0.9	0.1	0.0	1.1	0.3	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	0.1	0.0	2.9	0.2	0.0	3.7	1.4	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	0.0	0.0	26.2	0.0	27.6	10.2	0.0	13.7	8.4	12.4	0.0
LnGrp LOS	C	A	A	C	A	C	B	A	B	A	B	
Approach Vol, veh/h		187			188			380			738	A
Approach Delay, s/veh		34.6			27.5			13.4			11.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	45.0		23.8	6.5	50.4	5.4	18.4				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	6.3	0.0		9.7	2.7	0.0	2.2	12.5				
Green Ext Time (p_c), s	0.7	0.0		0.8	0.1	0.0	0.0	0.9				

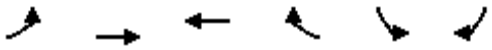
Intersection Summary			
HCM 6th Ctrl Delay		16.8	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	177	464	277	407	378	173
Future Volume (vph)	177	464	277	407	378	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1810	1583		1756	1752	1568
Flt Permitted	1.00	1.00		0.79	0.95	1.00
Satd. Flow (perm)	1810	1583		1411	1752	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	181	473	283	415	386	177
RTOR Reduction (vph)	0	342	0	0	0	36
Lane Group Flow (vph)	181	131	0	698	386	141
Heavy Vehicles (%)	5%	2%	9%	4%	3%	3%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	36.3	36.3		80.7	40.1	40.1
Effective Green, g (s)	36.3	36.3		80.7	40.1	40.1
Actuated g/C Ratio	0.28	0.28		0.62	0.31	0.31
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	502	439		870	537	480
v/s Ratio Prot	0.10				c0.22	
v/s Ratio Perm		0.08		c0.49		0.09
v/c Ratio	0.36	0.30		0.80	0.72	0.29
Uniform Delay, d1	37.9	37.2		19.0	40.3	34.6
Progression Factor	1.00	1.00		0.83	1.00	1.00
Incremental Delay, d2	0.4	0.4		4.5	8.1	1.6
Delay (s)	38.4	37.6		20.3	48.4	36.1
Level of Service	D	D		C	D	D
Approach Delay (s)	37.8			20.3	44.5	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	33.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	130.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	32	318	337	0	9	347
Future Volume (vph)	32	318	337	0	9	347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1820	1810		1529	
Flt Permitted		0.94	1.00		1.00	
Satd. Flow (perm)		1726	1810		1529	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	324	344	0	9	354
RTOR Reduction (vph)	0	0	0	0	247	0
Lane Group Flow (vph)	0	357	344	0	116	0
Heavy Vehicles (%)	3%	4%	5%	0%	0%	8%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		81.4	36.3		39.4	
Effective Green, g (s)		81.4	36.3		39.4	
Actuated g/C Ratio		0.62	0.28		0.30	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1074	502		460	
v/s Ratio Prot			c0.19		c0.08	
v/s Ratio Perm		c0.21				
v/c Ratio		0.33	0.69		0.25	
Uniform Delay, d1		11.8	42.2		34.6	
Progression Factor		0.17	1.00		1.00	
Incremental Delay, d2		0.2	3.9		0.3	
Delay (s)		2.1	46.0		34.8	
Level of Service		A	D		C	
Approach Delay (s)		2.1	46.0		34.8	
Approach LOS		A	D		C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	130.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	6	195	54	16	186
Future Vol, veh/h	55	6	195	54	16	186
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	6	0	6	6	7	6
Mvmt Flow	72	8	257	71	21	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	580	293	0	0	328	0
Stage 1	293	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	7.86	6.9	-	-	4.17	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-
Critical Hdwy Stg 2	6.86	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	-	-	2.263	-
Pot Cap-1 Maneuver	375	709	-	-	1204	-
Stage 1	667	-	-	-	-	-
Stage 2	673	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	368	709	-	-	1204	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	660	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	386	1204	-
HCM Lane V/C Ratio	-	-	0.208	0.017	-
HCM Control Delay (s)	-	-	16.8	8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	47	42	53	37	19
Future Vol, veh/h	23	47	42	53	37	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	10	2	5	5	15	0
Mvmt Flow	29	59	53	66	46	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	230	58	70	0	-	0
Stage 1	58	-	-	-	-	-
Stage 2	172	-	-	-	-	-
Critical Hdwy	6.1	6.02	4.15	-	-	-
Critical Hdwy Stg 1	5.1	-	-	-	-	-
Critical Hdwy Stg 2	5.1	-	-	-	-	-
Follow-up Hdwy	3.59	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	760	1011	1512	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	733	1011	1512	-	-	-
Mov Cap-2 Maneuver	733	-	-	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	3.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1512	-	899	-	-
HCM Lane V/C Ratio	0.035	-	0.097	-	-
HCM Control Delay (s)	7.5	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	2	13	63	54	65
Future Vol, veh/h	10	2	13	63	54	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	3	9	0
Mvmt Flow	12	2	15	73	63	76

