CAMERON ENGINEERING
& ASSOCIATES, L.L.P.

177 Crossways Park Drive, Woodbury, NY 11797, (516) 827-4900
1411 Broadway, Suite 610, New York, NY 10018, (212) 324-4000
303 Old Tarrytown Road, 1st Floor, White Plains, NY 10603, (914) 721-8300

Active Member of ACEC New York

Managing Partner
John D. Cameron, Jr., P.E.
Senior Partner
Joseph R. Amato, P.E.
Partners / Principals
Mark Wagner, CEP
Janice Jijina, P.E., AICP CEP
Nicholas A. Kumbatovic, P.E.
Kevin M. McAndrew, R.L.A., AICP
Michael J. Hults, P.E.
Associate Partner
Andrew L. Narus, P.E.
Senior Associates
Glenn DeSimone, P.E., CPE
Stephen Hadjiyane, P.E., BCEE
Associates
Michael A. De Giglio, R.L.A.
Richard J. Zapolski, Jr., P.E.

August 28, 2020

H. Guy Leibler
President
Simone Healthcare Development
1250 Waters Place, PH 1
Bronx, NY 10461

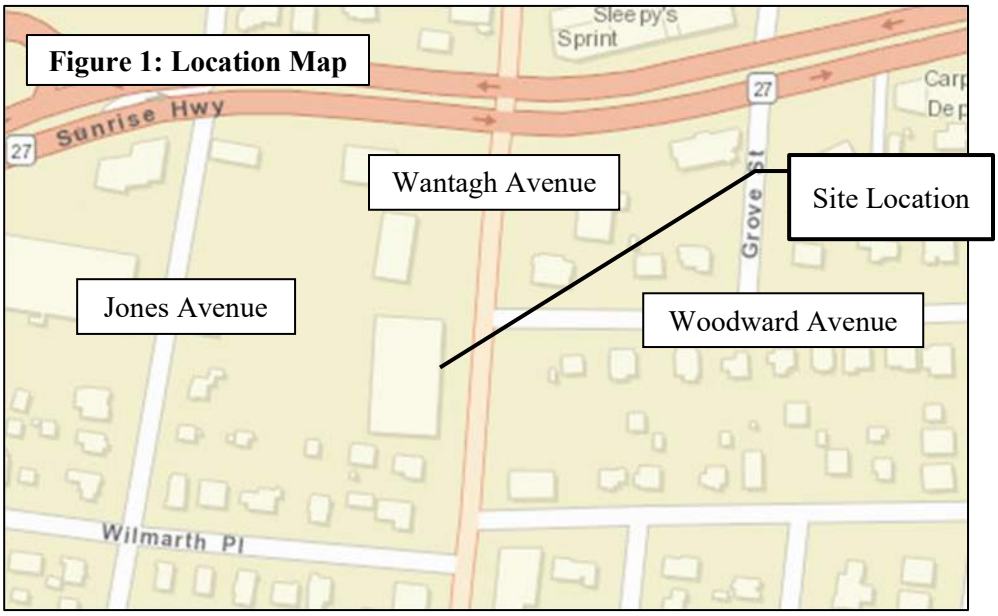
Re: 2020 Wantagh Avenue, Wantagh (Proposed Medical Office)
Traffic and Parking Assessment
CE 2922 A

Dear Mr. Leibler:

Cameron Engineering has conducted a study of projected traffic and parking conditions related to a proposed re-use of the 62,186 s.f. building at 2020 Wantagh Avenue. This building was previously utilized as a Verizon office and the proposed use is for medical office with 36 physicians and 100 staff when full capacity is achieved. This letter report is a summary of Cameron Engineering's technical analysis and conclusions.

Location

The property is on the west side of Wantagh Avenue, south of Sunrise Highway, across from Woodward Avenue, as shown in Figure 1 below:



Adjacent Roadways

Wantagh Avenue is a two-way, two-lane road under Nassau County Department of Public Works (NCDPW) jurisdiction. The approximate Average Annual Daily Traffic (AADT) volume past the site is ±11,100 vehicles per day, which corresponds to ±1,100 vehicles per hour during the busiest hour of the week. The posted speed limit near the property is 30 mph.

Site Extents and Access

The building has its main driveway on Wantagh Avenue, across from Woodward Avenue. The site also has two driveway aprons on Jones Avenue, which have been closed while the building was unoccupied.

With the former use, drivers could enter or exit any of the driveways making a left turn or right turn. If the Town does not prohibit left turns onto Jones Avenue, some drivers could use these driveways to turn left on Jones Avenue, and would likely turn left on Wilmarth Place to access Wantagh Avenue. Based on the Trip Distribution and Assignment table at the end of this report, up to 10 cars per hour might take this alternate route if it is permitted.

The property owner intends to close the southerly driveway on Jones Avenue, and to reconfigure the remaining Jones Avenue driveway for exiting right turns only.

The Jones Avenue driveway can provide alternate access to and from Sunrise Highway, while limiting the additional traffic on local streets. While the applicant believes it best to keep full access at Wantagh Avenue and restrict Jones Avenue access by prohibiting exiting left turns to southbound Jones Avenue, to limit impacts to the residential neighborhood streets (see **Figure 3** on the next page), either scenario (allowing or prohibiting left turns onto Jones Avenue) can be accommodated with respect to traffic flow.

In 2020, the property owner completed the purchase of two adjacent parcels for use as additional overflow parking. **Figure 2** below reflects the current size of the property.

Figure 2: Aerial and Site Access

Figure 3: Proposed Site Access Permitted Turns

Traffic Volumes

Traffic volumes were counted at the intersection of Wantagh Avenue-Woodward Avenue-Main Site Driveway on Saturday, January 26, 2019 from 12:00-2:00 p.m. and on Tuesday, January 29, 2019 from 7:00-11:00 a.m. and 1:00-3:00 p.m. to capture the typical morning and mid-afternoon peak hour periods for medical offices.

