
To:	Town of East Greenbush Planning and Zoning Department 225 Columbia Turnpike Rensselaer, NY 12144	From:	Lisa Westrick, PE Dan Quiri, PE 3 Columbia Circle, Suite 6 Albany, NY 12203
File:	Lakeshore Drive Traffic Evaluation	Date:	May 25, 2021

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

Lakeshore Drive is currently a two-way roadway that circles Hampton Lake and connects the east and west sides of the Hampton Manor Neighborhood. The roadway has a limited width of approximately 20-feet and does not currently provide accommodations for pedestrians and bicyclists. As such, pedestrians and bicyclists must share the roadway with vehicular traffic.

The purpose of this memorandum is to evaluate the feasibility of including pedestrian and bicyclist accommodations around Lakeshore Drive. Due to the limited width of the roadway, Lakeshore Drive will need to be transformed to a one-way roadway; therefore, this memo will study the feasibility of the one-way conversion by analyzing three alternatives. Alternative 1 will serve as the No-Build or “do nothing” condition used for comparison of the other two alternatives. Alternative 2 will serve as a one-way direction of travel around Lakeshore Drive in the clockwise direction, and Alternative 3 will serve as a one-way direction of travel around Lakeshore Drive in the counterclockwise direction.

TRAFFIC ANALYSIS

PLACE

In 2017, the Town of East Greenbush adopted an Amenities Plan that documents future objectives to grow the Town as a healthy, attractive, and fun place to live. As part of the plan, several recommended improvements were identified for Hampton Lake Park, including various park amenities such as shade trees and landscaping, a new park entrance sign, replacing the chain link fencing, adding a water fountain and bike racks, and taking steps to improve the water quality of the lake. Pedestrian connections and/or sidewalks leading to/from the park were also proposed as there are currently no such amenities. As part of the pedestrian connections, a multi-use path around Lakeshore Drive was also proposed as the roadway already experiences a large number of pedestrian/bicyclist activity.

In 2020, the Albany-Hudson Electric Trail (AHET) was complete. This 36-mile multi-use path is a key link between the Capital Region and the Mid-Hudson Valley that connects the City of Rensselaer to the Town of Greenport. A portion of this path follows Southern Avenue and then continues south toward the General Dynamics building. This multi-use path is located approximately 500-feet to the west of Lakeshore Drive. To promote connectivity throughout the study area, a connection between the proposed multi-use path on Lakeshore Drive and the Albany-Hudson Electric Trail is recommended.

The 2017 Amenities Plan and Albany-Hudson Electric Trail support the Town's goal of creating an attractive and livable community that support public health by providing an environment that encourages physical activity. A multi-use path around Lakeshore Drive would not only support these pedestrian friendly town goals, but it would also give the opportunity to include streetscaping features around the lake.

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Description of Roadway Network

The project area is located within the Town of East Greenbush and is primarily serviced by Lakeshore Drive and Hampton Avenue. Detailed information on the roadways within the study area are as follows.

Hampton Avenue

Hampton Avenue is classified as an urban major collector and is an east-west roadway. From the western limit, Hampton Avenue starts at US Route 9/20 and ends at Eastern Avenue to the east. This roadway consists of one 11-foot travel lane in each direction along with 3 to 10-foot paved shoulders on each side. The posted speed limit is 30-mph and it carries an estimated 1,460 Average Annual Daily Traffic (AADT) according to data available on the NYSDOT Traffic Data Viewer (2016)¹. There is a sidewalk on the southern side of Hampton Avenue extending from US Route 9/20 to approximately 150-feet east of Park Avenue. From Park Avenue to Eastern Avenue, pedestrians share the roadway with motorists. There are no bicycle lanes; therefore, bicyclists must share the roadway with motorists.

Lakeshore Drive

Lakeshore Drive is classified as a local road that circles Hampton Manor Lake and provides connectivity between the east and west sides of the Hampton Manor Neighborhood. This roadway consists of an unmarked 20-foot roadway used for two-directional travel. The posted speed limit around Lakeshore Drive is 25-mph and carries an estimated 250-275 AADT on the east and west sides of the lake, and 300 AADT on the southern end of the lake according to Streetlight Data, see Attachment A. There are no pedestrian or bicyclist accommodations around Lakeshore Drive, so pedestrians and bicyclists must share the roadway with motorists.

Traffic Volumes

Daily traffic volumes were collected throughout the study area using Streetlight Data from May to September of 2019. Streetlight Data is a location-based service that anonymously collects smartphone and trucker GPS data to measure traffic. The Streetlight data was then compared to an existing New York State Department of Transportation (NYSDOT) Automatic Traffic Recorder (ATR) to validate the data. The daily traffic data is summarized below in Table 1 and the hourly breakdown of volumes is included in Attachment A.

¹ New York State Department of Transportation Traffic Data Viewer, dot.ny.gov/tdv

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

Table 1: Daily Traffic Volumes (2019)

Location	AADT ¹	AM Peak Hour			PM Peak Hour		
		Volume ²	K-Factor ³	Distribution ⁴	Volume ²	K-Factor ³	Distribution ⁴
Hampton Avenue	1,484	90	6.1%	61% WB	138	9.3%	59% EB
Lakeshore Drive (West)	251	14	5.6%	71% SB	23	9.2%	57% NB
Lakeshore Drive (East)	278	28	10.1%	79% NB	23	8.3%	57% SB
Lakeshore Drive (South)	306	31	10.1%	52% EB	27	8.8%	74% EB

¹ Average Annual Daily Traffic expressed in vehicles per day (vpd)² Peak hour volume expressed in vehicles per hour (vph)³ Percent of daily traffic occurring during the peak hour⁴ Primary directional distribution of traffic

As shown in Table 1, Hampton Avenue carries approximately 1,485 vehicles on a typical day with approximately 6.1% of traffic occurring during the morning peak hour and 9.3% of traffic occurring during the afternoon peak hour. The directional distribution of traffic shows typical commuter characteristics with a heavier flow of traffic in the westbound direction (61%) during the morning peak when motorists are traveling to work, and heavier in the eastbound direction (59%) during the afternoon peak when motorists are typically traveling home.

Turning movement counts were obtained for the intersections of Hampton Avenue and Lakeshore Drive (East) and (West) using Streetlight Data. Streetlight was able to take the average hourly volume of traffic on a typical weekday from May to September of 2019. Based on the data, the morning peak hour generally occurs from 7:00 – 9:00 AM and the afternoon peak hour generally occurs from 5:00 – 6:00 PM. The peak hour traffic volume data is included in Attachment B.

Circulation

The traffic volumes of Lakeshore Drive vary depending on the location; therefore, three spots around the lake were chosen to understand how the community currently uses the road. The first data collection point, Lakeshore Drive (West) is located on the west side of Lakeshore Drive approximately 100-feet south of Hampton Avenue. Similarly, the Lakeshore Drive (East) data collection point is located 100-feet south of Hampton Avenue, but on the east side of the lake. Finally, the Lakeshore Drive (South) data collection point is located at the southern-most point of Lakeshore Drive approximately halfway between Maryland Ave West and Maryland Ave East.

As shown in Table 1, Lakeshore Drive carries approximately 250-300 vehicles on a typical day with the morning peak hour accounting for 5.6% of the daily traffic at the western side of the lake, and approximately 10% of the daily traffic at the eastern and southern sides of the lake. The afternoon peak hour accounts for 9.2% of the daily traffic on the western side of the lake and approximately 8% of the daily traffic on the

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

eastern and southern sides of the lake. The directional distributions around the lake are shown on Figures 1 through 3 and show typical commuter patterns.

As shown in Figure 1, the morning peak hour flow of traffic favors a counterclockwise direction as 61% of Hampton Avenue traffic is traveling westbound, 71% of Lakeshore Drive (West) traffic is going south, 52% of



Figure 1: AM Peak Directional Distribution Summary

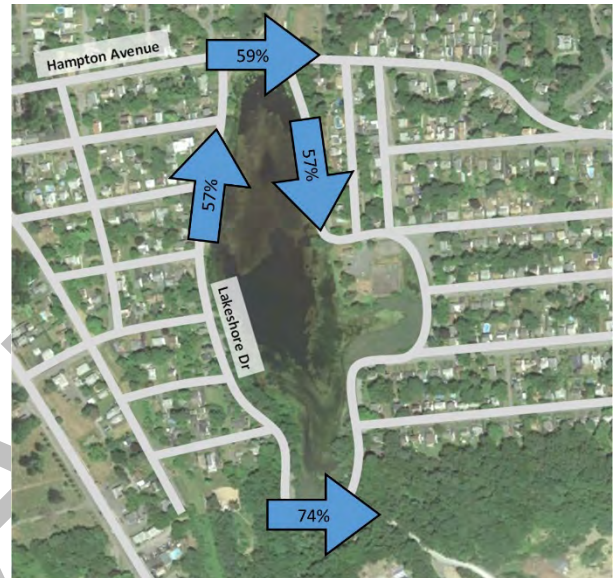


Figure 2: PM Peak Directional Distribution Summary

Lakeshore Drive (South) traffic is going east, and 79% of Lakeshore Drive (East) Traffic is going north. Conversely, Figure 2 shows that three of the four data collection points favor a clockwise direction during the afternoon peak hour with 57% of Lakeshore Drive (West) traffic going north, 59% of Hampton Avenue traffic going east, and 57% of Lakeshore Drive (East) traffic going south. It is noted that 74% of Lakeshore Drive (South) traffic is going in a counterclockwise direction, potentially due to cut-through traffic.

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)



Figure 3: Daily Directional Distribution Summary

Like the afternoon peak hour, the daily directional distribution of traffic favors a clockwise direction for three of the four data collection points. Figure 3 shows that 57% of Lakeshore Drive (West) traffic is going northbound, 53% of Hampton Avenue traffic is eastbound, and 56% of Lakeshore Drive traffic is going south.

Although the afternoon peak hour and daily traffic flows are heavier in the clockwise direction, the counterclockwise direction should not be ruled out since the peak hour volumes around the lake are very low; approximately 30 vehicles per hour (vph), or one vehicle every 2 minutes.

