

# **RAMEY KEMP ASSOCIATES**

*TOGETHER WE ARE LIMITLESS*

T 704 549 4260

8210 University Executive  
Park Drive, Suite 220  
Charlotte, NC 28262

April 13, 2023

Travis Morgan  
Town of Pineville  
505 Main Street  
Pineville, NC 28134  
P: 704-889-2202  
E: tmorgan@pinevillenc.gov

Reference: Carolina Logistics Park - Pineville, NC

Subject: Transportation Technical Memorandum

Dear Mr. Morgan:

Carolina Logistics Park is a warehouse development located between Downs Road and Nations Ford Road in Pineville, North Carolina. Ramey Kemp Associates (RKA) prepared a Traffic Impact Analysis (TIA) for the site. The TIA was sealed on July 8, 2020 and approved by NCDOT on August 7, 2020. The study assumed 3,500,000 square feet of industrial warehouse with three access points. One full movement driveway was studied on Downs Road, and now a second driveway (Access D) is being proposed on Downs Road. This technical memorandum provides traffic analysis of Access D.

## **Proposed Access**

The general location and concept design of the driveway has been coordinated with NCDOT. It is to be a full movement driveway located across from the existing SiteOne Landscape Supply (parcel ID 20506120) driveway on Downs Road. It includes a left turn lane and a right turn lane on Downs Road. The left turn lane will have 150 feet of storage, and the right turn lane will have 100 feet of storage. Starting from the south, Downs Road would begin to widen approximately 248 feet north of the taper for the Empire Distributors (parcel ID 20519102) southbound left turn lane widening. A three-lane section would be constructed between the fourth driveway (Access D) and the existing southbound left turn lane at the Charlotte-Mecklenburg Schools Bus Lot (parcel ID 20506136) driveway. NCDOT has given general acceptance of this design concept. A plan view of the concept design is attached.



**Traffic Volumes**

A new traffic count was performed at the intersection of Downs Road and the SiteOne Landscape Supply driveway. The peak hour volumes from the traffic count were projected to the year 2026 using a growth rate of 2 percent per year. The traffic count data is attached.

The trip generation of the site is not changing from what was studied in the approved TIA. Table 1 summarizes the trip generation of the site. Trip distribution percentages were adjusted as shown in Figure 1 to move approximately one fourth of the trips at Access A to Access D. The resulting trip assignment is shown in Figure 2. Combining the projected 2026 traffic volumes and the trip assignments results in the 2026 Full Build traffic volumes shown in Figure 3.

**Table 1: Trip Generation Summary**

Land Use (ITE Code)	Intensity	AM Peak Hour Trips (vph)		PM Peak Hour Trips (vph)	
		Enter	Exit	Enter	Exit
Industrial Warehouse (Local Data)	3,500,000 SF	248	90	109	259

**Traffic Analysis**

Access D is proposed to form the fourth leg at the intersection of Downs Road and the SiteOne Landscape Supply driveway. Access is proposed to be full movement. Downs Road is maintained by NCDOT at this intersection. A 2026 Full Build scenario was analyzed. This scenario analyzes Access D with the site fully built out (3,500,000 square feet of industrial warehouse). No turn lanes were added at the intersection of Downs Road and Access D during this scenario. The 2026 Full Build Improvements scenario is the same as the 2026 Full Build scenario but adds turn lanes that NCDOT is requiring. Table 2 summarizes the capacity analysis results. The Synchro and SimTraffic reports are attached.

The intersection is expected to operate efficiently during all scenarios with no queue issues. All queues are expected to be no more than approximately 100 feet. Based on coordination with NCDOT, the following improvements are required to be done by the developer:

- Construct Access D with one ingress lane and one egress lane. Provide 100 feet of internal protected stem length.
- Construct a northbound Downs Road left turn lane with 150 feet of storage length and the appropriate taper.
- Construct a two-way left turn lane along Downs Road between Access D and the Charlotte-Mecklenburg Schools Bus Lot southernmost driveway.
- Construct a southbound Downs Road right turn lane with 100 feet of storage and the appropriate taper.



**Table 2: Analysis Summary of Downs Road and Access D**

ANALYSIS SCENARIO	A P P R O A C H	LANE CONFIGURATIONS	WEEKDAY AM PEAK HOUR LEVEL OF SERVICE		WEEKDAY PM PEAK HOUR LEVEL OF SERVICE	
			Approach LOS (Delay)	Overall LOS (Delay)	Approach LOS (Delay)	Overall LOS (Delay)
2026 Full Build	EB <sup>1</sup>	1 LT-TH-RT	C (15.7)	N/A <sup>3</sup>	C (22.6)	N/A <sup>3</sup>
	WB <sup>1</sup>	1 LT-TH-RT	C (15.2)		C (18.4)	
	NB <sup>2</sup>	1 LT-TH-RT	A (8.0)		A (9.2)	
	SB <sup>2</sup>	1 LT-TH-RT	A (8.8)		A (8.2)	
2026 Full Build Improvements	EB <sup>1</sup>	1 LT-TH-RT	C (15.5)	N/A <sup>3</sup>	C (22.5)	N/A <sup>3</sup>
	WB <sup>1</sup>	1 LT-TH-RT	C (15.1)		C (18.4)	
	NB <sup>2</sup>	1 LT, 1 TH-RT	A (8.0)		A (9.2)	
	SB <sup>2</sup>	1 LT, 1 TH, 1 RT	A (8.8)		A (8.2)	