Additionally, 24-hour road tube counts were obtained on Jones Avenue near the driveways and on Wilmarth Place between Wantagh Avenue and Jones Avenue from Wednesday, January 23 to Friday, February 1, 2019.

The counted volumes are provided at the back of this report.

Site-Generated Trips

The building was formerly a general office, and could revert to general office use in the future if this specific application does not proceed. The traffic associated with this application is therefore the incremental change based on the difference in traffic between a general and medical office use.

Cameron Engineering calculated the expected peak hour trip generation numbers using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (10th Edition) Land Use Codes 710 (General Office) and 720 (Medical-Dental Office), supplemented with local operations at a similar facility in Greenlawn.

ITE Trip Generation data (10th Edition): ITE data is based on the square footage of the building, and during the respective AM, early afternoon, and Saturday peak hours, the general office use generated 85, 73, and 33 trips.

Local Data: The ITE recommends using local data (if it is available) to calculate trip generation. For the proposed medical office use, calculations were based on the applicant's similar facility in Greenlawn. Based on its first six months of operation, this similar location averages 717 patient visits per weekday (Monday to Friday) with consistent visitor numbers over 10 hours (8:00 a.m.-6:00 p.m.) and during each day of the week. Saturday visitor totals are lower since the office closes earlier, but hourly visit counts are reportedly consistent.

The Wantagh building has approximately 75% of the occupied square footage in Greenlawn (±60,000 vs. ±80,000 s.f.) so based on relative square footage, one would expect 75% of the patient visitor count at Wantagh. The average visitor traffic generation is therefore:

- 717 visitors in 10 hours corresponds to 72 visitors per hour (in and out)
- 75% of this average = 75% of 72 = 54 visitors in and out
- At full operation, there will be 36 doctors and 100 staff working different shifts. For a given day, account for 50% of the staff (50) and doctors (18) entering at the same time in the morning and leaving in the early afternoon, which adds 68 trips in and out associated with employees.

These numbers are in line with the traffic observed at the Greenlawn site (see Table 4 on page 7). The results are shown in Table 1 below.

The calculated weekday difference is 35-91 trips per hour, with a peak directional change of 49 trips in or out over an hour. This equates to 1 vehicle every 1-2 minutes.

On Saturday, the peak entering traffic occurs before the roadway peak hours (10:00 a.m. and noon). However, to be conservative, this report considers the traffic with employees entering during the Saturday peak hour. The net change is generally 38 vehicles in or out (1 every 2 minutes), and 105 additional trips in at the start of the day.

Table 1: Site-Generated Trips (ITE General Office data, Local Medical Office data)

Proposed Medical Office	AM Peak Hour	Early Afternoon Peak	Saturday Peak Hour
Enter	122	54	122
Exit	54	54	54
Proposed Total	176	108	176
Former General Office	AM Peak Hour	Early Afternoon Peak	Saturday Peak Hour
Enter	73	12	17
Exit	12	61	16
Former Office Total	85	73	33
Net Incremental Change			
Enter	49	42	105
Exit	42	-7	38
Total	91 (85 → 176)	35 (73 → 108)	143 (33 → 176)

Traffic Operation

The quality of traffic flow at an intersection is measured in terms of its Level of Service (LOS), which ranges in grade from LOS "A" (relatively congestion-free) to LOS "F" (congested). LOS grades are based on average delay as measured in "seconds per vehicle", and graded based on the intersections being controlled by stop signs.

Cameron Engineering determined the potential traffic impacts the proposed re-use would have on the surrounding roads, by comparing the existing levels of service, the alternate levels of service in 2021 if the building reverts to general office use, and the "Build" conditions in 2021 with the proposed medical offices. See Table 2 below for the existing levels of service, followed by Table 3 that compares levels of service with general vs. medical office use of the building. The two Jones Avenue driveways are analyzed as if every driver uses the same apron, with the above-referenced "Right Turn Only" designation for exiting traffic.

As shown in the LOS summary tables, there will be little to no delay increases at the existing intersection or at the Jones Avenue driveway (analyzed as if all traffic using Jones Avenue uses the same apron). All lane groups will operate at LOS A, B, or C, the three best LOS grades.

Table 2: Existing Levels of Service

Wantagh Avenue at Woodward Avenue and Site Driveway only (no existing northbound delay)

	AM Peak Hour			Early Afternoon Peak			Saturday Peak Hour		
Movement	**Delay**	**v/c Ratio**	**LOS**	**Delay**	**v/c Ratio**	**LOS**	**Delay**	**v/c Ratio**	**LOS**
Westbound LTR	12.5	0.16	B	12.1	0.12	B	14.0	0.19	B
Southbound LT	8.4	0.01	A	8.3	0.02	A	8.7	0.01	A
Through-Right	0.0	0.00	A	0.1	0.00	A	0.1	0.00	A
INTERSECTION	*1.4*	*0.00*	*A*	*1.1*	*0.00*	*A*	*1.3*	*0.00*	*A*

