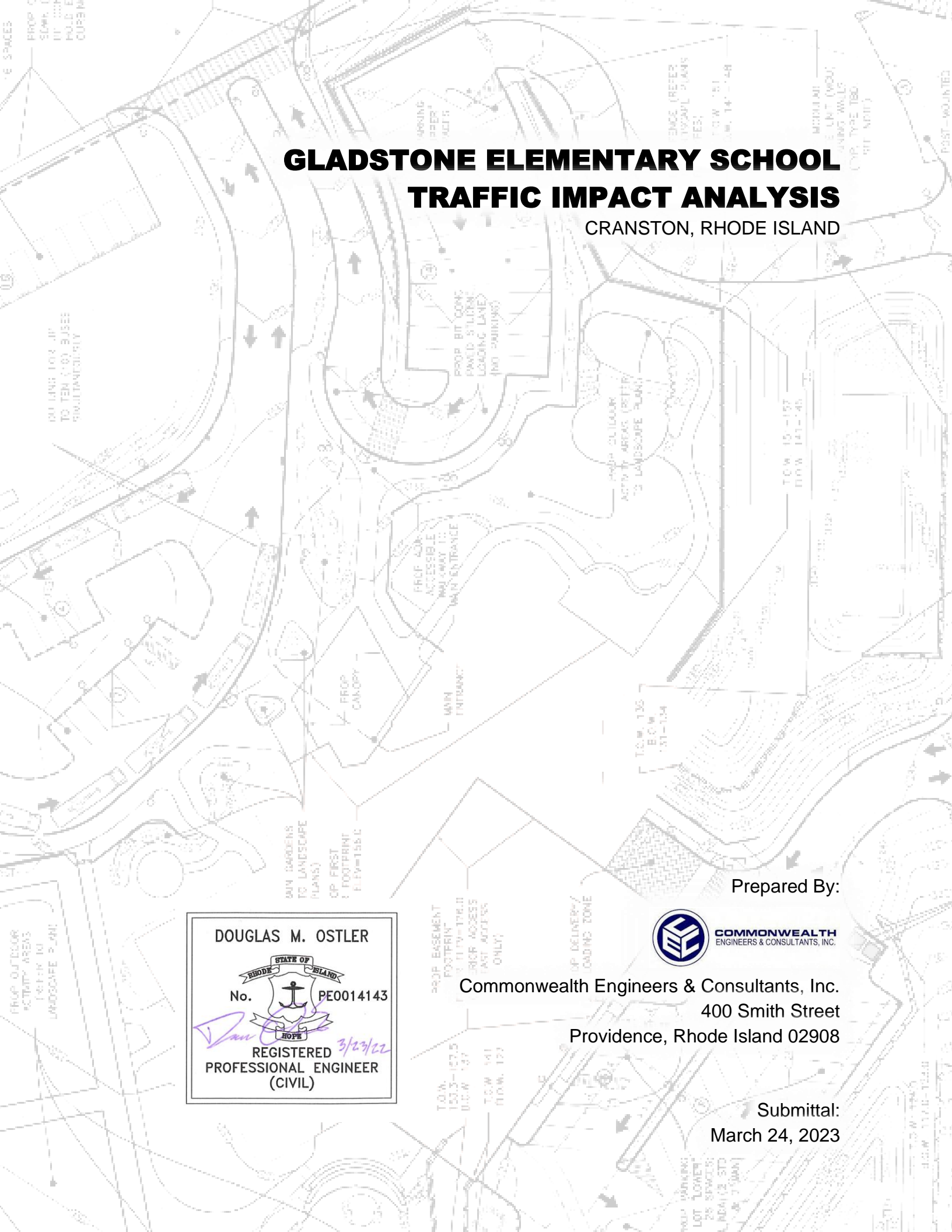


GLADSTONE ELEMENTARY SCHOOL TRAFFIC IMPACT ANALYSIS

CRANSTON, RHODE ISLAND



Prepared By:

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Submittal:
March 24, 2023



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Purpose

The Gladstone Elementary School is proposed to be reconstructed. The reconstruction will include a new and relocated building, changes to access to the site, increased on-site parking and improved circulation, and an increase in available student enrollment capacity. This Traffic Impact Analysis will summarize the analysis results, site impact evaluations, and findings completed by Commonwealth Engineers & Consultants, Inc. (“CE&C”) for the changes proposed to Gladstone Elementary School.

Preliminary Description

Gladstone Elementary School is located on approximately 7.8 acres at the southern corner of the intersection of Browne Street, Gladstone Street, & Lawrence Street in Cranston, Rhode Island. The school was built in 1952 and currently has an enrollment capacity of 550 students from pre-kindergarten through grade 5. Gladstone Elementary School has a private street near the eastern border of the site connecting Gladstone Street and Asia Street, which is primarily used for buses and limited parking for staff. The primary on-site parking lot is accessed at the intersection of Browne Street, Gladstone Street, & Lawrence Street. A secondary parking lot is provided off Lawrence Street adjacent to an existing playground which will remain. A crossing guard for the intersection at the main entrance of the school currently stops traffic on Lawrence Street at school arrival and dismissal peaks. Parents and students get in/out of those stopped vehicles until after the peaks when the crossing guard allows traffic flow through Lawrence Street. Parents also park on Laurel Hill Avenue, Gladstone Street and Browne Street to drop-off/pick-up children. A pedestrian gate exists on the school property at Elwyn Street, along with a sidewalk towards the main entrance of the building. Pedestrian access is possible via Oxford Street though no sidewalk connection is provided. Gladstone Street between Browne Street and Cranston Street has prohibited parking; do not enter signs are posted on Gladstone Street at Cranston Street the restrict entering Gladstone Street westbound on school days between 7:30 AM–9:00 AM and 2:00 PM–3:00 PM. A vicinity map is provided as **Figure 1**.

Analysis Procedure

Key intersections within the vicinity of the project site were evaluated for existing conditions and projected conditions with the proposed changes. This study includes the following key intersections:

- Laurel Hill Avenue & Oxford Street
- Laurel Hill Avenue & Elwyn Street
- Laurel Hill Avenue & Lawrence Street
- Browne Street, Gladstone Street, & Lawrence Street
- Cranston Street & Gladstone Street
- Cranston Street & Asia Street

Vehicular trip generation were approximated for the site with the proposed changes and applied to the roadway network to approximate how the intersections would operate in the future. Internal queuing from drop-off/pick-up route were evaluated. Pedestrian/bicyclist access to the site were also evaluated for the proposed layout.



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Figure 1 – Vicinity Map





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Proposed Changes

Gladstone Elementary School is proposed to have improved facilities with an expanded enrollment capacity to 800 students, an increase of 250 students. The existing building will be demolished, and a new building constructed in a new location on the parcel. On-site parking will increase from 68 marked spaces (including 12 unmarked spaces on the bus route) and a bus drop-off/pick-up route to 100 spaces, a bus drop-off/pick-up route, and a parent drop-off/pick-up route.

The existing private street will remain and be partially widened to include some parallel parking. A parking lot will be provided near the southeast corner of the parcel adjacent to the new school building with access to the private street. The private street will also provide access to a new parking lot near the north corner of the parcel. From this parking lot a one-way drive aisle with a drop-off/pick-up zone for students is provided which exits to Lawrence Street. A loop for bus drop-off/pick-up with a 11 parking spaces will also access Lawrence Street. The existing main on-site parking lot and its associated access to Gladstone Street, Lawrence Street, and Brown Street, will be removed, leaving the intersection as a 4-legged intersection. The existing playground and parking lot at the northwest corner of the parcel will remain. **Figure 2** depicts the proposed site layout dated March 24, 2023, upon which the conclusions and recommendations of this analysis are based.

Vehicular Volume

Trip Generation

With the expanded maximum student enrollment, the school is expected to generate more trips following completion of the proposed reconstruction. Trips generated by a site are often estimated using equations provided within *Trip Generation Manual*, 11th Edition published by the *Institute of Transportation Engineers*. The manual includes a land use code for public elementary schools which is used to approximate existing trips and potential future trips under the proposed changes.

Trips associated with an expanded site such as Gladstone Elementary School can sometimes be estimated by multiplying existing trips with a growth factor. Unfortunately, the existing trips is not able to be counted due to extensive off-site parking throughout the neighborhood; most vehicles never entered the site, and many vehicles did not enter the ad-hoc parking lot created by the crossing guard. As such, any count at intersections and driveways would not result in a reasonably accurate trip count.



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Figure 2 – Site Plan

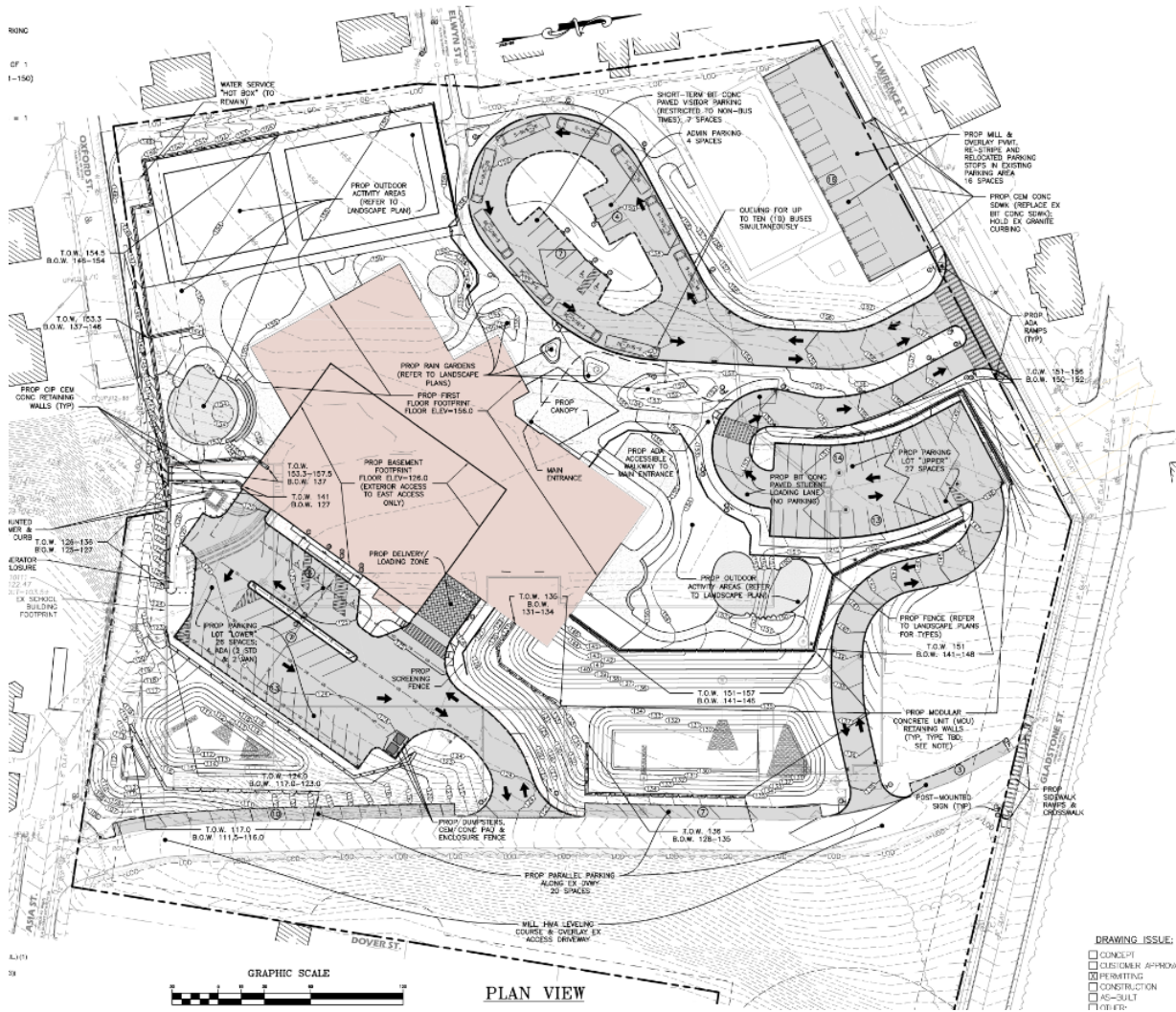


Table 1 summarizes expected vehicular trips generated by the site. The proposed school at maximum enrollment is expected to generate 1,816 daily trips during a typical weekday, with 600 trips (324 in, 276 out) during the AM peak hour and 360 trips (166 in, 194 out) during the school afternoon dismissal peak hour. This is approximately 45% more trips than the existing school enrolment capacity and 69% more trips than the existing school attendance on the day intersection traffic counts were performed. The traffic counts noted 7 buses during the peak hour; the proposed school layout provides space for 10 buses.

Table 1 – Trip Generation Approximation

Condition	Students	Daily	AM Peak Hour			School Dismissal Peak Hour		
			In	Out	Total	In	Out	Total
Attendance on day of traffic counts	473	1,074	192	163	355	98	115	213
Current maximum enrollment	550	1,249	223	190	413	114	134	248
Proposed maximum enrollment	800	1,816	324	276	600	166	194	360



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Trip Distribution

The projected trip generation is to be added along routes to and from the site to approximate future traffic volumes. Traffic volumes recorded during the traffic counts were reviewed in an effort to approximate demand to/from outside of the study area. This distribution is used to project future trips via existing routes and proposed access points. **Table 2** summarizes the percentages applied to route trips to/from the site.

Table 1 – Trip Generation Approximation

Travel Direction To/From	In	Out
North - Laurel Hill Avenue	35%	30%
North – Cranston Street	10%	15%
South - Laurel Hill Avenue	35%	20%
South – Cranston Street	15%	30%
West – Lawrence Street	5%	5%
Totals	100%	100%

Existing and Projected Volumes

Intersection traffic volume counts at the study intersections were performed in February 2022 at 7 AM – 9 AM and 2 PM – 4 PM on a typical school day. Roadway segment volume counts were conducted on Laurel Hill Avenue, Lawrence Street, and Asia Street. These traffic volumes are considered as a base for existing conditions for proceeding analyses. Peak hour traffic volumes during existing conditions at the study intersections are depicted in **Figure 3** and **Figure 4**. Peak hour traffic volumes generated by the site are depicted in **Figure 5** and **Figure 6**. The area surrounding the school is well established and is not expected to have change in the near future; existing traffic volume, less volumes associated with the school, are expected to remain consistent and this evaluation does not apply an overall growth factor for projected conditions. The projected traffic volumes generated by the site were added to adjusted existing traffic volumes adjustments were made to remove a portion of trips to/from the school as existing to lessen the effect of double counting school trips. Not all existing trips to/from the school could be removed as extensive off-site parking prevented an accurate count. Projected future peak hour traffic volumes with the proposed reconstruction is depicted in **Figure 7** and **Figure 8**. Existing and future traffic volumes along roadway segments are depicted on **Figure 9**.

Intersection Capacity Analysis

Analysis of intersections is commonly performed using traffic modelling software that uses multiple algorithms produced by the *Highway Capacity Manual*, published by the Transportation Research Board. Intersection capacity analysis through this methodology provides results as a letter grade “A” through “F” which represent an approximate stopped-delay experienced. LOS results may be analyzed by individual movements and an intersection overall if applicable. Level of Service (“LOS”) A represents little to nearly no delay whereas LOS F represents heavy delays. LOS ratings themselves do not indicate that an intersection operates acceptably or not but may be used as a reference point when evaluating conditions. The determination on what is deemed acceptable can be subjective and may differ based on the types of roadways intersecting, the density/rural characteristics of the area, and presence of vulnerable/non-vehicular users.



Figure 3 – Existing Traffic Volumes – AM Peak Hour

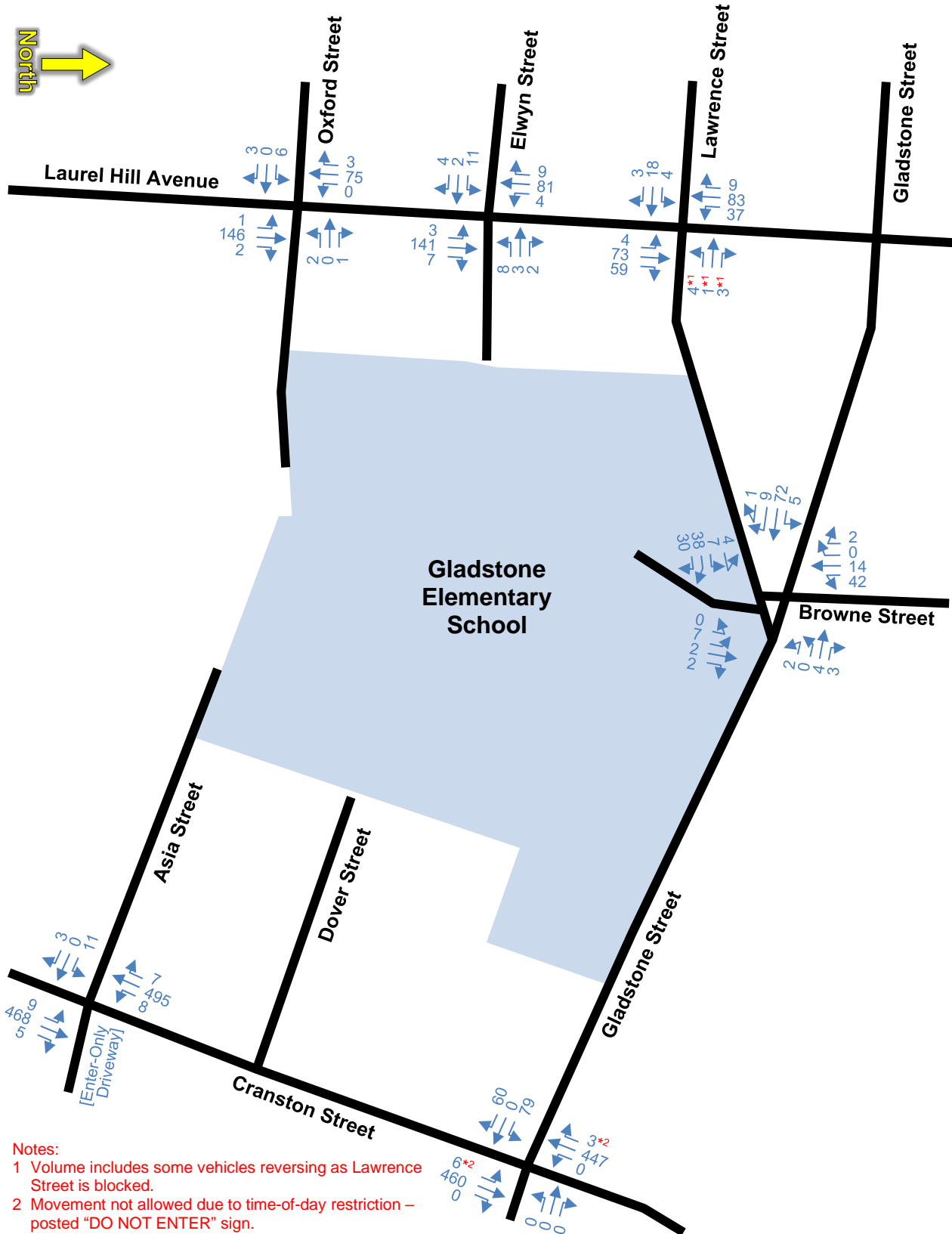
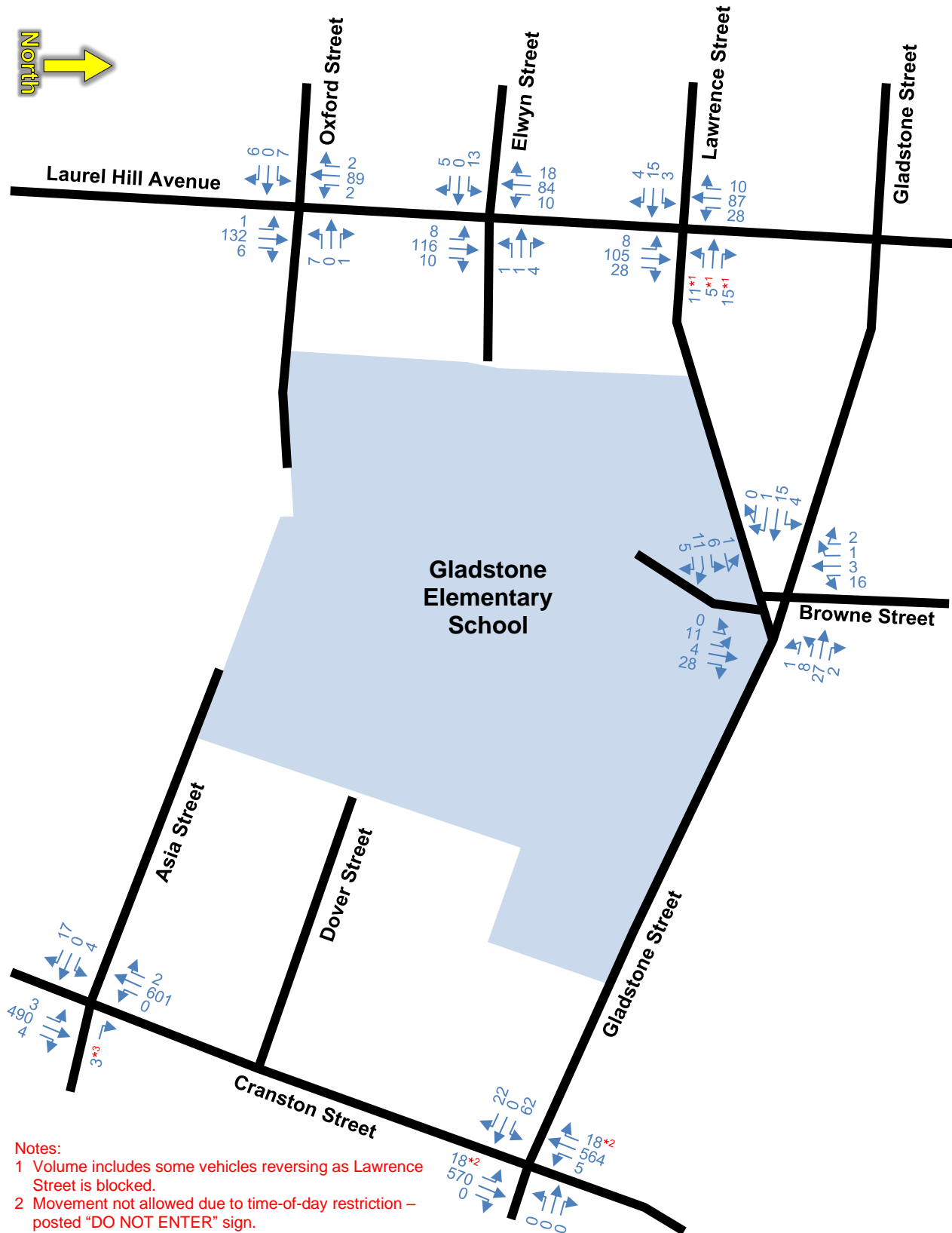




Figure 4 – Existing Traffic Volumes – School Dismissal Peak Hour



Notes:

- 1 Volume includes some vehicles reversing as Lawrence Street is blocked.
- 2 Movement not allowed due to time-of-day restriction – posted “DO NOT ENTER” sign.
- 3 Volume travelling in wrong direction of one-way driveway.



