

# TRAFFIC IMPACT STUDY

*For*

## Harbor Group Proposed Warehouse

*Property Located at:*

110-130 Belmont Drive  
Block 528.04 – Lot 19.31 & 19.32  
Township of Franklin, Somerset County, NJ

Prepared by:



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4035-99-001T

## INTRODUCTION

It is proposed to construct a warehouse building on a parcel of land located along the west side of Belmont Drive between Ethel Street and Campus Drive in the Township of Franklin, Somerset County, New Jersey, see Figure 1 in Appendix A. The site is designated as Block 528.04 – Lot 19.31 and 19.32 on the Township Tax Maps. The site is currently developed with three (3) single story office buildings totaling 160,549 SF. It is proposed to raze the northeast and western office buildings while maintaining the southeast office building, and construct a 153,154 SF warehouse. The site is located within the B-1 – Business and Industry Zone. Access to the site is currently provided via two (2) full movement driveways along Belmont Drive. It is proposed to maintain/re-construct the existing access points and construct one (1) additional full movement driveway along Belmont Drive. Parking will be provided via three hundred (300) on-site parking spaces. Additionally, thirty-one (31) loading docks will be provided.

Dynamic Traffic, LLC has been retained to prepare this study to assess the traffic impact associated with the construction of The Project on the adjacent roadway network. This study documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.
- Existing traffic data was collected via manual turning movement (MTM) counts during the weekday AM and PM peak periods at the intersections of and Campus Drive with Belmont Drive.
- Projections of traffic to be generated by the proposed development were prepared utilizing trip generation data as published by the Institute of Transportation Engineers. Site traffic was then assigned to the adjacent street system based upon the anticipated directional distribution.
- Capacity analyses were conducted for the Existing, No Build, and Build conditions for the study intersections.
- The proposed points of ingress and egress were inspected for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The site plan as designed was reviewed for sufficiency in accommodating large wheel base vehicles such as delivery trucks, refuse trucks, and emergency vehicles.
- The parking layout and supply was assessed based on accepted design standards and demand experienced at similar developments.

## **EXISTING CONDITIONS**

A review of the existing roadway conditions near the proposed site was conducted to provide the basis for assessing the traffic impact of the development. This included field investigations of the surrounding roadways and intersections, collection of traffic volume data, and extensive analyses.

### **Existing Roadway Conditions**

The following are descriptions of the roadways in the study area:

Campus Drive is an Urban Major Collector roadway under the jurisdiction of the Township of Franklin. In the vicinity of the site the posted speed limit is 35 MPH and the roadway provides one travel lane in each direction with a general east/west orientation. On-street parking is not permitted along either side of the roadway, while curb is provided along both sides of the roadway. Additionally, a bike lane is provided along both sides of the roadway. Campus Drive provides a curved horizontal alignment and a relatively flat vertical alignment. The land uses along Campus Drive in the vicinity of The Project are primarily commercial/industrial.

Belmont Drive is a local roadway under the jurisdiction of the Township of Franklin. In the vicinity of the site the posted speed limit is 40 MPH and the roadway provides one travel lane in each direction with a general north/south orientation. On-street parking is not permitted along either side of the roadway, while curb is provided along both sides of the roadway and sidewalk is not provided along either side of the roadway. Belmont Drive provides a straight horizontal alignment and a slightly uphill vertical alignment from south to north. The land uses along Belmont Drive in the vicinity of The Project are primarily commercial/industrial.

### **Existing Traffic Volumes**

Manual turning movement (MTM) counts were conducted on Tuesday, May 18, 2021 between 7:00 – 9:00 AM and between 4:30 – 6:30 PM at the intersection of Campus Drive with Belmont Drive.

It should be noted that traffic conditions associated with the COVID-19 pandemic were in effect as of the time of preparation of this report. As a result, current traffic volumes on the surrounding roadways are atypically low at this time and would not be representative of “existing” traffic conditions. Therefore, historical traffic data was obtained from NJDOT via automatic traffic recorder (ATR) counts collected along Campus Drive in May 2021. The volumes were then grown utilizing an annual growth rate contained within the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 1.75% per year, for a period of four (4) years in order to develop traffic volumes along River Road representative of “existing” conditions.

Once the projected 2021 volumes were established for the previous ATR data, the individual movements counted at the intersection of Campus Drive and Belmont Drive were utilized to calculate the May 2021 through movements along Campus Drive at the ATR location. The eastbound through/right turn movements were utilized to calculate the eastbound volumes, while the westbound left turn and northbound left turn movements were utilized to calculate the westbound volumes.

Upon comparing the projected traffic volumes along River Road to the February 2021 MTM data, adjustment factors of 1.39 and 1.79 were calculated during the respective AM and PM peak hours. These adjustment factors were then applied to the MTM count data in order to normalize the traffic volumes to reflect typical conditions. Review of the collected traffic data reveals that the weekday morning peak street hour (PSH) occurs between 7:45 – 8:45 AM and the weekday evening PSH occurs between 4:45 – 5:45 PM. Figure 2, located in Appendix A, shows the existing peak hour traffic volumes at the study intersections. All traffic counts are contained in Appendix B.

### Existing Capacity Analysis

The methodology utilized in the capacity analyses is described in the *Highway Capacity Manual*, published by the Transportation Research Board. In general, the term Level of Service (LOS) is used to provide a “qualitative” evaluation of capacity based upon certain “quantitative” calculations related to empirical values, such as traffic volume and intersection control.

An unsignalized (STOP sign controlled) driveway or side street along a through route is seldom critical from an overall capacity standpoint, however, it may be of great significance to the capacity of the minor cross-route, and it may influence the quality of traffic flow on both. When analyzing an unsignalized intersection, it is assumed that both the major street through and right turn movements are unimpeded and have the right-of-way over all side street traffic and left turns from the major street. All other turning movements in the intersection cross, merge with, or are otherwise impeded by major street movements. Traffic delays at unsignalized intersections are determined by sequentially processing these impeded movements. Table I describes the Level of Service ranges for unsignalized (stop controlled) intersections.

**Table I**  
**Level of Service Criteria**  
**for Unsignalized Intersections**

Level of Service	Average Control Delay (seconds per vehicle)
A	0.0 to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	greater than 50.0

It should be noted that the analyses within the *Highway Capacity Manual* assume a random arrival for all the movements, which may not be the case if an adjacent traffic signal is present that platoons vehicles. All capacity analyses were performed utilizing the Synchro Software package (Synchro 11). Table II summarizes the existing Levels of Service (LOS) and delays.

**Table II  
Existing Levels of Service**

Intersection	Direction/ Movement		AM PSH	PM PSH
Campus Drive & Belmont Drive	WB	LT	A (8)	A (8)
	NB	LR	C (17)	C (19)

A (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

The following are discussions pertaining to each of the existing intersections analyzed. It should be noted that the existing percentage of trucks and peak hour factors derived from the MTM counts were used in the existing analysis.

**Campus Drive and Belmont Drive**

Belmont Drive intersects Campus Drive to form an unsignalized T-intersection with Belmont Drive under stop control. The eastbound and westbound approaches of Campus Drive provide a shared through/right turn lane and a shared left turn/through lane, respectively. The northbound approach of Belmont Drive provides a shared lane for left and right turns.

A review of the existing analysis reveals that the individual intersection movements operate at Level of Service “C” or better during the analyzed peak periods. See Table II for the individual movement Levels of Service and delays.