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	204	101	139	0	-	0
Stage 1	101	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	789	960	1457	-	-	-
Stage 1	928	-	-	-	-	-
Stage 2	926	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	780	960	1457	-	-	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	926	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	1.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1457	-	805	-	-
HCM Lane V/C Ratio	0.01	-	0.017	-	-
HCM Control Delay (s)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

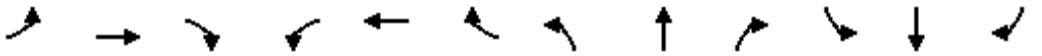
Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	28	12	61	91	26
Future Vol, veh/h	81	28	12	61	91	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	4	6	0	0	4	7
Mvmt Flow	104	36	15	78	117	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	93	0	-	0	298	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	4.14	-	-	-	5.84	5.97
Critical Hdwy Stg 1	-	-	-	-	4.84	-
Critical Hdwy Stg 2	-	-	-	-	4.84	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.363
Pot Cap-1 Maneuver	1489	-	-	-	724	1004
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	673	1004
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	825	-

Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1489	-	-	-	726
HCM Lane V/C Ratio	0.07	-	-	-	0.207
HCM Control Delay (s)	7.6	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	14	13	3	45	225	20	366	0	91	296	105
Future Volume (veh/h)	43	14	13	3	45	225	20	366	0	91	296	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1337	1693	1781	907	1870	1841	1900	1856	1900	1663	1841	1648
Adj Flow Rate, veh/h	46	15	14	3	48	239	21	389	0	97	315	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	38	14	8	67	2	4	0	3	0	16	4	17
Cap, veh/h	125	38	20	210	64	317	622	966	0	521	1025	
Arrive On Green	0.17	0.17	0.17	0.00	0.23	0.23	0.01	0.52	0.00	0.05	0.56	0.00
Sat Flow, veh/h	296	228	120	864	272	1355	1810	1856	0	1584	1841	1397
Grp Volume(v), veh/h	75	0	0	3	0	287	21	389	0	97	315	0
Grp Sat Flow(s),veh/h/ln	644	0	0	864	0	1627	1810	1856	0	1584	1841	1397
Q Serve(g_s), s	3.1	0.0	0.0	0.2	0.0	12.6	0.4	9.8	0.0	2.2	7.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.2	0.0	12.6	0.4	9.8	0.0	2.2	7.0	0.0
Prop In Lane	0.61		0.19	1.00		0.83	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	210	0	381	622	966	0	521	1025	
V/C Ratio(X)	0.41	0.00	0.00	0.01	0.00	0.75	0.03	0.40	0.00	0.19	0.31	
Avail Cap(c_a), veh/h	441	0	0	388	0	635	974	966	0	771	1025	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.7	0.0	0.0	25.0	0.0	27.4	8.5	11.2	0.0	8.2	9.1	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	0.0	3.1	0.0	1.3	0.0	0.2	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	4.8	0.1	3.7	0.0	0.6	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	0.0	25.0	0.0	30.4	8.6	12.4	0.0	8.4	9.9	0.0
LnGrp LOS	C	A	A	C	A	C	A	B	A	A	A	
Approach Vol, veh/h		75			290			410			412	A
Approach Delay, s/veh		33.2			30.4			12.2			9.5	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	45.0		23.0	6.1	47.8	5.2	17.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		14.6	2.4	0.0	2.2	12.5				
Green Ext Time (p_c), s	0.3	0.0		1.3	0.0	0.0	0.0	0.3				