Table 3: Levels of Service with General Office vs. with Medical Office

AM Peak Hour		2021 with General Office			2021 with Medical Office		
Intersection	**Movement**	**Delay**	**v/c Ratio**	**LOS**	**Delay**	**v/c Ratio**	**LOS**
Wantagh Avenue at Woodward Avenue and Main Site Driveway	Eastbound LTR	13.1	0.03	B	14.6	0.12	B
	Westbound LTR	13.5	0.18	B	14.3	0.20	B
	Northbound LT	7.9	0.02	A	8.0	0.03	A
	Through-Right	0.1	0.00	A	0.1	0.00	A
	Southbound LT	8.4	0.01	A	8.4	0.01	A
	Through-Right	0.0	0.00	A	0.0	0.00	A
	INTERSECTION	*1.9*		*A*	*2.5*		*A*
Jones Avenue Site Driveway	Westbound Right	8.4	0.00	A	8.4	0.01	A
	Southbound LT	7.3	0.00	A	7.3	0.01	A
	INTERSECTION	*1.6*		*A*	*2.6*		*A*
Early Afternoon Peak	**Movement**	**Delay**	**v/c Ratio**	**LOS**	**Delay**	**v/c Ratio**	**LOS**
Wantagh Avenue at Woodward Avenue and Main Site Driveway	Eastbound LTR	16.3	0.17	C	17.1	0.16	C
	Westbound LTR	12.5	0.13	B	13.2	0.14	B
	Northbound LT	8.2	0.00	A	8.3	0.02	A
	Through-Right	0.0	0.00	A	0.1	0.00	A
	Southbound LT	8.3	0.02	A	8.3	0.02	A
	Through-Right	0.1	0.00	A	0.1	0.00	A
	INTERSECTION	*2.1*		*A*	*2.2*		*A*
Jones Avenue Site Driveway	Westbound Right	8.4	0.01	A	8.4	0.01	A
	Southbound LT	7.2	0.00	A	7.3	0.01	A
	INTERSECTION	*2.7*		*A*	*2.7*		*A*
Saturday Peak Hour	**Movement**	**Delay**	**v/c Ratio**	**LOS**	**Delay**	**v/c Ratio**	**LOS**
Wantagh Avenue at Woodward Avenue and Main Site Driveway	Eastbound LTR	16.9	0.05	C	21.9	0.19	C
	Westbound LTR	14.7	0.21	B	17.2	0.26	C
	Northbound LT	8.3	0.00	A	8.6	0.03	A
	Through-Right	0.0	0.00	A	0.2	0.00	A
	Southbound LT	8.7	0.01	A	8.7	0.01	A
	Through-Right	0.1	0.00	A	0.1	0.00	A
	INTERSECTION	*1.6*		*A*	*2.6*		*A*
Jones Avenue Site Driveway	Westbound Right	8.4	0.00	A	8.4	0.01	A
	Southbound LT	7.2	0.00	A	7.3	0.00	A
	INTERSECTION	*1.0*		*A*	*2.4*		*A*

On Wantagh Avenue and Jones Avenue, the highest delay increases are less than ½ second per vehicle, too small for drivers to notice. The highest delay increase to Woodward Avenue would be less than 3 seconds per vehicle. These are nominal increases that will not be readily apparent to most drivers.

The future exiting maneuvers out of the property will change by 1 to 5 seconds per vehicle; this only reflects site traffic, and corresponds to LOS B or LOS C, which will not entail lengthy queues at the driveways.

Therefore, the proposed reuse is not expected to impact traffic in the surrounding area. A "Right Turn Only" restriction exiting onto Jones Avenue is sufficient to minimize added traffic on Jones Avenue, if the Town implements this restriction. Either scenario (allowing or prohibiting left turns onto Jones Avenue) can be accommodated with respect to traffic flow.

Parking

Before the property owner purchased the adjacent lots, the site had 248 parking spaces. With the purchase of the adjacent lots, the expansion area yields a total of 311 spaces as shown on the Newman Design site plan.

The Americans with Disabilities Act (ADA) requires 8 ADA spaces and 8 will be provided. The existing ADA stalls are to be reconfigured (as shown on the Newman Design site plan) so each ADA space will have an 8-foot wide access aisle that satisfies ADA and State Building Code requirements.

Cameron Engineering calculated the parking requirements for the former and proposed uses of the building based on Town code, Institute of Transportation Engineers (ITE), and local site data.

First, it is noteworthy that peak medical office parking demand does not persist throughout the day the way general office parking does. Peak medical office parking typically occurs in late morning and early afternoon, lasting for 1-2 hours at a time, according to ITE data and Cameron Engineering experience.

1. ***Town code:*** Medical offices are a permitted use under applicable provisions of the Town Code. The building has been a permitted use with conforming parking since constructed in the 1970s. The historical requirement was 248 spaces. According to the January 2016 survey prepared by Carman-Dunne, P.C., the site had 248 parking spaces, including 240 standard spaces and 8 ADA spaces. Since the building's use would qualify as a nonconforming use to the current code, the 248-space requirement would be applicable.

   With the expanded property, there will be 311 spaces, which satisfies current Town code requirements[1].

Anticipated parking demand is smaller than the current Town code requirement. To gauge the genuine anticipated parking demand, Cameron Engineering examined ITE data and local data, as described below.

2. ***ITE Parking Generation (5th Edition):*** ITE data for medical office use reflects the higher result based on floor area or employee count. The ITE would recommend 203 spaces for the proposed medical office:
   - Based on square footage, recommended parking = 3.34 x 62.19 – 5.21 = 202.5 = *203 spaces*
   - Based on employee count, recommended parking = 1.22 x 136 + 1.67 = 167.59 = *168 spaces*
     - The 311 on-site spaces exceed the ITE recommendations by 108 spaces.
3. ***Local Counts:*** Cameron Engineering conducted midday parking counts at the similar facility located in Greenlawn on Thursday, January 24, 2019 from 10:00 a.m. to noon and from 1:00 to 3:00 p.m. These are the times of day when medical offices have their highest parking demand.

   This particular property is shared with other buildings that house an unrelated business operation, so the counts comprise a parking count at the beginning of each period (at 10:00 and 1:00), with person-counts in and out of the medical office building tabulated every 15 minutes.

   Additionally, our staff conducted a spot check at a second similar-size medical office building in Nassau County at 11:00 a.m. on Tuesday, January 29, 2019.

   Both sets of counts were used to pro-rate the future parking demand in Wantagh, based on the relative square footages. Wantagh will have roughly 75% of the space currently occupied in Greenlawn and will have roughly 2.7 times the square footage of the similar use in Nassau County.

