



## Technical Memorandum

TO: Gaetano Tedesco, P.E., NYSDOT, Regional Permit Engineer  
CC: Mark Pyskadlo, NYSDOT  
Kenneth Davis, NYSDOT  
David Aitken, Pyramid Management Group, LLC  
James Soos, Pyramid Management Group, LLC  
Ken Kovalchick, Town of Guilderland

FROM: Christina Minkler, P.E., JMT of New York, Inc.

SUBJECT: Signal Warrant Justification for Western Avenue (US 20) at Gabriel Terrace,  
Hamlet of Westmere, Town of Guilderland, Albany County, New York

JMT JOB: 20-02057-001  
DATE: December 8, 2021

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This revised memorandum is updated from the September 2021 memorandum submitted to NYSDOT. The September 2021 memorandum summarized findings of a traffic signal warrant justification study at the intersection of Western Avenue (US 20) at Gabriel Terrace, which was presented to NYSDOT. Based on comments from a meeting with NYSDOT on Thursday, October 14, 2021, the team performed additional investigations to further justify installing a traffic signal at the study intersection. Additional investigations included verifying the accuracy of traffic data used for the warrant analysis, performing a site visit during the peak evening period, and completing a capacity analysis of the study intersection becoming signalized. The additional information is detailed in Section 4 and summarized in Section 5.

### 1. BACKGROUND INFORMATION

The proposed Costco at Site 2 of the Redevelopment Project is located between Crossgates Mall Ring Road to the north, Western Avenue to the south, Gabriel Terrace to the east and Rapp Road to the west (see Figure 3). Western Avenue and Gabriel Terrace were reviewed as part of this signal warrant analysis. Western Avenue is an urban principal arterial with two lanes in the westbound direction and two lanes in the eastbound direction separated by a two-way-turn lane. Western Avenue currently has sidewalks on both sides of the road and the posted speed limit is 40 mph. Gabriel Terrace is a two-lane road running north to south and currently does not provide access to the mall via Crossgates Mall Ring Road. The Western Avenue/Gabriel Terrace intersection (See **Figure 1**) is located between the Western Avenue/Rapp Road signalized intersection approximately 1,000 feet to the west and the Western Avenue/Crossgates Mall Road (English Couplet) signalized intersection approximately 1,200 feet to the east (see **Figure 2**).

The proposed redevelopment was previously analyzed in the Traffic Impact Study (TIS) completed by Maser Consulting, P.A. (Maser), dated February 17, 2020. The report study area included analysis of a number of study area intersections as well as three new driveways to the Costco: two driveways to Rapp Road and one driveway to Gabriel Terrace. The proposed southern Rapp Road driveway is right-in only,

the proposed northern Rapp Road driveway is exclusively right-in/right-out, and the proposed Gabriel Terrace driveway is full access.



Figure 1: SE View Gabriel Terrace at Western Avenue



Figure 2: NB View at English Couplet

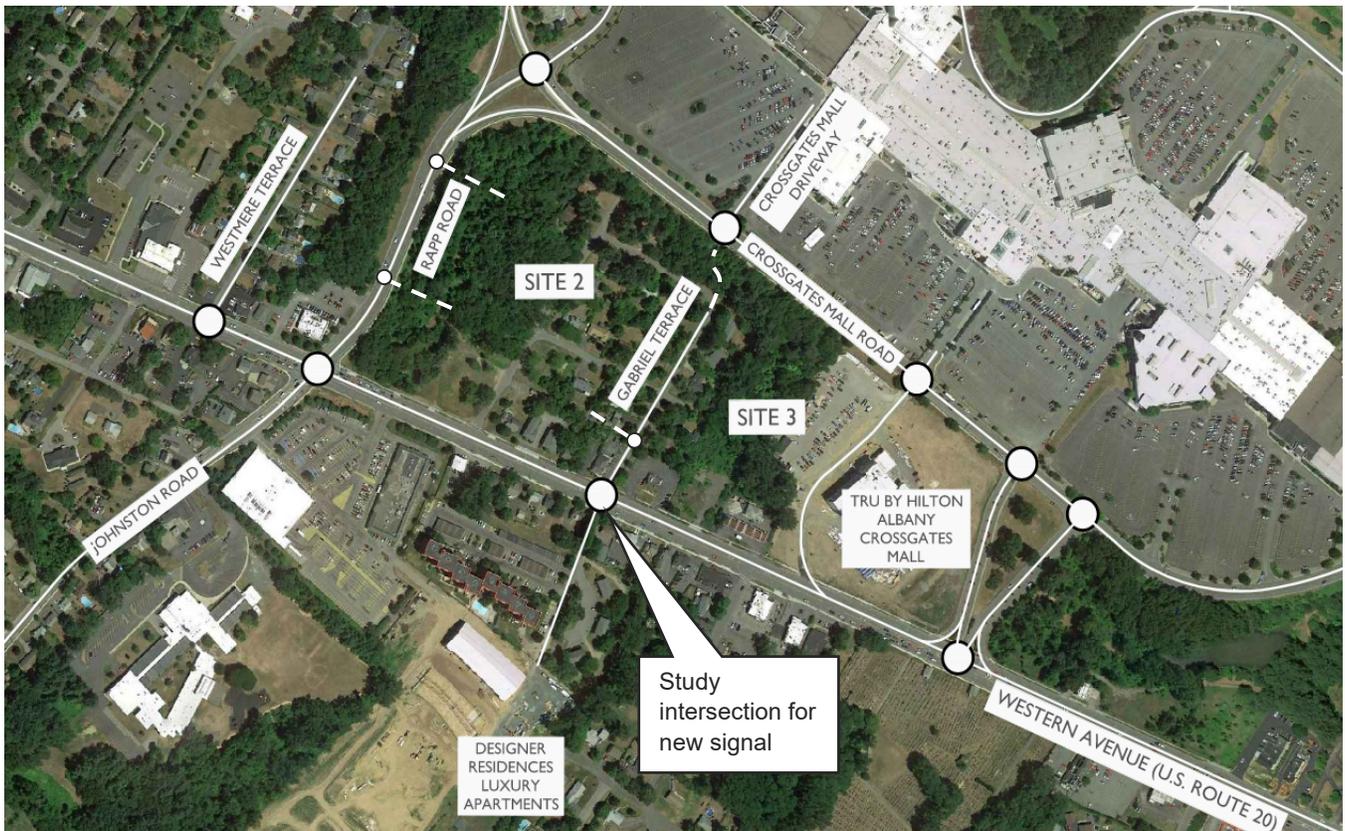


Figure 3: Location Map (Excerpt from Maser's TIS dated February 2020)



The TIS was reviewed and approved by the NYSDOT and Town of Guilderland in July 2020. Within the study, Maser summarized mitigation measures to address the increase in traffic to/from the Costco at a number of intersections including those along Western Avenue. One of the mitigation measures proposed in the report was to convert the Western Avenue/Gabriel Terrace intersection to restrict Gabriel Terrace access to right-in/right-out only. The results of the TIS distributed all vehicles and trucks accessing/egressing Costco via the Gabriel Terrace driveway to use Gabriel Terrace for right-in/right-out movements and to use Crossgates Mall Road (English Couplet) via Crossgates Mall Ring Road to make left-in/left-out movements to/from Western Avenue.

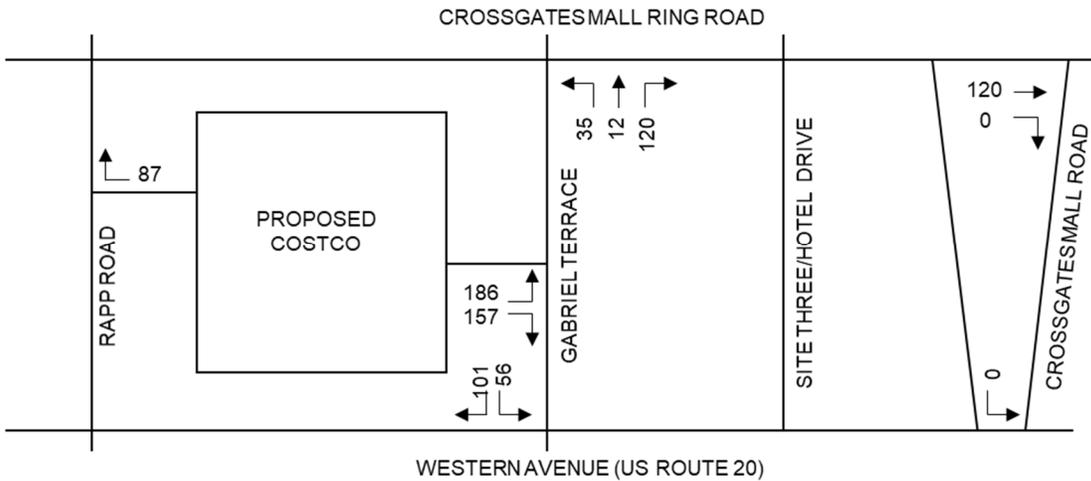
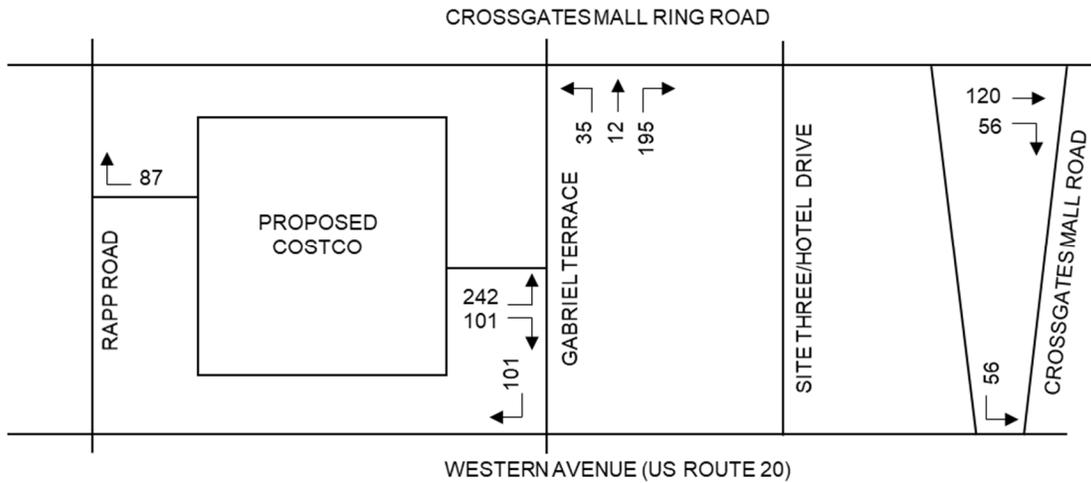
On behalf of the developer, Pyramid Management Group, LLC (PMG), JMT of New York, Inc. (JMT) has prepared this signal warrant justification to determine if a new traffic signal is warranted at Western Avenue/Gabriel Terrace. The following memorandum summarizes the development of vehicle volume, the signal warrant analysis, and a summary of additional traffic considerations.

## 2. VOLUME DEVELOPMENT

Peak hour volumes for the project were developed as part of Maser's TIS dated February 17, 2020. To calculate the hourly volumes used in this analysis, the hourly distribution of traffic volumes along Western Avenue were based on Automatic Traffic Recorder (ATR) data taken along the roadway on December 1, 2017. To bring the counts to the 2021 project year, a compounded growth factor of 0.5% per year was applied. This growth factor is from the Maser TIS, which bases the growth rate from NYSDOT historical data and traffic projections. The AADT summary is included in Attachment A.

Volumes along the Gabriel Terrace minor roadway were developed as part of Maser's TIS. In the TIS trip distributions were applied to the peak hour volumes based on the ITE Trip Generation Manual, 10th Edition. The hourly volumes are located in Attachment B. For purposes of this signal justification, JMT distributed the peak hour trip generation volumes over the peak period (weekday 11:00 am to 7:00 pm) using the Western Avenue AADT peak traffic distribution. The summary of volumes is detailed in the following signal warrant justification.

The TIS showed the Gabriel Terrace southbound approach at Western Avenue operating as an exclusive right-out. The proposed installation of a new traffic signal at this intersection would not restrict movements at the Gabriel Terrace southbound approach. Therefore, trips currently shown in the study that turn left out of Crossgates Mall Road (English Couplet) onto Western Avenue were relocated back to Gabriel Terrace (see **Figure 4 and Figure 5**). For purposes of this signal warrant justification, the anticipated minor roadway volumes for Gabriel Terrace include full egress from the Gabriel Terrace southbound approach at the intersection of Western Avenue.



### 3. SIGNAL WARRANT ANALYSIS

A signal warrant analysis was performed for the Western Avenue/Gabriel Terrace intersection based on the *2009 Manual on Uniform Traffic Control Devices (MUTCD)*. The MUTCD contains nine warrants, of which three were applicable to be evaluated in this analysis (shown in bold below). The speed limit along Western Avenue is posted at 40 mph and the 85<sup>th</sup> percentile speed is 50 mph according to the NYSDOT Traffic Data Viewer, so the 70% criteria was used for the vehicular volume warrants. The intersection was evaluated as a 2-lane major approach (Western Avenue) and 1-lane minor approach (Gabriel Terrace).

- **Warrant 1, Eight-Hour Vehicular Volume:** This warrant was reviewed for eight hours of an average day of traffic volumes on Western Avenue (major road) and on Gabriel Terrace (higher volume minor road) compared to Table 4C-1 of the MUTCD for Conditions A and B.
- **Warrant 2, Four-Hour Vehicular Volume:** This warrant was reviewed for four hours of an average day of traffic volumes on Western Avenue (major road) and on Gabriel Terrace (higher volume minor road) compared to the curve of plotted points in Figure 4C-2 of the MUTCD.
- **Warrant 3, Peak Hour:** According to the MUTCD, this signal warrant shall be applied only in unusual cases with facilities that attract or discharge large numbers of vehicles over a short time. This is not applicable to the project and was not evaluated.
- **Warrant 4, Pedestrian Volume:** Currently, the pedestrian counts on Western Avenue are minimal and the proposed Costco is not expected to generate a high volume of pedestrians, so this warrant was not evaluated.
- **Warrant 5, School Crossing:** There is no school in the vicinity of the project. Therefore, this warrant was not evaluated.
- **Warrant 6, Coordinated Signal System:** This warrant was not evaluated as data is not currently available in a study on the vehicle platooning and progression between intersections on Western Avenue. It should be noted that the proposed signal is at least 1,000 feet from the adjacent intersections, which is a requirement to meet this warrant.<sup>1</sup>
- **Warrant 7, Crash Experience:** This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.
- **Warrant 8, Roadway Network:** This warrant is intended to review if installing a traffic signal will encourage concentration and organization of traffic flow on a roadway network for the convergence of two or more major routes. This warrant was not evaluated.
- **Warrant 9, Intersection Near a Grade Crossing:** There is no grade crossing at or near the study intersection. This warrant was not evaluated.

The results of the signal warrant analysis are presented in the table below. The signal warrant sheets are located in Attachment C.

**Table 1: Signal Warrant Summary**

Signal Warrants	Warrant Met?
#1 – Eight Hour Volume	Yes
#2 – Four-Hour Volume	Yes
#3 – Peak Hour	Not Evaluated
#4 – Pedestrian Volume	Not Evaluated
#5 – School Crossing	Not Evaluated
#6 – Coordinated Signal System	Not Evaluated <sup>1</sup>
#7 – Crash Experience	No
#8 – Roadway Network	Not Evaluated
#9 – Intersection Near at Grade Crossing	Not Evaluated

<sup>1</sup> While Warrant 6 wasn't evaluated, field observations did note minor gaps in vehicle platooning between the two existing signalized intersections which are 2,000 feet apart.

The signal warrant analysis illustrates that a signal is warranted at Western Avenue/Gabriel Terrace based on the Eight-Hour and Four-Hour Vehicular Volume warrants.

- *Warrant 1:* The peak eight hours evaluated for the warrant were 11:00 am to 7:00 pm. The traffic volumes at the study intersection are high enough to meet the traffic signal criteria for the 70% Conditions A and Condition B. Detailed tables are provided in Attachment C.
- *Warrant 2:* The peak four hours evaluated for the warrant were 2:00 pm to 6:00 pm. The traffic volumes at the study intersection are plotted about the curve of the 70% graph. Detailed tables are provided in Attachment C.
- *Warrant 7:* The crash data is based on 2016-2018 inventory provided by NYSDOT at Western Avenue/Gabriel Terrace. Over a twelve-month period, there were two vehicles crashes susceptible to correction by a traffic signal, therefore this warrant is not satisfied. Detailed tables are provided in Attachment C.

## **4. ADDITIONAL INVESTIGATION**

### **4.1. FIELD INVESTIGATION**

JMT staff conducted field investigations from November 9, 2021, and November 10, 2021. The team performed counts at a similar Costco site in a different location to verify the quality of the trip general land use counts. JMT verified that existing Costco counts are within 4% of the ITE Trip Generation counts for a similar site. At the proposed site, JMT verified existing information including:

- A CDTA (Routes 10, 1179, 190) and school bus stop at the near side of the Western Avenue/Seventeen Hundred Design Apartments westbound approach;
- Adequate sight distance for vehicles turning left from Gabriel Terrace onto eastbound Western Avenue; and
- An overall flow of traffic that matches with the SimTraffic simulation.

JMT also observed current traffic operations at Western Avenue/Gabriel Terrace to review vehicle platooning and conduct a general safety screening. JMT made the following observations at the existing Western Avenue/Gabriel Terrace intersection to support the installation of a traffic signal:

- Of the vehicles entering the Seventeen Hundred Designer Residences rental apartment's access road, 85% of the vehicles made a left from Western Avenue westbound;
- Of the vehicles exiting the Seventeen Hundred Designer Residences rental apartment's access road, 90% of the exiting vehicles made a right onto Western Avenue westbound; and
- Vehicles queued from the Western Avenue/Rapp road westbound approach through the Gabriel Terrace intersection (greater than 1,000 feet).

### **4.2. CAPACITY ANALYSIS**

NYSDOT commented in the October 14, 2021 phone call that the Western Avenue traveling public should not incur the delay of a new signal added to the corridor. The purpose of conducting a capacity analysis is to understand operations along the corridor and how the signalized intersection will impact those operations. The capacity analysis was conducted for three scenarios: Year 2019 Existing, Year 2022 Build with a right-in/right-out driveway at Western Avenue/Gabriel Terrace, and Year 2022 Build with a signalized intersection at Western Avenue/Gabriel Terrace.