Figure 5 – Site Traffic Volumes After Proposed Changes – AM Peak Hour

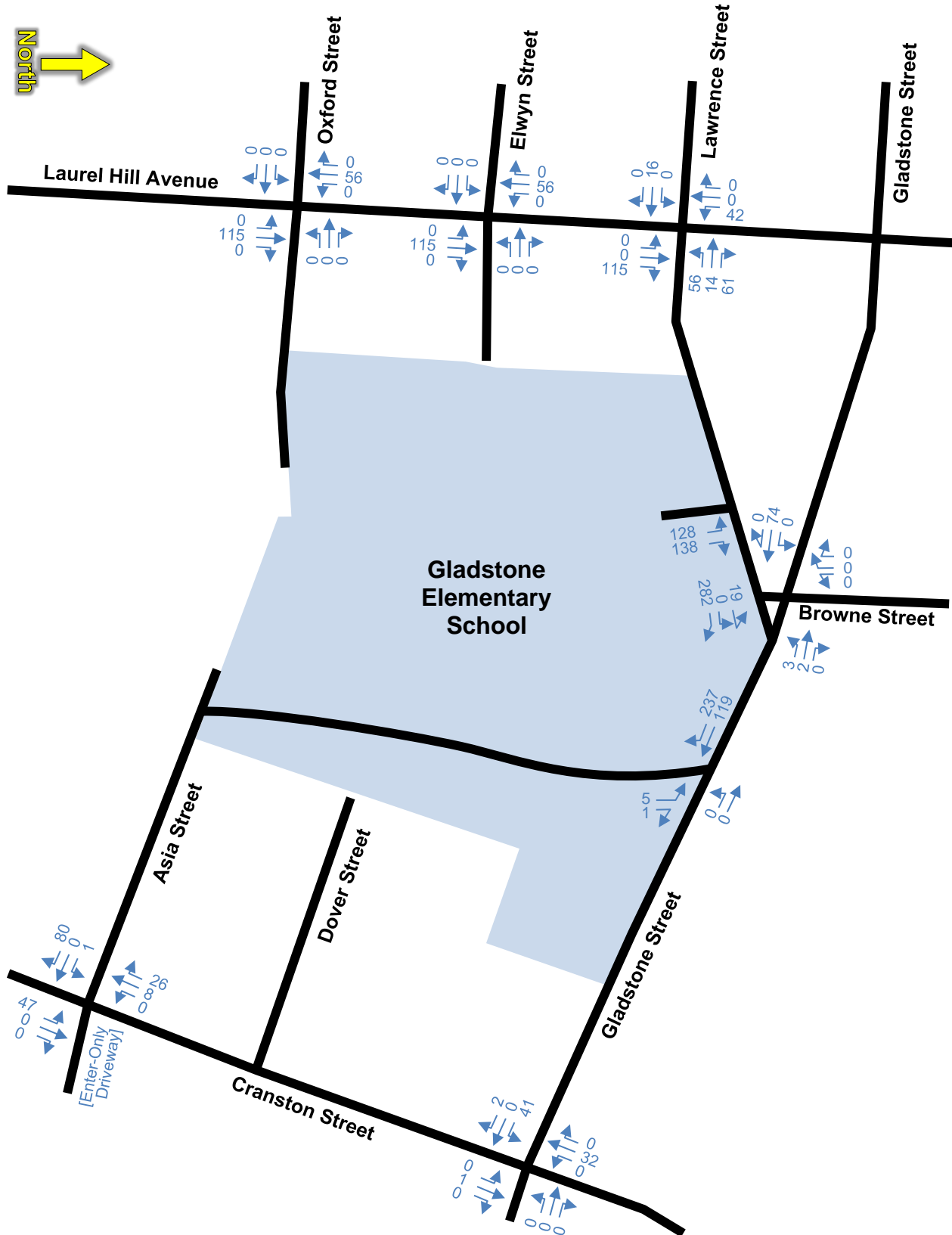




Figure 7 – Future Traffic Volumes – AM Peak Hour

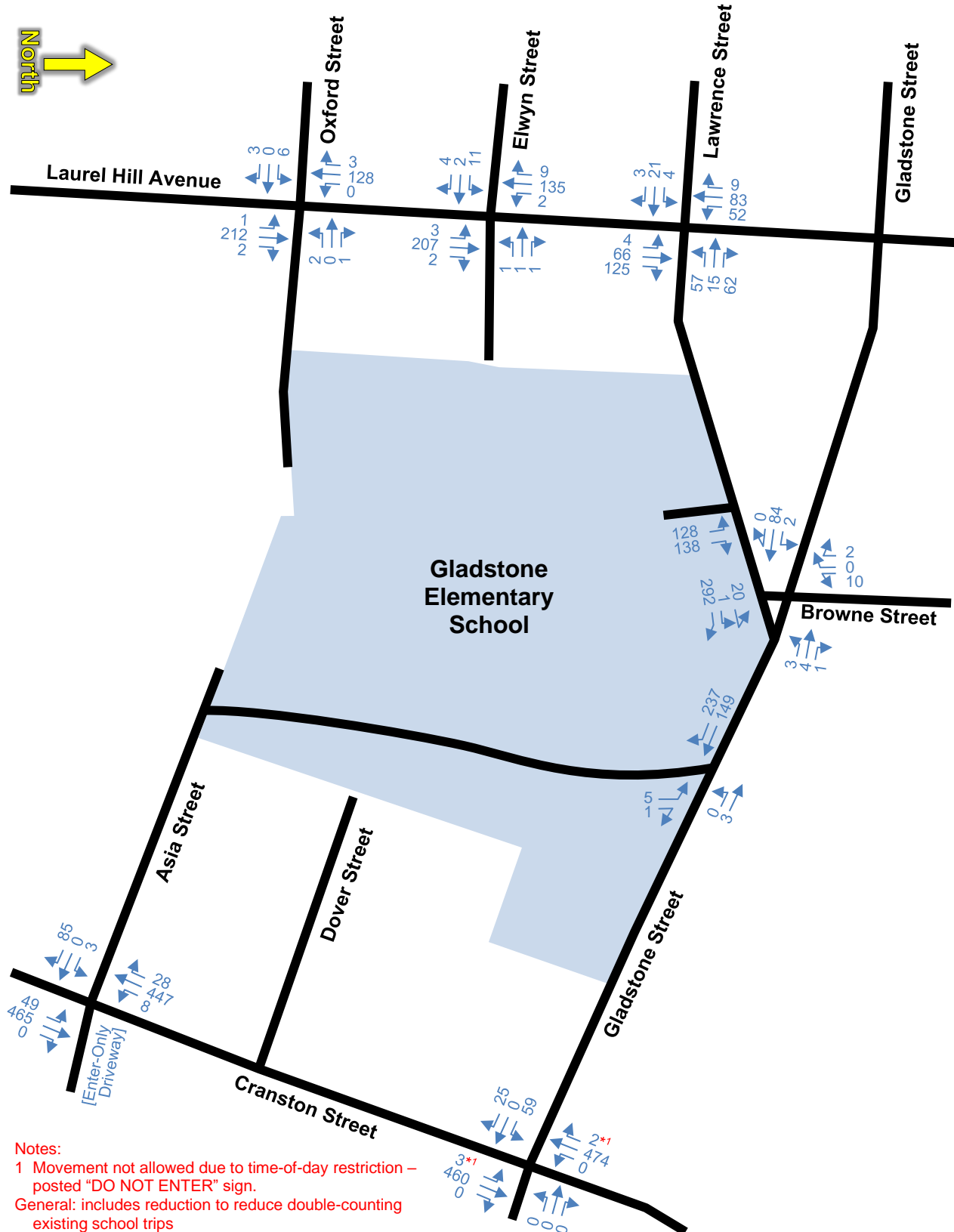
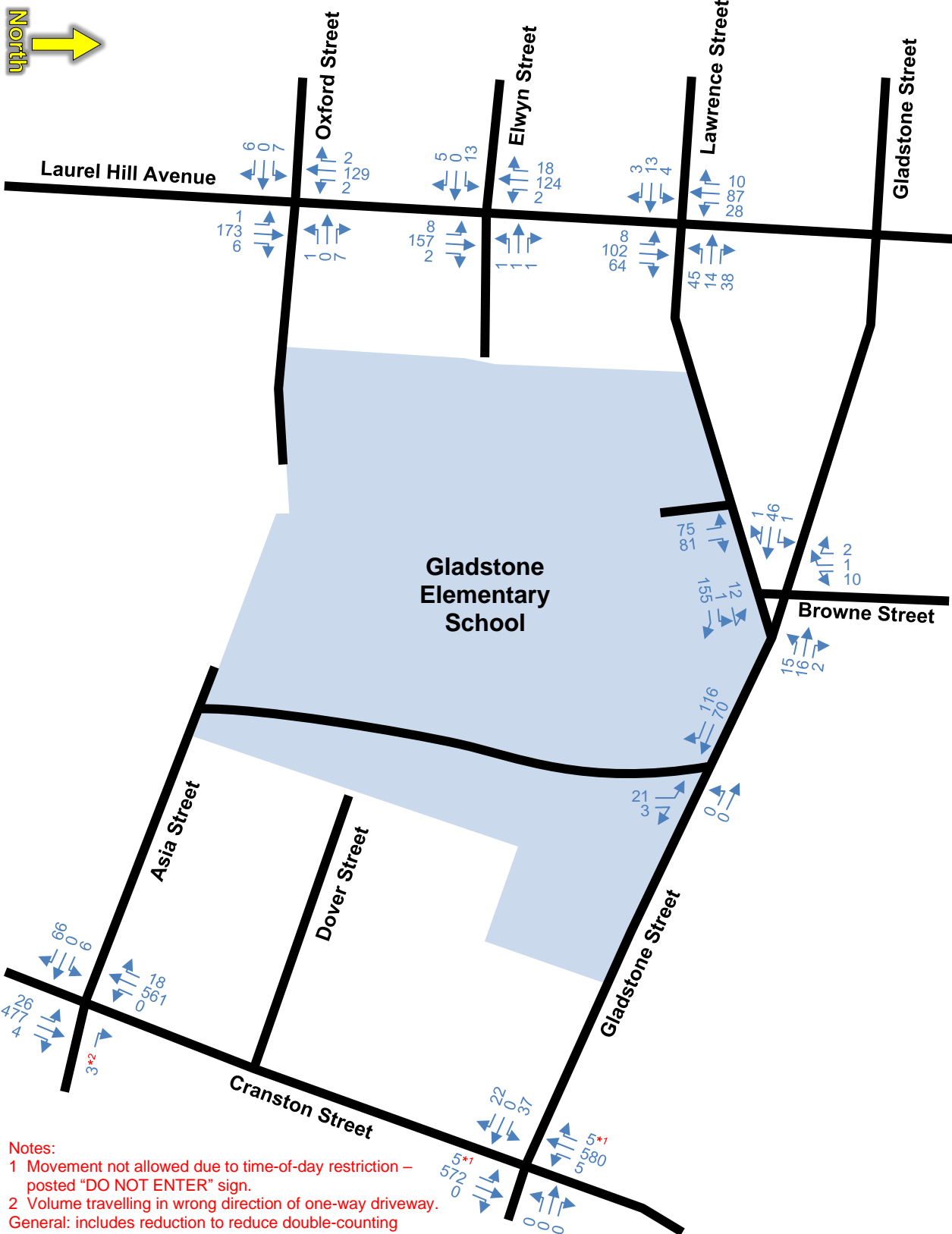




Figure 8 – Future Traffic Volumes – School Dismissal Peak Hour

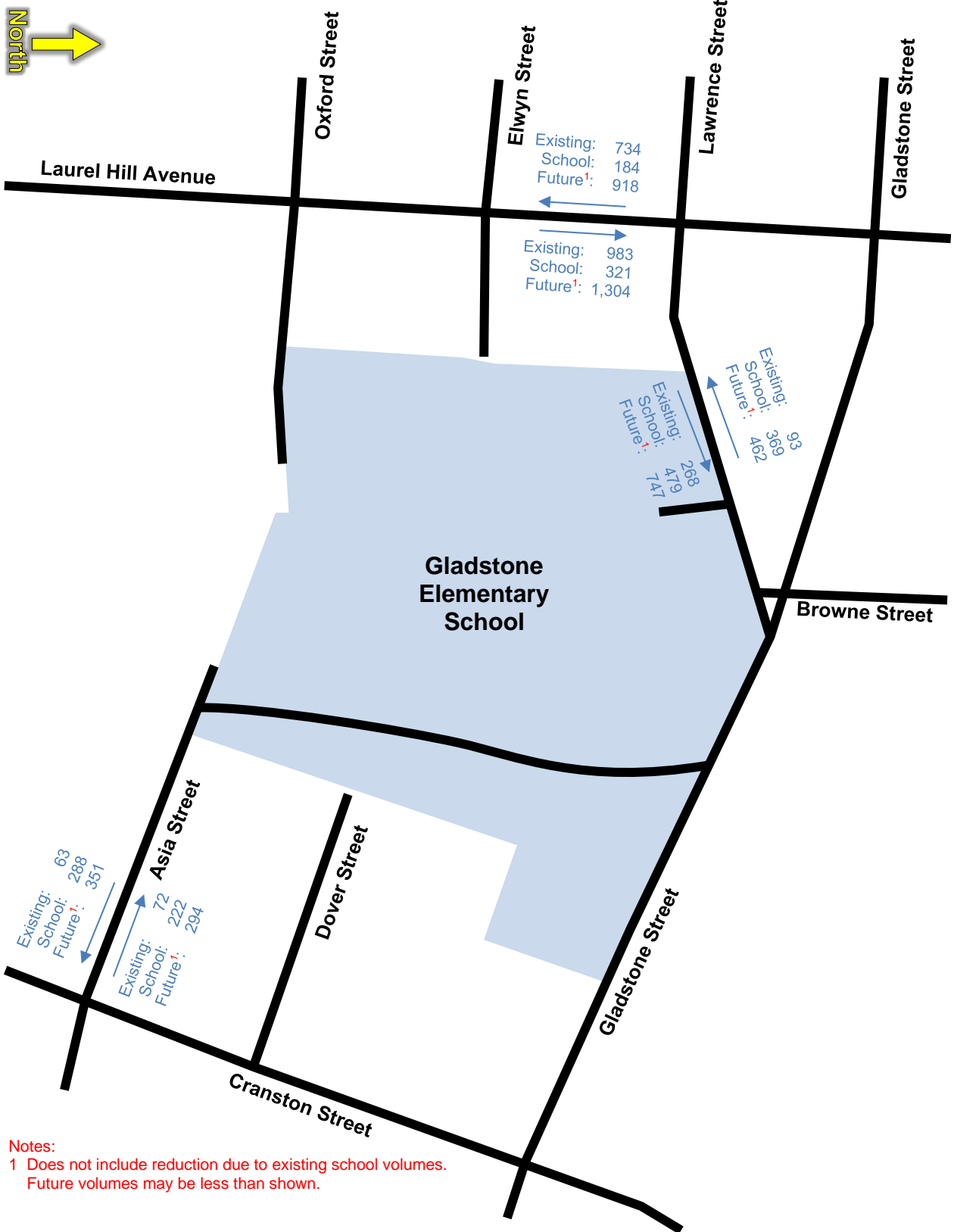


Notes:

- 1 Movement not allowed due to time-of-day restriction – posted “DO NOT ENTER” sign.
 - 2 Volume travelling in wrong direction of one-way driveway.
- General: includes reduction to reduce double-counting existing school trips



Figure 9 – Roadway Average Weekday Traffic Volumes



Notes:

- 1 Does not include reduction due to existing school volumes. Future volumes may be less than shown.



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LOS Results

The analysis performed and summarized herein was completed utilizing Synchro traffic modelling software for the AM peak hour and school dismissal peak hour for both existing and proposed future conditions. The results of the analysis are presented in **Table 3** for existing and future proposed conditions, respectively.

Table 3 – Intersection Capacity Analysis LOS Results

Intersection	Movement ¹	LOS			
		Existing		Future	
		AM	PM ²	AM	PM ²
Laurel Hill Avenue & Oxford Street	NB Left	A	A	A	A
	SB Left	-	A	-	-
	EB Shared	A	A	B	B
	WB Shared	A	B	B	B
Laurel Hill Avenue & Elwyn Street	NB Left	A	A	A	A
	SB Left	A	A	A	A
	EB Shared	B	B	B	B
	WB Shared	A	A	B	B
Laurel Hill Avenue & Lawrence Street ³	NB Left	A ³	A ³	A	A
	SB Left	A ³	A ³	A	A
	EB Shared	B ³	B ³	B	B
	WB Shared	B ³	B ³	B	B
Browne Street, Gladstone Street, & Lawrence Street ³	NB Shared	See notes ^{3,4}	See notes ^{3,4}	A	A
	SB Shared			A	A
	EB Shared			A	A
	WB Shared			A	A
	Intersection			A	A
Cranston Street & Gladstone Street	NB Left	A	A	A	A
	SB Left	-	A	-	A
	EB Shared	D	D	D	E
	WB Shared	-	-	-	-
Cranston Street & Asia Street	NB Left	A	A	A	A
	SB Left	A	-	A	A
	EB Shared	C	C	B	C
	WB Shared	-	B	-	B
New Egress Driveway & Gladstone Street	NB Shared	N/A	N/A	B	B
Existing Private Street & Gladstone Street ⁵	NB Shared	N/A	N/A	B	B

Notes:

- 1) LOS is not applicable for free-flow movements. Overall/intersection LOS is not applicable for intersections with free-flow movements. Where no volume recorded, “-” is displayed.
- 2) School dismissal afternoon peak hour analyzed; negligible impact to traditional PM peak hour is expected.
- 3) Due to typical closures of roadway by school employee, queuing on Lawrence Street backs into the intersection; therefore, HCM analysis and resulting LOS does not reflect actual conditions.
- 4) HCM analysis not capable of analyzing 5-approach all-way stop-controlled intersections.
- 5) Existing LOS is not applicable as existing private street 1 one-way, bus-only and buses may not approach from Cranston Street.

The eastbound approach to the intersection of Cranston Street and Gladstone Street currently operates at LOS D during the school peak hours and is projected to operate at LOS E during the school dismissal peak hour with 40 seconds of delay on average per vehicle. All movements at the intersection of Cranston Street and Asia Street are



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projected to operate at LOS C or better during the school peak hours. All other intersections are projected to operate at LOS B or better during the school peak hours.

Traffic conditions will improve particularly on Lawrence Hill Avenue and the proposed layout of Gladstone will not require Lawrence Street between Laurel Hill Avenue and Gladstone Street to be blocked off during the school peak hours.

Parking and Circulation Evaluation

Where available, schools commonly employ a drop-off/pick-up area to facilitate safe, faster and orderly flow of vehicles. The proposed school layout includes a drop-off/pick-up area and a route for vehicles to queue. The area for unloading/loading is approximately 125 feet in length along the curb which could fit up to 4 vehicles. Beyond the drop-off/pick-up area is adequate space for vehicles to egress the area before arriving/queuing at the access to Lawrence Street. The analysis projected the driveway to experience 10.5-14.6 seconds of delay per vehicle, or 42-58 seconds per 4 vehicles. CE&C recommends that the parking lot immediately prior to the drop-off/pick-up area be dedicated for school staff members that do not need to arrive/depart during peak queuing times. This will minimize vehicles entering/exiting parking spaces while there are queued vehicles in the area. Similarly, CE&C recommends the parking spaces within the bus loop to be dedicated to staff parking during typical school hours. On-site queuing available includes approximately 400 feet to the existing private street which is approximately 620 feet. This provides 1,020 feet of internal storage on-site for queuing. For this school, CE&C estimates a queuing rate will typically be less than 4.0 feet per enrolled student. With a maximum enrollment of 800 students this equates to approximately 1,600 feet of queue length after applying a discount for 400 students (up to 10 buses on-site simultaneously). As such, some queuing off-site is expected, which could occur on Gladstone Street and Lawrence Street on the north of the school, or Asia Street.

The parking lot directly in front of the school is available for parents that need to park and walk-in/walk-out of the school facilities. It is recommended that this parking lot remain available for parking and not used as a secondary curb-side drop-off pick up location to remain accessible for parking needs. Additional parking is provided in the existing playground parking lot on the northwest corner of the parcel as well as some parallel parking is proposed along the existing private street. These additional parking areas will partially alleviate traffic conditions at the school during the AM and PM drop-off/pick-up times.

Queuing off-site is not uncommon for neighborhood public schools and while less than ideal for traffic in the neighborhood, traffic impacts from the school within the adjacent neighborhood is expected to be drastically reduced with the proposed site changes even with the increase in students due to the addition of off-street queue storage. It is recommended that the school encourages arriving vehicles from Laurel Hill Avenue to use Gladstone Street and avoid Lawrence Street except for buses and vehicles parking at the existing playground. This will assist to improve circulation flow of traffic leaving the school driveways on Lawrence Street.

The school currently provides approximately 68 parking spaces on-site. The school is proposed to provide 100 parking spaces (an increase by 47%) as well as the drop-off/pick-



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up zone which will reduce the demand for parking during arrival/dismissal times. The school could potentially allow parking within the bus loop during night events.

The city may consider the potential to make Gladstone Street 1-way at all times between Browne Street and Cranston Street. This would allow eastbound neighborhood vehicles to pass potentially queued vehicles to the school during pick-up/drop off times and potentially additional parking for night events if needed. While this may be considered it is not recommended at this time and CE&C defers to local preference of the neighborhood, city officials, and emergency services. Additional restriction signage (no right turns, no left turns) at Cranston Street facing vehicles approaching Gladstone Street is recommended for improved clarity/warning as several vehicles were recorded making the movements.