   As shown below in Tables 4 and 5, the calculated parking demand for the Wantagh building would be 161 to 221 spaces.
     - The 311 on-site spaces exceed the projected demand based on parking counts by 90 to 150 spaces.

[1] Based on the higher result based on floor area or based on employee count:
- 1 space per 200 s.f. total floor area: 1 x (62,186/200) = 310.9 = *311 spaces*, or
- 1 space per 3 employees: 136 employees/3 = 45.33 = 46 spaces

Table 4: Greenlawn Site Parking

Wantagh would have ±75% the square footage and ±75% of the parking demand

Time	Visitors In	Visitors Out	Staff In	Staff Out	Total In	Total Out	Hourly Trips In	Hourly Trips Out	Hourly Trips	Parking
10:00 a.m.	9	8	1	1	10	9	109	86	195	169
10:15 a.m.	31	26	1	1	32	27	**127**	**95**	**222**	174
10:30 a.m.	29	27	0	0	29	27	125	94	219	176
10:45 a.m.	35	22	3	1	38	23	123	98	221	191
11:00 a.m.	26	18	2	0	28	18	96	95	191	201
11:15 a.m.	28	26	2	0	30	26				**205**
11:30 a.m.	27	30	0	1	27	31				201
11:45 a.m.	11	18	0	2	11	20				192
Time	**Visitors In**	**Visitors Out**	**Staff In**	**Staff Out**	**Total In**	**Total Out**	**Hourly Trips In**	**Hourly Trips Out**	**Hourly Trips**	**Parking**
1:00 p.m.	12	12	4	3	16	15	88	65	153	152
1:15 p.m.	20	12	2	1	22	13	108	73	181	161
1:30 p.m.	14	13	1	0	15	13	114	78	192	163
1:45 p.m.	33	24	2	0	35	24	**124**	**81**	**205**	174
2:00 p.m.	30	23	6	0	36	23	117	77	194	187
2:15 p.m.	28	16	0	2	28	18				197
2:30 p.m.	25	16	0	0	25	16				206
2:45 p.m.	28	20	0	0	28	20				**214**
Peak Observed Parking Demand: 214 vehicles *Calculated Wantagh Parking: 75% of 214 = 161 spaces*										

Table 5: Secondary Site Parking

Wantagh would have 2.7x the square footage and 2.7x the parking demand

11:00 a.m.	Parked Vehicles (Standard stalls)	Parked Vehicles (Handicapped stalls)	Totals
Occupied Spaces	76	6	82
Calculated Wantagh Parking Demand: 2.7 x 82 = 221 spaces			

4. ***Local Calculations:*** A high-level calculation was also made using the projected visitor data and the projected number of employees. The calculated visitor and doctor/staff parking numbers are as follows:

   Visitor parking: Consider half of patients might require more than one hour in the building, which means the visitor-related parking demand would be 1.5x the projected hourly visitor count:

   - 1.5 x 54 visitors = 81 visitor parking spaces required

   Doctor and staff parking: Consider each employee in the building at the same time, a conservative projection:

   - 136 doctors and staff = 136 employee parking spaces
   - Total parking, using conservative projections, is 81 + 136 = 217 spaces
   - 311 on-site spaces exceed this projection by 94 spaces

   The more realistic projection has perhaps 50-75% of employees in the building at the same time, which would yield a projected total parking demand of up to 183 spaces (75% of 136 = 102 + 81 = 183).

   - Either result (183 or 217 spaces) is in line with 161-221 as based on our Greenlawn facility counts.
   - The 311 on-site spaces exceed the high-level calculated parking demand by at least 94 spaces.

Transit Credits (None Taken)

The Greenlawn facility is not proximate to a bus stop or train station. The Wantagh property, however, is an approximate 5-minute walk from the Wantagh LIRR station on the Babylon line (see **Figure 4** below), and it is an approximate 10-minute walk from an N19 bus stop on Merrick Road (see **Figure 5**).

Staff at the new facility could commute by train or bus, and generate zero on-site parking demand. A reasonable transit credit would reflect 10% of staff (10 fewer vehicles) parking and driving to/from this facility. To be conservative, however, this report does not take a transit credit. The parking numbers represent every patient and employee using a separate vehicle, with no employee carpooling and no one utilizing public transportation.