Capacity analyses performed in this memorandum are consistent with the Highway Capacity Manual (HCM) sixth edition. The software used to perform this analysis is Synchro 11. The HCM quantifies the quality of traffic flow in terms of levels of service (LOS). See **Table 2** for the six levels of service, with LOS A indicating very low levels of delays and LOS F indicating high levels of delays associated with congestion.

**Table 2: Level of Service Summary**

HCM Signalized Intersection Level of Service			HCM Unsignalized Intersection Level of Service		
LOS by Volume-to-Capacity Ratio (v/c)			LOS by Volume-to-Capacity Ratio (v/c)		
Control Delay (s/veh)	v/c ≤1.0	v/c >1.0	Control Delay (s/veh)	v/c ≤1.0	v/c >1.0
≤10	A	F	≤10	A	F
>10-20	B	F	>10-15	B	F
>20-35	C	F	>15-25	C	F
>35-55	D	F	>25-35	D	F
>55-80	E	F	>35-50	E	F
>80	F	F	>50	F	F

**Table 3** summarizes the three conditions analyzed for the Western Avenue corridor between Rapp Road and Crossgates Mall Road. The Existing Year 2019 and Build Year 2022 “no signal” conditions were captured from the Maser TIS. The Build Year 2022 “with signal” condition was modeled using the vehicle trip distribution previously summarized in this memorandum. Trips leaving the proposed site were relocated from the Crossgates Mall Road (English Couplet) to the Gabriel Terrace southbound approach and trips entering the site were split to enter on Rapp Road and at the Western Avenue/Gabriel Terrace eastbound approach. The Synchro output is attached.

Table 3 indicates that the Western Avenue/Gabriel Terrace intersection reduces from a LOS A in the unsignalized condition to a LOS B in the signalized condition during the weekday PM peak condition, which is considered acceptable. The Synchro model also indicates that the existing queue from the Western Avenue/Rapp Road westbound approach will be present in the build conditions. The installation of a traffic signal will provide a gap in the queue to allow for turning vehicles to/from the north and south at the Western Avenue/Gabriel Terrace intersection.

## 5. ASSESSMENT OF SIGNAL INSTALLATION

The signal warrant analysis indicates a signal is warranted based on Warrants 1 and 2 for roadway volumes. The proposed Costco was initially evaluated without modifying the intersection control present today (stop control at Gabriel Terrace and free movement on Western Avenue). Upon evaluating the study intersection with a traffic signal, the intersection operates at an acceptable LOS B. Additional signal timing adjustments at signalized intersections and coordination along the corridor should be considered to further improve all three intersections along Western Avenue between Rapp Road and Crossgates Mall Road. The addition of a traffic signal on Western Avenue will not have an adverse impact on the traveling public along the corridor. PMG is fully prepared to work with the NYSDOT on developing the necessary permits to install a traffic signal, and for the construction of the signal.



**Table 3: Weekday PM Peak Capacity Analysis Summary**

Intersection/ Approach	Movement	Existing Year 2019				Build Year 2022 (Costco phase) no signal				Build Year 2022 (Costco phase) with signal			
		LOS	Delay (sec)	V/C	95th Queue	LOS	Delay (sec)	V/C	95th Queue	LOS	Delay (sec)	V/C	95th Queue
<b>1. US 20/Crossgates Mall Dr</b>		<b>A</b>	<b>9.7</b>	-	-	<b>B</b>	<b>18.4</b>	-	-	<b>B</b>	<b>18.0</b>	-	-
Eastbound	Left	A	0.0	-	-	F	311.5	1.51	162	F	311.5	1.51	162
	Thru	A	6.5	0.47	181	A	6.7	0.48	186	A	6.9	0.50	201
	Approach	A	6.5	-	-	C	31.8	-	-	C	30.9	-	-
Westbound	Thru/Right	A	8.1	0.66	277	A	8.9	0.69	305	A	8.9	0.69	305
	Approach	A	7.7	-	-	A	8.9	-	-	A	8.9	-	-
Southbound	Left	D	38.4	0.40	108	C	34.3	0.51	135	C	32.5	0.41	110
	Right	D	36.3	0.17	49	C	20.2	0.18	53	C	20.2	0.18	53
	Approach	D	38.0	-	-	C	32.2	-	-	C	30.4	-	-
<b>2. US 20/Gabriel Terrace</b>		<i>unsignalized</i>				<i>unsignalized</i>				<b>B</b>	<b>14.9</b>	-	-
Eastbound	Left	C	17.5	0.00	-	A	0.0	0.49	0	A	7.7	0.18	12
	Thru/Right	A	0.0	-	-	A	0.0	0.26	0	B	12.3	0.59	286
	Approach	A	0.0	-	-	A	0.0	-	-	B	12.2	-	-
Westbound	Left	B	11.7	0.04	-	B	10.6	0.10	9	A	5.1	0.17	20
	Thru/Right	A	0.1	-	-	A	0.0	0.79	0	B	16.1	0.87	748
	Approach	A	0.1	-	-	A	0.4	-	-	B	15.7	-	-
Northbound	Left/Thru/Right	F	127.9	0.50	-	B	12.8	0.13	11	B	15.0	0.31	40
	Approach	F	127.9	-	-	B	12.8	-	-	B	15.0	-	-
Southbound	Left/Thru/Right	F	191.8	0.29	-	C	19.5	0.30	31	C	26.9	0.60	102
	Approach	F	191.8	-	-	C	19.5	-	-	C	26.9	-	-
<b>3. US 20/Rapp Road</b>		<b>D</b>	<b>36.5</b>	-	-	<b>D</b>	<b>53.6</b>	-	-	<b>D</b>	<b>53.0</b>	-	-
Eastbound	Left	E	55.5	0.38	157	E	59.4	0.69	277	D	52.7	0.59	225
	Thru/Right	D	35.9	0.53	586	D	45.4	0.81	586	D	44.4	0.81	602
	Approach	D	38.2	-	-	D	47.8	-	-	D	45.6	-	-
Westbound	Left	D	35.6	0.24	107	C	30.7	0.26	123	C	32.1	0.27	130
	Thru/Right	C	29.0	0.90	1092	E	56.2	0.98	1259	E	56.2	0.98	1259
	Approach	C	29.5	-	-	D	54.2	-	-	D	54.3	-	-
Northbound	Left	E	56.5	0.62	184	F	99.5	0.83	187	F	99.5	0.83	187
	Thru/Right	D	47.8	0.28	161	E	68.6	0.50	162	E	68.6	0.50	162
	Right	D	28.9	0.14	43	A	6.5	0.14	42	A	6.9	0.14	43
	Approach	D	46.2	-	-	E	65.6	-	-	E	65.7	-	-
Southbound	Left	D	42.7	0.33	142	D	54.5	0.39	149	D	54.5	0.39	149
	Thru	D	43.2	0.58	325	F	89.5	0.82	320	F	89.5	0.82	320
	Right	D	49.1	0.61	358	D	39.9	0.61	361	D	39.3	0.61	361
	Approach	D	46.2	-	-	E	58.1	-	-	E	58.1	-	-



**ATTACHMENT A**



**Table 1**

BEG	Existing Year 2017		Analysis Year 2021		
	NYS DOT Sta 110172 Western Ave (US Rt 20) 150' W of Fletcher Rd 1.25 miles west of site Friday 12/1/17 Combined EB and WB ADT	NYS DOT Sta 110212 Western Ave (US Rt 20) 80' E of Church Road 0.5 miles east of site Friday 12/1/17 Combined EB and WB ADT	Western Ave (US 20) ADT Compounding Growth Factor 0.5%/year Applied to STA 110212 Counts	Gabriel Terrace ADT Trip Generation Based on Peak Hour Volumes (CALC IN TABLE 2)	
12:00 AM	140	246	251		
1:00 AM	79	135	138		
2:00 AM	59	115	117		
3:00 AM	63	111	113		
4:00 AM	144	215	219		
5:00 AM	413	559	570		
6:00 AM	1179	1627	1660		
7:00 AM	2384	3109	3171		
8:00 AM	2479	3390	3458		
9:00 AM	1933	2718	2772		
10:00 AM	1894	2660	2713		
11:00 AM	2015	2856	2913	116	Peak 8 hour
12:00 PM	2325	3471	3540	141	
1:00 PM	2228	3272	3337	133	
2:00 PM	2346	3394	3462	138	
3:00 PM	2598	3759	3834	153	
4:00 PM	2750	4066	4147	165	
5:00 PM	2739	3564	3635	145	
6:00 PM	1981	3125	3188	111	
7:00 PM	1439	2287	2333		
8:00 PM	1183	1816	1852		
9:00 PM	1047	1561	1592		
10:00 PM	695	1123	1145		
11:00 PM	405	666	679		
TOTAL	34518	49845	50842		



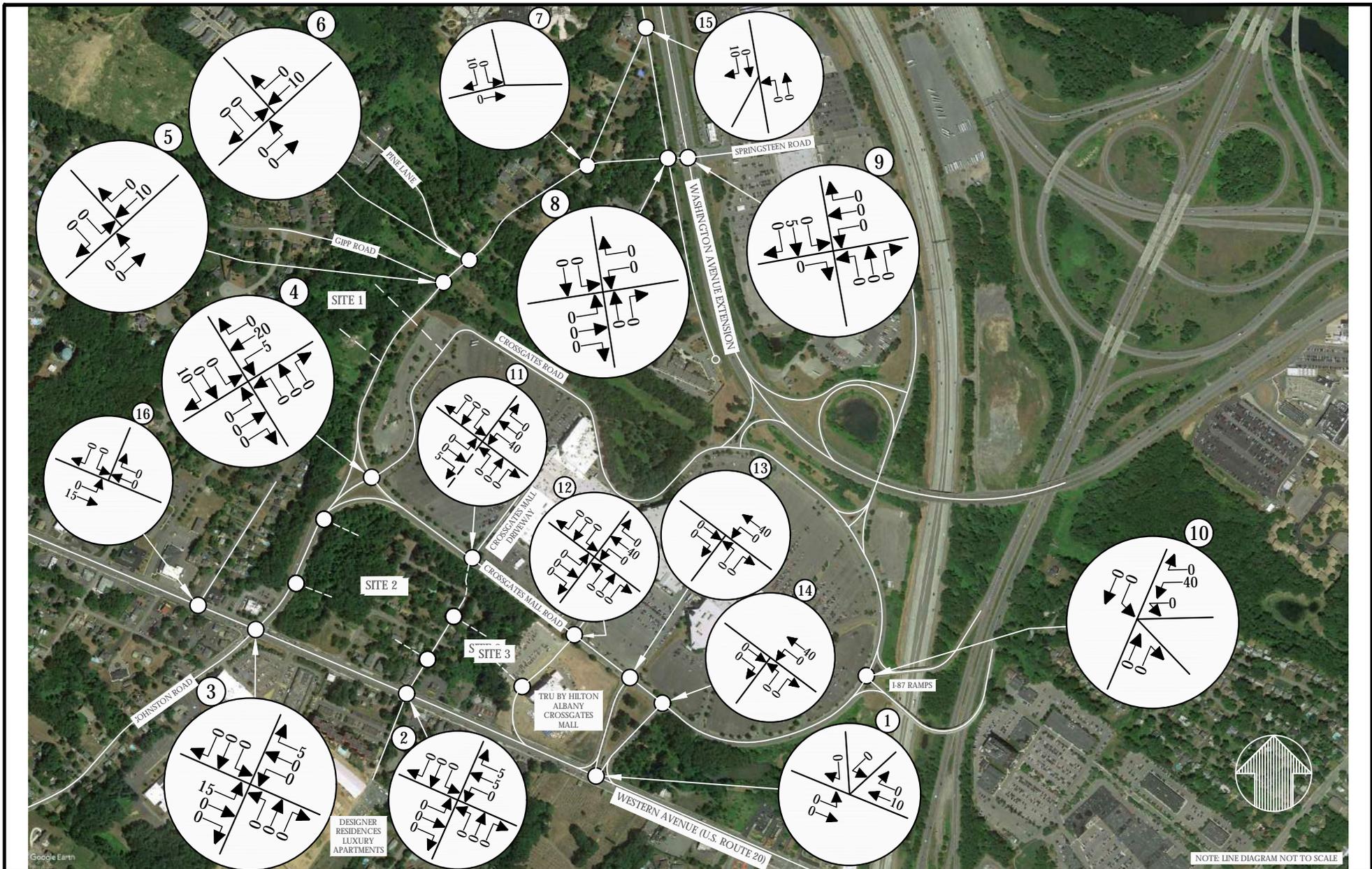
**Table 2**

BEG	Western Avenue	Gabriel Terrace	
	2021 ADT	%Peak Hour Distribution	2021 ADT
12:00 AM	251		
1:00 AM	138		
2:00 AM	117		
3:00 AM	113		
4:00 AM	219		
5:00 AM	570		
6:00 AM	1660		
7:00 AM	3171		
8:00 AM	3458		
9:00 AM	2772		
10:00 AM	2713		
11:00 AM	2913	70%	116
12:00 PM	3540	85%	141
1:00 PM	3337	80%	133
2:00 PM	3462	83%	138
3:00 PM	3834	92%	153
4:00 PM	4147	100%	165
5:00 PM	3635	88%	145
6:00 PM	3188	77%	111
7:00 PM	2333		
8:00 PM	1852		
9:00 PM	1592		
10:00 PM	1145		
11:00 PM	679		

see Figure 4 in report



**ATTACHMENT B**



NOTE: LINE DIAGRAM NOT TO SCALE



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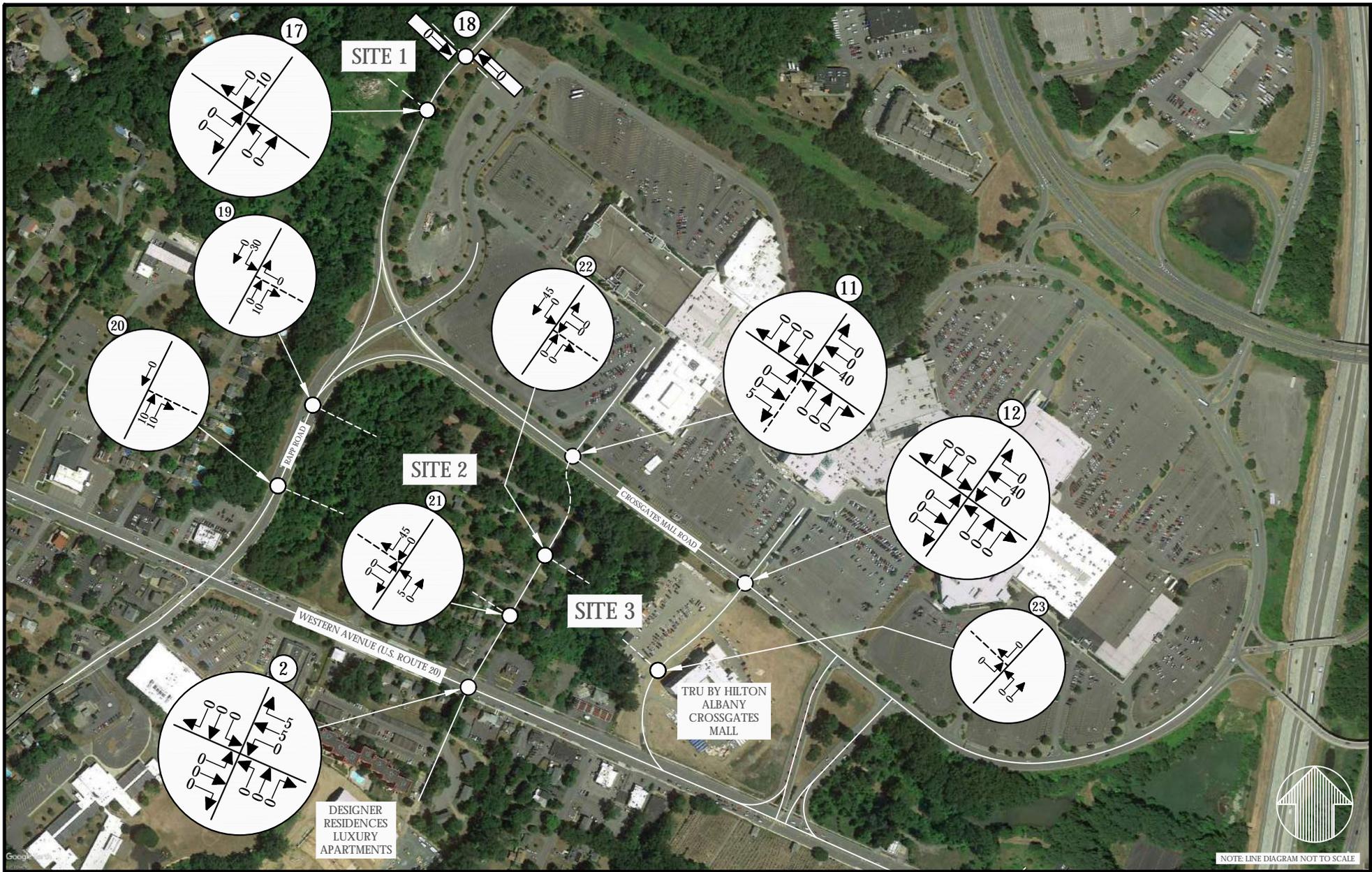
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PROJECT NUMBER	DRAWING NAME		
19002502A	191021PM_FIGURES - 02.17.2020		
SHEET TITLE			
ARRIVAL DISTRIBUTION SITE 2 - COSTCO (EXPRESSED AS A %)			
SHEET NUMBER			
FIGURE NO. 16			



