



Bright View Engineering
Moving you forward

Traffic Impact Study

Proposed Warehouse Development
Active 29 Howell Road
Block 164, Lot 5.01
Howell Road/ Five Points Road
Monmouth County, New Jersey

April 1, 2021

Prepared For
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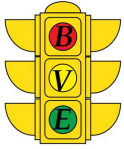
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BVE Project No.: 203032

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I. INTRODUCTION

Bright View Engineering, LLC was tasked with performing a traffic impact study for a proposed approximately 425,000 SF warehouse development. The proposed project area is located adjacent to Howell Road (*aka Five Points Road*) in Howell Township, Monmouth County, New Jersey. This site encompasses approximately ± 30.09 acres and is designated as Block 164, Lot 5.01. The lot is currently occupied by two (2) single story corrugated steel buildings, with the remaining space utilized as farmland. Existing access to the site is available via driveways present along Howell Road and Okerson Road. A site location map is included within **Figure 1** on the following page and the corresponding Howell Township tax map is included in **Appendix A** of this report.

The proposed development will consist of approximately 425,000 SF warehouse spread across two (2) buildings (*Warehouse "A" is 325,737 SF and Warehouse "B" is 98,828 SF*). Passenger vehicle parking and loading bays/ trailer parking are proposed along the East and West sides of each building. Access to the site is proposed via two (2) access points; one full-movement driveway is proposed along Okerson Road to the North of the Site and one full-movement in/ right-out driveway is proposed to the east of the site along Howell Road.

This study presents an evaluation of the current and future traffic conditions in the vicinity of the development and provides an analysis of the traffic and parking impacts of the proposed development. Specific elements included in this study are:

- An inventory of the roadway facilities in the vicinity of the project, including the existing physical and traffic operating characteristics;
- Data Collection of the 2020 Existing Traffic Conditions;
- Site Generated Trips using the ITE Trip Generation Manual, 10th Edition;
- Trip Distribution and Assignment of the new vehicle trips;
- Full Build Traffic Volumes for the Full-Build year of 2023;
- Peak Hour Capacity Analysis for the Existing, No Build and Full Build Conditions;
- Analysis of Internal Vehicular Circulation and Safety;
- Analysis of On-Site Parking Requirements; and,
- Summary and Conclusions.



FIGURE 1 – Site Location Map





II. EXISTING CONDITIONS

A field investigation was conducted adjacent to the project site to obtain an inventory of existing roadway conditions, posted traffic controls, adjacent land uses, lane configurations of the roadways in the study area, and existing vehicular and pedestrian traffic patterns. The following is a brief description of the roadways:

Park Ave/ NJ-33 Business has a general East – West orientation and intersects with both Okerson Road and Howell Road/ Five Points Road in the study area. Typically, this section of NJ-33 provides for two (2) travel lanes, one (1) in each direction, and a minimum 32' wide pavement width. Shoulder lanes are present on both sides of the roadway. At both of the study intersections the pavement widens out to accommodate dedicated turn lanes from each approach. Both the available NJDOT Straight Line Diagram (*last inventoried April 2014*) and our observations confirmed a posted 50 MPH speed limit. This section of NJ-33 is classified as an Urban Principal Arterial and is under the Jurisdiction of NJDOT. Sidewalks are not present along NJ-33 at either of the study intersections. However, land areas and pedestrian indications are provided at the intersection of NJ-33 and Howell Road/ Five Points Road.

Howell Road/ Five Points Road has a general North – South orientation and intersects with Parker Ave/ NJ-33 to form a signalized intersection. The North leg of the roadway is identified as Five Points Road, and South leg of the roadway is identified as Howell Road. This section of roadway provides for two (2) travel lanes, one (1) in each direction, and a minimum pavement width of 24'. At its intersection with NJ-33, the roadway widens to accommodate dedicated left turn lanes from both of its approaches. We did not observe a speed limit posted near the intersection, however, based upon the available NJDOT Straight Line Diagram (*last inventoried July 2011*) we observe that the roadway should have a posted speed limit of 45 MPH in the study area. Additionally, we observed that both receiving lanes from NJ-33 onto the roadway have a 4 ton weight limit posted. Based upon the NJDOT Straight Line Diagram, the North leg (*Five Points Road*), is classified as an Urban Major Collector under the Jurisdiction of Howell Township. The South Leg of the roadway (*Howell Road*) is classified as an Urban Local road also under the Jurisdiction of Howell Township. Sidewalks were not observed along the roadway in the study area.

Okerson Road has a general North – South orientation and intersects with Parker Ave/ NJ-33 to form a STOP Controlled T-intersection. This section of roadway provides for two (2) travel lanes, one (1) in each direction, and a minimum pavement width of 30'. At its intersection with NJ-33, the roadway widens to accommodate a left and right turn lane from Okerson Road. We did not observe a speed limit posted near the intersection and there was no NJDOT Straight Line Diagram to indicate a posted speed limit. Based upon the operating characteristics of the roadway and the existing land uses it is our opinion that Okerson Road should have a posted speed limit of 45 MPH in the study area; or as otherwise noted in the guidance set forth within the New Jersey Statutes Title 39, Chapter 4, Section 98, and the provisions set forth in R.S.39:4-96 and R.S.39:4-97. Okerson Road provides access to NJ Route 33 to the west via the Halls Mill Road interchange.



III. 2020 EXISTING TRAFFIC CONDITIONS

In order to gain a better understanding of existing traffic conditions, Bright View Engineering collected traffic data at the intersections of Park Ave/ NJ-33 & Howell Road/ Five Points Road and Park Ave/ NJ-33 & Okerson Road, on Thursday, November 11, 2020. The traffic volume data was collected using Manual Turning Movement Counts (MTMC). Counts were conducted between the weekday hours of 7:00 AM and 9:00 AM in the morning and 4:00 PM and 6:00 PM in the evening. The following table details the peak hour traffic volumes observed at the study locations:

Table 1 – 2020 Existing Traffic Volumes Park Ave/ NJ-33 & Howell Rd/ Five Points Rd

Peak Hour of Operation	Park Ave/ NJ-33 EB			Park Ave/ NJ-33 WB			Howell Rd/ Five Points Rd NB			Howell Rd/ Five Points Rd SB		
	L	T	R	L	T	R	L	T	R	L	T	R
8:00 AM 9:00 AM	41	245	38	48	261	77	64	187	36	66	137	37
4:30 PM 5:30 PM	47	403	83	85	209	69	32	104	20	96	268	33

Table 2 – 2020 Existing Traffic Volumes Park Ave/ NJ-33 & Okerson Rd

Peak Hour of Operation	Park Ave/ NJ-33 EB			Park Ave/ NJ-33 WB			Okerson Rd NB		
	L	T	R	L	T	R	L	-	R
8:00 AM 9:00 AM	-	62	0	20	68	0	1	-	12
4:30 PM 5:30 PM	-	485	2	16	268	0	3	-	51

Due to the ongoing COVID pandemic we utilized historic data, when available, to compare with and adjust the data collected by our Firm. We have included two historic counts performed by NJDOT in 2019 North of the site along Five Points Road and West of the site along NJ-33. Based upon this data we observed the following volume differences between the data collected by NJDOT in 2019 and the data collected by BVE in 2020.



Table 3 – (%) Difference 2019 Volumes vs. 2020 Volumes

% Difference 2019 vs. 2020	Park Ave/ NJ-33	Howell Rd/ Five Points Rd	Okerson Rd
AM Peak	11.3%	36.9%	-*
PM Peak	0.8%	37.8%	-*

**No historic data was available along this roadway segment, adjacent to the study location.*

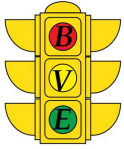
Based on this historic data, we adjusted the 2020 volume data. The tables below represent the adjusted traffic volumes.

Table 4 – 2020 Existing Traffic Volumes Park Ave/ NJ-33 & Howell Rd/ Five Points Rd (Adjusted)

Peak Hour of Operation	Park Ave/ NJ-33 EB			Park Ave/ NJ-33 WB			Howell Rd/ Five Points Rd NB			Howell Rd/ Five Points Rd SB		
	L	T	R	L	T	R	L	T	R	L	T	R
8:00 AM 9:00 AM	46	273	42	53	290	86	88	256	49	90	188	51
4:30 PM 5:30 PM	47	406	84	86	211	70	44	143	28	132	369	45

Table 5 – 2020 Existing Traffic Volumes Park Ave/ NJ-33 & Okerson Rd (Adjusted)

Peak Hour of Operation	Park Ave/ NJ-33 EB			Park Ave/ NJ-33 WB			Okerson Rd NB		
	L	T	R	L	T	R	L	-	R
8:00 AM 9:00 AM	-	69	0	22	76	0	1	-	12
4:30 PM 5:30 PM	-	489	2	16	270	0	3	-	51



Establishment of Peak Hour Factor

The *peak hour factor (PHF)* is a ratio which expresses the relationship between the peak 15-minute flow rates and the full hourly volume. The PHF is calculated by multiplying the peak 15-minute flow rate at an intersection by four and then dividing the intersection hourly volume by that value. PHFs are usually observed between 0.80 and 0.98. These statistics indicate that the recorded traffic volumes approach the intersection consistently, with minimal interruption in the traffic stream. The formula for the peak hour factor is detailed below. **Table 6** depicts the observed peak hour factors:

$$PHF = \frac{V}{4*V15} \quad \text{Where as;}$$

PHFrepresents the Peak Hour Factor
 V.....represents the total hourly Volume; and,
 V15.....represents the peak 15-minute Volume.

Table 6 – Peak Hour Factors (PHF)

Intersection	PHF by Peak Hour Period	
	AM	PM
Park Ave/ NJ-33 & Howell Rd/ Five Points Rd	0.94	0.90
Park Ave/ NJ-33 & Okerson Rd	0.95	0.93
Avg.	0.95	0.92

These PHF’s indicate consistent traffic progression during the peak hour, with no sudden increases in traffic during the fifteen-minute intervals counted. We noted during our field observations that traffic flow was consistent throughout the peak periods further corroborating the PHF calculation. It should be noted that based on our field observations and the resulting PHFs from our data collection, we opted to utilize the existing PHFs for the *Existing Conditions, No-Build Conditions* and *Build Conditions*. We felt that this was a reasonably conservative approach when examining the existing conditions at the intersection. It is our opinion that each PHF is justified based on the background growth and the trip generation. This will result in increased trips and a more even distribution of traffic volume throughout all approaches at the intersection.



Establishment of Heavy Vehicle Factor

The *heavy vehicle (%)* is the percentage of heavy vehicles (*buses, two-axle six tire vehicles or larger*) utilizing the roadway. By accounting for heavy vehicles as an overall percentage of total vehicles on a roadway segment, we are better able to analyze how these vehicles impact the roadway network and also get a better understanding of just what types of vehicles are using the roadway network during peak traffic periods. **Table 7** below depicts the heavy vehicles factors observed at each intersection during the AM and PM Peak Hours.

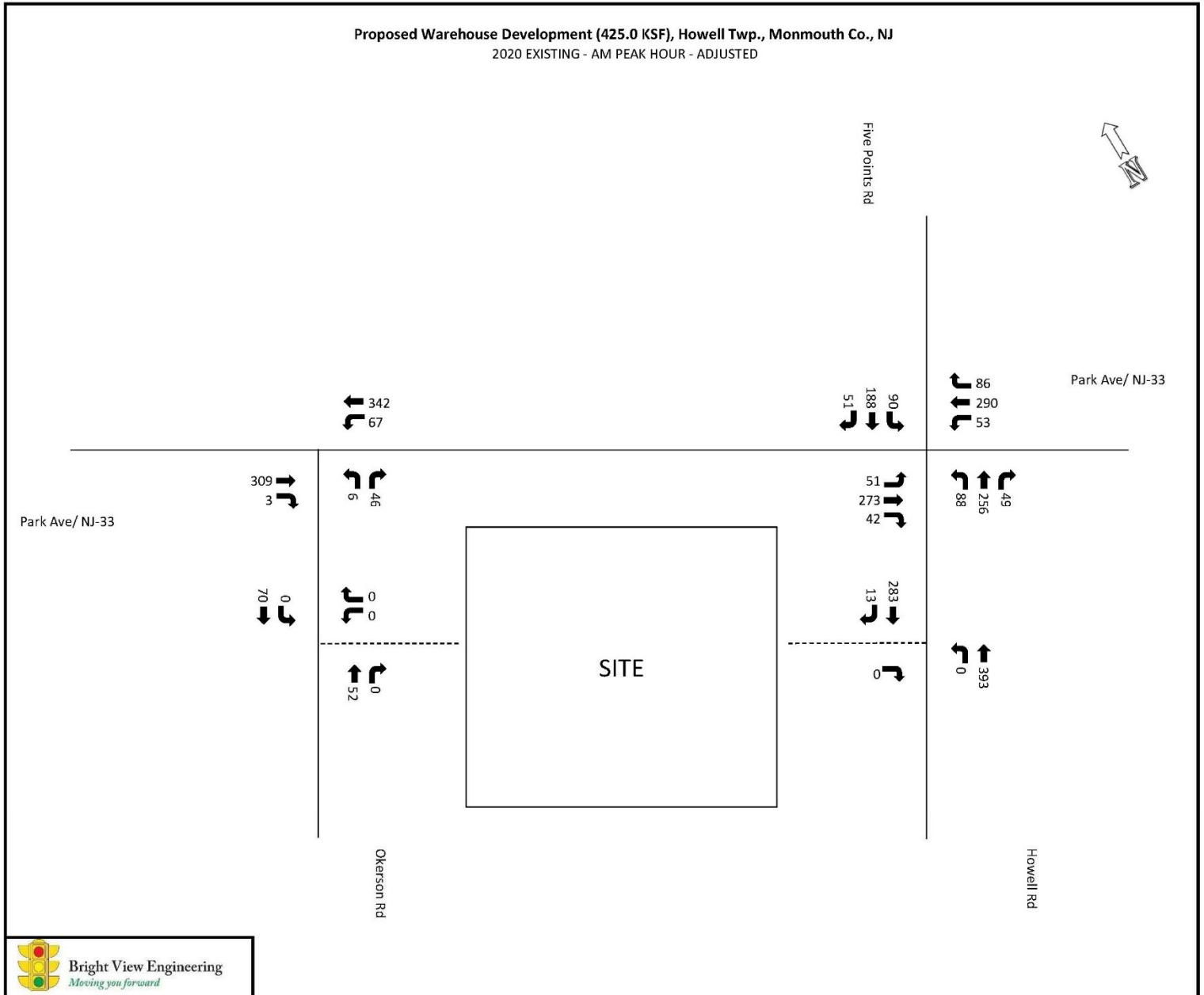
Table 7 – Heavy Vehicle (%)

Intersection	Heavy Vehicle (%) by Peak Hour Period	
	AM	PM
Park Ave/ NJ-33 & Howell Rd/ Five Points Rd	7.3	2.8
Park Ave/ NJ-33 & Okerson Rd	10.0	3.6
Avg.	8.7	3.2

The table above indicates that the intersection of Park Ave/ NJ-33 & Howell Road/ Five Points Road experiences an average heavy vehicle percentage of approximately 8.7% of the total volume observed during the Peak Hour Periods. Based upon historic traffic volume and classification data available from NJDOT, Park Ave/ NJ-33 was observed to experience a heavy vehicle percentage of approximately 8.7% during June 2019. We note that this data corroborates the heavy vehicle percentages observed in our traffic volume data for this intersection. The intersection of Park Ave/ NJ-33 & Okerson Road was found to experience an average heavy vehicle percentage of approximately 3.2% during the Peak Hour Periods. This lower percentage is attributed to the lower operating volumes and roadway classification of Okerson Road and is in line with the typical value of 2% associated with a typical roadway. In order to be conservative in our analysis, we elected to utilize percentages of 8.7% for the Park Ave/ NJ-33 roadway corridor and 3.2% for both Okerson Road and Howell Road/ Five Points Road; keeping in mind that Howell Road/ Five Points Road has a posted 4 Ton Weight Limit.