Future Conditions

Future traffic volume conditions were evaluated to determine the impacts of the potential circulation changes of Lakeshore Drive. The project can be completed with simple signage and striping; therefore, the Estimated Time of Completion (ETC) for this project was analyzed for the existing year of 2021.

Since the Streetlight data gave turning movement counts for a typical day in 2019, the volumes were adjusted based on an analysis of historical traffic growth in the area and any planned developments that would affect volumes. Conversations with the Town of East Greenbush indicated that there will not be any new development within the study area that would increase traffic volumes by this summer. A regression analysis was run based on historical traffic volume data collected by the NYSDOT and showed a general decrease in traffic growth in the study area; however, the 2019 Streetlight turning movement counts were increased by half a percent (0.5%) per year for two years to develop the 2021 volumes. The resulting Existing/ETC 2021 turning movement counts are shown in Figure 4.

The traffic volumes for Alternatives 2 and 3 were derived by reassigning the 2021 turning movement counts based on the proposed one-way direction of traffic. To further consider the effects of changing the directional flow, traffic on the southern end of Lakeshore Drive was also reassigned to the study area intersections to provide a conservative analysis.

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

For example, as shown in Table 1, Lakeshore Drive (South) carries 16 vph in the eastbound direction during the morning peak hour (52% of 31 vph). These 16 vehicles will not be able to travel eastbound in Alternative 2, so these trips were re-routed to the north side of Lakeshore Drive and through the study area intersections. Similarly, there are 15 vehicles during the morning peak in the westbound direction that were rerouted in Alternative 3. The same process was used in developing the afternoon peak turning movements. The resulting Alternative 2 and 3 turning movement counts are shown in Figure 4.

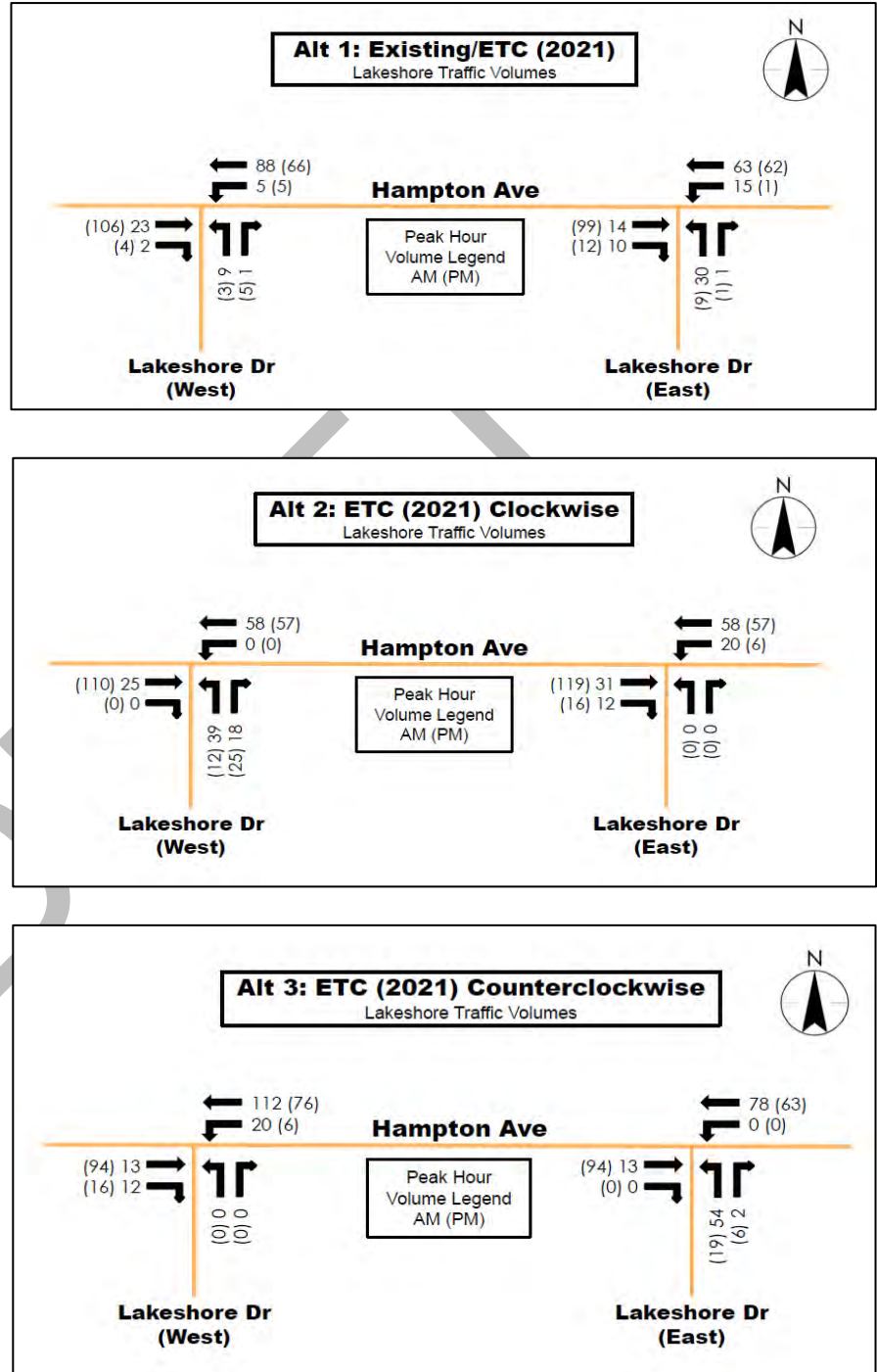


Figure 4: Turning Movement Counts

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

Capacity Analysis

To assess quality of flow, an intersection capacity analysis was conducted at the intersections of Hampton Avenue and Lakeshore Drive (East) and Lakeshore Drive (West) during the Existing and Build traffic volume conditions. The analysis was conducted using Synchro 10 for unsignalized intersections. Level of Service (LOS) calculations are based on the Highway Capacity Manual, 6th Edition (HCM 6th) methodologies. The LOS criteria are used in analysis of highways and intersections and are defined in terms of vehicle control delay (seconds of delay per vehicle).

The HCM LOS criteria are divided into six levels based on the peak 15-minute analysis period. These levels range from "A" to "F" with LOS A being the best and representing free-flow conditions, while LOS F represents bad (gridlock) conditions indicating that the intersection is over capacity. Table 2 is a summary of the HCM LOS criteria.

Table 2: Level of Service Criteria

HCM 6 th LOS Criteria	
Letter LOS	Unsignalized Intersection Control Delay (sec/veh)
A	< 10 sec
B	> 10 and ≤ 15 sec
C	> 15 and ≤ 25 sec
D	> 25 and ≤ 35 sec
E	> 35 and ≤ 50 sec
F	>50

LOS was calculated at the study area intersections for all three alternatives including Alternative 1: No-Build, Alternative 2: Build (clockwise), and Alternative 3: Build (counterclockwise) as shown in Table 3.

Table 3: Level of Service Summary

LOS Calculations		Existing / ETC (2021)					
		AM Peak Hour			PM Peak Hour		
		Alt 1 ^A	Alt 2 ^B	Alt 3 ^C	Alt 1 ^A	Alt 2 ^B	Alt 3 ^C
Hampton Ave/Lakeshore Drive (East)							
Hampton Ave WB	L	A (7.3)	A (7.3)	--	A (7.5)	A (7.5)	--
Lakeshore Dr NB	LR	A (9.3)	--	A (9.3)	A (9.5)	--	A (9.4)
Hampton Ave/Lakeshore Drive (West)							
Hampton Ave WB	L	A (7.3)	--	A (7.3)	A (7.5)	--	A (7.5)
Lakeshore Dr NB	LR	A (9.2)	A (9.1)	--	A (9.2)	A (9.3)	--

^A Alternative 1: Existing traffic conditions, also known as the No-Build alternative

^B Alternative 2: One-way clockwise traffic flow

^C Alternative 3: One-way counterclockwise traffic flow

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

As shown in Table 3, the intersections in the study area operate with very good (LOS A or better) levels of service in the Alternative 1 – No Build conditions. The analysis shows that Alternatives 2 and 3 will also operate with very good levels of service with delays being increased by less than 1 second on each movement. The detailed traffic capacity analysis worksheets are included in Attachment C.

SAFETY

Accident Analysis

Existing accident data for the project area was obtained from NYSDOT for the latest three-year period ranging from January 2018 through December 2020. During the three-year period, there were a total of four documented accidents, three of which involved a pedestrian or bicyclist.

The first accident occurred on April 14, 2018 and involved a motorist striking a pedestrian who was playing in the roadway on Lakeshore Drive near Washington Avenue (West). The documented cause of the accident was due to backing unsafely and resulted in an injury to the pedestrian. The second accident occurred on February 8, 2019 and involved a motorist striking another motorist while they were making a right-turn from Lakeshore Drive onto Hampton Avenue. The documented cause of the accident was due to failure to yield to the right-of-way and resulted in property damage only. The third accident occurred on March 20, 2019 and involved a motorist striking a pedestrian on Lakeshore Drive near Hudson Avenue. The documented cause of the accident was due to driver inattention and resulted in an injury. The last crash occurred on July 23, 2019 and involved a motorist striking a bicyclist on Lakeshore Drive near Washington Avenue (East). The documented cause of the accident was due to driver inattention and resulted in an injury. Three of the four crashes involved a pedestrian or bicyclist which reaffirms the need for pedestrian accommodations around Lakeshore Drive.

It is noted that as part of this study, volumes at the Columbia Turnpike (US Route 9/20) / Hampton Avenue intersection may increase due to diverted traffic. During the second Stakeholder Meeting, this was noted, and it was questioned whether this project would impact the existing crash rate at this intersection. Crash data was obtained for the latest three years of available data ranging from January 2018 through January 2021. Over the course of these three years, there were a total of four (4) crashes at the intersection of Columbia Turnpike / Hampton Avenue leading to a crash rate of 0.27 accidents/million entering vehicles (ACC/MEV). This rate is higher than the statewide rate of 0.07 ACC/MEV for similar intersections.