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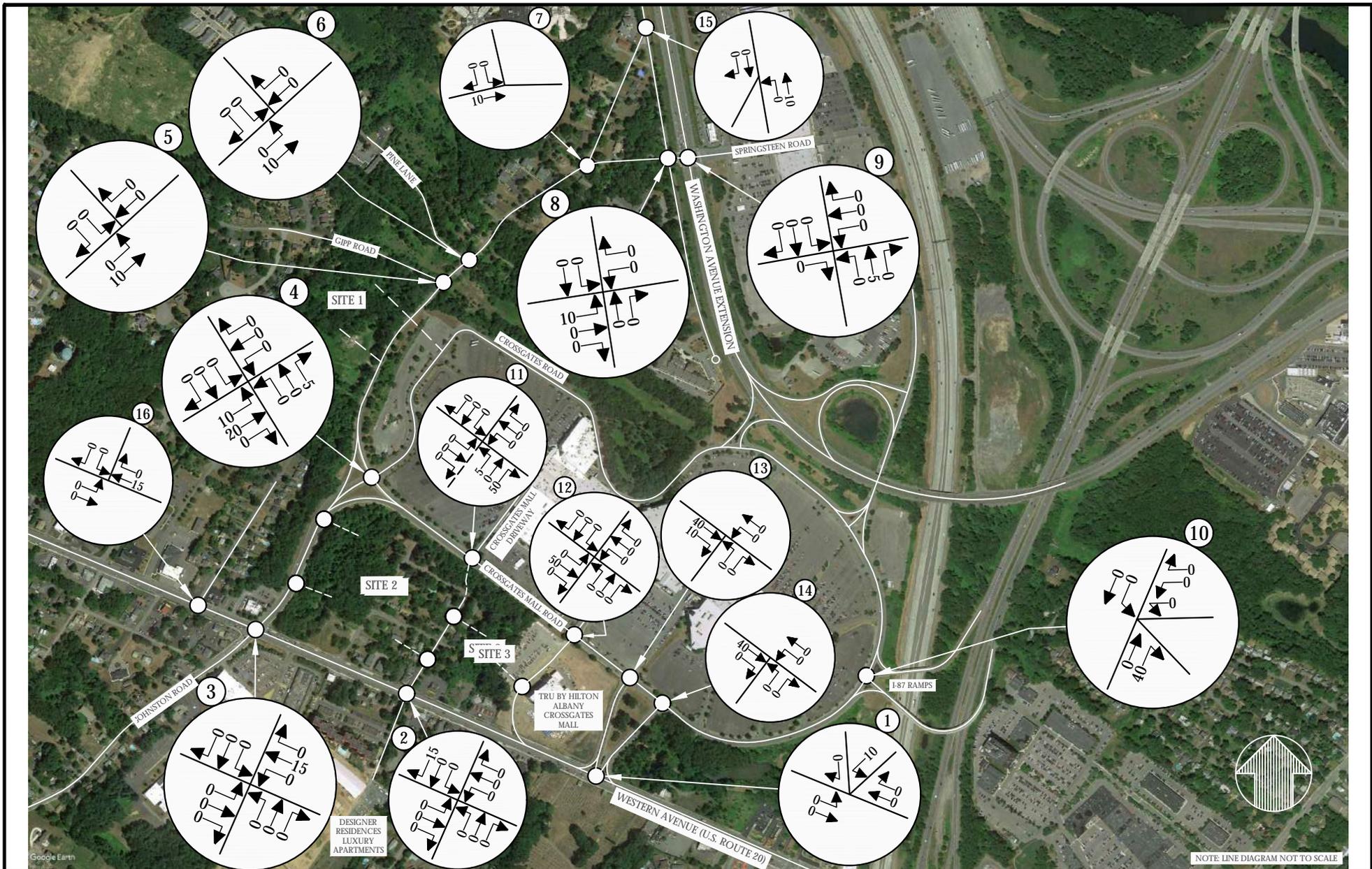
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SHEET NUMBER			
FIGURE NO. 16-A			



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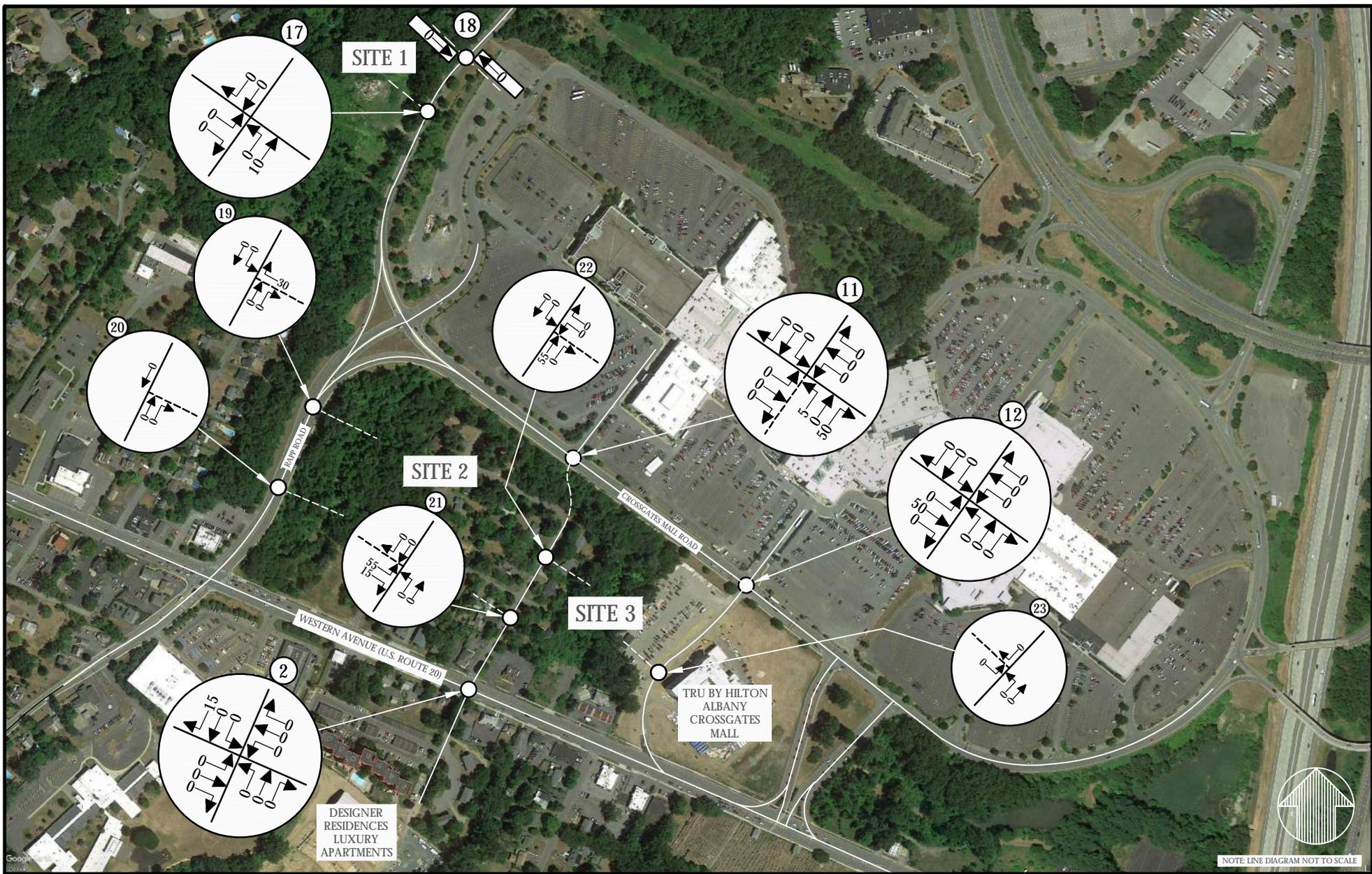
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N.T.S.	02/17/20	N.S.T.	R.P.R.
PROJECT NUMBER	DRAWING NAME		
19002502A	191021JFM_FIGURES - 02.17.2020		
SHEET TITLE:			
DEPARTURE DISTRIBUTION SITE 2 - COSTCO (EXPRESSED AS A %)			
SHEET NUMBER:			
FIGURE NO. 17			



NOTE LINE DIAGRAM NOT TO SCALE



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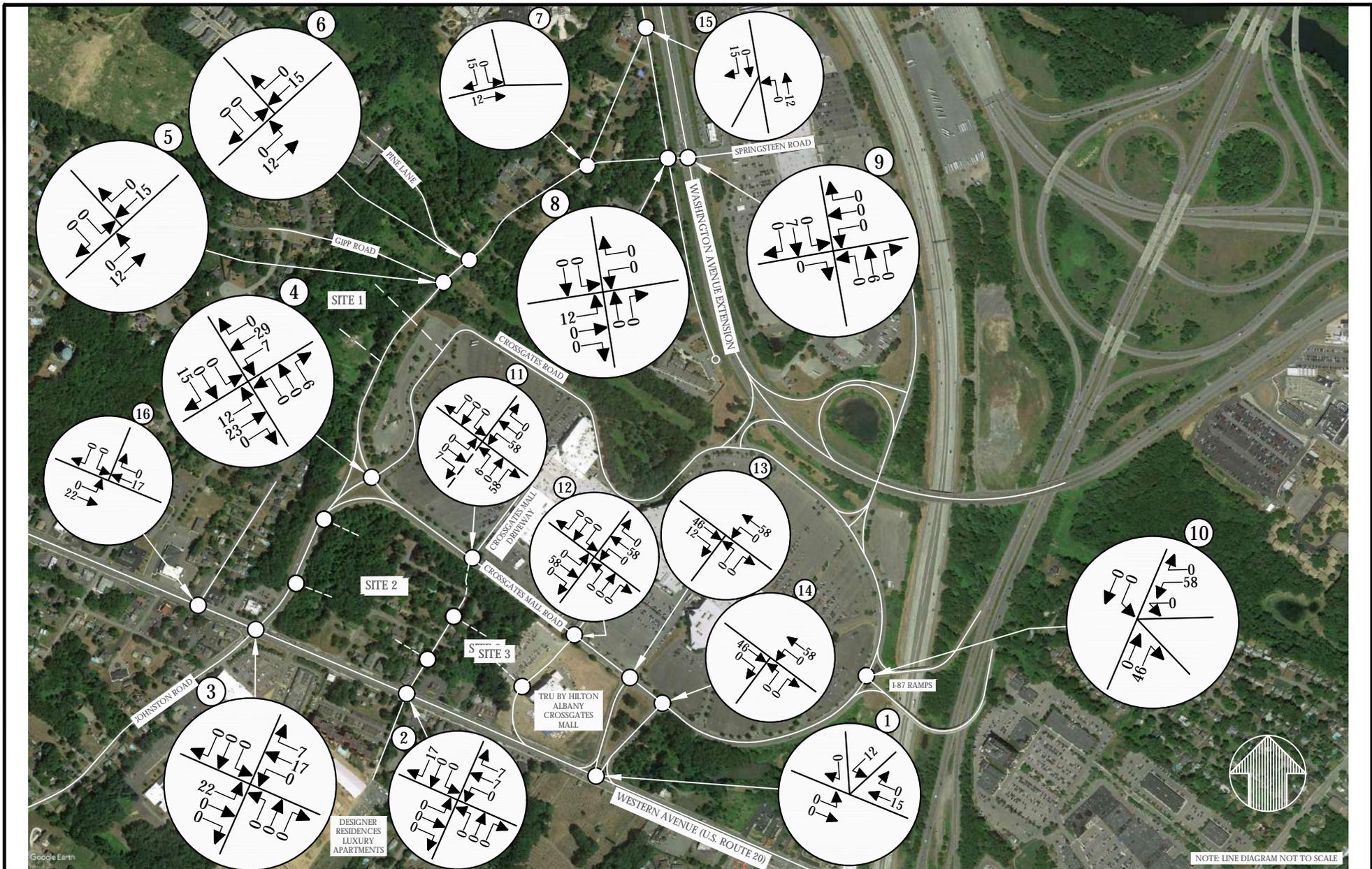


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DEPARTURE DISTRIBUTION SITE 2 - COSTCO (EXPRESSED AS A %)			
SHEET NUMBER			
FIGURE NO. 17-A			



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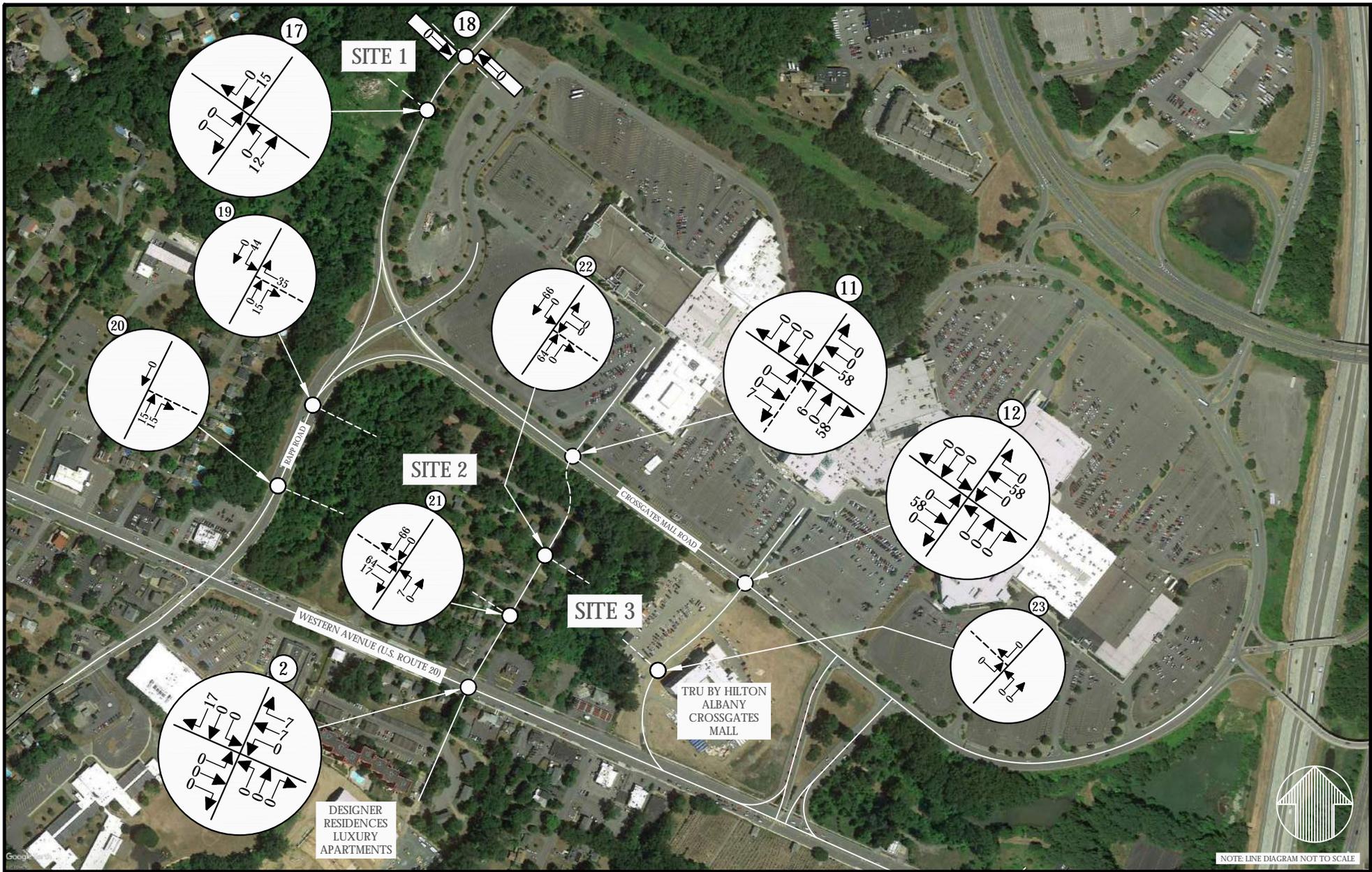
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PROJECT NUMBER	DRAWING NAME		
19002502A	191021JFM_FIGURES - 02.17.2020		
SHEET TITLE:			
SITE GENERATED TRAFFIC VOLUMES SITE 2 - COSTCO WEEKDAY PEAK AM HOUR			
SHEET NUMBER:			
FIGURE NO. 21			



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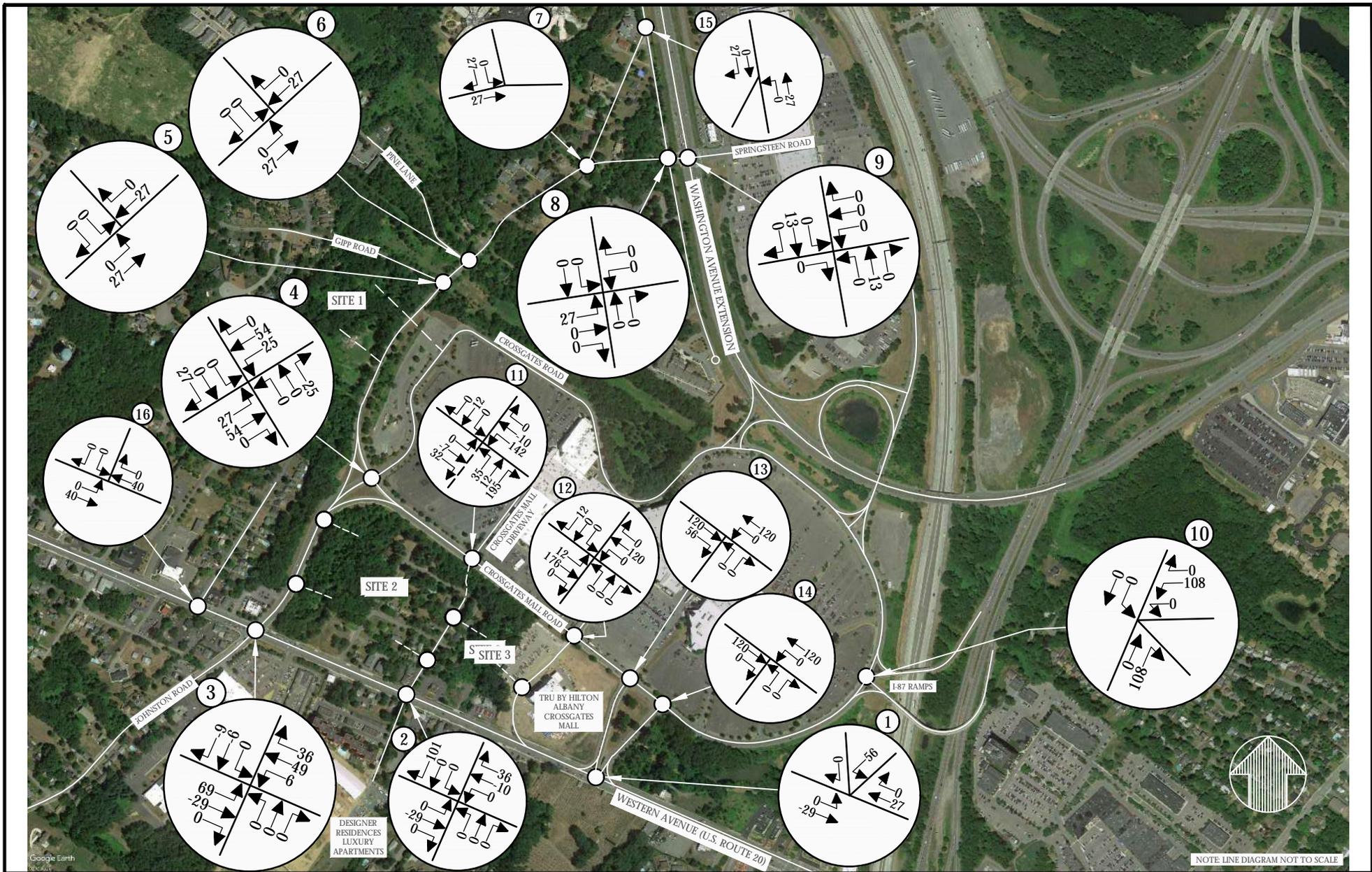