1. Level of service for minor-street approach.
2. Level of service for major-street left-turn movement
3. Overall Intersection LOS is not provided for unsignalized intersections

**Conclusion**

Constructing a driveway across from the SiteOne Landscape Supply driveway on Downs Road is expected to result in acceptable traffic operations. The driveways are expected to operate at LOS C during both peak hours, while the left turn movements on Downs Road are expected to operate at LOS A. The maximum queues at the intersection are expected to be no more than approximately 100 feet. The turn lane improvements required by NCDOT are sufficient.

If you should have any questions please contact me at (704) 220-6847.

Sincerely,



J. Andrew Eagle, PE, PTOE  
Senior Traffic Engineering Project Manager  
**INFRASTRUCTURE CONSULTING SERVICES, INC**  
*dba*  
**RAMEY KEMP ASSOCIATES, INC**



## Attachment

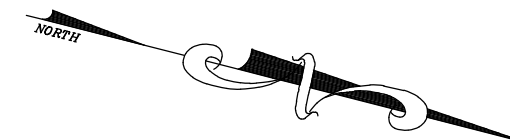
- Concept Design
- Traffic Count - Downs Road and SiteOne Landscape Supply Driveway
- Figure 1 - Proposed Site Full Build Trip Distribution Percentages
- Figure 2 - Proposed Site Full Build Trip Assignment
- Figure 3 - 2026 Full Build Peak Hour Traffic Volumes
- Synchro Reports
- SimTraffic Reports



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CLP - SECONDARY DOWNS ROAD ENTRANCE  
 PINEVILLE, NORTH CAROLINA

MARCH 16, 2022



GRAPHIC SCALE



( IN FEET )  
 1 inch = 150 ft.



8210 University Executive Park  
Charlotte, NC 28262

File Name : Downs Road & SiteOne Landscape Driveway  
Site Code : 00000001  
Start Date : 3/30/2023  
Page No : 1