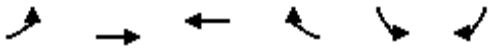
Intersection Summary			
HCM 6th Ctrl Delay		17.0	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	218	344	149	205	437	198
Future Volume (vph)	218	344	149	205	437	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1759	1495		1680	1719	1509
Flt Permitted	1.00	1.00		0.75	0.95	1.00
Satd. Flow (perm)	1759	1495		1289	1719	1509
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	251	395	171	236	502	228
RTOR Reduction (vph)	0	291	0	0	0	34
Lane Group Flow (vph)	251	104	0	407	502	194
Heavy Vehicles (%)	8%	8%	16%	7%	5%	7%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	30.2	30.2		64.1	40.8	40.8
Effective Green, g (s)	30.2	30.2		64.1	40.8	40.8
Actuated g/C Ratio	0.26	0.26		0.56	0.36	0.36
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	462	392		719	610	535
v/s Ratio Prot	0.14				c0.29	
v/s Ratio Perm		0.07		c0.32		0.13
v/c Ratio	0.54	0.26		0.57	0.82	0.36
Uniform Delay, d1	36.4	33.6		16.4	33.8	27.4
Progression Factor	1.00	1.00		0.46	1.00	1.00
Incremental Delay, d2	1.3	0.4		1.0	11.9	1.9
Delay (s)	37.7	33.9		8.6	45.7	29.3
Level of Service	D	C		A	D	C
Approach Delay (s)	35.4			8.6	40.6	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	114.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	401	214	0	6	140
Future Volume (vph)	15	401	214	0	6	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1765	1776		1443	
Flt Permitted		0.99	1.00		1.00	
Satd. Flow (perm)		1744	1776		1443	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	17	461	246	0	7	161
RTOR Reduction (vph)	0	0	0	0	121	0
Lane Group Flow (vph)	0	478	246	0	47	0
Heavy Vehicles (%)	20%	7%	7%	0%	0%	15%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		76.0	30.2		28.9	
Effective Green, g (s)		76.0	30.2		28.9	
Actuated g/C Ratio		0.66	0.26		0.25	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1153	466		362	
v/s Ratio Prot			c0.14		c0.03	
v/s Ratio Perm		c0.27				
v/c Ratio		0.41	0.53		0.13	
Uniform Delay, d1		9.1	36.2		33.3	
Progression Factor		0.12	1.00		1.00	
Incremental Delay, d2		0.2	1.1		0.2	
Delay (s)		1.3	37.3		33.4	
Level of Service		A	D		C	
Approach Delay (s)		1.3	37.3		33.4	
Approach LOS		A	D		C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	114.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	24	248	72	14	282
Future Vol, veh/h	70	24	248	72	14	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	2	0	2
Mvmt Flow	73	25	258	75	15	294

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	620	296	0	0	333	0
Stage 1	296	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	7.8	6.94	-	-	4.1	-
Critical Hdwy Stg 1	6.8	-	-	-	-	-
Critical Hdwy Stg 2	6.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2	-
Pot Cap-1 Maneuver	357	697	-	-	1238	-
Stage 1	677	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	352	697	-	-	1238	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	677	-	-	-	-	-
Stage 2	641	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	403	1238	-
HCM Lane V/C Ratio	-	-	0.243	0.012	-
HCM Control Delay (s)	-	-	16.8	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	68	75	45	66	19
Future Vol, veh/h	18	68	75	45	66	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	1	3	4	0
Mvmt Flow	20	77	85	51	75	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	307	86	97	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	221	-	-	-	-	-
Critical Hdwy	6	6.03	4.11	-	-	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	713	975	1503	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	672	975	1503	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	4.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	891	-	-
HCM Lane V/C Ratio	0.057	-	0.11	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	58	10	2	61	75	9
Future Vol, veh/h	58	10	2	61	75	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	5	6	0
Mvmt Flow	67	12	2	71	87	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	167	92	97	0	-	0
Stage 1	92	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	828	971	1509	-	-	-
Stage 1	937	-	-	-	-	-
Stage 2	953	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	827	971	1509	-	-	-
Mov Cap-2 Maneuver	827	-	-	-	-	-
Stage 1	936	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1509	-	845	-	-
HCM Lane V/C Ratio	0.002	-	0.094	-	-
HCM Control Delay (s)	7.4	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

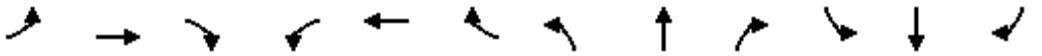
Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	83	16	23	96	68	53
Future Vol, veh/h	83	16	23	96	68	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	19	0	0	2
Mvmt Flow	99	19	27	114	81	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	141	0	-	0	301	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.1	-	-	-	5.8	5.92
Critical Hdwy Stg 1	-	-	-	-	4.8	-
Critical Hdwy Stg 2	-	-	-	-	4.8	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.318
Pot Cap-1 Maneuver	1455	-	-	-	731	982
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	854	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1455	-	-	-	681	982
Mov Cap-2 Maneuver	-	-	-	-	681	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	854	-