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PROJECT NUMBER	DRAWING NAME		
19002502A	191021JPM_FIGURES - 02.17.2020		
SHEET TITLE			
SITE GENERATED TRAFFIC VOLUMES SITE 2 - COSTCO WEEKDAY PEAK AM HOUR			
SHEET NUMBER			
FIGURE NO. 21-A			



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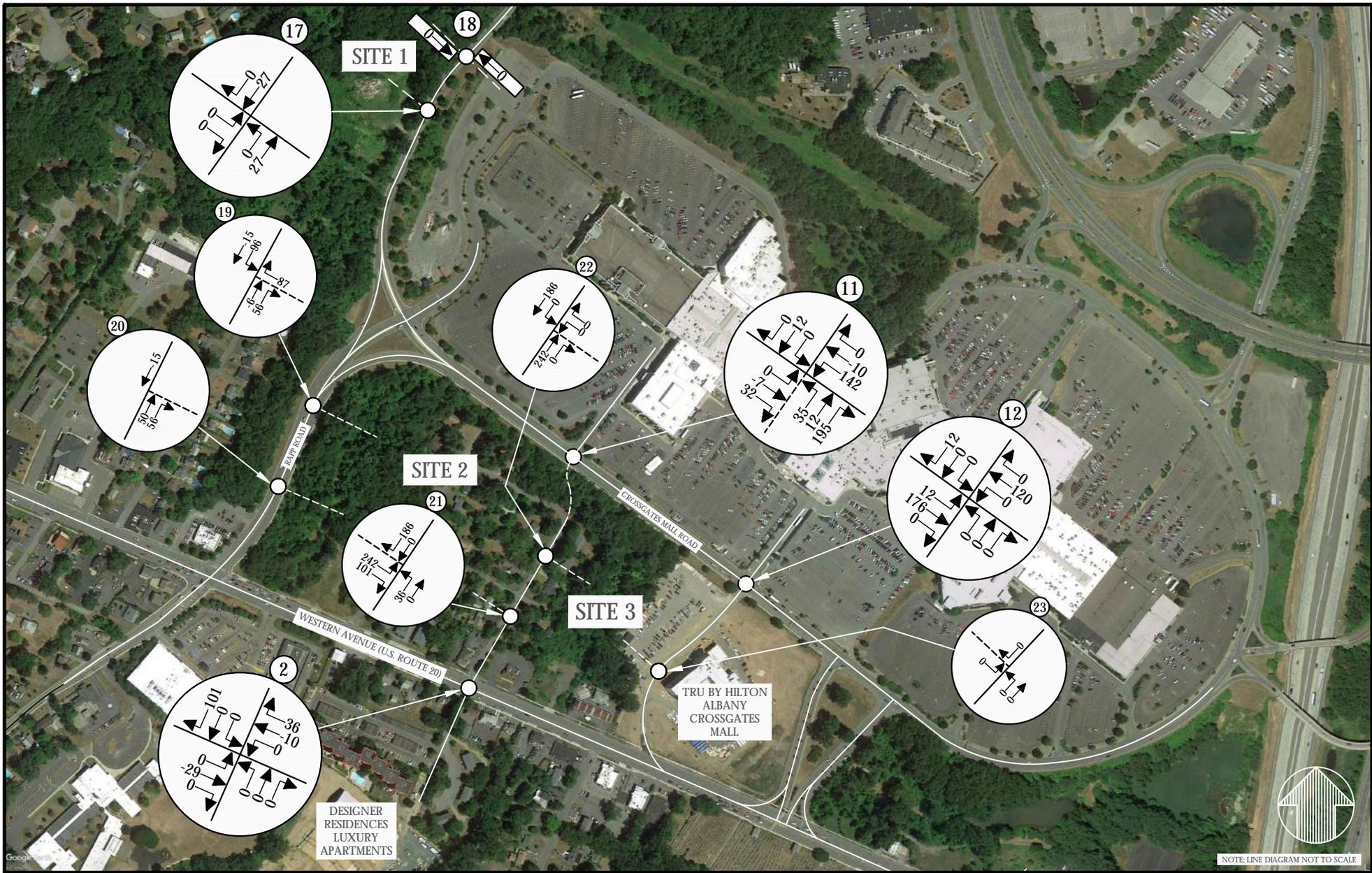
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PROJECT NUMBER	DRAWING NAME		
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SHEET TITLE:			
SITE GENERATED TRAFFIC VOLUMES SITE 2 - COSTCO WEEKDAY PEAK PM HOUR			
SHEET NUMBER:			
FIGURE NO. 22			



NOTE: LINE DIAGRAM NOT TO SCALE

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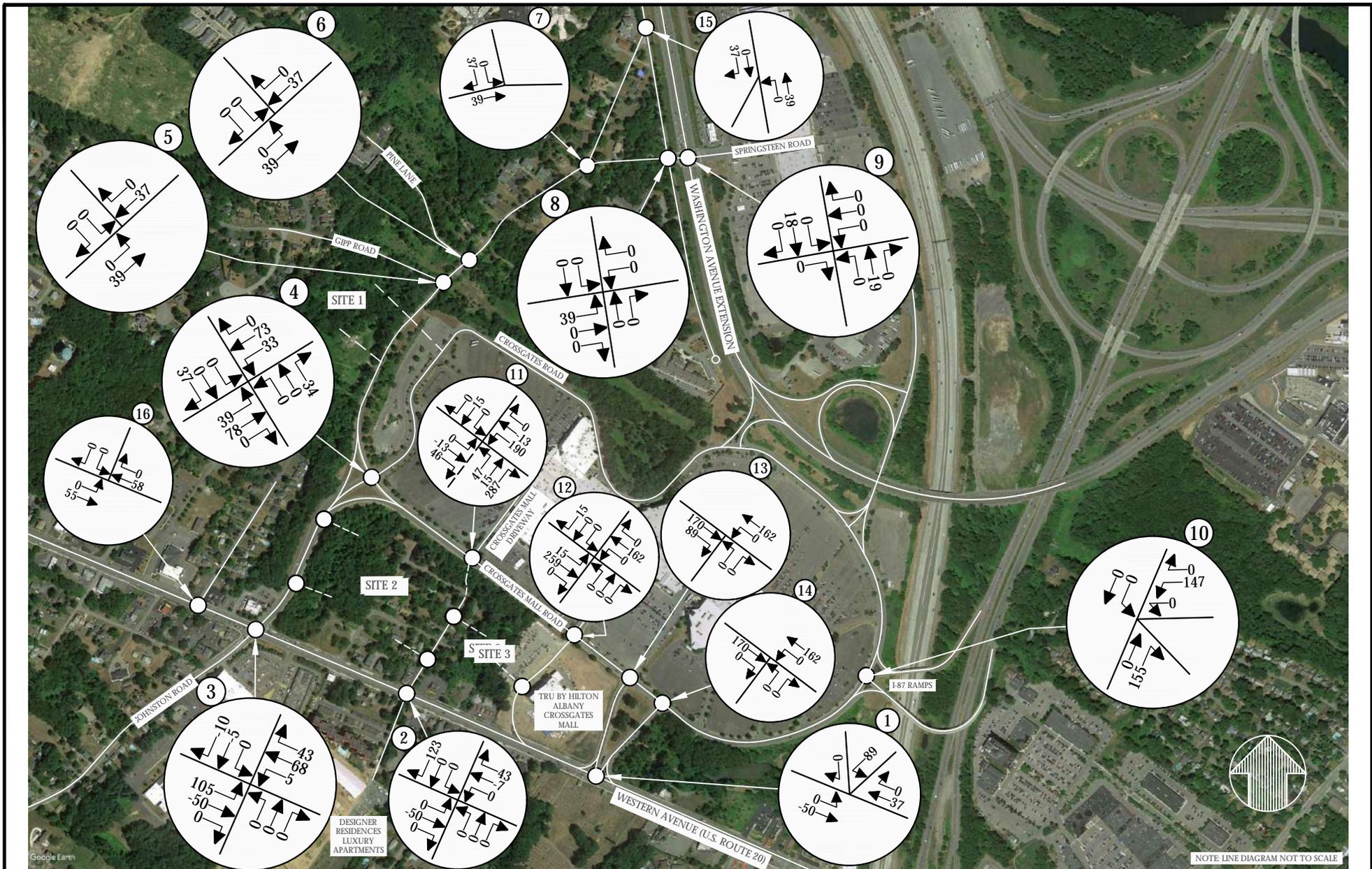
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PROJECT NUMBER	DRAWING NAME		
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SHEET TITLE			
SITE GENERATED TRAFFIC VOLUMES SITE 2 - COSTCO WEEKDAY PEAK PM HOUR			
SHEET NUMBER			
FIGURE NO. 22-A			



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SHEET TITLE:			
SITE GENERATED TRAFFIC VOLUMES SITE 2 - COSTCO SATURDAY PEAK HOUR			
SHEET NUMBER:			
FIGURE NO. 23			



TABLE NO. 2

HOURLY TRIP GENERATION RATES  
AND ANTICIPATED SITE GENERATED TRAFFIC VOLUMES

SITE 2 COSTCO	ENTRY		EXIT		TOTAL	
	HTGR*	VOLUME	HTGR*	VOLUME	HTGR*	VOLUME
<b>160,000 S.F.</b>						
WEEKDAY PEAK AM HOUR	0.34	54	0.15	24	0.49	78
WEEKDAY PEAK PM HOUR	2.09	334	2.09	334	4.18	668
SATURDAY PEAK HOUR	3.12	499	3.25	520	6.37	1019
W/ 10% INTERPLAY W/ MALL						
WEEKDAY PEAK AM HOUR	----	----	----	----	----	----
WEEKDAY PEAK PM HOUR	----	-33	----	-33	----	-66
SATURDAY PEAK HOUR	----	-51	----	-51	----	-102
W/ 25 % PASS-BY						
WEEKDAY PEAK AM HOUR	----	----	----	----	----	----
WEEKDAY PEAK PM HOUR	----	-83	----	-83	----	-166
SATURDAY PEAK HOUR	----	-127	----	-127	----	-254
<b>18 FUEING STATIONS</b>						
WEEKDAY PEAK AM HOUR	5.14	92	5.14	92	10.28	184
WEEKDAY PEAK PM HOUR	7.015	126	7.015	126	14.03	252
SATURDAY PEAK HOUR	6.385	115	6.385	115	12.77	230
W/ 10% INTERPLAY W/ MALL						
WEEKDAY PEAK AM HOUR	----	----	----	----	----	----
WEEKDAY PEAK PM HOUR	----	-13	----	-13	----	-26
SATURDAY PEAK HOUR	----	-11	----	-11	----	-22
W/ 25% INTERPLAY W/ COSTCO						
WEEKDAY PEAK AM HOUR	----	----	----	----	----	----
WEEKDAY PEAK PM HOUR	----	-31	----	-31	----	-62
SATURDAY PEAK HOUR	----	-29	----	-29	----	-58
W/ 25 % PASS-BY						
WEEKDAY PEAK AM HOUR	----	----	----	----	----	----
WEEKDAY PEAK PM HOUR	----	-31	----	-31	----	-62
SATURDAY PEAK HOUR	----	-29	----	-29	----	-58
<b>"NEW" TRIPS</b>						
WEEKDAY PEAK AM HOUR	----	146	----	116	----	262
WEEKDAY PEAK PM HOUR	----	269	----	269	----	538
SATURDAY PEAK HOUR	----	367	----	388	----	755

THE ABOVE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 10th EDITION, 2017.  
\* ITE LAND USE 857 - DISCOUNT CLUB & ITE LAND USE 944 - GASOLINE/SERVICE STATION



**ATTACHMENT C**

**Input Data**

City: **Town of Guilderland**  
 County: **Albany**

Engineer: **JMT**  
 Date: **April 9, 2021**

Major Street: **US Route 20**  
 Minor Street: **Gabriel Terrace**

# Lanes: **2** Major Approach Speed: **50**  
 # Lanes: **1** Minor Approach Speed: **30**

Eight Hour Volumes (Condition A)		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
11:00 AM	2055	116
12:00 PM	2372	141
1:00 PM	2273	138
2:00 PM	2393	138
3:00 PM	2650	151
4:00 PM	2805	162
5:00 PM	2794	165
6:00 PM	2021	127

Eight Hour Volumes (Condition B)		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
11:00 AM	2055	116
12:00 PM	2372	141
1:00 PM	2273	138
2:00 PM	2393	138
3:00 PM	2650	151
4:00 PM	2805	162
5:00 PM	2794	165
6:00 PM	2021	127

Highest Four Hour Vehicular Volumes		
Hours	Major Street (total of both approaches)	Minor Street (one direction only)
2:00 PM	2393	138
3:00 PM	2650	151
4:00 PM	2805	162
5:00 PM	2794	165

Highest Four Hour Pedestrian Volumes		
Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street
2:00 PM	2393	
3:00 PM	2650	
4:00 PM	2805	
5:00 PM	2794	

Vehicular Peak Hour Volumes			
Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume

Pedestrian Peak Hour Volumes		
Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street

## TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Guilderland  
 County: Albany

Engineer: JMT  
 Date: April 9, 2021

Major Street: US Route 20 Lanes: 2 Major Approach Speed: 50  
 Minor Street: Gabriel Terrace Lanes: 1 Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

### Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?  Yes  No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000?  Yes  No
- "70%" volume level **may** be used if Question 1 or 2 above is answered "Yes"  70%  100%

### WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours.

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).

#### Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

- 100% Satisfied:  Yes  No  
 80% Satisfied:  Yes  No  
 70% Satisfied:  Yes  No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100% <sup>a</sup>	80% <sup>b</sup>	70% <sup>c</sup>	100% <sup>a</sup>	80% <sup>b</sup>	70% <sup>c</sup>
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

<sup>a</sup> Basic Minimum hourly volume

<sup>b</sup> Used for combination of Conditions A and B after adequate trial of other remedial measures

<sup>c</sup> May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Major	2,055	2,372	2,273	2,393	2,650	2,805	2,794	2,021
Minor	116	141	138	138	151	162	165	127

Existing Volumes

## TRAFFIC SIGNAL WARRANT SUMMARY

**Condition B - Interruption of Continuous Traffic**

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
100% Satisfied:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
80% Satisfied:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
70% Satisfied:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
		100% <sup>a</sup>	80% <sup>b</sup>	70% <sup>c</sup>	100% <sup>a</sup>	80% <sup>b</sup>	70% <sup>c</sup>
Major	Minor						
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

<sup>a</sup> Basic Minimum hourly volume

<sup>b</sup> Used for combination of Conditions A and B after adequate trial of other remedial measures

<sup>c</sup> May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
<b>Major</b>	2,055	2,372	2,273	2,393	2,650	2,805	2,794	2,021
<b>Minor</b>	116	141	138	138	151	162	165	127

**Existing Volumes**

# TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Guilderland  
 County: Albany

Engineer: JMT  
 Date: April 9, 2021

Major Street: US Route 20  
 Minor Street: Gabriel Terrace

Lanes: 2 Major Approach Speed: 50  
 Lanes: 1 Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

### Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?  Yes  No
  2. Is the intersection in a built-up area of an isolated community with a population < 10,000?  Yes  No
- "70%" volume level **may** be used if Question 1 or 2 above is answered "Yes"  Yes  No

### WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

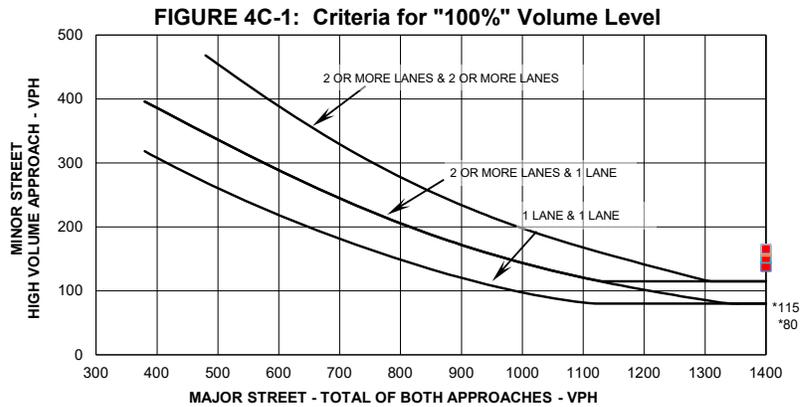
*If all four points lie above the appropriate line, then the warrant is satisfied.*

Applicable:  Yes  No  
 Satisfied:  Yes  No

Plot four volume combinations on the applicable figure below.