Safe Routes to School and Pedestrian Access

Cranston Street to the east is classified by the State of Rhode Island Highway Functional Classification as a minor arterial road and provides a sidewalk on both sides within the vicinity of the site. Laurel Hill Avenue is classified as a major collector and provides non-continuous sidewalks on both sides of the street. Gladstone Street, Lawrence Street, and Elwyn Street provide a continuous sidewalk on their south sides between Cranston Street and Laurel Hill Avenue. Oxford Street and Asia Street do not provide dedicated sidewalks.

The current layout of the school provides a sidewalk to/from the main access point at Browne Street, Gladstone Street, & Lawrence Street as well as to/from the pedestrian gate at Elwyn Street.

The proposed site plan depicts a new sidewalk to/from the pedestrian gate on Elwyn Street. The existing sidewalk to the north will be removed and a new sidewalk placed to/from Lawrence Street along around the north side of the bus loop.

The traffic counts at the school noted a mix of 8 buses during school arrival and school dismissal (8 buses during each period). The new layout of the site includes a bus drop-off/pick-up loop that can fit 10 large buses adjacent to sidewalk simultaneously. RIPTA bus route 30 travels along Cranston Street and has stops at the pedestrian crossing approximately 100 feet north of Asia Street as well as over 200 feet north of Gladstone Street. RIPTA bus route 18 travels along Laurel Hill Avenue has a northbound stop adjacent to Elwyn Street and southbound stop near Gladstone Street and near Gladstone Street.

As discussed previously, a school crossing guard stationed at the intersection of Browne Street, Gladstone Street, and Lawrence Street typically blocks/stops vehicular movement to/from Lawrence Street during arrival and dismissal peaks with two lines of eastbound arriving vehicles parking within Lawrence Street's travel lanes. Some vehicles were observed reversing (facing eastbound, travelling westbound) back into Lawrence Street's intersection with Laurel Hill Avenue and, when possible, turning around (by reversing) on Lawrence Street. These occurrences can affect pedestrian crossings at Laurel Hill Avenue and pedestrian travel along Lawrence Street. CE&C recommends discontinuing this practice and since a dedicated on-site drop-off/pick-up location will be provided, this interaction will no longer occur.



Conclusions

The following conclusions and recommendations were made:

- The reconstruction will include a new and relocated building, changes to access to the site, increased on-site parking and improved circulation, and an increase in available student enrollment capacity.
- The proposed school at maximum enrollment is expected to generate 1,816 daily trips during a typical weekday, with 600 trips (324 in, 276 out) during the AM peak hour and 360 trips (166 in, 194 out) during the school afternoon dismissal peak hour. This is approximately 45% more trips than the existing school enrolment capacity.
- Traffic impacts from the school within the adjacent neighborhood is expected to be drastically reduced with the proposed site changes even with the increase in students due to the addition of off-street queue storage. A crossing guard at the main entrance of the school currently stops traffic on Lawrence Street and parents and students get in/out of those parked vehicles. The new drop-off/pick-up will provide a safe, faster and orderly flow of vehicles.
- Repurposing the existing on-site private street will allow indirect access to the school via Cranston Street. The eastbound Gladstone Street approach to Cranston Street is projected to operate at LOS D and E during the school peak hours. All other study intersections are projected to operate at LOS C or better during the school peak hours.
- The school is proposed to provide 100 parking spaces (an increase by 47%) as well as the drop-off/pick-up zone which will reduce the demand for parking during arrival/dismissal times. The school could potentially allow parking within the bus loop during night events.
- It is recommended that the city consider the potential to make Gladstone Street 1-way at all times between Browne Street and Cranston Street (currently westbound entry from Cranston Street is restricted during specified hours). This will allow non-school vehicles to bypass potentially queued school vehicles as well as potentially allow parking outside of school hours (parking is currently restricted).
- School buses will be routed through a proposed loop that can fit 10 large buses adjacent to sidewalk simultaneously. Buses currently route through the existing private street on-site that does not have a sidewalk.



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ATTACHMENT A: SITE PLAN



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ATTACHMENT B: TRAFFIC COUNTS

Commonwealth Engineering & Consultants, Inc.

400 Smith Street
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 Phone: (401) 273-6600
 Fax: (401) 273-6674

Gladstone Street School
 Laurel Hill Ave & Oxford St
 41.797821, -71.452374
 21052.00

File Name : 21052 Laurel Hill Oxford AM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Unshifted

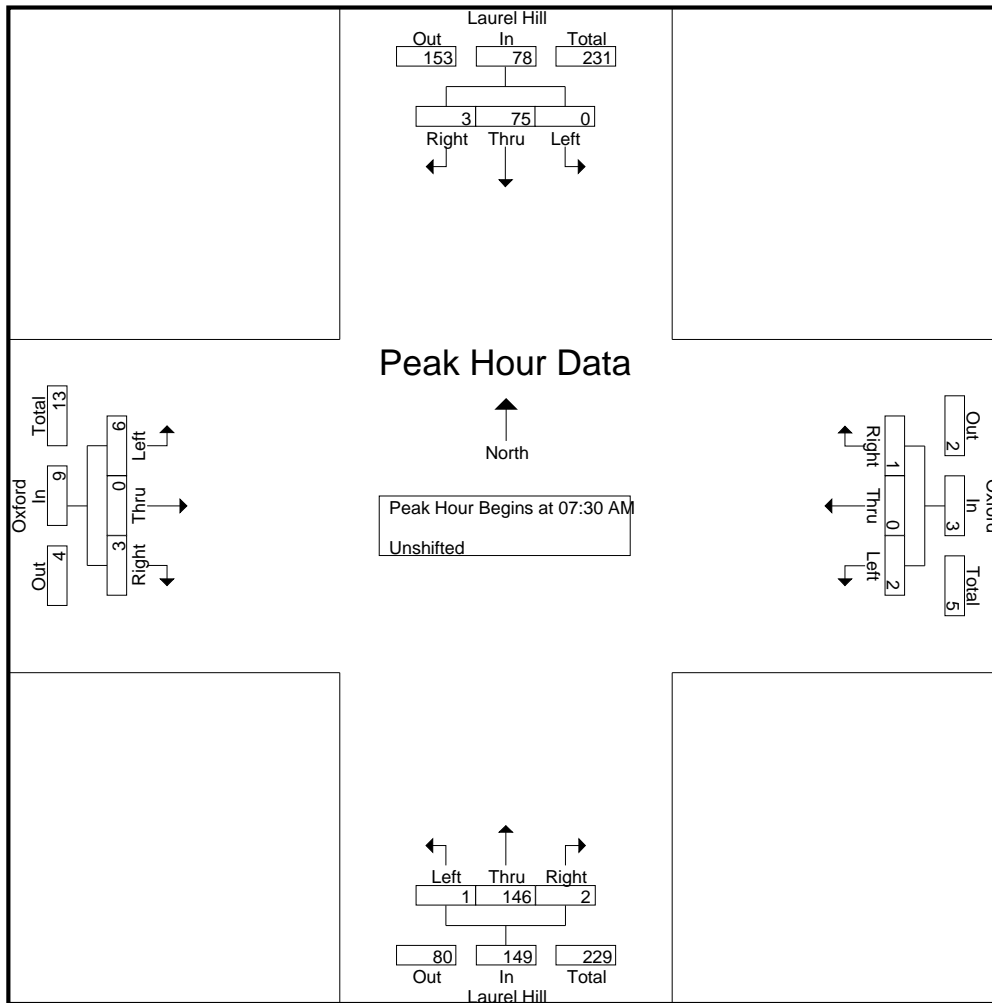
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07:00 AM	0	11	0	11	0	1	0	1	0	10	0	10	0	1	0	1	23
07:15 AM	0	23	0	23	0	0	0	0	0	13	0	13	1	0	0	1	37
07:30 AM	0	18	0	18	0	0	1	1	0	27	0	27	2	0	1	3	49
07:45 AM	0	27	0	27	1	0	1	2	0	32	0	32	0	0	0	0	61
Total	0	79	0	79	1	1	2	4	0	82	0	82	3	1	1	5	170
08:00 AM	1	10	0	11	0	0	0	0	1	52	0	53	1	0	4	5	69
08:15 AM	2	20	0	22	0	0	0	0	1	35	1	37	0	0	1	1	60
08:30 AM	1	25	0	26	0	0	0	0	0	16	0	16	1	0	2	3	45
08:45 AM	1	19	0	20	0	0	0	0	0	15	0	15	2	0	1	3	38
Total	5	74	0	79	0	0	0	0	2	118	1	121	4	0	8	12	212
Grand Total	5	153	0	158	1	1	2	4	2	200	1	203	7	1	9	17	382
Apprch %	3.2	96.8	0		25	25	50		1	98.5	0.5		41.2	5.9	52.9		
Total %	1.3	40.1	0	41.4	0.3	0.3	0.5	1	0.5	52.4	0.3	53.1	1.8	0.3	2.4	4.5	

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Start Time	Laurel Hill From North				Oxford From East				Laurel Hill From South				Oxford From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	18	0	18	0	0	1	1	0	27	0	27	2	0	1	3	49
07:45 AM	0	27	0	27	1	0	1	2	0	32	0	32	0	0	0	0	61
08:00 AM	1	10	0	11	0	0	0	0	1	52	0	53	1	0	4	5	69
08:15 AM	2	20	0	22	0	0	0	0	1	35	1	37	0	0	1	1	60
Total Volume	3	75	0	78	1	0	2	3	2	146	1	149	3	0	6	9	239
% App. Total	3.8	96.2	0		33.3	0	66.7		1.3	98	0.7		33.3	0	66.7		
PHF	.375	.694	.000	.722	.250	.000	.500	.375	.500	.702	.250	.703	.375	.000	.375	.450	.866



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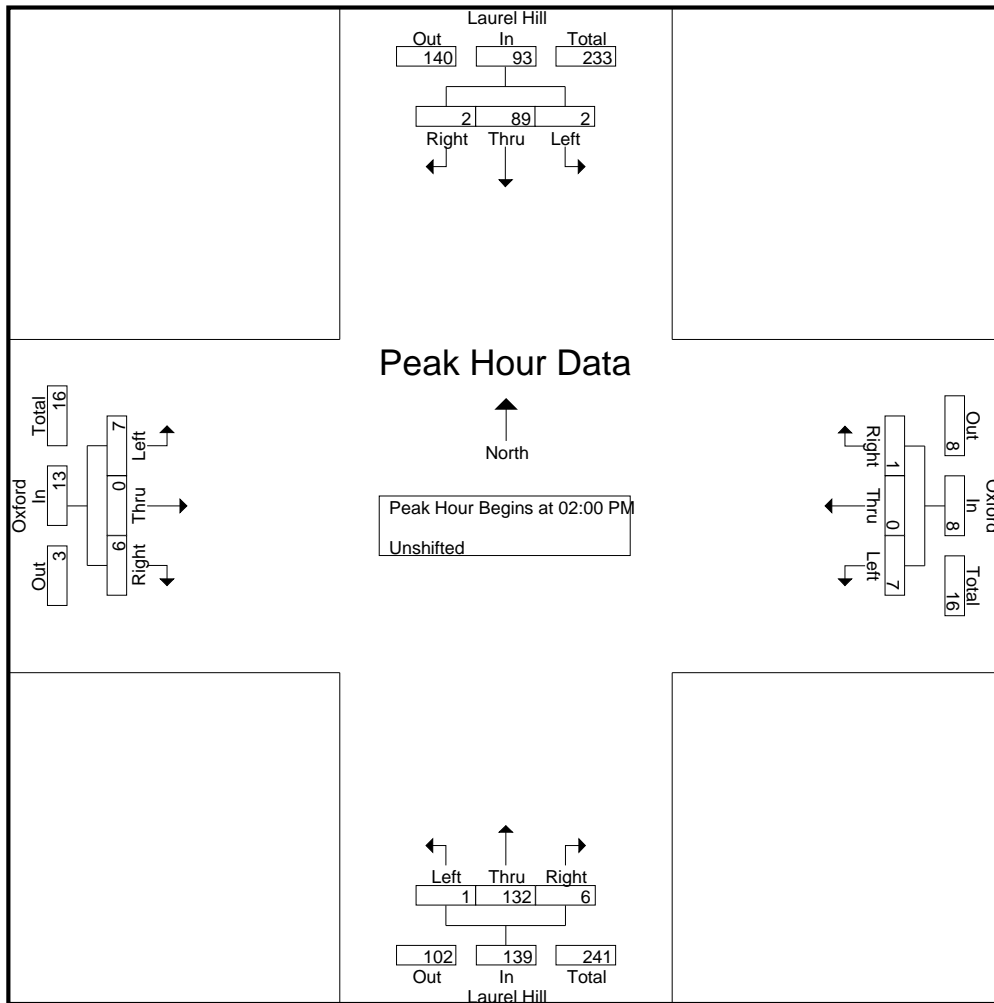
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02:00 PM	0	15	0	15	0	0	1	1	0	31	0	31	1	0	2	3	50
02:15 PM	0	21	0	21	0	0	1	1	1	44	1	46	0	0	3	3	71
02:30 PM	1	23	1	25	1	0	0	1	4	28	0	32	2	0	1	3	61
02:45 PM	1	30	1	32	0	0	5	5	1	29	0	30	3	0	1	4	71
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03:15 PM	2	6	0	8	1	0	0	1	0	23	1	24	0	0	0	0	33
03:30 PM	0	28	1	29	0	0	0	0	0	24	1	25	0	0	2	2	56
03:45 PM	0	19	0	19	0	0	1	1	0	25	0	25	0	0	2	2	47
Total	3	71	1	75	2	1	1	4	0	92	3	95	0	0	5	5	179
Grand Total	5	160	3	168	3	1	8	12	6	224	4	234	6	0	12	18	432
Apprch %	3	95.2	1.8		25	8.3	66.7		2.6	95.7	1.7		33.3	0	66.7		
Total %	1.2	37	0.7	38.9	0.7	0.2	1.9	2.8	1.4	51.9	0.9	54.2	1.4	0	2.8	4.2	

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Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:00 PM																	
02:00 PM	0	15	0	15	0	0	1	1	0	31	0	31	1	0	2	3	50
02:15 PM	0	21	0	21	0	0	1	1	1	44	1	46	0	0	3	3	71
02:30 PM	1	23	1	25	1	0	0	1	4	28	0	32	2	0	1	3	61
02:45 PM	1	30	1	32	0	0	5	5	1	29	0	30	3	0	1	4	71
Total Volume	2	89	2	93	1	0	7	8	6	132	1	139	6	0	7	13	253
% App. Total	2.2	95.7	2.2		12.5	0	87.5		4.3	95	0.7		46.2	0	53.8		
PHF	.500	.742	.500	.727	.250	.000	.350	.400	.375	.750	.250	.755	.500	.000	.583	.813	.891



Commonwealth Engineering & Consultants, Inc.

400 Smith Street
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 Fax: (401) 273-6674

Glastone Street School
 Laurel Hill Ave & Elwyn St
 41.79948 -71.45054
 21052.00

File Name : 21052 Laurel Hill Elwyn AM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Unshifted

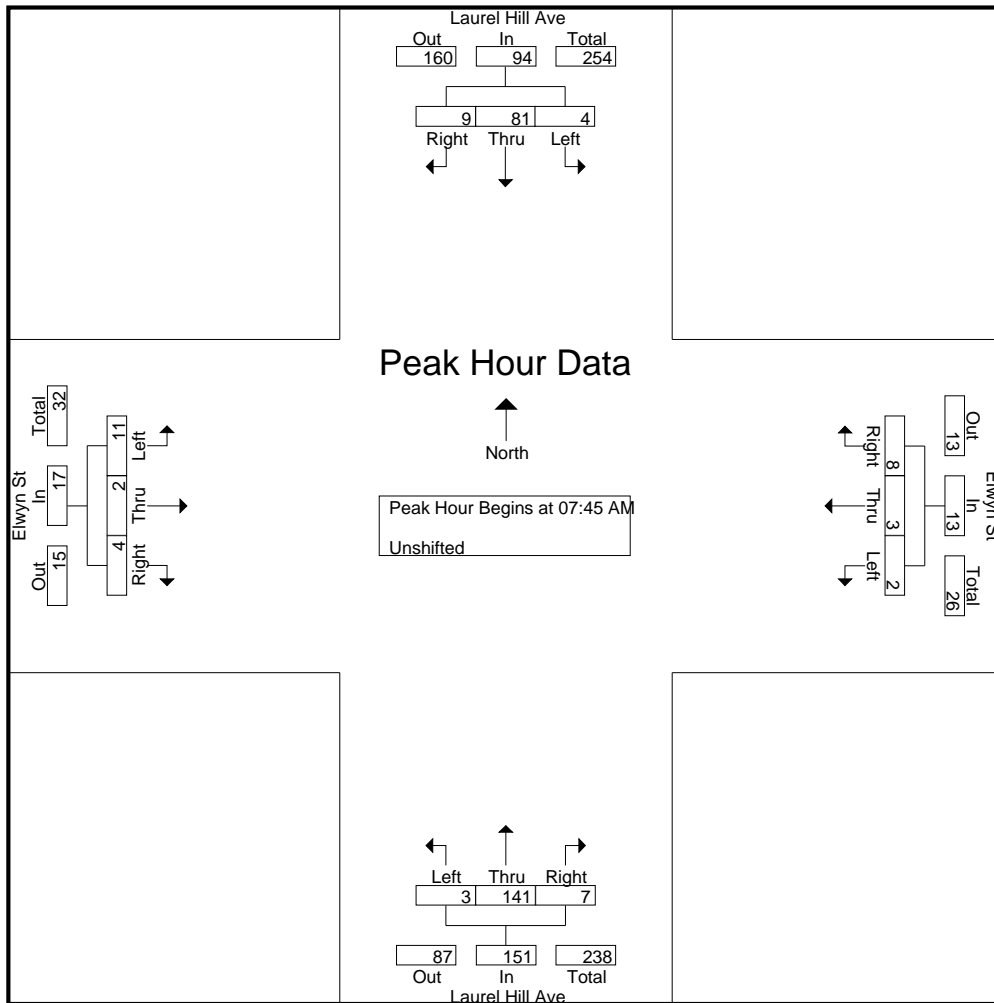
Start Time	Laurel Hill Ave From North				Elwyn St From East				Laurel Hill Ave From South				Elwyn St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:00 AM	1	8	1	10	0	0	0	0	0	11	0	11	0	0	1	1	22
07:15 AM	0	22	0	22	0	0	0	0	0	10	0	10	0	0	0	0	32
07:30 AM	0	15	0	15	0	0	0	0	0	26	0	26	5	0	0	5	46
07:45 AM	1	27	0	28	0	0	0	0	1	28	2	31	0	0	2	2	61
Total	2	72	1	75	0	0	0	0	1	75	2	78	5	0	3	8	161
08:00 AM	3	9	0	12	1	0	0	1	0	58	1	59	0	0	4	4	76
08:15 AM	3	24	2	29	3	1	0	4	4	35	0	39	2	1	4	7	79
08:30 AM	2	21	2	25	4	2	2	8	2	20	0	22	2	1	1	4	59
08:45 AM	1	16	2	19	0	0	0	0	0	12	3	15	3	0	0	3	37
Total	9	70	6	85	8	3	2	13	6	125	4	135	7	2	9	18	251
Grand Total	11	142	7	160	8	3	2	13	7	200	6	213	12	2	12	26	412
Apprch %	6.9	88.8	4.4		61.5	23.1	15.4		3.3	93.9	2.8		46.2	7.7	46.2		
Total %	2.7	34.5	1.7	38.8	1.9	0.7	0.5	3.2	1.7	48.5	1.5	51.7	2.9	0.5	2.9	6.3	

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File Name : 21052 Laurel Hill Elwyn AM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 3

Start Time	Laurel Hill Ave From North				Elwyn St From East				Laurel Hill Ave From South				Elwyn St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	1	27	0	28	0	0	0	0	1	28	2	31	0	0	2	2	61
08:00 AM	3	9	0	12	1	0	0	1	0	58	1	59	0	0	4	4	76
08:15 AM	3	24	2	29	3	1	0	4	4	35	0	39	2	1	4	7	79
08:30 AM	2	21	2	25	4	2	2	8	2	20	0	22	2	1	1	4	59
Total Volume	9	81	4	94	8	3	2	13	7	141	3	151	4	2	11	17	275
% App. Total	9.6	86.2	4.3		61.5	23.1	15.4		4.6	93.4	2		23.5	11.8	64.7		
PHF	.750	.750	.500	.810	.500	.375	.250	.406	.438	.608	.375	.640	.500	.500	.688	.607	.870



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Gladstone Street School
 Laurel Hill Ave & Elwyn St
 41.79948 -71.45054
 21052.00

File Name : 21052 Laurel Hill Elwyn PM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Unshifted