Although the crash rate at this intersection is higher than the statewide rate, there are no discernable crash patterns. Two of the crashes were listed as right-angle accidents but one of them occurred when a vehicle was making a left-hand turn onto Hampton Avenue from Columbia Turnpike and the other occurred when a vehicle was making a left-hand turn out of Hampton Avenue to Columbia Turnpike. The third collision was with a light support/utility pole due to unsafe speed and the final collision was with a bicyclist due to driver inattention.

It is anticipated that this project could potentially add about one percent (1%) more daily traffic to the intersection which is within the daily fluctuation of expected traffic; therefore, the Lakeshore Drive project is not anticipated to contribute to future accidents. It is recommended that operations of this intersection be monitored to determine if any crash patterns arise in the future.

The crash data for both analyses are included in Attachment D.

Reference: Lakeshore Drive Complete Streets Traffic Study (#TO-020-011-0)

Traffic Calming

The posted speed limit around Lakeshore Drive is 25-mph. Streetlight data was used to measure travel speeds at the data collection points around the lake. 86% of the traffic traveling in the clockwise direction is traveling at or below the posted speed limit while 85% of the traffic traveling in the counterclockwise direction is traveling at or below the posted speed limit; therefore, there is no existing speed problem in the study area. The low speeds compared to the posted speed limit could be due to the narrow roadway and because drivers are expecting to share the roadway with oncoming traffic, pedestrians, and bicyclists. Further, the accident data did not reference speeds as an apparent factor in any of the crashes. A breakdown of the average speed bins can be found in Table 4.

Table 4: Lakeshore Drive Average Speed Data

Speed Bins	Lakeshore Drive	
	Clockwise	Counterclockwise
0-25 MPH	86%	85%
25-30 MPH	6%	7%
30-35 MPH	3%	4%
35+ MPH	5%	5%

STAKEHOLDER ENGAGEMENT

Stakeholder input was an integral part to this evaluation to understand the concerns of the people who live and work in the study area. A summary of the stakeholders involved in this study and their interests in the one-way conversion are described in the meeting minutes. In general, all stakeholders agree that converting Lakeshore Drive to one-way vehicular in the clockwise direction is feasible and the preferred alternative. The meeting minutes and a copy of the Stakeholder presentation is included in Attachment E.

CONCLUSION/RECOMMENDATIONS

A one-way conversion of Lakeshore Drive is considered feasible in both the clockwise and counterclockwise directions. The following is noted based on the analysis:

- Lakeshore Drive has an Average Annual Daily Traffic (AADT) between 250-300 vehicles per day.
- The morning peak hour has a higher volume of traffic going in a counterclockwise direction on Hampton Avenue, the east side of Lakeshore Drive, the south side of Lakeshore Drive, and the west side of Lakeshore Drive. The afternoon peak hour and daily volume of traffic have higher volumes going in the clockwise direction on Hampton Avenue, the east and west sides of Lakeshore Drive. It is noted that the south side of Lakeshore Drive has a higher direction of traffic flowing in the counterclockwise direction during the afternoon peak and total daily volumes.
- A capacity analysis of Lakeshore Drive (East) and (West) with Hampton Avenue was studied. There are no capacity concerns as these intersections have ample capacity with LOS A on all movements.

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- The accident analysis showed four (4) accidents around Lakeshore Drive. Of the four (4) accidents, three (3) were pedestrian related.
- Existing speeds are not an issue around the lake
- Converting Lakeshore Drive to a one-way direction of travel and providing pedestrian accommodations is consistent with the Town's 2017 Amenities Plan.
- Stakeholders generally prefer a clockwise direction of travel.

Based on the above analysis, it is recommended that Lakeshore Drive be converted to a one-way road in the clockwise direction. This can be completed with various levels of improvements along the roadway, ranging from the addition of signing to maintain one-way vehicular circulation, to adding striping to the existing pavement to delineate a pedestrian path or creating a physical buffer between vehicular and pedestrian traffic.

Stantec Consulting, Inc.

Lisa Westrick, PE

Daniel Quiri, PE

Phone: (518) 452-4358

Fax: (518) 452-9234

Attachment: Attachment A: Daily Traffic Volumes
Attachment B: Peak Hour Turning Movement Count
Attachment C: Synchro Capacity Analysis
Attachment D: Accident Data
Attachment E: Stakeholder PowerPoint and Meeting Minutes

c. C.C.

Attachment A: Daily Traffic Volumes

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192810395 - Lakeshore Traffic Evaluation
DMQ 3/23/2021

STREETLIGHT DATA			
LOCATION	Hampton Avenue		
LOCATION	50' East of Lakeshore Drive (East)		
Day Type	0: All Days (M-Su)	0: All Days (M-Su)	
Zone Name	Hampton EB	Hampton WB	
YEAR	2019	2019	2019
MONTH	May-Sept	May-Sept	May-Sept
DIRECTION	Eastbound	Westbound	Combined Total
01: 12am (12am-1am)	12	3	15
02: 1am (1am-2am)	8	2	10
03: 2am (2am-3am)	3	1	4
04: 3am (3am-4am)	4	0	4
05: 4am (4am-5am)	1	2	3
06: 5am (5am-6am)	3	4	7
07: 6am (6am-7am)	28	22	50
08: 7am (7am-8am)	18	39	57
09: 8am (8am-9am)	35	55	90
10: 9am (9am-10am)	28	27	55
11: 10am (10am-11am)	29	31	60
12: 11am (11am-12noon)	40	35	75
13: noon (12noon-1pm)	52	42	94
14: 1pm (1pm-2pm)	43	45	88
15: 2pm (2pm-3pm)	45	52	97
16: 3pm (3pm-4pm)	69	56	125
17: 4pm (4pm-5pm)	70	61	131
18: 5pm (5pm-6pm)	81	57	138
19: 6pm (6pm-7pm)	56	55	111
20: 7pm (7pm-8pm)	56	41	97
21: 8pm (8pm-9pm)	49	27	76
22: 9pm (9pm-10pm)	31	16	47
23: 10pm (10pm-11pm)	20	8	28
24: 11pm (11pm-12am)	11	13	24
00: All Day (12am-12am)	792	692	1484
HIGH_HOUR_VALUE	81	61	138
HIGH_HOUR_INTERVAL	18	17	18
K_FACTOR			9%

192810395 - Lakeshore Traffic Evaluation
DMQ 3/23/2021

STREETLIGHT DATA			
LOCATION	Lakeshore Drive (Western Side)		
LOCATION	50' south of Hampton Ave		
Day Type	0: All Days (M-Su)	0: All Days (M-Su)	
Zone Name	Lakeshore Drive West N	Lakeshore Drive West SB	
YEAR	2019	2019	2019
MONTH	May-Sept	May-Sept	May-Sept
DIRECTION	Northbound	Southbound	Combined Total
01: 12am (12am-1am)	1	0	1
02: 1am (1am-2am)	2	0	2
03: 2am (2am-3am)	1	0	1
04: 3am (3am-4am)	1	0	1
05: 4am (4am-5am)	0	0	0
06: 5am (5am-6am)	0	1	1
07: 6am (6am-7am)	4	1	5
08: 7am (7am-8am)	6	5	11
09: 8am (8am-9am)	4	10	14
10: 9am (9am-10am)	7	4	11
11: 10am (10am-11am)	6	3	9
12: 11am (11am-12noon)	10	4	14
13: noon (12noon-1pm)	11	7	18
14: 1pm (1pm-2pm)	9	13	22
15: 2pm (2pm-3pm)	9	7	16
16: 3pm (3pm-4pm)	14	8	22
17: 4pm (4pm-5pm)	8	8	16
18: 5pm (5pm-6pm)	10	10	20
19: 6pm (6pm-7pm)	13	10	23
20: 7pm (7pm-8pm)	9	7	16
21: 8pm (8pm-9pm)	8	4	12
22: 9pm (9pm-10pm)	3	4	7
23: 10pm (10pm-11pm)	3	2	5
24: 11pm (11pm-12am)	1	1	2
00: All Day (12am-12am)	143	108	251
HIGH_HOUR_VALUE	14	13	23
HIGH_HOUR_INTERVAL	16	14	19
K_FACTOR			9%

192810395 - Lakeshore Traffic Evaluation
DMQ 3/23/2021

STREETLIGHT DATA			
LOCATION	Lakeshore Drive (Eastern Side)		
LOCATION	50' south of Hampton Ave		
Day Type	0: All Days (M-Su)	0: All Days (M-Su)	
Zone Name	Lakeshore Drive East	Lakeshore Drive East SB	
YEAR	2019	2019	2019
MONTH	May-Sept	May-Sept	May-Sept
DIRECTION	Northbound	Southbound	Combined Total
01: 12am (12am-1am)	1	2	3
02: 1am (1am-2am)	1	2	3
03: 2am (2am-3am)	0	1	1
04: 3am (3am-4am)	0	0	0
05: 4am (4am-5am)	0	0	0
06: 5am (5am-6am)	2	0	2
07: 6am (6am-7am)	3	4	7
08: 7am (7am-8am)	22	6	28
09: 8am (8am-9am)	6	5	11
10: 9am (9am-10am)	5	7	12
11: 10am (10am-11am)	6	7	13
12: 11am (11am-12noon)	5	8	13
13: noon (12noon-1pm)	7	10	17
14: 1pm (1pm-2pm)	8	13	21
15: 2pm (2pm-3pm)	6	11	17
16: 3pm (3pm-4pm)	8	13	21
17: 4pm (4pm-5pm)	8	10	18
18: 5pm (5pm-6pm)	8	13	21
19: 6pm (6pm-7pm)	10	13	23
20: 7pm (7pm-8pm)	6	11	17
21: 8pm (8pm-9pm)	5	7	12
22: 9pm (9pm-10pm)	2	5	7
23: 10pm (10pm-11pm)	3	5	8
24: 11pm (11pm-12am)	1	2	3
00: All Day (12am-12am)	122	156	278
HIGH_HOUR_VALUE	22	13	28
HIGH_HOUR_INTERVAL	8	14	8
K_FACTOR			10%