Groups Printed- Cars - Trucks - Semis

Start Time	Downs Road From North					Site One Landscape Driveway From East					Downs Road From South					From West					Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total			
07:00 AM	0	51	3	0	54	0	0	0	0	0	3	76	0	0	79	0	0	0	0	0	0	133	133
07:15 AM	0	51	4	0	55	1	0	0	0	1	0	83	0	0	83	0	0	0	0	0	0	139	139
07:30 AM	0	55	0	0	55	4	0	0	0	4	1	86	0	0	87	0	0	0	0	0	0	146	146
07:45 AM	0	51	3	0	54	2	0	2	0	4	1	89	0	0	90	0	0	0	0	0	0	148	148
<b>Total</b>	<b>0</b>	<b>208</b>	<b>10</b>	<b>0</b>	<b>218</b>	<b>7</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>9</b>	<b>5</b>	<b>334</b>	<b>0</b>	<b>0</b>	<b>339</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>566</b>	<b>566</b>
08:00 AM	0	54	2	0	56	1	0	1	0	2	2	85	0	0	87	0	0	0	0	0	0	145	145
08:15 AM	0	48	3	0	51	1	0	3	0	4	0	67	0	0	67	0	0	0	0	0	0	122	122
08:30 AM	0	38	2	0	40	2	0	2	0	4	0	63	0	0	63	0	0	0	0	0	0	107	107
08:45 AM	0	47	0	0	47	2	0	0	0	2	2	92	0	0	94	0	0	0	0	0	0	143	143
<b>Total</b>	<b>0</b>	<b>187</b>	<b>7</b>	<b>0</b>	<b>194</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>4</b>	<b>307</b>	<b>0</b>	<b>0</b>	<b>311</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>517</b>	<b>517</b>
*** BREAK ***																							
04:00 PM	0	101	1	0	102	1	0	0	0	1	0	54	0	0	54	0	0	0	0	0	0	157	157
04:15 PM	0	75	0	0	75	0	0	1	0	1	0	59	0	0	59	0	0	0	0	0	0	135	135
04:30 PM	0	82	1	0	83	1	0	2	0	3	1	81	0	0	82	0	0	0	0	0	0	168	168
04:45 PM	0	87	0	0	87	0	0	0	0	0	0	64	0	0	64	0	0	0	0	0	0	151	151
<b>Total</b>	<b>0</b>	<b>345</b>	<b>2</b>	<b>0</b>	<b>347</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>258</b>	<b>0</b>	<b>0</b>	<b>259</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>611</b>	<b>611</b>
05:00 PM	0	122	0	0	122	0	0	0	0	0	0	79	0	0	79	0	0	0	0	0	0	201	201
05:15 PM	0	113	0	0	113	0	0	0	0	0	0	95	0	0	95	0	0	0	0	0	0	208	208
05:30 PM	0	100	0	0	100	0	0	0	0	0	0	72	0	0	72	0	0	0	0	0	0	172	172
05:45 PM	0	90	0	0	90	0	0	0	0	0	0	76	0	0	76	0	0	0	0	0	0	166	166
<b>Total</b>	<b>0</b>	<b>425</b>	<b>0</b>	<b>0</b>	<b>425</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>322</b>	<b>0</b>	<b>0</b>	<b>322</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>747</b>	<b>747</b>
<b>Grand Total</b>	<b>0</b>	<b>1165</b>	<b>19</b>	<b>0</b>	<b>1184</b>	<b>15</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>26</b>	<b>10</b>	<b>1221</b>	<b>0</b>	<b>0</b>	<b>1231</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2441</b>	<b>2441</b>
Apprch %	0	98.4	1.6			57.7	0	42.3			0.8	99.2	0			0	0	0					
Total %	0	47.7	0.8		48.5	0.6	0	0.5		1.1	0.4	50	0		50.4	0	0	0		0	0	100	
Cars	0	1037	13		1050	10	0	7		17	5	1071	0		1076	0	0	0		0	0	0	2143
% Cars	0	89	68.4		88.7	66.7	0	63.6		65.4	50	87.7	0		87.4	0	0	0		0	0	0	87.8
Trucks	0	104	6		110	5	0	4		9	5	139	0		144	0	0	0		0	0	0	263
% Trucks	0	8.9	31.6		9.3	33.3	0	36.4		34.6	50	11.4	0		11.7	0	0	0		0	0	0	10.8
Semis	0	24	0		24	0	0	0		0	0	11	0		11	0	0	0		0	0	0	35
% Semis	0	2.1	0		2	0	0	0		0	0	0.9	0		0.9	0	0	0		0	0	0	1.4



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Charlotte, NC 28262

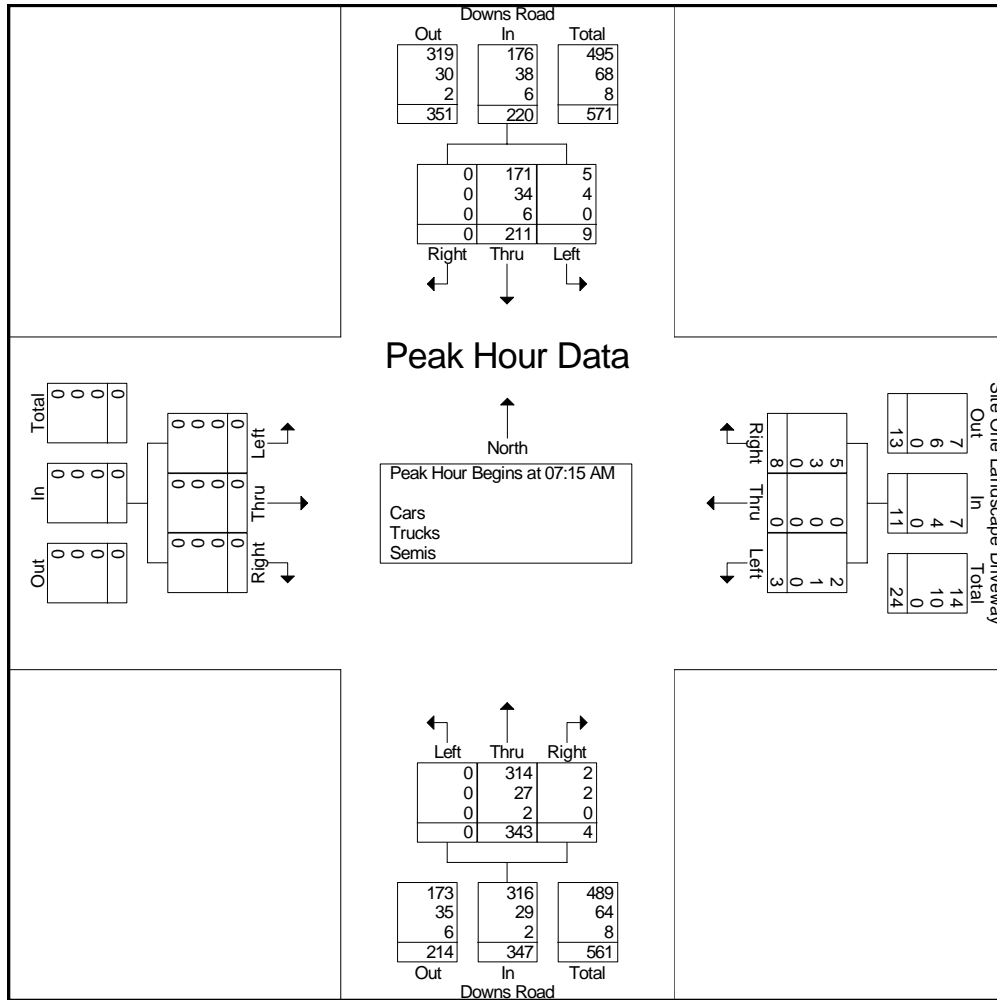
File Name : Downs Road & SiteOne Landscape Driveway  
Site Code : 00000001  
Start Date : 3/30/2023  
Page No : 2