#### 100% Volume Level

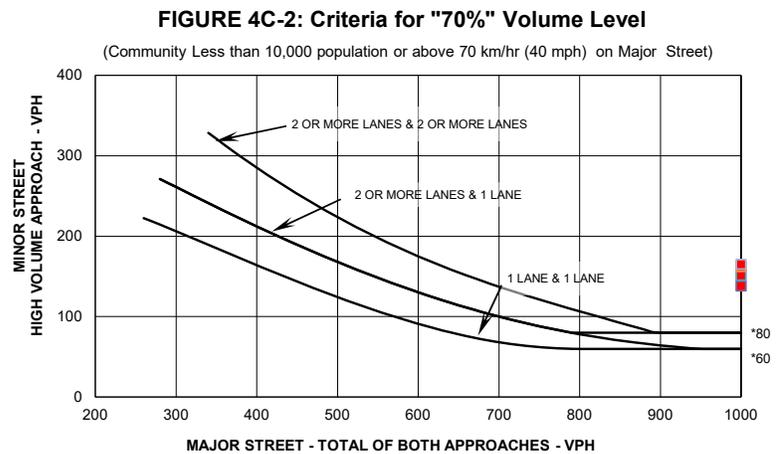
Four Highest Hours	Volumes	
	Major Street	Minor Street
2:00 PM	2393	138
3:00 PM	2650	151
4:00 PM	2805	162
5:00 PM	2794	165



\* Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

#### 70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
2:00 PM	2393	138
3:00 PM	2650	151
4:00 PM	2805	162
5:00 PM	2794	165



\* Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

## TRAFFIC SIGNAL WARRANT SUMMARY

City: Town of Guilderland  
 County: Albany

Engineer: JMT  
 Date: April 9, 2021

Major Street: US Route 20  
 Minor Street: Gabriel Terrace

Lanes: 2 Major Approach Speed: 50  
 Lanes: 1 Minor Approach Speed: 30

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

### WARRANT 7 - CRASH EXPERIENCE

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable:  Yes  No  
 Satisfied:  Yes  No

Criteria		Hour				Volume		Met?		Fulfilled?	
						Major	Minor	Yes	No	Yes	No
1. One of the warrants to the right is met.	Warrant 1, Condition A (80% satisfied)								No	Yes	
	Warrant 1, Condition B (80% satisfied)							Yes			
	Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.								No		
2. Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:	None Tried									No
3. Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:	Rear-end		Number of crashes per 12 months:		2					No



**ATTACHMENT D**

TABLE 1

ACCIDENT SUMMARY TABLE

Not to Print

Case No.

Case No.	NODE/LINK	MUNICIPALITY	LOCATION		DATE	TIME	TRAFFIC CONTROL	ACCIDENT CLASS <sup>2</sup>	# OF VEHICLES	# OF INJURIES	LIGHT CONDITION	ROAD CONDITION	WEATHER	MANNER OF COLLISION	APPARENT CONTRIBUTING FACTORS	
			ON STREET	CLOSEST STREET											VEHICLE 1	VEHICLE 2
36772745	20 11201103	Guiderland	WESTERN AVE	GABRIEL TER	06/05/2017	11:21am	NONE	INJURY	2	2	DAYLIGHT	DRY	CLOUDY	REAR END	REACTION TO UNINVOLVED VEHICLE	NOT APPLICABLE
37039454	20 11201103	Guiderland	WESTERN AVE	GABRIEL TER	12/14/2017	06:01pm	NONE	PROPERTY DAMAGE	2	0	DARK-ROAD LIGHTED	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE
37477671	20 11201103	Guiderland	WESTERN AVE	GABRIEL TER	09/13/2018	07:48am	NONE	NON-REPORTABLE	2	0	DAYLIGHT	WET	RAIN	REAR END	NOT APPLICABLE	REACTION TO UNINVOLVED VEHICLE
36082353	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	01/31/2016	06:47pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DARK-ROAD UNLIGHTED	DRY	CLEAR	LEFT TURN	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE
36258269	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	06/07/2016	12:41pm	NONE	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36273354	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	06/14/2016	02:45pm	TRAFFIC SIGNAL	INJURY	2	1	DAYLIGHT	DRY	CLEAR	REAR END	ALCOHOL INVOLVEMENT	NOT ENTERED
36339197	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/31/2016	06:43pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	WET	RAIN	UNKNOWN	NOT ENTERED	NOT ENTERED
36323743	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	08/01/2016	06:07pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLOUDY	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36338217	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	08/04/2016	12:22pm	NONE	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	RIGHT ANGLE	TURNING IMPROPER	NOT APPLICABLE
36464669	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	11/07/2016	02:40pm	NONE	PROPERTY DAMAGE AND INJURY	2	2	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36496244	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	11/10/2016	05:39pm	TRAFFIC SIGNAL	PROPERTY DAMAGE AND INJURY	2	1	DARK-ROAD LIGHTED	DRY	CLOUDY	LEFT TURN	ALCOHOL INVOLVEMENT	NOT APPLICABLE
36485211	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	11/21/2016	05:24pm	NONE	PROPERTY DAMAGE	2	0	DARK-ROAD LIGHTED	DRY	CLOUDY	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36530700	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	12/01/2016	07:48am	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DAYLIGHT	WET	CLOUDY	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE
36582719	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	01/27/2017	06:11pm	TRAFFIC SIGNAL	PROPERTY DAMAGE AND INJURY	2	1	DARK-ROAD LIGHTED	DRY	UNKNOWN	RIGHT ANGLE	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE
36625055	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	02/24/2017	08:40am	TRAFFIC SIGNAL	PROPERTY DAMAGE	3	0	DAYLIGHT	DRY	CLOUDY	OTHER	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE
36667900	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	03/30/2017	05:08pm	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	BACKING UNSAFELY	NOT APPLICABLE
36685761	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	04/08/2017	07:50am	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLOUDY	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36768105	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	05/25/2017	01:21pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	WET	RAIN	RIGHT ANGLE	FAILURE TO YIELD RIGHT OF WAY	NOT APPLICABLE
36795558	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	06/24/2017	05:12pm	NONE	PROPERTY DAMAGE	3	0	DAYLIGHT	DRY	CLEAR	OTHER	DRIVER INATTENTION	NOT APPLICABLE
36812333	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/18/2017	05:06pm	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE
36821641	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/21/2017	03:25pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36859728	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	08/15/2017	10:31am	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
36880291	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	08/31/2017	10:36am	TRAFFIC SIGNAL	PROPERTY DAMAGE AND INJURY	2	1	DAYLIGHT	DRY	CLOUDY	RIGHT ANGLE	OTHER ELECTRONIC DEVICE	NOT APPLICABLE
36972945	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	11/08/2017	01:53pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
37063755	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	12/31/2017	12:59pm	NONE	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE
37073736	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	01/06/2018	02:38pm	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
37209410	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	03/10/2018	09:11pm	NONE	PROPERTY DAMAGE AND INJURY	2	3	DARK-ROAD LIGHTED	DRY	CLEAR	OVERTAKING	ALCOHOL INVOLVEMENT	NOT APPLICABLE
37833839	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	03/14/2018	08:00am	UNKNOWN	PROPERTY DAMAGE	2	0	UNKNOWN	UNKNOWN	UNKNOWN	REAR END	NOT ENTERED	NOT ENTERED
37247753	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	04/21/2018	03:23pm	NONE	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
37351150	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	06/23/2018	03:03pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	4	0	DAYLIGHT	WET	RAIN	OTHER	DRIVER INATTENTION	NOT APPLICABLE
37405769	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	06/29/2018	12:00am	UNKNOWN	PROPERTY DAMAGE	2	0	UNKNOWN	UNKNOWN	UNKNOWN	REAR END	NOT ENTERED	NOT ENTERED
37374815	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/02/2018	09:50am	TRAFFIC SIGNAL	PROPERTY DAMAGE AND INJURY	2	1	DAYLIGHT	DRY	CLEAR	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE
37369799	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/08/2018	03:53pm	OTHER	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	RIGHT ANGLE	TRAFFIC CONTROL DISREGARDED	NOT APPLICABLE
37378176	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/13/2018	01:05pm	NONE	NON-REPORTABLE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
37414864	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	07/30/2018	03:52pm	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	DRIVER INATTENTION	NOT APPLICABLE
37538218	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	10/19/2018	08:51am	TRAFFIC SIGNAL	PROPERTY DAMAGE	2	0	DAYLIGHT	DRY	CLEAR	REAR END	GLARE	NOT APPLICABLE
37635029	20 11201105	Guiderland	WESTERN AVE	CROSSGATES MALL RD	12/10/2018	05:17pm	TRAFFIC SIGNAL	NON-REPORTABLE	2	0	DARK-ROAD LIGHTED	DRY	CLOUDY	REAR END	FOLLOWING TOO CLOSELY	NOT APPLICABLE

NOTES:

1) ACCIDENT DATA OBTAINED FROM THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION (NYS DOT) RECORDS ACCESS DEPARTMENT FOR THE TIME PERIOD BETWEEN JANUARY 1, 2016 THROUGH DECEMBER 31, 2018.

2) ACCIDENT CLASS: PDO = PROPERTY DAMAGE ONLY, I = INJURY, F = FATALITY, UNKNOW = NON-REPORTABLE



**ATTACHMENT E**

TABLE NO. 3

LEVEL OF SERVICE SUMMARY TABLE

ID	LOCATION	YEAR 2019 EXISTING									YEAR 2022 NO-BUILD									YEAR 2022 BUILD									
		WEEKDAY AM			WEEKDAY PM			SATURDAY			WEEKDAY AM			WEEKDAY PM			SATURDAY			WEEKDAY AM			WEEKDAY PM			SATURDAY			
		LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS
1	WESTERN AVENUE (U.S. ROUTE 20) & CROSSGATES MALL DRIVEWAY	<u>SIGNALIZED (COUPLET)</u>																											
	WESTERN AVENUE (U.S. ROUTE 20) EB T / T	A	8.5	0.64	A	6.5	0.47	A	6.3	0.44	A	9.0	0.67	A	6.7	0.48	A	6.5	0.47	A	9.0	0.67	A	6.6	0.47	A	6.4	0.45	
	WESTERN AVENUE (U.S. ROUTE 20) EB APPROACH	A	8.5	----	A	6.5	----	A	6.3	----	A	9.0	----	A	6.7	----	A	6.5	----	A	9.0	----	A	6.6	----	A	6.4	----	
	WESTERN AVENUE (U.S. ROUTE 20) WB T / T	A	5.1	0.30	A	7.5	0.61	A	6.3	0.50	A	5.1	0.31	A	7.8	0.64	A	6.5	0.52	A	5.2	0.32	A	7.9	0.64	A	6.6	0.53	
	WESTERN AVENUE (U.S. ROUTE 20) WB T-R	A	5.2	0.30	A	8.1	0.62	A	6.5	0.50	A	5.2	0.31	A	8.5	0.65	A	6.8	0.53	A	5.2	0.32	A	8.7	0.66	A	6.9	0.54	
	WESTERN AVENUE (U.S. ROUTE 20) WB APPROACH	A	5.1	----	A	7.7	----	A	6.4	----	A	5.2	----	A	8.0	----	A	6.6	----	A	5.2	----	A	8.1	----	A	6.7	----	
	CROSSGATES MALL DRIVEWAY SB L / L	C	34.5	0.09	D	38.4	0.41	D	43.2	0.68	C	34.5	0.09	D	38.5	0.42	D	43.5	0.69	C	34.7	0.11	D	40.2	0.52	D	49.3	0.85	
	CROSSGATES MALL DRIVEWAY SB R	C	34.6	0.07	D	36.3	0.19	D	36.1	0.19	C	34.6	0.07	D	36.4	0.20	D	36.1	0.20	C	34.6	0.07	D	36.4	0.20	D	35.9	0.20	
	CROSSGATES MALL DRIVEWAY SB APPROACH	C	34.5	----	D	38.0	----	D	42.4	----	C	34.5	----	D	38.1	----	D	42.7	----	C	34.7	----	D	39.6	----	D	48.0	----	
	OVERALL INTERSECTION	A	7.9	----	A	9.7	----	B	11.2	----	A	8.2	----	A	9.9	----	B	11.3	----	A	8.3	----	B	10.5	----	B	13.0	----	
	2	WESTERN AVENUE (U.S. ROUTE 20) & GABRIEL TERRACE / 1700 DESIGNER RESIDENCES	<u>UNSIGNALIZED</u>																										
WESTERN AVENUE (U.S. ROUTE 20) EB L		B	12.2	0.004	C	17.5	0.004	B	11.3	0.004	B	12.3	0.004	C	17.8	0.004	B	11.4	0.004	A	0.00	0.000	A	0.0	0.000	A	0.0	0.000	
WESTERN AVENUE (U.S. ROUTE 20) WB L		C	18.1	0.022	B	11.7	0.044	B	11.3	0.014	C	19.4	0.081	B	12.7	0.138	B	12.1	0.103	C	19.5	0.082	B	12.5	0.135	B	11.8	0.099	
1700 DESIGNER RESIDENCES NB L-T-R		D	28.8	0.138	F	127.9	0.502	F	59.9	0.195	F	473.1	1.644	F	732.1	2.034	F	205.4	1.053	F	518.8	1.735	F	1413.5	3.293	F	320.9	1.308	
GABRIEL TERRACE SB L-T-R		A	0.0	0.000	F	191.8	0.286	F	65.3	0.110	A	0.000	0.000	F	306.8	0.414	F	100.1	0.164	B	11.8	0.033	D	31.2	0.444	C	17.0	0.302	
3	WESTERN AVENUE (U.S. ROUTE 20) & JOHNSTON ROAD / RAPP ROAD	<u>SIGNALIZED</u>																											
	WESTERN AVENUE (U.S. ROUTE 20) EB L	C	25.6	0.37	E	55.5	0.83	C	22.5	0.49	C	26.9	0.39	E	57.8	0.84	C	23.2	0.51	C	28.5	0.44	E	66.0	0.90	C	30.3	0.85	
	WESTERN AVENUE (U.S. ROUTE 20) EB T	C	22.9	0.81	D	35.9	0.80	B	15.5	0.67	C	23.8	0.82	D	36.8	0.81	B	15.5	0.68	C	24.0	0.82	D	44.3	0.83	B	19.8	0.71	
	WESTERN AVENUE (U.S. ROUTE 20) EB T-R	C	23.4	0.82	D	35.8	0.80	B	15.5	0.67	C	24.4	0.83	D	36.7	0.81	B	15.5	0.68	C	24.7	0.84	D	44.2	0.83	B	19.7	0.71	
	WESTERN AVENUE (U.S. ROUTE 20) EB APPROACH	C	23.4	----	D	38.2	----	B	16.5	----	C	24.5	----	D	39.2	----	B	16.6	----	C	25.0	----	D	48.0	----	C	22.1	----	
	WESTERN AVENUE (U.S. ROUTE 20) WB L	E	58.8	0.81	D	35.6	0.29	C	20.4	0.23	E	60.4	0.81	D	37.6	0.30	C	20.9	0.24	E	60.7	0.82	D	36.2	0.25	B	19.5	0.18	
	WESTERN AVENUE (U.S. ROUTE 20) WB T	D	44.7	0.81	C	29.0	0.83	B	16.5	0.67	D	45.3	0.81	C	31.1	0.84	B	16.6	0.68	D	44.7	0.81	D	42.1	0.90	B	17.7	0.71	
	WESTERN AVENUE (U.S. ROUTE 20) WB T-R	D	44.5	0.81	C	28.9	0.83	B	16.5	0.67	D	45.1	0.81	C	31.1	0.85	B	16.5	0.68	D	44.5	0.81	D	42.8	0.91	B	17.7	0.71	
	WESTERN AVENUE (U.S. ROUTE 20) WB APPROACH	D	46.3	----	C	29.5	----	B	16.7	----	D	46.9	----	C	31.6	----	B	16.8	----	D	46.4	----	D	42.0	----	B	17.8	----	
	JOHNSTON ROAD NEB L	D	46.8	0.38	E	56.5	0.82	C	25.7	0.45	D	48.3	0.39	E	58.7	0.83	C	26.6	0.46	D	48.3	0.38	E	72.4	0.85	C	30.8	0.51	
	JOHNSTON ROAD NEB T-R	D	47.6	0.66	D	47.8	0.43	C	27.0	0.56	D	49.2	0.67	D	50.0	0.43	C	27.8	0.57	D	49.5	0.68	E	57.7	0.46	C	32.1	0.60	
	JOHNSTON ROAD NEB R	D	43.5	0.61	C	28.9	0.18	C	22.9	0.31	D	44.8	0.62	C	30.6	0.19	C	23.5	0.32	D	45.0	0.62	C	28.7	0.15	C	21.5	0.20	
	JOHNSTON ROAD NEB APPROACH	D	45.9	----	D	46.2	----	C	25.4	----	D	47.3	----	D	48.3	----	C	26.2	----	D	47.5	----	E	55.9	----	C	28.9	----	
	RAPP ROAD SWB L	E	55.9	0.40	D	42.7	0.31	C	25.7	0.29	E	57.7	0.42	D	44.2	0.31	C	26.6	0.30	E	58.0	0.48	D	53.9	0.39	C	31.3	0.39	
	RAPP ROAD SWB T	D	49.1	0.25	D	43.2	0.59	C	26.9	0.49	D	50.6	0.25	D	45.4	0.61	C	27.7	0.50	D	50.9	0.25	E	56.7	0.71	C	32.0	0.51	
	RAPP ROAD SWB R	B	19.2	0.14	D	49.1	0.84	C	23.9	0.61	C	20.2	0.14	D	52.6	0.86	C	24.6	0.63	C	21.3	0.16	D	50.8	0.78	C	26.9	0.58	
	RAPP ROAD SWB APPROACH	D	35.1	----	D	46.2	----	C	25.1	----	D	36.5	----	D	49.0	----	C	25.9	----	D	37.3	----	D	53.2	----	C	29.3	----	
	OVERALL INTERSECTION	C	33.0	----	D	36.5	----	B	18.5	----	C	34.0	----	D	38.3	----	B	18.7	----	C	34.3	----	D	46.8	----	C	21.9	----	