Figure 4: Proximity to Wantagh LIRR station

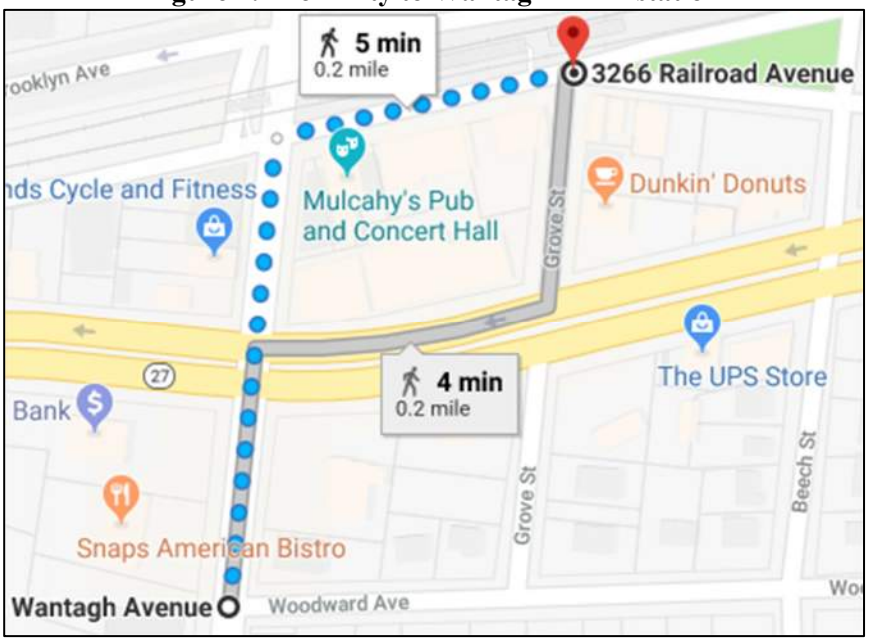
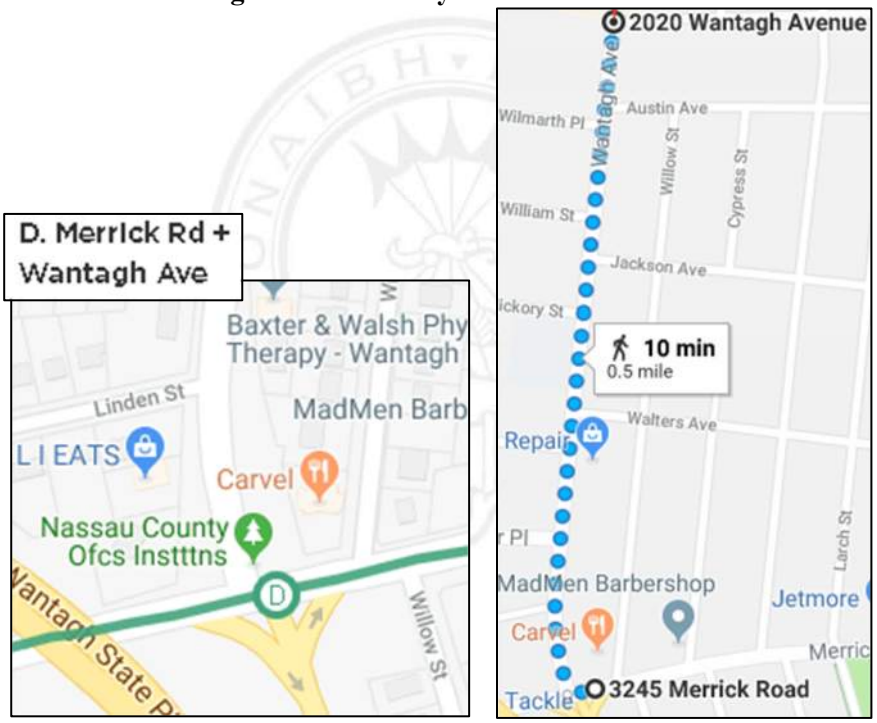


Figure 5: Proximity to N19 Bus Route



Summary and Recommendations

Simone Healthcare is proposing to re-use the 62,186 s.f. building at 2020 Wantagh Avenue in Wantagh for medical offices with 36 doctors and 100 staff. The building was previously utilized as a Verizon office.

The proposed change of use would generate additional traffic, but there will not be noticeable changes to nearby intersections, including Wantagh Avenue at Woodward Avenue. There is very little difference between operating this building as a medical office vs. a general/professional office (the prior use).

Restricting exiting left turns onto Jones Avenue is a possible recommendation to minimize the added traffic on local residential streets. It is not necessary to restrict these turns to accommodate new traffic; it is intended to direct traffic to Wantagh Avenue and Sunrise Highway rather than the local streets in the immediate area. If the Town does not implement this restriction, that scenario would not impact traffic flow on local streets.

With respect to parking, the existing and proposed building uses qualify as nonconforming use to the current code, so the historical 248-space requirement applies and was satisfied under its earlier configuration when the site had 248 spaces.

The property owner has purchased adjacent lots to expand the on-site parking and provide 311 spaces, as shown on the Newman Design site plan. Eight ADA spaces will be provided, each with an 8-foot wide ADA access aisle to satisfy ADA and State requirements.

Operationally, the 311 provided parking spaces will exceed the genuine projected parking demand, as supported by our office's ITE calculations and by parking counts and visitor/employee projections at similar Long Island facilities.

At most, the projected parking demand might reach 221 spaces, using conservative projections that do not account for anyone utilizing the Wantagh LIRR station or N19 bus (e.g. for staff commutes).

The on-site parking is expected to fully accommodate the parking demand for the proposed medical office use.

Should you have any questions or wish to discuss any item in greater detail, please do not hesitate to contact our office.

Very truly yours,

Rebecca Goldberg

Rebecca Goldberg, P.E., LEED AP
Civil Engineering Director

K:\C2900-2949\CE2922 2020 Wantagh Ave\July-August 2020 Update\

ATTACHMENTS

1) Summary of Road Tube 24-hour Traffic Counts
2) Trip Distribution and Assignment Spreadsheet – Reusing Building as General Office
3) Trip Distribution and Assignment Spreadsheet – Proposed Medical Office Use
4) "Synchro 10" Level of Service worksheets

Attachment 1

Summary of Road Tube 24-hour Traffic Counts

Summary of 24-hour Road Tube Traffic Counts

1) Jones Avenue

	Average Weekday Hourly volume			Saturday Hourly volume		
	NB	SB	TOTAL	NB	SB	TOTAL
12:00 AM	0	1	1	2	1	3
1:00 AM	1	0	1	3	0	3
2:00 AM	0	0	0	0	0	0
3:00 AM	1	1	2	1	1	2
4:00 AM	0	0	1	0	0	0
5:00 AM	1	0	1	0	1	1
6:00 AM	3	3	6	3	2	5
7:00 AM	8	13	21	3	8	11
8:00 AM	9	20	29	3	9	12
9:00 AM	9	20	29	7	25	32
10:00 AM	7	17	24	12	23	35
11:00 AM	8	13	22	11	14	25
12:00 PM	8	16	24	8	20	28
1:00 PM	7	15	22	14	10	24
2:00 PM	8	16	25	8	19	27
3:00 PM	7	14	21	9	24	33
4:00 PM	9	14	23	1	1	2
5:00 PM	7	15	22	1	1	2
6:00 PM	4	9	13	2	11	13
7:00 PM	3	3	6	1	3	4
8:00 PM	1	5	6	3	3	6
9:00 PM	1	5	6	2	1	3
10:00 PM	1	2	3	2	1	3
11:00 PM	1	1	1	1	2	3