Start Time	Downs Road From North				Site One Landscape Driveway From East				Downs Road From South				From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	51	4	55	1	0	0	1	0	83	0	83	0	0	0	0	139
07:30 AM	0	55	0	55	4	0	0	4	1	86	0	87	0	0	0	0	146
07:45 AM	0	51	3	54	2	0	2	4	1	89	0	90	0	0	0	0	148
08:00 AM	0	54	2	56	1	0	1	2	2	85	0	87	0	0	0	0	145
Total Volume	0	211	9	220	8	0	3	11	4	343	0	347	0	0	0	0	578
% App. Total	0	95.9	4.1		72.7	0	27.3		1.2	98.8	0		0	0	0		
PHF	.000	.959	.563	.982	.500	.000	.375	.688	.500	.963	.000	.964	.000	.000	.000	.000	.976
Cars	0	171	5	176	5	0	2	7	2	314	0	316	0	0	0	0	499
% Cars	0	81.0	55.6	80.0	62.5	0	66.7	63.6	50.0	91.5	0	91.1	0	0	0	0	86.3
Trucks	0	34	4	38	3	0	1	4	2	27	0	29	0	0	0	0	71
% Trucks	0	16.1	44.4	17.3	37.5	0	33.3	36.4	50.0	7.9	0	8.4	0	0	0	0	12.3
Semis	0	6	0	6	0	0	0	0	0	2	0	2	0	0	0	0	8
% Semis	0	2.8	0	2.7	0	0	0	0	0	0.6	0	0.6	0	0	0	0	1.4



8210 University Executive Park  
Charlotte, NC 28262

File Name : Downs Road & SiteOne Landscape Driveway  
Site Code : 00000001  
Start Date : 3/30/2023  
Page No : 3





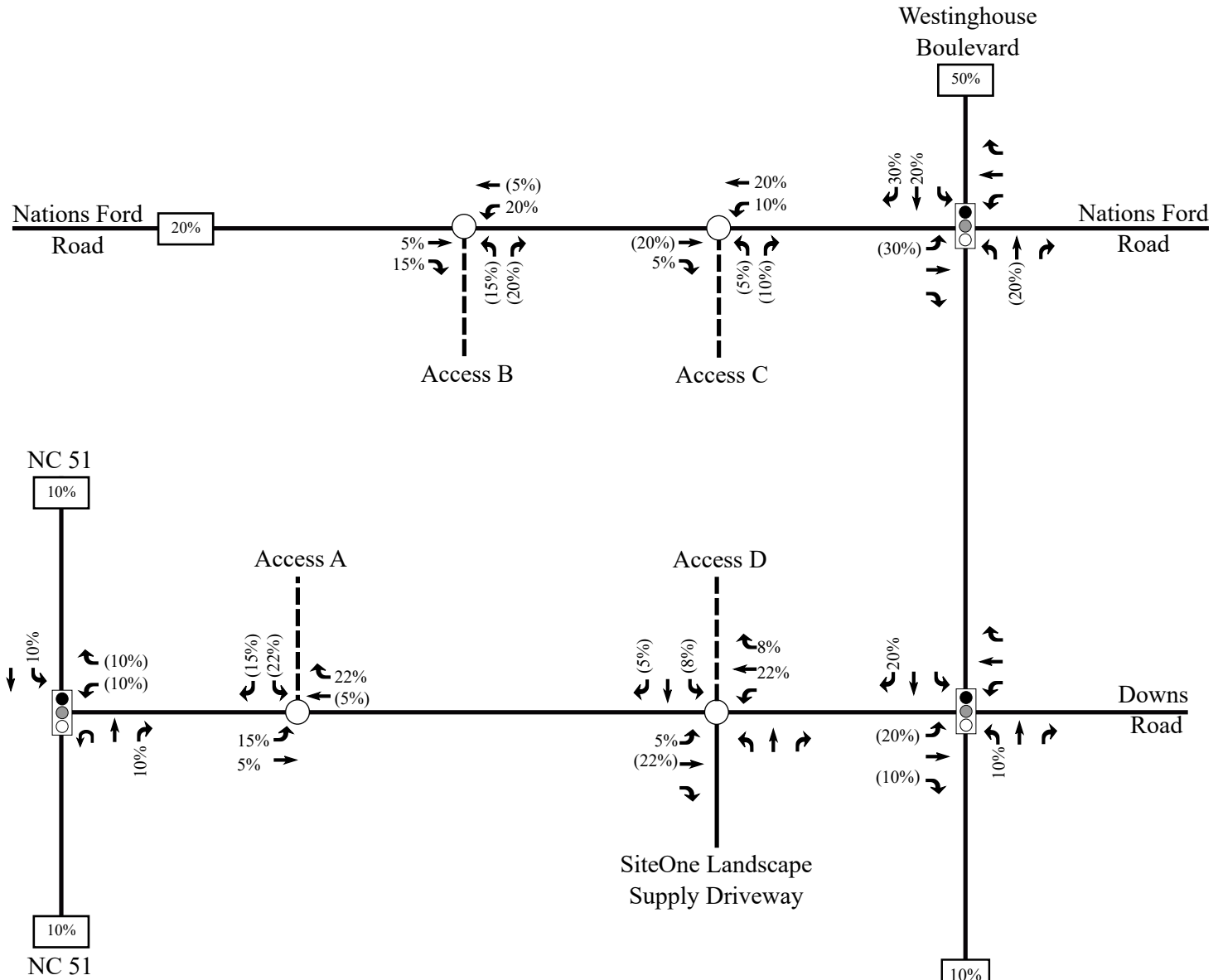
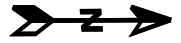