**TABLE NO. 3**  
LEVEL OF SERVICE SUMMARY TABLE

ID	LOCATION		YEAR 2019 EXISTING									YEAR 2022 NO-BUILD									YEAR 2022 BUILD																	
			WEEKDAY AM			WEEKDAY PM			SATURDAY			WEEKDAY AM			WEEKDAY PM			SATURDAY			WEEKDAY AM			WEEKDAY PM			SATURDAY											
			LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C						
4	RAPP ROAD & CROSSGATES MALL ROAD																																					
	<u>SIGNALIZED</u>																																					
	RAPP ROAD	EB L-T	B	19.4	0.27	B	18.3	0.18	B	19.3	0.27	B	19.4	0.27	B	18.4	0.19	B	19.4	0.28	B	18.5	0.31	C	22.1	0.40	B	17.0	0.43									
		EB R	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	C	20.7	0.45	B	18.1	0.21	B	14.4	0.28									
		<b>EB APPROACH</b>	B	<b>19.4</b>	----	B	<b>18.3</b>	----	B	<b>19.3</b>	----	B	<b>19.4</b>	----	B	<b>18.4</b>	----	B	<b>19.4</b>	----	B	<b>19.7</b>	----	C	<b>20.6</b>	----	B	<b>16.0</b>	----									
	CROSSGATES MALL ROAD	WB L-T	B	16.9	0.02	B	18.8	0.22	B	18.9	0.23	B	16.9	0.02	B	18.9	0.22	B	18.9	0.23	B	16.0	0.07	C	23.6	0.40	C	22.8	0.39									
		WB T-R	B	16.9	0.02	B	19.0	0.23	B	19.0	0.23	B	16.9	0.02	B	19.1	0.23	B	19.1	0.23	B	15.9	0.06	B	19.6	0.33	B	14.5	0.29									
		<b>WB APPROACH</b>	B	<b>16.9</b>	----	B	<b>18.9</b>	----	B	<b>19.0</b>	----	B	<b>16.9</b>	----	B	<b>19.0</b>	----	B	<b>19.0</b>	----	B	<b>15.9</b>	----	C	<b>21.5</b>	----	B	<b>18.2</b>	----									
	RAPP ROAD	SEB L-T	C	21.1	0.10	C	21.5	0.13	C	21.1	0.10	C	21.1	0.10	C	21.5	0.14	C	21.1	0.10	B	18.5	0.12	C	21.8	0.17	C	22.4	0.15									
		SEB R	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	B	19.4	0.20	C	32.2	0.67	C	25.6	0.37									
		<b>SEB APPROACH</b>	C	<b>21.1</b>	----	C	<b>21.5</b>	----	C	<b>21.1</b>	----	C	<b>21.1</b>	----	C	<b>21.5</b>	----	C	<b>21.1</b>	----	B	<b>19.0</b>	----	C	<b>29.8</b>	----	C	<b>24.6</b>	----									
	CROSSGATES MALL ROAD	NWB L	B	10.1	0.13	B	12.2	0.35	B	10.4	0.17	B	10.1	0.13	B	12.3	0.36	B	10.4	0.17	B	11.9	0.14	B	14.3	0.46	B	16.1	0.27									
		NWB T-R	A	8.6	0.07	A	9.3	0.16	A	9.4	0.18	A	8.6	0.07	A	9.3	0.16	A	9.5	0.18	A	9.7	0.08	B	10.4	0.23	B	15.3	0.31									
		<b>NWB APPROACH</b>	A	<b>9.5</b>	----	B	<b>11.3</b>	----	A	<b>9.9</b>	----	A	<b>9.5</b>	----	B	<b>11.3</b>	----	A	<b>9.9</b>	----	B	<b>10.9</b>	----	B	<b>12.7</b>	----	B	<b>15.6</b>	----									
	<b>OVERALL INTERSECTION</b>	B	<b>15.6</b>	----	B	<b>15.2</b>	----	B	<b>15.7</b>	----	B	<b>15.6</b>	----	B	<b>15.3</b>	----	B	<b>15.7</b>	----	B	<b>17.7</b>	----	C	<b>20.5</b>	----	B	<b>17.8</b>	----										
5	RAPP ROAD & GIPP ROAD																																					
	<u>UNSIGNALIZED</u>																																					
	RAPP ROAD	NEB L-T	A	7.4	0.005	A	8.3	0.049	A	7.6	0.018	A	7.4	0.005	A	8.4	0.050	A	7.7	0.018	A	7.5	0.006	A	8.5	0.052	A	7.8	0.019									
GIPP ROAD	EB L-R	B	10.6	0.195	B	13.6	0.160	B	10.7	0.092	B	10.6	0.198	B	13.8	0.165	B	10.7	0.095	B	11.0	0.211	C	15.1	0.184	B	11.7	0.108										
6	RAPP ROAD & PINE LANE																																					
	<u>UNSIGNALIZED</u>																																					
	RAPP ROAD	NEB L-T	A	8.5	0.256	A	8.6	0.195	A	8.1	0.190	A	8.5	0.261	A	8.6	0.198	A	8.1	0.192	A	8.8	0.296	A	9.1	0.253	A	8.7	0.261									
	RAPP ROAD	SWB T-R	A	7.7	0.096	A	8.3	0.030	A	7.9	0.035	A	7.7	0.097	B	11.2	0.506	A	8.1	0.202	A	7.9	0.123	B	12.3	0.568	A	8.6	0.268									
	PINE LANE	EB L-R	A	7.6	0.049	B	11.0	0.498	A	8.1	0.200	A	7.6	0.050	A	8.3	0.030	A	7.9	0.035	A	7.7	0.051	A	8.5	0.031	A	8.1	0.037									
	<b>OVERALL INTERSECTION</b>	A	<b>8.2</b>	----	B	<b>10.3</b>	----	A	<b>8.1</b>	----	A	<b>8.2</b>	----	B	<b>10.4</b>	----	A	<b>8.1</b>	----	A	<b>8.5</b>	----	B	<b>11.3</b>	----	A	<b>8.6</b>	----										
7	RAPP ROAD & SPRINGSTEEN ROAD																																					
	<u>UNSIGNALIZED</u>																																					
RAPP ROAD	SB L-R	A	8.8	0.08	B	10.8	0.426	A	9.0	0.166	A	8.8	0.084	B	10.9	0.433	A	9.0	0.169	A	8.9	0.104	B	11.4	0.479	A	9.2	0.220										
8	SPRINGSTEEN ROAD & S. FRONTAGE ROAD																																					
	<u>UNSIGNALIZED</u>																																					
	SPRINGSTEEN ROAD	EB L	A	9.3	0.201	A	9.4	0.150	A	9.0	0.174	A	9.4	0.204	A	9.4	0.151	A	9.1	0.177	A	8.8	0.249	A	9.9	0.213	A	9.8	0.261									
	SPRINGSTEEN ROAD	EB T-R	A	8.3	0.155	A	8.2	0.074	A	7.6	0.062	A	8.3	0.156	A	8.3	0.076	A	7.6	0.063	A	8.3	0.156	A	8.3	0.076	A	8.3	0.076	A	7.6	0.063						
	SPRINGSTEEN ROAD	WB L-R	A	8.4	0.224	A	8.8	0.289	A	7.5	0.142	A	8.4	0.229	A	8.9	0.293	A	7.5	0.144	A	8.5	0.231	A	9.0	0.298	A	7.6	0.147									
	S. FRONTAGE ROAD	NB T-R	A	7.9	0.048	A	8.1	0.085	A	7.3	0.032	A	8.0	0.048	A	8.1	0.087	A	7.3	0.032	A	8.0	0.049	A	8.2	0.089	A	7.5	0.034									
	S. FRONTAGE ROAD	SB L-T	A	8.4	0.033	A	9.1	0.157	A	8.0	0.037	A	8.4	0.034	A	9.1	0.161	A	8.0	0.037	A	8.5	0.034	A	8.2	0.037	A	8.2	0.039									
		<b>OVERALL INTERSECTION</b>	A	<b>8.6</b>	----	A	<b>8.8</b>	----	A	<b>8.0</b>	----	A	<b>8.6</b>	----	A	<b>8.9</b>	----	A	<b>8.1</b>	----	A	<b>8.8</b>	----	A	<b>9.1</b>	----	A	<b>8.6</b>	----									
9	WASHINGTON AVENUE EXTENSION & SPRINGSTEEN ROAD / CROSSGATES COMMONS																																					
	<u>SIGNALIZED</u>																																					
	SPRINGSTEEN ROAD	EB R	C	29.3	0.44	D	37.1	0.48	D	39.9	0.40	C	29.9	0.44	D	38.1	0.49	D	40.4	0.40	C	30.1	0.44	D	38.5	0.49	D	40.4	0.40									
		<b>EB APPROACH</b>	C	<b>29.3</b>	----	D	<b>37.1</b>	----	D	<b>39.9</b>	----	C	<b>29.9</b>	----	D	<b>38.1</b>	----	D	<b>40.4</b>	----	C	<b>30.1</b>	----	D	<b>38.5</b>	----	D	<b>40.4</b>	----									
	CROSSGATES COMMONS	WB L / L	D	39.4	0.61	D	50.3	0.81	D	41.8	0.82	D	40.3	0.62	D	51.8	0.81	D	42.6	0.82	D	40.5	0.62	D	52.4	0.81	D	42.7	0.82									
		WB T-R	C	27.7	0.47	D	36.4	0.69	D	37.4	0.92	C	28.5	0.49	D	37.6	0.70	D	37.9	0.92	C	28.7	0.49	D	38.0	0.70	D	40.0	0.92									
		<b>WB APPROACH</b>	C	<b>32.3</b>	----	D	<b>43.1</b>	----	D	<b>39.6</b>	----	C	<b>33.2</b>	----	D	<b>44.5</b>	----	D	<b>40.3</b>	----	C	<b>33.4</b>	----	D	<b>45.0</b>	----	D	<b>48.0</b>	----									
	WASHINGTON AVE. EXT.	NB L	D	39.7	0.79	E	58.2	0.86	D	50.8	0.77	D	40.5	0.80	E	61.7	0.86	D	51.6	0.77	D	40.8	0.80	E	62.8	0.86	D	51.6	0.77									
		NB T / T / T	B	15.8	0.52	C	29.2	0.69	C	24.0	0.31	B	16.1	0.52	C	29.0	0.70	C	24.2	0.31	B	16.1	0.52	C	29.2	0.70	C	24.3	0.32									
		NB R	B	13.3	0.21	C	27.0	0.57	D	36.2	0.87	B	13.5	0.21	C	27.6	0.58	D	36.7	0.87	B	13.5	0.21	C	27.6	0.57	D	36.6	0.87									
		<b>NB APPROACH</b>	B	<b>17.8</b>	----	C	<b>30.7</b>	----	C	<b>31.1</b>	----	B	<b>18.1</b>	----	C	<b>31.8</b>	----	C	<b>31.5</b>	----	B	<b>18.1</b>	----	C	<b>32.0</b>	----	C	<b>31.4</b>	----									
	WASHINGTON AVE. EXT.	SB L	D	39.8	0.80	E	69.1	0.90	F	111.1	1.09	D	40.6	0.80	E	72.8	0.90	F	125.2	1.12	D	40.9	0.80	E	73.9	0.90	F	126.0	1.13									
		SB T / T	C	21.6	0.85	C	34.6	0.90	B	15.2	0.33	C	22.2	0.85	D	36.2	0.90	B	15.6	0.33	C	22.3	0.85	D	36.9	0.91	B	15.7	0.35									
		SB R	B	11.9	0.01	B	17.5	0.01	B	12.7	0.01	B	12.0	0.01	B	17.9	0.01	B	13.0	0.01	B	12.0	0.01	B	17.9	0.01	B	13.0	0.01									
		<b>SB APPROACH</b>	C	<b>23.2</b>	----	D	<b>39.7</b>	----	D	<b>54.2</b>	----	C	<b>23.8</b>	----	D	<b>41.6</b>	----	E	<b>60.2</b>	----	C	<b>23.9</b>	----	D	<b>42.3</b>	----	E	<b>59.7</b>	----									
	<b>OVERALL INTERSECTION</b>	C	<b>21.9</b>	----	D	<b>36.1</b>	----	D	<b>41.4</b>	----	C	<b>22.4</b>	----	D	<b>37.5</b>	----	D	<b>43.7</b>	----	C	<b>22.4</b>	----	D	<b>37.9</b>	----	D	<b>43.5</b>	----										
10	CROSSGATES MALL ROAD & I-87 ON/OFF RAMP																																					
	<u>SIGNALIZED</u>																																					
	I-87 OFF RAMP	WB L	A	7.4	0.22	C	22.8	0.68	C	23.3	0.63	A	7.4	0.22	C	23.6	0.69	C	24.1	0.64	A	7.8	0.31	C	32.4	0.85	D	35.6	0.86									
		WB L-R	B	11.7	0.79	D	35.8	0.89	D	49.7	0.96	B	11.8	0.79	D	38.2	0.90	D	54.0	0.97	B	11.6	0.79	D	41.9	0.92	D	54.0	0.97									
		<b>WB APPROACH</b>	B	<b>10.7</b>	----	C	<b>29.9</b>	----	D	<b>38.7</b>	----	B	<b>10.8</b>	----	C	<b>31.6</b>	----	D	<b>41.6</b>	----	B	<b>10.5</b>	----	D	<b>37.2</b>	----	D	<b>45.0</b>	----									
	CROSSGATES MALL ROAD	NB T	B	16.0	0.37	D	36.0	0.71	E	59.1	0.88	B	16.3	0.38	D	37.1	0.72	E	61.7	0.88	B	16.5	0.39	D	38.4	0.73	E	61.7	0.88									
		NB R	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00	A	0.0	0.00									
		<b>NB APPROACH</b>	B	<b>16.0</b>	----	D	<b>36.0</b>	----	E	<b>59.1</b>	----	B	<b>16.3</b>	----	D	<b>37.1</b>	----																					





**ATTACHMENT G**

Year 2019 Existing Traffic Volumes  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 10/23/2019



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1096	1859	230	224	48
Future Volume (vph)	0	1096	1859	230	224	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	14	12	12
Grade (%)		0%	2%		4%	
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	1.00
Frt			0.983			0.850
Flt Protected					0.950	
Satd. Flow (prot)	1801	3539	4784	0	3364	1552
Flt Permitted					0.950	
Satd. Flow (perm)	1801	3539	4784	0	3364	1552
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			55			24
Link Speed (mph)		40	40		30	
Link Distance (ft)		292	969		615	
Travel Time (s)		5.0	16.5		14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1191	2021	250	243	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1191	2271	0	243	52
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.04	1.00	1.06	0.93	1.03	1.03
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	100	100		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm

Year 2019 Existing Traffic Volumes  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 10/23/2019

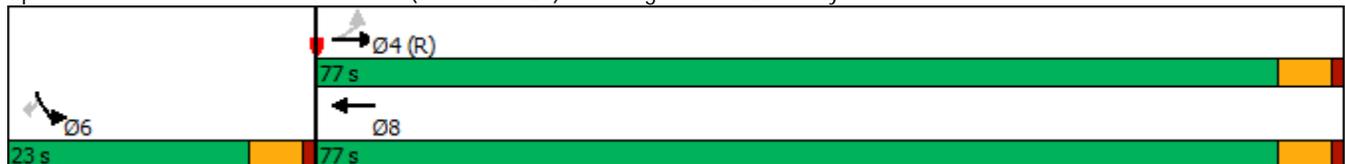


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases		4	8		6	
Permitted Phases	4					6
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	26.5	26.5	26.5		21.0	21.0
Total Split (s)	77.0	77.0	77.0		23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%		23.0%	23.0%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max	C-Max	None		Max	Max
v/c Ratio		0.47	0.66		0.40	0.17
Control Delay		6.6	8.3		33.4	18.9
Queue Delay		0.0	0.0		0.0	0.0
Total Delay		6.6	8.3		33.4	18.9
Queue Length 50th (ft)		144	234		71	15
Queue Length 95th (ft)		181	277		108	49
Internal Link Dist (ft)		212	889		535	
Turn Bay Length (ft)						
Base Capacity (vph)		2548	3459		605	299
Starvation Cap Reductn		0	0		0	0
Spillback Cap Reductn		0	0		0	0
Storage Cap Reductn		0	0		0	0
Reduced v/c Ratio		0.47	0.66		0.40	0.17

Intersection Summary

Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 37 (37%), Referenced to phase 4:EBTL and 7:, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated

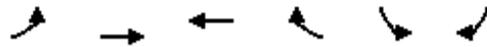
Splits and Phases: 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway



Year 2019 Existing Traffic Volumes  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour

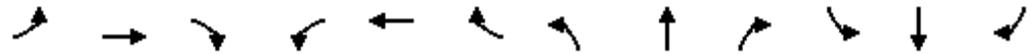
10/23/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↑↑	↑↑↑		↵↵	↵
Traffic Volume (veh/h)	0	1096	1859	230	224	48
Future Volume (veh/h)	0	1096	1859	230	224	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1847	1921	1776	1776
Adj Flow Rate, veh/h	0	1191	2021	250	243	52
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	72	2559	3277	400	591	271
Arrive On Green	0.00	0.72	0.72	0.72	0.18	0.18
Sat Flow, veh/h	165	3647	4718	556	3282	1505
Grp Volume(v), veh/h	0	1191	1486	785	243	52
Grp Sat Flow(s),veh/h/ln	165	1777	1681	1747	1641	1505
Q Serve(g_s), s	0.0	14.1	22.2	22.9	6.6	2.9
Cycle Q Clear(g_c), s	0.0	14.1	22.2	22.9	6.6	2.9
Prop In Lane	1.00			0.32	1.00	1.00
Lane Grp Cap(c), veh/h	72	2559	2420	1258	591	271
V/C Ratio(X)	0.00	0.47	0.61	0.62	0.41	0.19
Avail Cap(c_a), veh/h	72	2559	2420	1258	591	271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.97	0.97
Uniform Delay (d), s/veh	0.0	5.9	7.0	7.1	36.3	34.8
Incr Delay (d2), s/veh	0.0	0.6	0.5	1.0	2.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	6.1	6.6	2.8	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	6.5	7.5	8.1	38.4	36.3
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h		1191	2271		295	
Approach Delay, s/veh		6.5	7.7		38.0	
Approach LOS		A	A		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				77.0	23.0	77.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				72.0	18.0	72.0
Max Q Clear Time (g_c+I1), s				16.1	8.6	24.9
Green Ext Time (p_c), s				11.2	0.7	27.8
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			

Year 2019 Existing Traffic Volumes  
 2: Gabriel Terrace & Western Ave (U.S. Route 20)