## FUTURE CONDITIONS

Traffic volumes and operational analyses were developed for both the No Build and Build conditions. The No Build conditions provide a baseline for assessing the impact of the site development traffic on the roadway system. The process of developing the No Build and Build traffic volumes and the subsequent analyses is outlined below.

Regardless of whether the subject site is developed or not, traffic volumes on the surrounding roadways are expected to increase as a result of developments throughout the region. A growth rate for roadways within the study area was obtained from the NJDOT Annual Background Growth Rate Table, which indicates a growth rate of 1.75% per year.

It is also to our knowledge that there are three (3) developments in the vicinity of the site in various stages of planning/construction that are identified as potential significant traffic generators, shown below. It was assumed that the background growth rate was adequate to account for the traffic associated with all developments not listed hereafter

- A 355,790 SF warehouse development, located at 1 Wiley Drive, has been approved. Projections of the associated traffic volumes were gathered from the *Traffic Impact Study*, dated December 16, 2020 prepared by this firm.
- A 152,175 SF warehouse development, located at 230 Belmont Drive, has been approved. Projections of the associated traffic volumes were developed using Institute of Transportation Engineers (ITE) publication *Trip Generation, 10<sup>th</sup> Edition* for Land Use Code (LUC) 150 – Warehousing.
- A 204,772 SF warehouse development, located at 17 Schoolhouse Road, has been approved. Projections of the associated traffic volumes were developed using ITE data for LUC 150 – Warehousing.

Future No Build traffic volumes were developed by applying the background growth rate of 1.75% for two (2) years to the study area roadways existing traffic volumes and adding the traffic volumes associated with the adjacent developments discussed above. Figure 3, in Appendix A, shows the Adjacent Development traffic volumes and Figure 4 shows the No Build traffic volumes.

### Traffic Generation

Projections of future traffic volumes were developed utilizing data as published in the Institute of Transportation Engineers (ITE) publication *Trip Generation, 10<sup>th</sup> Edition* for Land Use Code (LUC) 150 – Warehousing and LUC 710 – General Office Building. Note that the ITE indicates that warehouse uses typically have an office component which is ancillary to the warehouse use and is included in the building square footage for LUC 150. Table III summarizes the projected trips generated by the proposed warehouses utilizing the ITE data.

**Table III  
Trip Generation**

Land Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
153,154 SF Warehouse	34	10	44	12	34	46
50,262 SF of Office	64	10	74	9	50	59
<b>Total</b>	<b>98</b>	<b>20</b>	<b>118</b>	<b>21</b>	<b>84</b>	<b>105</b>

Additionally, as mentioned previously, the site is currently developed with 160,549 SF of office space and as such has an associated trip generation potential. Therefore, trip generation projections for the existing use of the property were developed utilizing ITE data for LUC 710 – General Office Building. The following Table IV compares the proposed use to the existing use of the site.

**Table IV  
Existing vs. Proposed Trip Generation Comparison**

Land Use	AM PSH			PM PSH		
	In	Out	Total	In	Out	Total
Existing 160,549 SF of Office	152	25	177	29	150	179
Proposed 153,154 SF Warehouse	98	20	118	21	84	105
<b>Difference</b>	<b>-54</b>	<b>-5</b>	<b>-59</b>	<b>-8</b>	<b>-66</b>	<b>-74</b>

As seen above, the proposed redevelopment is projected to generate 59 fewer trips during the weekday morning peak hour and 74 fewer trips during the weekday evening peak hour. However, in order to perform a more conservative analysis, no credit was taken for the existing use of the site and all trip generation was considered an increase over vacant land. This accounts for a “worst case scenario” from a traffic impact perspective.

Once the magnitude of traffic to be generated by the site is known, it is necessary to assign that traffic to the adjacent street system. The distribution of new traffic to the surrounding roadways is based on the location of primary arterial roadways, major signalized intersections and existing traffic patterns. Located in Appendix A, Figures 5 and 6 illustrate the percent distribution of car site generated trips and car site generated volumes for the warehouse use, Figures 7 and 8 illustrate the percent distribution of truck site generated trips and truck site generated volumes for the warehouse use, Figures 9 and 10 illustrate the percent distribution of site generated trips and site generated volumes for the office use and Figure 11 illustrates the total site generated volumes assigned to the study area network. The site generated volumes were added to the Future No Build traffic volumes to generate the Future Build traffic volumes, which are shown in Figure 12.

### Future Capacity Analysis

Operational conditions at the study intersections were analyzed under the No Build and Build conditions and are summarized in Table V below.

**Table V  
Future Levels of Service**

Intersection	Direction/ Movement		AM PSH		PM PSH	
			No Build	Build	No Build	Build
Campus Drive & Belmont Drive	EB	LR	A (8)	A (8)	A (8)	A (8)
	NB	LT	C (18)	C (23)	C (22)	D (30)
Belmont Drive & North Site Driveway	EB	LR	-	B (11)	-	B (11)
	NB	LT	-	A (8)	-	A (8)
Belmont Drive & Central Site Driveway	EB	LR	-	B (11)	-	B (11)
	NB	LT	-	A (8)	-	A (8)
Belmont Drive & South Site Driveway	EB	LR	-	A (10)	-	A (10)
	NB	LT	-	A (8)	-	A (0)

A (#) - Unsignalized Intersection Level of Service (seconds of delay per vehicle)

### **Campus Drive and Belmont Drive**

With the addition of the site traffic, the individual intersection movements are anticipated to operate at acceptable Level of Service “D” or better during the analyzed peak periods even with a conservative projection of site generated traffic assuming development of vacant land. See Table V for the individual movement Levels of Service and delays.

### **Belmont Drive and the North Site Driveway**

The north site driveway is proposed intersect Belmont Drive to form an unsignalized T-intersection with the site driveway under stop control. The northbound and southbound approaches of Belmont Drive are proposed to provide a shared left turn/through lane and a shared through/right turn lane, respectively. The eastbound approach of the site driveway is proposed to provide a shared lane for left and right turns.

As designed, the individual intersection movements are anticipated to operate at Level of Service “B” or better during the analyzed peak periods. See Table V for the individual movement Levels of Service and delays.

### **Belmont Drive and the Central Site Driveway**

The central site driveway is proposed intersect Belmont Drive to form an unsignalized T-intersection with the site driveway under stop control. The northbound and southbound approaches of Belmont Drive are proposed to provide a shared left turn/through lane and a shared through/right turn lane, respectively. The eastbound approach of the site driveway is proposed to provide a shared lane for left and right turns.

As designed, the individual intersection movements are anticipated to operate at Level of Service “B” or better during the analyzed peak periods. See Table V for the individual movement Levels of Service and delays.



### **Belmont Drive and the South Site Driveway**

The south site driveway is proposed intersect Belmont Drive to form an unsignalized T-intersection with the site driveway under stop control. The northbound and southbound approaches of Belmont Drive are proposed to provide a shared left turn/through lane and a shared through/right turn lane, respectively. The eastbound approach of the site driveway is proposed to provide a shared lane for left and right turns.

As designed, the individual intersection movements are anticipated to operate at Level of Service “A” or better during the analyzed peak periods. See Table V for the individual movement Levels of Service and delays.

## **SITE PLAN**

### **Site Access and Circulation**

The site plan was reviewed with respect to the site access and on-site circulation design. As noted previously, access to The Project will be provided via three (3) full movement driveways along Belmont Drive.