8210 University Executive Park  
Charlotte, NC 28262

File Name : Downs Road & SiteOne Landscape Driveway  
Site Code : 00000001  
Start Date : 3/30/2023  
Page No : 4

Start Time	Downs Road From North				Site One Landscape Driveway From East				Downs Road From South				From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	122	0	122	0	0	0	0	0	79	0	79	0	0	0	0	201
05:15 PM	0	113	0	113	0	0	0	0	0	95	0	95	0	0	0	0	208
05:30 PM	0	100	0	100	0	0	0	0	0	72	0	72	0	0	0	0	172
05:45 PM	0	90	0	90	0	0	0	0	0	76	0	76	0	0	0	0	166
Total Volume	0	425	0	425	0	0	0	0	0	322	0	322	0	0	0	0	747
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.871	.000	.871	.000	.000	.000	.000	.000	.847	.000	.847	.000	.000	.000	.000	.898
Cars	0	394	0	394	0	0	0	0	0	263	0	263	0	0	0	0	657
% Cars	0	92.7	0	92.7	0	0	0	0	0	81.7	0	81.7	0	0	0	0	88.0
Trucks	0	27	0	27	0	0	0	0	0	58	0	58	0	0	0	0	85
% Trucks	0	6.4	0	6.4	0	0	0	0	0	18.0	0	18.0	0	0	0	0	11.4
Semis	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
% Semis	0	0.9	0	0.9	0	0	0	0	0	0.3	0	0.3	0	0	0	0	0.7