2) Wilmarth Place

	Average Weekday Hourly volume				Saturday Hourly volume		
	EB	WB	TOTAL	EB	WB	TOTAL	TOTAL
12:00 AM	1	3	4	2	2	4	3
1:00 AM	1	2	3	2	4	6	3
2:00 AM	0	1	1	0	1	1	0
3:00 AM	2	4	6	0	3	3	2
4:00 AM	2	5	7	0	0	0	0
5:00 AM	4	16	20	1	4	5	1
6:00 AM	13	42	55	3	11	14	5
7:00 AM	22	66	88	1	20	21	11
8:00 AM	30	61	90	12	25	37	12
9:00 AM	23	35	58	19	36	55	32
10:00 AM	18	31	49	23	43	66	35
11:00 AM	16	30	47	19	31	50	25
12:00 PM	24	31	55	28	33	61	28
1:00 PM	20	35	55	20	56	76	24
2:00 PM	29	36	66	26	36	62	27
3:00 PM	40	34	74	35	32	67	33
4:00 PM	45	34	79	20	37	57	2
5:00 PM	55	37	92	17	29	46	2
6:00 PM	34	30	64	20	31	51	13
7:00 PM	18	29	47	10	17	27	4
8:00 PM	8	17	25	6	16	22	6
9:00 PM	7	11	18	2	11	13	3
10:00 PM	3	9	11	9	15	24	3
11:00 PM	3	8	11	10	14	24	3

Attachment 2

Trip Distribution and Assignment Spreadsheet – Reusing Building as General Office

Trip Distribution & Assignment: Alternate Build

Alternate re-using building as General Office

	AM	PM	SAT
Enter	**73**	**12**	**16**
Exit	**12**	**61**	**15**
Total	85	73	31

Dir	Movemt	Traffic Distribution % Enter	% Exit	Generated Volume AM	PM	SAT	Total Volume Generated by Other Projects AM	PM	SAT
INTERSECTION: Wantagh Avenue and Woodward Avenue									
NB	Left	25%		18	3	4	18	3	4
	Through			---	---	---	0	0	0
	Right			---	---	---	0	0	0
SB	Left			---	---	---	0	0	0
	Through			---	---	---	0	0	0
	Right	50%		37	6	8	37	6	8
EB	Left		50%	6	31	8	6	31	8
	Through		5%	1	3	1	1	3	1
	Right		30%	4	18	5	4	18	5
WB	Left			---	---	---	0	0	0
	Through	5%		4	1	1	4	1	1
	Right			---	---	---	0	0	0
INTERSECTION: Jones Avenue and Site Driveway									
NB	Left			---	---	---	0	0	0
	Through			---	---	---	0	0	0
	Right	10%		7	1	2	7	1	2
SB	Left	10%		7	1	2	7	1	2
	Through			---	---	---	0	0	0
	Right			---	---	---	0	0	0
EB	Left			---	---	---	0	0	0
	Through			---	---	---	0	0	0
	Right			---	---	---	0	0	0
WB	Left			---	---	---	0	0	0
	Through			---	---	---	0	0	0
	Right		15%	2	9	2	2	9	2

Attachment 3

Trip Distribution and Assignment Spreadsheet – Proposed Medical Office Use

Trip Distribution & Assignment Spreadsheet
Growth Factor: 0.6% for 2 years, to 2021
2-year growth: 1.012

Existing volumes x 1.012 for 2 years of ambient growth and project the traffic with the building as a General Office

Change of use from Office to Medical Office	AM	PM	SAT
Enter	49	42	105
Exit	42	-7	38
Total	91	35	143

AM	PM	SAT	Dir. Mvmt	2019 Existing Volumes AM	PM	SAT	Trips with building as a General Office AM	PM	SAT	2021 No Build Volumes with a General Office AM	PM	SAT	Distribution %Enter	%Exit	Net new trips with building as a Medical Office AM	PM	SAT	2021 Build Volumes AM	PM	SAT
INTERSECTION: Wantagh Avenue and Woodward Avenue																				
Peak	Peak	Peak	NB Left	0	0	0	19	3	4	19	3	4	25%		12	11	26	31	14	30
Hour	Hour	Hour	Thr	417	353	515	0	0	0	422	357	521			---	---	---	422	357	521
715	1400	1200	Right	20	22	29	0	0	0	20	22	29			---	---	---	20	22	29
			SB Left	5	19	12	0	0	0	5	19	12			---	---	---	5	19	12
			Thr	226	354	424	0	0	0	229	358	429			---	---	---	229	358	429
			Right	0	0	0	37	6	8	37	6	8	50%		25	21	53	62	27	61
			EB Left	0	0	0	6	31	8	6	31	8		50%	21	-4	19	27	28	27
			Thr	0	0	0	1	4	1	1	4	1		5%	2	0	2	3	4	3
			Right	0	0	0	4	19	5	4	19	5		30%	13	-2	11	17	17	16
Peak	Peak	Peak	WB Left	28	15	23	0	0	0	28	15	23			---	---	---	28	15	23
Hour	Hour	Hour	Thr	0	0	0	4	1	1	4	1	1	5%		2	2	5	6	3	6
Factor	Factor	Factor	Right	53	42	67	0	0	0	54	43	68			---	---	---	54	43	68
0.91	0.85	0.94	Intersection																	
INTERSECTION: Jones Avenue and Site Driveway																				
			NB Thr	9	9	12	0	0	0	9	9	12			---	---	---	9	9	12
			Right	0	0	0	8	2	2	8	2	2	10%		5	4	11	13	6	13
			SB Left	0	0	0	8	2	2	8	2	2	10%		5	4	11	13	6	13
			Thr	20	14	23	0	0	0	20	14	23			---	---	---	20	14	23
			WB Left	0	0	0	0	0	0	0	0	0			---	---	---	0	0	0
			Right	0	0	0	2	10	3	2	10	3		15%	6	-1	6	8	9	9
			Intersection																	