FIGURE 2a – 2020 Existing AM Conditions (*Adjusted*)



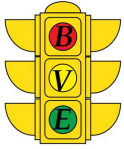
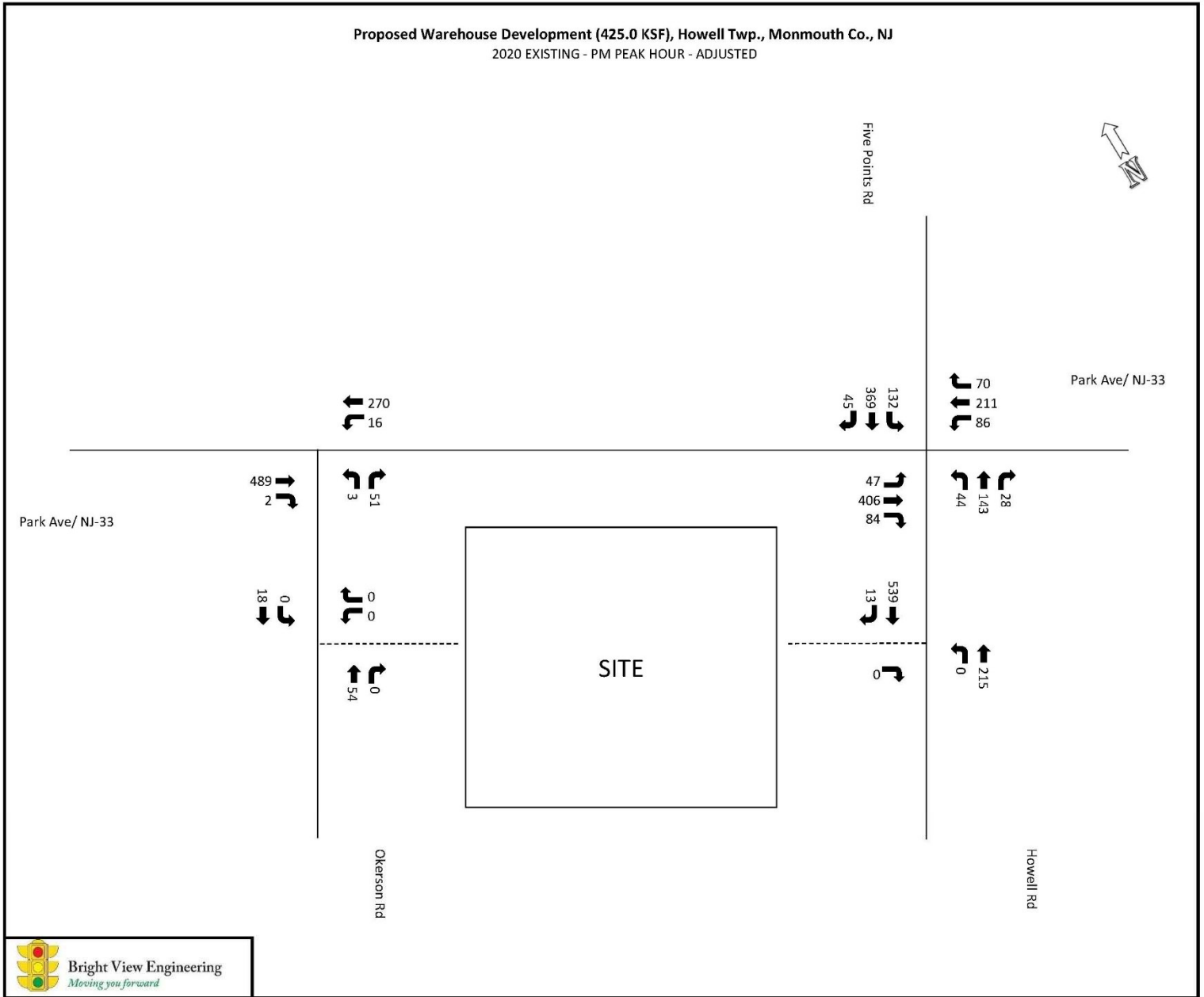


FIGURE 2b – 2020 Existing PM Conditions (*Adjusted*)





IV. HCM CAPACITY ANALYSIS

The peak hour traffic operations within the project vicinity were evaluated at the study intersection. The analyses were performed using the latest version of *Synchro, Version 11*; a traffic analysis and simulation program. The results of these analyses provide Level of Service (LOS), volume/capacity descriptions and average seconds of delay for the intersection movements.

The efficiency with which an intersection operates is a function of volume and capacity. The capacity of an intersection is the volume of vehicles it can accommodate during a peak hour. Level of Service is a qualitative measure describing operational conditions within a traffic stream in terms of traffic characteristics such as freedom to maneuver, traffic interruption, comfort, and convenience. Six LOS are defined for each type of facility with analysis procedures available. Levels of Service range from "A" through "F", with "A" representing excellent conditions with no delays and failure and deficient operations denoted by Level "F". The HCS 6th Edition LOS criteria for intersections are summarized in **Table 8**.

Table 8 – HCM 6th Edition: Signalized and Unsignalized LOS/Delay Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized Intersection	Unsignalized Intersection
A	< 10	< 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 – 25
D	> 35 – 55	> 25 – 35
E	> 55 – 80	> 35 – 50
F	> 80	> 50



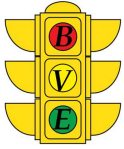
2020 Existing Conditions HCM Capacity Analysis

The existing peak hours of operation were evaluated at the study intersections for both AM and PM traffic volumes. The results of these analyses provide Level of Service and average seconds of delay for the intersection movements. Levels of Service (LOS) are briefly detailed for the 2020 existing conditions in the **Table 9** below. Further details regarding the operating level of service and approach delays may be observed within the Synchro Reports found within the appendices at the end of this report.

Table 9 – 2020 Existing Conditions LOS/Delay

Roadway	Approach	AM Peak Hour	PM Peak Hour
		LOS/Delay	LOS/Delay
Park Ave/ NJ-33	EB	B/14.7	C/20.9
	WB	B/14.8	B/16.1
Howell Rd/ Five Points Rd	NB	D/35.5	C/26.9
	SB	C/30.4	D/44.3
<i>Intersection</i>	-	C/23.6	C/28.3
Park Ave/ NJ-33	EB	A/0.0	A/0.0
	WB	A/1.3	A/0.5
Okerson Rd	NB	B/11.1	B/12.3

We observe from **Table 9** above that the intersection of Park Ave/ NJ-33 & Howell Road/ Five Points Road maintains an overall Level of Service (LOS) of “C” between the AM and PM Peak Hours with the Northbound approach of NJ-33 & Howell Road/ Five Points Road experiencing the lowest LOS/Delay grade in the AM Peak Hour at a D/35.5, and the Southbound approach of NJ-33 & Howell Road/ Five Points Road experiencing the lowest LOS/Delay grade in the PM Peak Hour at a D/44.3. The intersection of Park Ave/ NJ-33 & Okerson Road maintains an overall LOS/Delay grade of “A” during both AM and PM Peak Hours, with the Northbound STOP Controlled leg of Okerson Road experiencing the lowest LOS/Delay grade at a B/11.1 in the AM Peak Hour and a B/12.3 in the PM Peak Hour.



2023 No-Build Conditions HCM Capacity Analysis

The No-Build traffic volumes refer to the Existing traffic volumes, plus background traffic growth and any additional traffic from projects in the area, not including the subject project. We elected to use the highest possible growth rate for the roadways within the study area, which in this case is Five Points Road, an Urban Major Collector. We did this in order to present a conservative analysis and ensure that the worst case scenario is accounted for during the peak hours of traffic. Applying an overall growth rate of 2.5% (as per the current NJDOT annual background growth rate table) to the existing traffic volumes over a span of three (3) years yields the 2023 No-Build traffic volumes. Levels of Service (LOS) are briefly detailed for the 2023 No-Build Conditions in the **Table 10** below. The adjusted volumes are included in **Figure 3** on the following page.

Table 10 – 2023 No-Build Conditions LOS/Delay

Roadway	Approach	AM Peak Hour	PM Peak Hour
		LOS/Delay	LOS/Delay
Park Ave/ NJ-33	EB	B/15.9	C/23.3
	WB	B/16.0	B/17.6
Howell Rd/ Five Points Rd	NB	D/37.6	C/26.6
	SB	C/31.0	D/48.9
<i>Intersection</i>	-	C/24.8	C/30.9
Park Ave/ NJ-33	EB	A/0.0	A/0.0
	WB	A/1.4	A/0.5
Okerson Rd	NB	B/11.5	B/12.9

It is noted that with the addition of background growth to the existing volumes that all approaches maintain the same LOS grades from the Existing to the No-Build Conditions.



FIGURE 3a – 2023 No-Build AM Conditions

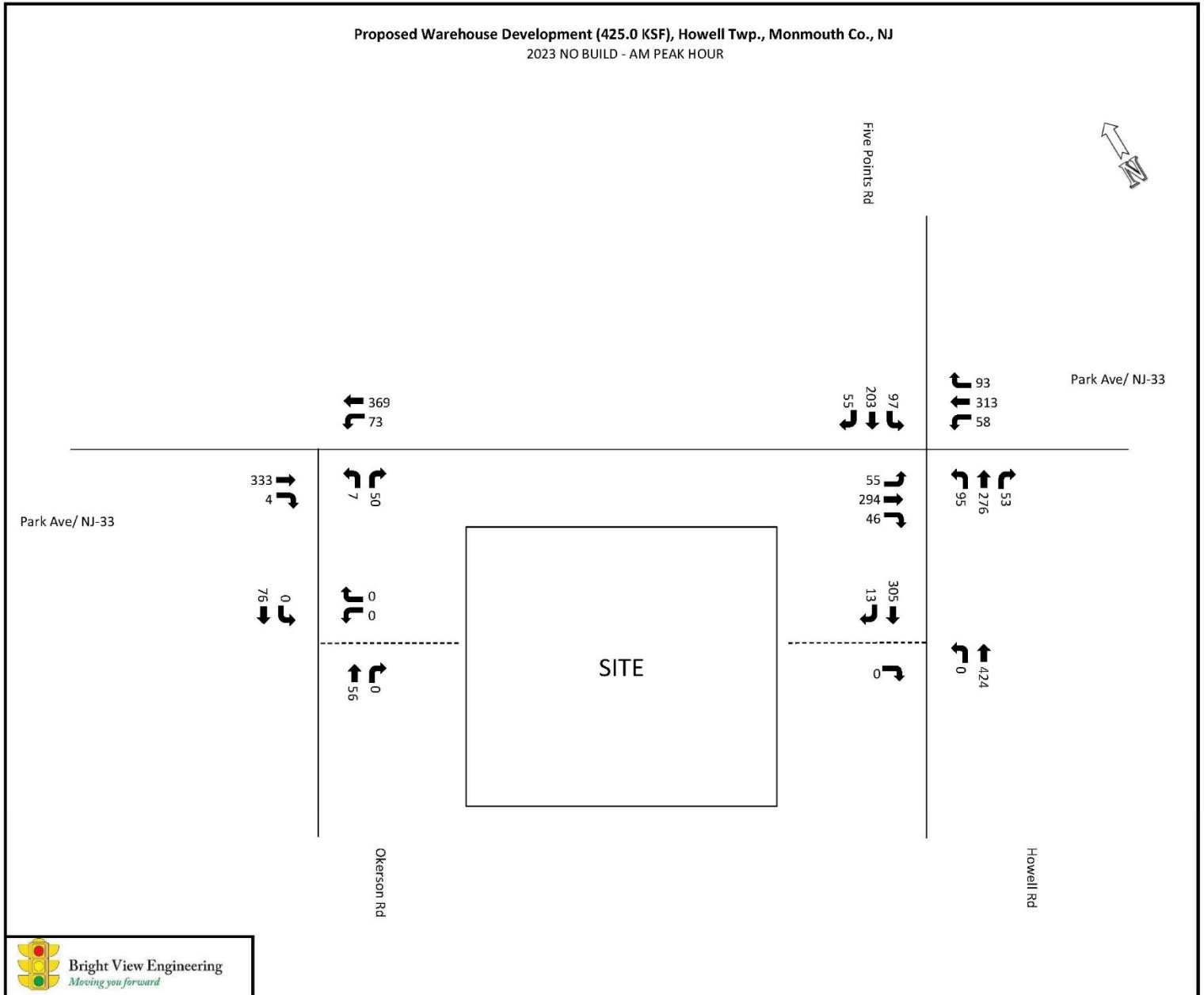
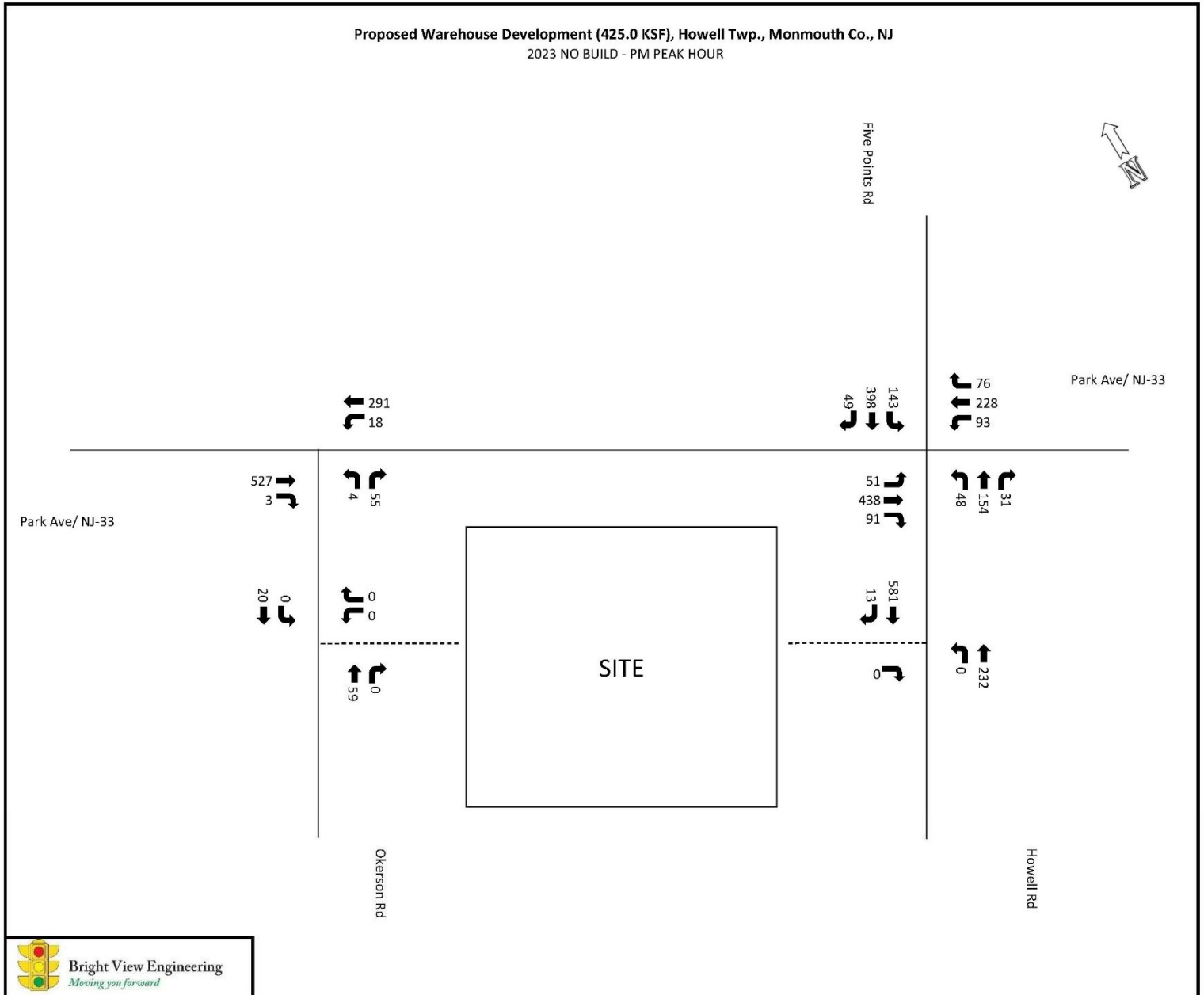
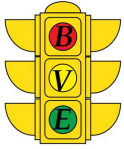




FIGURE 3b – 2023 No-Build PM Conditions





V. TRIP GENERATION & DISTRIBUTION

The proposed site is located South of Park Ave/ NJ-33 and is enclosed by Howell Road to the East and Okerson Road to the West. The area surrounding the proposed site is observed to be a combination of commercial, retail, and residential type land uses. As part of our analysis we examined the surrounding land uses in order to gain a better understanding as to the trip assignment in the project area. Trip distribution and generation were calculated based upon *Institute of Transportation Engineers* (ITE) accepted design standards and the naturally occurring traffic patterns observed during our data collection period.