Review of the site plan design indicates that the site can sufficiently accommodate, within paved areas, the anticipated tractor trailer activity which is appropriately separated from passenger vehicle circulation and parking. The parking lot will be serviced by parking aisles with a minimum width of 25' within the passenger car parking areas, which will allow for two-way circulation and 90-degree parking and does not meet the Ordinance's minimum requirement of 26'. However, these dimensions are consistent with accepted engineering design standards and will provide for the safe and efficient movement of the automobile traffic anticipated. Additionally, two-way aisles with a width of 70' will be provided within the trailer parking/loading dock areas. Therefore, efficient circulation will be provided for both passenger vehicles and heavy trucks throughout the site.

### **Parking**

The Township of Franklin Ordinance sets forth a parking requirement of 1 parking space per 250 SF for office spaces and 1 parking space per 1,000 SF for the first 5,000 square feet, then 1 space for each 2,500 SF thereafter for warehouse uses. This equates to a parking requirement of 202 spaces for the existing 50,262 SF office building and 93 spaces for the proposed 153,154 SF warehouse building which includes a 7,658 square foot office component. Therefore, the total parking requirement is 295 spaces. The site as proposed provides 300 parking spaces and as such the Ordinance requirement is exceeded.

The site will provide car parking spaces which will have dimensions of 9' by 18' which meets the Ordinance requirements. The proposed loading spaces will have dimensions of 13'x60' which are consistent with accepted engineering design standards and will adequately accommodate the proposed design vehicle.

## FINDINGS & CONCLUSIONS

### Findings

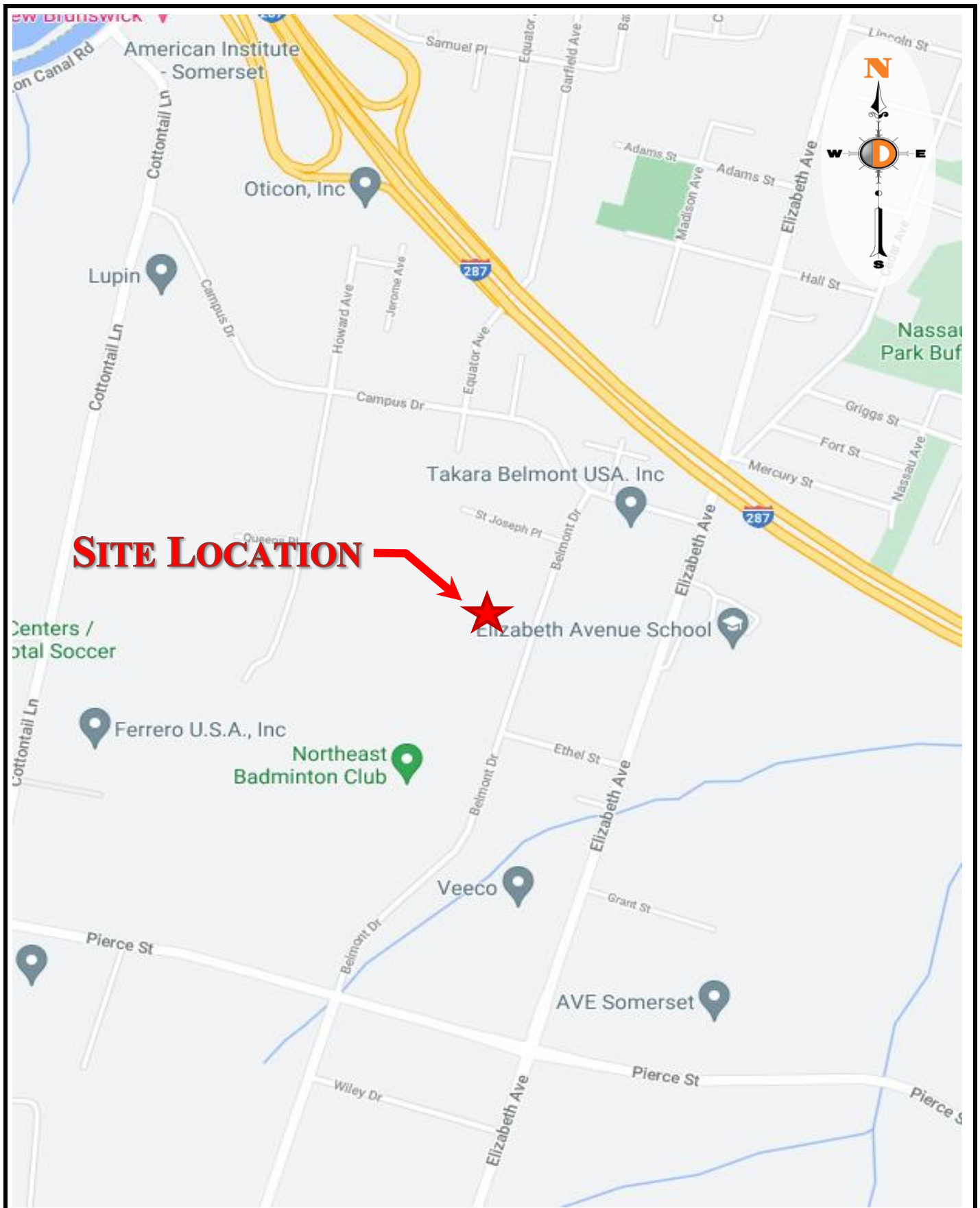
Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed is projected to generate a maximum of 98 entering trips and 20 exiting trips during weekday morning peak hour and 21 entering and 84 exiting trips during evening peak hour. The trip generation potential of the property is reduced with the removal of the existing office space.
- Access to the site is proposed via three (3) full movement driveways along Belmont Drive.
- With the addition of the site traffic, the individual intersection movements of Campus Drive and Belmont Drive are anticipated to operate at acceptable Level of Service “D” or better during the analyzed peak periods.
- As designed, the individual intersection movements of Belmont Drive and the north site driveway are anticipated to operate at Level of Service “B” or better during the analyzed peak periods.
- As designed, the individual intersection movements of Belmont Drive and the central site driveway are anticipated to operate at Level of Service “B” or better during the analyzed peak periods.
- As designed, the individual intersection movements of Belmont Drive and the south site driveway are anticipated to operate at Level of Service “A” during the analyzed peak periods.
- As proposed, The Project’s site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles and large wheel base vehicles.
- The proposed parking supply and design is sufficient to support the maximum anticipated demand and exceeds the Ordinance requirements.

### Conclusions

Based upon our Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Dynamic Traffic, LLC that the adjacent street system of the Township of Franklin will not experience any significant degradation in operating conditions with the construction of The Project. The site driveways are located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for good circulation throughout the site and provides adequate parking to accommodate The Project’s needs.