Weekday Peak PM Hour  
 10/23/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1173	10	23	1868	16	6	0	19	3	0	4
Future Volume (vph)	1	1173	10	23	1868	16	6	0	19	3	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	14	12	11	14	11	11	11	12	12	12
Grade (%)		-3%			3%			1%				-1%
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	86			86			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.999			0.896				0.923
Flt Protected	0.950			0.950				0.989				0.979
Satd. Flow (prot)	1832	3464	0	1778	3367	0	0	1503	0	0	1725	0
Flt Permitted	0.950			0.950				0.989				0.979
Satd. Flow (perm)	1832	3464	0	1778	3367	0	0	1503	0	0	1725	0
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1018			964			269				394
Travel Time (s)		17.4			16.4			6.1				9.0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	20%	0%	2%	0%	17%	0%	5%	0%	0%	0%
Adj. Flow (vph)	1	1248	11	24	1987	17	6	0	20	3	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	1259	0	24	2004	0	0	26	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							
Headway Factor	0.98	1.02	0.90	1.02	1.07	0.94	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Year 2019 Existing Traffic Volumes  
 2: Gabriel Terrace & Western Ave (U.S. Route 20)

Weekday Peak PM Hour  
 10/23/2019

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕			↕			↕	
Traffic Vol, veh/h	1	1173	10	23	1868	16	6	0	19	3	0	4
Future Vol, veh/h	1	1173	10	23	1868	16	6	0	19	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	75	-	-	75	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-3	-	-	3	-	-	1	-	-	-1	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	0	2	20	0	2	0	17	0	5	0	0	0
Mvmt Flow	1	1248	11	24	1987	17	6	0	20	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2004	0	0	1259	0	0	2298	3308	630	2670	3305	1002
Stage 1	-	-	-	-	-	-	1256	1256	-	2044	2044	-
Stage 2	-	-	-	-	-	-	1042	2052	-	626	1261	-
Critical Hdwy	4.1	-	-	4.1	-	-	8.04	6.7	7.1	7.3	6.3	6.8
Critical Hdwy Stg 1	-	-	-	-	-	-	7.04	5.7	-	6.3	5.3	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.04	5.7	-	6.3	5.3	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.67	4	3.35	3.5	4	3.3
Pot Cap-1 Maneuver	290	-	-	559	-	-	15	7	410	13	10	251
Stage 1	-	-	-	-	-	-	149	229	-	66	112	-
Stage 2	-	-	-	-	-	-	208	89	-	459	261	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	290	-	-	559	-	-	14	7	410	12	10	251
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	7	-	12	10	-
Stage 1	-	-	-	-	-	-	149	228	-	66	107	-
Stage 2	-	-	-	-	-	-	196	85	-	435	260	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			127.9			191.8		
HCM LOS							F			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	
Capacity (veh/h)		53	290	-	-	559	-	-	26
HCM Lane V/C Ratio		0.502	0.004	-	-	0.044	-	-	0.286
HCM Control Delay (s)		127.9	17.5	-	-	11.7	-	-	191.8
HCM Lane LOS		F	C	-	-	B	-	-	F
HCM 95th %tile Q(veh)		1.9	0	-	-	0.1	-	-	0.9

Year 2019 Existing Traffic Volumes

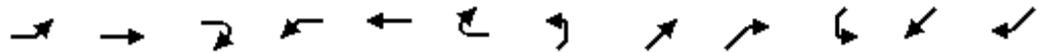
Weekday Peak PM Hour

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

10/23/2019



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	142	948	98	126	1431	28	129	75	94	95	203	323
Future Volume (vph)	142	948	98	126	1431	28	129	75	94	95	203	323
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%				-1%
Storage Length (ft)	100		0	100		0	100		110	75		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	86			86			86			86		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00	0.97	0.99		
Frt		0.986			0.997			0.975	0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3517	0	1805	3519	0	1770	1751	1534	1634	1909	1607
Flt Permitted	0.067			0.097			0.240			0.588		
Satd. Flow (perm)	125	3517	0	184	3519	0	447	1751	1489	997	1909	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			1			5	85			54
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		383			1018			654			735	
Travel Time (s)		6.5			17.4			14.9			16.7	
Confl. Peds. (#/hr)	4		4	4		4			10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	1%	0%	0%	2%	14%	2%	0%	0%	11%	0%	1%
Adj. Flow (vph)	153	1019	105	135	1539	30	139	81	101	102	218	347
Shared Lane Traffic (%)									16%			
Lane Group Flow (vph)	153	1124	0	135	1569	0	139	97	85	102	218	347
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	46	7		46	7		46	46	46	46	46	46
Trailing Detector (ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Position(ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Size(ft)	40	1		40	1		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7

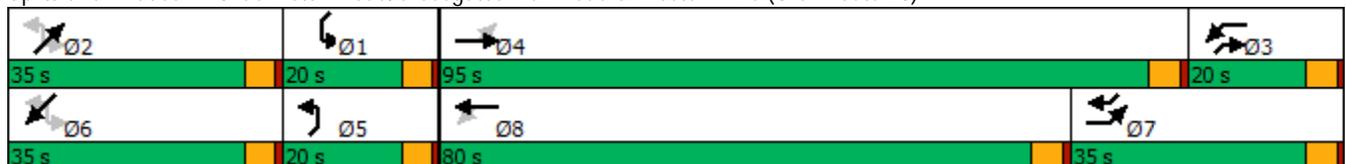


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	20.0		10.0	20.0		10.0	10.0	10.0	10.0	10.0	21.0
Total Split (s)	35.0	95.0		20.0	80.0		20.0	35.0	20.0	20.0	35.0	35.0
Total Split (%)	20.6%	55.9%		11.8%	47.1%		11.8%	20.6%	11.8%	11.8%	20.6%	20.6%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
v/c Ratio	0.45	0.81		0.24	0.90		0.81	0.49	0.14	0.36	0.83	0.60
Control Delay	44.3	45.3		29.2	44.6		96.6	68.6	6.7	53.3	89.5	39.3
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	45.3		29.2	44.6		96.6	68.6	6.7	53.3	89.5	39.3
Queue Length 50th (ft)	86	538		43	773		117	97	0	84	220	247
Queue Length 95th (ft)	157	586		107	#1092		184	161	43	142	325	358
Internal Link Dist (ft)		303			938			574			655	
Turn Bay Length (ft)	100			100			100		110	75		
Base Capacity (vph)	401	2103		558	1751		225	352	625	309	379	571
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.53		0.24	0.90		0.62	0.28	0.14	0.33	0.58	0.61

Intersection Summary

Area Type: Other  
 Cycle Length: 170  
 Actuated Cycle Length: 152  
 Natural Cycle: 90  
 Control Type: Semi Act-Uncoord  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

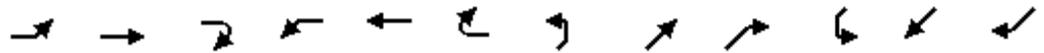


Year 2019 Existing Traffic Volumes

Weekday Peak PM Hour

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

10/23/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	142	948	98	126	1431	28	129	75	94	95	203	323
Future Volume (veh/h)	142	948	98	126	1431	28	129	75	94	95	203	323
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		0.97	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1885	1900	1870	1870	1870	1900	1900	1774	1939	1924
Adj Flow Rate, veh/h	153	1019	105	135	1539	30	139	96	91	102	218	347
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	1	1	0	2	2	2	0	0	11	0	1
Cap, veh/h	184	1274	131	464	1854	36	169	225	500	333	370	411
Arrive On Green	0.06	0.39	0.39	0.20	0.52	0.52	0.05	0.12	0.12	0.12	0.19	0.19
Sat Flow, veh/h	1781	3276	337	1810	3565	69	1781	1900	1569	1690	1939	1605
Grp Volume(v), veh/h	153	557	567	135	766	803	139	96	91	102	218	347
Grp Sat Flow(s),veh/h/ln	1781	1791	1822	1810	1777	1858	1781	1900	1569	1690	1939	1605
Q Serve(g_s), s	5.2	31.9	31.9	0.0	42.1	42.2	3.9	5.4	0.0	0.0	11.8	16.2
Cycle Q Clear(g_c), s	5.2	31.9	31.9	0.0	42.1	42.2	3.9	5.4	0.0	0.0	11.8	16.2
Prop In Lane	1.00		0.19	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	184	697	709	464	924	966	169	225	500	333	370	411
V/C Ratio(X)	0.83	0.80	0.80	0.29	0.83	0.83	0.82	0.43	0.18	0.31	0.59	0.84
Avail Cap(c_a), veh/h	532	1394	1418	464	1152	1205	307	493	721	342	503	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	31.3	31.3	35.5	23.4	23.5	52.6	47.3	28.9	42.5	42.6	40.9
Incr Delay (d2), s/veh	3.7	4.5	4.5	0.1	5.6	5.5	3.8	0.5	0.1	0.2	0.6	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	14.0	14.3	3.1	17.7	18.5	4.1	2.6	1.8	2.6	5.7	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	35.9	35.8	35.6	29.0	28.9	56.5	47.8	28.9	42.7	43.2	49.1
LnGrp LOS	E	D	D	D	C	C	E	D	C	D	D	D
Approach Vol, veh/h		1277			1704			326			667	
Approach Delay, s/veh		38.2			29.5			46.2			46.2	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.4	18.7	27.6	50.0	11.0	27.1	12.4	65.1				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	15.0	30.0	15.0	90.0	15.0	30.0	30.0	75.0				
Max Q Clear Time (g_c+I1), s	2.0	7.4	2.0	33.9	5.9	18.2	7.2	44.2				
Green Ext Time (p_c), s	0.1	0.4	0.2	11.1	0.2	1.2	0.3	15.9				

Intersection Summary

HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Year 2022 Build Traffic Volumes  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 12/06/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↶	↷	↷		↶	↷
Traffic Volume (vph)	100	1116	1969	223	283	49
Future Volume (vph)	100	1116	1969	223	283	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	14	12	12
Grade (%)		0%	2%		4%	
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	1.00
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	3539	4794	0	3364	1552
Flt Permitted	0.056				0.950	
Satd. Flow (perm)	101	3539	4794	0	3364	1552
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			49			19
Link Speed (mph)		40	40		30	
Link Distance (ft)		292	969		615	
Travel Time (s)		5.0	16.5		14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	1213	2140	242	308	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	1213	2382	0	308	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.04	1.00	1.06	0.93	1.03	1.03
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	100	100		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm

Year 2022 Build Traffic Volumes  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 12/06/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases		4	8		6	
Permitted Phases	4					6
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	26.5	26.5	26.5		21.0	21.0
Total Split (s)	77.0	77.0	77.0		23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%		23.0%	23.0%
Maximum Green (s)	72.0	72.0	72.0		18.0	18.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	C-Max	C-Max	None		Max	Max
Walk Time (s)	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	72.0	72.0	72.0		18.0	18.0
Actuated g/C Ratio	0.72	0.72	0.72		0.18	0.18
v/c Ratio	1.51	0.48	0.69		0.51	0.18
Control Delay	311.5	6.7	8.9		34.3	20.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	311.5	6.7	8.9		34.3	20.2
LOS	F	A	A		C	C
Approach Delay		31.8	8.9		32.2	
Approach LOS		C	A		C	
Queue Length 50th (ft)	~50	148	258		92	18
Queue Length 95th (ft)	#162	186	305		135	53
Internal Link Dist (ft)		212	889		535	
Turn Bay Length (ft)	125					
Base Capacity (vph)	72	2548	3465		605	294
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	1.51	0.48	0.69		0.51	0.18

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	37 (37%), Referenced to phase 4:EBTL and 7:, Start of Green
Natural Cycle:	75
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.51
Intersection Signal Delay:	18.4
Intersection Capacity Utilization	69.1%
Intersection LOS:	B
ICU Level of Service	C

Analysis Period (min) 15

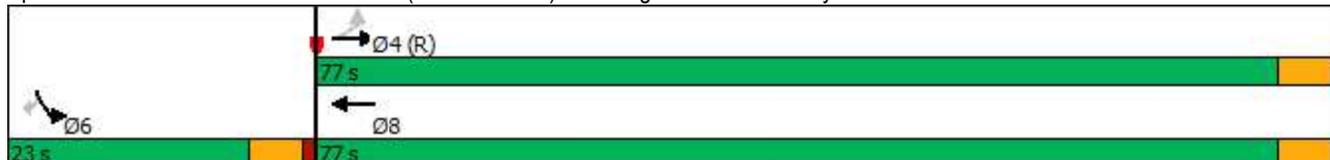
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

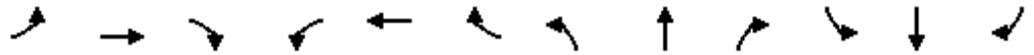
Queue shown is maximum after two cycles.

Splits and Phases: 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway



Year 2022 Build Traffic Volumes  
2: Gabriel Terrace & Western Ave (U.S. Route 20)

Weekday Peak PM Hour  
12/06/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1166	30	70	1894	37	18	0	47	0	0	101
Future Volume (vph)	0	1166	30	70	1894	37	18	0	47	0	0	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	14	12	11	14	11	11	11	12	12	12
Grade (%)		-3%			3%			1%				-1%
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	86			86			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.997			0.902				0.865
Flt Protected				0.950				0.986				
Satd. Flow (prot)	1928	3443	0	1778	3361	0	0	1501	0	0	1652	0
Flt Permitted				0.950				0.986				
Satd. Flow (perm)	1928	3443	0	1778	3361	0	0	1501	0	0	1652	0
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1018			964			269				295
Travel Time (s)		17.4			16.4			6.1				6.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	20%	0%	2%	0%	17%	0%	5%	0%	0%	0%
Adj. Flow (vph)	0	1240	32	74	2015	39	19	0	50	0	0	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1272	0	74	2054	0	0	69	0	0	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							
Headway Factor	0.98	1.02	0.90	1.02	1.07	0.94	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop				Stop

Intersection Summary

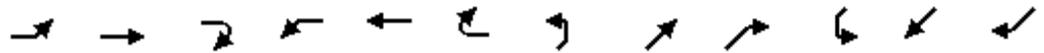
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	75.4%
ICU Level of Service	D
Analysis Period (min)	15

Year 2022 Build Traffic Volumes

Weekday Peak PM Hour

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

12/06/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	221	953	99	134	1514	73	131	76	95	101	200	323
Future Volume (vph)	221	953	99	134	1514	73	131	76	95	101	200	323
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-1%	
Storage Length (ft)	100		0	100		0	100		110	75		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	86			86			86			86		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00	0.97	0.99		
Frt		0.986			0.993			0.976	0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3517	0	1805	3493	0	1770	1753	1534	1634	1909	1607
Flt Permitted	0.067			0.095			0.238			0.584		
Satd. Flow (perm)	125	3517	0	180	3493	0	443	1753	1489	990	1909	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			4			5	86			51
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		383			1018			654			346	
Travel Time (s)		6.5			17.4			14.9			7.9	
Confl. Peds. (#/hr)	4		4	4		4			10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	1%	0%	0%	2%	14%	2%	0%	0%	11%	0%	1%
Adj. Flow (vph)	238	1025	106	144	1628	78	141	82	102	109	215	347
Shared Lane Traffic (%)									16%			
Lane Group Flow (vph)	238	1131	0	144	1706	0	141	98	86	109	215	347
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	46	7		46	7		46	46	46	46	46	46
Trailing Detector (ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Position(ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Size(ft)	40	1		40	1		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7

Year 2022 Build Traffic Volumes

Weekday Peak PM Hour

3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

12/06/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
<b>Switch Phase</b>												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	20.0		10.0	20.0		10.0	10.0	10.0	10.0	10.0	21.0
Total Split (s)	35.0	95.0		20.0	80.0		20.0	35.0	20.0	20.0	35.0	35.0
Total Split (%)	20.6%	55.9%		11.8%	47.1%		11.8%	20.6%	11.8%	11.8%	20.6%	20.6%
Maximum Green (s)	30.0	90.0		15.0	75.0		15.0	30.0	15.0	15.0	30.0	30.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			22.0			22.0	
Pedestrian Calls (#/hr)		4			4			10			0	
Act Effct Green (s)	85.3	60.0		104.2	75.5		27.2	16.8	57.6	33.8	20.8	51.1
Actuated g/C Ratio	0.56	0.39		0.68	0.50		0.18	0.11	0.38	0.22	0.14	0.34
v/c Ratio	0.69	0.81		0.26	0.98		0.83	0.50	0.14	0.39	0.82	0.61
Control Delay	59.4	45.4		30.7	56.2		99.5	68.6	6.6	54.5	89.5	39.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.4	45.4		30.7	56.2		99.5	68.6	6.6	54.5	89.5	39.9
LOS	E	D		C	E		F	E	A	D	F	D
Approach Delay		47.8			54.2			65.6			58.1	
Approach LOS		D			D			E			E	
Queue Length 50th (ft)	173	542		46	~932		119	98	0	91	217	250
Queue Length 95th (ft)	277	586		123	#1259		187	162	42	149	320	361
Internal Link Dist (ft)		303			938			574			266	
Turn Bay Length (ft)	100			100			100		110	75		
Base Capacity (vph)	400	2098		558	1735		224	351	628	305	378	568
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.54		0.26	0.98		0.63	0.28	0.14	0.36	0.57	0.61

**Intersection Summary**

Area Type:	Other
Cycle Length:	170
Actuated Cycle Length:	152.2
Natural Cycle:	100
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.98
Intersection Signal Delay:	53.6
Intersection LOS:	D
Intersection Capacity Utilization:	90.9%
ICU Level of Service:	E
Analysis Period (min):	15

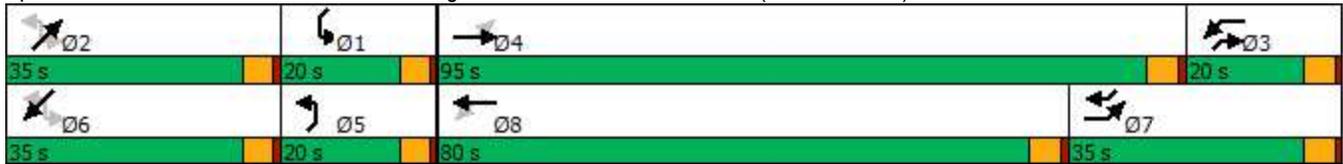
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

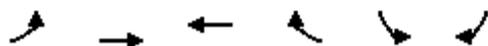
Queue shown is maximum after two cycles.