192810395 - Lakeshore Traffic Evaluation
DMQ 3/23/2021

STREETLIGHT DATA			
LOCATION	Lakeshore Drive (South End)		
LOCATION	Southern-most point of Lakeshore Drive		
Day Type	0: All Days (M-Su)	0: All Days (M-Su)	
Zone Name	Lakeshore Dr EB	Lakeshore Dr WB	
YEAR	2019	2019	2019
MONTH	May-Sept	May-Sept	May-Sept
DIRECTION	Eastbound	Westbound	Combined Total
01: 12am (12am-1am)	1	0	1
02: 1am (1am-2am)	0	0	0
03: 2am (2am-3am)	0	0	0
04: 3am (3am-4am)	0	0	0
05: 4am (4am-5am)	1	1	2
06: 5am (5am-6am)	1	5	6
07: 6am (6am-7am)	2	5	7
08: 7am (7am-8am)	16	15	31
09: 8am (8am-9am)	6	3	9
10: 9am (9am-10am)	6	6	12
11: 10am (10am-11am)	5	5	10
12: 11am (11am-12noon)	13	6	19
13: noon (12noon-1pm)	12	7	19
14: 1pm (1pm-2pm)	13	7	20
15: 2pm (2pm-3pm)	13	6	19
16: 3pm (3pm-4pm)	20	7	27
17: 4pm (4pm-5pm)	17	9	26
18: 5pm (5pm-6pm)	19	7	26
19: 6pm (6pm-7pm)	11	8	19
20: 7pm (7pm-8pm)	13	7	20
21: 8pm (8pm-9pm)	12	5	17
22: 9pm (9pm-10pm)	6	4	10
23: 10pm (10pm-11pm)	3	1	4
24: 11pm (11pm-12am)	1	0	1
00: All Day (12am-12am)	191	115	306
HIGH_HOUR_VALUE	20	15	31
HIGH_HOUR_INTERVAL	16	8	8
K_FACTOR			10%

Attachment B: Peak Hour Turning Movement Counts

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Day Type

1: Weekday (M-Th)

TURNING MOVEMENT COUNTS - Hampton Avenue and Lakeshore Drive (East)
STREETLIGHT DATA - 2019

Day Part	Hampton Ave Middle			Hampton Ave (East)			Lakeshore Dr (East)						Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right	SB Left	SB Thru	SB Right	
00: All Day (12am-12am)	-	708	122	26	708	-	122	-	13	-	-	-	1,699
01: 6AM (6am-7am)	-	40	3	-	33	-	6	-	3	-	-	-	85
02: 7AM (7am-8am)	-	11	10	15	62	-	30	-	1	-	-	-	129
03: 8AM (8am-9am)	-	37	2	-	76	-	9	-	1	-	-	-	125
04: 9AM (9am-10am)	-	22	5	1	30	-	4	-	-	-	-	-	62
05: 10AM (10am-11am)	-	21	4	1	23	-	4	-	-	-	-	-	53
06: 2PM (2pm-3pm)	-	44	7	1	55	-	5	-	1	-	-	-	113
07: 3PM (3pm-4pm)	-	65	15	1	68	-	7	-	-	-	-	-	156
08: 4PM (4pm-5pm)	-	69	10	1	52	-	7	-	1	-	-	-	140
09: 5PM (5pm-6pm)	-	91	12	1	61	-	9	-	1	-	-	-	175
10: 6PM (6pm-7pm)	-	48	9	1	49	-	7	-	1	-	-	-	115

↑ North

Out	In	Total
-	-	-

Right	Thru	Left
↘	↓	↙

Hampton Ave Middle	Hampton Ave (East)
Out	Out
92	62
21	77
113	154
In	In
11	12
10	51
Total	Total
10	89

Left	Thru	Right
↙	↓	↘

Left	Thru	Right
90	-	1

Lakeshore Dr (East)
Out
25
In
31
Total
56

Day Type: 1: Weekday (M-Th)

Start Time: 02: 7AM (7am-8am)

End Time: 02: 7AM (7am-8am)

↑ North

Out	In	Total
-	-	-

Right	Thru	Left
↘	↓	↙

Hampton Ave Middle	Hampton Ave (East)
Out	Out
70	62
103	77
173	154
In	In
91	12
12	51
Total	Total
12	89

Left	Thru	Right
↙	↓	↘

Left	Thru	Right
9	-	1

Lakeshore Dr (East)
Out
13
In
10
Total
23

Day Type: 1: Weekday (M-Th)

Start Time: 09: 5PM (5pm-6pm)

End Time: 09: 5PM (5pm-6pm)

Day Type

1: Weekday (M-Th)

**TURNING MOVEMENT COUNTS - Hampton Avenue and Lakeshore Drive (West)
STREETLIGHT DATA - 2019**

Day Part	Hampton Ave (West)			Hampton Ave Middle			Lakeshore Drive (West)			SB Left	SB Thru	SB Right	Total
	EB Left	EB Thru	EB Right	WB Left	WB Thru	WB Right	NB Left	NB Thru	NB Right				
00: All Day (12am-12am)	-	809	44	71	733	-	47	-	81	-	-	-	1,785
01: 6AM (6am-7am)	-	38	2	1	37	-	1	-	5	-	-	-	84
02: 7AM (7am-8am)	-	23	2	5	86	-	9	-	1	-	-	-	126
03: 8AM (8am-9am)	-	41	1	11	72	-	2	-	3	-	-	-	130
04: 9AM (9am-10am)	-	29	2	2	27	-	2	-	3	-	-	-	65
05: 10AM (10am-11am)	-	24	2	2	24	-	2	-	3	-	-	-	57
06: 2PM (2pm-3pm)	-	50	3	6	51	-	2	-	5	-	-	-	117
07: 3PM (3pm-4pm)	-	73	3	5	67	-	3	-	11	-	-	-	162
08: 4PM (4pm-5pm)	-	81	5	3	55	-	3	-	4	-	-	-	151
09: 5PM (5pm-6pm)	-	105	4	5	61	-	3	-	5	-	-	-	183
10: 6PM (6pm-7pm)	-	58	3	6	50	-	5	-	4	-	-	-	126

↑ North			Day Type:			Start Time																																										
<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>-</td><td>-</td><td>-</td></tr><tr><td colspan="3"></td></tr></table>			Out	In	Total	-	-	-				1: Weekday (M-Th)			02: 7AM (7am-8am)																																	
Out	In	Total																																														
-	-	-																																														
<table><tr><td>-</td><td>-</td><td>-</td></tr><tr><td>Right</td><td>Thru</td><td>Left</td></tr><tr><td>↖</td><td>↓</td><td>↘</td></tr></table>			-	-	-	Right	Thru	Left	↖	↓	↘				End Time																																	
-	-	-																																														
Right	Thru	Left																																														
↖	↓	↘																																														
						02: 7AM (7am-8am)																																										
<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>95</td><td>25</td><td>120</td></tr></table>	Out	In	Total	95	25	120	<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>-</td><td>23</td><td>2</td></tr></table>	Out	In	Total	-	23	2	<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>98</td><td>5</td><td></td></tr></table>	Out	In	Total	98	5		<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>24</td><td>91</td><td>115</td></tr></table>	Out	In	Total	24	91	115	<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>98</td><td>5</td><td></td></tr></table>	Out	In	Total	98	5		<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>24</td><td>91</td><td>115</td></tr></table>	Out	In	Total	24	91	115	<table><tr><td>Out</td><td>In</td><td>Total</td></tr><tr><td>98</td><td>5</td><td></td></tr></table>	Out	In	Total	98	5	
Out	In	Total																																														
95	25	120																																														
Out	In	Total																																														
-	23	2																																														
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Out	In	Total																																														
24	91	115																																														
Out	In	Total																																														
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24	91	115																																														
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<table><tr><td>Left</td><td>Thru</td><td>Right</td></tr><tr><td>9</td><td>-</td><td>1</td></tr></table>			Left	Thru	Right	9	-	1																																								
Left	Thru	Right																																														
9	-	1																																														
<table><tr><td colspan="3">Lakeshore Drive (West)</td></tr><tr><td>7</td><td>10</td><td>17</td></tr><tr><td>Out</td><td>In</td><td>Total</td></tr></table>			Lakeshore Drive (West)			7	10	17	Out	In	Total																																					
Lakeshore Drive (West)																																																
7	10	17																																														
Out	In	Total																																														

Attachment C: Synchro Capacity Analysis

DRAFT




HCM 6th TWSC
ALT 1: Existing/ETC (2021) AM Peak Hour

1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	14	10	15	63	30	1
Future Vol, veh/h	14	10	15	63	30	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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	15	11	16	68	33	1

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	26
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1588	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1588	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	870	-	-	1588	-
HCM Lane V/C Ratio	0.039	-	-	0.01	-
HCM Control Delay (s)	9.3	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
ALT 1: Existing/ETC (2021) AM Peak Hour

2: Lakeshore Dr (W) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 1

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	23	2	5	88	9	1
Future Vol, veh/h	23	2	5	88	9	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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	25	2	5	96	10	1

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	27	0	132	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	106	-
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	-	-	1587	-	862	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	918	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1587	-	859	1050
Mov Cap-2 Maneuver	-	-	-	-	859	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	915	-

Approach EB WB NB

HCM Control Delay, s	0	0.4	9.2
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	875	-	-	1587	-
HCM Lane V/C Ratio	0.012	-	-	0.003	-
HCM Control Delay (s)	9.2	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
ALT 2: Clockwise ETC (2021) AM Peak Hour

1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 1.2

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	31	12	20	58	0	0
Future Vol, veh/h	31	12	20	58	0	0
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	34	13	22	63	0	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	47	0	148	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	107	-
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	-	-	1560	-	844	1030
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1560	-	831	1030
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	903	-

Approach EB WB NB

HCM Control Delay, s	0	1.9	0
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	-	-	-	1560	-
HCM Lane V/C Ratio	-	-	-	0.014	-
HCM Control Delay (s)	0	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-