**LEGEND**

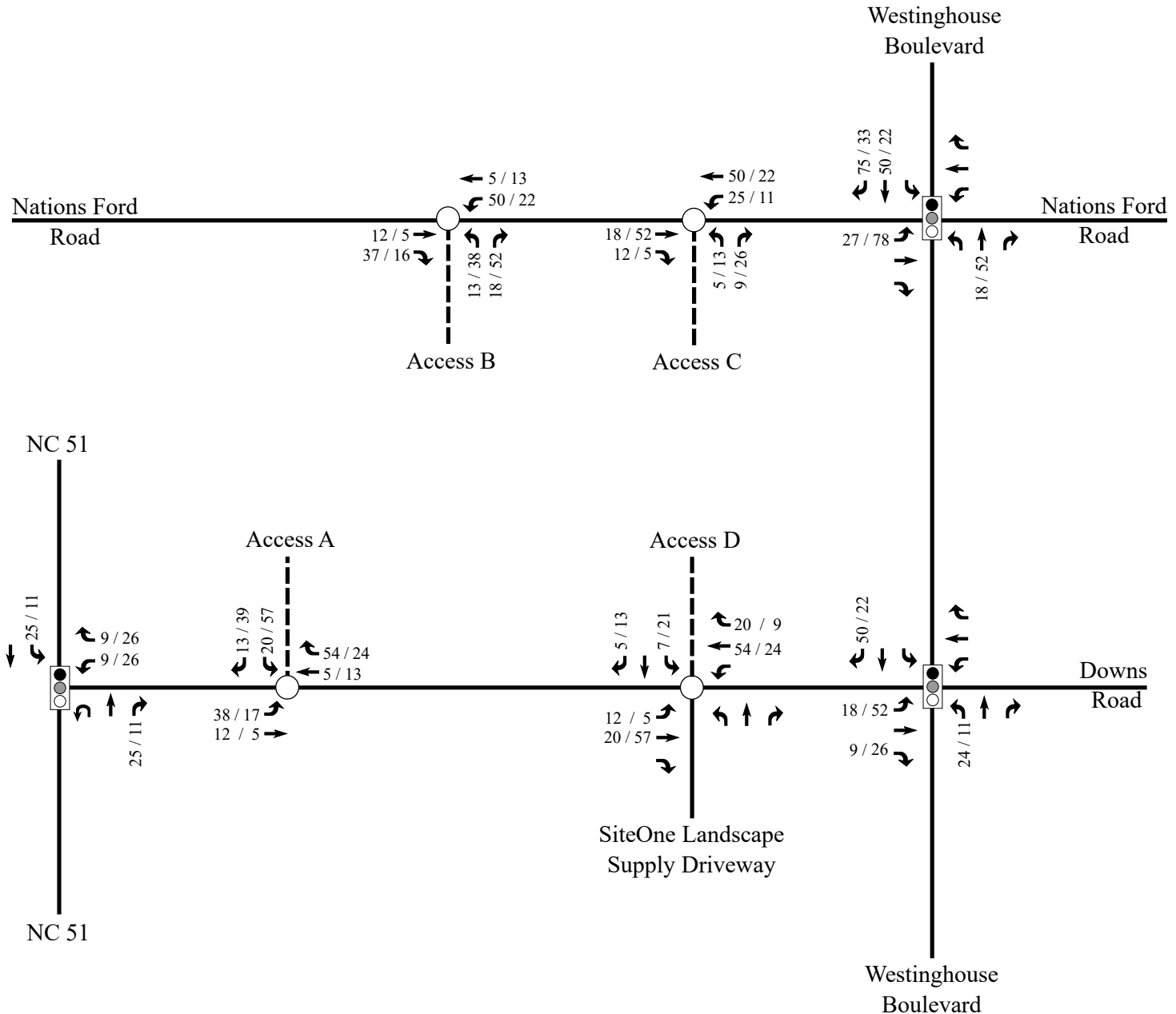
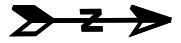
- Unsignalized Intersection
- Signalized Intersection
- $x\%$  Entering Trip Distributions
- $(y\%)$  Exiting Trip Distributions
- XX% Regional Trip Distribution



Carolina Logistics Park  
Pineville, NC

Proposed Site  
Full Build  
Trip Distribution Percentages

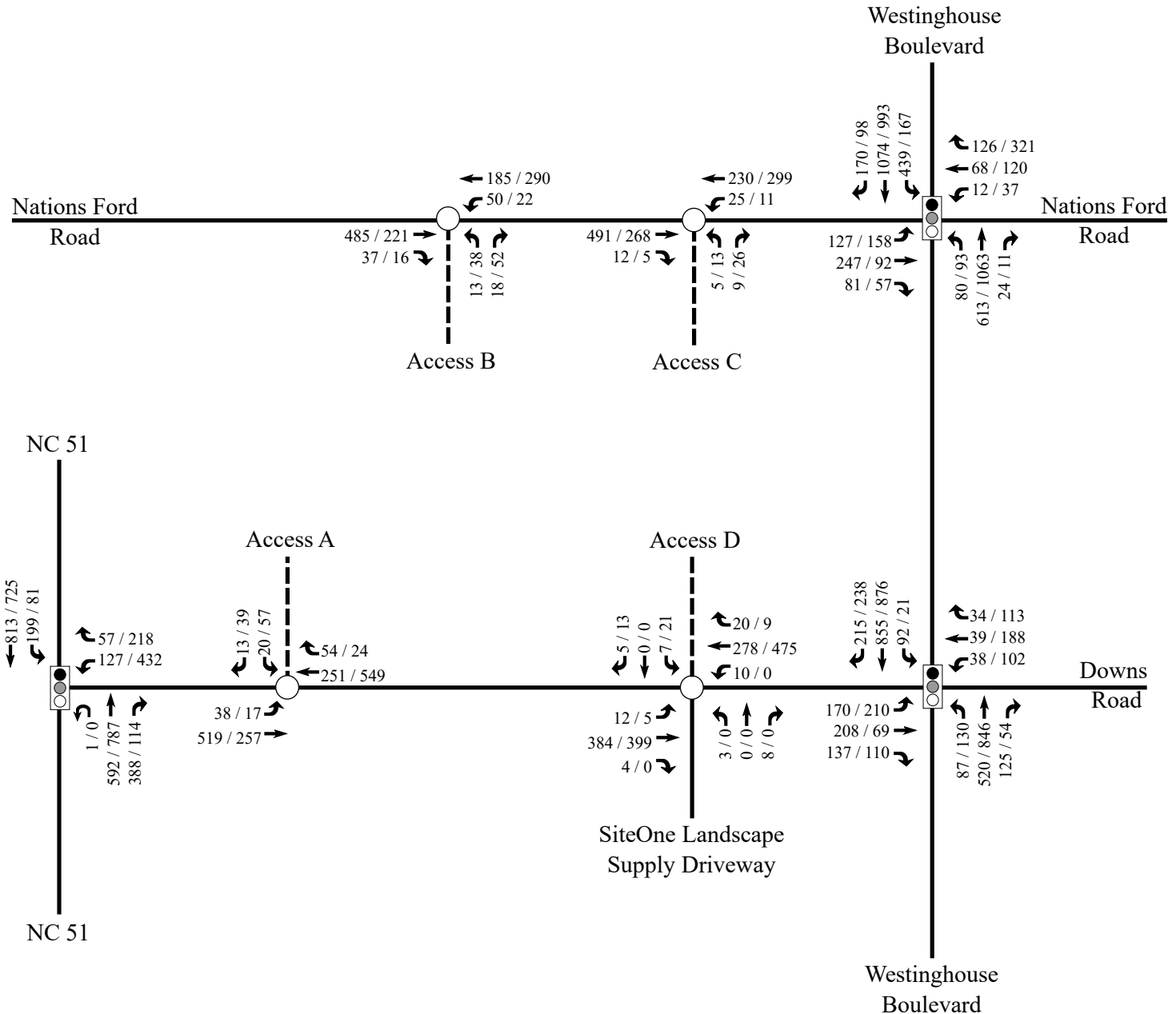
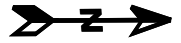
Scale: Not to Scale      Figure 1