**Appendix A**  
**Traffic Volume Figures**

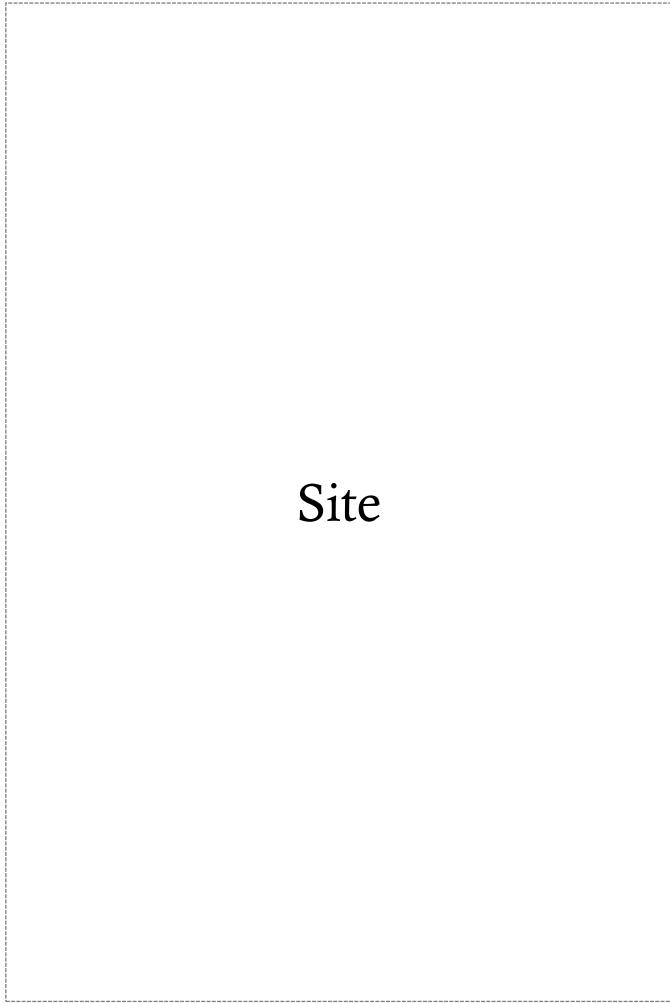
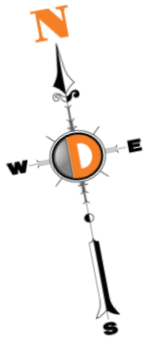


Proposed Warehouse  
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Figure 1

Site Location Map





		Campus Drive		↑ 0 (0)	↓ 4 (2)
(0)	0	→			
(5)	10	↘	↘ 4	↘ 2	
		(0)	(7)	(11)	(4)
		↘ 0	↘ 14		
		North Site Driveway			
(0)	0	↘		↘ 0	↘ 6
(0)	0	↘		(0)	(15)
		(0)	(7)		
		↘ 0	↘ 14		
		Central Site Driveway			
(0)	0	↘		↘ 0	↘ 6
(0)	0	↘		(0)	(15)
		(0)	(7)		
		↘ 0	↘ 14		
		South Site Driveway			
(0)	0	↘		↘ 0	↘ 6
(0)	0	↘		(0)	(15)
		(0)	(7)		
		↘ 0	↘ 14		
				Belmont Drive	

**LEGEND**

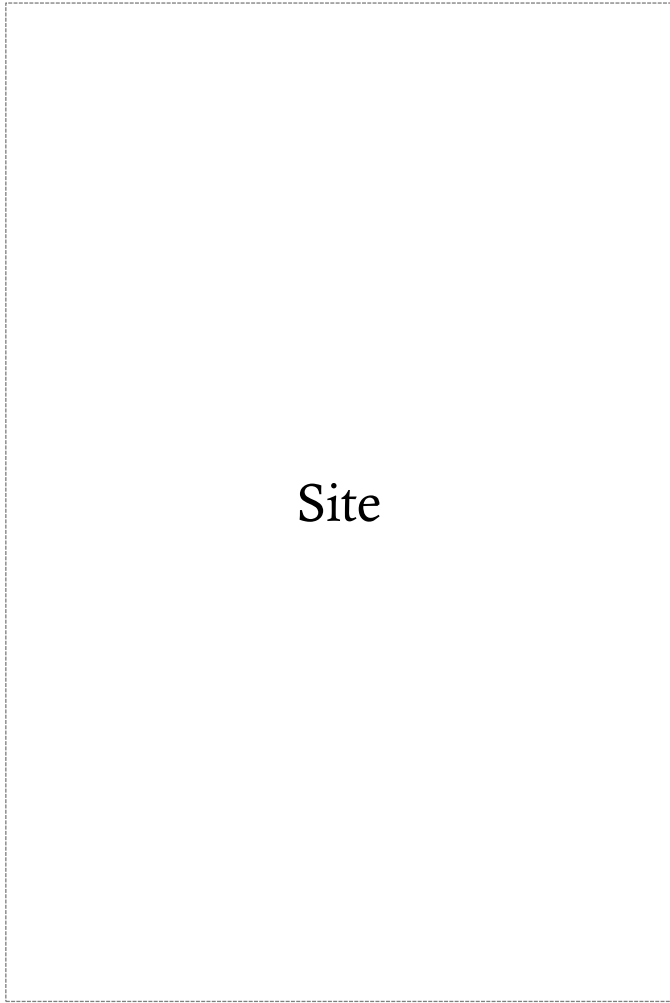
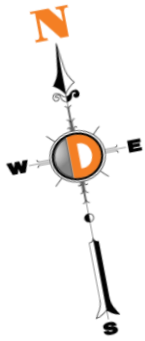
- Existing Roadway
- - - Proposed Roadway
- ← AM (PM)



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**Figure 3**

**Adjacent Development Traffic Volumes**



Campus Drive				← 280 (128)	
		↘ 62 (91)			
(267)	121	↘		↘	↘
(57)	121	↘		↘	↘
				45	24
				(112)	(60)
			(0)		
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	
		↘	0	↘	↘
		↘	0	↘	↘
			(0)	(0)	69
			(0)	(172)	

**LEGEND**

- Existing Roadway
- - - Proposed Roadway
- ← AM (PM)



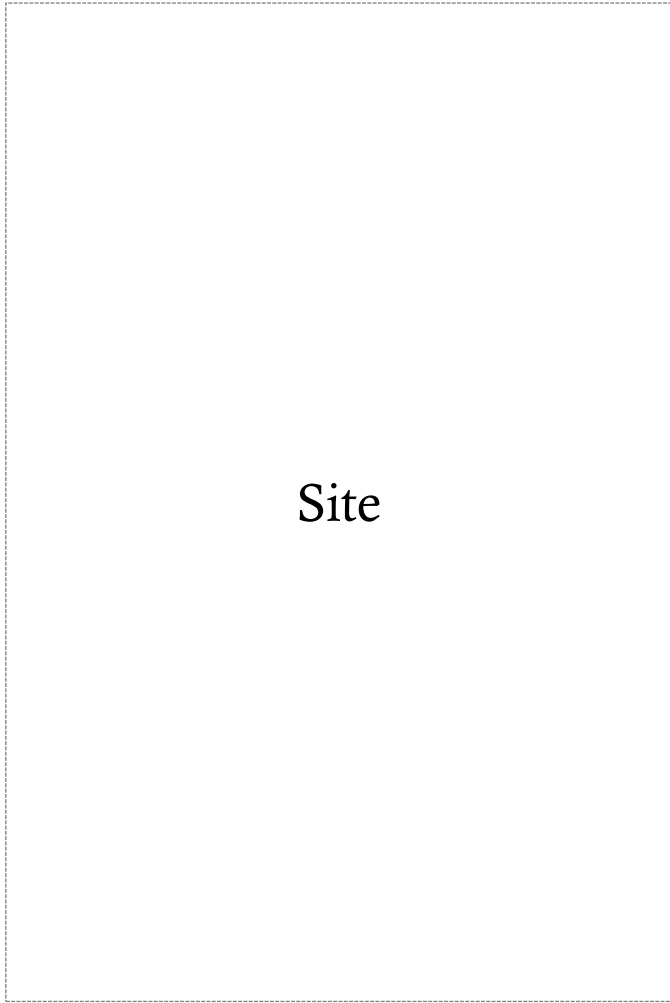
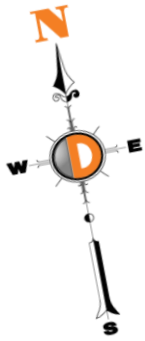
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**Figure 4**