Trip Distribution and Assignment

Trip distribution methodology is developed based on a variety of factors. These factors include the size and type of land use generating trips, the existing travel patterns within the adjacent roadway network, adjacent land uses, traffic restrictions, type of traffic generated by the proposed land use, and the proximity of major arterials within the project vicinity.

The location of the subject site allows for trips to enter/exit the proposed development via the proposed access points along Okerson Road and Howell Road. The proposed driveway along Okerson Road would be located approximately 950' Southwest of Park Ave/ NJ-33 and would allow for full-movements to/ from the public right-of-way. The proposed driveway along Howell Road would be located approximately 830' South of Park Ave/ NJ-33 and allow for full-movements into the site and right turns out of the site. Based upon the existing volumes and traffic patterns we utilized the trip distribution detailed in **Figure 4**.

Based upon the proposed traffic operations on the site and the existing traffic conditions, we distributed 15% of traffic to/ from the East along NJ-33, 15% of traffic to/ from the West along NJ-33, 10% of traffic to/ from the North along Five Points Road, 10% of traffic to/ from the South along Howell Road, and 50% of traffic to/ from the South along Okerson Road.



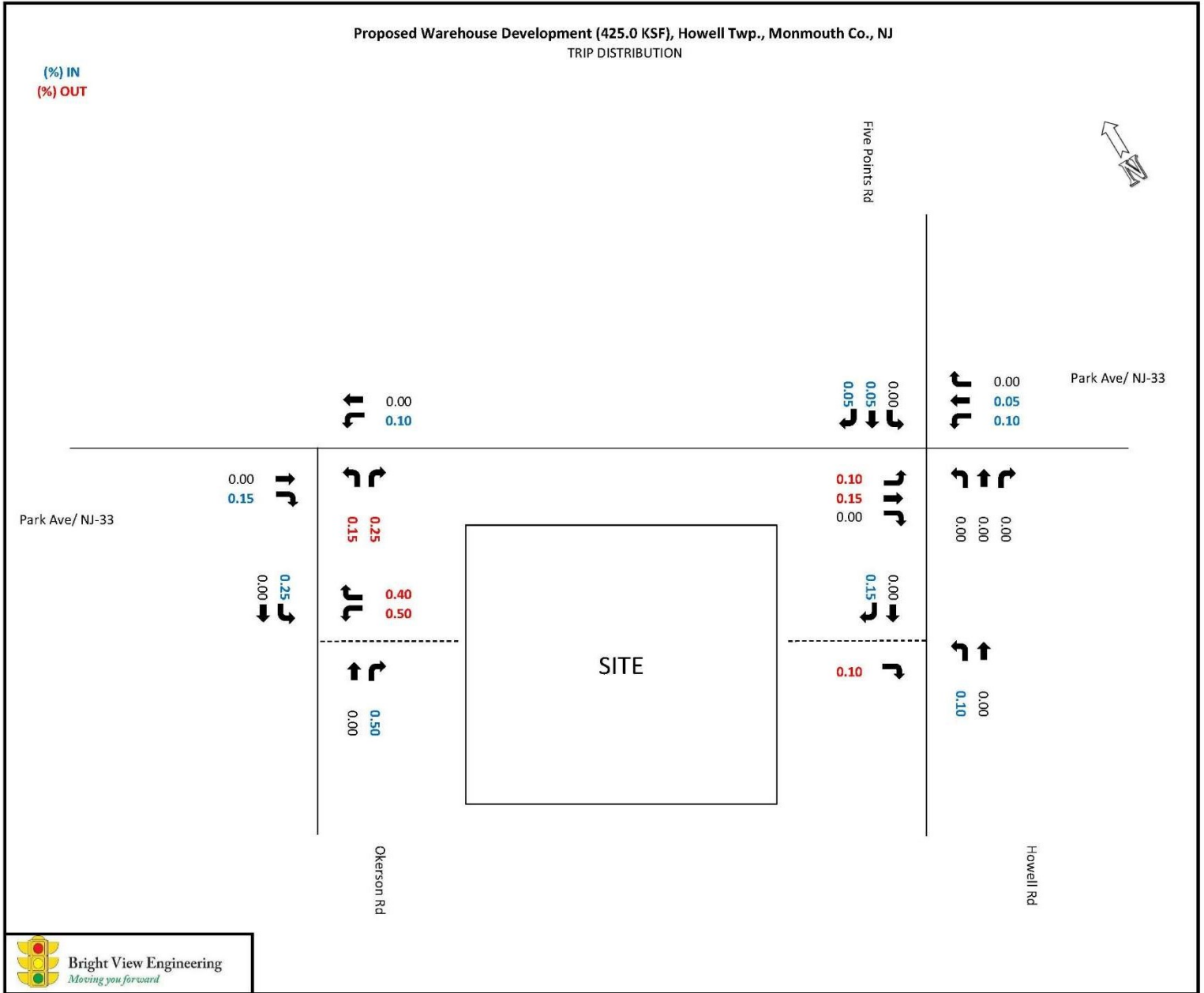
Table 11 – Proposed Trip Distribution

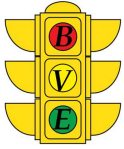
Origin	Approach	Calculated
N	SB via Five Points Rd	10%
S	NB via Howell Rd	10%
	NB via Okerson Rd	50%
E	WB via NJ-33	15%
W	EB via NJ-33	15%
Total		100%

As indicated in Table 11 above, a majority of the site traffic is anticipated to utilize Okerson Road to access NJ Route 33 to enter and exit the site. This routing was specifically chosen since Okerson Road provides a direct connection to Halls Mill Road and the NJ Route 33 interchange. Since Howell Road is weight restricted and only provides a partial connection to NJ Route 33, the majority of traffic, including most heavy vehicles associated with the project will utilize Okerson Road to access NJ Route 33 with connections to US Route 9 and the NJ Turnpike.



FIGURE 4 – 2023 Build Conditions – Proposed Site Trip Distribution





Please note that in order to be conservative in our analysis of the project site and the surrounding roadway network, we utilized the trip generation figures for the Peak of the Adjacent Street traffic. This allows us to account for the peak traffic generated by the proposed land use during the time period when the surrounding roadway network experiences its peak traffic. Our trip generation figures were derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10TH Edition. The corresponding data sheets are included within the appendices at the end of this report.

In order to better understand the trip generation for the proposed use, we examined various land use codes within the 10TH Edition of the ITE Trip Generation Manual and determined that Land Use Code 150, Warehousing is the most appropriate land use for the site. **Table 5** and **Figure 12** below depicts the trip generation rates utilized:

Table 12 – ITE 10TH Edition – Trip Generation Rates

Peak Hour	150: Warehousing		
	IN	OUT	TOTAL
AM of Adj. Street Traffic	61	33	94
PM of Adj. Street Traffic	24	78	102
Weekday	740		

Figure 5 below depicts our proposed trip assignment for the Site Generated Trips.



FIGURE 5a – Proposed Site Trip Generation – AM Peak

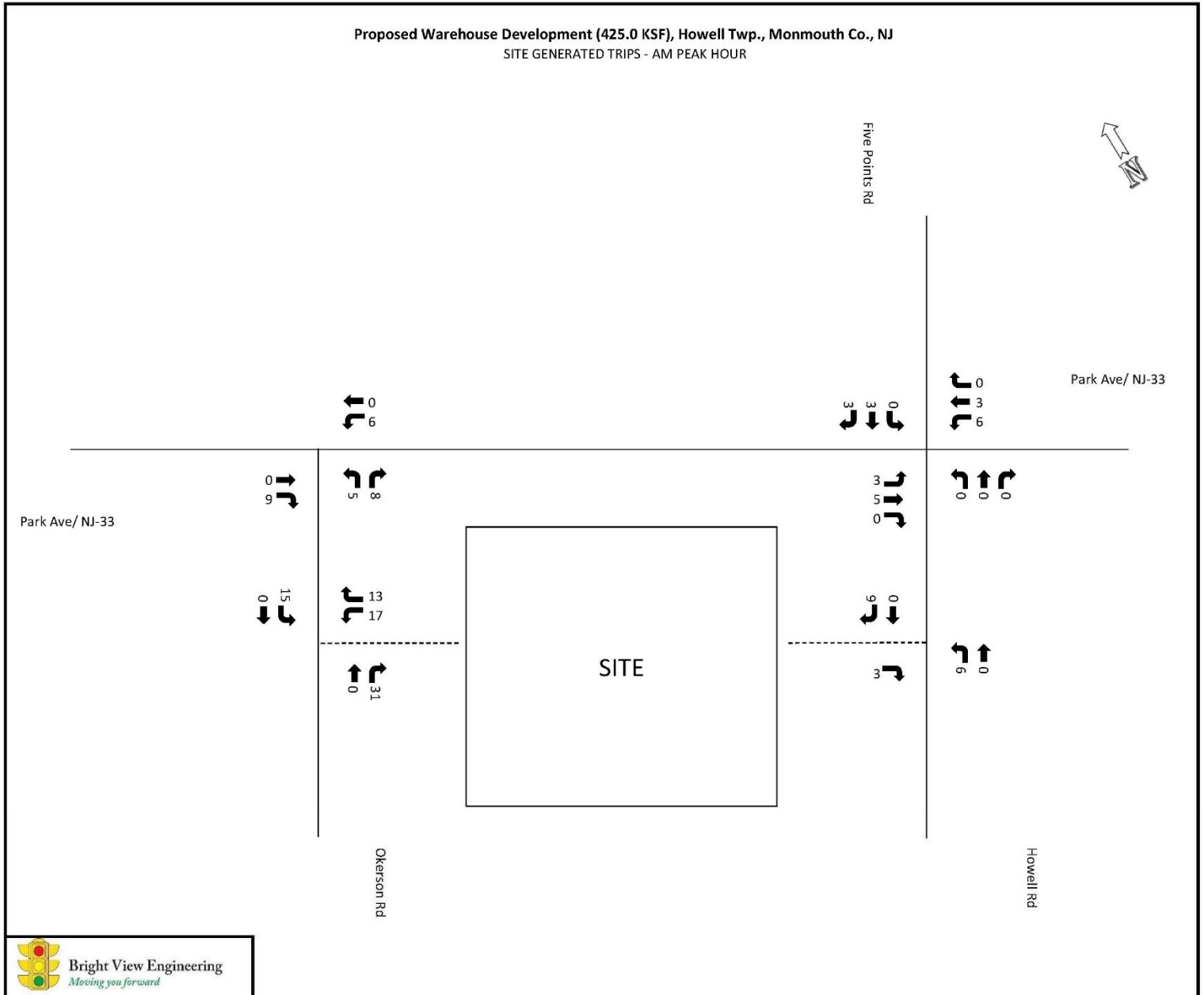
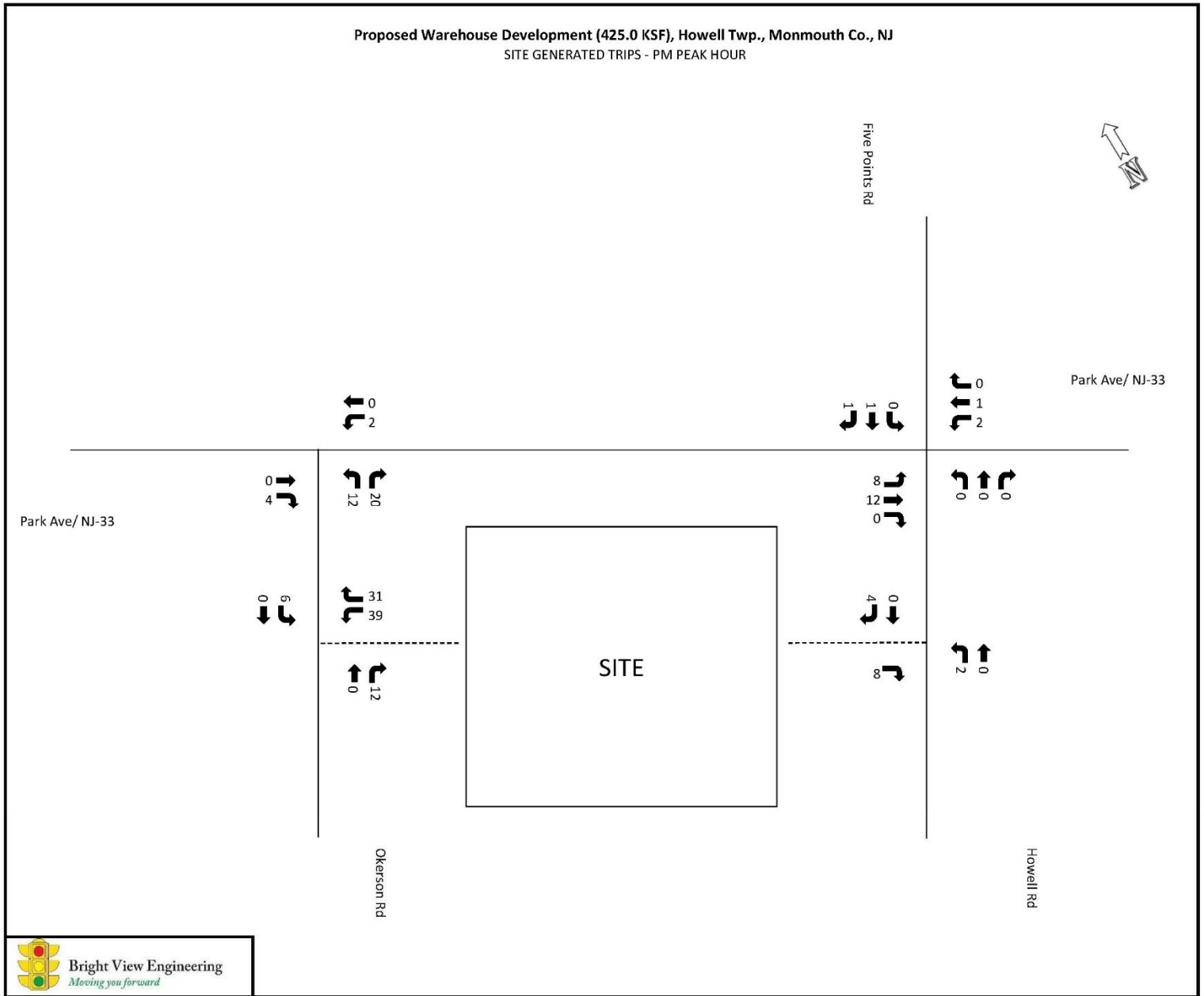
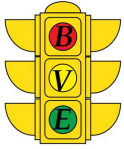




FIGURE 5b – Proposed Site Trip Generation – PM Peak





VI. 2023 FULL-BUILD TRAFFIC CONDITIONS

In the Full-Build scenario the intersections of Park Ave/ NJ-33 & Howell Road/ Five Points Road, Park Ave/ NJ-33 & Okerson Road, and the intersections created by the site driveways at Okerson Road and Howell Road, were analyzed using *Synchro* similar to the Existing and No Build conditions discussed above. However, in the Full Build scenario site generated trips were added and background growth were added to the traffic volumes already on the roadway network, resulting in the Full Build Volumes shown in Figures 6a and 6b. Below are the results of our analysis with the No Build results added side by side for reference:

Table 13a – 2023 Full-Build Vs. No-Build Conditions LOS/Delay

Roadway	Approach	AM Peak Hour No-Build	PM Peak Hour No-Build	AM Peak Hour Full-Build	PM Peak Hour Full-Build
		LOS/Delay	LOS/Delay	LOS/Delay	LOS/Delay
Park Ave/ NJ-33	EB	B/15.9	C/23.3	B/16.1	C/23.8
	WB	B/16.0	B/17.6	B/16.0	B/17.9
Howell Rd/ Five Points Rd	NB	D/37.6	C/26.6	D/37.8	C/26.6
	SB	C/31.0	D/48.9	C/31.4	D/49.2
<i>Intersection</i>	-	C/24.8	C/30.9	C/25.0	C/31.1
Park Ave/ NJ-33	EB	A/0.0	A/0.0	A/0.0	A/0.0
	WB	A/1.4	A/0.5	A/1.5	A/0.6
Okerson Rd	NB	B/11.5	B/12.9	B/12.0	B/13.8

We observe from **Table 13** above that in the Full-Build Conditions, with both the traffic from the development and the additional three (3) years of background growth, the intersections of Park Ave/ NJ-33 & Howell Road/ Five Points Road and Park Ave/ NJ-33 & Okerson Road maintain their LOS/Delay grades from the No Build to the Full Build Conditions during both the AM and PM Peak Hours. These level of service and delay grades are acceptable and will provide both safe and efficient circulation of traffic through the intersections in the Full-Build Conditions.