HCM 6th TWSC
ALT 2: Clockwise ETC (2021) AM Peak Hour

2: Lakeshore Dr (W) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	25	0	0	58	39	18
Future Vol, veh/h	25	0	0	58	39	18
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	27	0	0	63	42	20

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

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1587	-
HCM Lane V/C Ratio	0.065	-	-	-	-
HCM Control Delay (s)	9.1	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th TWSC
ALT 3: Counterclockwise ETC (2021) AM Peak Hour

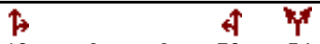
1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 3.5

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations 
Traffic Vol, veh/h 13 0 0 78 54 2
Future Vol, veh/h 13 0 0 78 54 2
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 92 92 92 92 92 92
Heavy Vehicles, % 5 2 2 5 2 2
Mvmt Flow 14 0 0 85 59 2

Major/Minor Major1 Major2 Minor1

Conflicting Flow All 0 0 14 0 99 14
Stage 1 - - - - 14 -
Stage 2 - - - - 85 -
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 - - 1604 - 900 1066
Stage 1 - - - - 1009 -
Stage 2 - - - - 938 -
Platoon blocked, % - - - - - -
Mov Cap-1 Maneuver - - 1604 - 900 1066
Mov Cap-2 Maneuver - - - - 900 -
Stage 1 - - - - 1009 -
Stage 2 - - - - 938 -

Approach EB WB NB

HCM Control Delay, s 0 0 9.3
HCM LOS A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h) 905 - - 1604 -
HCM Lane V/C Ratio 0.067 - - - -
HCM Control Delay (s) 9.3 - - 0 -
HCM Lane LOS A - - A -
HCM 95th %tile Q(veh) 0.2 - - 0 -

HCM 6th TWSC
ALT 3: Counterclockwise ETC (2021) AM Peak Hour

2: Lakeshore Dr (W) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 0.9

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	13	12	20	112	0	0
Future Vol, veh/h	13	12	20	112	0	0
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	14	13	22	122	0	0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	27	0	187	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	166	-
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	-	-	1587	-	802	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1587	-	790	1056
Mov Cap-2 Maneuver	-	-	-	-	790	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	850	-

Approach EB WB NB

HCM Control Delay, s	0	1.1	0
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	-	-	-	1587	-
HCM Lane V/C Ratio	-	-	-	0.014	-
HCM Control Delay (s)	0	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th TWSC
Alt 1: Existing/ETC (2021) PM Peak Hour




1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 0.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	99	12	1	62	9	1
Future Vol, veh/h	99	12	1	62	9	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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	108	13	1	67	10	1

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	121	0	184	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	69	-
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	-	-	1467	-	805	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	954	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1467	-	804	937
Mov Cap-2 Maneuver	-	-	-	-	804	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	953	-

Approach EB WB NB

HCM Control Delay, s	0	0.1	9.5
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	816	-	-	1467	-
HCM Lane V/C Ratio	0.013	-	-	0.001	-
HCM Control Delay (s)	9.5	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection

Int Delay, s/veh 0.6

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Traffic Vol, veh/h	106	4	5	66	3	5
Future Vol, veh/h	106	4	5	66	3	5
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	115	4	5	72	3	5

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	119	0	199	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	82	-
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	-	-	1469	-	790	935
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1469	-	787	935
Mov Cap-2 Maneuver	-	-	-	-	787	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	937	-

Approach EB WB NB

HCM Control Delay, s	0	0.5	9.2
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	873	-	-	1469	-
HCM Lane V/C Ratio	0.01	-	-	0.004	-
HCM Control Delay (s)	9.2	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
Alt 2: Clockwise ETC (2021) PM Peak Hour

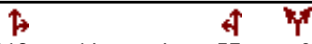
1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 0.2

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations 
Traffic Vol, veh/h 119 16 6 57 0 0
Future Vol, veh/h 119 16 6 57 0 0
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 92 92 92 92 92 92
Heavy Vehicles, % 5 2 2 5 2 2
Mvmt Flow 129 17 7 62 0 0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All 0 0 146 0 214 138
Stage 1 - - - - 138 -
Stage 2 - - - - 76 -
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 - - 1436 - 774 910
Stage 1 - - - - 889 -
Stage 2 - - - - 947 -
Platoon blocked, % - - - - - -
Mov Cap-1 Maneuver - - 1436 - 770 910
Mov Cap-2 Maneuver - - - - 770 -
Stage 1 - - - - 889 -
Stage 2 - - - - 942 -

Approach EB WB NB

HCM Control Delay, s 0 0.7 0
HCM LOS A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h) - - - 1436 -
HCM Lane V/C Ratio - - - 0.005 -
HCM Control Delay (s) 0 - - 7.5 0
HCM Lane LOS A - - A A
HCM 95th %tile Q(veh) - - - 0 -




HCM 6th TWSC
Alt 2: Clockwise ETC (2021) PM Peak Hour

2: Lakeshore Dr (W) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	0	0	57	12	25
Future Vol, veh/h	110	0	0	57	12	25
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	120	0	0	62	13	27

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	120
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1468	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1468	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	887	-	-	1468	-
HCM Lane V/C Ratio	0.045	-	-	-	-
HCM Control Delay (s)	9.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
Alt 3: Counterclockwise ETC (2021) PM Peak Hour




1: Lakeshore Dr (E) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 1.3

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations						
Traffic Vol, veh/h	94	0	0	63	19	6
Future Vol, veh/h	94	0	0	63	19	6
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	92	92	92	92	92	92
Heavy Vehicles, %	5	2	2	5	2	2
Mvmt Flow	102	0	0	68	21	7

Major/Minor Major1 Major2 Minor1

Conflicting Flow All	0	0	102	0	170	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	68	-
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	-	-	1490	-	820	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1490	-	820	953
Mov Cap-2 Maneuver	-	-	-	-	820	-
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	955	-

Approach EB WB NB

HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h)	848	-	-	1490	-
HCM Lane V/C Ratio	0.032	-	-	-	-
HCM Control Delay (s)	9.4	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC
Alt 3: Counterclockwise ETC (2021) PM Peak Hour

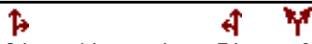
2: Lakeshore Dr (W) & Hampton Ave

04/05/2021

Intersection

Int Delay, s/veh 0.2

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations 
Traffic Vol, veh/h 94 16 6 76 0 0
Future Vol, veh/h 94 16 6 76 0 0
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 92 92 92 92 92 92
Heavy Vehicles, % 5 2 2 5 2 2
Mvmt Flow 102 17 7 83 0 0

Major/Minor Major1 Major2 Minor1

Conflicting Flow All 0 0 119 0 208 111
Stage 1 - - - - 111 -
Stage 2 - - - - 97 -
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 - - 1469 - 780 942
Stage 1 - - - - 914 -
Stage 2 - - - - 927 -
Platoon blocked, % - - - - - -
Mov Cap-1 Maneuver - - 1469 - 776 942
Mov Cap-2 Maneuver - - - - 776 -
Stage 1 - - - - 914 -
Stage 2 - - - - 922 -

Approach EB WB NB

HCM Control Delay, s 0 0.5 0
HCM LOS A

Minor Lane/Major Mvmt NBLn1 EBT EBR WBL WBT

Capacity (veh/h) - - - 1469 -
HCM Lane V/C Ratio - - - 0.004 -
HCM Control Delay (s) 0 - - 7.5 0
HCM Lane LOS A - - A A
HCM 95th %tile Q(veh) - - - 0 -

Attachment D: Accident Data

DRAFT

ACCIDENT RATE CALCULATIONS

Project Name: Lakeshore Circulation Study
Date: 4/23/2021

Main Corridor Street: Lakeshore Drive Classification: Local Road Location Type: Urban

Total Link Rate

(All midblock & intersection accidents)

Project Corridor

Accidents

4

x

Per Million Entering Vehicles

1,000,000

x

4000000

=

335070

=

11.938

ACC/MVM

1.000

x

306

x

3

x

365

=

335070

=

11.938

ACC/MVM

Length (miles)

Vehicles/Day

of Years

Days/Year

Statewide Rate

DRAFT

Accident Location Information System(ALIS)

Date:
3/25/2021
12:58:03 PM

Accident Verbal Description

18044_VDR

Date in this report covers the period - 1/1/2018-12/31/2020

Complete Accident data from NYSDMV is only available thru 1/1/2021 12:00:00 AM

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: LAKESHORE DR

AT INTERSECTION WITH Washington Ave W

4/14/2018 Sat 13:14 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2018-37237974
Accident Class: INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
Type Of Accident: COLLISION WITH PEDESTRIAN Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: PED/BICYCLIST NOT AT INTERSECTION Action of Ped/Bicycle: PLAYING IN ROADWAY

Veh :1 CAR/VAN/PICKUP Registered Weight: 3327 State of Registration: NY
Num of Occupants: 1 Driver's Age: 26 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: BACKING
Apparent Factors: BACKING UNSAFELY, NOT APPLICABLE

Veh :2 PEDESTRIAN Registered Weight: State of Registration:
Num of Occupants: 1 Driver's Age: 23 Sex: F Citation Issued: N
Direction of Travel: NOT APPLICABLE Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: NOT APPLICABLE
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: HAMPTON AVE

64 Meters East of Park Ave

4/28/2018 Sat 10:19 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: C Case: 2018-37280412
Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 1
Type Of Accident: COLLISION WITH LIGHT RAIL Vehicle Traffic Control: NO PASSING ZONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4339 State of Registration: NY
Num of Occupants: 1 Driver's Age: 73 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: ILLNESS, PASSING OR LANE USAGE IMPROPERLY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: HAMPTON AVE

AT INTERSECTION WITH Lakeshore Dr

2/8/2019 Fri 11:20 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: C Case: 2019-37738537
Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: OTHER Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2741 State of Registration: NY
Num of Occupants: 1 Driver's Age: 67 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: MAKING RIGHT TURN
Apparent Factors: NOT APPLICABLE, FAILURE TO YIELD RIGHT OF WAY

Veh :2 CAR/VAN/PICKUP Registered Weight: 4396 State of Registration: NY
Num of Occupants: 1 Driver's Age: 42 Sex: F Citation Issued: N
Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER

Pre-Accd Action: GOING STRAIGHT AHEAD

Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: LAKESHORE DR
14 Meters North of Hudson Ave

3/20/2019 Wed 17:02 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2019-37805175
 Accident Class: INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLLISION WITH PEDESTRIAN Traffic Control: NO PASSING ZONE
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: PED/BICYCLIST NOT AT Action of Ped/Bicycle: ALONG HIGHWAY AGAINST
 INTERSECTION TRAFFIC

Veh :2 PEDESTRIAN Registered Weight: State of Registration:
 Num of Occupants: 1 Driver's Age: 32 Sex: M Citation Issued: N
 Direction of Travel: NOT APPLICABLE Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: NOT APPLICABLE
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3499 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 85 Sex: F Citation Issued: Y
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: FAILURE TO KEEP RIGHT, DRIVER INATTENTION

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: LAKE SHORE DR
AT INTERSECTION WITH Washington Ave E

7/23/2019 Tue 17:16 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: C Case: 2019-37993085
 Accident Class: INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLLISION WITH BICYCLIST Traffic Control: STOP SIGN
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: PED/BICYCLIST NOT AT INTERSECTION Action of Ped/Bicycle: OTHER ACTIONS IN ROADWAY

Veh :2 BICYCLE Registered Weight: State of Registration: -3
 Num of Occupants: 1 Driver's Age: 14 Sex: F Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: DRIVER INATTENTION, FAILURE TO YIELD RIGHT OF WAY

Veh :1 CAR/VAN/PICKUP Registered Weight: 3516 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 18 Sex: M Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: WESTERN AVE
15 Meters North of HAMPTON AVE

9/7/2020 Mon 12:52 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2020-38548274
 Accident Class: NON-REPORTABLE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH M **Outside of Study Area** Traffic Control: NONE
 Manner of Collision: RIGHT ANGLE Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
 Num of Occupants: 1 Driver's Age: 64 Sex: M Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
 Num of Occupants: 2 Driver's Age: Sex: Citation Issued:

Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: PARKED
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street:
10/15/2020 Time: 20:30 PM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2020-38602009**
 Accident Class: INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLLISION WITH BICYCLIST Traffic Control: STOP SIGN
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road: **Outside of Study Area** Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: PED/BICYCLIST NOT ON CROSSWALK Bicycle: CROSSING/ NO SIGNAL OR

Veh :2 BICYCLE Registered Weight: State of Registration:
 Num of Occupants: 1 Driver's Age: 52 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: ALCOHOL INVOLVEMENT, FAILURE TO YIELD RIGHT OF WAY

Veh :1 CAR/VAN/PICKUP Registered Weight: 3148 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 43 Sex: M Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: SLOWED OR STOPPING
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: WESTERN AVE
 AT INTERSECTION WITH HAMPTON AVE
12/9/2020 Wed 12:00 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38739604**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
 Manner of Collision: OTHER Weather: SNOW
 Road Surface Condition: SNOW/ICE **Outside of Study Area** Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Bicycle: NOT APPLICABLE

Veh :1 TRUCK Registered Weight: 64000 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 27 Sex: M Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: BACKING
 Apparent Factors: VIEW OBSTRUCTED/LIMITED, BACKING UNSAFELY

Veh :2 CAR/VAN/PICKUP Registered Weight: 3058 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 58 Sex: M Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: STOPPED IN TRAFFIC
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

ACCIDENT RATE CALCULATIONS

Project Name: Lakeshore Circulation Study
Date: 4/23/2021

Main Corridor Street: Columbia Tpke Classification: Principal Arterial - Other Location Type: Urban

Intersection Rate
(excludes midblock accidents)

Columbia Tpke/
Hampton Ave

Accidents

4

x

Per Million Entering Vehicles

1,000,000

13,351

Vehicles/Day

x

3

of Years

x

365

Days/Year

=

4000000

14619345

=

0.274

0.07

ACC/MEV

Statewide Rate

DRAFT

Accident Location Information System(ALIS)

Date:
5/4/2021
11:42:25 AM

Accident Verbal Description

18323_VDR

Date in this report covers the period - 2/1/2018-1/31/2021

Complete Accident data from NYSDMV is only available thru 1/31/2021 12:00:00 AM

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE

AT INTERSECTION WITH Ridge Rd

2/16/2018 Fri 12:24 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2018-37148392
Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3408 State of Registration: NY
Num of Occupants: 1 Driver's Age: 41 Sex: F Citation Issued: N
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: FAILURE TO YIELD RIGHT OF WAY, DRIVER INATTENTION

Veh :2 CAR/VAN/PICKUP Registered Weight: 3404 State of Registration: NY
Num of Occupants: 1 Driver's Age: 26 Sex: M Citation Issued: N
Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE

33 Meters North of Ridge Rd

3/21/2018 Wed 21:49 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2018-37200272
Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2870 State of Registration: NY
Num of Occupants: 1 Driver's Age: 61 Sex: M Citation Issued: N
Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: GOING STRAIGHT AHEAD
Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3440 State of Registration: NY
Num of Occupants: 1 Driver's Age: 85 Sex: M Citation Issued: N
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
Pre-Accd Action: MAKING LEFT TURN
Apparent Factors: NOT APPLICABLE, FAILURE TO YIELD RIGHT OF WAY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071112 Street: COLUMBIA TPKE

AT INTERSECTION WITH Madison Ave

3/18/2018 Sun 20:22 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: Case: 2018-37229228
Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
Manner of Collision: RIGHT ANGLE Weather: CLEAR
Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3336 State of Registration: NY
Num of Occupants: 2 Driver's Age: 21 Sex: M Citation Issued: Y
Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER

Pre-Accd Action: BACKING

Apparent Factors: NOT APPLICABLE, BACKING UNSAFELY

Veh :2 CAR/VAN/PICKUP Registered Weight: State of Registration: NJ
 Num of Occupants: 1 Driver's Age: 22 Sex: M Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 AT INTERSECTION WITH RIDGE RD

6/28/2018 Thu 13:06 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2018-37354773**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
 Manner of Collision: LEFT TURN (AGAINST OTHER CAR) Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 4469 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 21 Sex: M Citation Issued: N
 Direction of Travel: NORTH-WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 2867 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 88 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 AT INTERSECTION WITH Ridge Rd

8/18/2018 Sat 13:50 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2018-37444035**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
 Manner of Collision: RIGHT ANGLE Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 7000 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 71 Sex: M Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 4580 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 50 Sex: F Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 32 Meters North of Ridge Rd

9/20/2018 Thu 18:15 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2018-37497666**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
 Manner of Collision: SIDESWIPE Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3268 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 69 Sex: M Citation Issued: N
 Direction of Travel: NORTH-WEST Public Property Damage: OTHER School Bus Involved: OTHER

Pre-Accd Action: BACKING

Apparent Factors: BACKING UNSAFELY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3322 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 60 Sex: M Citation Issued: N
 Direction of Travel: NORTH-EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: BACKING
 Apparent Factors: NOT APPLICABLE, BACKING UNSAFELY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: COLUMBIA TPKE
 AT INTERSECTION WITH Hampton Ave
3/21/2019 Thu 08:08 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-37802169**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
 Manner of Collision: RIGHT ANGLE Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3290 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 31 Sex: F Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3997 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 40 Sex: M Citation Issued: N
 Direction of Travel: SOUTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: DRIVER INATTENTION, FAILURE TO YIELD RIGHT OF WAY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 AT INTERSECTION WITH Hampton Ave
5/16/2019 Thu 18:59 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-37888885**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
 Manner of Collision: RIGHT ANGLE Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3591 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 47 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3851 State of Registration: NY
 Num of Occupants: 3 Driver's Age: 84 Sex: F Citation Issued: N
 Direction of Travel: NORTH-EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING LEFT TURN
 Apparent Factors: DRIVER INATTENTION, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: Street: RIDGE RD
 AT INTERSECTION WITH Columbia Tpke
11/20/2019 Wed 22:10 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-38212875**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NONE
 Manner of Collision: SIDESWIPE Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 OTHER Registered Weight: State of Registration: -3
 Num of Occupants: 0 Driver's Age: Sex: Citation Issued:

Direction of Travel: UNKNOWN Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: UNKNOWN
 Apparent Factors: DRIVER INATTENTION, UNKNOWN

Veh :1 CAR/VAN/PICKUP Registered Weight: 4720 State of Registration: NY
 Num of Occupants: 1 Driver's Age: Sex: Citation Issued:
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: PARKED
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071113 Street: COLUMBIA TPKE
 31 Meters South of Maple St

12/4/2019 Wed 19:37 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-38218139**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: REAR END Weather: CLEAR
 Road Surface Condition: WET Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 5500 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 60 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: SLOWED OR STOPPING
 Apparent Factors: FOLLOWING TOO CLOSELY, NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3093 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 33 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071113 Street: ORCHARD ST
 AT INTERSECTION WITH COLUMBIA TPKE

12/19/2019 Thu 07:53 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2019-38244123**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: STOP SIGN
 Manner of Collision: REAR END Weather: CLEAR
 Road Surface Condition: SNOW/ICE Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :2 CAR/VAN/PICKUP Registered Weight: 3739 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 55 Sex: F Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: STOPPED IN TRAFFIC
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 2822 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 33 Sex: M Citation Issued: N
 Direction of Travel: NORTH Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: SLOWED OR STOPPING
 Apparent Factors: NOT APPLICABLE, PAVEMENT SLIPPERY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 AT INTERSECTION WITH Ridge Rd

1/2/2020 Thu 11:51 AM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2020-38260490**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 2
 Type Of Accident: COLLISION WITH MOTOR VEHICLE Traffic Control: NO PASSING ZONE
 Manner of Collision: OVERTAKING Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3660 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 80 Sex: F Citation Issued: N

Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: CHANGING LANES
 Apparent Factors: UNSAFE LANE CHANGE, DRIVER INATTENTION