Attachment 4

"Synchro 10" Level of Service worksheets

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	28	0	53	0	417	20	5	226	0
Future Vol, veh/h	0	0	0	28	0	53	0	417	20	5	226	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	31	0	58	0	458	22	5	248	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	487	738	124	603	727	240	248	0	0	480	0	0
Stage 1	258	258	-	469	469	-	-	-	-	-	-	-
Stage 2	229	480	-	134	258	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	464	344	904	383	349	761	1315	-	-	1079	-	-
Stage 1	724	693	-	544	559	-	-	-	-	-	-	-
Stage 2	753	553	-	855	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	427	342	904	381	347	761	1315	-	-	1079	-	-
Mov Cap-2 Maneuver	427	342	-	381	347	-	-	-	-	-	-	-
Stage 1	724	690	-	544	559	-	-	-	-	-	-	-
Stage 2	695	553	-	851	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.5	0	0.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1315	-	-	-	566	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.157	0.005	-	-
HCM Control Delay (s)	0	-	-	0	12.5	8.4	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	15	0	42	0	353	22	19	354	1
Future Vol, veh/h	0	0	0	15	0	42	0	353	22	19	354	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	0	49	0	415	26	22	416	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	669	902	209	680	889	221	417	0	0	441	0	0
Stage 1	461	461	-	428	428	-	-	-	-	-	-	-
Stage 2	208	441	-	252	461	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	343	276	797	337	281	783	1138	-	-	1115	-	-
Stage 1	550	564	-	575	583	-	-	-	-	-	-	-
Stage 2	775	575	-	730	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	315	269	797	330	274	783	1138	-	-	1115	-	-
Mov Cap-2 Maneuver	315	269	-	330	274	-	-	-	-	-	-	-
Stage 1	550	549	-	575	583	-	-	-	-	-	-	-
Stage 2	726	575	-	711	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	12.1	0	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1138	-	-	-	575	1115	-	-
HCM Lane V/C Ratio	-	-	-	-	0.117	0.02	-	-
HCM Control Delay (s)	0	-	-	0	12.1	8.3	0.1	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	23	0	67	0	515	29	12	424	0
Future Vol, veh/h	0	0	0	23	0	67	0	515	29	12	424	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	24	0	71	0	548	31	13	451	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	751	1056	226	816	1041	290	451	0	0	579	0	0
Stage 1	477	477	-	564	564	-	-	-	-	-	-	-
Stage 2	274	579	-	252	477	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	299	224	777	269	229	707	1106	-	-	991	-	-
Stage 1	538	554	-	478	507	-	-	-	-	-	-	-
Stage 2	709	499	-	730	554	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	265	220	777	265	225	707	1106	-	-	991	-	-
Mov Cap-2 Maneuver	265	220	-	265	225	-	-	-	-	-	-	-
Stage 1	538	544	-	478	507	-	-	-	-	-	-	-
Stage 2	638	499	-	717	544	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	14	0	0.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	-	496	991	-	-
HCM Lane V/C Ratio	-	-	-	-	0.193	0.013	-	-
HCM Control Delay (s)	0	-	-	0	14	8.7	0.1	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	1	4	28	4	54	19	422	20	5	229	37
Future Vol, veh/h	6	1	4	28	4	54	19	422	20	5	229	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	1	4	31	4	59	21	464	22	5	252	41

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	559	811	147	654	820	243	293	0	0	486	0	0
Stage 1	283	283	-	517	517	-	-	-	-	-	-	-
Stage 2	276	528	-	137	303	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	412	312	873	352	308	758	1265	-	-	1073	-	-
Stage 1	700	676	-	509	532	-	-	-	-	-	-	-
Stage 2	707	526	-	852	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	367	303	873	341	299	758	1265	-	-	1073	-	-
Mov Cap-2 Maneuver	367	303	-	341	299	-	-	-	-	-	-	-
Stage 1	684	672	-	497	520	-	-	-	-	-	-	-
Stage 2	631	514	-	841	658	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.1	13.5	0.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1265	-	-	454	516	1073	-	-
HCM Lane V/C Ratio	0.017	-	-	0.027	0.183	0.005	-	-
HCM Control Delay (s)	7.9	0.1	-	13.1	13.5	8.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.7	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	9	8	8	20
Future Vol, veh/h	0	2	9	8	8	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	10	9	9	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	15	0	0	19	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1065	-	-	1597	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	1597	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1065	1597	-
HCM Lane V/C Ratio	-	-	0.002	0.005	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	31	4	19	15	1	43	3	357	22	19	358	6
Future Vol, veh/h	31	4	19	15	1	43	3	357	22	19	358	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	5	22	18	1	51	4	420	26	22	421	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	688	923	214	698	913	223	428	0	0	446	0	0
Stage 1	469	469	-	441	441	-	-	-	-	-	-	-
Stage 2	219	454	-	257	472	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	333	268	791	327	272	780	1128	-	-	1111	-	-
Stage 1	544	559	-	565	575	-	-	-	-	-	-	-
Stage 2	763	568	-	725	557	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	303	260	791	306	264	780	1128	-	-	1111	-	-
Mov Cap-2 Maneuver	303	260	-	306	264	-	-	-	-	-	-	-
Stage 1	541	544	-	562	572	-	-	-	-	-	-	-
Stage 2	708	565	-	680	543	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	12.5	0.1	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1128	-	-	381	547	1111	-	-
HCM Lane V/C Ratio	0.003	-	-	0.167	0.127	0.02	-	-
HCM Control Delay (s)	8.2	0	-	16.3	12.5	8.3	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.4	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	10	9	2	2	14
Future Vol, veh/h	0	10	9	2	2	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	11	2	2	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	12	0	0	13	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1069	-	-	1606	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1069	-	-	1606	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1069	1606	-
HCM Lane V/C Ratio	-	-	0.011	0.001	-
HCM Control Delay (s)	-	-	8.4	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↕			↕	
Traffic Vol, veh/h	8	1	5	23	1	68	4	521	29	12	429	8
Future Vol, veh/h	8	1	5	23	1	68	4	521	29	12	429	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1	5	25	1	74	4	566	32	13	466	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	789	1103	238	850	1091	299	475	0	0	598	0	0
Stage 1	497	497	-	590	590	-	-	-	-	-	-	-
Stage 2	292	606	-	260	501	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	281	210	763	254	213	697	1083	-	-	975	-	-
Stage 1	523	543	-	461	493	-	-	-	-	-	-	-
Stage 2	692	485	-	722	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	246	205	763	247	208	697	1083	-	-	975	-	-
Mov Cap-2 Maneuver	246	205	-	247	208	-	-	-	-	-	-	-
Stage 1	520	533	-	458	490	-	-	-	-	-	-	-
Stage 2	614	482	-	703	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	14.7	0.1	0.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	319	471	975	-	-
HCM Lane V/C Ratio	0.004	-	-	0.048	0.212	0.013	-	-
HCM Control Delay (s)	8.3	0	-	16.9	14.7	8.7	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	12	2	2	23
Future Vol, veh/h	0	3	12	2	2	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	13	2	2	25