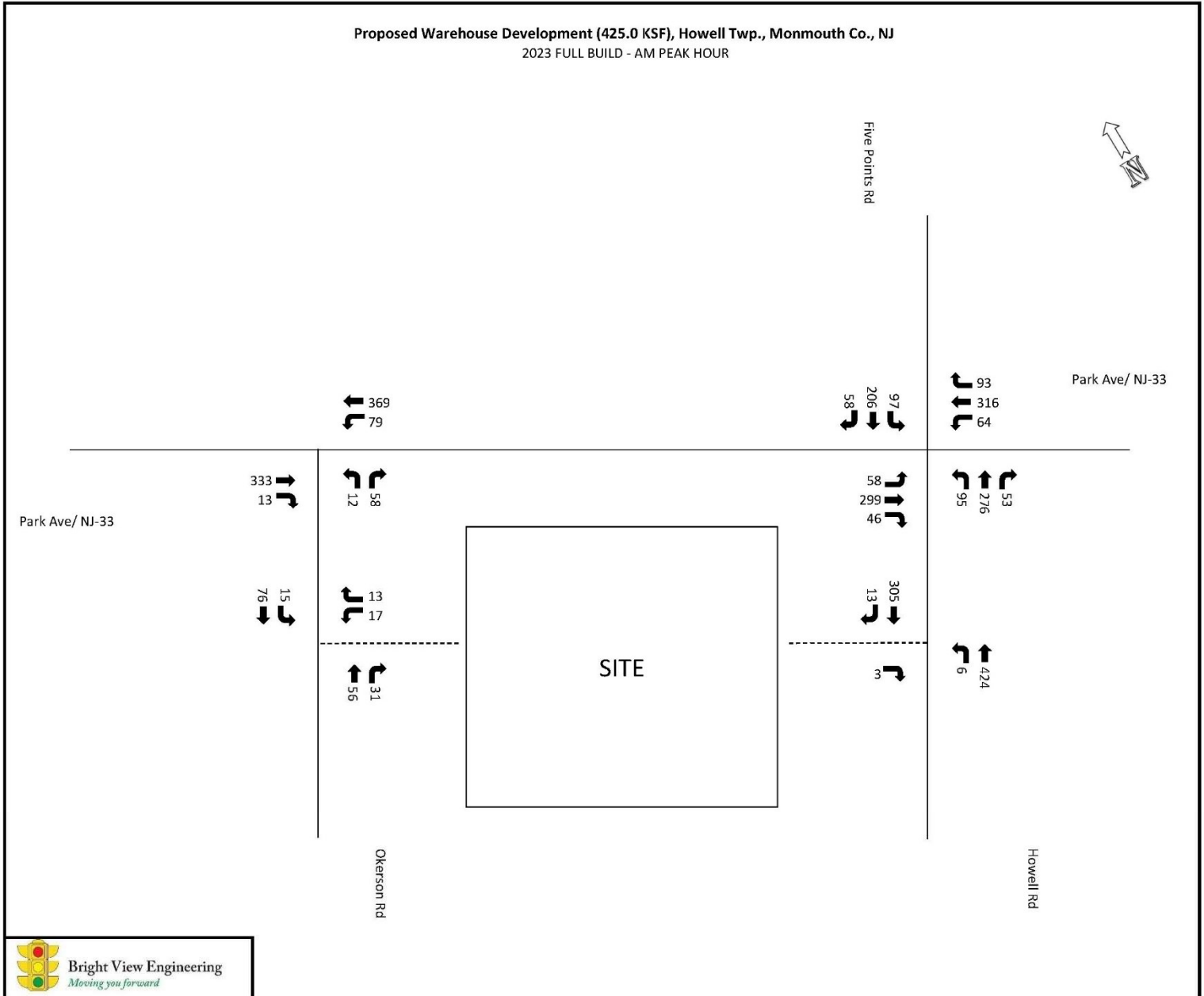
Table 13b – 2023 Full-Build Vs. No-Build Conditions LOS/Delay

Roadway	Approach	AM Peak Hour Full-Build	PM Peak Hour Full-Build
		LOS/Delay	LOS/Delay
Howell Rd	NB	A/0.1	A/0.1
	SB	A/0.0	A/0.0
Driveway	EB	B/10.1	B/12.5
Okerson Rd	EB	A/0.0	A/0.0
	WB	A/1.2	A/1.7
Driveway	NB	A/9.3	A/9.2

Based on the table above, we observe that the proposed site driveways will pose minimal impact to each mainline, with all movements at the site driveways operating at a LOS “B” during both the AM and PM Peak Hours.



FIGURE 6a – 2023 Full Build AM Conditions



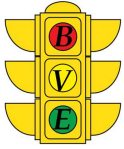
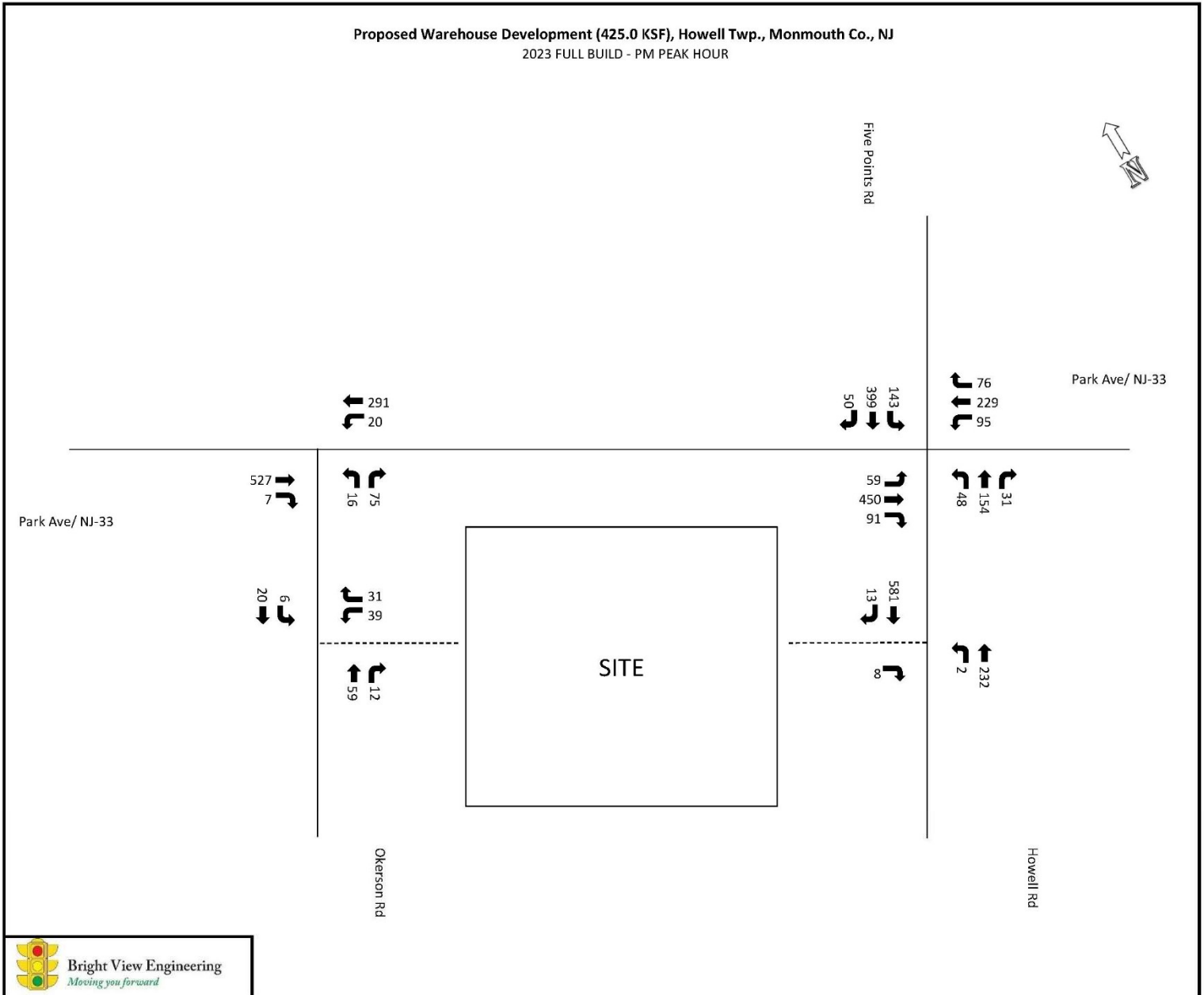


FIGURE 6b – 2023 Full Build PM Conditions





VII. PARKING ANALYSIS

The following analysis is based on the parking demand rates provided by the *Institute of Transportation Engineers: Parking Generation Manual, 5th Edition* for land use code 150, *Warehousing* for general urban/suburban locations, and §188-107 of the Howell Township Code. The findings for this type of land use are composed of thirty-one (31) different studies located throughout North America, with the average size of the study sites being 212.0 KSF.

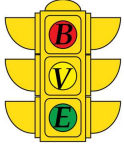
The figures below represent the parking data gleaned from the ITE Database for this land use. Based on these figures, we realize the following results:

Proposed Use →	Avg. Peak Demand: 0.39 space/KSF $0.39 \times 425.0 = 165.75 \approx$ 166 parking spaces
	85 TH Percentile: 1.11 space/KSF $1.11 \times 425.0 = 471.75 \approx$ 472 parking spaces
	95 TH Confidence Interval: 0.31 – 0.47 space/KSF $0.31 \times 425.0 = 131.75 \approx$ 132 parking spaces $0.47 \times 425.0 = 199.75 \approx$ 200 parking spaces

Based on the ITE Parking Demand Figures we observe that a 425,000 SF Warehouse Facility may generate an average parking demand of 166 parking spaces, an 85TH Percentile demand of 472 parking spaces, and an observed 95TH Confidence Interval range from 132 parking spaces up to 2000 parking spaces.

The figures below represent the parking figures gleaned from the §188-107 “Dimensional requirements and schedules of required parking and loading spaces” from the Howell Township Code, for this land use. Based on these figures, we realize the following results:

Proposed Use →	Loading Berths: 1 at first 5.0 KSF of GFA 1 at 40.0 KSF of GFA 1 for every additional 30.0 KSF of GFA thereafter 15 berths
	Parking spaces: 1 space/ 5.0 KSF of GFA $425.0/5.0 = 85.0 \approx$ 85 parking spaces

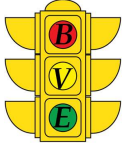


We observe that the Applicant is proposing a parking capacity of approximately 306 total spaces, which is made up of:

- 155 passenger vehicle spaces;
- 83 loading spaces; and
- 68 trailer spaces.

When considering the total parking capacity of 306 spaces, the site would comply with the Average Demand Rate and the 95TH Confidence Interval presented by the ITE Parking Guidelines. The proposed capacity would also comply with the Howell Township requirements for loading berths (15) and parking spaces (85), providing for 83 loading spaces and 223 combined parking spaces. Based upon current ADA Guidelines and Design Standards, the provided parking capacity requires 13 total accessible parking spaces based upon the total parking capacity.

It is our opinion that the proposed parking capacity adequately complies with the parking figures presented within either the Howell Township Code and the ITE Parking Manual.



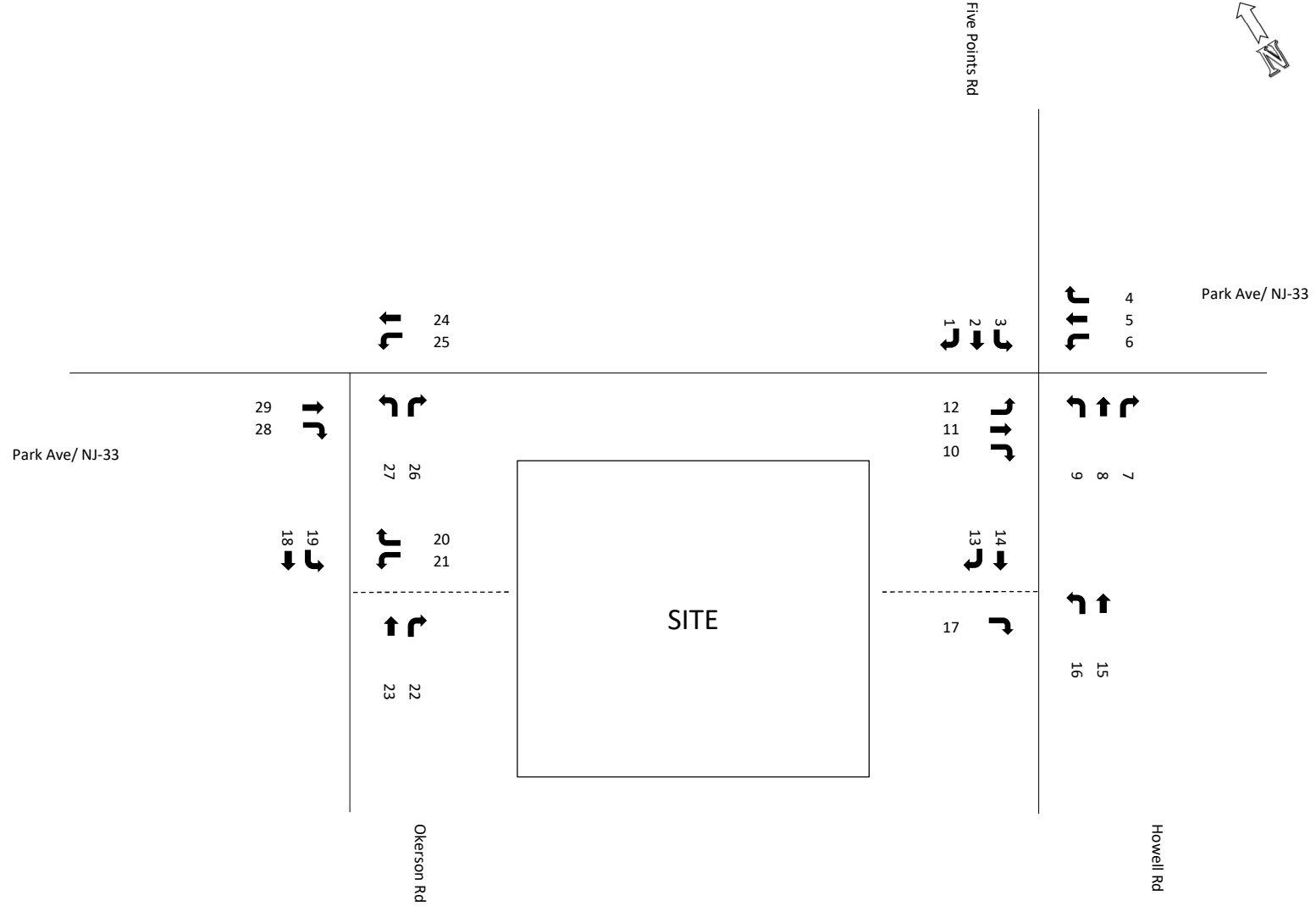
VIII. SUMMARY AND CONCLUSIONS

We believe based upon our analysis and firsthand knowledge of the existing traffic conditions within Howell Township, that the proposed warehouse development will pose minimal traffic impact on the surrounding areas. The proposed access will provide for adequate site distance for traffic to safely enter and exit the site and the site will provide for sufficient parking capacity based upon both the Township Code and ITE Parking Guidelines.

We recommend the Township consider the following in their evaluation of this proposed development:

- Our analysis indicates that the intersections of Park Ave/ NJ-33 & Howell Road/ Five Points Road and Park Ave/ NJ-33 & Okerson Road would maintain their levels of service from the No Build to the Full Build Conditions during both AM and PM Peak Hours;
- We note that the intersection created by the site driveways would operate at an overall LOS of “A” during both the AM and PM Peak Hours in the Full-Build Conditions;
- It is our opinion that the Site is adequately parked providing ample capacity for passenger vehicles and large commercial vehicles; Complying with both the Township Code and ITE Parking Guidelines;
- Based upon our analysis, it is our engineering judgement that the development of the subject site to 425,000 SF of warehouse use from an existing undeveloped lot will have minimal impact upon the study intersections, the surrounding roadway network, and existing traffic facilities.