Veh :2 CAR/VAN/PICKUP Registered Weight: 2560 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 56 Sex: M Citation Issued: N
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: US HWY 20
 31 Meters South of Hampton Ave
1/26/2020 Sun 03:52 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: A **Case: 2020-38302383**
 Accident Class: PROPERTY DAMAGE AND INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLL. W/LIGHT SUPPORT/UTILITY POLE Traffic Control: NONE
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: WET Road Char.: STRAIGHT/ GRADE Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: State of Registration: NY
 Num of Occupants: 1 Driver's Age: 21 Sex: M Citation Issued: Y
 Direction of Travel: EAST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: UNSAFE SPEED, LOST CONSCIOUSNESS

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071114 Street: COLUMBIA TPKE
 AT INTERSECTION WITH Hampton Ave
3/31/2020 Tue 11:21 AM Persons Killed: 0 Persons Injured: 1 Extent of Injuries: B **Case: 2020-38408994**
 Accident Class: INJURY Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLLISION WITH BICYCLIST Traffic Control: OTHER
 Manner of Collision: OTHER Weather: CLOUDY
 Road Surface Condition: DRY Road Char.: STRAIGHT/ GRADE Light Condition: DAYLIGHT
 Loc. of Ped/Bicycle: PED/BICYCLIST NOT AT INTERSECTION Action of Ped/Bicycle: ALONG HIGHWAY WITH TRAFFIC

Veh :2 BICYCLE Registered Weight: State of Registration: -3
 Num of Occupants: 1 Driver's Age: 22 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, NOT APPLICABLE

Veh :1 OTHER Registered Weight: State of Registration: -3
 Num of Occupants: 0 Driver's Age: Sex: Citation Issued:
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: MAKING RIGHT TURN
 Apparent Factors: DRIVER INATTENTION, FAILURE TO YIELD RIGHT OF WAY

County: Rensselaer Muni: East Greenbush(T) Ref. Marker: 9 14071113 Street: COLUMBIA TPKE
 39 Meters North of Orchard St
1/24/2021 Sun 22:43 PM Persons Killed: 0 Persons Injured: 0 Extent of Injuries: **Case: 2021-38730355**
 Accident Class: PROPERTY DAMAGE Police Agency: EAST GREENBUSH PD Num of Veh: 1
 Type Of Accident: COLLISION WITH DEER Traffic Control: NONE
 Manner of Collision: OTHER Weather: CLEAR
 Road Surface Condition: DRY Road Char.: STRAIGHT AND LEVEL Light Condition: DARK-ROAD LIGHTED
 Loc. of Ped/Bicycle: NOT APPLICABLE Action of Ped/Bicycle: NOT APPLICABLE

Veh :1 CAR/VAN/PICKUP Registered Weight: 3056 State of Registration: NY
 Num of Occupants: 1 Driver's Age: 38 Sex: M Citation Issued: N
 Direction of Travel: WEST Public Property Damage: OTHER School Bus Involved: OTHER
 Pre-Accd Action: GOING STRAIGHT AHEAD
 Apparent Factors: NOT APPLICABLE, ANIMAL'S ACTION

Attachment E: Stakeholder PowerPoint and Meeting Minutes

DRAFT



Town of East Greenbush
Lakeshore Drive Complete
Streets

Stakeholder
Meeting #1



Agenda

1. Scope/Schedule
2. Existing Conditions
3. Project Objectives
4. Alternatives
5. Stakeholder Input



Scope/Schedule

- Where are we now?
 - ✓ Existing conditions
 - ✓ Alternatives Analysis (NB, CW, CCW traffic flow)
 - ✓ Draft Technical Memorandum
- Public Meeting
- Final Report
 - Recommendations included

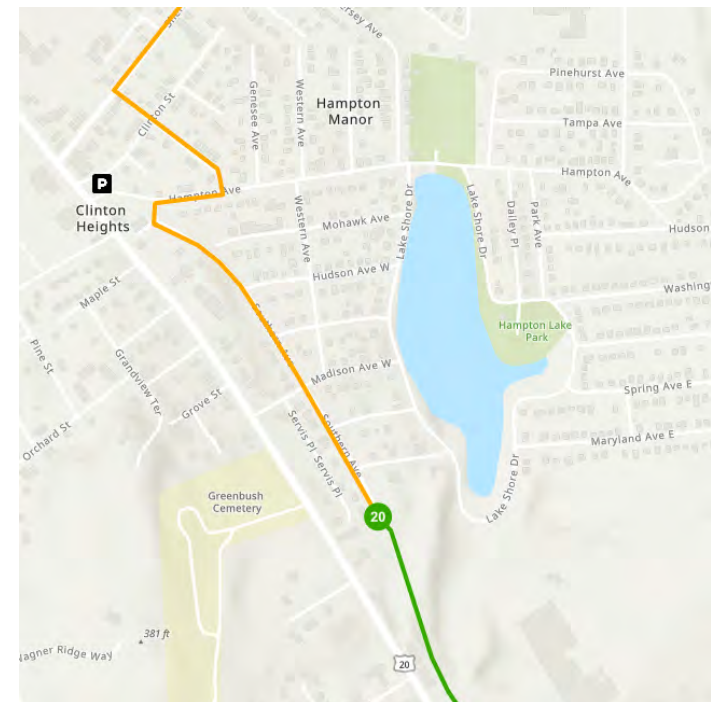
Purpose

Existing Plans



Hampton Lake Park Concept: Recommended improvements include bringing the proposed multi-use loop path through and around the park, providing a new fence, shade trees, landscaping, benches and welcome signs. The existing parking lot asphalt area could potentially be reduced in size and re-stripped while still providing the same number of parking spaces, allowing for more lawn area along the waterfront.

- 2017 Amenities Plan
 - Park Upgrades
 - Lake aeration system
 - Multi-use path around Lakeshore with one-way traffic
- Hudson Electric Trail



Existing
Conditions

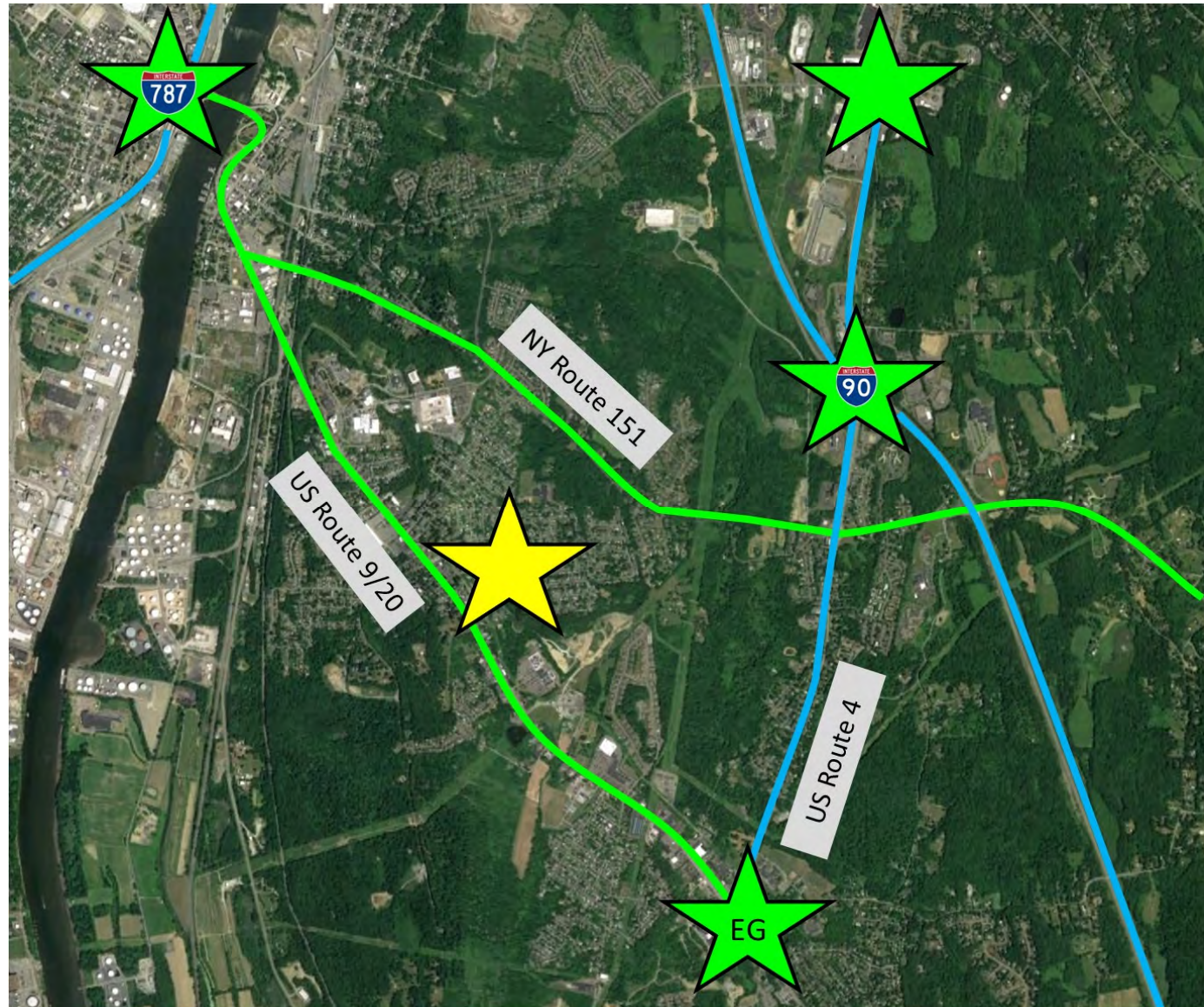
Traffic Volumes



- Average Annual Daily Traffic (AADT) expressed in vehicles per day (vpd)
- Historical Growth
 - 2011, 2017, 2020
 - -0.75% per year
- COVID-19 Impacts
- Streetlight Data
- Circulation Summary

Existing
Conditions

Regional Traffic Considerations



Existing
Conditions

Study Area Traffic Considerations



Existing
Conditions

Local Travel – Alternative 2 (CW)



Existing
Conditions

Local Travel – Alternative 3 (CCW)