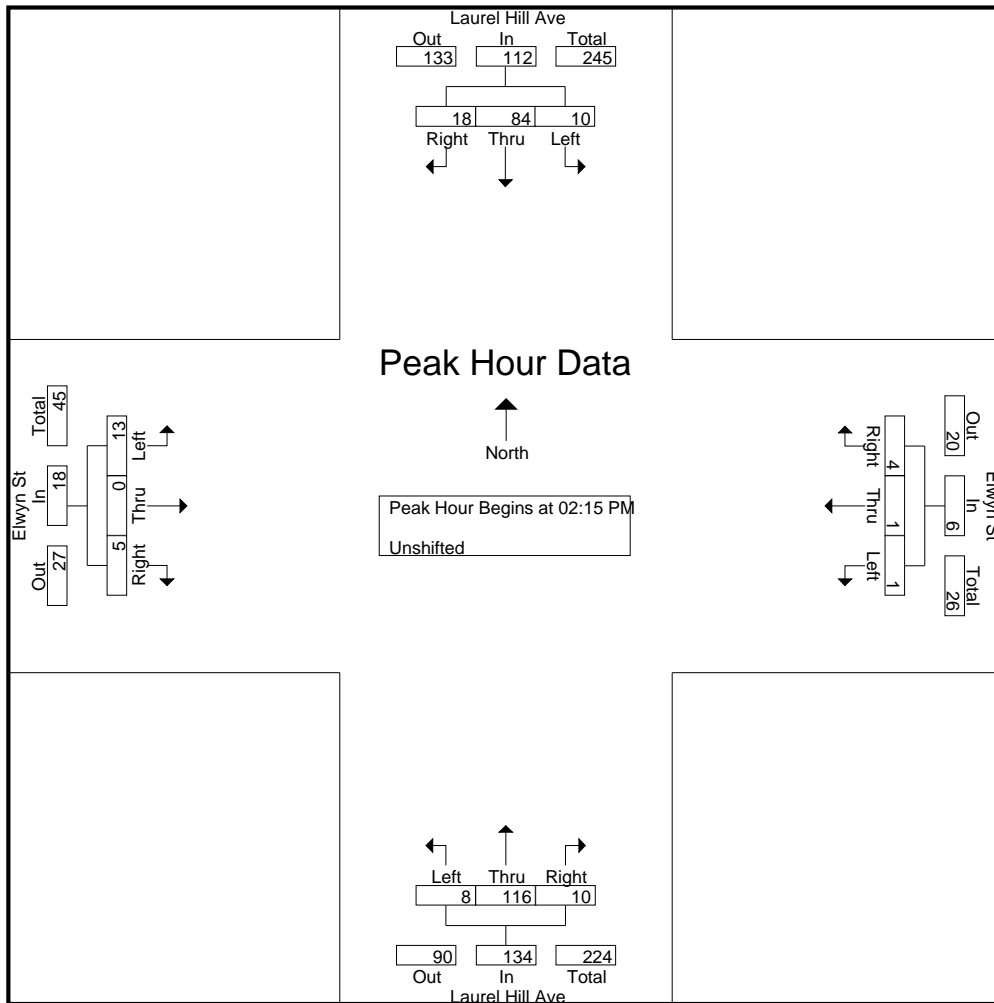
Start Time	Laurel Hill Ave From North				Elwyn St From East				Laurel Hill Ave From South				Elwyn St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
02:00 PM	0	19	0	19	0	0	0	0	1	16	2	19	0	0	2	2	40
02:15 PM	2	13	8	23	1	0	0	1	5	30	4	39	0	0	4	4	67
02:30 PM	3	15	2	20	1	1	0	2	1	34	0	35	3	0	6	9	66
02:45 PM	6	32	0	38	2	0	1	3	2	26	2	30	1	0	1	2	73
Total	11	79	10	100	4	1	1	6	9	106	8	123	4	0	13	17	246
03:00 PM	7	24	0	31	0	0	0	0	2	26	2	30	1	0	2	3	64
03:15 PM	4	12	0	16	0	0	0	0	0	21	2	23	0	0	0	0	39
03:30 PM	0	17	0	17	0	0	1	1	0	29	0	29	1	0	4	5	52
03:45 PM	2	26	0	28	1	0	0	1	0	21	1	22	2	0	3	5	56
Total	13	79	0	92	1	0	1	2	2	97	5	104	4	0	9	13	211
Grand Total	24	158	10	192	5	1	2	8	11	203	13	227	8	0	22	30	457
Apprch %	12.5	82.3	5.2		62.5	12.5	25		4.8	89.4	5.7		26.7	0	73.3		
Total %	5.3	34.6	2.2	42	1.1	0.2	0.4	1.8	2.4	44.4	2.8	49.7	1.8	0	4.8	6.6	

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File Name : 21052 Laurel Hill Elwyn PM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 3

Start Time	Laurel Hill Ave From North				Elwyn St From East				Laurel Hill Ave From South				Elwyn St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	2	13	8	23	1	0	0	1	5	30	4	39	0	0	4	4	67
02:30 PM	3	15	2	20	1	1	0	2	1	34	0	35	3	0	6	9	66
02:45 PM	6	32	0	38	2	0	1	3	2	26	2	30	1	0	1	2	73
03:00 PM	7	24	0	31	0	0	0	0	2	26	2	30	1	0	2	3	64
Total Volume	18	84	10	112	4	1	1	6	10	116	8	134	5	0	13	18	270
% App. Total	16.1	75	8.9		66.7	16.7	16.7		7.5	86.6	6		27.8	0	72.2		
PHF	.643	.656	.313	.737	.500	.250	.250	.500	.500	.853	.500	.859	.417	.000	.542	.500	.925



Commonwealth Engineering & Consultants, Inc.

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Gladstone Street School
 Laurell Hill Ave & Lawrence St
 41.799141, -71.452256
 21052.00

File Name : 21052 Laurel Hill Lawrence AM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Unshifted

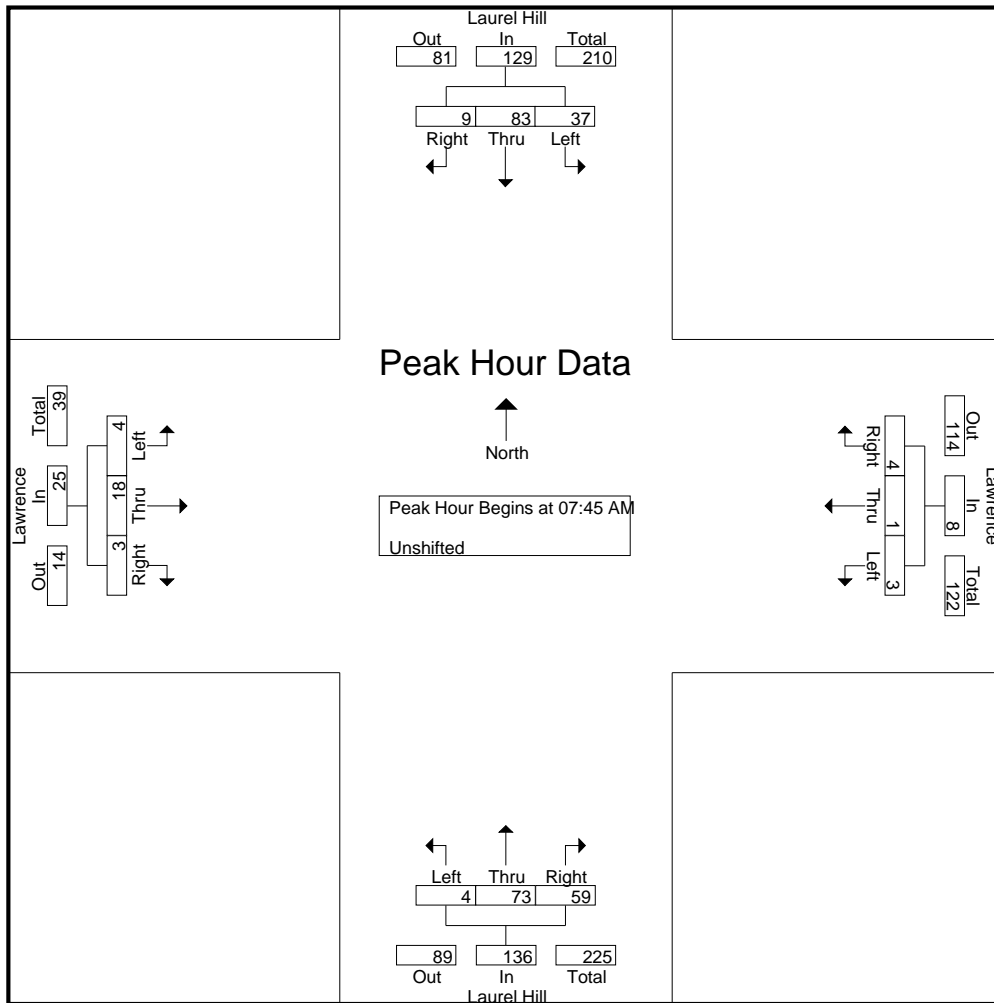
Start Time	Laurel Hill From North				Lawrence From East					Laurel Hill From South				Lawrence From West				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	(Parking)	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total			
07:00 AM	1	10	1	12	0	0	0	0	0	2	10	1	13	0	3	0	3	0	28	28
07:15 AM	0	13	1	14	1	0	1	1	2	0	10	0	10	1	1	3	5	1	31	32
07:30 AM	0	15	1	16	0	0	0	0	0	1	27	0	28	1	2	1	4	0	48	48
07:45 AM	0	28	1	29	1	0	0	2	1	11	11	1	23	0	2	0	2	2	55	57
Total	1	66	4	71	2	0	1	3	3	14	58	2	74	2	8	4	14	3	162	165
08:00 AM	3	16	12	31	0	0	0	19	0	31	23	0	54	0	9	0	9	19	94	113
08:15 AM	3	20	20	43	2	0	0	15	2	16	21	2	39	1	5	1	7	15	91	106
08:30 AM	3	19	4	26	1	1	3	7	5	1	18	1	20	2	2	3	7	7	58	65
08:45 AM	0	21	1	22	2	0	4	2	6	5	9	0	14	0	5	2	7	2	49	51
Total	9	76	37	122	5	1	7	43	13	53	71	3	127	3	21	6	30	43	292	335
Grand Total	10	142	41	193	7	1	8	46	16	67	129	5	201	5	29	10	44	46	454	500
Apprch %	5.2	73.6	21.2		43.8	6.2	50			33.3	64.2	2.5		11.4	65.9	22.7				
Total %	2.2	31.3	9	42.5	1.5	0.2	1.8		3.5	14.8	28.4	1.1	44.3	1.1	6.4	2.2	9.7	9.2	90.8	

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File Name : 21052 Laurel Hill Lawrence AM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 3

Start Time	Laurel Hill From North				Lawrence From East				Laurel Hill From South				Lawrence From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	28	1	29	1	0	0	1	11	11	1	23	0	2	0	2	55
08:00 AM	3	16	12	31	0	0	0	0	31	23	0	54	0	9	0	9	94
08:15 AM	3	20	20	43	2	0	0	2	16	21	2	39	1	5	1	7	91
08:30 AM	3	19	4	26	1	1	3	5	1	18	1	20	2	2	3	7	58
Total Volume	9	83	37	129	4	1	3	8	59	73	4	136	3	18	4	25	298
% App. Total	7	64.3	28.7		50	12.5	37.5		43.4	53.7	2.9		12	72	16		
PHF	.750	.741	.463	.750	.500	.250	.250	.400	.476	.793	.500	.630	.375	.500	.333	.694	.793



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Gladstone Street School
 Laurel Hill Ave & Lawrence St
 41.799141, -71.452256
 21052.00

File Name : 21052 Laurel Hill Lawrence PM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 1

Groups Printed- Unshifted

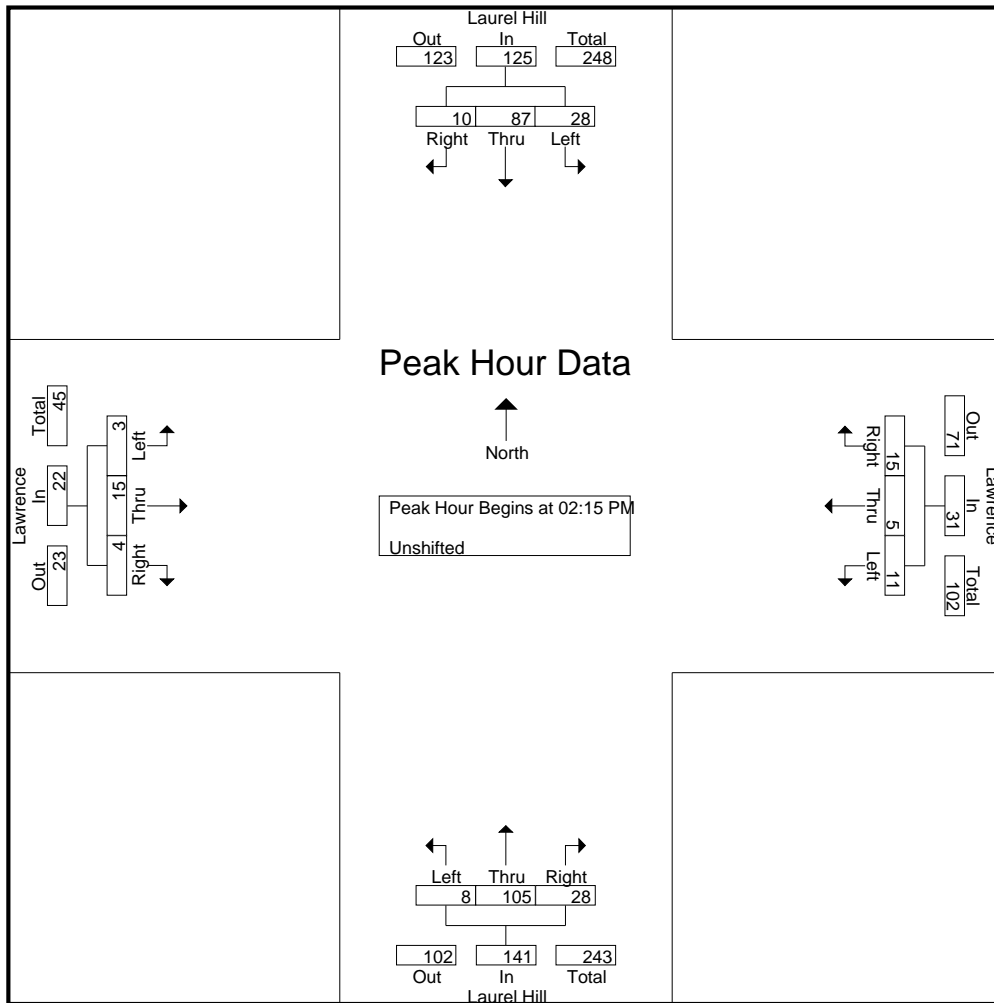
Start Time	Laurel Hill From North				Lawrence From East					Laurel Hill From South				Lawrence From West				Exclu. Total	Inclu. Total	Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	(Parking)	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total			
02:00 PM	3	17	1	21	0	1	1	4	2	7	14	0	21	0	0	0	0	4	44	48
02:15 PM	1	21	7	29	0	0	0	9	0	9	26	2	37	1	4	1	6	9	72	81
02:30 PM	5	26	14	45	0	0	0	17	0	9	29	2	40	1	6	0	7	17	92	109
02:45 PM	3	24	5	32	12	3	6	9	21	5	30	2	37	1	2	1	4	9	94	103
Total	12	88	27	127	12	4	7	39	23	30	99	6	135	3	12	2	17	39	302	341
03:00 PM	1	16	2	19	3	2	5	1	10	5	20	2	27	1	3	1	5	1	61	62
03:15 PM	0	15	0	15	0	1	2	0	3	2	18	1	21	0	3	0	3	0	42	42
03:30 PM	0	10	0	10	0	1	3	0	4	3	26	0	29	0	0	0	0	0	43	43
03:45 PM	1	23	1	25	0	2	3	0	5	3	22	0	25	0	1	0	1	0	56	56
Total	2	64	3	69	3	6	13	1	22	13	86	3	102	1	7	1	9	1	202	203
Grand Total	14	152	30	196	15	10	20	40	45	43	185	9	237	4	19	3	26	40	504	544
Apprch %	7.1	77.6	15.3		33.3	22.2	44.4			18.1	78.1	3.8		15.4	73.1	11.5				
Total %	2.8	30.2	6	38.9	3	2	4		8.9	8.5	36.7	1.8	47	0.8	3.8	0.6	5.2	7.4	92.6	

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File Name : 21052 Laurel Hill Lawrence PM
 Site Code : 00000000
 Start Date : 2/2/2022
 Page No : 3

Start Time	Laurel Hill From North				Lawrence From East				Laurel Hill From South				Lawrence From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 02:15 PM																	
02:15 PM	1	21	7	29	0	0	0	0	9	26	2	37	1	4	1	6	72
02:30 PM	5	26	14	45	0	0	0	0	9	29	2	40	1	6	0	7	92
02:45 PM	3	24	5	32	12	3	6	21	5	30	2	37	1	2	1	4	94
03:00 PM	1	16	2	19	3	2	5	10	5	20	2	27	1	3	1	5	61
Total Volume	10	87	28	125	15	5	11	31	28	105	8	141	4	15	3	22	319
% App. Total	8	69.6	22.4		48.4	16.1	35.5		19.9	74.5	5.7		18.2	68.2	13.6		
PHF	.500	.837	.500	.694	.313	.417	.458	.369	.778	.875	1.00	.881	1.00	.625	.750	.786	.848



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Gladstone Street School
 Gladstone/Lawrence/Browne/Driveway
 41.79948 -71.45054
 21052.00

File Name : 21052 Gladstone Lawrence Browne AM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Legged Intersection

Start Time	Browne From North					Gladstone From East					School Driveway From South					Lawrence From Southwest					Gladstone From West					Int. Total
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	
07:00 AM	0	0	1	3	4	0	2	2	0	4	0	0	1	0	1	1	7	1	0	9	0	0	2	0	2	20
07:15 AM	0	0	0	2	2	1	2	2	1	6	0	0	0	0	0	0	3	0	0	3	1	1	13	0	15	26
07:30 AM	1	0	1	2	4	0	0	1	2	3	0	0	0	0	0	2	5	0	0	7	2	2	14	0	18	32
07:45 AM	1	0	1	7	9	1	3	0	1	5	0	0	3	0	3	5	5	0	0	10	1	3	21	2	27	54
Total	2	0	3	14	19	2	7	5	4	18	0	0	4	0	4	8	20	1	0	29	4	6	50	2	62	132
08:00 AM	0	0	9	8	17	0	0	0	0	0	0	0	1	0	1	13	11	1	1	26	0	2	9	1	12	56
08:15 AM	0	0	1	16	17	1	1	0	0	2	0	0	0	0	0	8	11	5	1	25	0	2	23	0	25	69
08:30 AM	1	0	3	11	15	1	0	0	1	2	2	2	3	0	7	4	11	1	2	18	0	2	19	2	23	65
08:45 AM	1	0	2	2	5	0	2	2	1	5	2	2	2	0	6	0	2	0	1	3	0	0	9	0	9	28
Total	2	0	15	37	54	2	3	2	2	9	4	4	6	0	14	25	35	7	5	72	0	6	60	3	69	218
Grand Total	4	0	18	51	73	4	10	7	6	27	4	4	10	0	18	33	55	8	5	101	4	12	110	5	131	350
Apprch %	5.5	0	24.7	69.9		14.8	37	25.9	22.2		22.2	22.2	55.6	0		32.7	54.5	7.9	5		3.1	9.2	84	3.8		
Total %	1.1	0	5.1	14.6	20.9	1.1	2.9	2	1.7	7.7	1.1	1.1	2.9	0	5.1	9.4	15.7	2.3	1.4	28.9	1.1	3.4	31.4	1.4	37.4	

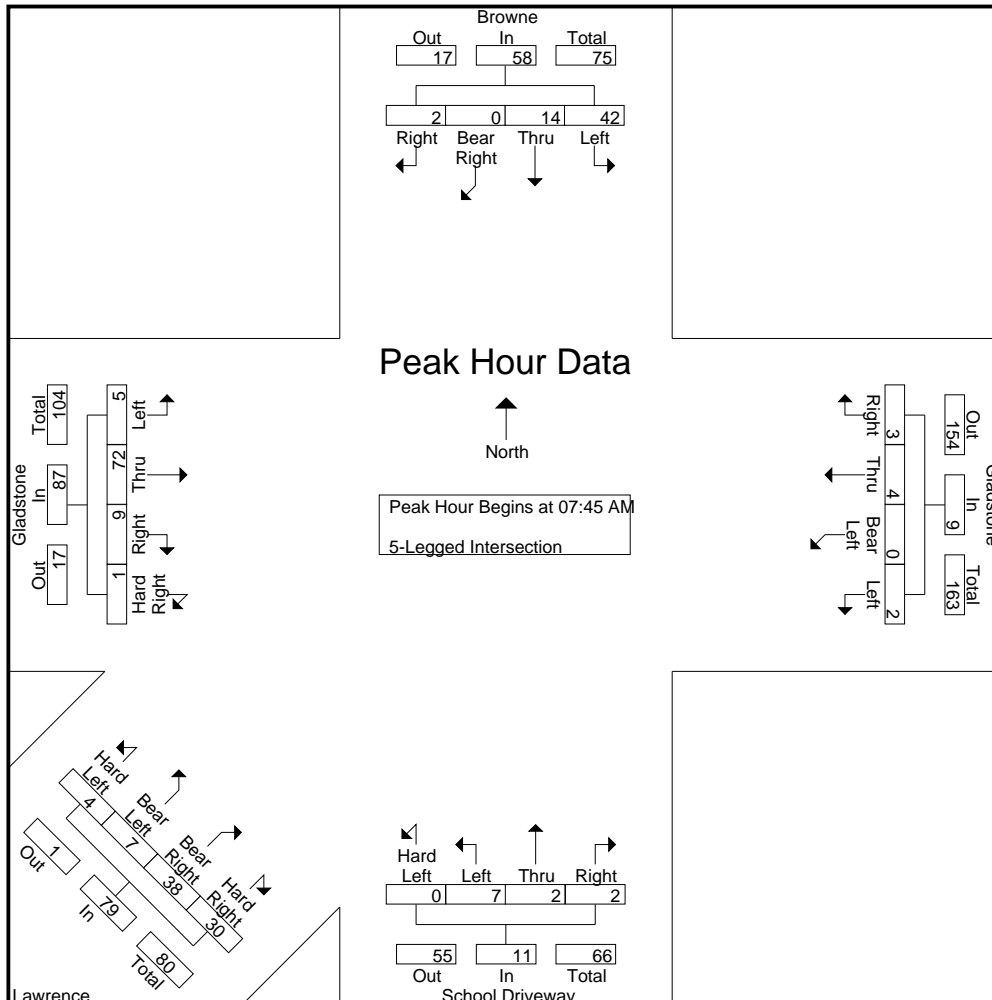
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File Name : 21052 Gladstone Lawrence Browne AM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 3

Start Time	Browne From North					Gladstone From East					School Driveway From South					Lawrence From Southwest					Gladstone From West					Int. Total
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	
07:45 AM	1	0	1	7	9	1	3	0	1	5	0	0	3	0	3	5	5	0	0	10	1	3	21	2	27	54
08:00 AM	0	0	9	8	17	0	0	0	0	0	0	0	1	0	1	13	11	1	1	26	0	2	9	1	12	56
08:15 AM	0	0	1	16	17	1	1	0	0	2	0	0	0	0	0	8	11	5	1	25	0	2	23	0	25	69
08:30 AM	1	0	3	11	15	1	0	0	1	2	2	2	3	0	7	4	11	1	2	18	0	2	19	2	23	65
Total Volume	2	0	14	42	58	3	4	0	2	9	2	2	7	0	11	30	38	7	4	79	1	9	72	5	87	244
% App. Total	3.4	0	24.1	72.4		33.3	44.4	0	22.2		18.2	18.2	63.6	0		38	48.1	8.9	5.1		1.1	10.3	82.8	5.7		
PHF	.500	.000	.389	.656	.853	.750	.333	.000	.500	.450	.250	.250	.583	.000	.393	.577	.864	.350	.500	.760	.250	.750	.783	.625	.806	.884

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:45 AM



Commonwealth Engineering & Consultants, Inc.