Approach	EB	WB	SB
HCM Control Delay, s	6.4	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1455	-	-	-	787
HCM Lane V/C Ratio	0.068	-	-	-	0.183
HCM Control Delay (s)	7.7	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	46	46	6	27	146	30	412	2	201	521	56
Future Volume (veh/h)	87	46	46	6	27	146	30	412	2	201	521	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1648	1900	1856	1856	1885	1159	1885	1885	1604
Adj Flow Rate, veh/h	94	49	49	6	29	157	32	443	2	216	560	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	4	17	0	3	3	1	50	1	1	20
Cap, veh/h	165	77	60	279	61	331	436	921	4	562	1053	
Arrive On Green	0.17	0.17	0.17	0.00	0.24	0.24	0.02	0.49	0.49	0.09	0.56	0.00
Sat Flow, veh/h	578	448	352	1570	257	1392	1767	1875	8	1795	1885	1359
Grp Volume(v), veh/h	192	0	0	6	0	186	32	0	445	216	560	0
Grp Sat Flow(s),veh/h/ln	1378	0	0	1570	0	1649	1767	0	1884	1795	1885	1359
Q Serve(g_s), s	8.6	0.0	0.0	0.2	0.0	7.9	0.7	0.0	12.8	4.4	15.2	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	0.2	0.0	7.9	0.7	0.0	12.8	4.4	15.2	0.0
Prop In Lane	0.49		0.26	1.00		0.84	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	0	0	279	0	393	436	0	925	562	1053	
V/C Ratio(X)	0.63	0.00	0.00	0.02	0.00	0.47	0.07	0.00	0.48	0.38	0.53	
Avail Cap(c_a), veh/h	585	0	0	580	0	608	749	0	925	759	1053	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.6	0.0	0.0	26.1	0.0	26.6	10.6	0.0	13.8	9.1	11.3	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.0	0.0	0.9	0.1	0.0	1.8	0.4	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	0.1	0.0	3.0	0.3	0.0	5.2	1.4	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	0.0	26.1	0.0	27.5	10.6	0.0	15.6	9.5	13.2	0.0
LnGrp LOS	C	A	A	C	A	C	B	A	B	A	B	
Approach Vol, veh/h		192			192			477			776	A
Approach Delay, s/veh		34.8			27.5			15.3			12.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	45.0		24.4	6.5	50.5	5.4	19.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	6.4	0.0		9.9	2.7	0.0	2.2	13.1				
Green Ext Time (p_c), s	0.7	0.0		0.9	0.1	0.0	0.0	0.9				

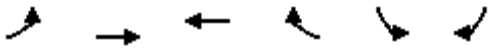
Intersection Summary			
HCM 6th Ctrl Delay		17.5	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	199	491	286	438	443	202
Future Volume (vph)	199	491	286	438	443	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1810	1583		1758	1752	1568
Flt Permitted	1.00	1.00		0.78	0.95	1.00
Satd. Flow (perm)	1810	1583		1403	1752	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	203	501	292	447	452	206
RTOR Reduction (vph)	0	358	0	0	0	36
Lane Group Flow (vph)	203	143	0	739	452	170
Heavy Vehicles (%)	5%	2%	9%	4%	3%	3%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	37.8	37.8		82.8	40.0	40.0
Effective Green, g (s)	37.8	37.8		82.8	40.0	40.0
Actuated g/C Ratio	0.28	0.28		0.62	0.30	0.30
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	515	450		874	527	472
v/s Ratio Prot	0.11				c0.26	
v/s Ratio Perm		0.09		c0.53		0.11
v/c Ratio	0.39	0.32		0.85	0.86	0.36
Uniform Delay, d1	38.3	37.3		19.9	43.7	36.4
Progression Factor	1.00	1.00		0.92	1.00	1.00
Incremental Delay, d2	0.5	0.4		6.1	16.4	2.1
Delay (s)	38.8	37.8		24.5	60.1	38.5
Level of Service	D	D		C	E	D
Approach Delay (s)	38.0			24.5	53.3	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	132.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	86.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	32	369	370	0	9	354
Future Volume (vph)	32	369	370	0	9	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1821	1810		1528	
Flt Permitted		0.95	1.00		1.00	
Satd. Flow (perm)		1732	1810		1528	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	377	378	0	9	361
RTOR Reduction (vph)	0	0	0	0	252	0
Lane Group Flow (vph)	0	410	378	0	118	0
Heavy Vehicles (%)	3%	4%	5%	0%	0%	8%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		82.8	37.8		40.0	
Effective Green, g (s)		82.8	37.8		40.0	
Actuated g/C Ratio		0.62	0.28		0.30	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1079	515		460	
v/s Ratio Prot			c0.21		c0.08	
v/s Ratio Perm		c0.24				
v/c Ratio		0.38	0.73		0.26	
Uniform Delay, d1		12.3	43.0		35.1	
Progression Factor		0.15	1.00		1.00	
Incremental Delay, d2		0.2	5.4		0.3	
Delay (s)		2.1	48.3		35.4	
Level of Service		A	D		D	
Approach Delay (s)		2.1	48.3		35.4	
Approach LOS		A	D		D	