Splits and Phases: 3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)



Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 12/06/2021



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	1172	1969	223	227	49
Future Volume (veh/h)	100	1172	1969	223	227	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1847	1921	1776	1776
Adj Flow Rate, veh/h	109	1274	2140	242	247	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	141	2559	3314	369	591	271
Arrive On Green	0.72	0.72	0.72	0.72	0.18	0.18
Sat Flow, veh/h	148	3647	4769	513	3282	1505
Grp Volume(v), veh/h	109	1274	1554	828	247	53
Grp Sat Flow(s),veh/h/ln	148	1777	1681	1754	1641	1505
Q Serve(g_s), s	47.0	15.6	24.1	25.0	6.7	3.0
Cycle Q Clear(g_c), s	72.0	15.6	24.1	25.0	6.7	3.0
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	141	2559	2420	1263	591	271
V/C Ratio(X)	0.77	0.50	0.64	0.66	0.42	0.20
Avail Cap(c_a), veh/h	141	2559	2420	1263	591	271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.95	0.95
Uniform Delay (d), s/veh	35.0	6.1	7.3	7.4	36.4	34.8
Incr Delay (d2), s/veh	32.6	0.7	0.6	1.2	2.1	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.7	6.6	7.4	2.8	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.6	6.8	7.9	8.7	38.4	36.4
LnGrp LOS	E	A	A	A	D	D
Approach Vol, veh/h		1383	2382		300	
Approach Delay, s/veh		11.6	8.1		38.1	
Approach LOS		B	A		D	
Timer - Assigned Phs				4	6	8
Phs Duration (G+Y+Rc), s				77.0	23.0	77.0
Change Period (Y+Rc), s				5.0	5.0	5.0
Max Green Setting (Gmax), s				72.0	18.0	72.0
Max Q Clear Time (g_c+I1), s				74.0	8.7	27.0
Green Ext Time (p_c), s				0.0	0.7	29.0
<b>Intersection Summary</b>						
HCM 6th Ctrl Delay			11.5			
HCM 6th LOS			B			

Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

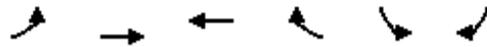
Weekday Peak PM Hour  
 12/06/2021



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	100	1172	1969	223	227	49
Future Volume (vph)	100	1172	1969	223	227	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	12	11	14	12	12
Grade (%)		0%	2%		4%	
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	2	1
Taper Length (ft)	50				25	
Lane Util. Factor	1.00	0.95	0.91	0.91	0.97	1.00
Frt			0.985			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1711	3539	4794	0	3364	1552
Flt Permitted	0.056				0.950	
Satd. Flow (perm)	101	3539	4794	0	3364	1552
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			49			19
Link Speed (mph)		40	40		30	
Link Distance (ft)		292	969		615	
Travel Time (s)		5.0	16.5		14.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	109	1274	2140	242	247	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	109	1274	2382	0	247	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		11	11		24	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane		Yes	Yes			
Headway Factor	1.04	1.00	1.06	0.93	1.03	1.03
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	1
Detector Template	Left	Thru	Thru		Left	Right
Leading Detector (ft)	20	100	100		20	20
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	6	6		20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	Perm

Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway

Weekday Peak PM Hour  
 12/06/2021

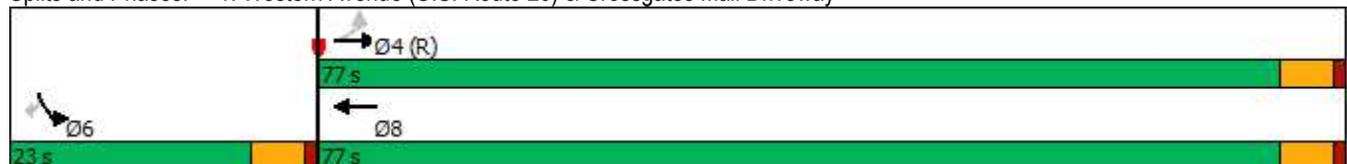


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Protected Phases		4	8		6	
Permitted Phases	4					6
Detector Phase	4	4	8		6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	26.5	26.5	26.5		21.0	21.0
Total Split (s)	77.0	77.0	77.0		23.0	23.0
Total Split (%)	77.0%	77.0%	77.0%		23.0%	23.0%
Maximum Green (s)	72.0	72.0	72.0		18.0	18.0
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0		5.0	5.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	C-Max	C-Max	None		Max	Max
Walk Time (s)	5.0	5.0	5.0		5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0		0	0
Act Effct Green (s)	72.0	72.0	72.0		18.0	18.0
Actuated g/C Ratio	0.72	0.72	0.72		0.18	0.18
v/c Ratio	1.51	0.50	0.69		0.41	0.18
Control Delay	311.5	6.9	8.9		32.5	20.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	311.5	6.9	8.9		32.5	20.2
LOS	F	A	A		C	C
Approach Delay		30.9	8.9		30.4	
Approach LOS		C	A		C	

Intersection Summary

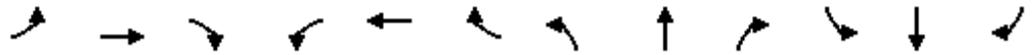
Area Type: Other  
 Cycle Length: 100  
 Actuated Cycle Length: 100  
 Offset: 37 (37%), Referenced to phase 4:EBTL and 7:, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.51  
 Intersection Signal Delay: 18.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 67.5%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 1: Western Avenue (U.S. Route 20) & Crossgates Mall Driveway



Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 2: Gabriel Terrace & Western Ave (U.S. Route 20)

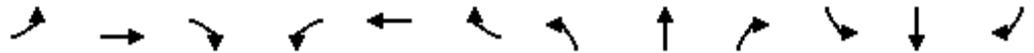
Weekday Peak PM Hour  
 12/06/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1166	30	70	1894	37	18	0	47	56	0	101
Future Volume (veh/h)	35	1166	30	70	1894	37	18	0	47	56	0	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2018	1988	1786	1847	1817	1921	1642	1894	1820	1939	1939	1939
Adj Flow Rate, veh/h	37	1240	32	74	2015	39	19	0	50	60	0	107
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	2	20	0	2	0	17	0	5	0	0	0
Cap, veh/h	170	1469	38	649	2255	44	108	25	163	139	14	138
Arrive On Green	0.03	0.39	0.39	0.29	0.65	0.65	0.13	0.00	0.13	0.13	0.00	0.13
Sat Flow, veh/h	1922	3762	97	1759	3465	67	277	190	1229	474	108	1038
Grp Volume(v), veh/h	37	622	650	74	1001	1053	69	0	0	167	0	0
Grp Sat Flow(s),veh/h/ln	1922	1889	1971	1759	1726	1805	1695	0	0	1620	0	0
Q Serve(g_s), s	0.0	19.3	19.3	0.0	31.0	31.4	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	19.3	19.3	0.0	31.0	31.4	2.4	0.0	0.0	6.3	0.0	0.0
Prop In Lane	1.00		0.05	1.00		0.04	0.28		0.72	0.36		0.64
Lane Grp Cap(c), veh/h	170	737	769	649	1124	1175	296	0	0	291	0	0
V/C Ratio(X)	0.22	0.84	0.84	0.11	0.89	0.90	0.23	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	232	1674	1747	649	1557	1628	472	0	0	471	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.2	17.8	17.8	15.5	9.3	9.4	25.2	0.0	0.0	26.8	0.0	0.0
Incr Delay (d2), s/veh	0.6	2.7	2.6	0.1	5.2	5.3	0.4	0.0	0.0	1.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.6	7.9	0.7	8.5	9.1	0.9	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	20.6	20.5	15.6	14.5	14.7	25.6	0.0	0.0	28.6	0.0	0.0
LnGrp LOS	C	C	C	B	B	B	C	A	A	C	A	A
Approach Vol, veh/h		1309			2128			69				167
Approach Delay, s/veh		20.8			14.7			25.6				28.6
Approach LOS		C			B			C				C
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		12.5	22.7	29.1		12.5	5.9	45.8				
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0	4.0	4.0				
Max Green Setting (Gmax), s		16.0	5.0	57.0		16.0	4.0	58.0				
Max Q Clear Time (g_c+I1), s		4.4	2.0	21.3		8.3	2.0	33.4				
Green Ext Time (p_c), s		0.1	0.0	3.8		0.3	0.0	8.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				17.7								
HCM 6th LOS				B								

Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 2: Gabriel Terrace & Western Ave (U.S. Route 20)

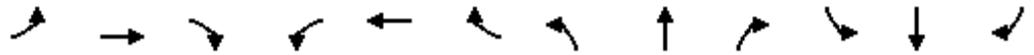
Weekday Peak PM Hour  
 12/06/2021



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1166	30	70	1894	37	18	0	47	56	0	101
Future Volume (vph)	35	1166	30	70	1894	37	18	0	47	56	0	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	14	12	11	14	11	11	11	12	12	12
Grade (%)		-3%			3%			1%				-1%
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	86			86			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.997			0.902				0.914
Flt Protected	0.950			0.950				0.986				0.982
Satd. Flow (prot)	1832	3443	0	1778	3361	0	0	1501	0	0	1714	0
Flt Permitted	0.086			0.160				0.858				0.886
Satd. Flow (perm)	166	3443	0	299	3361	0	0	1306	0	0	1546	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			4			61				86
Link Speed (mph)		40			40			30				30
Link Distance (ft)		1018			964			269				295
Travel Time (s)		17.4			16.4			6.1				6.7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	2%	20%	0%	2%	0%	17%	0%	5%	0%	0%	0%
Adj. Flow (vph)	37	1240	32	74	2015	39	19	0	50	60	0	107
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1272	0	74	2054	0	0	69	0	0	167	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane		Yes			Yes							
Headway Factor	0.98	1.02	0.90	1.02	1.07	0.94	1.05	1.05	1.05	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template							Left			Left		
Leading Detector (ft)	46	7		46	7		20	46		20	46	
Trailing Detector (ft)	6	6		6	6		0	6		0	6	
Detector 1 Position(ft)	6	6		6	6		0	6		0	6	
Detector 1 Size(ft)	40	1		40	1		20	40		20	40	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2				6
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6		6
Switch Phase												

Year 2022 Build Traffic Volumes\_Gabriel with Signal  
 2: Gabriel Terrace & Western Ave (U.S. Route 20)

Weekday Peak PM Hour  
 12/06/2021

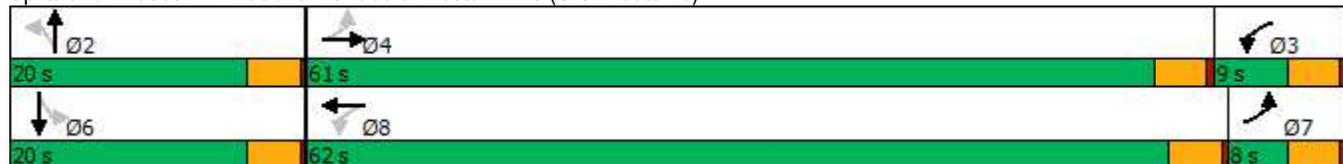


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	20.0		8.0	20.0		20.0	20.0		20.0	20.0	
Total Split (s)	8.0	61.0		9.0	62.0		20.0	20.0		20.0	20.0	
Total Split (%)	8.9%	67.8%		10.0%	68.9%		22.2%	22.2%		22.2%	22.2%	
Maximum Green (s)	4.0	57.0		5.0	58.0		16.0	16.0		16.0	16.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min		None	Min		None	None		None	None	
Walk Time (s)		5.0			5.0		5.0	5.0		5.0	5.0	
Flash Dont Walk (s)		11.0			11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effct Green (s)	50.9	46.7		57.0	52.4			9.9			9.9	
Actuated g/C Ratio	0.68	0.62		0.76	0.70			0.13			0.13	
v/c Ratio	0.18	0.59		0.17	0.87			0.31			0.60	
Control Delay	7.7	12.3		5.1	16.1			15.0			26.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	7.7	12.3		5.1	16.1			15.0			26.9	
LOS	A	B		A	B			B			C	
Approach Delay		12.2			15.7			15.0			26.9	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	74.8
Natural Cycle:	90
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	14.9
Intersection LOS:	B
Intersection Capacity Utilization:	78.5%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 2: Gabriel Terrace & Western Ave (U.S. Route 20)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	187	988	99	134	1514	73	131	76	95	101	200	323
Future Volume (veh/h)	187	988	99	134	1514	73	131	76	95	101	200	323
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		0.97	0.98		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1885	1900	1900	1870	1693	1870	1900	1900	1774	1939	1924
Adj Flow Rate, veh/h	201	1062	106	144	1628	78	141	97	92	109	215	347
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	1	0	0	2	14	2	0	0	11	0	1
Cap, veh/h	229	1294	129	525	1836	88	167	217	559	287	308	413
Arrive On Green	0.10	0.39	0.39	0.24	0.53	0.53	0.06	0.11	0.11	0.10	0.16	0.16
Sat Flow, veh/h	1781	3287	328	1810	3452	165	1781	1900	1568	1690	1939	1600
Grp Volume(v), veh/h	201	578	590	144	834	872	141	97	92	109	215	347
Grp Sat Flow(s),veh/h/ln	1781	1791	1824	1810	1777	1840	1781	1900	1568	1690	1939	1600
Q Serve(g_s), s	10.5	37.8	37.9	0.9	54.2	55.1	5.6	6.2	0.0	0.0	13.7	13.8
Cycle Q Clear(g_c), s	10.5	37.8	37.9	0.9	54.2	55.1	5.6	6.2	0.0	0.0	13.7	13.8
Prop In Lane	1.00		0.18	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	705	718	525	945	979	167	217	559	287	308	413
V/C Ratio(X)	0.88	0.82	0.82	0.27	0.88	0.89	0.84	0.45	0.16	0.38	0.70	0.84
Avail Cap(c_a), veh/h	464	1232	1255	525	1019	1055	267	436	739	306	445	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	35.5	35.5	36.5	27.0	27.2	59.3	54.1	29.3	50.8	52.0	46.0
Incr Delay (d2), s/veh	4.2	5.1	5.0	0.1	9.7	10.1	6.9	0.5	0.1	0.3	1.1	7.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	16.9	17.3	3.5	24.1	25.4	4.9	3.0	2.0	3.3	6.8	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	40.6	40.5	36.6	36.7	37.3	66.2	54.6	29.4	51.1	53.1	53.7
LnGrp LOS	E	D	D	D	D	D	E	D	C	D	D	D
Approach Vol, veh/h		1369			1850			330			671	
Approach Delay, s/veh		43.5			37.0			52.5			53.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.5	19.9	35.9	56.5	12.7	25.8	17.8	74.6				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	15.0	30.0	15.0	90.0	15.0	30.0	30.0	75.0				
Max Q Clear Time (g_c+I1), s	2.0	8.2	2.9	39.9	7.6	15.8	12.5	57.1				
Green Ext Time (p_c), s	0.1	0.4	0.2	11.6	0.1	1.2	0.3	12.5				

Intersection Summary

HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	187	988	99	134	1514	73	131	76	95	101	200	323
Future Volume (vph)	187	988	99	134	1514	73	131	76	95	101	200	323
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-1%	
Storage Length (ft)	100		0	100		0	100		110	75		0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	86			86			86			86		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			1.00	0.97	0.99		
Frt		0.986			0.993			0.976	0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3517	0	1805	3493	0	1770	1753	1534	1634	1909	1607
Flt Permitted	0.065			0.091			0.238			0.584		
Satd. Flow (perm)	121	3517	0	173	3493	0	443	1753	1489	990	1909	1607
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			4			5	86			51
Link Speed (mph)		40			40			30			30	
Link Distance (ft)		383			1018			654			346	
Travel Time (s)		6.5			17.4			14.9			7.9	
Confl. Peds. (#/hr)	4		4	4		4			10	10		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	2%	1%	0%	0%	2%	14%	2%	0%	0%	11%	0%	1%
Adj. Flow (vph)	201	1062	106	144	1628	78	141	82	102	109	215	347
Shared Lane Traffic (%)									16%			
Lane Group Flow (vph)	201	1168	0	144	1706	0	141	98	86	109	215	347
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template												
Leading Detector (ft)	46	7		46	7		46	46	46	46	46	46
Trailing Detector (ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Position(ft)	6	6		6	6		6	6	6	6	6	6
Detector 1 Size(ft)	40	1		40	1		40	40	40	40	40	40
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		3	8		5	2	3	1	6	7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	21.0	20.0		10.0	20.0		10.0	10.0	10.0	10.0	10.0	21.0
Total Split (s)	35.0	95.0		20.0	80.0		20.0	35.0	20.0	20.0	35.0	35.0
Total Split (%)	20.6%	55.9%		11.8%	47.1%		11.8%	20.6%	11.8%	11.8%	20.6%	20.6%
Maximum Green (s)	30.0	90.0		15.0	75.0		15.0	30.0	15.0	15.0	30.0	30.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lag	Lead		Lag	Lead		Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	2.0	5.0		2.0	5.0		2.0	2.0	2.0	2.0	2.0	2.0
Recall Mode	None	Min		None	Min		None	None	None	None	None	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		22.0			22.0			22.0			22.0	
Pedestrian Calls (#/hr)		4			4			10			0	
Act Effct Green (s)	87.0	61.9		103.7	75.5		27.2	16.8	55.7	33.8	20.8	51.1
Actuated g/C Ratio	0.57	0.41		0.68	0.50		0.18	0.11	0.37	0.22	0.14	0.34
v/c Ratio	0.59	0.81		0.27	0.98		0.83	0.50	0.14	0.39	0.82	0.61
Control Delay	52.7	44.4		32.1	56.2		99.5	68.6	6.9	54.5	89.5	39.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	44.4		32.1	56.2		99.5	68.6	6.9	54.5	89.5	39.9
LOS	D	D		C	E		F	E	A	D	F	D
Approach Delay		45.6			54.3			65.7			58.1	
Approach LOS		D			D			E			E	

Intersection Summary

Area Type: Other

Cycle Length: 170

Actuated Cycle Length: 152.2

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 53.0

Intersection LOS: D

Intersection Capacity Utilization 89.0%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Johnston Road/Crossgates Mall Road & Western Ave (U.S. Route 20)