Proposed Warehouse Development (405.0 KSF), Howell Twp., Monmouth Co., NJ
Movement Key



*urban major collector - monmouth county

*luc 150 - warehousing (425.0KSF)

Movement #	Existing Volumes		Balancing Adjustments		Adjusted Existing Vols		Background Growth		No Build Volumes		Warehouse		Full Build Volumes		
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	
											AM	PM			
									3	# Years	IN	61	24		
									2.50%	%	OUT	33	78		
1	37	33	14	12	51	45	55	49	55	49	3	1	58	50	
2	137	268	51	101	188	369	203	398	203	398	3	1	206	399	
3	66	96	24	36	90	132	97	143	97	143			97	143	
4	77	69	9	1	86	70	93	76	93	76			93	76	
5	261	209	29	2	290	211	313	228	313	228	3	1	316	229	
6	48	85	5	1	53	86	58	93	58	93	6	2	64	95	
7	36	20	13	8	49	28	53	31	53	31			53	31	
8	187	104	69	39	256	143	276	154	276	154			276	154	
9	64	32	24	12	88	44	95	48	95	48			95	48	
10	38	83	4	1	42	84	46	91	46	91			46	91	
11	245	403	28	3	273	406	294	438	294	438	5	12	299	450	
12	46	47	5	0	51	47	55	51	55	51	3	8	58	59	
13					0	0	0	0	0	0	9	4	9	4	
14	223	436	60	103	283	539	305	581	305	581			305	581	
15	287	156	106	59	393	215	424	232	424	232			424	232	
16					0	0	0	0	0	0	6	2	6	2	
17					0	0	0	0	0	0	3	8	3	8	
18	63	18	7	0	70	18	76	20	76	20			76	20	
19					0	0	0	0	0	0	15	6	15	6	
20					0	0	0	0	0	0	13	31	13	31	
21					0	0	0	0	0	0	17	39	17	39	
22					0	0	0	0	0	0	31	12	31	12	
23	52	54	0	0	52	54	56	59	56	59			56	59	
24	307	268	35	2	342	270	369	291	369	291			369	291	
25	60	16	7	0	67	16	73	18	73	18	6	2	79	20	
26	46	51	0	0	46	51	50	55	50	55	8	20	58	75	
27	6	3	0	0	6	3	7	4	7	4	5	12	12	16	
28	3	2	0	0	3	2	4	3	4	3	9	4	13	7	
29	278	485	31	4	309	489	333	527	333	527			333	527	

Turning Movement Count Report

BRIGHT VIEW ENGINEERING

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	MTMC 3 - 0700-0900 (203032)			700	
	Location			% Bank 1	% Bank 2
	NJ-33 & Okerson Rd			90.0%	10.0%
	Performed By			% Bank 3	% Bank 4
	CP			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, November 12, 2020	0				

Peak Hour Data

Time Period	EB - NJ-33							WB - NJ-33							NB - OKERSON RD							-							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	0	62	0	0	0	62	0	20	68	0	0	0	88	0	1	0	12	0	0	13	0	0	0	0	0	0	0	163	0
8:15 AM	0	0	80	2	0	0	82	0	15	73	0	0	0	88	0	1	0	13	0	0	14	0	0	0	0	0	0	0	184	0
8:30 AM	0	0	73	1	0	0	74	0	13	77	0	0	0	90	0	3	0	9	0	0	12	0	0	0	0	0	0	0	176	0
8:45 AM	0	0	63	0	0	0	63	0	12	89	0	0	0	101	0	1	0	12	0	0	13	0	0	0	0	0	0	0	177	0

Vehicle Movement Summary

Movement / Details	EB - NJ-33							WB - NJ-33							NB - OKERSON RD							-							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	278	3	0	0	281	0	60	307	0	0	0	367	0	6	0	46	0	0	52	0	0	0	0	0	0	0	700	0
PHF	-	-	0.87	0.38	-	-	0.86	-	0.75	0.86	-	-	-	0.91	-	0.50	-	0.88	-	-	0.93	-	-	-	-	-	-	-	0.95	-
% Bank 1	0.0%	0.0%	88.1%	100.0%				0.0%	88.3%	93.2%	0.0%				0.0%	100.0%	0.0%	80.4%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	11.9%	0.0%				0.0%	11.7%	6.8%	0.0%				0.0%	0.0%	0.0%	19.6%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - NJ-33						WB - NJ-33						NB - OKERSON RD						-					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	0	63	0	0	0	0	7	69	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
7:15 AM	0	0	52	1	0	0	0	6	57	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
7:30 AM	0	0	73	2	0	0	0	13	64	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0
7:45 AM	0	0	61	2	0	0	0	11	76	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0
8:00 AM	0	0	62	0	0	0	0	20	68	0	0	0	0	1	0	12	0	0	0	0	0	0	0	0
8:15 AM	0	0	80	2	0	0	0	15	73	0	0	0	0	1	0	13	0	0	0	0	0	0	0	0
8:30 AM	0	0	73	1	0	0	0	13	77	0	0	0	0	3	0	9	0	0	0	0	0	0	0	0
8:45 AM	0	0	63	0	0	0	0	12	89	0	0	0	0	1	0	12	0	0	0	0	0	0	0	0

Bank 1 - Cars

Time Period	EB - NJ-33				WB - NJ-33				NB - OKERSON RD				-			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	0	0	61	0	0	6	64	0	0	0	0	5	0	0	0	0
7:15 AM	0	0	49	1	0	5	55	0	0	0	0	3	0	0	0	0
7:30 AM	0	0	67	1	0	11	62	0	0	0	0	8	0	0	0	0
7:45 AM	0	0	56	2	0	8	72	0	0	0	0	7	0	0	0	0
8:00 AM	0	0	52	0	0	17	59	0	0	1	0	9	0	0	0	0
8:15 AM	0	0	70	2	0	14	68	0	0	1	0	11	0	0	0	0
8:30 AM	0	0	67	1	0	11	74	0	0	3	0	9	0	0	0	0
8:45 AM	0	0	56	0	0	11	85	0	0	1	0	8	0	0	0	0

Bank 2 - Trucks

Time Period	EB - NJ-33				WB - NJ-33				NB - OKERSON RD				-			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	0	0	2	0	0	1	5	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	1	2	0	0	0	0	2	0	0	0	0
7:30 AM	0	0	6	1	0	2	2	0	0	0	0	1	0	0	0	0
7:45 AM	0	0	5	0	0	3	4	0	0	0	0	1	0	0	0	0
8:00 AM	0	0	10	0	0	3	9	0	0	0	0	3	0	0	0	0
8:15 AM	0	0	10	0	0	1	5	0	0	0	0	2	0	0	0	0
8:30 AM	0	0	6	0	0	2	3	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	7	0	0	1	4	0	0	0	0	4	0	0	0	0

Turning Movement Count Report

BRIGHT VIEW ENGINEERING

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	MTMC 1 - 0700-0900 (203032)			1237	
	Location			% Bank 1	% Bank 2
	NJ-33 & Howell Rd			92.7%	7.3%
	Performed By			% Bank 3	% Bank 4
	CP			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, November 12, 2020	0				

Peak Hour Data

Time Period	EB - NJ-33							WB - NJ-33							NB - HOWELL RD							SB - HOWELL RD							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	5	65	7	0	0	77	0	11	65	19	0	0	95	0	19	63	7	0	0	89	0	15	26	9	0	0	50	311	0
8:15 AM	0	15	63	18	0	0	96	0	8	58	21	0	0	87	0	15	47	12	0	0	74	0	15	47	11	0	0	73	330	0
8:30 AM	0	13	62	6	0	0	81	0	5	65	23	0	0	93	0	15	42	6	0	0	63	0	24	38	6	0	0	68	305	0
8:45 AM	0	8	55	7	0	0	70	0	24	73	14	0	0	111	0	15	35	11	0	0	61	0	12	26	11	0	0	49	291	0

Vehicle Movement Summary

Movement / Details	EB - NJ-33							WB - NJ-33							NB - HOWELL RD							SB - HOWELL RD							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	41	245	38	0	0	324	0	48	261	77	0	0	386	0	64	187	36	0	0	287	0	66	137	37	0	0	240	1237	0
PHF	-	0.68	0.94	0.53	-	-	0.84	-	0.50	0.89	0.84	-	-	0.87	-	0.84	0.74	0.75	-	-	0.81	-	0.69	0.73	0.84	-	-	0.82	0.94	-
% Bank 1	0.0%	95.1%	84.9%	100.0%				0.0%	89.6%	91.2%	97.4%				0.0%	98.4%	96.8%	97.2%				0.0%	89.4%	96.4%	97.3%					
% Bank 2	0.0%	4.9%	15.1%	0.0%				0.0%	10.4%	8.8%	2.6%				0.0%	1.6%	3.2%	2.8%				0.0%	10.6%	3.6%	2.7%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - NJ-33						WB - NJ-33						NB - HOWELL RD						SB - HOWELL RD					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	3	51	9	0	0	0	4	56	13	0	0	0	13	35	7	0	0	0	22	14	3	0	0
7:15 AM	0	12	53	12	0	0	0	6	71	12	0	0	0	16	65	13	0	0	0	13	22	7	0	0
7:30 AM	0	10	60	4	0	0	0	8	61	17	0	0	0	8	59	6	0	0	0	19	27	6	0	0
7:45 AM	0	11	50	6	0	0	0	13	73	17	0	0	0	6	44	8	0	0	0	22	32	6	0	0
8:00 AM	0	5	65	7	0	0	0	11	65	19	0	0	0	19	63	7	0	0	0	15	26	9	0	0
8:15 AM	0	15	63	18	0	0	0	8	58	21	0	0	0	15	47	12	0	0	0	15	47	11	0	0
8:30 AM	0	13	62	6	0	0	0	5	65	23	0	0	0	15	42	6	0	0	0	24	38	6	0	0
8:45 AM	0	8	55	7	0	0	0	24	73	14	0	0	0	15	35	11	0	0	0	12	26	11	0	0

Bank 1 - Cars

Time Period	EB - NJ-33				WB - NJ-33				NB - HOWELL RD				SB - HOWELL RD			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	0	3	49	9	0	3	54	13	0	12	34	7	0	22	14	3
7:15 AM	0	12	49	12	0	6	67	9	0	16	65	13	0	13	22	7
7:30 AM	0	10	55	4	0	8	58	17	0	7	59	6	0	19	26	6
7:45 AM	0	10	45	6	0	12	68	17	0	6	44	8	0	21	31	6
8:00 AM	0	4	52	7	0	11	58	19	0	18	61	7	0	13	23	9
8:15 AM	0	15	52	18	0	7	52	20	0	15	47	12	0	11	46	11
8:30 AM	0	13	57	6	0	4	60	23	0	15	41	6	0	23	38	6
8:45 AM	0	7	47	7	0	21	68	13	0	15	32	10	0	12	25	10

Bank 2 -Trucks

Time Period	EB - NJ-33				WB - NJ-33				NB - HOWELL RD				SB - HOWELL RD			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
7:00 AM	0	0	2	0	0	1	2	0	0	1	1	0	0	0	0	0
7:15 AM	0	0	4	0	0	0	4	3	0	0	0	0	0	0	0	0
7:30 AM	0	0	5	0	0	0	3	0	0	1	0	0	0	0	1	0
7:45 AM	0	1	5	0	0	1	5	0	0	0	0	0	0	1	1	0
8:00 AM	0	1	13	0	0	0	7	0	0	1	2	0	0	2	3	0
8:15 AM	0	0	11	0	0	1	6	1	0	0	0	0	0	4	1	0
8:30 AM	0	0	5	0	0	1	5	0	0	0	1	0	0	1	0	0
8:45 AM	0	1	8	0	0	3	5	1	0	0	3	1	0	0	1	1

Turning Movement Count Report

BRIGHT VIEW ENGINEERING

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	MTMC 4 - 0400-0600 (203032)			825	
	Location			% Bank 1	% Bank 2
	NJ-33 & Okerson Rd			96.4%	3.6%
	Performed By			% Bank 3	% Bank 4
	CP			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, November 12, 2020	0				

Peak Hour Data

Time Period	EB - NJ-33							WB - NJ-33							NB - OKERSON RD							-							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	0	128	0	0	0	128	0	4	65	0	0	0	69	0	0	0	25	0	0	25	0	0	0	0	0	0	0	222	0
4:45 PM	0	0	109	1	0	0	110	0	5	64	0	0	0	69	0	1	0	7	0	0	8	0	0	0	0	0	0	0	187	0
5:00 PM	0	0	119	1	0	0	120	0	5	78	0	0	0	83	0	1	0	12	0	0	13	0	0	0	0	0	0	0	216	0
5:15 PM	0	0	129	0	0	0	129	0	2	61	0	0	0	63	0	1	0	7	0	0	8	0	0	0	0	0	0	0	200	0

Vehicle Movement Summary

Movement / Details	EB - NJ-33							WB - NJ-33							NB - OKERSON RD							-							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	485	2	0	0	487	0	16	268	0	0	0	284	0	3	0	51	0	0	54	0	0	0	0	0	0	0	825	0
PHF	-	-	0.94	0.50	-	-	0.94	-	0.80	0.86	-	-	-	0.86	-	0.75	-	0.51	-	-	0.54	-	-	-	-	-	-	-	0.93	-
% Bank 1	0.0%	0.0%	97.3%	100.0%				0.0%	87.5%	95.9%	0.0%				0.0%	66.7%	0.0%	94.1%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	2.7%	0.0%				0.0%	12.5%	4.1%	0.0%				0.0%	33.3%	0.0%	5.9%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - NJ-33						WB - NJ-33						NB - OKERSON RD						-					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	133	1	0	0	0	4	68	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0
4:15 PM	0	0	98	0	0	0	0	5	70	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
4:30 PM	0	0	128	0	0	0	0	4	65	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0
4:45 PM	0	0	109	1	0	0	0	5	64	0	0	0	0	1	0	7	0	0	0	0	0	0	0	0
5:00 PM	0	0	119	1	0	0	0	5	78	0	0	0	0	1	0	12	0	0	0	0	0	0	0	0
5:15 PM	0	0	129	0	0	0	0	2	61	0	0	0	0	1	0	7	0	0	0	0	0	0	0	0
5:30 PM	0	0	89	0	0	0	0	2	73	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
5:45 PM	0	0	37	0	0	0	0	3	34	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0

Bank 1 - Cars

Time Period	EB - NJ-33				WB - NJ-33				NB - OKERSON RD				-			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
4:00 PM	0	0	128	1	0	3	63	0	0	0	0	17	0	0	0	0
4:15 PM	0	0	93	0	0	2	67	0	0	0	0	6	0	0	0	0
4:30 PM	0	0	122	0	0	3	63	0	0	0	0	23	0	0	0	0
4:45 PM	0	0	104	1	0	4	61	0	0	1	0	7	0	0	0	0
5:00 PM	0	0	119	1	0	5	77	0	0	1	0	11	0	0	0	0
5:15 PM	0	0	127	0	0	2	56	0	0	0	0	7	0	0	0	0
5:30 PM	0	0	88	0	0	2	73	0	0	0	0	4	0	0	0	0
5:45 PM	0	0	34	0	0	3	34	0	0	0	0	4	0	0	0	0

Turning Movement Count Report

BRIGHT VIEW ENGINEERING

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	MTMC 2 - 0400-0600 (203032)			1449	
	Location			% Bank 1	% Bank 2
	NJ-33 & Howell Rd			97.2%	2.8%
	Performed By			% Bank 3	% Bank 4
	CP			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, November 12, 2020	0				

Peak Hour Data

Time Period	EB - NJ-33							WB - NJ-33							NB - HOWELL RD							SB - HOWELL RD							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	17	111	21	0	0	149	0	16	56	18	0	0	90	0	10	17	5	0	0	32	0	16	49	6	0	0	71	342	0
4:45 PM	0	10	88	17	0	0	115	0	17	46	19	0	0	82	0	11	28	3	0	0	42	0	22	60	10	0	0	92	331	0
5:00 PM	0	7	97	26	0	0	130	0	27	59	13	0	0	99	0	9	32	8	0	0	49	0	26	87	10	0	0	123	401	0
5:15 PM	0	13	107	19	0	0	139	0	25	48	19	0	0	92	0	2	27	4	0	0	33	0	32	72	7	0	0	111	375	0