400 Smith Street
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Gladstone Street School
 Gladstone/Lawrence/Browne/Driveway
 41.79948 -71.45054
 21052.00

File Name : 21052 Gladstone Lawrence Browne PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Legged Interseciton

Start Time	Browne From North					Gladstone From East					School Driveway From South					Lawrence From Southwest					Gladstone From West					Int. Total
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	
02:00 PM	2	0	1	8	11	1	5	0	0	6	1	0	1	0	2	1	3	0	0	4	0	0	8	1	9	32
02:15 PM	1	0	4	3	8	0	7	1	0	8	0	0	0	0	0	1	3	0	0	4	0	0	9	1	10	30
02:30 PM	1	0	2	2	5	3	2	0	0	5	1	0	1	0	2	1	2	0	2	5	0	1	10	4	15	32
02:45 PM	0	1	1	9	11	1	0	0	0	1	2	2	1	0	5	1	5	4	1	11	0	0	15	3	18	46
Total	4	1	8	22	35	5	14	1	0	20	4	2	3	0	9	4	13	4	3	24	0	1	42	9	52	140
03:00 PM	1	0	2	0	3	0	11	1	1	13	15	1	7	0	23	2	3	2	0	7	0	1	14	0	15	61
03:15 PM	0	0	0	2	2	1	7	2	0	10	8	1	3	0	12	2	2	0	0	4	0	0	11	0	11	39
03:30 PM	1	0	0	5	6	0	9	5	0	14	3	0	0	0	3	0	1	0	0	1	0	0	11	1	12	36
03:45 PM	1	0	0	3	4	1	12	1	1	15	3	0	0	0	3	1	3	0	0	4	1	1	17	0	19	45
Total	3	0	2	10	15	2	39	9	2	52	29	2	10	0	41	5	9	2	0	16	1	2	53	1	57	181
Grand Total	7	1	10	32	50	7	53	10	2	72	33	4	13	0	50	9	22	6	3	40	1	3	95	10	109	321
Apprch %	14	2	20	64		9.7	73.6	13.9	2.8		66	8	26	0		22.5	55	15	7.5		0.9	2.8	87.2	9.2		
Total %	2.2	0.3	3.1	10	15.6	2.2	16.5	3.1	0.6	22.4	10.3	1.2	4	0	15.6	2.8	6.9	1.9	0.9	12.5	0.3	0.9	29.6	3.1	34	

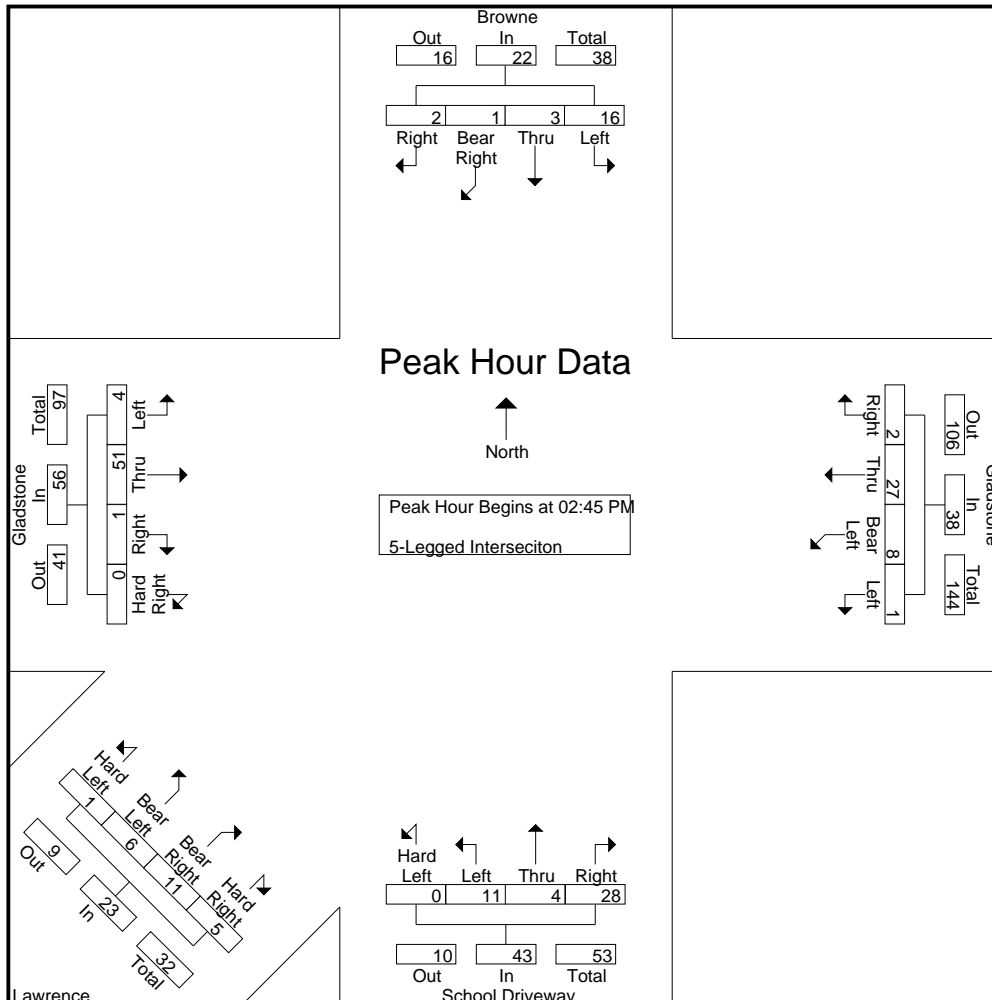
Commonwealth Engineering & Consultants, Inc.

400 Smith Street
 Providence, RI 02908
 Phone: (401) 273-6600
 Fax: (401) 273-6674

File Name : 21052 Gladstone Lawrence Browne PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 3

Start Time	Browne From North					Gladstone From East					School Driveway From South					Lawrence From Southwest					Gladstone From West					Int. Total
	Right	Bear Right	Thru	Left	App. Total	Right	Thru	Bear Left	Left	App. Total	Right	Thru	Left	Hard Left	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	App. Total	Hard Right	Right	Thru	Left	App. Total	
02:45 PM	0	1	1	9	11	1	0	0	0	1	2	2	1	0	5	1	5	4	1	11	0	0	15	3	18	46
03:00 PM	1	0	2	0	3	0	11	1	1	13	15	1	7	0	23	2	3	2	0	7	0	1	14	0	15	61
03:15 PM	0	0	0	2	2	1	7	2	0	10	8	1	3	0	12	2	2	0	0	4	0	0	11	0	11	39
03:30 PM	1	0	0	5	6	0	9	5	0	14	3	0	0	0	3	0	1	0	0	1	0	0	11	1	12	36
Total Volume	2	1	3	16	22	2	27	8	1	38	28	4	11	0	43	5	11	6	1	23	0	1	51	4	56	182
% App. Total	9.1	4.5	13.6	72.7		5.3	71.1	21.1	2.6		65.1	9.3	25.6	0		21.7	47.8	26.1	4.3		0	1.8	91.1	7.1		
PHF	.500	.250	.375	.444	.500	.500	.614	.400	.250	.679	.467	.500	.393	.000	.467	.625	.550	.375	.250	.523	.000	.250	.850	.333	.778	.746

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 02:45 PM



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 Fax: (401) 273-6674

Gladstone Street School
 Cranston St & Gladston St
 41.798612, -71.447955
 21052.00

File Name : 21052 Cranston Gladstone AM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Unshifted

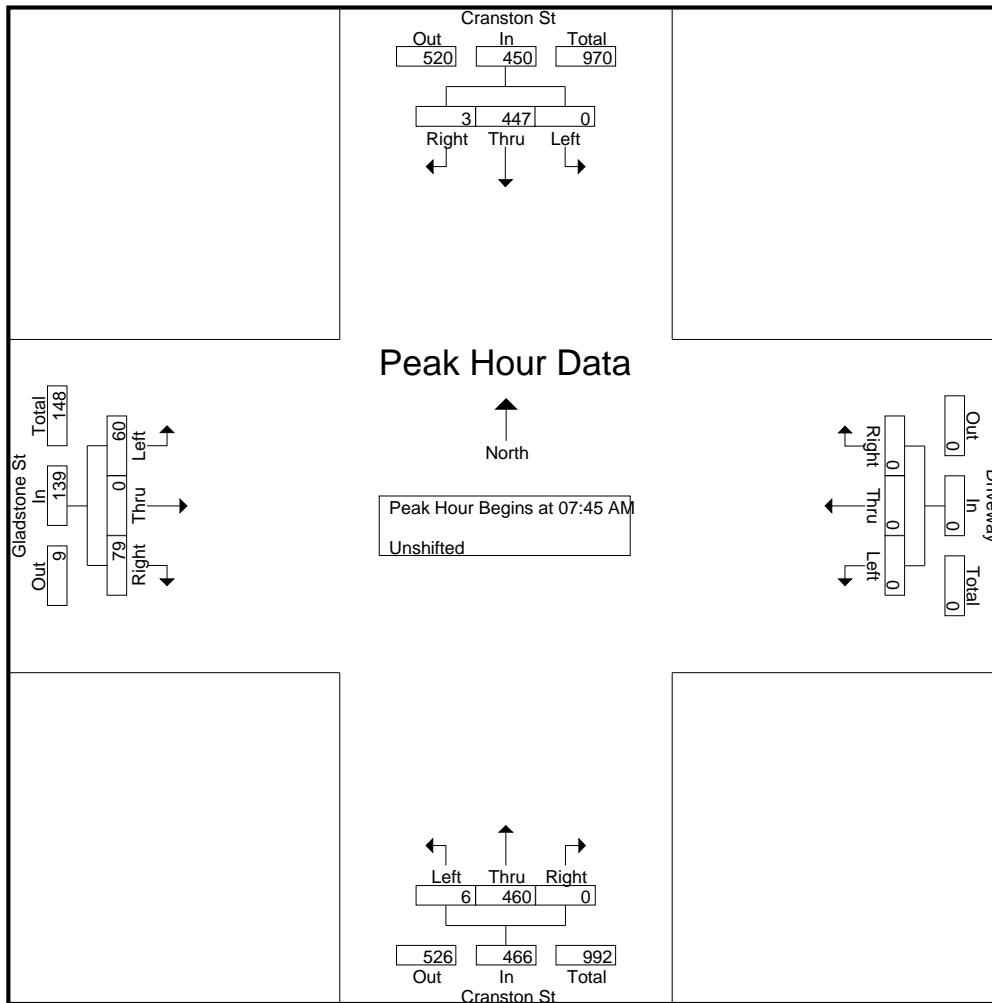
Start Time	Cranston St From North				Driveway From East				Cranston St From South				Gladstone St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:00 AM	2	67	0	69	1	0	0	1	0	84	0	84	7	0	3	10	164
07:15 AM	2	74	0	76	0	0	0	0	0	102	3	105	12	0	6	18	199
07:30 AM	2	80	0	82	0	0	0	0	0	126	0	126	13	0	6	19	227
07:45 AM	2	133	0	135	0	0	0	0	0	127	3	130	26	0	8	34	299
Total	8	354	0	362	1	0	0	1	0	439	6	445	58	0	23	81	889
08:00 AM	1	101	0	102	0	0	0	0	0	120	1	121	8	0	8	16	239
08:15 AM	0	121	0	121	0	0	0	0	0	109	1	110	25	0	28	53	284
08:30 AM	0	92	0	92	0	0	0	0	0	104	1	105	20	0	16	36	233
08:45 AM	1	129	0	130	0	0	0	0	0	134	5	139	10	0	7	17	286
Total	2	443	0	445	0	0	0	0	0	467	8	475	63	0	59	122	1042
Grand Total	10	797	0	807	1	0	0	1	0	906	14	920	121	0	82	203	1931
Apprch %	1.2	98.8	0		100	0	0		0	98.5	1.5		59.6	0	40.4		
Total %	0.5	41.3	0	41.8	0.1	0	0	0.1	0	46.9	0.7	47.6	6.3	0	4.2	10.5	

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400 Smith Street
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File Name : 21052 Cranston Gladstone AM
Site Code : 00000000
Start Date : 2/3/2022
Page No : 3

Start Time	Cranston St From North				Driveway From East				Cranston St From South				Gladstone St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	133	0	135	0	0	0	0	0	127	3	130	26	0	8	34	299
08:00 AM	1	101	0	102	0	0	0	0	0	120	1	121	8	0	8	16	239
08:15 AM	0	121	0	121	0	0	0	0	0	109	1	110	25	0	28	53	284
08:30 AM	0	92	0	92	0	0	0	0	0	104	1	105	20	0	16	36	233
Total Volume	3	447	0	450	0	0	0	0	0	460	6	466	79	0	60	139	1055
% App. Total	0.7	99.3	0		0	0	0		0	98.7	1.3		56.8	0	43.2		
PHF	.375	.840	.000	.833	.000	.000	.000	.000	.000	.906	.500	.896	.760	.000	.536	.656	.882



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Gladstone Street School
 Cranston St & Gladstone St
 41.798612, -71.447955
 21052.00

File Name : 21052 Cranston Gladstone PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Unshifted

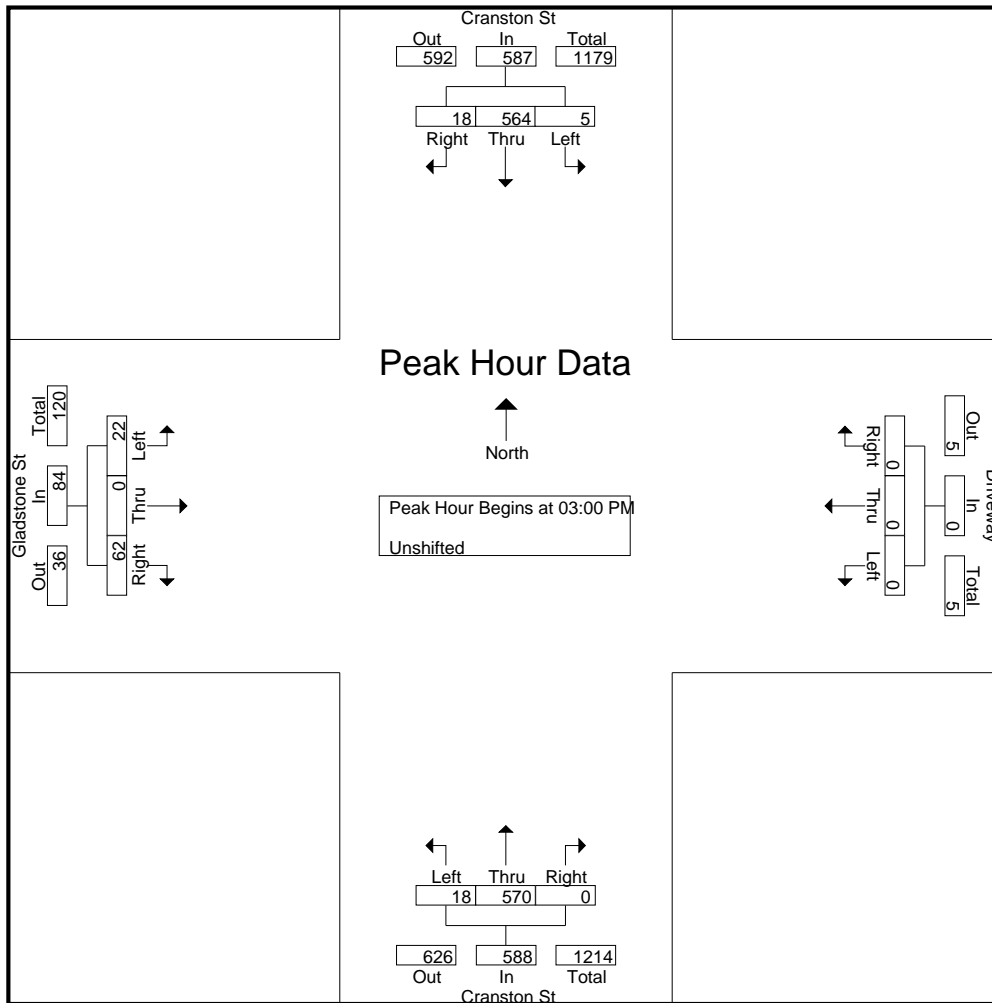
Start Time	Cranston St From North				Driveway From East				Cranston St From South				Gladstone St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
02:00 PM	4	118	0	122	0	0	0	0	0	119	1	120	1	0	6	7	249
02:15 PM	16	103	0	119	0	0	0	0	0	122	3	125	6	0	6	12	256
02:30 PM	2	132	0	134	0	0	0	0	0	142	4	146	2	0	2	4	284
02:45 PM	0	140	0	140	0	0	0	0	0	150	1	151	10	0	10	20	311
Total	22	493	0	515	0	0	0	0	0	533	9	542	19	0	24	43	1100
03:00 PM	3	143	0	146	0	0	0	0	0	136	4	140	24	0	11	35	321
03:15 PM	7	134	0	141	0	0	0	0	0	131	5	136	13	0	5	18	295
03:30 PM	3	137	5	145	0	0	0	0	0	156	6	162	8	0	5	13	320
03:45 PM	5	150	0	155	0	0	0	0	0	147	3	150	17	0	1	18	323
Total	18	564	5	587	0	0	0	0	0	570	18	588	62	0	22	84	1259
Grand Total	40	1057	5	1102	0	0	0	0	0	1103	27	1130	81	0	46	127	2359
Apprch %	3.6	95.9	0.5		0	0	0		0	97.6	2.4		63.8	0	36.2		
Total %	1.7	44.8	0.2	46.7	0	0	0	0	0	46.8	1.1	47.9	3.4	0	1.9	5.4	

Commonwealth Engineering & Consultants, Inc.

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File Name : 21052 Cranston Gladstone PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 3

Start Time	Cranston St From North				Driveway From East				Cranston St From South				Gladstone St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 03:00 PM																	
03:00 PM	3	143	0	146	0	0	0	0	0	136	4	140	24	0	11	35	321
03:15 PM	7	134	0	141	0	0	0	0	0	131	5	136	13	0	5	18	295
03:30 PM	3	137	5	145	0	0	0	0	0	156	6	162	8	0	5	13	320
03:45 PM	5	150	0	155	0	0	0	0	0	147	3	150	17	0	1	18	323
Total Volume	18	564	5	587	0	0	0	0	0	570	18	588	62	0	22	84	1259
% App. Total	3.1	96.1	0.9		0	0	0		0	96.9	3.1		73.8	0	26.2		
PHF	.643	.940	.250	.947	.000	.000	.000	.000	.000	.913	.750	.907	.646	.000	.500	.600	.974



Commonwealth Engineering & Consultants, Inc.

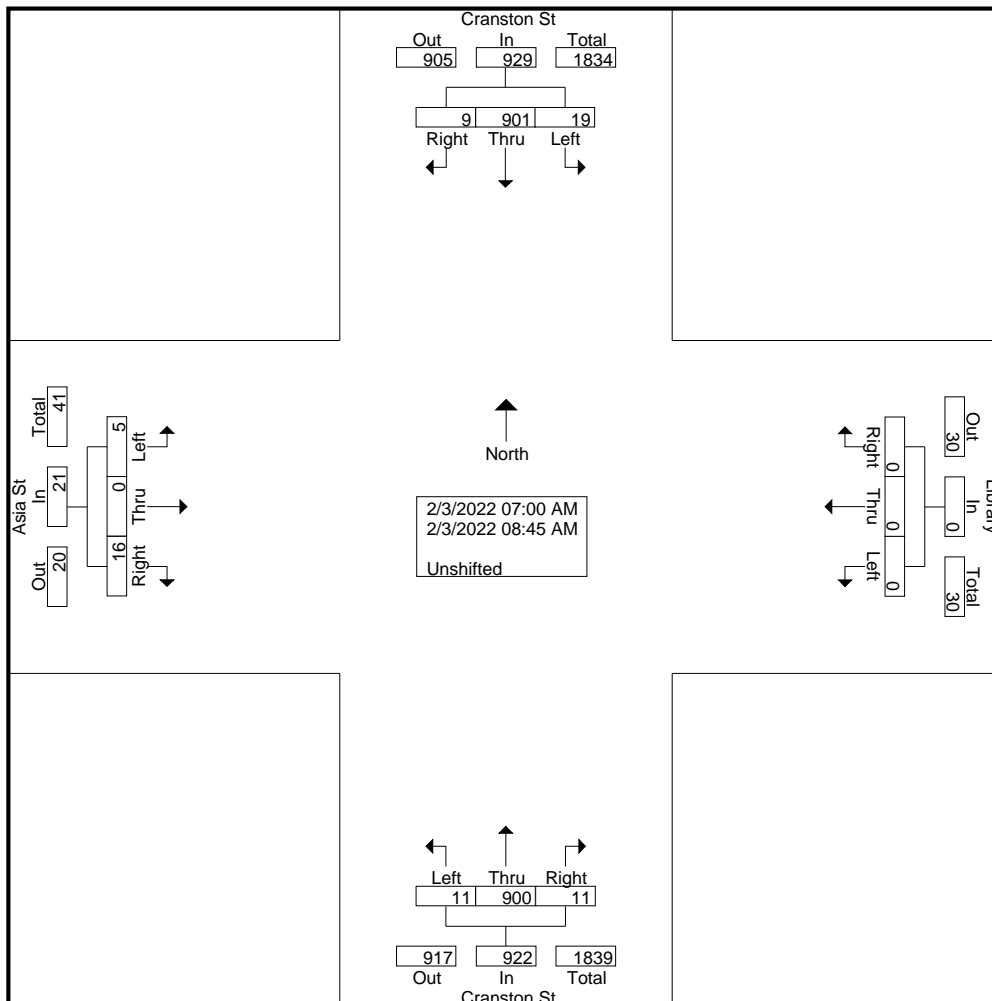
400 Smith Street
 Providence, RI 02908
 Phone: (401) 273-6600
 Fax: (401) 273-6674

Gladston Street School
 Cranston St & Asia St
 41.797106, -71.448689
 21052.00

File Name : 21052 Cranston Asia AM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Unshifted