**No Build Traffic Volumes**







		Campus Drive		↑ 0 (0)	
(0)	0	→		↘ 12 (4)	
(4)	12	↘		↙ 3 (12)	
				↙ 3 (12)	
		North Site Driveway			
	(8)	↘			
	(0)	↙			
	24	↘			
	0	↙			
		Central Site Driveway			
(23)	6	↘			
(6)	2	↘			
	(0)	↘			
	(6)	↙			
	0	↘			
	2	↙			
		South Site Driveway			
(0)	0	↘			
(0)	0	↘			
	(0)	↘			
	(6)	↙			
	0	↘			
	2	↙			
		Belmont Drive			
				↙ 0 (0)	
				↙ 6 (2)	

**LEGEND**

- Existing Roadway
- - - Proposed Roadway
- ← AM (PM)

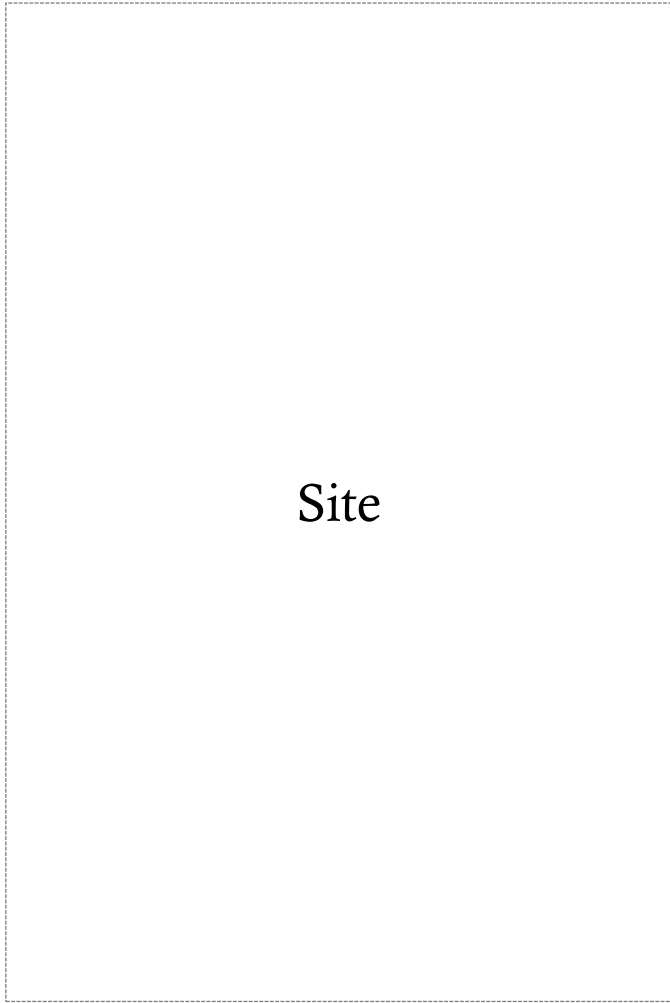
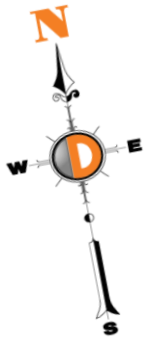


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**Figure 6**

**Warehouse Site Generated Trips - Cars**





From	To	AM	PM	Trucks
Campus Drive	→	0	0	(0)
	↘	2	1	(0)
	↙	1	0	(0)
	←	3	1	(0)
North Site Driveway	→	1	0	(0)
	↘	1	0	(0)
	↙	0	2	(0)
	←	3	1	(0)
Central Site Driveway	→	0	0	(0)
	↘	0	1	(0)
	↙	0	2	(0)
	←	0	1	(0)
South Site Driveway	→	0	0	(0)
	↘	0	1	(0)
	↙	0	2	(0)
	←	0	1	(0)
Belmont Drive	→	0	1	(0)
	←	1	0	(0)

**LEGEND**

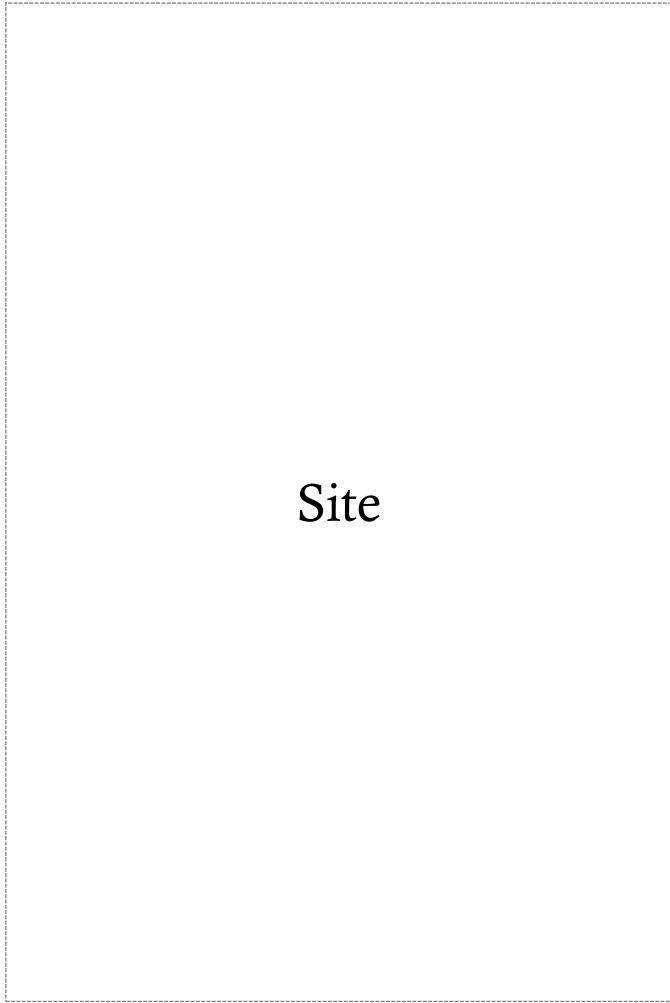
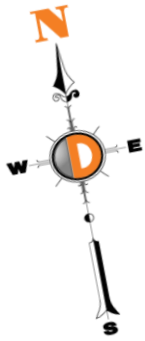
- Existing Roadway
- Proposed Roadway
- AM (PM)