**LEGEND**

- Signalized Intersection
- Unsignalized Intersection
- X/Y → AM / PM Peak Hour Site Trips

	<p>Carolina Logistics Park Pineville, NC</p>	<p>Proposed Site Full Build Trip Assignment</p>	
		<p>Scale: Not to Scale</p>	<p>Figure 2</p>



**LEGEND**

- Signalized Intersection
- Unsignalized Intersection
- X/Y → AM / PM Peak Hour Traffic Volumes

	<p>Carolina Logistics Park Pineville, NC</p>	<p>2026 Full Build Peak Hour Traffic Volumes</p>	
		<p>Scale: Not to Scale</p>	<p>Figure 3</p>

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	4	5	4	4	8	12	384	4	10	278	20
Future Vol, veh/h	7	4	5	4	4	8	12	384	4	10	278	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	14	2	2	33	2	38	8	8	50	40	14	5
Mvmt Flow	8	4	6	4	4	9	13	427	4	11	309	22

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	804	799	320	802	808	429	331	0	0	431	0	0
Stage 1	342	342	-	455	455	-	-	-	-	-	-	-
Stage 2	462	457	-	347	353	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.52	6.22	7.43	6.52	6.58	4.18	-	-	4.5	-	-
Critical Hdwy Stg 1	6.24	5.52	-	6.43	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.52	-	6.43	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4.018	3.318	3.797	4.018	3.642	2.272	-	-	2.56	-	-
Pot Cap-1 Maneuver	288	319	721	268	315	556	1196	-	-	953	-	-
Stage 1	649	638	-	530	569	-	-	-	-	-	-	-
Stage 2	557	568	-	609	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	274	310	721	258	306	556	1196	-	-	953	-	-
Mov Cap-2 Maneuver	274	310	-	258	306	-	-	-	-	-	-	-
Stage 1	640	629	-	523	561	-	-	-	-	-	-	-
Stage 2	536	560	-	592	622	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.7		15.2		0.2		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1196	-	-	353	372	953	-	-
HCM Lane V/C Ratio	0.011	-	-	0.05	0.048	0.012	-	-
HCM Control Delay (s)	8	0	-	15.7	15.2	8.8	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	21	4	13	4	4	4	5	399	4	4	475	9
Future Vol, veh/h	21	4	13	4	4	4	5	399	4	4	475	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	33	2	31	2	2	2	40	20	2	2	7	33
Mvmt Flow	23	4	14	4	4	4	6	443	4	4	528	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1002	1000	533	1007	1003	445	538	0	0	447	0	0
Stage 1	541	541	-	457	457	-	-	-	-	-	-	-
Stage 2	461	459	-	550	546	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.52	6.51	7.12	6.52	6.22	4.5	-	-	4.12	-	-
Critical Hdwy Stg 1	6.43	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.018	3.579	3.518	4.018	3.318	2.56	-	-	2.218	-	-
Pot Cap-1 Maneuver	194	243	494	219	242	613	864	-	-	1113	-	-
Stage 1	473	521	-	583	568	-	-	-	-	-	-	-
Stage 2	526	566	-	519	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	188	240	494	207	239	613	864	-	-	1113	-	-
Mov Cap-2 Maneuver	188	240	-	207	239	-	-	-	-	-	-	-
Stage 1	469	518	-	578	563	-	-	-	-	-	-	-
Stage 2	513	561	-	497	515	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.6		18.4		0.1		0.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	864	-	-	246	282	1113	-	-
HCM Lane V/C Ratio	0.006	-	-	0.172	0.047	0.004	-	-
HCM Control Delay (s)	9.2	0	-	22.6	18.4	8.2	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	-	-