Start Time	Cranston St From North				Library From East				Cranston St From South				Asia St From West								
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	(Cars into School)	(Buses Exting)	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	82	0	82	0	0	0	0	0	97	1	98	0	0	1	0	0	1	0	181	181
07:15 AM	0	89	2	91	0	0	0	0	0	102	1	103	0	0	1	1	0	1	1	195	196
07:30 AM	1	100	1	102	0	0	0	0	1	121	1	123	1	0	0	1	0	1	1	226	227
07:45 AM	0	156	2	158	0	0	0	0	0	116	2	118	2	0	1	2	0	3	2	279	281
Total	1	427	5	433	0	0	0	0	1	436	5	442	3	0	3	4	0	6	4	881	885
08:00 AM	4	106	1	111	0	0	0	0	2	131	6	139	2	0	0	8	0	2	8	252	260
08:15 AM	2	133	4	139	0	0	0	0	2	100	0	102	6	0	2	1	7	8	8	249	257
08:30 AM	2	102	3	107	0	0	0	0	5	111	0	116	3	0	0	1	1	3	2	226	228
08:45 AM	0	133	6	139	0	0	0	0	1	122	0	123	2	0	0	0	0	2	0	264	264
Total	8	474	14	496	0	0	0	0	10	464	6	480	13	0	2	10	8	15	18	991	1009
Grand Total	9	901	19	929	0	0	0	0	11	900	11	922	16	0	5	14	8	21	22	1872	1894
Apprch %	1	97	2		0	0	0		1.2	97.6	1.2		76.2	0	23.8						
Total %	0.5	48.1	1	49.6	0	0	0	0	0.6	48.1	0.6	49.3	0.9	0	0.3			1.1	1.2	98.8	

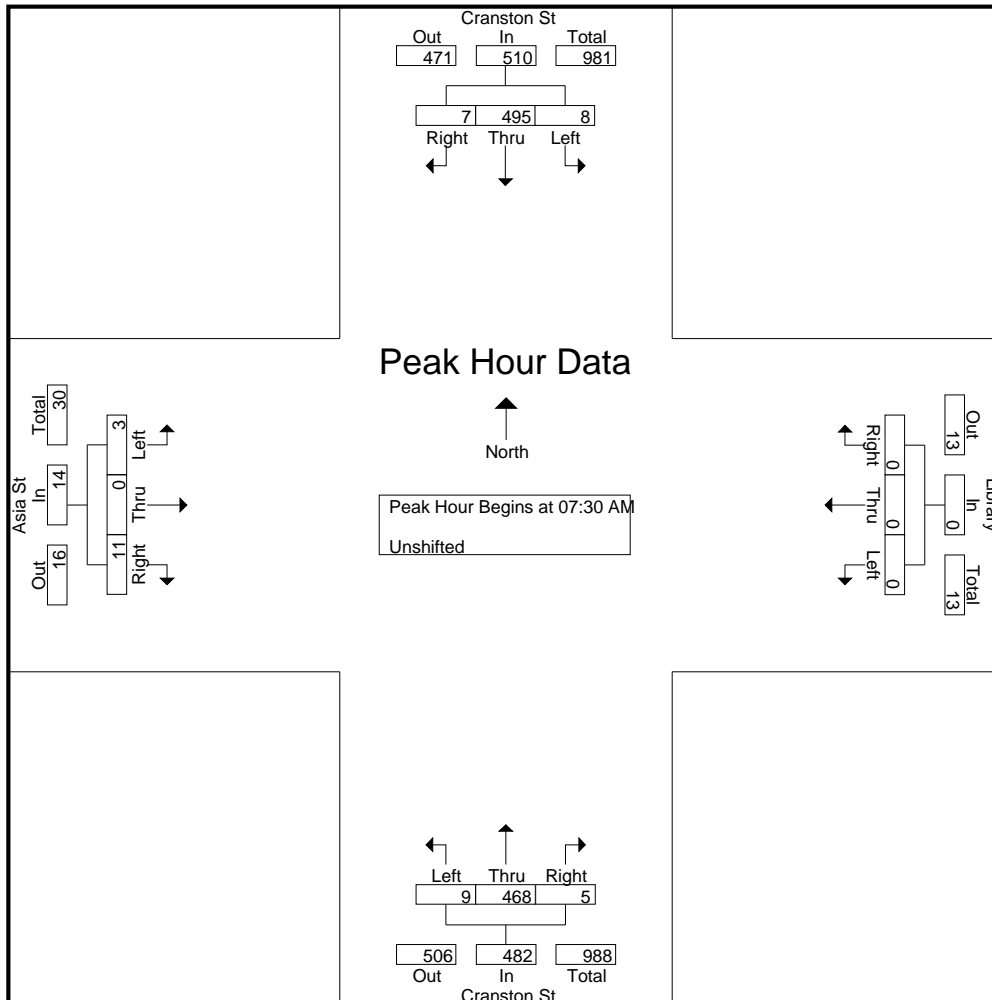


Commonwealth Engineering & Consultants, Inc.

400 Smith Street
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 Phone: (401) 273-6600
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File Name : 21052 Cranston Asia AM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 2

Start Time	Cranston St From North				Library From East				Cranston St From South				Asia St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	100	1	102	0	0	0	0	1	121	1	123	1	0	0	1	226
07:45 AM	0	156	2	158	0	0	0	0	0	116	2	118	2	0	1	3	279
08:00 AM	4	106	1	111	0	0	0	0	2	131	6	139	2	0	0	2	252
08:15 AM	2	133	4	139	0	0	0	0	2	100	0	102	6	0	2	8	249
Total Volume	7	495	8	510	0	0	0	0	5	468	9	482	11	0	3	14	1006
% App. Total	1.4	97.1	1.6		0	0	0		1	97.1	1.9		78.6	0	21.4		
PHF	.438	.793	.500	.807	.000	.000	.000	.000	.625	.893	.375	.867	.458	.000	.375	.438	.901



Commonwealth Engineering & Consultants, Inc.

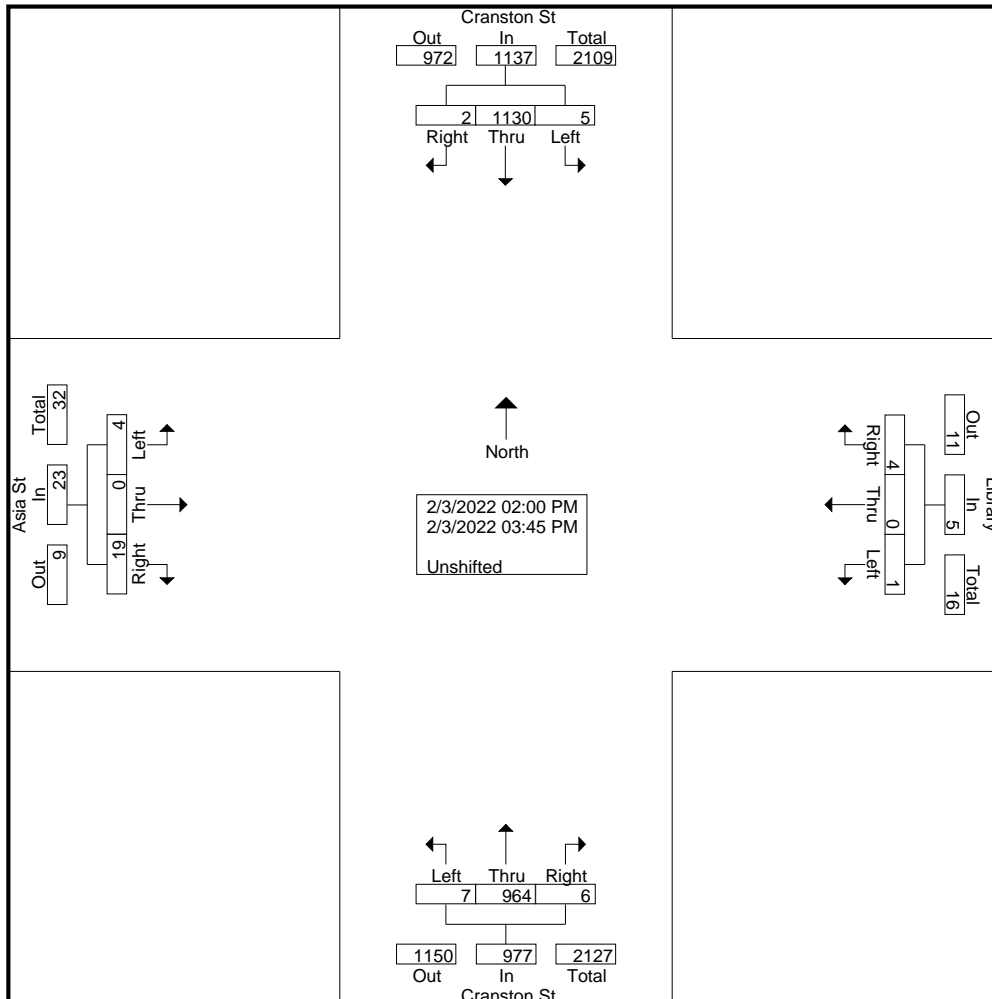
400 Smith Street
 Providence, RI 02908
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Gladstone Street School
 Cranston St & Asia St
 41.797106, -71.448689
 21052.00

File Name : 21052 Cranston Asia PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 1

Groups Printed- Unshifted

Start Time	Cranston St From North				Library From East				Cranston St From South				Asia St From West									
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	(Cars into School)	(Buses Exting)	App. Total	Exclu. Total	Inclu. Total	Int. Total	
02:00 PM	0	124	1	125	0	0	1	1	1	107	0	108	1	0	0	0	0	0	1	0	235	235
02:15 PM	0	130	0	130	1	0	0	1	1	112	1	114	0	0	0	0	0	0	0	0	245	245
02:30 PM	0	144	0	144	0	0	0	0	1	137	0	138	1	0	0	0	0	1	0	283	283	
02:45 PM	1	144	0	145	3	0	0	3	1	121	1	123	5	0	3	1	6	8	7	279	286	
Total	1	542	1	544	4	0	1	5	4	477	2	483	7	0	3	1	6	10	7	1042	1049	
03:00 PM	1	158	0	159	0	0	0	0	0	114	1	115	4	0	1	0	2	5	2	279	281	
03:15 PM	0	155	0	155	0	0	0	0	2	118	1	121	7	0	0	0	0	7	0	283	283	
03:30 PM	0	138	1	139	0	0	0	0	0	133	3	136	0	0	0	0	0	0	0	275	275	
03:45 PM	0	137	3	140	0	0	0	0	0	122	0	122	1	0	0	0	0	1	0	263	263	
Total	1	588	4	593	0	0	0	0	2	487	5	494	12	0	1	0	2	13	2	1100	1102	
Grand Total	2	1130	5	1137	4	0	1	5	6	964	7	977	19	0	4	1	8	23	9	2142	2151	
Apprch %	0.2	99.4	0.4		80	0	20		0.6	98.7	0.7		82.6	0	17.4							
Total %	0.1	52.8	0.2	53.1	0.2	0	0	0.2	0.3	45	0.3	45.6	0.9	0	0.2			1.1	0.4	99.6		



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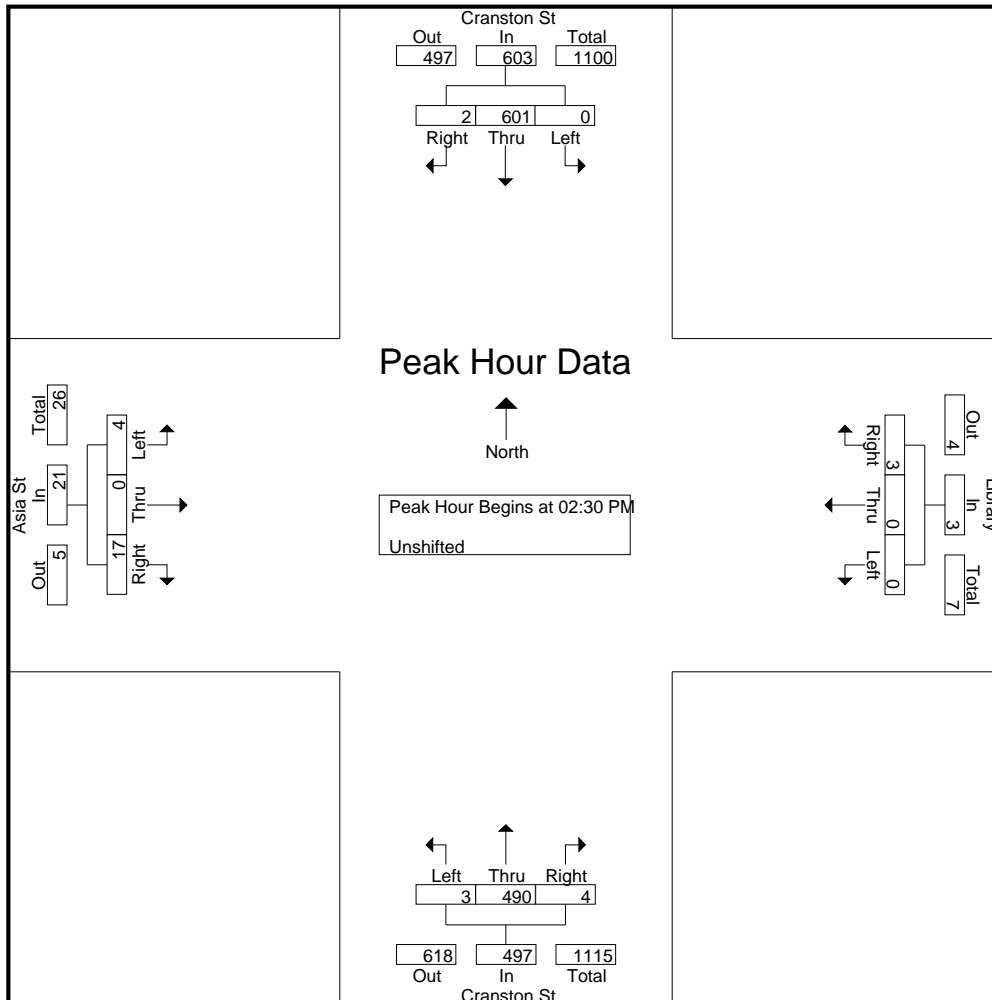
File Name : 21052 Cranston Asia PM
 Site Code : 00000000
 Start Date : 2/3/2022
 Page No : 2

Start Time	Cranston St From North				Library From East				Cranston St From South				Asia St From West				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 02:30 PM

02:30 PM	0	144	0	144	0	0	0	0	1	137	0	138	1	0	0	1	283
02:45 PM	1	144	0	145	3	0	0	3	1	121	1	123	5	0	3	8	279
03:00 PM	1	158	0	159	0	0	0	0	0	114	1	115	4	0	1	5	279
03:15 PM	0	155	0	155	0	0	0	0	2	118	1	121	7	0	0	7	283
Total Volume	2	601	0	603	3	0	0	3	4	490	3	497	17	0	4	21	1124
% App. Total	0.3	99.7	0		100	0	0		0.8	98.6	0.6		81	0	19		
PHF	.500	.951	.000	.948	.250	.000	.000	.250	.500	.894	.750	.900	.607	.000	.333	.656	.993





COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 Smith Street
Providence, RI 02908
401-273-6600

Start Date: 2/11/2022
End Date: 2/18/2022
Location 1: Lawrence Ave, E of Laurel Hill Ave

Comment 1: Conditions during drop-off/pick-up
Comment 2: will be inaccurate.
Comment 3: (slow speeds/stopping/parking/
reversing)

Location 2: Cranston
Location 3: Gladstone Elementary School
Location 4: 21052.00

Comment 4:
Latitude: 41.799293
Longitude: -71.451235

2/11/2022	Friday		Saturday		Sunday		Monday		Tuesday		Wednesday		Thursday		Weekday Average	
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	*	*	2	4	2	2	2	2	0	1	1	0	2	2	1	2
1:00	*	*	0	1	1	2	0	2	1	2	0	0	2	1	1	2
2:00	*	*	1	0	0	0	0	2	0	0	0	0	1	1	0	1
3:00	*	*	0	1	0	1	1	1	0	4	0	1	0	0	0	2
4:00	*	*	0	0	2	1	0	4	1	1	1	4	2	2	1	3
5:00	*	*	0	0	0	0	1	7	1	9	0	5	0	9	0	8
6:00	*	*	1	4	0	3	1	2	3	9	4	13	2	12	2	9
7:00	*	*	1	7	1	3	2	4	3	34	1	30	2	29	2	24
8:00	*	*	0	10	1	7	2	14	6	34	3	34	3	36	4	30
9:00	*	*	5	16	3	13	5	11	5	13	4	17	7	11	5	13
10:00	*	*	4	17	3	16	8	12	3	7	5	7	4	20	5	12
11:00	*	*	3	19	0	11	3	13	2	5	4	12	8	8	4	10
12:00 PM	*	*	11	22	4	12	5	13	5	9	13	12	7	11	8	11
1:00	*	*	9	27	6	15	2	16	4	11	8	10	6	23	5	15
2:00	*	*	9	18	5	12	8	17	6	36	2	35	5	30	5	30
3:00	*	*	13	20	4	13	6	19	8	23	13	25	9	16	9	21
4:00	1	3	4	12	10	10	1	18	4	19	10	20	10	10	5	14
5:00	16	24	7	21	6	12	5	16	9	20	8	16	11	16	10	18
6:00	7	12	7	9	2	5	5	18	4	17	5	21	8	18	6	17
7:00	7	14	6	15	4	7	12	14	5	11	6	5	4	9	7	11
8:00	3	2	3	6	4	11	9	6	6	10	5	4	3	8	5	6
9:00	7	6	8	11	1	1	10	4	1	3	3	2	1	4	4	4
10:00	1	2	2	7	1	2	1	6	4	3	1	7	0	2	1	4
11:00	5	10	3	4	1	3	3	1	2	1	4	3	1	1	3	3
Total	47	73	99	251	61	162	92	222	83	282	101	283	98	279	93	268
Day	120		350		223		314		365		384		377		361	
AM Peak			9:00	11:00	9:00	10:00	10:00	8:00	8:00	7:00	10:00	8:00	11:00	8:00	9:00	8:00
Volume			5	19	3	16	8	14	6	34	5	34	8	36	5	30
PM Peak	5:00	5:00	3:00	1:00	4:00	1:00	7:00	3:00	5:00	2:00	12:00 PM	2:00	5:00	2:00	5:00	2:00
Volume	16	24	13	27	10	15	12	19	9	36	13	35	11	30	10	30



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 Smith Street
Providence, RI 02908
401-273-6600

Start Date: 2/11/2022
End Date: 2/18/2022
Location 1: Lawrence Ave, E of Laurel Hill Ave

Comment 1: Conditions during drop-off/pick-up
Comment 2: will be inaccurate.
Comment 3: (slow speeds/stopping/parking/
reversing)

Location 2: Cranston
Location 3: Gladstone Elementary School
Location 4: 21052.00

Comment 4:
Latitude: 41.799293
Longitude: -71.451235

2/18/2022	Friday		Saturday		Sunday		Monday		Tuesday		Wednesday		Thursday		Weekday Average	
Time	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
12:00 AM	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0
1:00	0	1	*	*	*	*	*	*	*	*	*	*	*	*	0	1
2:00	0	0	*	*	*	*	*	*	*	*	*	*	*	*	0	0
3:00	0	1	*	*	*	*	*	*	*	*	*	*	*	*	0	1
4:00	1	3	*	*	*	*	*	*	*	*	*	*	*	*	1	3
5:00	0	2	*	*	*	*	*	*	*	*	*	*	*	*	0	2
6:00	1	6	*	*	*	*	*	*	*	*	*	*	*	*	1	6
7:00	0	9	*	*	*	*	*	*	*	*	*	*	*	*	0	9
8:00	0	19	*	*	*	*	*	*	*	*	*	*	*	*	0	19
9:00	4	20	*	*	*	*	*	*	*	*	*	*	*	*	4	20
10:00	2	15	*	*	*	*	*	*	*	*	*	*	*	*	2	15
11:00	2	9	*	*	*	*	*	*	*	*	*	*	*	*	2	9
12:00 PM	4	16	*	*	*	*	*	*	*	*	*	*	*	*	4	16
1:00	5	4	*	*	*	*	*	*	*	*	*	*	*	*	5	4
2:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
4:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
5:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
6:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
7:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
8:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total Day	19	105	0	0	0	0	0	0	0	0	0	0	0	0	19	105
ADT	124		0		0		0		0		0		0		124	
AM Peak Volume	9:00	9:00													9:00	9:00
PM Peak Volume	1:00	12:00 PM													1:00	12:00 PM
ADT	ADT: 331		ADT: 331		ADT: 331		ADT: 331		ADT: 331		ADT: 331		ADT: 331		ADT: 331	



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 Smith Street
Providence, RI 02908
401-273-6600

Start Date: 1/27/2022
End Date: 2/2/2022
Location 1: Laurel Hill Ave, N of Elwyn St
Location 2: Cranston
Location 3: Gladstone Elementary School
Location 4: 21052.00

Comment 1:
Comment 2:
Comment 3:
Comment 4:
Latitude: 41.811935
Longitude: -71.454437

1/27/2022	Thursday		Friday		Saturday		Sunday		Monday		Tuesday		Wednesday		Weekday Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	6	6	9	9	14	10	0	6	5	10	10	12	6	8	7	9
1:00	5	5	6	5	3	7	2	4	1	3	5	2	5	3	4	4
2:00	5	4	2	3	3	7	5	0	7	8	4	2	2	3	4	4
3:00	2	3	1	0	4	6	2	2	0	3	3	3	2	2	2	2
4:00	2	6	2	2	17	7	1	1	4	4	8	5	3	7	4	5
5:00	21	15	14	12	6	4	0	5	17	23	14	12	16	16	16	16
6:00	14	24	22	19	3	3	3	2	15	34	20	42	28	27	20	29
7:00	60	38	60	44	4	6	3	10	31	42	77	69	62	61	58	51
8:00	94	68	99	52	5	8	11	16	55	40	144	51	122	57	103	54
9:00	34	30	42	34	6	2	21	16	35	33	44	49	44	44	40	38
10:00	29	23	48	25	5	5	36	27	48	19	41	45	26	39	38	30
11:00	34	26	39	28	6	2	53	31	33	34	34	32	41	25	36	29
12:00 PM	48	33	47	33	1	2	39	37	56	34	55	47	55	34	52	36
1:00	29	32	63	44	1	5	47	38	42	38	62	45	46	39	48	40
2:00	103	41	123	65	13	10	37	48	59	35	128	50	127	73	108	53
3:00	84	56	96	52	15	11	43	51	83	61	88	51	86	48	87	54
4:00	70	48	95	52	3	2	50	48	85	55	90	62	82	70	84	57
5:00	63	53	68	55	4	1	51	45	78	51	103	58	80	54	78	54
6:00	56	30	57	50	10	11	46	48	58	49	57	44	56	44	57	43
7:00	43	47	60	45	11	11	28	27	35	45	40	47	50	28	46	42
8:00	31	41	43	35	9	6	15	30	30	28	42	25	30	27	35	31
9:00	27	23	27	23	7	9	18	19	22	29	25	18	18	19	24	22
10:00	17	23	30	18	4	14	18	16	17	28	29	18	17	10	22	19
11:00	11	10	9	9	12	9	9	10	7	19	12	11	9	13	10	12
Total	888	685	1062	714	166	158	538	537	823	725	1135	800	1013	751	983	734
Day	1573		1776		324		1075		1548		1935		1764		1717	
AM Peak	8:00	8:00	8:00	8:00	4:00	12:00	11:00	11:00	8:00	7:00	8:00	7:00	8:00	7:00	8:00	8:00
Volume	94	68	99	52	17	10	53	31	55	42	144	69	122	61	103	54
PM Peak	2:00	3:00	2:00	2:00	3:00	10:00	5:00	3:00	4:00	3:00	2:00	4:00	2:00	2:00	2:00	4:00
Volume	103	56	123	65	15	14	51	51	85	61	128	62	127	73	108	57
ADT		ADT: 1,428		AADT: 1,428												