**Figure 8**

**Warehouse Site Generated Trips - Trucks**





Site

**LEGEND**

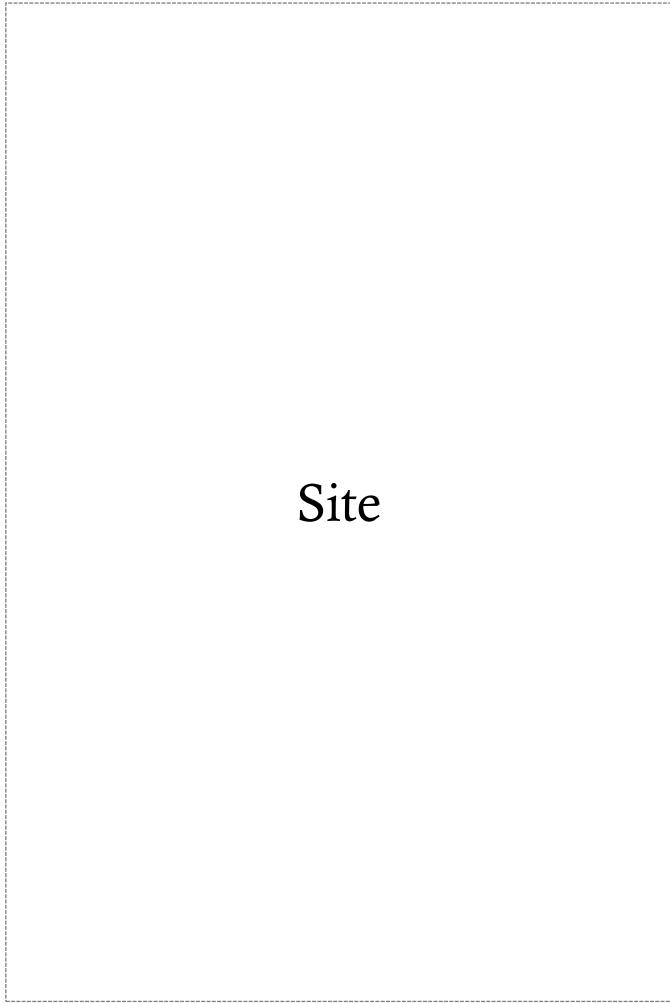
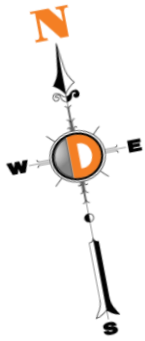
- Existing Roadway
- Proposed Roadway
- AM (PM)

				↑ 0 (0)
Campus Drive				↘ 26 (4)
(0)	0	↘		
(4)	26	↘	↘ 4	↘ 4
				(20)
				(20)
				(7)
				(0)
North Site Driveway				↘ 0
(0)	0	↘		
(0)	0	↘	↘ 0	↘ 8
				(0)
				(40)
				(7)
				(0)
Central Site Driveway				↘ 48
(38)	8	↘		
(8)	2	↘	↘ 10	↘ 1
				(1)
				(3)
				(8)
				(0)
South Site Driveway				↘ 3
(3)	1	↘		
(3)	1	↘	↘ 3	↘ 10
				(0)
				(1)
				Belmont Drive






Figure 10

Office Site Generated Trips



Site

**LEGEND**

-  Existing Roadway
-  Proposed Roadway
-  AM (PM)

				↑ 0	(0)
Campus Drive				↘ 39	(8)
(0)	0	↘			
(9)	40	↘		↘ 8	↘ 7
				(35)	(33)
				(9)	(7)
				↘ 27	↘ 51
North Site Driveway					
(27)	7	↘		↘ 7	↘ 8
(8)	3	↘		(3)	(40)
				(7)	(8)
				↘ 48	↘ 6
Central Site Driveway					
(38)	8	↘		↘ 10	↘ 8
(8)	2	↘		(1)	(6)
				(0)	(16)
				↘ 3	↘ 5
South Site Driveway					
(3)	1	↘		↘ 3	↘ 17
(3)	1	↘		(0)	(4)
				Belmont Drive	



Figure 11

Total Site Generated Trips





**Appendix B**  
**Traffic Counts**

# Dynamic Traffic, LLC

1904 Main Street, Lake Como, NJ 07719  
 245 Main Street - Suite 110, Chester, NJ 07930  
 732-681-0760

E/W: Campus Dr  
 N/S: Belmont Drive  
 Town/County: Franklin/Somerset  
 Job #: 2686-99-016T

File Name : Campus Dr & Belmont Dr - AMPM  
 Site Code : 00000000  
 Start Date : 5/18/2021  
 Page No : 1

## Groups Printed- Cars - Trucks (SU) - Trucks (TT)

Start Time	Campus Drive Eastbound					Campus Drive Westbound					Belmont Drive Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	13	12	0	25	6	26	0	0	32	4	0	0	0	4	61
07:15 AM	0	12	19	0	31	8	37	0	0	45	7	0	4	0	11	87
07:30 AM	0	14	14	0	28	6	39	0	0	45	5	0	3	0	8	81
07:45 AM	0	16	21	0	37	11	48	0	0	59	8	0	4	0	12	108
Total	0	55	66	0	121	31	150	0	0	181	24	0	11	0	35	337
08:00 AM	0	25	23	0	48	11	58	0	0	69	9	0	6	0	15	132
08:15 AM	0	16	18	0	34	5	45	0	0	50	5	0	2	0	7	91
08:30 AM	0	27	15	0	42	13	43	0	0	56	7	0	3	0	10	108
08:45 AM	0	18	19	0	37	8	40	0	0	48	4	0	2	0	6	91
Total	0	86	75	0	161	37	186	0	0	223	25	0	13	0	38	422
*** BREAK ***																
04:15 PM	0	0	0	0	0	0	2	0	0	2	2	0	5	0	7	9
04:30 PM	0	39	6	0	45	14	18	0	0	32	18	0	9	0	27	104
04:45 PM	0	31	6	0	37	13	15	0	0	28	11	0	6	0	17	82
Total	0	70	12	0	82	27	35	0	0	62	31	0	20	0	51	195
05:00 PM	0	39	8	0	47	12	18	0	0	30	14	0	6	0	20	97
05:15 PM	0	32	8	0	40	11	16	0	0	27	14	0	9	0	23	90
05:30 PM	0	42	6	0	48	12	20	0	0	32	16	0	9	0	25	105
05:45 PM	0	31	6	0	37	11	11	0	0	22	13	0	6	0	19	78
Total	0	144	28	0	172	46	65	0	0	111	57	0	30	0	87	370
06:00 PM	0	33	8	0	41	11	14	0	0	25	16	0	6	0	22	88
06:15 PM	0	25	6	0	31	7	13	0	0	20	11	0	8	0	19	70
Grand Total	0	413	195	0	608	159	463	0	0	622	164	0	88	0	252	1482
Apprch %	0	67.9	32.1	0		25.6	74.4	0	0		65.1	0	34.9	0		
Total %	0	27.9	13.2	0	41	10.7	31.2	0	0	42	11.1	0	5.9	0	17	
Cars	0	299	157	0	456	149	402	0	0	551	117	0	42	0	159	1166
% Cars	0	72.4	80.5	0	75	93.7	86.8	0	0	88.6	71.3	0	47.7	0	63.1	78.7
Trucks (SU)	0	72	26	0	98	6	40	0	0	46	32	0	40	0	72	216
% Trucks (SU)	0	17.4	13.3	0	16.1	3.8	8.6	0	0	7.4	19.5	0	45.5	0	28.6	14.6
Trucks (TT)	0	42	12	0	54	4	21	0	0	25	15	0	6	0	21	100
% Trucks (TT)	0	10.2	6.2	0	8.9	2.5	4.5	0	0	4	9.1	0	6.8	0	8.3	6.7

# New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/02/2017 to 05/05/2017

Site names: 4-5-602,Campus Drive-.26,18081652\_\_  
 County: SOMERSET  
 Funct Class: Urban Major Collector  
 Location: Between Garfield Avenue and Equator Avenue

Seasonal Factor Grp: rg3\_5U  
 Daily Factor Grp: rg3\_5U  
 Axle Factor Grp: rg3\_5U  
 Growth Factor Grp: rg3\_5U