Intersection Summary			
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	132.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	60	6	195	90	16	186
Future Vol, veh/h	60	6	195	90	16	186
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	76	76	76	76	76	76
Heavy Vehicles, %	5	0	6	4	7	6
Mvmt Flow	79	8	257	118	21	245

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	603	316	0	0	375	0
Stage 1	316	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	7.85	6.9	-	-	4.17	-
Critical Hdwy Stg 1	6.85	-	-	-	-	-
Critical Hdwy Stg 2	6.85	-	-	-	-	-
Follow-up Hdwy	3.545	3.3	-	-	2.263	-
Pot Cap-1 Maneuver	362	686	-	-	1157	-
Stage 1	648	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	354	686	-	-	1157	-
Mov Cap-2 Maneuver	354	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	661	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	370	1157	-
HCM Lane V/C Ratio	-	-	0.235	0.018	-
HCM Control Delay (s)	-	-	17.7	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	47	42	78	40	24
Future Vol, veh/h	59	47	42	78	40	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	4	2	5	4	14	0
Mvmt Flow	74	59	53	98	50	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	269	65	80	0	-	0
Stage 1	65	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Critical Hdwy	6.04	6.02	4.15	-	-	-
Critical Hdwy Stg 1	5.04	-	-	-	-	-
Critical Hdwy Stg 2	5.04	-	-	-	-	-
Follow-up Hdwy	3.536	3.318	2.245	-	-	-
Pot Cap-1 Maneuver	738	1003	1499	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	711	1003	1499	-	-	-
Mov Cap-2 Maneuver	711	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	2.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1499	-	816	-	-
HCM Lane V/C Ratio	0.035	-	0.162	-	-
HCM Control Delay (s)	7.5	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	10	74	63	54	107
Future Vol, veh/h	16	10	74	63	54	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	6	0	0	3	9	1
Mvmt Flow	19	12	86	73	63	124

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	370	125	187	0	-	0
Stage 1	125	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Critical Hdwy	6.46	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	623	931	1399	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	583	931	1399	-	-	-
Mov Cap-2 Maneuver	583	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	786	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	4.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1399	-	681	-	-
HCM Lane V/C Ratio	0.062	-	0.044	-	-
HCM Control Delay (s)	7.7	0	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.1	-	-

