



---

February 28, 2023

Mr. Nevil Patel  
Shangri-La CT Inc.  
1401 Creekwood Pkwy  
Columbia, MO 65202

**Re: Traffic Study  
Proposed Shangri-La Cannabis Retailer  
430 Main Avenue  
Norwalk, Connecticut  
SLR #141.21501.00001**

Dear Mr. Patel,

SLR International Corporation (SLR) has prepared this study to evaluate the traffic-related implications of your proposed cannabis retailer to be located at 430 Main Avenue (Route 719) in Norwalk, Connecticut. The site is an existing commercial plaza with several tenants, of which three storefronts would be converted into the proposed approximately 3,200 square-foot (SF) retail cannabis store. The commercial plaza has vehicular access at an existing signal at Main Avenue opposite a driveway of the Merritt 7 corporate park, as well as a right-out-only driveway to remain. The location of the site is illustrated in **Figure 1**.

## **EXISTING CONDITIONS**

### Site Environs

Main Avenue (Route 719) is classified by the Connecticut Department of Transportation (CTDOT) as a principal arterial with a posted speed limit of 35 miles per hour (mph). It has four travel lanes plus turning lanes at intersections, and sidewalks along both sides of the road. The most recent, non-COVID-19 annual average daily traffic (AADT) volume, recorded in 2017, north of the site and south of Grist Mill Road was 13,400 vehicles according to CTDOT traffic monitoring data.

The northern site driveway and the opposite 401/501 Merritt 7 driveway intersect Main Avenue and are controlled by a traffic signal. The northern site driveway has one lane each of ingress and egress, and the right-out-only southern driveway has one stop-controlled egress lane.

---

### Traffic Data Collection

Turning movement counts were conducted at the signal and the site egress driveway from 4:00 p.m. to 6:00 p.m. on Friday, February 24, 2023, and from 11:00 a.m. to 1:00 p.m. on Saturday, February 25, 2023, to capture peak weekday afternoon commuter activity, peak weekend/retail activity, and the time periods when the proposed cannabis retailer is generally anticipated to be busiest. For analysis, the highest single peak-hour volume for each time period was extracted from the count data. The study area peak hours were found to be from 4:45 p.m. to 5:45 p.m. during the weekday afternoon, and from 11:45 a.m. to 12:45 p.m. during the Saturday midday period. The existing peak-hour traffic volumes are shown in **Figure 2**.

### Crash History

Roadway crash data was evaluated from the Connecticut Crash Data Repository for the most recent five-year period (January 1, 2018, to January 1, 2023) along the site frontage. Only three crashes reportedly occurred adjacent to 430 Main Avenue during this period according to the repository, and each occurred in the direct vicinity of the signalized study intersection. Two of the three were rear-end crashes, with one resulting in injury and the other resulting in property-damage only. Rear-end crashes are common at signalized intersections. The third crash was an unknown collision type and was reportedly property-damage only.

### Sight Lines

Intersection sight distance (ISD) accounts for a driver's ability to identify an appropriate gap in oncoming traffic when egressing a driveway or side street, in accordance with the CTDOT *Highway Design Manual*. When determining ISD, the length of the gap, which is dependent on speed and number of lanes a motorist needs to cross to make a turn, should allow a vehicle to turn safely without necessitating a significant change in the speed of approaching vehicles already traveling on the roadway.

The existing ISD sight lines from both site driveways were reviewed according to the *Highway Design Manual* and were based on the 85<sup>th</sup> percentile speeds along Main Avenue north of the site and south of Grist Mill Road as recorded by CTDOT traffic monitoring station. A motorist preparing to exit the signalized driveway should have 465 feet of ISD when looking in either direction before turning left onto Main Avenue during flashing signal operations, which occurs every night according to the intersection signal plan. The sight lines from the signalized site driveway were found to exceed 465 feet and are thus sufficient. When turning right from the signalized driveway and at the right-out only site driveway, the motorist should have 410 feet of ISD when looking to the left before turning right onto Main Avenue; this sight line was also found to exceed the requirement and is also sufficient.

### **PROPOSED DEVELOPMENT**

The existing building at 430 Main Avenue contains several commercial tenants of which three restaurant/service uses will be converted into the proposed cannabis retail use, totaling approximately

3,200 SF. Most of the space, however, will be non-customer space, including a second-floor employee-only office/administrative space, comprising roughly 1,200 SF, and a vault storage space as well.

Vehicular access via the signal and the right-out-only driveway will remain the same. Based on business operations information for the proposed Shangri-La cannabis retailer provided to us, in general there will be eight (8) employees working in the space at a time. Orders will be encouraged to be placed ahead of time online to facilitate quick in-store customer pickup of product. Product deliveries will also be made from the site via an SUV-type vehicle.

Trip Generation and Distribution

The proposed site-generated peak-hour trips were estimated using statistical data published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. Per ITE Land Use Code 882, “Marijuana Dispensary”, it is a facility where cannabis is sold to patients or retail consumers. This land use code was used to estimate the proposed cannabis retailer traffic generation, as shown in **Table 1**. Note the calculation was based on the gross square footage of the proposed space that included much storage/office space in addition to customer space, as discussed previously; thus, the results may be conservatively high.

Three existing commercial uses within the plaza, including two restaurants and one spa, will be replaced by the proposed cannabis retailer store; and so too will the traffic associated with those existing uses be replaced by new traffic associated with the proposed cannabis retailer. ITE Land Use Code 930, Fast Casual Restaurant, and Land Use Code 918, Hair Salon (which was the most comparable land use to a spa available from the data), were used to estimate the traffic that could be generated by the existing uses. Based on the ITE data, it was found that cannabis retailer traffic would be more than the previous uses’ traffic. That said, the *net* increase in traffic when comparing the proposed cannabis retailer to the three storefronts to be replaced is notably less than if the proposed cannabis retailer was being proposed for a brand-new greenfield site. compared to the estimated existing/previous-use traffic during the weekday afternoon and Saturday midday peak hours.

Table 1 Trip Generation Summary

Use	Area (SF)	Type	Weekday Afternoon			Saturday Midday		
			Trips	Trips	Trips	Trips	Trips	Trips
Cannabis Retailer	3,200	SF	30	31	61	46	46	92
Existing/Previous Commercial Uses	3,200	SF	16	14	30	40	35	75
<b>Net Difference</b>			<b>+14</b>	<b>+17</b>	<b>+31</b>	<b>+6</b>	<b>+11</b>	<b>+17</b>

Source: Trip Generation, 11<sup>th</sup> Edition. Institute of Transportation Engineers, 2021

However, for the purpose of this review, the trips generated by the existing uses were not subtracted from the proposed cannabis retailer trips. This effectively makes the traffic analysis herewith conservative. As discussed in the Capacity Analysis section, there is found to be no notable impact to quality of traffic operations at the site driveways and the signal with the existing site traffic remaining in the analysis.