COMMONWEALTH
ENGINEERS & CONSULTANTS, INC.
400 Smith Street
Providence, RI 02908
401-273-6600

Start Date: 2/3/2022
End Date: 2/11/2022
Location 1: Asia St, W of Cranston St
Location 2: Cranston
Location 3: Gladstone Elementary School
Location 4: 21052.00

Comment 1: School staff parking in back,
Comment 2: Buses use from school
Comment 3:
Comment 4:
Latitude: 41.797251
Longitude: -71.449264

2/4/2022	Friday		Saturday		Sunday		Monday		Tuesday		Wednesday		Thursday		Weekday Average	
Time	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB
12:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	1	1	1	0	0	0	0	0	1	0	1	0	1	0	1	0
5:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
6:00	3	0	0	0	0	0	3	1	4	2	4	2	3	4	3	2
7:00	4	2	0	0	0	0	6	11	3	9	7	7	6	8	5	7
8:00	2	4	0	2	1	1	14	10	13	15	8	11	11	14	10	11
9:00	2	1	5	3	3	1	2	0	2	0	2	2	3	3	2	1
10:00	2	2	1	1	0	0	4	1	3	3	4	3	1	1	3	2
11:00	5	1	4	7	6	1	3	1	2	4	3	2	0	1	3	2
12:00 PM	4	7	2	2	4	6	1	5	4	7	3	3	4	3	3	5
1:00	2	8	2	1	4	3	4	1	6	2	4	5	0	4	3	4
2:00	3	3	3	4	5	9	10	5	9	5	11	2	11	4	9	4
3:00	4	4	3	2	6	4	16	3	17	5	12	2	21	4	14	4
4:00	3	4	2	4	5	5	4	7	7	8	4	8	5	11	5	8
5:00	1	4	1	2	1	4	1	5	3	4	3	9	3	3	2	5
6:00	0	1	2	3	2	4	1	2	1	2	7	5	4	2	3	2
7:00	1	1	0	1	1	2	1	1	1	3	0	1	5	9	2	3
8:00	2	1	1	2	1	1	1	1	1	1	0	2	0	2	1	1
9:00	2	3	1	1	0	0	2	3	1	1	2	1	2	1	2	2
10:00	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0
11:00	1	0	1	1	0	0	1	0	1	0	1	0	2	1	1	0
Total Day	43	47	29	36	41	42	75	58	79	71	76	66	82	75	72	63
ADT	90		65		83		133		150		142		157		135	
AM Peak	11:00	8:00	9:00	11:00	11:00	12:00 AM	8:00	7:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00	8:00
Volume	5	4	5	7	6	1	14	11	13	15	8	11	11	14	10	11
PM Peak	12:00 PM	1:00	2:00	2:00	3:00	2:00	3:00	4:00	3:00	4:00	3:00	5:00	3:00	4:00	3:00	4:00
Volume	4	8	3	4	6	9	16	7	17	8	12	9	21	11	14	8
AADT	ADT: 124		AADT: 124													



COMMONWEALTH

ATTACHMENT C: TRIP GENERATION CALCULATIONS

Elementary School (520)

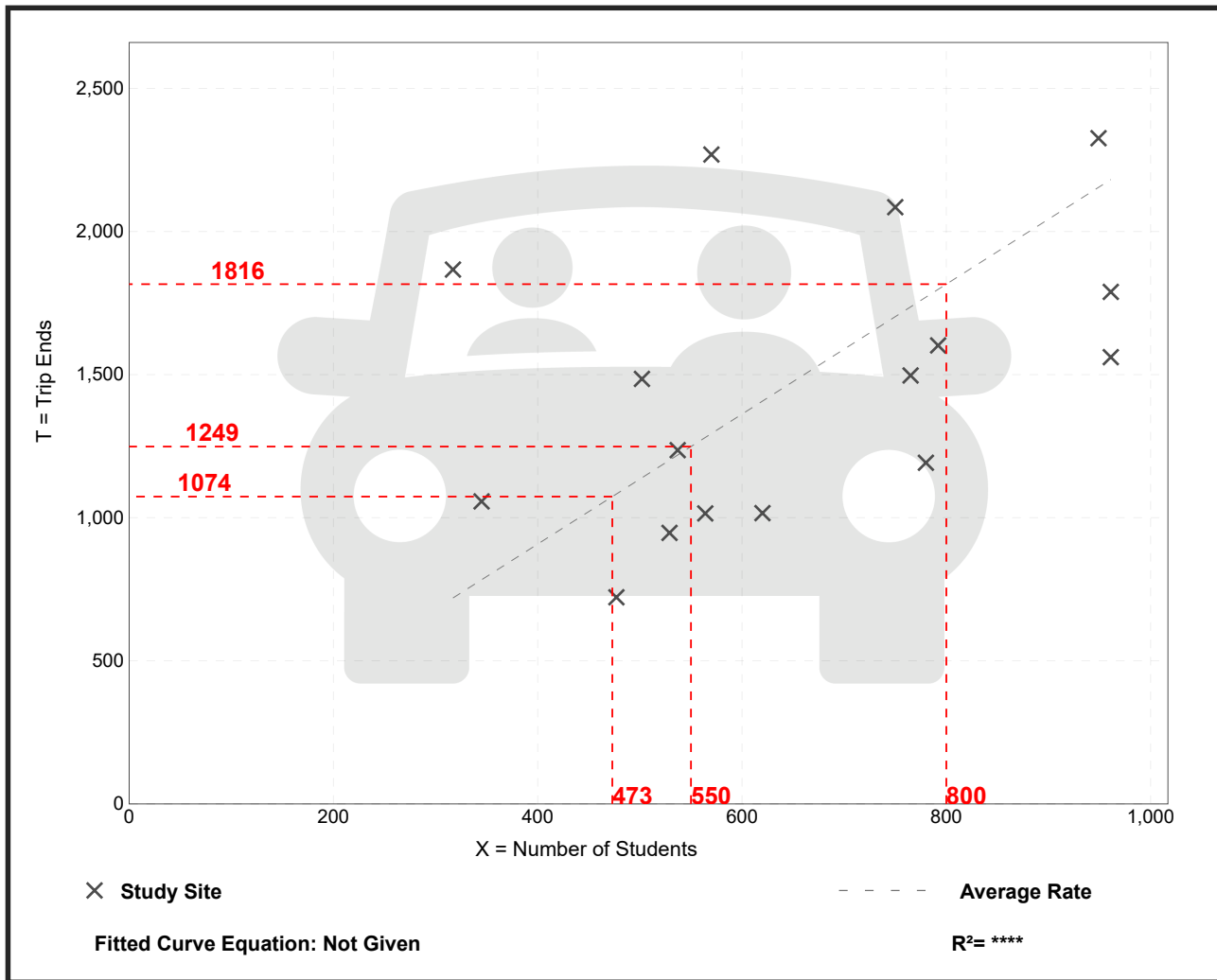
Vehicle Trip Ends vs: Students
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. Num. of Students: 651
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
2.27	1.51 - 5.89	0.93

Data Plot and Equation



Number of Students	Total Trips	In	Out
473	1074	537	537
550	1249	624	625
800	1816	908	908

Elementary School (520)

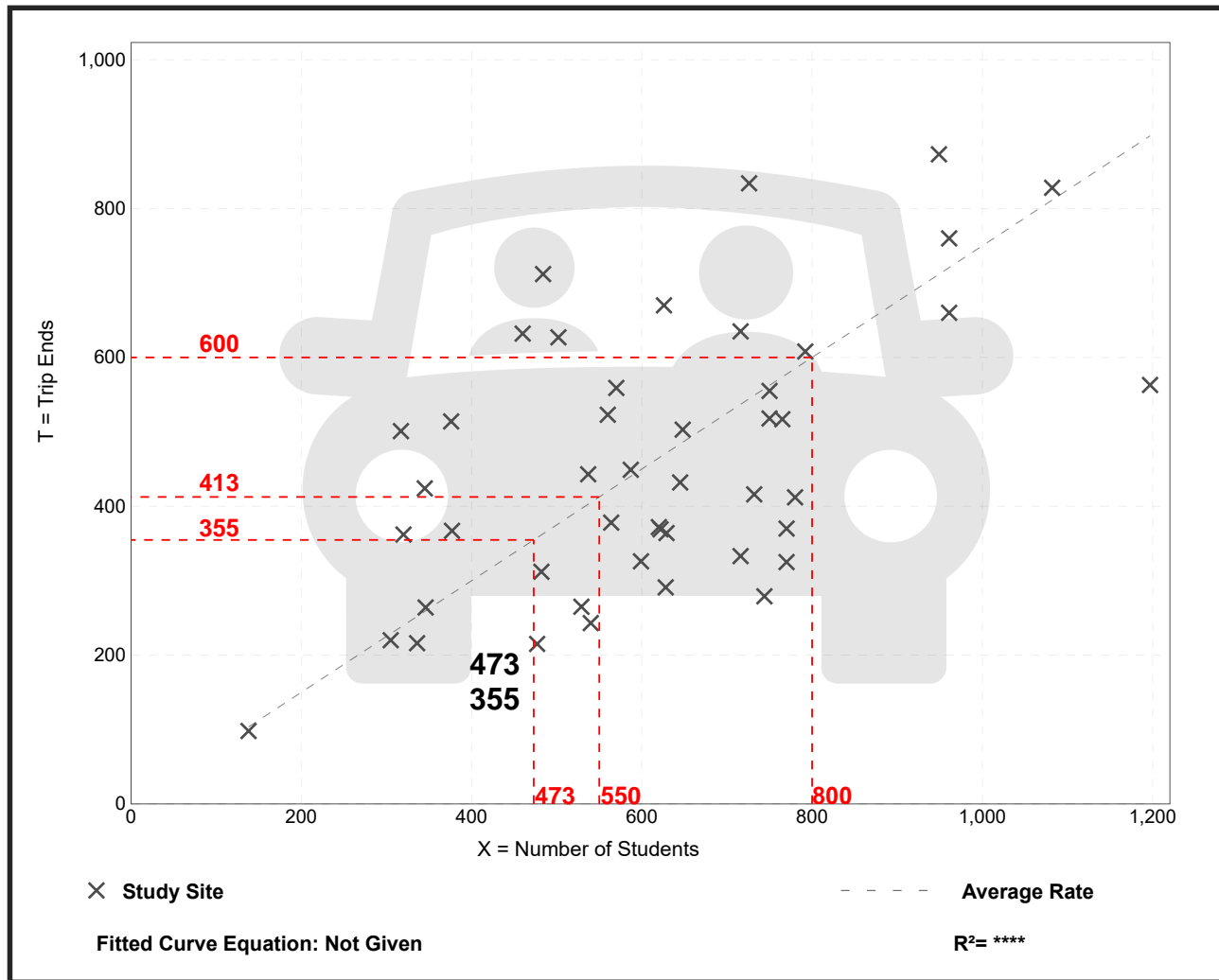
Vehicle Trip Ends vs: Students
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 46
 Avg. Num. of Students: 616
 Directional Distribution: 54% entering, 46% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.75	0.38 - 1.58	0.27

Data Plot and Equation



Number of Students	Total Trips	In	Out
473	355	192	163
550	413	223	190
800	600	324	276

Elementary School (520)

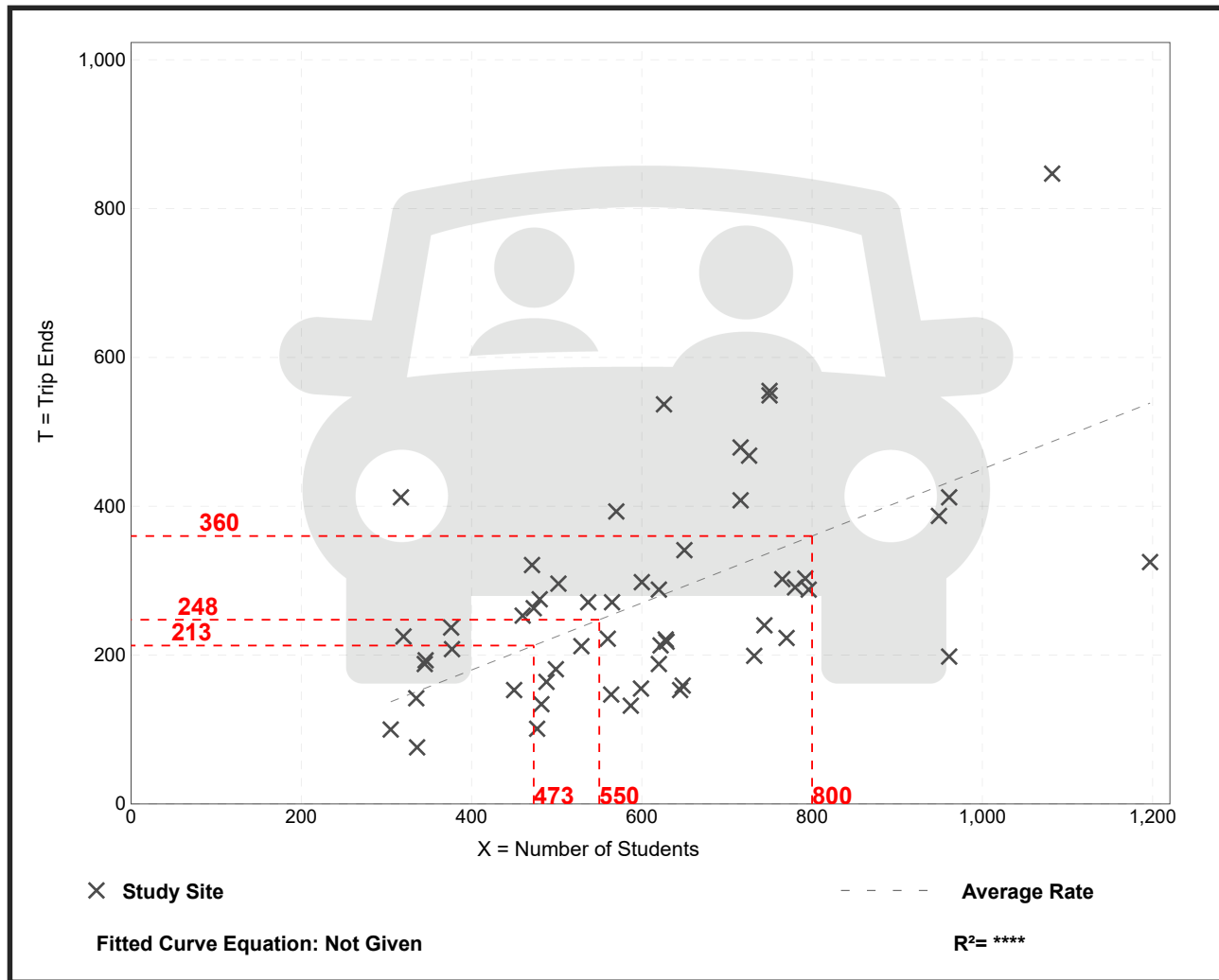
Vehicle Trip Ends vs: Students
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
 Number of Studies: 54
 Avg. Num. of Students: 608
 Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.45	0.21 - 1.30	0.19

Data Plot and Equation



Number of Students	Total Trips	In	Out
473	213	98	115
550	248	114	134
800	360	166	194



COMMONWEALTH

ATTACHMENT D: SYNCHRO ANALYSIS REPORTS

HCM 6th TWSC
1: Laurel Hill Blvd & Oxford St

03/16/2023

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	3	2	0	1	1	146	2	0	75	3
Future Vol, veh/h	6	0	3	2	0	1	1	146	2	0	75	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	2	0	1	1	162	2	0	83	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	251	251	85	251	251	163	86	0	0	164	0	0
Stage 1	85	85	-	165	165	-	-	-	-	-	-	-
Stage 2	166	166	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	702	652	974	702	652	882	1510	-	-	1414	-	-
Stage 1	923	824	-	837	762	-	-	-	-	-	-	-
Stage 2	836	761	-	922	824	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	701	651	974	699	651	882	1510	-	-	1414	-	-
Mov Cap-2 Maneuver	701	651	-	699	651	-	-	-	-	-	-	-
Stage 1	922	824	-	836	761	-	-	-	-	-	-	-
Stage 2	834	760	-	919	824	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.7		9.8		0		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1510	-	-	773	751	1414	-	-
HCM Lane V/C Ratio	0.001	-	-	0.013	0.004	-	-	-
HCM Control Delay (s)	7.4	0	-	9.7	9.8	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

HCM 6th TWSC
2: Laurel Hill Blvd & Elwyn St

03/16/2023

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	2	4	2	3	8	3	141	7	4	81	9
Future Vol, veh/h	11	2	4	2	3	8	3	141	7	4	81	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	2	4	2	3	9	3	157	8	4	90	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	276	274	95	273	275	161	100	0	0	165	0	0
Stage 1	103	103	-	167	167	-	-	-	-	-	-	-
Stage 2	173	171	-	106	108	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	676	633	962	679	632	884	1493	-	-	1413	-	-
Stage 1	903	810	-	835	760	-	-	-	-	-	-	-
Stage 2	829	757	-	900	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	664	630	962	672	629	884	1493	-	-	1413	-	-
Mov Cap-2 Maneuver	664	630	-	672	629	-	-	-	-	-	-	-
Stage 1	901	808	-	833	758	-	-	-	-	-	-	-
Stage 2	815	755	-	891	804	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.2		9.7		0.1		0.3	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1493	-	-	711	774	1413	-	-
HCM Lane V/C Ratio	0.002	-	-	0.027	0.019	0.003	-	-
HCM Control Delay (s)	7.4	0	-	10.2	9.7	7.6	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

HCM 6th TWSC
3: Laurel Hill Blvd & Lawrence St

03/16/2023

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	4	18	3	3	1	4	4	73	59	37	83	9
Future Vol, veh/h	4	18	3	3	1	4	4	73	59	37	83	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	70	90	70	70	70	90	90	70	70	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	26	3	4	1	6	4	81	84	53	92	10

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	338	376	97	349	339	123	102	0	0	165	0	0
Stage 1	203	203	-	131	131	-	-	-	-	-	-	-
Stage 2	135	173	-	218	208	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	616	555	959	606	582	928	1490	-	-	1413	-	-
Stage 1	799	733	-	873	788	-	-	-	-	-	-	-
Stage 2	868	756	-	784	730	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	591	531	959	562	557	928	1490	-	-	1413	-	-
Mov Cap-2 Maneuver	591	531	-	562	557	-	-	-	-	-	-	-
Stage 1	797	704	-	870	786	-	-	-	-	-	-	-
Stage 2	859	754	-	723	701	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.8		10.2		0.2		2.6	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1490	-	-	564	699	1413	-	-
HCM Lane V/C Ratio	0.003	-	-	0.059	0.016	0.037	-	-
HCM Control Delay (s)	7.4	0	-	11.8	10.2	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-

HCM 6th Edition methodology does not support more than four approaches.

