Garvies Point Mixed-Use Development

18-38 and 40 Garvies Point Road
City of Glen Cove, New York

PREPARED FOR

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40 Garvies Point, LLC

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Introduction

This study summarizes the comprehensive evaluation of the potential traffic impacts associated with the proposed redevelopment of an industrial property to a mixed-use development on Garvies Point Road in the City of Glen Cove, New York. The purpose of this study is to determine if there are any significant traffic impacts due to the proposed project and to evaluate and propose mitigation measures, if required. This report summarizes the data collection process, traffic analysis procedures, and study conclusions and presents the findings of the traffic study.

Based on the results of the study, more completely described herein, it has been concluded that the proposed action will not have a significant impact on the study intersections or roadway network.

Project Description

76 North Realty, LLC and 40 Garvies Point, LLC are proposing to redevelop two existing commercial sites on the north side of Garvies Point Road to a new mixed-use development consisting of residential apartments, retail space, restaurant space, and associated parking. The development is located on Garvies Point Road approximately 1,300 feet west of the intersection formed with Herb Hill Road.

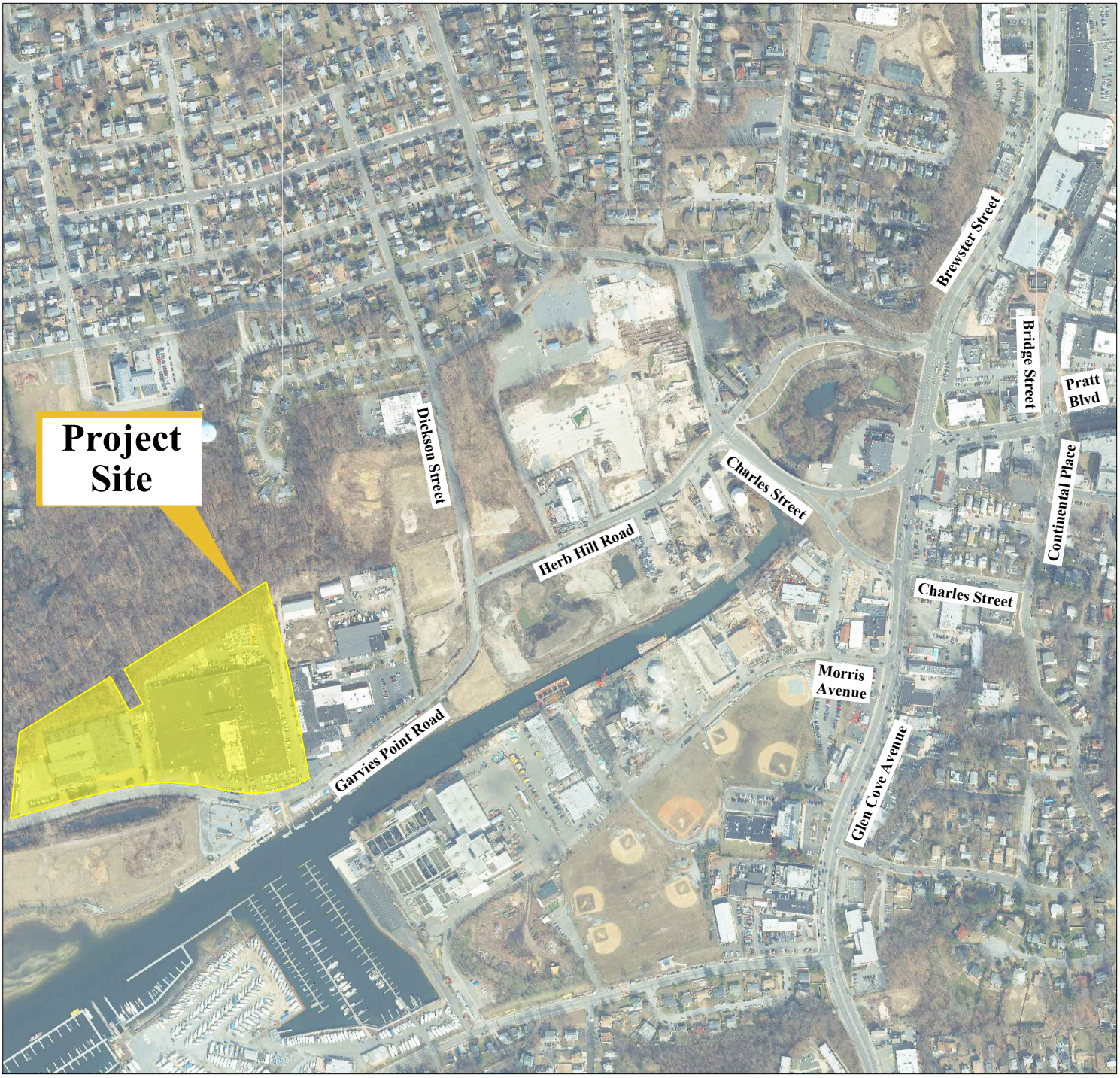
The existing sites aggregate to 13.6± acres in size and is comprised of two tax lots, with each improved with separate buildings, one with a 72,205 SF footprint (utilized as a general light industrial/office building) and one with a 185,944 SF footprint (utilized as a pickle factory). The redevelopment of the site as proposed will include a 120-seat restaurant, approximately 34,200 SF of gross retail space, and 400 rental apartments in two (2) ten-story buildings.