Transaction sales data from the existing Shangri-La cannabis retailer in Jefferson City, Missouri, was obtained to compare to the trip generation estimates provided by ITE. This site is roughly 300 to 400 SF larger than the proposed Norwalk site. It was found that the ITE trip generation estimates are slightly higher than the number of transactions during the Saturday time period but are slightly lower during the weekday afternoon period. On Wednesday, February 15, 2023, the facility processed 39 transactions between 4:00 p.m. and 5:00 p.m. and 42 transactions between 5:00 p.m. and 6:00 pm. On Saturday, February 18, 2023, the facility processed 31 transactions between 11:00 a.m. and 12:00 p.m. and 33 transactions between 12:00 p.m. and 1:00 p.m. This data indicates the ITE trip generation estimates for the traffic analysis herewith yielded similar traffic volumes to those actually generated by the currently operating Jefferson City, Missouri location.

The geographic distribution of the site-generated traffic volumes seen in the Cannabis Retailer row of Table 1 was estimated based on review of the existing traffic volumes, patterns, and access points to key roadways in the vicinity of the site. The site trip distribution percentages are presented graphically in Figure 3. The site-generated trips were then assigned to the study area intersections based on the distribution for the weekday afternoon and Saturday peak hour study periods as shown in Figure 4.

## FUTURE TRAFFIC ANALYSIS

To evaluate the impact of the proposed cannabis retailer on the surrounding roadway network, an analysis was conducted comparing future traffic volumes *without* versus *with* the proposed cannabis retailer in place.

### Future Traffic Volumes

Traffic growth in a given area is attributed to new development and broader regional transportation trends. Future traffic volumes were estimated for two scenarios: future traffic volumes without the estimated traffic generated by the proposed cannabis retailer (before it is open) and future traffic volumes with the traffic generated by the proposed cannabis retailer (after it open for business). These are labelled the background and combined scenarios, respectively.

The year 2024 was used as the projection year for future traffic growth. CTDOT advised applying a growth rate of 0.7 percent per year to account for ambient traffic growth. They additionally advised there are no other known upcoming developments that would also add notable new traffic to the study intersections. The 2024 background traffic volumes are shown in Figure 5. The site-generated traffic previously calculated

was then added to the 2024 background traffic volumes to result in the 2024 combined traffic volumes, as shown in **Figure 6**.

Capacity Analysis

Capacity analysis was performed at the signalized intersection and right-out driveway to evaluate the impact of the proposed cannabis retailer on the surrounding roadway network. Intersection capacity results are expressed as a level of service (LOS) letter. LOS provides an evaluation of the efficiency of operations of an intersection in terms of delay and inconvenience based on certain quantitative calculations. LOS A describes operations with very low average control delay per vehicle while LOS F describes operations with very long average delays. In many communities, LOS D or even LOS E during peak hours may be considered acceptable and an appropriate tradeoff between traffic flow and the amount of land devoted to the movement of motor vehicles.

The study intersections were evaluated using *Synchro 11 (Trafficware)* traffic analysis software comparing the background and combined traffic scenarios. **Table 2** summarizes the capacity analysis results for the weekday afternoon and Saturday midday peak hours. The *Synchro* analysis output sheets are included in the Appendix.

Table 2 Intersection Capacity Analysis

Intersection / Approach	Level of Service			
	Weekday Afternoon		Saturday Midday	
	Background	Combined	Background	Combined
<b>Main Avenue at Site Driveway and Merritt 7 Driveway</b>				
Merritt 7 Eastbound Left	D	D	D	D
Merritt 7 Eastbound Thru/Right	C	C	C	C
Site Driveway Westbound Left/Thru/Right	C	C	C	C
Main Avenue Northbound Left	A	A	A	A
Main Avenue Northbound Thru/Right	A	A	A	A
Main Avenue Southbound Left	A	A	A	A
Main Avenue Southbound Thru/Right	A	A	A	A
Overall Intersection	A	A	A	A
<b>Site Driveway Right-Out-Only</b>				
Site Driveway Westbound Right	B	B	B	B

As shown, all traffic operations at the signalized intersection of Main Avenue and the site access driveway as well as at the right-out driveway are expected maintain current peak-hour LOS with no notable impact to motorist delays or queuing with the proposed cannabis retailer in place. As mentioned earlier, this

analysis does not remove the existing traffic associated with the three commercial spaces to be replaced by the cannabis retailer, meaning actual traffic operations may turn out to be even better than what the *Synchro* analysis results show above.

## CONCLUSION

SLR has prepared this traffic study for the proposed cannabis retailer at 430 Main Avenue in Norwalk, Connecticut. The results of this study indicate that future traffic generated by the proposed cannabis retailer will have no noticeable impact to the surrounding roadway network even with it being higher than the existing commercial spaces' traffic that it will replace.

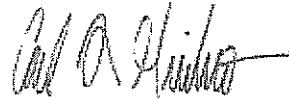
We hope this report is useful to you and the City of Norwalk. If you have any questions or need anything further, please do not hesitate to contact the undersigned.