HCM 6th TWSC
5: Cranston St & Gladstone St

03/16/2023

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	60	0	79	0	0	0	6	460	0	0	447	3
Future Vol, veh/h	60	0	79	0	0	0	6	460	0	0	447	3
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	86	0	113	0	0	0	9	511	0	0	497	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1028	1028	499	1085	1030	511	501	0	0	511	0	0
Stage 1	499	499	-	529	529	-	-	-	-	-	-	-
Stage 2	529	529	-	556	501	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	212	234	572	194	233	563	1063	-	-	1054	-	-
Stage 1	554	544	-	533	527	-	-	-	-	-	-	-
Stage 2	533	527	-	515	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	210	231	572	154	230	563	1063	-	-	1054	-	-
Mov Cap-2 Maneuver	210	231	-	154	230	-	-	-	-	-	-	-
Stage 1	547	544	-	527	521	-	-	-	-	-	-	-
Stage 2	527	521	-	413	543	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.5		0		0.1		0	
HCM LOS	D		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1063	-	-	328	-	1054	-	-
HCM Lane V/C Ratio	0.008	-	-	0.605	-	-	-	-
HCM Control Delay (s)	8.4	0	-	31.5	0	0	-	-
HCM Lane LOS	A	A	-	D	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.7	-	0	-	-

HCM 6th TWSC
6: Cranston St & Asia St

03/16/2023

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	0	11	0	0	0	9	468	5	8	495	7
Future Vol, veh/h	3	0	11	0	0	0	9	468	5	8	495	7
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	16	0	0	0	13	520	6	9	550	10

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1122	1125	555	1130	1127	523	560	0	0	526	0	0
Stage 1	573	573	-	549	549	-	-	-	-	-	-	-
Stage 2	549	552	-	581	578	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	183	205	531	181	205	554	1011	-	-	1041	-	-
Stage 1	505	504	-	520	516	-	-	-	-	-	-	-
Stage 2	520	515	-	499	501	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	179	199	531	172	199	554	1011	-	-	1041	-	-
Mov Cap-2 Maneuver	179	199	-	172	199	-	-	-	-	-	-	-
Stage 1	496	497	-	511	507	-	-	-	-	-	-	-
Stage 2	511	506	-	478	494	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.2		0		0.2		0.1	
HCM LOS	C		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1011	-	-	374	-	1041	-	-
HCM Lane V/C Ratio	0.013	-	-	0.053	-	0.009	-	-
HCM Control Delay (s)	8.6	0	-	15.2	0	8.5	0	-
HCM Lane LOS	A	A	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	-	0	-	-

HCM 6th TWSC
1: Laurel Hill Blvd & Oxford St

03/16/2023

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	6	7	0	1	1	132	6	2	89	2
Future Vol, veh/h	7	0	6	7	0	1	1	132	6	2	89	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	7	8	0	1	1	147	7	2	99	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	257	260	100	261	258	151	101	0	0	154	0	0
Stage 1	104	104	-	153	153	-	-	-	-	-	-	-
Stage 2	153	156	-	108	105	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	696	645	956	692	646	895	1491	-	-	1426	-	-
Stage 1	902	809	-	849	771	-	-	-	-	-	-	-
Stage 2	849	769	-	897	808	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	694	644	956	686	645	895	1491	-	-	1426	-	-
Mov Cap-2 Maneuver	694	644	-	686	645	-	-	-	-	-	-	-
Stage 1	901	808	-	848	770	-	-	-	-	-	-	-
Stage 2	847	768	-	890	807	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.6		10.2		0.1		0.2	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1491	-	-	794	707	1426	-	-
HCM Lane V/C Ratio	0.001	-	-	0.018	0.013	0.002	-	-
HCM Control Delay (s)	7.4	0	-	9.6	10.2	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
2: Laurel Hill Blvd & Elwyn St

03/16/2023

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	13	0	5	1	1	4	8	116	10	10	84	18
Future Vol, veh/h	13	0	5	1	1	4	8	116	10	10	84	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	6	1	1	4	9	129	11	11	93	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	280	283	103	281	288	135	113	0	0	140	0	0
Stage 1	125	125	-	153	153	-	-	-	-	-	-	-
Stage 2	155	158	-	128	135	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	672	626	952	671	622	914	1476	-	-	1443	-	-
Stage 1	879	792	-	849	771	-	-	-	-	-	-	-
Stage 2	847	767	-	876	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	660	617	952	660	613	914	1476	-	-	1443	-	-
Mov Cap-2 Maneuver	660	617	-	660	613	-	-	-	-	-	-	-
Stage 1	873	786	-	843	766	-	-	-	-	-	-	-
Stage 2	836	762	-	864	779	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		9.5		0.4		0.7	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1476	-	-	721	798	1443	-	-
HCM Lane V/C Ratio	0.006	-	-	0.028	0.008	0.008	-	-
HCM Control Delay (s)	7.5	0	-	10.1	9.5	7.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
3: Laurel Hill Blvd & Lawrence St

03/16/2023

Intersection												
Int Delay, s/veh	3.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	15	4	11	5	15	8	105	28	28	87	10
Future Vol, veh/h	3	15	4	11	5	15	8	105	28	28	87	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	70	90	70	70	70	90	90	70	70	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	21	4	16	7	21	9	117	40	40	97	11

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	352	358	103	350	343	137	108	0	0	157	0	0
Stage 1	183	183	-	155	155	-	-	-	-	-	-	-
Stage 2	169	175	-	195	188	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	603	568	952	605	579	911	1483	-	-	1423	-	-
Stage 1	819	748	-	847	769	-	-	-	-	-	-	-
Stage 2	833	754	-	807	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	567	547	952	568	558	911	1483	-	-	1423	-	-
Mov Cap-2 Maneuver	567	547	-	568	558	-	-	-	-	-	-	-
Stage 1	813	726	-	841	764	-	-	-	-	-	-	-
Stage 2	800	749	-	756	723	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.5		10.6		0.4		2.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	587	692	1423	-	-
HCM Lane V/C Ratio	0.006	-	-	0.05	0.064	0.028	-	-
HCM Control Delay (s)	7.4	0	-	11.5	10.6	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.2	0.1	-	-

HCM 6th Edition methodology does not support more than four approaches.

HCM 6th TWSC
5: Cranston St & Gladstone St

03/16/2023

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	22	0	62	0	0	0	18	570	0	5	564	18
Future Vol, veh/h	22	0	62	0	0	0	18	570	0	5	564	18
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	0	89	0	0	0	26	633	0	6	627	26

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1337	1337	640	1382	1350	633	653	0	0	633	0	0
Stage 1	652	652	-	685	685	-	-	-	-	-	-	-
Stage 2	685	685	-	697	665	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	130	153	475	121	150	480	934	-	-	950	-	-
Stage 1	457	464	-	438	448	-	-	-	-	-	-	-
Stage 2	438	448	-	431	458	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	125	145	475	95	142	480	934	-	-	950	-	-
Mov Cap-2 Maneuver	125	145	-	95	142	-	-	-	-	-	-	-
Stage 1	437	459	-	419	429	-	-	-	-	-	-	-
Stage 2	419	429	-	347	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28	0	0.3	0.1
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	934	-	-	274	-	950	-
HCM Lane V/C Ratio	0.028	-	-	0.438	-	0.006	-
HCM Control Delay (s)	9	0	-	28	0	8.8	0
HCM Lane LOS	A	A	-	D	A	A	A
HCM 95th %tile Q(veh)	0.1	-	-	2.1	-	0	-

HCM 6th TWSC
6: Cranston St & Asia St

03/16/2023

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	0	17	0	0	3	3	490	4	0	601	2
Future Vol, veh/h	4	0	17	0	0	3	3	490	4	0	601	2
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	24	0	0	3	4	544	4	0	668	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1226	1226	670	1236	1225	546	671	0	0	548	0	0
Stage 1	670	670	-	554	554	-	-	-	-	-	-	-
Stage 2	556	556	-	682	671	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	155	179	457	153	179	538	919	-	-	1021	-	-
Stage 1	446	455	-	517	514	-	-	-	-	-	-	-
Stage 2	515	513	-	440	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	153	178	457	144	178	538	919	-	-	1021	-	-
Mov Cap-2 Maneuver	153	178	-	144	178	-	-	-	-	-	-	-
Stage 1	443	455	-	514	511	-	-	-	-	-	-	-
Stage 2	509	510	-	417	455	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.9		11.7		0.1		0	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	919	-	-	332	538	1021	-	-
HCM Lane V/C Ratio	0.005	-	-	0.09	0.006	-	-	-
HCM Control Delay (s)	8.9	0	-	16.9	11.7	0	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

HCM 6th TWSC
1: Laurel Hill Blvd & Oxford St

03/16/2023

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	0	3	2	0	1	1	212	2	0	128	3
Future Vol, veh/h	6	0	3	2	0	1	1	212	2	0	128	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	0	3	2	0	1	1	236	2	0	142	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	384	384	144	384	384	237	145	0	0	238	0	0
Stage 1	144	144	-	239	239	-	-	-	-	-	-	-
Stage 2	240	240	-	145	145	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	574	550	903	574	550	802	1437	-	-	1329	-	-
Stage 1	859	778	-	764	708	-	-	-	-	-	-	-
Stage 2	763	707	-	858	777	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	573	549	903	572	549	802	1437	-	-	1329	-	-
Mov Cap-2 Maneuver	573	549	-	572	549	-	-	-	-	-	-	-
Stage 1	858	778	-	763	707	-	-	-	-	-	-	-
Stage 2	761	706	-	855	777	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		10.7		0		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	652	632	1329	-	-
HCM Lane V/C Ratio	0.001	-	-	0.015	0.005	-	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10.7	0	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

HCM 6th TWSC
2: Laurel Hill Blvd & Elwyn St

03/16/2023

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	2	4	1	1	1	3	207	2	2	135	9
Future Vol, veh/h	11	2	4	1	1	1	3	207	2	2	135	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	2	4	1	1	1	3	230	2	2	150	10

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	397	397	155	399	401	231	160	0	0	232	0	0
Stage 1	159	159	-	237	237	-	-	-	-	-	-	-
Stage 2	238	238	-	162	164	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	563	540	891	561	538	808	1419	-	-	1336	-	-
Stage 1	843	766	-	766	709	-	-	-	-	-	-	-
Stage 2	765	708	-	840	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	560	538	891	555	536	808	1419	-	-	1336	-	-
Mov Cap-2 Maneuver	560	538	-	555	536	-	-	-	-	-	-	-
Stage 1	841	764	-	764	708	-	-	-	-	-	-	-
Stage 2	761	707	-	832	760	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.1		10.9		0.1		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	610	612	1336	-	-
HCM Lane V/C Ratio	0.002	-	-	0.031	0.005	0.002	-	-
HCM Control Delay (s)	7.5	0	-	11.1	10.9	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
3: Laurel Hill Blvd & Lawrence St

03/16/2023

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	4	21	3	57	15	62	4	66	125	52	83	9
Future Vol, veh/h	4	21	3	57	15	62	4	66	125	52	83	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	70	90	70	70	70	90	90	70	70	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	30	3	81	21	89	4	73	179	74	92	10

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	471	505	97	433	421	163	102	0	0	252	0	0
Stage 1	245	245	-	171	171	-	-	-	-	-	-	-
Stage 2	226	260	-	262	250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	503	470	959	533	524	882	1490	-	-	1313	-	-
Stage 1	759	703	-	831	757	-	-	-	-	-	-	-
Stage 2	777	693	-	743	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	416	440	959	480	491	882	1490	-	-	1313	-	-
Mov Cap-2 Maneuver	416	440	-	480	491	-	-	-	-	-	-	-
Stage 1	757	661	-	829	755	-	-	-	-	-	-	-
Stage 2	677	691	-	664	658	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.5		13.6		0.1		3.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1490	-	-	459	610	1313	-	-
HCM Lane V/C Ratio	0.003	-	-	0.082	0.314	0.057	-	-
HCM Control Delay (s)	7.4	0	-	13.5	13.6	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	1.3	0.2	-	-

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	84	0	3	4	1	20	1	292	10	0	2
Future Vol, veh/h	2	84	0	3	4	1	20	1	292	10	0	2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	120	0	4	6	1	29	1	417	14	0	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.9	8.1	10	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	2%	38%	83%
Vol Thru, %	0%	98%	50%	0%
Vol Right, %	93%	0%	12%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	313	86	8	12
LT Vol	20	2	3	10
Through Vol	1	84	4	0
RT Vol	292	0	1	2
Lane Flow Rate	447	123	11	17
Geometry Grp	1	1	1	1
Degree of Util (X)	0.466	0.166	0.016	0.023
Departure Headway (Hd)	3.751	4.875	5.024	4.758
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	966	736	712	753
Service Time	1.761	2.907	3.061	2.782
HCM Lane V/C Ratio	0.463	0.167	0.015	0.023
HCM Control Delay	10	8.9	8.1	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	2.5	0.6	0	0.1

HCM 6th TWSC
5: Cranston St & Gladstone St

03/16/2023

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	59	0	25	0	0	0	3	460	0	0	474	2
Future Vol, veh/h	59	0	25	0	0	0	3	460	0	0	474	2
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	84	0	36	0	0	0	4	511	0	0	527	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1048	1048	529	1066	1049	511	530	0	0	511	0	0
Stage 1	529	529	-	519	519	-	-	-	-	-	-	-
Stage 2	519	519	-	547	530	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	206	228	550	200	227	563	1037	-	-	1054	-	-
Stage 1	533	527	-	540	533	-	-	-	-	-	-	-
Stage 2	540	533	-	521	527	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	205	227	550	186	226	563	1037	-	-	1054	-	-
Mov Cap-2 Maneuver	205	227	-	186	226	-	-	-	-	-	-	-
Stage 1	530	527	-	537	530	-	-	-	-	-	-	-
Stage 2	537	530	-	487	527	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.6		0		0.1		0	
HCM LOS	D		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1037	-	-	252	-	1054	-	-
HCM Lane V/C Ratio	0.004	-	-	0.476	-	-	-	-
HCM Control Delay (s)	8.5	0	-	31.6	0	0	-	-
HCM Lane LOS	A	A	-	D	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.4	-	0	-	-

HCM 6th TWSC
6: Cranston St & Asia St

03/16/2023

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	3	0	85	0	0	0	49	465	5	8	447	28
Future Vol, veh/h	3	0	85	0	0	0	49	465	5	8	447	28
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	121	0	0	0	70	517	6	9	497	40

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1195	1198	517	1256	1215	520	537	0	0	523	0	0
Stage 1	535	535	-	660	660	-	-	-	-	-	-	-
Stage 2	660	663	-	596	555	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	163	186	558	148	181	556	1031	-	-	1043	-	-
Stage 1	529	524	-	452	460	-	-	-	-	-	-	-
Stage 2	452	459	-	490	513	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	150	166	558	106	162	556	1031	-	-	1043	-	-
Mov Cap-2 Maneuver	150	166	-	106	162	-	-	-	-	-	-	-
Stage 1	478	518	-	409	416	-	-	-	-	-	-	-
Stage 2	409	415	-	379	507	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	0	1	0.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1031	-	-	511	-	1043	-	-
HCM Lane V/C Ratio	0.068	-	-	0.246	-	0.009	-	-
HCM Control Delay (s)	8.7	0	-	14.3	0	8.5	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1	-	0	-	-

Intersection						
Int Delay, s/veh	8.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	175	10	0	6	128	138
Future Vol, veh/h	175	10	0	6	128	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	250	14	0	9	183	197

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	264	0	266
Stage 1	-	-	-	-	257
Stage 2	-	-	-	-	9
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1300	-	723
Stage 1	-	-	-	-	786
Stage 2	-	-	-	-	1014
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1300	-	723
Mov Cap-2 Maneuver	-	-	-	-	723
Stage 1	-	-	-	-	786
Stage 2	-	-	-	-	1014

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	752	-	-	1300	-
HCM Lane V/C Ratio	0.505	-	-	-	-
HCM Control Delay (s)	14.6	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	2.9	-	-	0	-

Intersection						
Int Delay, s/veh	0.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	149	237	0	3	5	1
Future Vol, veh/h	149	237	0	3	5	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	213	339	0	4	7	1

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	552	0	387 383
Stage 1	-	-	-	-	383 -
Stage 2	-	-	-	-	4 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1018	-	616 664
Stage 1	-	-	-	-	689 -
Stage 2	-	-	-	-	1019 -
Platoon blocked, %	-	-	-		
Mov Cap-1 Maneuver	-	-	1018	-	616 664
Mov Cap-2 Maneuver	-	-	-	-	616 -
Stage 1	-	-	-	-	689 -
Stage 2	-	-	-	-	1019 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	624	-	-	1018	-
HCM Lane V/C Ratio	0.014	-	-	-	-
HCM Control Delay (s)	10.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
1: Laurel Hill Blvd & Oxford St

03/16/2023

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	7	0	6	7	0	1	1	173	6	2	129	2
Future Vol, veh/h	7	0	6	7	0	1	1	173	6	2	129	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	0	7	8	0	1	1	192	7	2	143	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	346	349	144	350	347	196	145	0	0	199	0	0
Stage 1	148	148	-	198	198	-	-	-	-	-	-	-
Stage 2	198	201	-	152	149	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	608	575	903	605	576	845	1437	-	-	1373	-	-
Stage 1	855	775	-	804	737	-	-	-	-	-	-	-
Stage 2	804	735	-	850	774	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	606	573	903	599	574	845	1437	-	-	1373	-	-
Mov Cap-2 Maneuver	606	573	-	599	574	-	-	-	-	-	-	-
Stage 1	854	773	-	803	736	-	-	-	-	-	-	-
Stage 2	802	734	-	842	772	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		10.9		0		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	714	622	1373	-	-
HCM Lane V/C Ratio	0.001	-	-	0.02	0.014	0.002	-	-
HCM Control Delay (s)	7.5	0	-	10.1	10.9	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
2: Laurel Hill Blvd & Elwyn St

03/16/2023

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	13	0	5	1	1	1	8	157	2	2	124	18
Future Vol, veh/h	13	0	5	1	1	1	8	157	2	2	124	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	0	6	1	1	1	9	174	2	2	138	20

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	346	346	148	348	355	175	158	0	0	176	0	0
Stage 1	152	152	-	193	193	-	-	-	-	-	-	-
Stage 2	194	194	-	155	162	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	608	577	899	607	571	868	1422	-	-	1400	-	-
Stage 1	850	772	-	809	741	-	-	-	-	-	-	-
Stage 2	808	740	-	847	764	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	602	572	899	599	566	868	1422	-	-	1400	-	-
Mov Cap-2 Maneuver	602	572	-	599	566	-	-	-	-	-	-	-
Stage 1	844	770	-	803	736	-	-	-	-	-	-	-
Stage 2	800	735	-	840	762	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.6		10.5		0.4		0.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1422	-	-	663	654	1400	-	-
HCM Lane V/C Ratio	0.006	-	-	0.03	0.005	0.002	-	-
HCM Control Delay (s)	7.5	0	-	10.6	10.5	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
3: Laurel Hill Blvd & Lawrence St

03/16/2023

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	13	4	45	14	38	8	102	64	28	87	10
Future Vol, veh/h	3	13	4	45	14	38	8	102	64	28	87	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	70	90	70	70	70	90	90	70	70	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	19	4	64	20	54	9	113	91	40	97	11

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	397	405	103	371	365	159	108	0	0	204	0	0
Stage 1	183	183	-	177	177	-	-	-	-	-	-	-
Stage 2	214	222	-	194	188	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	563	535	952	586	563	886	1483	-	-	1368	-	-
Stage 1	819	748	-	825	753	-	-	-	-	-	-	-
Stage 2	788	720	-	808	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	499	515	952	551	542	886	1483	-	-	1368	-	-
Mov Cap-2 Maneuver	499	515	-	551	542	-	-	-	-	-	-	-
Stage 1	813	725	-	819	748	-	-	-	-	-	-	-
Stage 2	715	715	-	759	722	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.8		12.1		0.3		2.1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	556	645	1368	-	-
HCM Lane V/C Ratio	0.006	-	-	0.047	0.215	0.029	-	-
HCM Control Delay (s)	7.4	0	-	11.8	12.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	46	1	15	16	2	12	1	155	10	1	2
Future Vol, veh/h	1	46	1	15	16	2	12	1	155	10	1	2
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	66	1	21	23	3	17	1	221	14	1	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.9	7.9	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	2%	45%	77%
Vol Thru, %	1%	96%	48%	8%
Vol Right, %	92%	2%	6%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	48	33	13
LT Vol	12	1	15	10
Through Vol	1	46	16	1
RT Vol	155	1	2	2
Lane Flow Rate	240	69	47	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.241	0.084	0.059	0.023
Departure Headway (Hd)	3.609	4.413	4.494	4.49
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	979	802	786	802
Service Time	1.691	2.496	2.583	2.49
HCM Lane V/C Ratio	0.245	0.086	0.06	0.024
HCM Control Delay	7.9	7.9	7.9	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.2	0.1

HCM 6th TWSC
5: Cranston St & Gladstone St

03/16/2023

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	37	0	22	0	0	0	5	572	0	5	580	5
Future Vol, veh/h	37	0	22	0	0	0	5	572	0	5	580	5
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	0	31	0	0	0	7	636	0	6	644	7

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1310	1310	648	1325	1313	636	651	0	0	636	0	0
Stage 1	660	660	-	650	650	-	-	-	-	-	-	-
Stage 2	650	650	-	675	663	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	159	470	133	158	478	935	-	-	947	-	-
Stage 1	452	460	-	458	465	-	-	-	-	-	-	-
Stage 2	458	465	-	444	459	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	134	156	470	122	155	478	935	-	-	947	-	-
Mov Cap-2 Maneuver	134	156	-	122	155	-	-	-	-	-	-	-
Stage 1	447	455	-	453	459	-	-	-	-	-	-	-
Stage 2	453	459	-	410	454	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	40.4		0		0.1		0.1	
HCM LOS	E		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	183	-	947	-	-
HCM Lane V/C Ratio	0.008	-	-	0.461	-	0.006	-	-
HCM Control Delay (s)	8.9	0	-	40.4	0	8.8	0	-
HCM Lane LOS	A	A	-	E	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.2	-	0	-	-

HCM 6th TWSC
6: Cranston St & Asia St

03/16/2023

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	6	0	66	0	0	3	26	477	4	0	561	18
Future Vol, veh/h	6	0	66	0	0	3	26	477	4	0	561	18
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	70	70	70	90	90	90	70	90	90	90	90	70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	94	0	0	3	37	530	4	0	623	26

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1244	1244	636	1289	1255	532	649	0	0	534	0	0
Stage 1	636	636	-	606	606	-	-	-	-	-	-	-
Stage 2	608	608	-	683	649	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	151	174	478	141	172	547	937	-	-	1034	-	-
Stage 1	466	472	-	484	487	-	-	-	-	-	-	-
Stage 2	483	486	-	439	466	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	144	164	478	108	162	547	937	-	-	1034	-	-
Mov Cap-2 Maneuver	144	164	-	108	162	-	-	-	-	-	-	-
Stage 1	440	472	-	457	460	-	-	-	-	-	-	-
Stage 2	453	459	-	352	466	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	11.6	0.6	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	937	-	-	401	547	1034	-	-
HCM Lane V/C Ratio	0.04	-	-	0.257	0.006	-	-	-
HCM Control Delay (s)	9	0	-	17	11.6	0	-	-
HCM Lane LOS	A	A	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0	0	-	-

Intersection						
Int Delay, s/veh	6.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	87	10	0	17	75	81
Future Vol, veh/h	87	10	0	17	75	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	124	14	0	24	107	116

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	138	0	155
Stage 1	-	-	-	-	131
Stage 2	-	-	-	-	24
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1446	-	836
Stage 1	-	-	-	-	895
Stage 2	-	-	-	-	999
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1446	-	836
Mov Cap-2 Maneuver	-	-	-	-	836
Stage 1	-	-	-	-	895
Stage 2	-	-	-	-	999

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	877	-	-	1446	-
HCM Lane V/C Ratio	0.254	-	-	-	-
HCM Control Delay (s)	10.5	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0	-

Intersection						
Int Delay, s/veh	1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	116	0	12	21	3
Future Vol, veh/h	95	116	0	12	21	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	136	166	0	17	30	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	302	0	236
Stage 1	-	-	-	-	219
Stage 2	-	-	-	-	17
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1259	-	752
Stage 1	-	-	-	-	817
Stage 2	-	-	-	-	1006
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1259	-	752
Mov Cap-2 Maneuver	-	-	-	-	752
Stage 1	-	-	-	-	817
Stage 2	-	-	-	-	1006

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	760	-	-	1259	-
HCM Lane V/C Ratio	0.045	-	-	-	-
HCM Control Delay (s)	10	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-