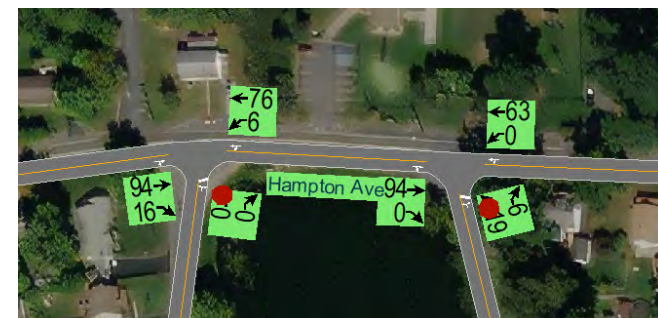
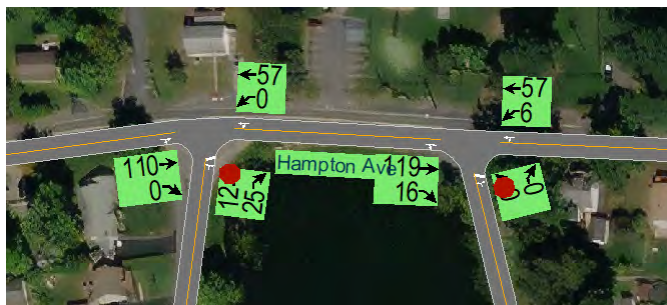
Capacity Analysis

LOS Calculations		Existing / ETC (2021)					
		AM Peak Hour			PM Peak Hour		
		Alt 1 ^A	Alt 2 ^B	Alt 3 ^C	Alt 1 ^A	Alt 2 ^B	Alt 3 ^C
Hampton Ave/Lakeshore Drive (East)							
Hampton Ave WB	L	A (7.3)	A (7.3)	--	A (7.5)	A (7.5)	--
Lakeshore Dr NB	LR	A (9.3)	--	A (9.3)	A (9.5)	--	A (9.4)
Hampton Ave/Lakeshore Drive (West)							
Hampton Ave WB	L	A (7.3)	--	A (7.3)	A (7.5)	--	A (7.5)
Lakeshore Dr NB	LR	A (9.2)	A (9.1)	--	A (9.2)	A (9.3)	--

^A Alternative 1: Existing traffic conditions, also known as the No-Build alternative

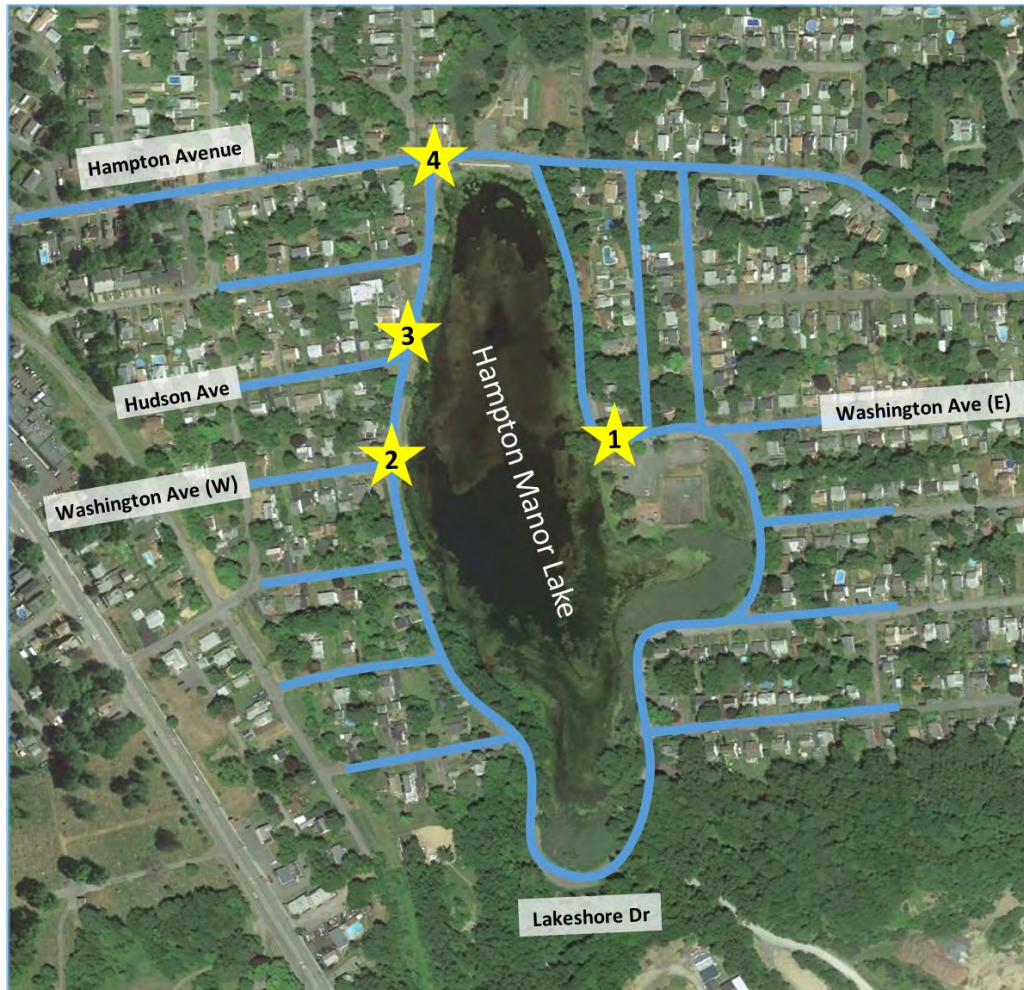
^B Alternative 2: One-way clockwise traffic flow

^C Alternative 3: One-way counterclockwise traffic flow

























Existing
Conditions

Accident Analysis



- 3-year analysis period
(Jan-17 through Dec-20)
- 4 Crashes
 1. Bicyclist struck due to driver inattention (INJ)
 2. Pedestrian struck due to driver backing unsafely (INJ)
 3. Pedestrian struck due to driver inattention (INJ)
 4. Motorist struck while making a right-turn due to driver inattention (PDO)
- Crash Rate = 11.938 ACC/MVM
- Statewide Rate = 3.5 ACC/MVM

Project Objectives / Alternatives Evaluation

			
<div>Alternative</div> <div>Measure</div>	Alternative 1 (No Build)	Alternative 2: One-way (Clockwise)	Alternative 3: One-way (Counterclockwise)
Traffic Analysis			
Circulation/Accessibility			
Capacity Analysis			
Safety			
Crashes			
Traffic Calming			
Place			
Pedestrian Friendliness			
Streetscape Features			
Score	18/30	27/30	26/30
Stakeholder Engagement	TBD	TBD	TBD

Recommendations



- Alternative 2 and 3 are both feasible alternatives
- Alternative 2 is slightly preferred over Alternative 3 based on the circulation study
- Potential Treatments
 - Signing and striping
 - Grass median
 - Vertical barrier (Delineation markers, gate)



Stakeholder Engagement



We want to hear from all the stakeholders



What do you like?



What do you dislike, do you have any concerns?

Lakeshore Drive Traffic Circulation Study – Stakeholder Meeting #1

Project Name / 192810395 Lakeshore Drive Complete Streets Traffic Study (TOEG)

Date/Time: April 27, 2021 / 12:00 PM
Place: Zoom Call
Next Meeting: TBD
Attendees: Jack Conway (JC), Supervisor
Hollie Kennedy (HK), Town Board Member
Adam Yagelski (AY), Director of Planning and Zoning
Dan Fiacco (DF), Commissioner of Public Works
Mark Noeth (MN), CSD Transportation Dept Supervisor
Elaine Rudzinski (ER), Chief of Police
Jon Reickert (JR), Assistant Police Chief
Stephen Bestler (SB), Fire Chief
Lisa Westrick (LW), Stantec
Garrett Frueh (GF), Stantec
Dan Quiri (DQ), Stantec
Absentees: Rensselaer County and Bruen Rescue Squad representatives
Distribution: Attendees and Absentees

Minutes / Stakeholder Comment Summary:

1. DQ presenting findings of study including existing conditions, project objectives, and alternatives evaluated.
2. JR expressed concern to adding traffic on Hampton Ave. (that typically use Madison Ave as a cut through) that will be routed through intersection at Columbia Turnpike. There is history of accidents at this intersection and need to confirm this project will not make this existing condition worse.
 - a. Stantec will request additional traffic data for this intersection and evaluate increase in vehicles due to potential traffic pattern changes on Lakeshore Drive.
3. MN stated that buses do not generally circulate along Lakeshore Drive the full length. Circulation is made separately through streets on east versus west side of the lake; therefore, changes in traffic pattern should have little effect on bus routing.
4. MN stated that buses have difficulty making turns onto Lakeshore Drive from Hampton Ave. (EB) on the west side of the lake.
5. SB prefers clockwise traffic pattern and seconded concern about accidents at Columbia Turnpike / Hampton Ave. intersection.
6. DF prefers clockwise traffic pattern for snow clearing.
7. AY surprised by high accident rate as this was not initially considered a safety project.
8. AY asked about levels of proposed improvements and if signing alone would be acceptable, or if striping is necessary along with signs. DQ responded that improvements can be made in varying levels and that

April 27, 2021

Lakeshore Drive Traffic Circulation Study – Stakeholder Meeting #1

Page 2 of 2

signing alone would be sufficient as the minimum required level of work required to change the traffic patterns on Lakeshore Dr.

9. JC agrees this project addresses safety needs of the community and indicated that this project always did have an important safety element and agrees with apparent consensus for clockwise traffic pattern.
10. It was agreed that Stakeholder Meeting #2 (Public Meeting) will be held in conjunction with a Town Board meeting in the future. Stantec will make presentation at the meeting with updates to add review of conditions at Columbia Turnpike / Hampton Ave intersection.
11. AY will share information from Stakeholder Meeting #1 with and request feedback from the Bruen Rescue Squad and Rensselaer County.

The meeting adjourned at 1:00 PM

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

Stantec Consulting Services, Inc.



Lisa Westrick, PE
Project Manager

Phone: (518) 452-4358
Fax: (518) 452-9234

Attachment: Stakeholder Meeting #1 PowerPoint

c. Cc List