Sincerely,

SLR International Corporation



Neil C. Olinski, MS, PTP  
Principal Transportation Planner



Carl Giordano, PE, CNU-A  
Associate Transportation Engineer

21501.00001.f2823.ltr.docx

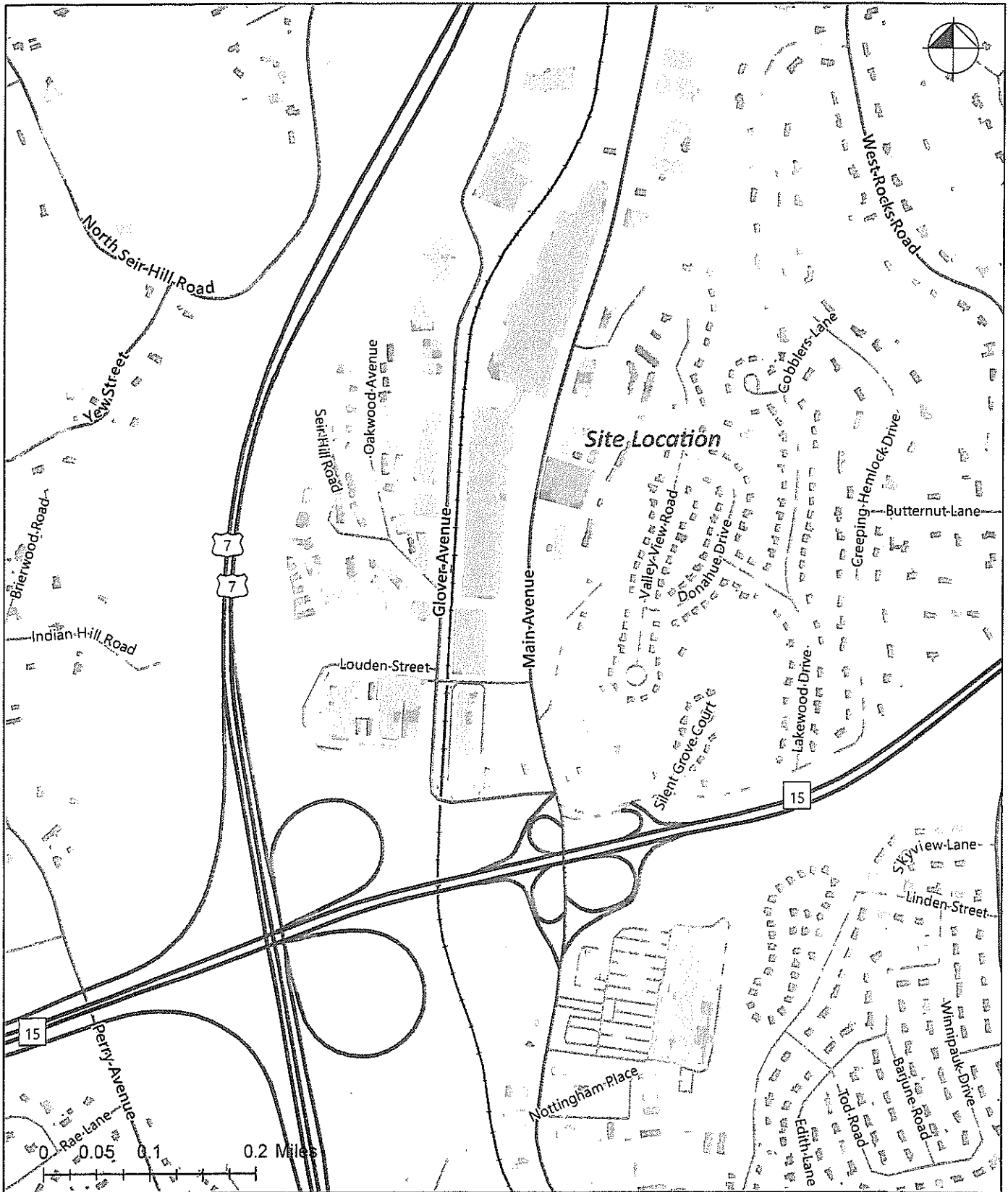