	Sun, Apr 30, 2017			Mon, May 1, 2017			Tue, May 2, 2017			Wed, May 3, 2017			Thu, May 4, 2017			Fri, May 5, 2017			Sat, May 6, 2017		
	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S	Road	N	S
00:00										15	6	9	21	7	14	23	9	14			
01:00										12	2	10	15	3	12	11	3	8			
02:00										15	6	9	12	5	7	11	3	8			
03:00										5	4	1	3	1	2	11	8	3			
04:00										14	11	3	18	9	9	14	8	6			
05:00										48	26	22	56	31	25	50	31	19			
06:00										185	116	69	192	123	69	166	101	65			
07:00										365	258	107	350	243	107	347	237	110			
08:00										508	374	134	509	386	123	433	315	118			
09:00										256	169	87	315	212	103	217	146	71			
10:00										169	99	70	172	109	63	150	86	64			
11:00										188	102	86	187	89	98	62	36	26			
12:00										286	133	153	330	164	166	1	1	0			
13:00										294	170	124	277	150	127	0	0	0			
14:00							292	162	130	308	165	143	286	153	133						
15:00							312	159	153	312	160	152	318	178	140						
16:00							361	174	187	342	171	171	352	168	184						
17:00							502	197	305	486	217	269	482	191	291						
18:00							216	117	99	262	123	139	229	108	121						
19:00							121	58	63	130	67	63	102	45	57						
20:00							80	27	53	91	36	55	105	51	54						
21:00							34	16	18	39	25	14	30	15	15						
22:00							44	33	11	52	33	19	37	26	11						
23:00							26	6	20	28	8	20	29	12	17						
Total							1,988	949	1,039	4,410	2,481	1,929	4,427	2,479	1,948	1,496	984	512			
AM Peak Vol										534	400	134	512	394	127	452	328	124			
AM Peak Fct										.927	.909	.817	.889	.879	.882	.919	.863	.775			
AM Peak Hr										7: 45	7: 45	7: 45	7: 45	7: 45	8: 15	7: 45	7: 45	7: 45			
PM Peak Vol										486	217	269	487	203	291						
PM Peak Fct										.774	.81	.747	.889	.906	.877						
PM Peak Hr										17: 00	17: 00	17: 00	16: 45	16: 45	17: 00	:	:	:			
Seasonal Fct							.987	.987	.987	.987	.987	.987	.987	.987	.987	.987	.987	.987			
Daily Fct							.904	.904	.904	.890	.890	.890	.888	.888	.888	.974	.974	.974			
Axle Fct							.492	.492	.492	.492	.492	.492	.492	.492	.492	.492	.492	.492			
Pulse Fct							2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

**Appendix C**  
**Capacity Analysis**

**Intersection**

Int Delay, s/veh 2.5

**Movement** EBT EBR WBL WBT NBL NBRLane Configurations 

Traffic Vol, veh/h 117 107 56 270 40 21

Future Vol, veh/h 117 107 56 270 40 21

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, % -1 - - 1 2 -

Peak Hour Factor 83 83 83 83 83 83

Heavy Vehicles, % 43 5 10 8 62 67

Mvmt Flow 141 129 67 325 48 25

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All 0 0 270 0 665 206

Stage 1 - - - - 206 -

Stage 2 - - - - 459 -

Critical Hdwy - - 4.2 - 7.42 7.07

Critical Hdwy Stg 1 - - - - 6.42 -

Critical Hdwy Stg 2 - - - - 6.42 -

Follow-up Hdwy - - 2.29 - 4.058 3.903

Pot Cap-1 Maneuver - - 1249 - 320 687

Stage 1 - - - - 688 -

Stage 2 - - - - 501 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - 1249 - 299 687

Mov Cap-2 Maneuver - - - - 299 -

Stage 1 - - - - 688 -

Stage 2 - - - - 468 -

**Approach** EB WB NB

HCM Control Delay, s 0 1.4 17.1

HCM LOS C

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBL WBT

Capacity (veh/h) 371 - - 1249 -

HCM Lane V/C Ratio 0.198 - - 0.054 -

HCM Control Delay (s) 17.1 - - 8 0

HCM Lane LOS C - - A A

HCM 95th %tile Q(veh) 0.7 - - 0.2 -

Intersection						
Int Delay, s/veh	5.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	258	50	86	124	98	54
Future Vol, veh/h	258	50	86	124	98	54
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, %	-1	-	-	1	2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	21	57	4	26	7	50
Mvmt Flow	290	56	97	139	110	61
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	346	0	651	318
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	333	-
Critical Hdwy	-	-	4.14	-	6.87	6.9
Critical Hdwy Stg 1	-	-	-	-	5.87	-
Critical Hdwy Stg 2	-	-	-	-	5.87	-
Follow-up Hdwy	-	-	2.236	-	3.563	3.75
Pot Cap-1 Maneuver	-	-	1202	-	396	613
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1202	-	362	613
Mov Cap-2 Maneuver	-	-	-	-	362	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	629	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	3.4	19.1			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	424	-	-	1202	-	
HCM Lane V/C Ratio	0.403	-	-	0.08	-	
HCM Control Delay (s)	19.1	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.9	-	-	0.3	-	

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	121	121	62	280	45	24
Future Vol, veh/h	121	121	62	280	45	24
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, %	-1	-	-	1	2	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	31	7	6	6	49	42
Mvmt Flow	146	146	75	337	54	29
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	292	0	706	219
Stage 1	-	-	-	-	219	-
Stage 2	-	-	-	-	487	-
Critical Hdwy	-	-	4.16	-	7.29	6.82
Critical Hdwy Stg 1	-	-	-	-	6.29	-
Critical Hdwy Stg 2	-	-	-	-	6.29	-
Follow-up Hdwy	-	-	2.254	-	3.941	3.678
Pot Cap-1 Maneuver	-	-	1247	-	314	721
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	503	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1247	-	291	721
Mov Cap-2 Maneuver	-	-	-	-	291	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	466	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	1.5	17.7			
HCM LOS			C			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	367	-	-	1247	-	
HCM Lane V/C Ratio	0.227	-	-	0.06	-	
HCM Control Delay (s)	17.7	-	-	8.1	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-	

Intersection						
Int Delay, s/veh	6.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	267	57	91	128	112	60
Future Vol, veh/h	267	57	91	128	112	60
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, %	-1	-	-	1	2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	12	37	2	15	9	27
Mvmt Flow	300	64	102	144	126	67
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	364	0	680	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	348	-
Critical Hdwy	-	-	4.12	-	6.89	6.67
Critical Hdwy Stg 1	-	-	-	-	5.89	-
Critical Hdwy Stg 2	-	-	-	-	5.89	-
Follow-up Hdwy	-	-	2.218	-	3.581	3.543
Pot Cap-1 Maneuver	-	-	1195	-	376	644
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1195	-	341	644
Mov Cap-2 Maneuver	-	-	-	-	341	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	610	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	3.4	21.5			
HCM LOS						C
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	408	-	-	1195	-	
HCM Lane V/C Ratio	0.474	-	-	0.086	-	
HCM Control Delay (s)	21.5	-	-	8.3	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	2.5	-	-	0.3	-	



**Intersection**

Int Delay, s/veh 3.7

**Movement** EBT EBR WBL WBT NBL NBRLane Configurations 

Traffic Vol, veh/h 121 161 101 280 53 31

Future Vol, veh/h 121 161 101 280 53 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, % -1 - - 1 2 -