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	↗
Traffic Vol, veh/h	7	4	5	4	4	8	12	384	4	10	278	20
Future Vol, veh/h	7	4	5	4	4	8	12	384	4	10	278	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	14	2	2	33	2	38	8	8	50	40	14	5
Mvmt Flow	8	4	6	4	4	9	13	427	4	11	309	22

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	793	788	309	802	808	429	331	0	0	431	0	0
Stage 1	331	331	-	455	455	-	-	-	-	-	-	-
Stage 2	462	457	-	347	353	-	-	-	-	-	-	-
Critical Hdwy	7.24	6.52	6.22	7.43	6.52	6.58	4.18	-	-	4.5	-	-
Critical Hdwy Stg 1	6.24	5.52	-	6.43	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.24	5.52	-	6.43	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.626	4.018	3.318	3.797	4.018	3.642	2.272	-	-	2.56	-	-
Pot Cap-1 Maneuver	293	323	731	268	315	556	1196	-	-	953	-	-
Stage 1	658	645	-	530	569	-	-	-	-	-	-	-
Stage 2	557	568	-	609	631	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	280	316	731	259	308	556	1196	-	-	953	-	-
Mov Cap-2 Maneuver	280	316	-	259	308	-	-	-	-	-	-	-
Stage 1	651	637	-	524	563	-	-	-	-	-	-	-
Stage 2	538	562	-	593	623	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.5		15.1		0.2		0.3	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1196	-	-	360	374	953	-	-
HCM Lane V/C Ratio	0.011	-	-	0.049	0.048	0.012	-	-
HCM Control Delay (s)	8	-	-	15.5	15.1	8.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-



Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↘		↗	↘	↗
Traffic Vol, veh/h	21	4	13	4	4	4	5	399	4	4	475	9
Future Vol, veh/h	21	4	13	4	4	4	5	399	4	4	475	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	100	-	100
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	33	2	31	2	2	2	40	20	2	2	7	33
Mvmt Flow	23	4	14	4	4	4	6	443	4	4	528	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	997	995	528	1007	1003	445	538	0	0	447	0	0
Stage 1	536	536	-	457	457	-	-	-	-	-	-	-
Stage 2	461	459	-	550	546	-	-	-	-	-	-	-
Critical Hdwy	7.43	6.52	6.51	7.12	6.52	6.22	4.5	-	-	4.12	-	-
Critical Hdwy Stg 1	6.43	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.43	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.797	4.018	3.579	3.518	4.018	3.318	2.56	-	-	2.218	-	-
Pot Cap-1 Maneuver	196	245	498	219	242	613	864	-	-	1113	-	-
Stage 1	477	523	-	583	568	-	-	-	-	-	-	-
Stage 2	526	566	-	519	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	190	242	498	208	239	613	864	-	-	1113	-	-
Mov Cap-2 Maneuver	190	242	-	208	239	-	-	-	-	-	-	-
Stage 1	474	521	-	579	564	-	-	-	-	-	-	-
Stage 2	514	562	-	498	516	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	22.5		18.4		0.1		0.1	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	864	-	-	248	282	1113	-	-
HCM Lane V/C Ratio	0.006	-	-	0.17	0.047	0.004	-	-
HCM Control Delay (s)	9.2	-	-	22.5	18.4	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.1	0	-	-

Intersection: 7: Downs Road & Access D/SiteOne Landscape Supply

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	63	56	63
Average Queue (ft)	11	12	5	6
95th Queue (ft)	36	45	27	35
Link Distance (ft)	709	728	817	344
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Downs Road & Access D/SiteOne Landscape Supply

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	88	31	68	21
Average Queue (ft)	34	10	4	1
95th Queue (ft)	74	33	32	9
Link Distance (ft)	709	728	817	344
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Downs Road & Access D/SiteOne Landscape Supply

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	46	65	22	52
Average Queue (ft)	9	18	3	4
95th Queue (ft)	32	53	16	25
Link Distance (ft)	689	722		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Downs Road & Access D/SiteOne Landscape Supply

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	88	35	16	20
Average Queue (ft)	28	9	1	1
95th Queue (ft)	67	33	11	7
Link Distance (ft)	689	722		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	100
Storage Blk Time (%)				
Queuing Penalty (veh)				