Figure 1  
Site Location and Surrounding Roadway Network

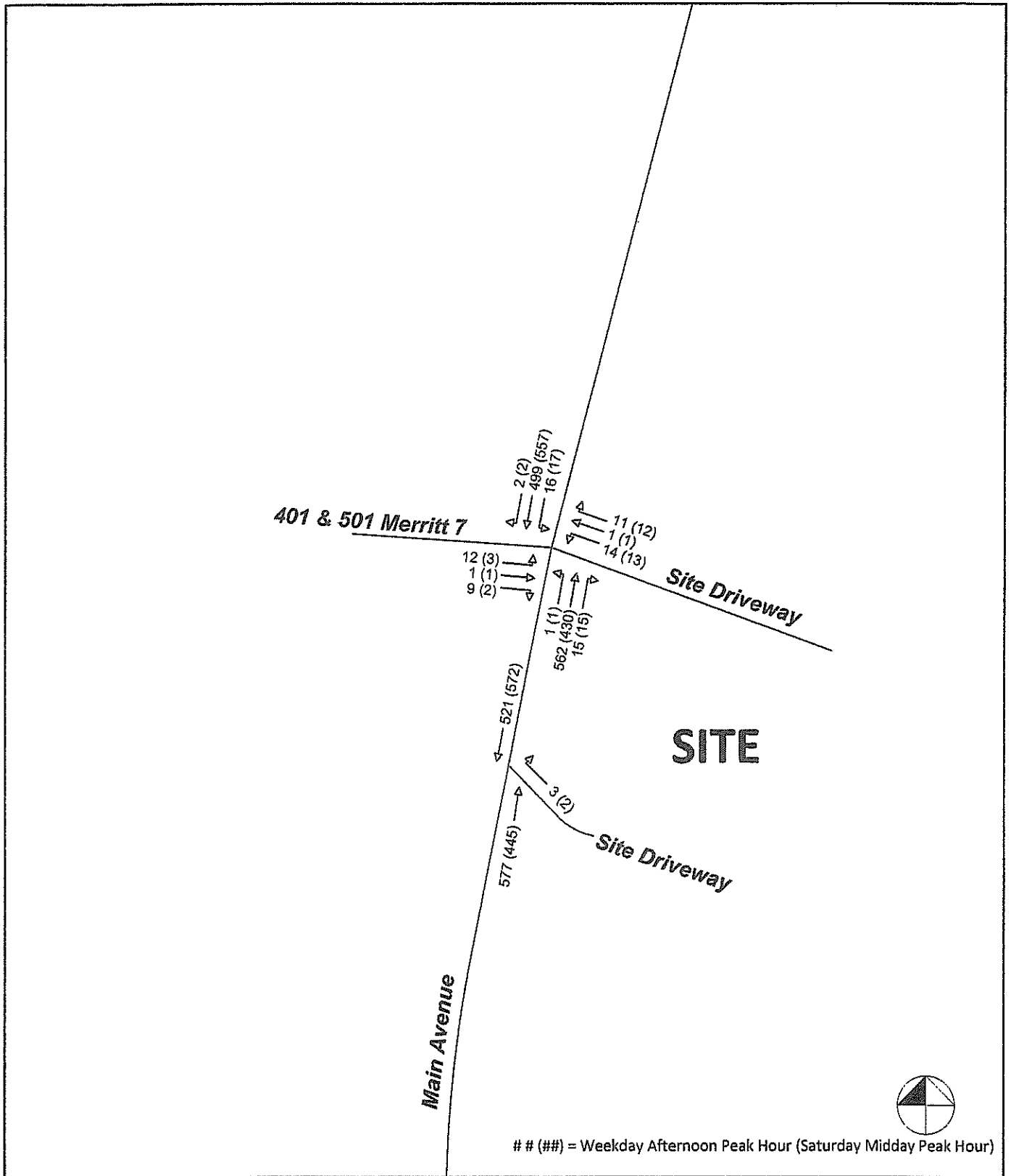


Figure 2  
 Existing (2023) Traffic Volumes



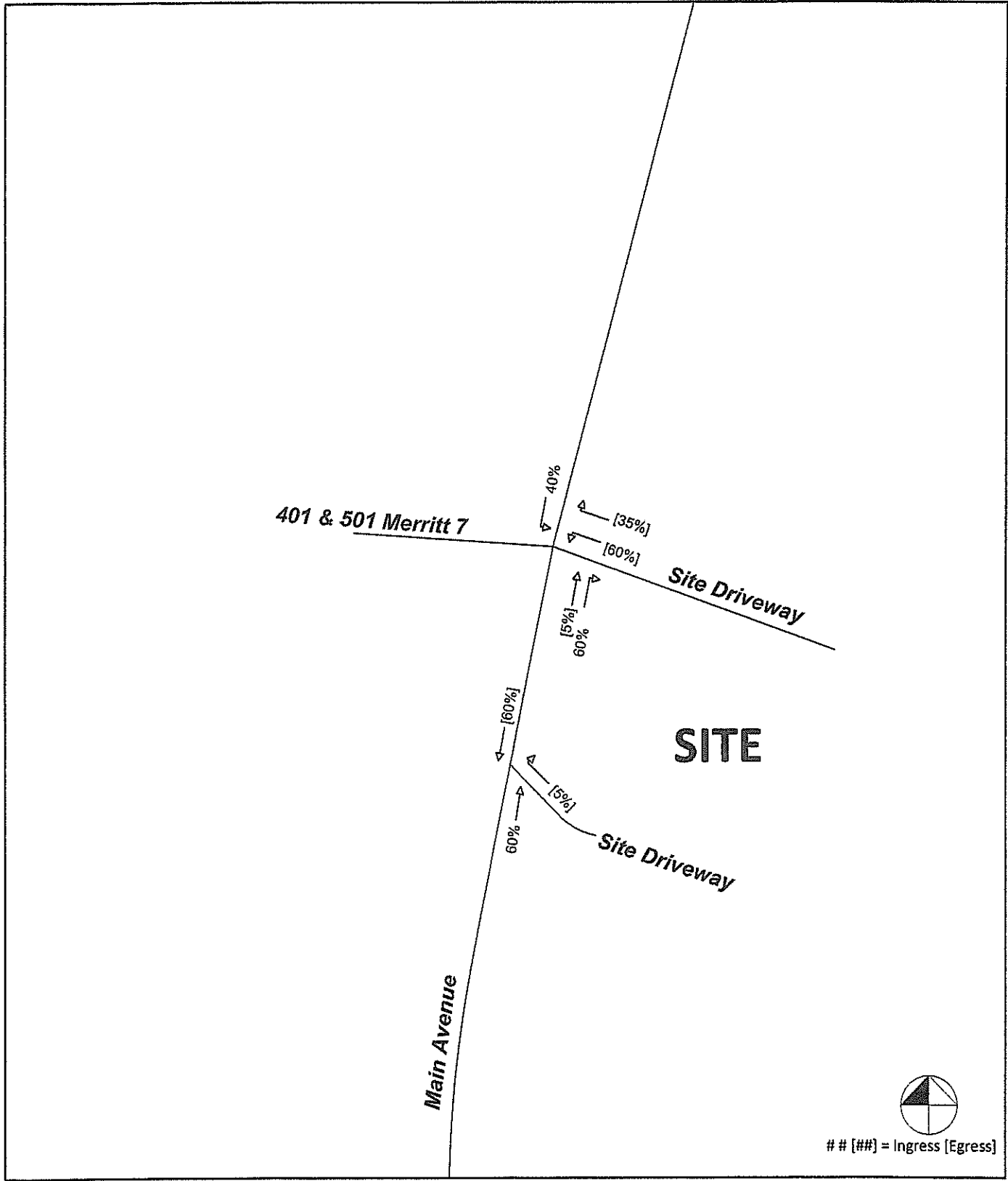
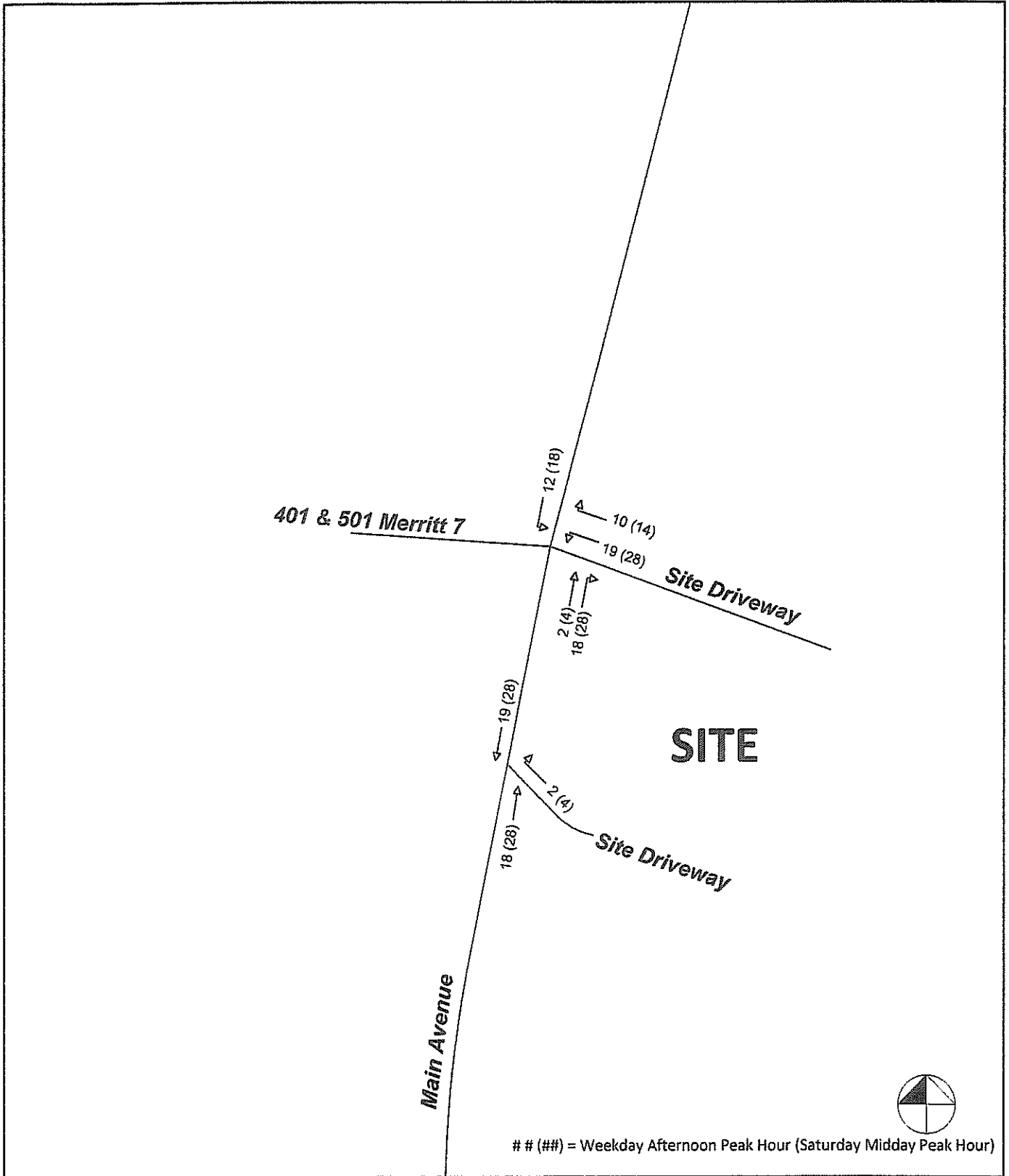