Vehicle Movement Summary

Movement / Details	EB - NJ-33							WB - NJ-33							NB - HOWELL RD							SB - HOWELL RD							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	47	403	83	0	0	533	0	85	209	69	0	0	363	0	32	104	20	0	0	156	0	96	268	33	0	0	397	1449	0
PHF	-	0.69	0.91	0.80	-	-	0.89	-	0.79	0.89	0.91	-	-	0.92	-	0.73	0.81	0.63	-	-	0.80	-	0.75	0.77	0.83	-	-	0.81	0.90	-
% Bank 1	0.0%	100.0%	97.0%	100.0%				0.0%	98.8%	93.8%	91.3%				0.0%	100.0%	99.0%	95.0%				0.0%	95.8%	99.3%	100.0%					
% Bank 2	0.0%	0.0%	3.0%	0.0%				0.0%	1.2%	6.2%	8.7%				0.0%	0.0%	1.0%	5.0%				0.0%	4.2%	0.7%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - NJ-33						WB - NJ-33						NB - HOWELL RD						SB - HOWELL RD					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	13	113	22	0	0	0	24	60	31	0	0	0	9	29	5	0	0	0	22	57	3	0	0
4:15 PM	0	17	81	14	0	0	0	13	58	21	0	0	0	12	26	8	0	0	0	12	49	9	0	0
4:30 PM	0	17	111	21	0	0	0	16	56	18	0	0	0	10	17	5	0	0	0	16	49	6	0	0
4:45 PM	0	10	88	17	0	0	0	17	46	19	0	0	0	11	28	3	0	0	0	22	60	10	0	0
5:00 PM	0	7	97	26	0	0	0	27	59	13	0	0	0	9	32	8	0	0	0	26	87	10	0	0
5:15 PM	0	13	107	19	0	0	0	25	48	19	0	0	0	2	27	4	0	0	0	32	72	7	0	0
5:30 PM	0	6	71	11	0	0	0	16	63	22	0	0	0	5	20	3	0	0	0	21	66	5	0	0
5:45 PM	0	7	54	17	0	0	0	17	56	17	0	0	0	10	20	5	0	0	0	19	65	5	0	0

Bank 1 - Cars

Time Period	EB - NJ-33				WB - NJ-33				NB - HOWELL RD				SB - HOWELL RD			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
4:00 PM	0	13	110	20	0	23	56	29	0	8	29	5	0	21	57	3
4:15 PM	0	17	75	14	0	13	54	18	0	11	25	8	0	12	48	9
4:30 PM	0	17	106	21	0	16	53	17	0	10	17	5	0	16	47	6
4:45 PM	0	10	83	17	0	17	42	17	0	11	28	3	0	21	60	10
5:00 PM	0	7	96	26	0	26	58	12	0	9	32	8	0	24	87	10
5:15 PM	0	13	106	19	0	25	43	17	0	2	26	3	0	31	72	7
5:30 PM	0	6	69	11	0	14	62	22	0	4	19	3	0	21	64	5
5:45 PM	0	5	53	17	0	17	56	16	0	10	20	5	0	19	64	5

Warehousing (150)

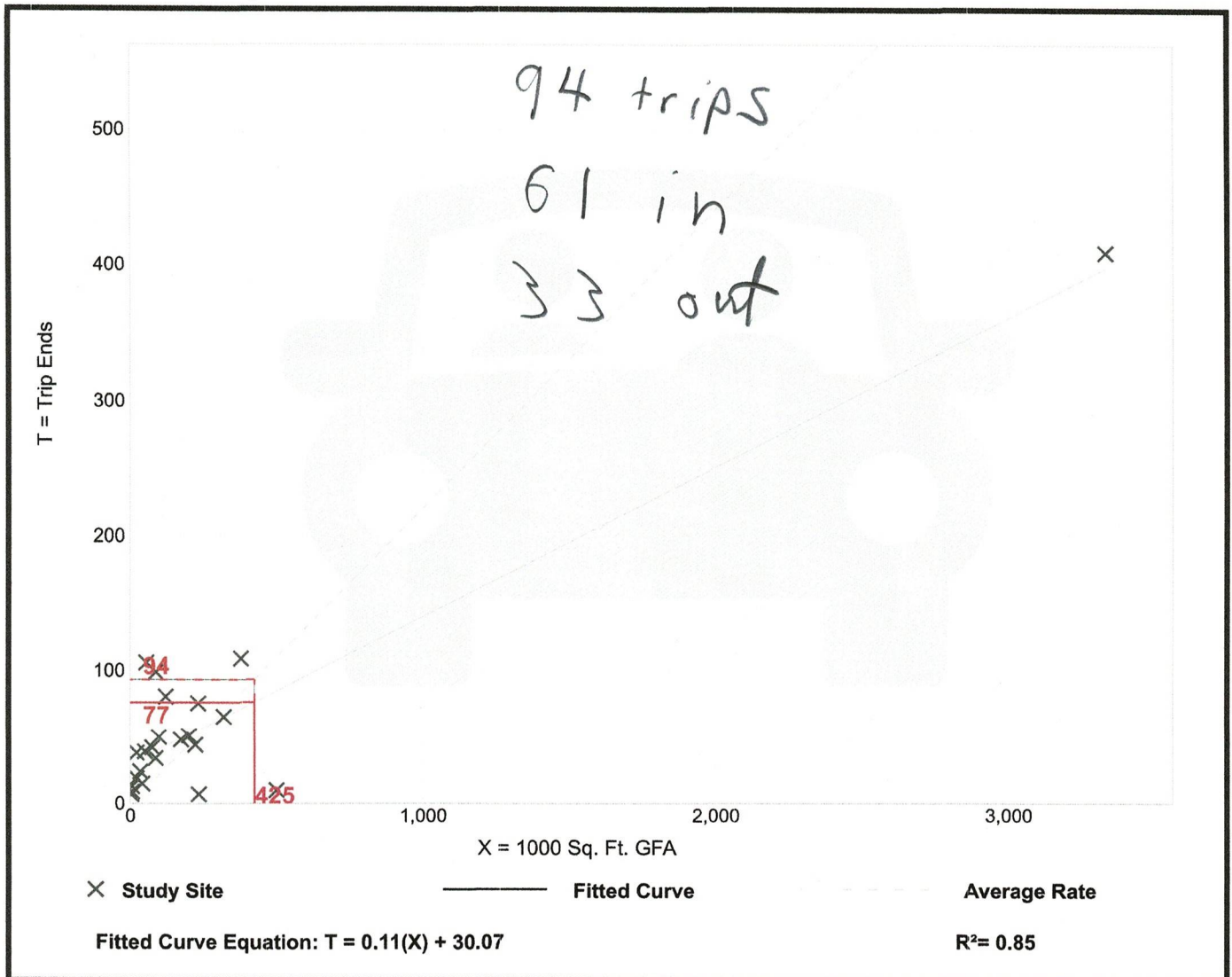
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 23
 Avg. 1000 Sq. Ft. GFA: 274
 Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.22	0.02 - 2.08	0.28

Data Plot and Equation



Warehousing (150)

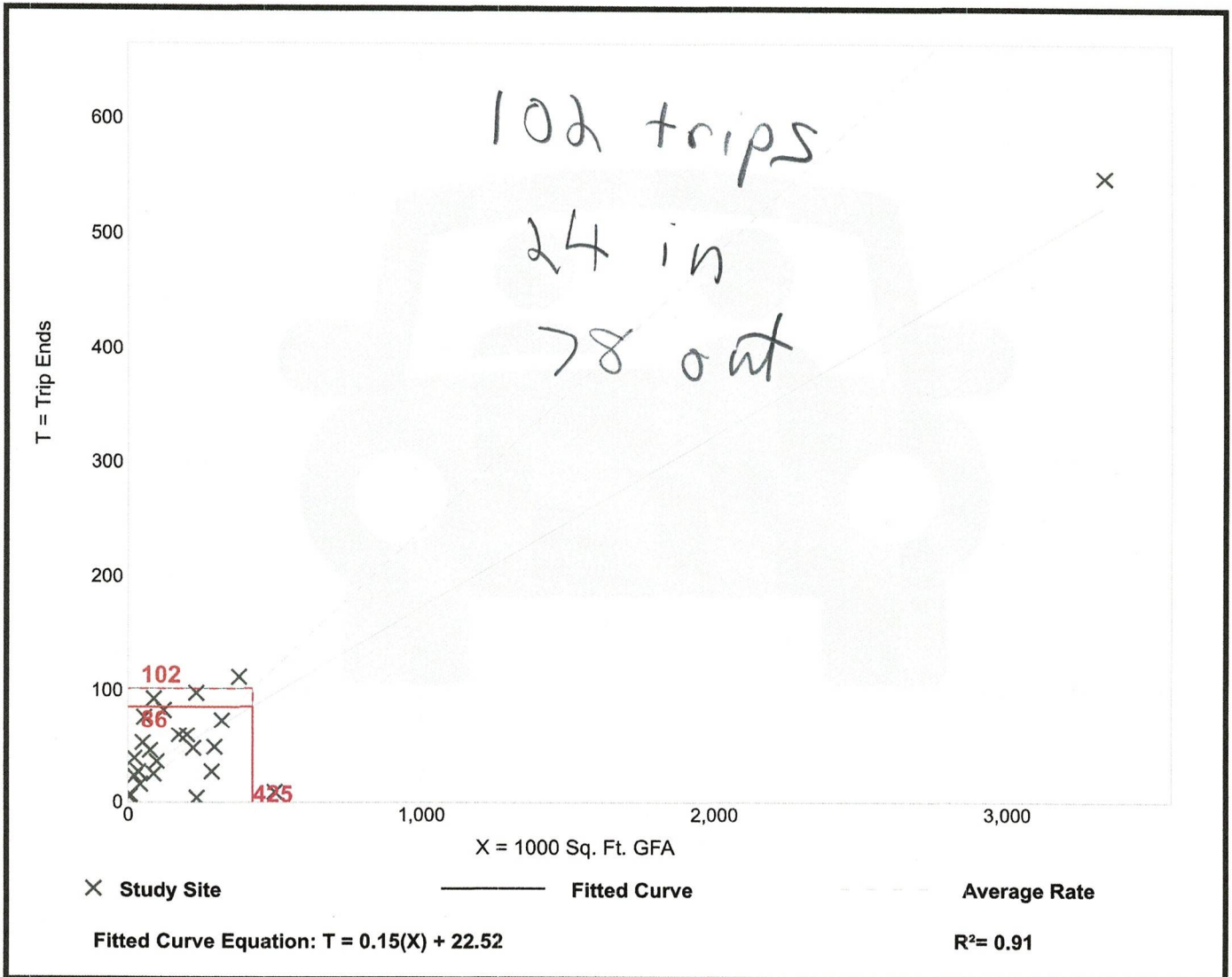
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GFA: 275
 Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.24	0.02 - 1.80	0.24

Data Plot and Equation



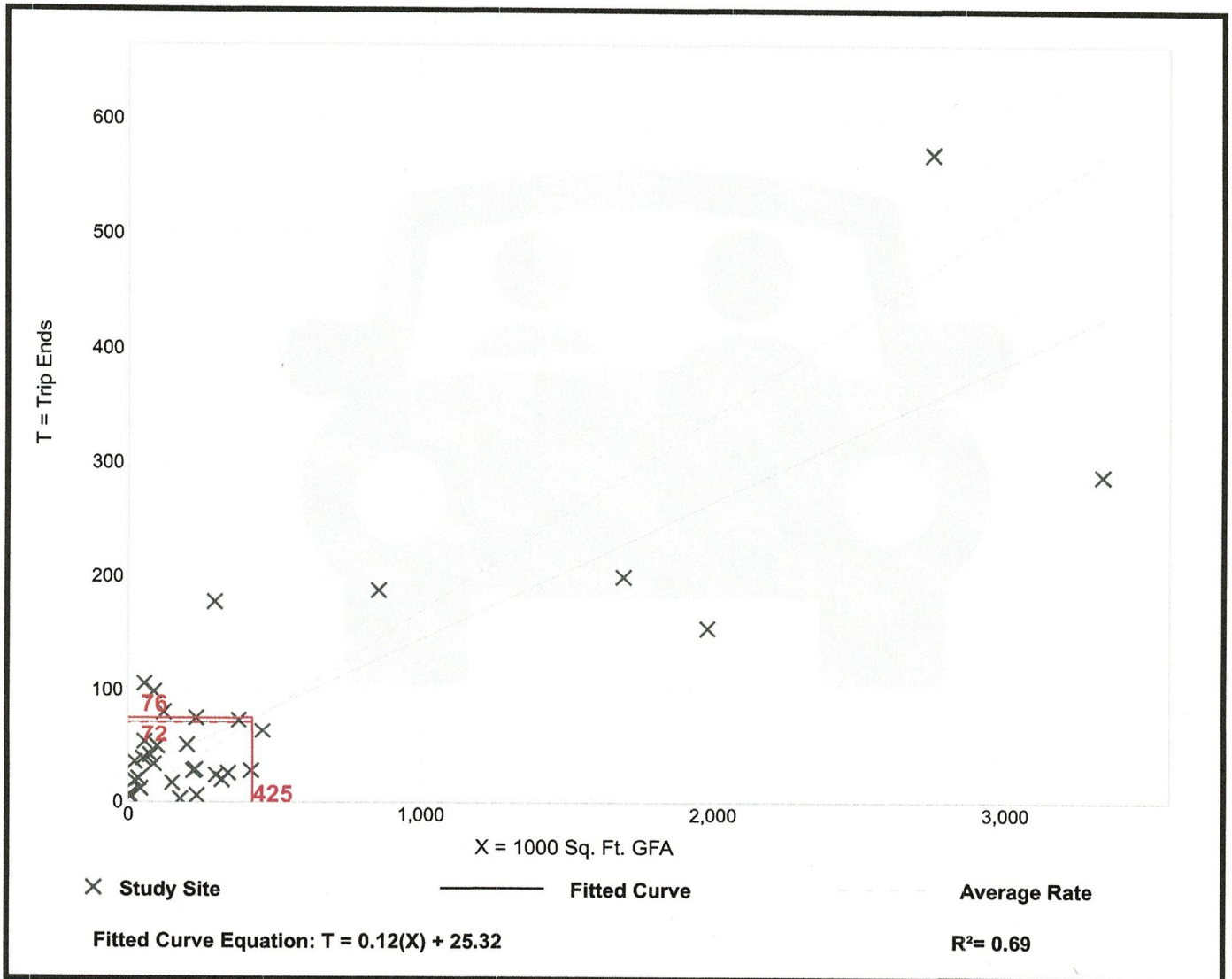
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 34
 Avg. 1000 Sq. Ft. GFA: 451
 Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