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	14	0	0	15	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1066	-	-	1603	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1066	-	-	1603	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1066	1603	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s)	-	-	8.4	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	3	17	28	6	54	31	422	20	5	229	62
Future Vol, veh/h	27	3	17	28	6	54	31	422	20	5	229	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	3	19	31	7	59	34	464	22	5	252	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	600	850	160	681	873	243	320	0	0	486	0	0
Stage 1	296	296	-	543	543	-	-	-	-	-	-	-
Stage 2	304	554	-	138	330	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	385	296	857	336	287	758	1237	-	-	1073	-	-
Stage 1	688	667	-	492	518	-	-	-	-	-	-	-
Stage 2	681	512	-	851	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	337	283	857	315	274	758	1237	-	-	1073	-	-
Mov Cap-2 Maneuver	337	283	-	315	274	-	-	-	-	-	-	-
Stage 1	662	663	-	473	498	-	-	-	-	-	-	-
Stage 2	596	493	-	823	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.6	14.3	0.6	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1237	-	-	425	483	1073	-	-
HCM Lane V/C Ratio	0.028	-	-	0.122	0.2	0.005	-	-
HCM Control Delay (s)	8	0.1	-	14.6	14.3	8.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.7	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	8	9	13	13	20
Future Vol, veh/h	0	8	9	13	13	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	10	14	14	22

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	17	0	0	24	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1062	-	-	1591	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1062	-	-	1591	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1062	1591	-
HCM Lane V/C Ratio	-	-	0.008	0.009	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	4	17	15	3	43	14	357	22	19	357	27
Future Vol, veh/h	28	4	17	15	3	43	14	357	22	19	357	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	5	20	18	4	51	16	420	26	22	420	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	724	958	226	722	961	223	452	0	0	446	0	0
Stage 1	480	480	-	465	465	-	-	-	-	-	-	-
Stage 2	244	478	-	257	496	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	313	256	777	314	255	780	1105	-	-	1111	-	-
Stage 1	536	553	-	547	561	-	-	-	-	-	-	-
Stage 2	738	554	-	725	544	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	280	244	777	291	244	780	1105	-	-	1111	-	-
Mov Cap-2 Maneuver	280	244	-	291	244	-	-	-	-	-	-	-
Stage 1	526	538	-	537	550	-	-	-	-	-	-	-
Stage 2	673	543	-	681	529	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.1	13.2	0.4	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1105	-	-	354	513	1111	-	-
HCM Lane V/C Ratio	0.015	-	-	0.163	0.14	0.02	-	-
HCM Control Delay (s)	8.3	0.1	-	17.1	13.2	8.3	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	9	6	6	14
Future Vol, veh/h	0	9	9	6	6	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	11	7	7	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	15	0	0	18	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1065	-	-	1599	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1065	-	-	1599	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	2.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1065	1599	-
HCM Lane V/C Ratio	-	-	0.01	0.004	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	3	16	23	6	68	30	521	29	12	429	61
Future Vol, veh/h	27	3	16	23	6	68	30	521	29	12	429	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	3	17	25	7	74	33	566	32	13	466	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	878	1189	266	909	1206	299	532	0	0	598	0	0
Stage 1	525	525	-	648	648	-	-	-	-	-	-	-
Stage 2	353	664	-	261	558	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	242	187	732	230	182	697	1032	-	-	975	-	-
Stage 1	504	528	-	425	464	-	-	-	-	-	-	-
Stage 2	637	456	-	721	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	199	175	732	210	170	697	1032	-	-	975	-	-
Mov Cap-2 Maneuver	199	175	-	210	170	-	-	-	-	-	-	-
Stage 1	480	518	-	405	442	-	-	-	-	-	-	-
Stage 2	534	434	-	686	500	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.9	17.2	0.6	0.3
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1032	-	-	263	400	975	-	-
HCM Lane V/C Ratio	0.032	-	-	0.19	0.264	0.013	-	-
HCM Control Delay (s)	8.6	0.2	-	21.9	17.2	8.7	0.1	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	12	13	13	23
Future Vol, veh/h	0	9	12	13	13	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	13	14	14	25

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	20	0	0	27	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	0	1058	-	-	1587	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	1058	-	-	1587	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	2.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1058	1587	-
HCM Lane V/C Ratio	-	-	0.009	0.009	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-