Figure 3  
Site-Generated Traffic Volume Distribution



## (##) = Weekday Afternoon Peak Hour (Saturday Midday Peak Hour)



Figure 4  
Site-Generated Traffic Volumes

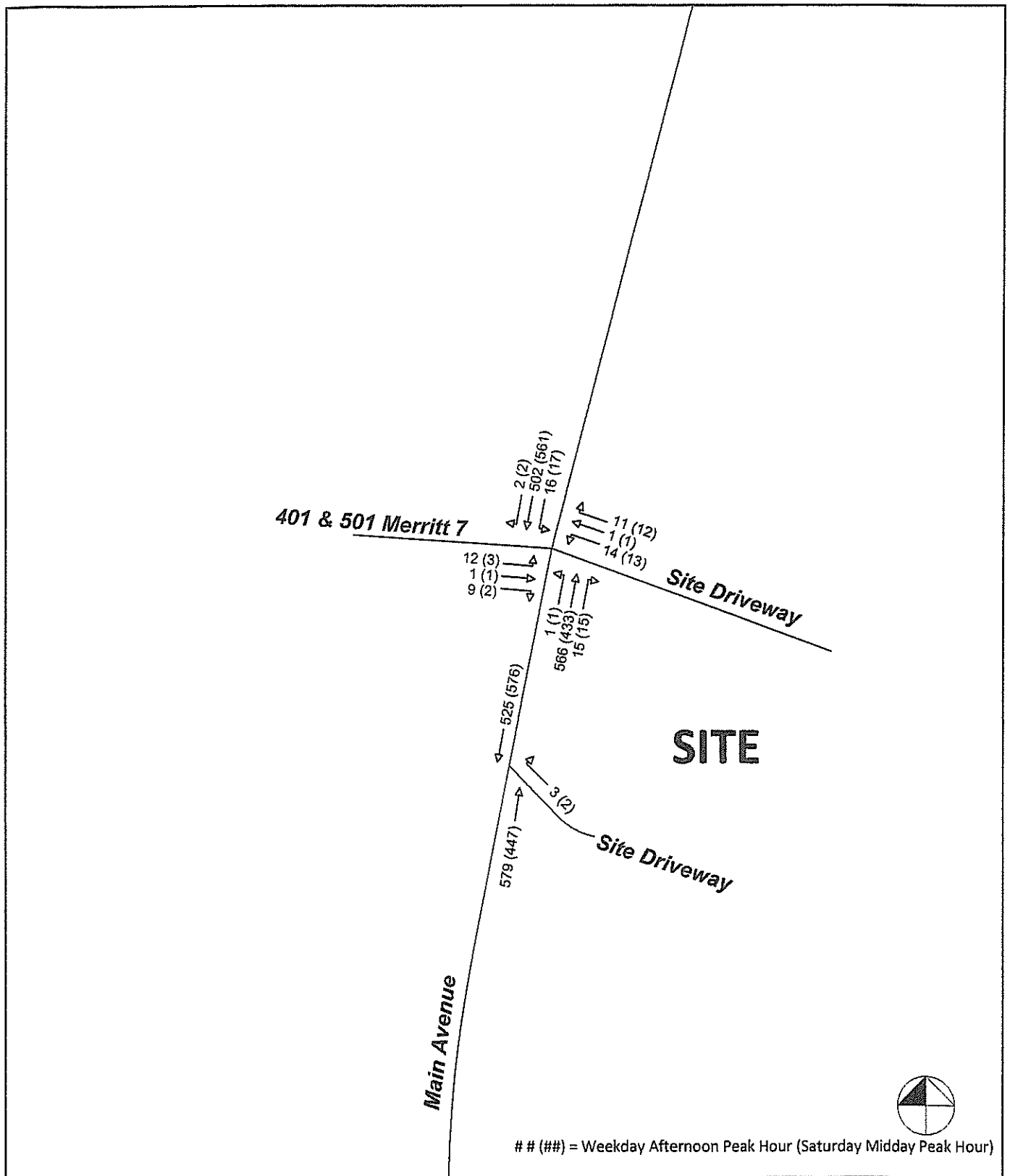


Figure 5  
 Future Background (2024) Traffic Volumes

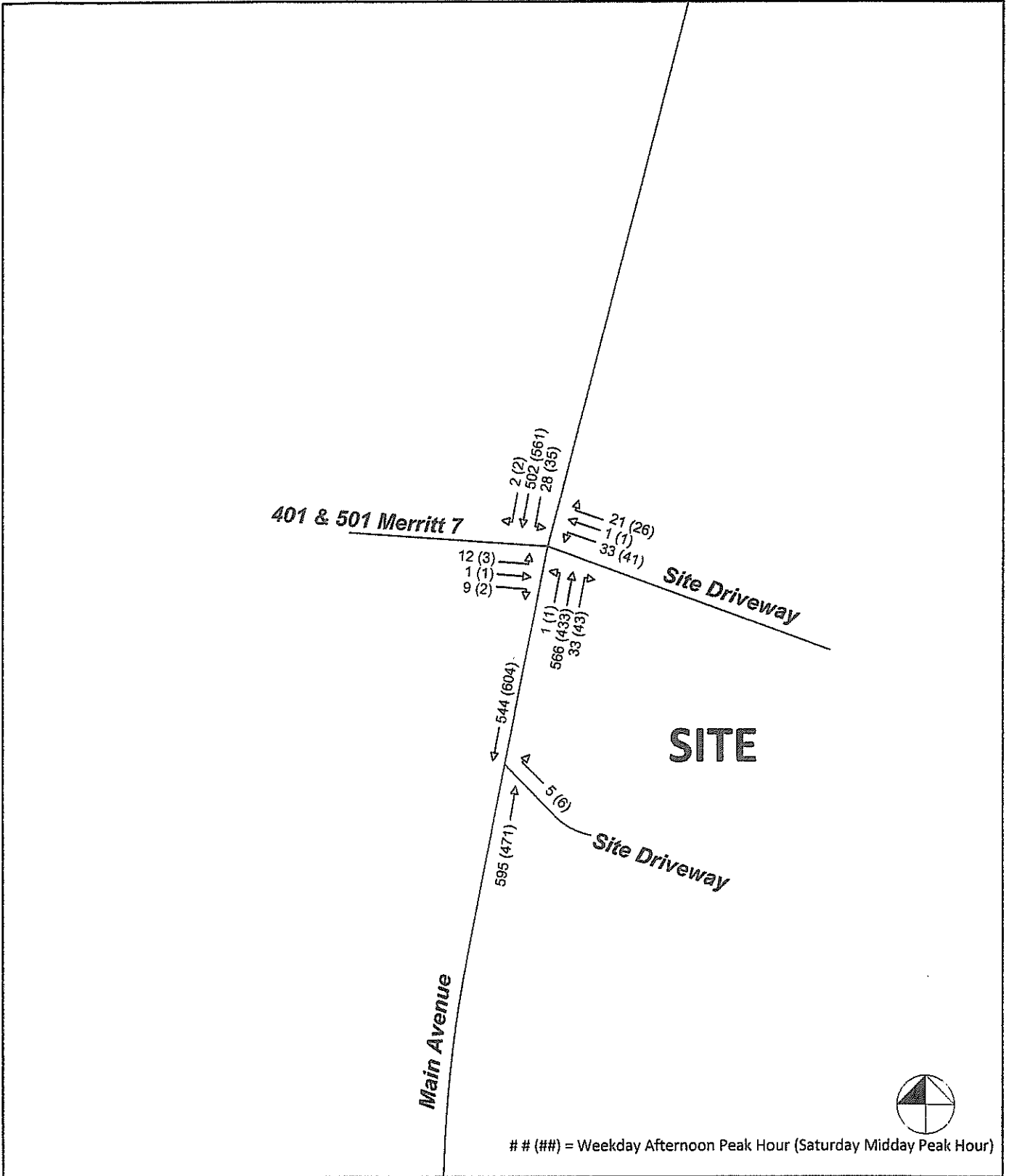


Figure 6  
 Future Combined (2024) Traffic Volumes

# APPENDIX

**LEVEL OF SERVICE  
FOR  
SIGNALIZED INTERSECTIONS  
(MOTORIZED VEHICLE MODE)**

Level of service for signalized intersections is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, geometric delay, any incidents, and any other vehicles. Specifically, LOS criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-min analysis period. Delay is a complex measure and depends on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group. The criteria are given below.