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	33	13	66	128	26
Future Vol, veh/h	81	33	13	66	128	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	4	5	0	2	4	7
Mvmt Flow	104	42	17	85	164	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	102	0	-	0	310	60
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	250	-
Critical Hdwy	4.14	-	-	-	5.84	5.97
Critical Hdwy Stg 1	-	-	-	-	4.84	-
Critical Hdwy Stg 2	-	-	-	-	4.84	-
Follow-up Hdwy	2.236	-	-	-	3.536	3.363
Pot Cap-1 Maneuver	1478	-	-	-	714	997
Stage 1	-	-	-	-	967	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1478	-	-	-	663	997
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	5.4	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1478	-	-	-	703
HCM Lane V/C Ratio	0.07	-	-	-	0.281
HCM Control Delay (s)	7.6	0	-	-	12.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	14	13	3	45	225	20	371	0	91	333	105
Future Volume (veh/h)	43	14	13	3	45	225	20	371	0	91	333	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1337	1693	1781	907	1870	1841	1900	1856	1900	1663	1841	1648
Adj Flow Rate, veh/h	46	15	14	3	48	239	21	395	0	97	354	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	38	14	8	67	2	4	0	3	0	16	4	17
Cap, veh/h	125	38	20	210	64	317	590	966	0	517	1025	
Arrive On Green	0.17	0.17	0.17	0.00	0.23	0.23	0.01	0.52	0.00	0.05	0.56	0.00
Sat Flow, veh/h	296	228	120	864	272	1355	1810	1856	0	1584	1841	1397
Grp Volume(v), veh/h	75	0	0	3	0	287	21	395	0	97	354	0
Grp Sat Flow(s),veh/h/ln	644	0	0	864	0	1627	1810	1856	0	1584	1841	1397
Q Serve(g_s), s	3.1	0.0	0.0	0.2	0.0	12.6	0.4	10.0	0.0	2.2	8.1	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.2	0.0	12.6	0.4	10.0	0.0	2.2	8.1	0.0
Prop In Lane	0.61		0.19	1.00		0.83	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	0	210	0	381	590	966	0	517	1025	
V/C Ratio(X)	0.41	0.00	0.00	0.01	0.00	0.75	0.04	0.41	0.00	0.19	0.35	
Avail Cap(c_a), veh/h	441	0	0	388	0	635	941	966	0	767	1025	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.7	0.0	0.0	25.0	0.0	27.4	8.6	11.2	0.0	8.3	9.3	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.0	0.0	3.1	0.0	1.3	0.0	0.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	0.0	4.8	0.1	3.8	0.0	0.6	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	0.0	0.0	25.0	0.0	30.4	8.6	12.5	0.0	8.4	10.3	0.0
LnGrp LOS	C	A	A	C	A	C	A	B	A	A	B	
Approach Vol, veh/h		75			290			416			451	A
Approach Delay, s/veh		33.2			30.4			12.3			9.9	
Approach LOS		C			C			B			A	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	45.0		23.0	6.1	47.8	5.2	17.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	4.2	0.0		14.6	2.4	0.0	2.2	12.5				
Green Ext Time (p_c), s	0.3	0.0		1.3	0.0	0.0	0.0	0.3				

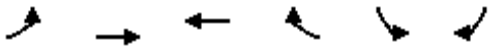
Intersection Summary			
HCM 6th Ctrl Delay		16.9	
HCM 6th LOS		B	

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	218	366	164	205	441	199
Future Volume (vph)	218	366	164	205	441	199
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1759	1495		1674	1719	1509
Flt Permitted	1.00	1.00		0.74	0.95	1.00
Satd. Flow (perm)	1759	1495		1267	1719	1509
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	251	421	189	236	507	229
RTOR Reduction (vph)	0	309	0	0	0	33
Lane Group Flow (vph)	251	112	0	425	507	196
Heavy Vehicles (%)	8%	8%	16%	7%	5%	7%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	31.4	31.4		67.0	40.8	40.8
Effective Green, g (s)	31.4	31.4		67.0	40.8	40.8
Actuated g/C Ratio	0.27	0.27		0.57	0.35	0.35
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	468	398		720	595	522
v/s Ratio Prot	0.14				c0.29	
v/s Ratio Perm		0.08		c0.34		0.13
v/c Ratio	0.54	0.28		0.59	0.85	0.37
Uniform Delay, d1	37.0	34.3		16.5	35.7	28.9
Progression Factor	1.00	1.00		0.52	1.00	1.00
Incremental Delay, d2	1.2	0.4		1.2	14.3	2.1
Delay (s)	38.2	34.6		9.9	50.0	31.0
Level of Service	D	C		A	D	C
Approach Delay (s)	36.0			9.9	44.1	
Approach LOS	D			A	D	

Intersection Summary			
HCM 2000 Control Delay	33.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	117.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	402	229	0	6	140
Future Volume (vph)	15	402	229	0	6	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1765	1776		1443	
Flt Permitted		0.99	1.00		1.00	
Satd. Flow (perm)		1743	1776		1443	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	17	462	263	0	7	161
RTOR Reduction (vph)	0	0	0	0	119	0
Lane Group Flow (vph)	0	479	263	0	49	0
Heavy Vehicles (%)	20%	7%	7%	0%	0%	15%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		77.2	31.4		30.6	
Effective Green, g (s)		77.2	31.4		30.6	
Actuated g/C Ratio		0.66	0.27		0.26	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1142	473		374	
v/s Ratio Prot			c0.15		c0.03	
v/s Ratio Perm		c0.27				
v/c Ratio		0.42	0.56		0.13	
Uniform Delay, d1		9.6	37.2		33.4	
Progression Factor		0.12	1.00		1.00	
Incremental Delay, d2		0.2	1.4		0.2	
Delay (s)		1.4	38.6		33.6	
Level of Service		A	D		C	
Approach Delay (s)		1.4	38.6		33.6	
Approach LOS		A	D		C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	117.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	24	248	74	14	282
Future Vol, veh/h	87	24	248	74	14	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	7	-	4	-	-	3
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	4	2	1	0	2
Mvmt Flow	91	25	258	77	15	294