Data Plot and Equation



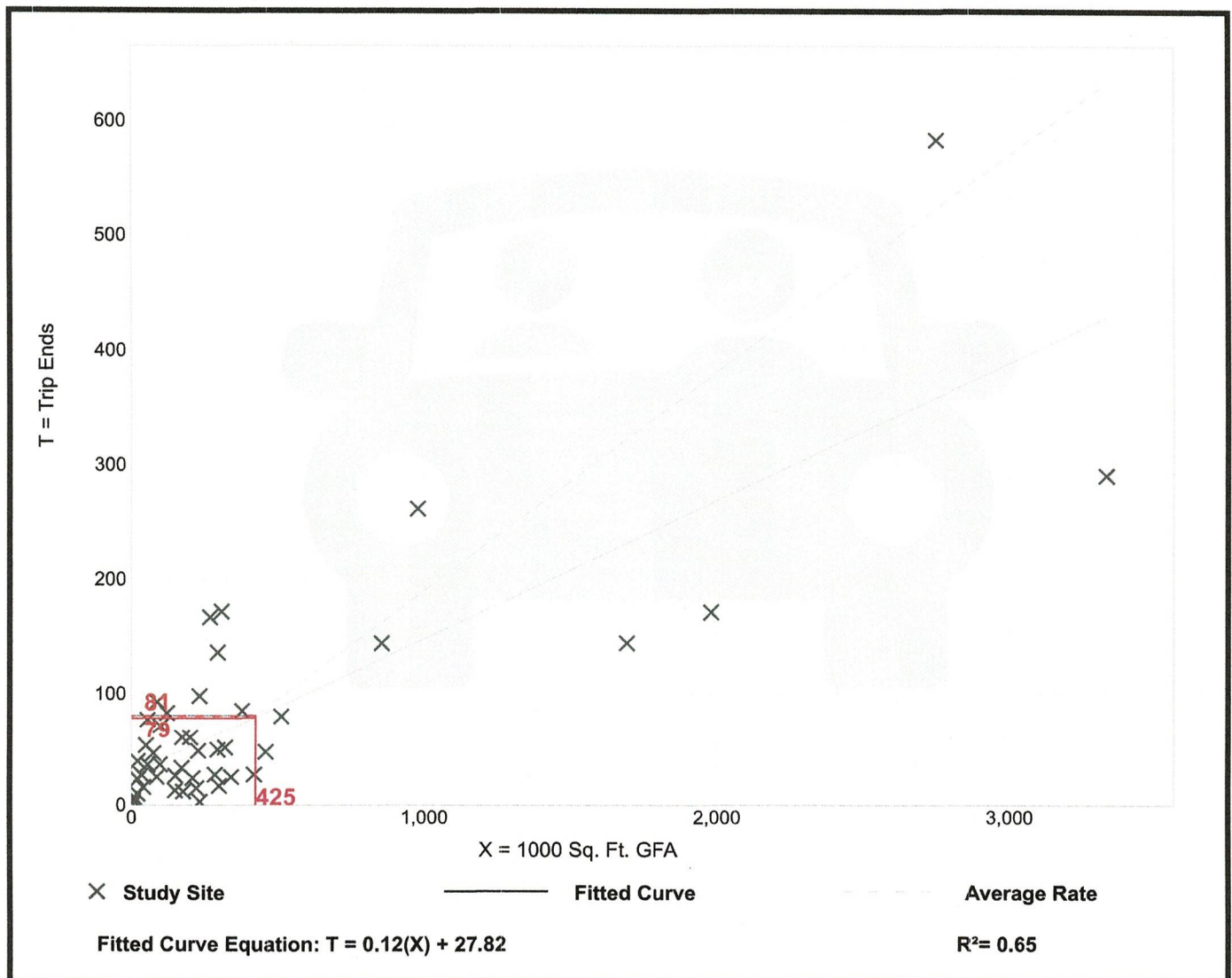
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 47
 Avg. 1000 Sq. Ft. GFA: 400
 Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

Data Plot and Equation



Warehousing (150)

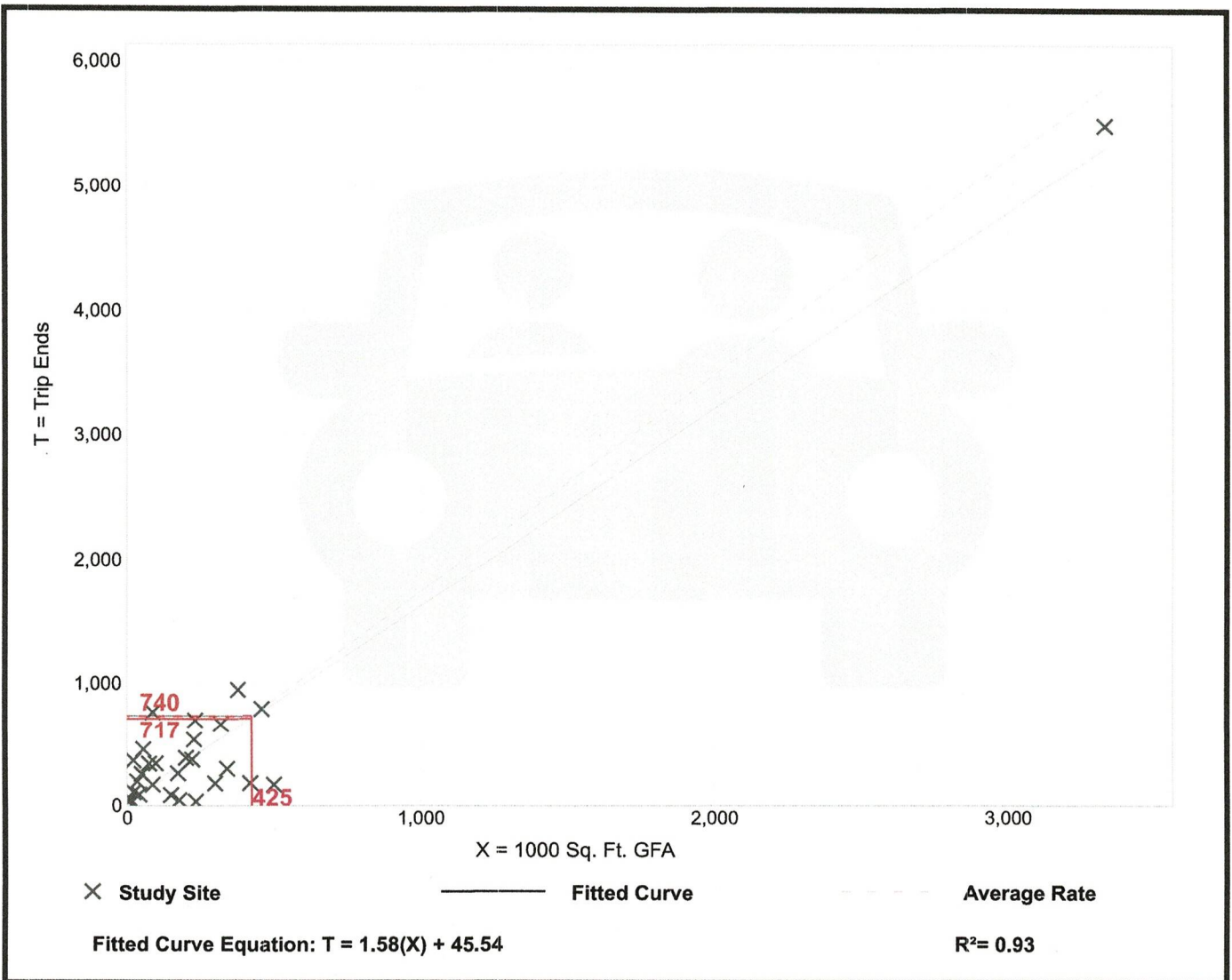
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday

Setting/Location: General Urban/Suburban
 Number of Studies: 29
 Avg. 1000 Sq. Ft. GFA: 285
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

Data Plot and Equation



HCM 6th Signalized Intersection Summary
 3: Howell Rd/Five Points Rd & Park Ave/ NJ-33B

01/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	273	42	53	290	86	88	256	49	90	188	51
Future Volume (veh/h)	51	273	42	53	290	86	88	256	49	90	188	51
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	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	54	287	44	56	305	91	93	269	52	95	198	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Cap, veh/h	491	794	673	519	796	674	246	318	61	197	295	80
Arrive On Green	0.05	0.45	0.45	0.05	0.45	0.45	0.04	0.21	0.21	0.04	0.21	0.21
Sat Flow, veh/h	1682	1767	1497	1682	1767	1497	1767	1511	292	1767	1404	383
Grp Volume(v), veh/h	54	287	44	56	305	91	93	0	321	95	0	252
Grp Sat Flow(s),veh/h/ln	1682	1767	1497	1682	1767	1497	1767	0	1803	1767	0	1787
Q Serve(g_s), s	1.3	8.6	1.3	1.4	9.2	2.8	3.0	0.0	13.7	3.0	0.0	10.4
Cycle Q Clear(g_c), s	1.3	8.6	1.3	1.4	9.2	2.8	3.0	0.0	13.7	3.0	0.0	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.21
Lane Grp Cap(c), veh/h	491	794	673	519	796	674	246	0	379	197	0	376
V/C Ratio(X)	0.11	0.36	0.07	0.11	0.38	0.13	0.38	0.00	0.85	0.48	0.00	0.67
Avail Cap(c_a), veh/h	529	794	673	555	796	674	246	0	563	197	0	558
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.8	14.5	12.5	10.7	14.6	12.9	25.6	0.0	30.4	26.7	0.0	29.1
Incr Delay (d2), s/veh	0.1	1.3	0.2	0.1	1.4	0.4	1.0	0.0	7.7	1.8	0.0	2.1
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	0.4	3.2	0.4	0.4	3.4	0.9	1.4	0.0	6.3	1.4	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	15.8	12.7	10.8	16.0	13.3	26.5	0.0	38.1	28.5	0.0	31.2
LnGrp LOS	B	B	B	B	B	B	C	A	D	C	A	C
Approach Vol, veh/h		385			452			414				347
Approach Delay, s/veh		14.7			14.8			35.5				30.4
Approach LOS		B			B			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	23.8	8.3	42.0	6.0	23.8	8.2	42.1				
Change Period (Y+Rc), s	3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0				
Max Green Setting (Gmax), s	3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0				
Max Q Clear Time (g_c+I1), s	5.0	15.7	3.4	10.6	5.0	12.4	3.3	11.2				
Green Ext Time (p_c), s	0.0	1.1	0.0	1.6	0.0	1.0	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay				23.6								
HCM 6th LOS				C								

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	309	3	67	342	6	46
Future Vol, veh/h	309	3	67	342	6	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	325	3	71	360	6	48

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	328	0	827 325
Stage 1	-	-	-	-	325 -
Stage 2	-	-	-	-	502 -
Critical Hdwy	-	-	4.19	-	6.43 6.23
Critical Hdwy Stg 1	-	-	-	-	5.43 -
Critical Hdwy Stg 2	-	-	-	-	5.43 -
Follow-up Hdwy	-	-	2.281	-	3.527 3.327
Pot Cap-1 Maneuver	-	-	1193	-	340 714
Stage 1	-	-	-	-	730 -
Stage 2	-	-	-	-	606 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1193	-	320 714
Mov Cap-2 Maneuver	-	-	-	-	320 -
Stage 1	-	-	-	-	730 -
Stage 2	-	-	-	-	570 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	320	714	-	-	1193	-
HCM Lane V/C Ratio	0.02	0.068	-	-	0.059	-
HCM Control Delay (s)	16.5	10.4	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.2	-

HCM 6th Signalized Intersection Summary
 3: Howell Rd/Five Points Rd & Park Ave/ NJ-33B

01/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	406	84	86	211	70	44	143	28	132	369	45
Future Volume (veh/h)	47	406	84	86	211	70	44	143	28	132	369	45
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	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	49	427	88	91	222	74	46	151	29	139	388	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Cap, veh/h	520	735	623	379	759	643	163	388	74	352	427	52
Arrive On Green	0.05	0.42	0.42	0.06	0.43	0.43	0.03	0.26	0.26	0.03	0.26	0.26
Sat Flow, veh/h	1682	1767	1497	1682	1767	1497	1767	1513	291	1767	1623	197
Grp Volume(v), veh/h	49	427	88	91	222	74	46	0	180	139	0	435
Grp Sat Flow(s),veh/h/ln	1682	1767	1497	1682	1767	1497	1767	0	1803	1767	0	1820
Q Serve(g_s), s	1.4	16.1	3.2	2.6	7.1	2.6	1.7	0.0	7.1	3.0	0.0	20.0
Cycle Q Clear(g_c), s	1.4	16.1	3.2	2.6	7.1	2.6	1.7	0.0	7.1	3.0	0.0	20.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.11
Lane Grp Cap(c), veh/h	520	735	623	379	759	643	163	0	462	352	0	478
V/C Ratio(X)	0.09	0.58	0.14	0.24	0.29	0.12	0.28	0.00	0.39	0.39	0.00	0.91
Avail Cap(c_a), veh/h	556	735	623	392	759	643	174	0	521	352	0	526
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	19.4	15.7	14.2	16.1	14.8	25.0	0.0	26.6	26.6	0.0	30.9
Incr Delay (d2), s/veh	0.1	3.3	0.5	0.3	1.0	0.4	0.9	0.0	0.5	0.7	0.0	18.8
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	0.5	6.4	1.0	0.9	2.7	0.8	0.7	0.0	2.9	1.0	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	22.8	16.1	14.5	17.1	15.2	26.0	0.0	27.1	27.3	0.0	49.7
LnGrp LOS	B	C	B	B	B	B	C	A	C	C	A	D
Approach Vol, veh/h		564			387			226				574
Approach Delay, s/veh		20.9			16.1			26.9				44.3
Approach LOS		C			B			C				D
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	29.2	9.3	42.0	5.4	29.7	8.2	43.2				
Change Period (Y+Rc), s	3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0				
Max Green Setting (Gmax), s	3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0				
Max Q Clear Time (g_c+I1), s	5.0	9.1	4.6	18.1	3.7	22.0	3.4	9.1				
Green Ext Time (p_c), s	0.0	0.7	0.0	2.4	0.0	0.7	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			28.3									
HCM 6th LOS			C									

HCM 6th TWSC
 2: Okerson Rd & Park Ave/Park Ave/ NJ-33B

01/07/2021

Intersection

Int Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	489	2	16	270	3	51
Future Vol, veh/h	489	2	16	270	3	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	515	2	17	284	3	54

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	517
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.19
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.281
Pot Cap-1 Maneuver	-	-	1014
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1014
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	558	-	-	1014	-
HCM Lane V/C Ratio	0.01	0.096	-	-	0.017	-
HCM Control Delay (s)	16	12.1	-	-	8.6	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Traffic Vol, veh/h	333	4	73	369	7	50
Future Vol, veh/h	333	4	73	369	7	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	351	4	77	388	7	53

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	355	0	893
Stage 1	-	-	-	-	351
Stage 2	-	-	-	-	542
Critical Hdwy	-	-	4.19	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.281	-	3.527
Pot Cap-1 Maneuver	-	-	1166	-	311
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	581
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1166	-	290
Mov Cap-2 Maneuver	-	-	-	-	290
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	543

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	290	690	-	-	1166	-
HCM Lane V/C Ratio	0.025	0.076	-	-	0.066	-
HCM Control Delay (s)	17.7	10.6	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.2	-

HCM 6th Signalized Intersection Summary
 3: Howell Rd/Five Points Rd & Park Ave/ NJ-33B

01/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	294	46	58	313	93	95	276	53	97	203	55
Future Volume (veh/h)	55	294	46	58	313	93	95	276	53	97	203	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	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	58	309	48	61	329	98	100	291	56	102	214	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Cap, veh/h	463	778	659	492	780	661	245	338	65	192	314	85
Arrive On Green	0.05	0.44	0.44	0.06	0.44	0.44	0.04	0.22	0.22	0.04	0.22	0.22
Sat Flow, veh/h	1682	1767	1497	1682	1767	1497	1767	1512	291	1767	1406	381
Grp Volume(v), veh/h	58	309	48	61	329	98	100	0	347	102	0	272
Grp Sat Flow(s),veh/h/ln	1682	1767	1497	1682	1767	1497	1767	0	1803	1767	0	1787
Q Serve(g_s), s	1.5	9.7	1.5	1.6	10.4	3.2	3.0	0.0	15.1	3.0	0.0	11.4
Cycle Q Clear(g_c), s	1.5	9.7	1.5	1.6	10.4	3.2	3.0	0.0	15.1	3.0	0.0	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		0.21
Lane Grp Cap(c), veh/h	463	778	659	492	780	661	245	0	403	192	0	399
V/C Ratio(X)	0.13	0.40	0.07	0.12	0.42	0.15	0.41	0.00	0.86	0.53	0.00	0.68
Avail Cap(c_a), veh/h	496	778	659	523	780	661	245	0	551	192	0	546
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(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	15.5	13.2	11.4	15.7	13.6	26.2	0.0	30.5	27.7	0.0	29.1
Incr Delay (d2), s/veh	0.1	1.5	0.2	0.1	1.7	0.5	1.1	0.0	10.0	2.8	0.0	2.1
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	0.5	3.7	0.5	0.5	4.0	1.0	1.5	0.0	7.2	1.6	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	17.0	13.4	11.5	17.3	14.1	27.3	0.0	40.6	30.5	0.0	31.1
LnGrp LOS	B	B	B	B	B	B	C	A	D	C	A	C
Approach Vol, veh/h		415			488			447				374
Approach Delay, s/veh		15.9			16.0			37.6				31.0
Approach LOS		B			B			D				C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	25.3	8.5	42.0	6.0	25.3	8.4	42.1				
Change Period (Y+Rc), s	3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0				
Max Green Setting (Gmax), s	3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0				
Max Q Clear Time (g_c+I1), s	5.0	17.1	3.6	11.7	5.0	13.4	3.5	12.4				
Green Ext Time (p_c), s	0.0	1.1	0.0	1.7	0.0	1.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			24.8									
HCM 6th LOS			C									