<b>LEVEL-OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS MOTORIZED VEHICLE MODE</b>		
<b>LOS By Volume-to-Capacity Ratio<sup>1</sup></b>		<b>CONTROL DELAY (s/veh)</b>
<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>	
<b>A</b>	<b>F</b>	<b>≤ 10</b>
<b>B</b>	<b>F</b>	<b>&gt; 10 AND ≤ 20</b>
<b>C</b>	<b>F</b>	<b>&gt; 20 AND ≤ 35</b>
<b>D</b>	<b>F</b>	<b>&gt; 35 AND ≤ 55</b>
<b>E</b>	<b>F</b>	<b>&gt; 55 AND ≤ 80</b>
<b>F</b>	<b>F</b>	<b>&gt; 80</b>

<sup>1</sup> For approach-based and intersection-wide assessments, LOS is defined solely by control delay.

Specific descriptions of each LOS for signalized intersections are provided below:

**Level of Service A** describes operations with a control delay of 10 s/veh and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**Level of Service B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

**Level of Service C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

**Level of Service D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

**Level of Service E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

**Level of Service F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Reference: Highway Capacity Manual 6, Transportation Research Board, 2016.

# LEVEL OF SERVICE FOR TWO-WAY STOP SIGN CONTROLLED INTERSECTIONS

The level of service for a TWSC (two-way stop controlled) intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS criteria are given in the Table. LOS criteria are given below:

<b>LEVEL-OF SERVICE CRITERIA FOR AWSC INTERSECTIONS</b>	
<b>LOS<sup>1</sup></b>	<b>CONTROL DELAY (s/veh)</b>
<b>A</b>	<b><math>\leq 10</math></b>
<b>B</b>	<b><math>&gt; 10 \text{ AND } \leq 15</math></b>
<b>C</b>	<b><math>&gt; 15 \text{ AND } \leq 25</math></b>
<b>D</b>	<b><math>&gt; 25 \text{ AND } \leq 35</math></b>
<b>E</b>	<b><math>&gt; 35 \text{ AND } \leq 50</math></b>
<b>F</b>	<b><math>&gt; 50</math></b>

Note: LOS criteria apply to each lane on a given approach and to each approach on the minor street.  
 LOS is not calculated for major-street approaches or for the intersection as a whole.  
 LOS F is assigned to a movement if the volume-to-capacity ratio exceeds 1.0, regardless of the control delay

Reference: Highway Capacity Manual Version 6.0, Transportation Research Board, 2016.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	9	14	1	11	1	566	15	16	502	2
Future Volume (vph)	12	1	9	14	1	11	1	566	15	16	502	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	100		0	0		0	0		0	75		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.864			0.944			0.996			0.999	
Flt Protected	0.950				0.973		0.950			0.950		
Satd. Flow (prot)	1711	1556	0	0	1654	0	1711	3408	0	1711	3418	0
Flt Permitted	0.950				0.973		0.442			0.396		
Satd. Flow (perm)	1711	1556	0	0	1654	0	796	3408	0	713	3418	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			12		3					
Link Speed (mph)		30			30		35				35	
Link Distance (ft)		315			249		196				568	
Travel Time (s)		7.2			5.7		3.8				11.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	1	10	16	1	12	1	629	17	18	558	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	11	0	0	29	0	1	646	0	18	560	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	22.5	22.5		12.9	12.9		9.5	23.8		9.5	23.8	
Total Split (s)	23.0	23.0		15.0	15.0		14.0	38.0		14.0	38.0	
Total Split (%)	25.6%	25.6%		16.7%	16.7%		15.6%	42.2%		15.6%	42.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.1		3.0	4.1	
All-Red Time (s)	1.5	1.5		1.9	1.9		1.0	1.7		1.0	1.7	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.9		4.0	5.8		4.0	5.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.0	8.0			8.0		74.2	73.9		75.0	75.7	
Actuated g/C Ratio	0.09	0.09			0.09		0.82	0.82		0.83	0.84	
v/c Ratio	0.09	0.07			0.18		0.00	0.23		0.03	0.19	
Control Delay	39.2	22.9			29.7		5.0	5.9		4.1	4.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	39.2	22.9			29.7		5.0	5.9		4.1	4.8	
LOS	D	C			C		A	A		A	A	
Approach Delay		31.7			29.7			5.9			4.7	
Approach LOS		C			C			A			A	
Stops (vph)	13	6			18		1	154		4	116	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Fuel Used(gal)	0	0			0		0	3		0	3	
CO Emissions (g/hr)	14	7			21		1	187		8	240	
NOx Emissions (g/hr)	3	1			4		0	36		1	47	
VOC Emissions (g/hr)	3	2			5		0	43		2	56	
Dilemma Vehicles (#)	0	0			0		0	16		0	14	
Queue Length 50th (ft)	7	1			9		0	0		0	0	
Queue Length 95th (ft)	25	17			36		2	134		9	115	
Internal Link Dist (ft)		235			169			116			488	
Turn Bay Length (ft)	100									75		
Base Capacity (vph)	351	327			196		772	2800		711	2876	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03			0.15		0.00	0.23		0.03	0.19	

**Intersection Summary**

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 10 (11%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.23  
 Intersection Signal Delay: 6.4  
 Intersection Capacity Utilization 33.2%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

**Splits and Phases: 1: Main Avenue & 401 & 501 Merritt 7/Site Driveway**

Ø1	Ø2 (R)	Ø4	Ø8
14 s	38 s	23 s	15 s
Ø5	Ø6 (R)		
14 s	38 s		



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Volume (vph)	0	3	579	0	0	525
Future Volume (vph)	0	3	579	0	0	525
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1558	4916	0	0	3421
Flt Permitted						
Satd. Flow (perm)	0	1558	4916	0	0	3421
Link Speed (mph)	30		35			35
Link Distance (ft)	126		268			196
Travel Time (s)	2.9		5.2			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	3	629	0	0	571
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3	629	0	0	571
Sign Control	Stop		Free			Free

**Intersection Summary**

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 21.2%      ICU Level of Service A  
 Analysis Period (min) 15