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	621	297	0	0	335	0
Stage 1	297	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	7.8	6.94	-	-	4.1	-
Critical Hdwy Stg 1	6.8	-	-	-	-	-
Critical Hdwy Stg 2	6.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	-	-	2.2	-
Pot Cap-1 Maneuver	357	696	-	-	1236	-
Stage 1	676	-	-	-	-	-
Stage 2	650	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	352	696	-	-	1236	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	676	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.9	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	394	1236	-
HCM Lane V/C Ratio	-	-	0.293	0.012	-
HCM Control Delay (s)	-	-	17.9	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.2	0	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	68	75	47	78	36
Future Vol, veh/h	20	68	75	47	78	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-2	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	1	3	4	0
Mvmt Flow	23	77	85	53	89	41

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	333	110	130	0	-	0
Stage 1	110	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6	6.03	4.11	-	-	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.327	2.209	-	-	-
Pot Cap-1 Maneuver	691	946	1462	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	650	946	1462	-	-	-
Mov Cap-2 Maneuver	650	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	4.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1462	-	857	-	-
HCM Lane V/C Ratio	0.058	-	0.117	-	-
HCM Control Delay (s)	7.6	0	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	39	6	61	75	13
Future Vol, veh/h	79	39	6	61	75	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	1	0	0	5	6	8
Mvmt Flow	92	45	7	71	87	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	180	95	102	0	-	0
Stage 1	95	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.41	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	812	967	1503	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	941	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	808	967	1503	-	-	-
Mov Cap-2 Maneuver	808	-	-	-	-	-
Stage 1	926	-	-	-	-	-
Stage 2	941	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	854	-	-
HCM Lane V/C Ratio	0.005	-	0.161	-	-
HCM Control Delay (s)	7.4	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

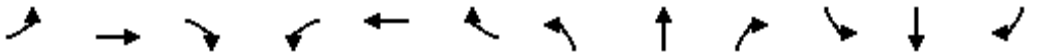
Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	83	16	26	114	72	53
Future Vol, veh/h	83	16	26	114	72	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	-3	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	17	1	1	2
Mvmt Flow	99	19	31	136	86	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	167	0	-	0	316	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.1	-	-	-	5.81	5.92
Critical Hdwy Stg 1	-	-	-	-	4.81	-
Critical Hdwy Stg 2	-	-	-	-	4.81	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.318
Pot Cap-1 Maneuver	1423	-	-	-	716	965
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1423	-	-	-	666	965
Mov Cap-2 Maneuver	-	-	-	-	666	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	SB
HCM Control Delay, s	6.5	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	767
HCM Lane V/C Ratio	0.069	-	-	-	0.194
HCM Control Delay (s)	7.7	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	46	46	6	27	146	30	430	2	201	525	56
Future Volume (veh/h)	87	46	46	6	27	146	30	430	2	201	525	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1841	1648	1900	1856	1856	1885	1159	1885	1885	1604
Adj Flow Rate, veh/h	94	49	49	6	29	157	32	462	2	216	565	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	0	4	17	0	3	3	1	50	1	1	20
Cap, veh/h	165	77	60	279	61	331	432	921	4	548	1053	
Arrive On Green	0.17	0.17	0.17	0.00	0.24	0.24	0.02	0.49	0.49	0.09	0.56	0.00
Sat Flow, veh/h	578	448	352	1570	257	1392	1767	1876	8	1795	1885	1359
Grp Volume(v), veh/h	192	0	0	6	0	186	32	0	464	216	565	0
Grp Sat Flow(s),veh/h/ln	1378	0	0	1570	0	1649	1767	0	1884	1795	1885	1359
Q Serve(g_s), s	8.6	0.0	0.0	0.2	0.0	7.9	0.7	0.0	13.5	4.4	15.4	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	0.2	0.0	7.9	0.7	0.0	13.5	4.4	15.4	0.0
Prop In Lane	0.49		0.26	1.00		0.84	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	0	0	279	0	393	432	0	925	548	1053	
V/C Ratio(X)	0.63	0.00	0.00	0.02	0.00	0.47	0.07	0.00	0.50	0.39	0.54	
Avail Cap(c_a), veh/h	585	0	0	580	0	608	746	0	925	745	1053	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.6	0.0	0.0	26.1	0.0	26.6	10.6	0.0	14.0	9.3	11.3	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.0	0.0	0.9	0.1	0.0	1.9	0.5	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	0.1	0.0	3.0	0.3	0.0	5.5	1.4	5.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	0.0	0.0	26.1	0.0	27.5	10.6	0.0	15.9	9.7	13.3	0.0
LnGrp LOS	C	A	A	C	A	C	B	A	B	A	B	
Approach Vol, veh/h		192			192			496			781	A
Approach Delay, s/veh		34.8			27.5			15.6			12.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	45.0		24.4	6.5	50.5	5.4	19.0				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	16.0	40.0		30.0	16.0	40.0	16.0	30.0				
Max Q Clear Time (g_c+I1), s	6.4	0.0		9.9	2.7	0.0	2.2	13.1				
Green Ext Time (p_c), s	0.7	0.0		0.9	0.1	0.0	0.0	0.9				