HCM 6th TWSC
 2: Okerson Rd & Park Ave/Park Ave/ NJ-33B

01/07/2021

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	527	3	18	291	4	55
Future Vol, veh/h	527	3	18	291	4	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	555	3	19	306	4	58

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	558	0	899
Stage 1	-	-	-	-	555
Stage 2	-	-	-	-	344
Critical Hdwy	-	-	4.19	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.281	-	3.527
Pot Cap-1 Maneuver	-	-	979	-	308
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	716
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	979	-	302
Mov Cap-2 Maneuver	-	-	-	-	302
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	702

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	302	529	-	-	979	-
HCM Lane V/C Ratio	0.014	0.109	-	-	0.019	-
HCM Control Delay (s)	17.1	12.6	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0	0.4	-	-	0.1	-

HCM 6th Signalized Intersection Summary
 3: Howell Rd/Five Points Rd & Park Ave/ NJ-33B

01/07/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	438	91	93	228	76	48	154	31	143	398	49
Future Volume (veh/h)	51	438	91	93	228	76	48	154	31	143	398	49
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	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	54	461	96	98	240	80	51	162	33	151	419	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Cap, veh/h	491	716	607	342	737	625	158	410	84	360	448	56
Arrive On Green	0.05	0.41	0.41	0.06	0.42	0.42	0.03	0.27	0.27	0.03	0.28	0.28
Sat Flow, veh/h	1682	1767	1497	1682	1767	1497	1767	1496	305	1767	1619	201
Grp Volume(v), veh/h	54	461	96	98	240	80	51	0	195	151	0	471
Grp Sat Flow(s),veh/h/ln	1682	1767	1497	1682	1767	1497	1767	0	1801	1767	0	1819
Q Serve(g_s), s	1.6	18.6	3.6	2.9	8.1	2.9	1.8	0.0	7.8	3.0	0.0	22.4
Cycle Q Clear(g_c), s	1.6	18.6	3.6	2.9	8.1	2.9	1.8	0.0	7.8	3.0	0.0	22.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.11
Lane Grp Cap(c), veh/h	491	716	607	342	737	625	158	0	494	360	0	504
V/C Ratio(X)	0.11	0.64	0.16	0.29	0.33	0.13	0.32	0.00	0.40	0.42	0.00	0.93
Avail Cap(c_a), veh/h	521	716	607	352	737	625	163	0	507	360	0	512
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	21.2	16.8	15.6	17.5	15.9	25.0	0.0	26.2	26.9	0.0	31.3
Incr Delay (d2), s/veh	0.1	4.4	0.6	0.5	1.2	0.4	1.2	0.0	0.5	0.8	0.0	24.4
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	0.5	7.7	1.2	1.0	3.2	1.0	0.8	0.0	3.2	1.3	0.0	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	25.7	17.3	16.1	18.6	16.4	26.2	0.0	26.8	27.7	0.0	55.7
LnGrp LOS	B	C	B	B	B	B	C	A	C	C	A	E
Approach Vol, veh/h		611			418			246			622	
Approach Delay, s/veh		23.3			17.6			26.6			48.9	
Approach LOS		C			B			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	31.3	9.5	42.0	5.7	31.6	8.4	43.0				
Change Period (Y+Rc), s	3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0				
Max Green Setting (Gmax), s	3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0				
Max Q Clear Time (g_c+I1), s	5.0	9.8	4.9	20.6	3.8	24.4	3.6	10.1				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.5	0.0	0.2	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			30.9									
HCM 6th LOS			C									

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	333	13	79	369	12	58
Future Vol, veh/h	333	13	79	369	12	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	351	14	83	388	13	61

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	365	0	905
Stage 1	-	-	-	-	351
Stage 2	-	-	-	-	554
Critical Hdwy	-	-	4.19	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.281	-	3.527
Pot Cap-1 Maneuver	-	-	1156	-	306
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	574
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1156	-	284
Mov Cap-2 Maneuver	-	-	-	-	284
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	533

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	284	690	-	-	1156	-
HCM Lane V/C Ratio	0.044	0.088	-	-	0.072	-
HCM Control Delay (s)	18.3	10.7	-	-	8.4	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0.2	-

HCM 6th Signalized Intersection Capacity Analysis
 3: Howell Rd/Five Points Rd & Park Ave/ NJ-33B

04/01/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	299	46	64	316	93	95	276	53	97	206	58
Future Volume (veh/h)	58	299	46	64	316	93	95	276	53	97	206	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	61	315	48	67	333	98	100	291	56	102	217	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	462	776	657	490	780	661	240	337	65	192	311	87
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
Prop Arrive On Green	0.05	0.44	0.44	0.06	0.44	0.44	0.04	0.22	0.22	0.04	0.22	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	11.7	17.3	13.5	11.6	17.5	14.2	27.6	0.0	40.8	30.7	0.0	31.7
Ln Grp LOS	B	B	B	B	B	B	C	A	D	C	A	C
Approach Vol, veh/h		424			498			447			380	
Approach Delay, s/veh		16.1			16.0			37.8			31.4	
Approach LOS		B			B			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		6.0	25.3	8.7	42.0	6.0	25.3	8.5	42.2			
Change Period (Y+Rc), s		3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0			
Max Green (Gmax), s		3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0			
Max Allow Headway (MAH), s		3.7	5.0	3.7	4.7	3.7	5.0	3.7	4.6			
Max Q Clear (g_c+I1), s		5.0	17.2	3.7	12.0	5.0	13.7	3.6	12.6			
Green Ext Time (g_e), s		0.0	1.1	0.0	1.7	0.0	1.1	0.0	2.0			
Prob of Phs Call (p_c)		0.90	1.00	0.78	1.00	0.90	1.00	0.75	1.00			
Prob of Max Out (p_x)		1.00	0.34	1.00	0.00	1.00	0.07	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1767		1682		1767		1682				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1512		1767		1393		1767			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			291		1497		392		1497			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	102	0	67	0	100	0	61	0
Grp Sat Flow (s), veh/h/ln	1767	0	1682	0	1767	0	1682	0
Q Serve Time (g_s), s	3.0	0.0	1.7	0.0	3.0	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	1.7	0.0	3.0	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1026	0	962	0	1092	0	904	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.3	0.0	36.0	0.0	18.3	0.0	36.0	0.0
Perm LT Serve Time (g_u), s	3.1	0.0	26.0	0.0	6.5	0.0	25.6	0.0
Perm LT Q Serve Time (g_ps), s	3.0	0.0	0.7	0.0	2.3	0.0	0.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	192	0	490	0	240	0	462	0
V/C Ratio (X)	0.53	0.00	0.14	0.00	0.42	0.00	0.13	0.00
Avail Cap (c_a), veh/h	192	0	516	0	240	0	493	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.9	0.0	11.5	0.0	26.5	0.0	11.6	0.0
Incr Delay (d2), s/veh	2.8	0.0	0.1	0.0	1.2	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.7	0.0	11.6	0.0	27.6	0.0	11.7	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	0.5	0.0	1.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	0.5	0.0	1.5	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.07	0.00	0.22	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	315	0	0	0	333
Grp Sat Flow (s), veh/h/ln	0	0	0	1767	0	0	0	1767
Q Serve Time (g_s), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.6
Lane Grp Cap (c), veh/h	0	0	0	776	0	0	0	780
V/C Ratio (X)	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.43
Avail Cap (c_a), veh/h	0	0	0	776	0	0	0	780
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	15.7	0.0	0.0	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.3	0.0	0.0	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.4	0.0	0.0	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.8	0.0	0.0	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	347	0	48	0	278	0	98
Grp Sat Flow (s), veh/h/ln	0	1803	0	1497	0	1785	0	1497
Q Serve Time (g_s), s	0.0	15.2	0.0	1.5	0.0	11.7	0.0	3.2
Cycle Q Clear Time (g_c), s	0.0	15.2	0.0	1.5	0.0	11.7	0.0	3.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	1.00	0.00	0.22	0.00	1.00
Lane Grp Cap (c), veh/h	0	402	0	657	0	398	0	661
V/C Ratio (X)	0.00	0.86	0.00	0.07	0.00	0.70	0.00	0.15
Avail Cap (c_a), veh/h	0	550	0	657	0	544	0	661
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.6	0.0	13.3	0.0	29.3	0.0	13.7
Incr Delay (d2), s/veh	0.0	10.1	0.0	0.2	0.0	2.4	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.8	0.0	13.5	0.0	31.7	0.0	14.2
1st-Term Q (Q1), veh/ln	0.0	6.1	0.0	0.4	0.0	4.6	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.0	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	0.5	0.0	4.9	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.09	0.00	0.18	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↑	↗	
Traffic Vol, veh/h	0	3	6	424	305	13
Future Vol, veh/h	0	3	6	424	305	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	6	446	321	14

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	328	335	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	713	1224	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	713	1224	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1224	-	713	-	-
HCM Lane V/C Ratio	0.005	-	0.004	-	-
HCM Control Delay (s)	8	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	56	31	15	76	17	13
Future Vol, veh/h	56	31	15	76	17	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	33	16	80	18	14

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	92	0	188 76
Stage 1	-	-	-	-	76 -
Stage 2	-	-	-	-	112 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1503	-	801 985
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	913 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1503	-	792 985
Mov Cap-2 Maneuver	-	-	-	-	792 -
Stage 1	-	-	-	-	947 -
Stage 2	-	-	-	-	903 -

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	865	-	-	1503	-
HCM Lane V/C Ratio	0.037	-	-	0.011	-
HCM Control Delay (s)	9.3	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	527	7	20	291	16	75
Future Vol, veh/h	527	7	20	291	16	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	580	80	-	0	250
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	9	9	9	3	3
Mvmt Flow	555	7	21	306	17	79

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	562	0	903
Stage 1	-	-	-	-	555
Stage 2	-	-	-	-	348
Critical Hdwy	-	-	4.19	-	6.43
Critical Hdwy Stg 1	-	-	-	-	5.43
Critical Hdwy Stg 2	-	-	-	-	5.43
Follow-up Hdwy	-	-	2.281	-	3.527
Pot Cap-1 Maneuver	-	-	975	-	307
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	713
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	975	-	300
Mov Cap-2 Maneuver	-	-	-	-	300
Stage 1	-	-	-	-	573
Stage 2	-	-	-	-	697

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	300	529	-	-	975	-
HCM Lane V/C Ratio	0.056	0.149	-	-	0.022	-
HCM Control Delay (s)	17.7	13	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.5	-	-	0.1	-

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	450	91	95	229	76	48	154	31	143	399	50
Future Volume (veh/h)	59	450	91	95	229	76	48	154	31	143	399	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	62	474	96	100	241	80	51	162	33	151	420	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	9	9	9	9	9	3	3	3	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	491	715	606	333	731	619	157	411	84	361	449	57
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
Prop Arrive On Green	0.05	0.40	0.40	0.06	0.41	0.41	0.03	0.27	0.27	0.03	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.0	26.3	17.4	16.4	18.9	16.6	26.2	0.0	26.7	27.6	0.0	56.1
Ln Grp LOS	B	C	B	B	B	B	C	A	C	C	A	E
Approach Vol, veh/h		632			421			246			624	
Approach Delay, s/veh		23.8			17.9			26.6			49.2	
Approach LOS		C			B			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0			
Phs Duration (G+Y+Rc), s		6.0	31.5	9.5	42.0	5.7	31.7	8.7	42.8			
Change Period (Y+Rc), s		3.0	7.0	4.0	6.0	3.0	7.0	4.0	6.0			
Max Green (Gmax), s		3.0	25.0	6.0	36.0	3.0	25.0	6.0	36.0			
Max Allow Headway (MAH), s		3.7	5.0	3.7	4.7	3.7	4.9	3.7	4.6			
Max Q Clear (g_c+I1), s		5.0	9.8	5.0	21.4	3.8	24.6	3.8	10.2			
Green Ext Time (g_e), s		0.0	0.8	0.0	2.5	0.0	0.1	0.0	1.4			
Prob of Phs Call (p_c)		0.98	1.00	0.92	1.00	0.72	1.00	0.78	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1767		1682		1767		1682				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1496		1767		1615		1767			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			305		1497		204		1497			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	151	0	100	0	51	0	62	0
Grp Sat Flow (s), veh/h/ln	1767	0	1682	0	1767	0	1682	0
Q Serve Time (g_s), s	3.0	0.0	3.0	0.0	1.8	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	3.0	0.0	1.8	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1178	0	795	0	913	0	1000	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	24.5	0.0	36.0	0.0	24.5	0.0	36.0	0.0
Perm LT Serve Time (g_u), s	16.6	0.0	16.6	0.0	2.1	0.0	28.6	0.0
Perm LT Q Serve Time (g_ps), s	5.5	0.0	2.8	0.0	1.3	0.0	0.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	361	0	333	0	157	0	491	0
V/C Ratio (X)	0.42	0.00	0.30	0.00	0.32	0.00	0.13	0.00
Avail Cap (c_a), veh/h	361	0	343	0	162	0	515	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.9	0.0	15.9	0.0	25.0	0.0	13.9	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.5	0.0	1.2	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.6	0.0	16.4	0.0	26.2	0.0	14.0	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	1.0	0.0	0.7	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	1.0	0.0	0.8	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.21	0.00	0.14	0.00	0.11	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	474	0	0	0	241
Grp Sat Flow (s), veh/h/ln	0	0	0	1767	0	0	0	1767
Q Serve Time (g_s), s	0.0	0.0	0.0	19.4	0.0	0.0	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.4	0.0	0.0	0.0	8.2
Lane Grp Cap (c), veh/h	0	0	0	715	0	0	0	731
V/C Ratio (X)	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.33
Avail Cap (c_a), veh/h	0	0	0	715	0	0	0	731
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	21.5	0.0	0.0	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.8	0.0	0.0	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	26.3	0.0	0.0	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.1	0.0	0.0	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.0	0.0	0.0	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	195	0	96	0	473	0	80
Grp Sat Flow (s), veh/h/ln	0	1801	0	1497	0	1819	0	1497
Q Serve Time (g_s), s	0.0	7.8	0.0	3.6	0.0	22.6	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	7.8	0.0	3.6	0.0	22.6	0.0	2.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.17	0.00	1.00	0.00	0.11	0.00	1.00
Lane Grp Cap (c), veh/h	0	495	0	606	0	505	0	619
V/C Ratio (X)	0.00	0.39	0.00	0.16	0.00	0.94	0.00	0.13
Avail Cap (c_a), veh/h	0	506	0	606	0	511	0	619
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.2	0.0	16.8	0.0	31.4	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.6	0.0	24.8	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.7	0.0	17.4	0.0	56.1	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	1.1	0.0	9.1	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	3.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	1.2	0.0	12.6	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.22	0.00	0.47	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↑	↗	
Traffic Vol, veh/h	0	8	2	232	581	13
Future Vol, veh/h	0	8	2	232	581	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	200	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	2	244	612	14

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	619	626	0	0
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-
Pot Cap-1 Maneuver	0	489	956	-	-
Stage 1	0	-	-	-	-
Stage 2	0	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	489	956	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	956	-	489	-	-
HCM Lane V/C Ratio	0.002	-	0.017	-	-
HCM Control Delay (s)	8.8	-	12.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	4.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	12	6	20	39	31
Future Vol, veh/h	59	12	6	20	39	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	13	6	21	41	33

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	75	0	102
Stage 1	-	-	-	-	69
Stage 2	-	-	-	-	33
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1524	-	896
Stage 1	-	-	-	-	954
Stage 2	-	-	-	-	989
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1524	-	892
Mov Cap-2 Maneuver	-	-	-	-	892
Stage 1	-	-	-	-	954
Stage 2	-	-	-	-	985

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	934	-	-	1524	-
HCM Lane V/C Ratio	0.079	-	-	0.004	-
HCM Control Delay (s)	9.2	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-