**Intersection**

Int Delay, s/veh 0

**Movement**      WBL   WBR   NBT   NBR   SBL   SBT

Lane Configurations		↑	↑↑↑			↑↑
Traffic Vol, veh/h	0	3	579	0	0	525
Future Vol, veh/h	0	3	579	0	0	525
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	629	0	0	571

**Major/Minor**      Minor1      Major1      Major2

Conflicting Flow All	-	315	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	581	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %			-			-
Mov Cap-1 Maneuver	-	581	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach**      WB      NB      SB

HCM Control Delay, s	11.2	0	0
HCM LOS	B		

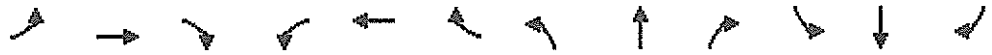
**Minor Lane/Major Mvmt**      NBTWBLn1      SBT

Capacity (veh/h)	-	581	-
HCM Lane V/C Ratio	-	0.006	-
HCM Control Delay (s)	-	11.2	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0	-

Lanes, Volumes, Timings  
1: Main Avenue & 401 & 501 Merritt 7/Site Driveway

Background SAT Peak 2024  
02/28/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	2	13	1	12	1	433	15	17	561	2
Future Volume (vph)	3	1	2	13	1	12	1	433	15	17	561	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	100		0	0		0	0		0	75		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.900			0.937			0.995				
Flt Protected	0.950				0.976		0.950			0.950		
Satd. Flow (prot)	1711	1621	0	0	1647	0	1711	3404	0	1711	3421	0
Flt Permitted	0.950				0.976		0.409			0.457		
Satd. Flow (perm)	1711	1621	0	0	1647	0	736	3404	0	823	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			14			4				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		315			249			196			568	
Travel Time (s)		7.2			5.7			3.8			11.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	3	1	2	15	1	14	1	492	17	19	638	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	3	0	0	30	0	1	509	0	19	640	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	22.5	22.5		12.9	12.9		9.5	23.8		9.5	23.8	
Total Split (s)	23.0	23.0		15.0	15.0		14.0	38.0		14.0	38.0	
Total Split (%)	25.6%	25.6%		16.7%	16.7%		15.6%	42.2%		15.6%	42.2%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.1		3.0	4.1	
All-Red Time (s)	1.5	1.5		1.9	1.9		1.0	1.7		1.0	1.7	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.9		4.0	5.8		4.0	5.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.0	8.0			8.0		74.2	72.7		75.0	74.5	
Actuated g/C Ratio	0.09	0.09			0.09		0.82	0.81		0.83	0.83	
v/c Ratio	0.02	0.02			0.19		0.00	0.19		0.03	0.23	
Control Delay	38.0	30.0			28.4		4.0	4.8		3.2	4.4	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	38.0	30.0			28.4		4.0	4.8		3.2	4.4	
LOS	D	C			C		A	A		A	A	
Approach Delay		34.0			28.4			4.8			4.3	
Approach LOS		C			C			A			A	
Stops (vph)	6	4			17		1	115		4	135	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Fuel Used(gal)	0	0			0		0	2		0	4	
CO Emissions (g/hr)	4	3			21		1	135		8	267	
NOx Emissions (g/hr)	1	1			4		0	26		2	52	
VOC Emissions (g/hr)	1	1			5		0	31		2	62	
Dilemma Vehicles (#)	0	0			0		0	17		0	22	
Queue Length 50th (ft)	2	1			9		0	27		1	36	
Queue Length 95th (ft)	10	9			35		2	101		9	129	
Internal Link Dist (ft)		235			169			116			488	
Turn Bay Length (ft)	100									75		
Base Capacity (vph)	351	334			197		727	2749		791	2831	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01			0.15		0.00	0.19		0.02	0.23	







**Intersection Summary**

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 10 (11%), Referenced to phase 2:SBTL and 6:NBT, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.23  
 Intersection Signal Delay: 5.3  
 Intersection Capacity Utilization 32.7%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

**Splits and Phases: 1: Main Avenue & 401 & 501 Merritt 7/Site Driveway**

Ø1	Ø2 (R)	Ø4	Ø6
14 s	38 s	23 s	15 s
Ø5	Ø6 (R)		
14 s	38 s		

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Volume (vph)	0	2	447	0	0	576
Future Volume (vph)	0	2	447	0	0	576
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1558	4916	0	0	3421
Flt Permitted						
Satd. Flow (perm)	0	1558	4916	0	0	3421
Link Speed (mph)	30		35			35
Link Distance (ft)	126		268			196
Travel Time (s)	2.9		5.2			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	2	486	0	0	626
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2	486	0	0	626
Sign Control	Stop		Free			Free

**Intersection Summary**

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 19.3% ICU Level of Service A  
 Analysis Period (min) 15

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Vol, veh/h	0	2	447	0	0	576
Future Vol, veh/h	0	2	447	0	0	576
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	486	0	0	626

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	243	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	646	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	646	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBTWBLn1	SBT
Capacity (veh/h)	- 646	-
HCM Lane V/C Ratio	- 0.003	-
HCM Control Delay (s)	- 10.6	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-



Lanes, Volumes, Timings  
 1: Main Avenue & 401 & 501 Merritt 7/Site Driveway

Combined PM Peak 2024  
 02/28/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1	9	33	1	21	1	566	33	28	502	2
Future Volume (vph)	12	1	9	33	1	21	1	566	33	28	502	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	100		0	0		0	0		0	75		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.864			0.949			0.992			0.999	
Flt Protected	0.950				0.971		0.950			0.950		
Satd. Flow (prot)	1711	1556	0	0	1659	0	1711	3394	0	1711	3418	0
Flt Permitted	0.950				0.971		0.442			0.372		
Satd. Flow (perm)	1711	1556	0	0	1659	0	796	3394	0	670	3418	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			23			7				
Link Speed (mph)		30			30			35				35
Link Distance (ft)		315			249			196				568
Travel Time (s)		7.2			5.7			3.8				11.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	13	1	10	37	1	23	1	629	37	31	558	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	11	0	0	61	0	1	666	0	31	560	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	22.5	22.5		12.9	12.9		9.5	23.8		9.5	23.8	
Total Split (s)	23.0	23.0		15.0	15.0		14.0	38.0		14.0	38.0	
Total Split (%)	25.6%	25.6%		16.7%	16.7%		15.6%	42.2%		15.6%	42.2%	
Maximum Green (s)	18.5	18.5		10.1	10.1		10.0	32.2		10.0	32.2	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.1		3.0	4.1	
All-Red Time (s)	1.5	1.5		1.9	1.9		1.0	1.7		1.0	1.7	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.9		4.0	5.8		4.0	5.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		1.0	1.0		1.0	3.0		1.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.0	8.0			8.2		68.1	64.4		69.7	68.0	
Actuated g/C Ratio	0.09	0.09			0.09		0.76	0.72		0.77	0.76	
v/c Ratio	0.09	0.07			0.35		0.00	0.27		0.05	0.22	
Control Delay	39.2	22.9			32.7		5.0	7.6		4.5	5.8	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	39.2	22.9			32.7		5.0	7.6		4.5	5.8	
LOS	D	C			C		A	A		A	A	
Approach Delay		31.7			32.7			7.6			5.7	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	7	1			21		0	64		2	31	
Queue Length 95th (ft)	25	17			58		2	142		14	118	
Internal Link Dist (ft)		235			169			116			488	
Turn Bay Length (ft)	100									75		
Base Capacity (vph)	351	327			206		725	2432		640	2584	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.04	0.03			0.30		0.00	0.27		0.05	0.22	