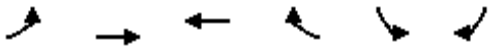
Intersection Summary		
HCM 6th Ctrl Delay		17.6
HCM 6th LOS		B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	199	494	287	438	454	209
Future Volume (vph)	199	494	287	438	454	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	1.00	1.00		0.98	0.95	1.00
Satd. Flow (prot)	1810	1583		1758	1752	1568
Flt Permitted	1.00	1.00		0.78	0.95	1.00
Satd. Flow (perm)	1810	1583		1402	1752	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	203	504	293	447	463	213
RTOR Reduction (vph)	0	361	0	0	0	36
Lane Group Flow (vph)	203	143	0	740	463	177
Heavy Vehicles (%)	5%	2%	9%	4%	3%	3%
Turn Type	NA	Perm	Perm	NA	Prot	Perm
Protected Phases	1			1 3	2	
Permitted Phases		1	1 3			2
Actuated Green, G (s)	37.8	37.8		82.8	40.0	40.0
Effective Green, g (s)	37.8	37.8		82.8	40.0	40.0
Actuated g/C Ratio	0.28	0.28		0.62	0.30	0.30
Clearance Time (s)	5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	515	450		874	527	472
v/s Ratio Prot	0.11				c0.26	
v/s Ratio Perm		0.09		c0.53		0.11
v/c Ratio	0.39	0.32		0.85	0.88	0.37
Uniform Delay, d1	38.3	37.4		19.9	44.1	36.5
Progression Factor	1.00	1.00		0.93	1.00	1.00
Incremental Delay, d2	0.5	0.4		6.2	18.5	2.3
Delay (s)	38.8	37.8		24.6	62.6	38.8
Level of Service	D	D		C	E	D
Approach Delay (s)	38.1			24.6	55.1	
Approach LOS	D			C	E	

Intersection Summary			
HCM 2000 Control Delay	38.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	132.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	32	376	371	0	9	354
Future Volume (vph)	32	376	371	0	9	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	1.00		0.87	
Flt Protected		1.00	1.00		1.00	
Satd. Flow (prot)		1821	1810		1528	
Flt Permitted		0.95	1.00		1.00	
Satd. Flow (perm)		1734	1810		1528	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	33	384	379	0	9	361
RTOR Reduction (vph)	0	0	0	0	252	0
Lane Group Flow (vph)	0	417	379	0	118	0
Heavy Vehicles (%)	3%	4%	5%	0%	0%	8%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		1 2	1		3	
Permitted Phases	1 2					
Actuated Green, G (s)		82.8	37.8		40.0	
Effective Green, g (s)		82.8	37.8		40.0	
Actuated g/C Ratio		0.62	0.28		0.30	
Clearance Time (s)			5.0		5.0	
Vehicle Extension (s)			3.0		3.0	
Lane Grp Cap (vph)		1081	515		460	
v/s Ratio Prot			c0.21		c0.08	
v/s Ratio Perm		c0.24				
v/c Ratio		0.39	0.74		0.26	
Uniform Delay, d1		12.4	43.0		35.1	
Progression Factor		0.15	1.00		1.00	
Incremental Delay, d2		0.2	5.4		0.3	
Delay (s)		2.0	48.4		35.4	
Level of Service		A	D		D	
Approach Delay (s)		2.0	48.4		35.4	
Approach LOS		A	D		D	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	132.8	Sum of lost time (s)	15.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			