Peak Hour Factor 83 83 83 83 83 83

Heavy Vehicles, % 43 5 6 8 51 43

Mvmt Flow 146 194 122 337 64 37

**Major/Minor** Major1 Major2 Minor1

Conflicting Flow All 0 0 340 0 824 243

Stage 1 - - - - 243 -

Stage 2 - - - - 581 -

Critical Hdwy - - 4.16 - 7.31 6.83

Critical Hdwy Stg 1 - - - - 6.31 -

Critical Hdwy Stg 2 - - - - 6.31 -

Follow-up Hdwy - - 2.254 - 3.959 3.687

Pot Cap-1 Maneuver - - 1197 - 259 696

Stage 1 - - - - 677 -

Stage 2 - - - - 444 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - 1197 - 227 696

Mov Cap-2 Maneuver - - - - 227 -

Stage 1 - - - - 677 -

Stage 2 - - - - 389 -

**Approach** EB WB NB

HCM Control Delay, s 0 2.2 22.8

HCM LOS C

**Minor Lane/Major Mvmt** NBLn1 EBT EBR WBL WBT

Capacity (veh/h) 302 - - 1197 -

HCM Lane V/C Ratio 0.335 - - 0.102 -

HCM Control Delay (s) 22.8 - - 8.3 0

HCM Lane LOS C - - A A

HCM 95th %tile Q(veh) 1.4 - - 0.3 -

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	3	7	77	234	27
Future Vol, veh/h	7	3	7	77	234	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	-1	1	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	14	33	14	53	5	11
Mvmt Flow	8	4	8	93	282	33

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	408	299	315	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	109	-	-	-	-	-
Critical Hdwy	6.34	6.43	4.24	-	-	-
Critical Hdwy Stg 1	5.34	-	-	-	-	-
Critical Hdwy Stg 2	5.34	-	-	-	-	-
Follow-up Hdwy	3.626	3.597	2.326	-	-	-
Pot Cap-1 Maneuver	590	679	1180	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	586	679	1180	-	-	-
Mov Cap-2 Maneuver	586	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1180	-	611	-	-
HCM Lane V/C Ratio	0.007	-	0.02	-	-
HCM Control Delay (s)	8.1	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	2	10	77	189	48
Future Vol, veh/h	8	2	10	77	189	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	2	-1	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	55	7	0
Mvmt Flow	10	2	12	93	228	58

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	374	257	286	0	-	0
Stage 1	257	-	-	-	-	-
Stage 2	117	-	-	-	-	-
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	631	787	1288	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	625	787	1288	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	913	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1288	-	652	-	-
HCM Lane V/C Ratio	0.009	-	0.018	-	-
HCM Control Delay (s)	7.8	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	1	3	86	188	3
Future Vol, veh/h	1	1	3	86	188	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	-1	-	-	2	-2	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	30	9	0
Mvmt Flow	1	1	4	104	227	4

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	341	229	231	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Critical Hdwy	6.2	6.1	4.1	-	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	672	820	1349	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	820	1349	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	822	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1349	-	737	-	-
HCM Lane V/C Ratio	0.003	-	0.003	-	-
HCM Control Delay (s)	7.7	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

## Intersection

Int Delay, s/veh 10

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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Lane Configurations 

Traffic Vol, veh/h 267 66 99 128 147 93

Future Vol, veh/h 267 66 99 128 147 93

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, % -1 - - 1 2 -

Peak Hour Factor 89 89 89 89 89 89

Heavy Vehicles, % 21 46 3 26 7 27

Mvmt Flow 300 74 111 144 165 104

Major/Minor	Major1	Major2	Minor1
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Conflicting Flow All 0 0 374 0 703 337

Stage 1 - - - - 337 -

Stage 2 - - - - 366 -

Critical Hdwy - - 4.13 - 6.87 6.67

Critical Hdwy Stg 1 - - - - 5.87 -

Critical Hdwy Stg 2 - - - - 5.87 -

Follow-up Hdwy - - 2.227 - 3.563 3.543

Pot Cap-1 Maneuver - - 1179 - 367 639

Stage 1 - - - - 686 -

Stage 2 - - - - 663 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver - - 1179 - 330 639

Mov Cap-2 Maneuver - - - - 330 -

Stage 1 - - - - 686 -

Stage 2 - - - - 595 -

Approach	EB	WB	NB
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HCM Control Delay, s 0 3.7 29.7

HCM LOS D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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Capacity (veh/h) 406 - - 1179 -

HCM Lane V/C Ratio 0.664 - - 0.094 -

HCM Control Delay (s) 29.7 - - 8.4 0

HCM Lane LOS D - - A A

HCM 95th %tile Q(veh) 4.7 - - 0.3 -

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	8	3	212	155	9
Future Vol, veh/h	27	8	3	212	155	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, %	-1	-	-	-1	1	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	15	25	33	15	22	11
Mvmt Flow	30	9	3	238	174	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	423	179	184	0	0
Stage 1	179	-	-	-	-
Stage 2	244	-	-	-	-
Critical Hdwy	6.35	6.35	4.43	-	-
Critical Hdwy Stg 1	5.35	-	-	-	-
Critical Hdwy Stg 2	5.35	-	-	-	-
Follow-up Hdwy	3.635	3.525	2.497	-	-
Pot Cap-1 Maneuver	577	812	1225	-	-
Stage 1	830	-	-	-	-
Stage 2	778	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	575	812	1225	-	-
Mov Cap-2 Maneuver	575	-	-	-	-
Stage 1	828	-	-	-	-
Stage 2	778	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1225	-	616	-	-
HCM Lane V/C Ratio	0.003	-	0.064	-	-
HCM Control Delay (s)	7.9	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

**Intersection**

Int Delay, s/veh 1.3

**Movement** EBL EBR NBL NBT SBT SBRLane Configurations 

Traffic Vol, veh/h 38 8 1 178 156 7

Future Vol, veh/h 38 8 1 178 156 7

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 2 -1 -

Peak Hour Factor 89 89 89 89 89 89

Heavy Vehicles, % 0 0 0 21 24 0

Mvmt Flow 43 9 1 200 175 8

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All 381 179 183 0 - 0

Stage 1 179 - - - - -

Stage 2 202 - - - - -

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 625 869 1404 - - -

Stage 1 857 - - - - -

Stage 2 837 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 624 869 1404 - - -

Mov Cap-2 Maneuver 624 - - - - -

Stage 1 856 - - - - -

Stage 2 837 - - - - -

**Approach** EB NB SB

HCM Control Delay, s 11 0 0

HCM LOS B

**Minor Lane/Major Mvmt** NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1404 - 656 - -

HCM Lane V/C Ratio 0.001 - 0.079 - -

HCM Control Delay (s) 7.6 0 11 - -

HCM Lane LOS A A B - -

HCM 95th %tile Q(veh) 0 - 0.3 - -

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			W	W	
Traffic Vol, veh/h	3	3	0	176	164	0
Future Vol, veh/h	3	3	0	176	164	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, %	-1	-	-	2	-2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	22	22	0
Mvmt Flow	3	3	0	198	184	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	382	184	184	0	0
Stage 1	184	-	-	-	-
Stage 2	198	-	-	-	-
Critical Hdwy	6.2	6.1	4.1	-	-
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	638	868	1403	-	-
Stage 1	861	-	-	-	-
Stage 2	849	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	638	868	1403	-	-
Mov Cap-2 Maneuver	638	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	849	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1403	-	735	-	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	0	-	9.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-