**Intersection Summary**

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 10 (11%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.35  
 Intersection Signal Delay: 8.3  
 Intersection Capacity Utilization 42.0%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

**Splits and Phases: 1: Main Avenue & 401 & 501 Merritt 7/Site Driveway**

Ø1	Ø2 (R)	Ø4	Ø8
14 s	38 s	23 s	15 s
Ø5	Ø6 (R)		
14 s	33 s		

Lanes, Volumes, Timings  
2: Main Avenue & Site Right-Out

Combined PM Peak 2024  
02/28/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Volume (vph)	0	5	595	0	0	544
Future Volume (vph)	0	5	595	0	0	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Fit		0.865				
Fit Protected						
Satd. Flow (prot)	0	1558	4916	0	0	3421
Fit Permitted						
Satd. Flow (perm)	0	1558	4916	0	0	3421
Link Speed (mph)	30		35			35
Link Distance (ft)	126		268			196
Travel Time (s)	2.9		5.2			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	5	647	0	0	591
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	5	647	0	0	591
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 21.5% ICU Level of Service A  
 Analysis Period (min) 15

**Intersection**

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Vol, veh/h	0	5	595	0	0	544
Future Vol, veh/h	0	5	595	0	0	544
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	647	0	0	591

**Major/Minor**

	Minor1	Major1	Major2			
Conflicting Flow All	-	324	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	573	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	573	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

**Minor Lane/Major Mvmt**

	NBTWBLn1	SBT
Capacity (veh/h)	- 573	-
HCM Lane V/C Ratio	- 0.009	-
HCM Control Delay (s)	- 11.3	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-

Lanes, Volumes, Timings  
1: Main Avenue & 401 & 501 Merritt 7/Site Driveway

Combined SAT Peak 2024  
02/28/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	2	41	1	26	1	433	43	35	561	2
Future Volume (vph)	3	1	2	41	1	26	1	433	43	35	561	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	11	11	11	11	11	11
Storage Length (ft)	100		0	0		0	0		0	75		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.900			0.948			0.986				
Flt Protected	0.950				0.971		0.950			0.950		
Satd. Flow (prot)	1711	1621	0	0	1658	0	1711	3373	0	1711	3421	0
Flt Permitted	0.950				0.971		0.409			0.436		
Satd. Flow (perm)	1711	1621	0	0	1658	0	736	3373	0	785	3421	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			28			13				
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		315			249			196			568	
Travel Time (s)		7.2			5.7			3.8			11.1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	3	1	2	47	1	30	1	492	49	40	638	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	3	0	0	78	0	1	541	0	40	640	0
Turn Type	Split	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases							6			2		
Detector Phase	4	4		8	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		5.0	15.0		5.0	15.0	
Minimum Split (s)	22.5	22.5		12.9	12.9		9.5	23.8		9.5	23.8	
Total Split (s)	23.0	23.0		15.0	15.0		14.0	38.0		14.0	38.0	
Total Split (%)	25.6%	25.6%		16.7%	16.7%		15.6%	42.2%		15.6%	42.2%	
Maximum Green (s)	18.5	18.5		10.1	10.1		10.0	32.2		10.0	32.2	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	4.1		3.0	4.1	
All-Red Time (s)	1.5	1.5		1.9	1.9		1.0	1.7		1.0	1.7	
Lost Time Adjust (s)	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.9		4.0	5.8		4.0	5.8	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		1.0	1.0		1.0	3.0		1.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.0	8.0			8.4		70.3	66.7		72.0	70.3	
Actuated g/C Ratio	0.09	0.09			0.09		0.78	0.74		0.80	0.78	
v/c Ratio	0.02	0.02			0.43		0.00	0.22		0.06	0.24	
Control Delay	38.0	30.0			34.4		4.0	6.1		3.6	5.1	
Queue Delay	0.0	0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay	38.0	30.0			34.4		4.0	6.1		3.6	5.1	
LOS	D	C			C		A	A		A	A	
Approach Delay		34.0			34.4			6.1			5.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C			A			A	
Queue Length 50th (ft)	2	1			27		0	49		3	36	
Queue Length 95th (ft)	10	9			68		2	113		17	137	
Internal Link Dist (ft)		235			169			116			488	
Turn Bay Length (ft)	100									75		
Base Capacity (vph)	351	334			210		703	2502		737	2673	
Starvation Cap Reductn	0	0			0		0	0		0	0	
Spillback Cap Reductn	0	0			0		0	0		0	0	
Storage Cap Reductn	0	0			0		0	0		0	0	
Reduced v/c Ratio	0.01	0.01			0.37		0.00	0.22		0.05	0.24	

**Intersection Summary**

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 90  
 Offset: 10 (11%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.43  
 Intersection Signal Delay: 7.4  
 Intersection Capacity Utilization 42.6%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

**Splits and Phases: 1: Main Avenue & 401 & 501 Merritt 7/Site Driveway**

Ø1	Ø2 (R)	Ø4	Ø8
14 s	38 s	23 s	15 s
Ø5	Ø6 (R)		
14 s	38 s		

	↙	↖	↑	↗	↘	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		7	↑↑↑			↑↑
Traffic Volume (vph)	0	6	471	0	0	604
Future Volume (vph)	0	6	471	0	0	604
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.95
Frt		0.865				
Flt Protected						
Satd. Flow (prot)	0	1558	4916	0	0	3421
Flt Permitted						
Satd. Flow (perm)	0	1558	4916	0	0	3421
Link Speed (mph)	30		35			35
Link Distance (ft)	126		268			196
Travel Time (s)	2.9		5.2			3.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	7	512	0	0	657
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	7	512	0	0	657
Sign Control	Stop		Free			Free

**Intersection Summary**

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 20.0% ICU Level of Service A  
 Analysis Period (min) 15

**Intersection**

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑↑↑			↑↑
Traffic Vol, veh/h	0	6	471	0	0	604
Future Vol, veh/h	0	6	471	0	0	604
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	512	0	0	657

**Major/Minor**

	Minor1	Major1	Major2			
Conflicting Flow All	-	256	0	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	633	-	0	0	-
Stage 1	0	-	-	0	0	-
Stage 2	0	-	-	0	0	-
Platoon blocked, %						
Mov Cap-1 Maneuver	-	633	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

**Approach**

	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

**Minor Lane/Major Mvmt**

	NBTWBLn1	SBT
Capacity (veh/h)	- 633	-
HCM Lane V/C Ratio	- 0.01	-
HCM Control Delay (s)	- 10.7	-
HCM Lane LOS	- B	-
HCM 95th %tile Q(veh)	- 0	-