The redevelopment as proposed would include 980 parking spaces and would be serviced by four full-movement site access driveways situated on Garvies Point Road.

The project location is shown in Figure 1.

It is noted that the current circumstances in the area surrounding the site are unique. Ongoing construction on several parcels of land on and near Garvies Point Road due to the development of the RXR Glen Isle Mixed-Use Waterfront Development Project is having a significant impact on traffic conditions and circulation in the Garvies Point Area. With several large buildings under construction and associated roadway and infrastructure improvements underway, there are roadway closures that will be in effect for some time and the presence of construction activity and workers that bring with them construction vehicle activity and parking conditions that are not the norm. These conditions, and the fact that the result of the construction will include changes in the nature of traffic conditions, preclude the performance of a Traffic Impact Study for the redevelopment that is the focus of this study in the traditional manner. Traffic counts performed during this condition will not have relevance to future conditions which would normally be used to gauge any impacts of the proposed mixed-use development. Likewise, historical information related to such things as accident history are not relevant to the future condition due to the changing landscape.

In order to account for these circumstances, and still provide relevant information on the potential impacts of the proposed mixed-use redevelopment, this Traffic Impact Study was prepared using future conditions projected in the environmental studies and findings for the RXR Glen Isle Mixed-Use Waterfront Development Project. These conditions were further adjusted to account for a build year for this project and serve as the "No-Build" conditions to which the potential impacts of this redevelopment are gauged.



Not to Scale

Figure 1

Project Location Map
Mixed-Use Development
Glen Cove, New York

Study Methodology

The following describes the methodology used in this traffic study:

- The project site plan and related documents were reviewed to obtain an understanding of the project scope and layout.
- A review was made of the adjacent roadway system and the key intersections that might be significantly impacted by the proposed project were identified.
- Field inventories were made to observe the number and direction of travel lanes at the key intersections.
- Based on the level of ongoing construction work observed within the study area, it was determined that conducting observations to determine the existing level of traffic would not be relevant to future conditions. To account for this, a detailed review was conducted of the DEIS, FEIS, and Findings statement prepared for the RXR Glen Isle Mixed-Use Waterfront Development Project.
- Counted turning movement data utilized to prepare the traffic analysis contained within the aforementioned EIS for the RXR project was used here to represent the 'existing' condition (2016) on a typical weekday during the a.m., p.m. and Saturday midday peak periods.
- The 'existing' traffic volumes at the key intersections were then expanded to this projects future No-Build year (assumed to be 2022). This No Build condition includes the traffic associated with the full RXR project upon completion and also accounted for the improvements to be constructed associated with the required mitigation for that development.
- The traffic generated by the proposed development was projected based on recognized traffic engineering standards.
- The site-generated volumes were distributed along the adjacent roadway network and were added to the No-Build volumes to produce the proposed Build volumes.
- Capacity analyses were performed for the key intersections for the Existing, No-Build and future Build conditions.
- The results of the analyses for the Existing, No-Build, and Build conditions were compared to assess any significant traffic impacts due to the proposed project.
- The site access points were evaluated.
- The adequacy of the proposed off-street parking was evaluated, and the site layout was reviewed.
- The need for traffic mitigation measures was evaluated.

2

Existing Conditions

Evaluation of the transportation impacts associated with the proposed project requires a thorough understanding of the current transportation system in the project study area. The existing transportation conditions include roadway geometry, traffic control devices, peak hour traffic volumes, roadway operating characteristics, and parking availability. However, due to the ongoing construction associated with the RXR Glen Isle Mixed-Use Waterfront Development Project, it was determined that preparing an inventory of the local roadways and traffic control measures in place via conventional means would not be relevant to the future condition. As a result, based on the data which could be collected, supplemented with the description of the future conditions associated with the RXR development, the following sections present a summary of the existing roadway network studied.

Roadway and Intersection Conditions

The principal roadways and intersections in the project area are described below. The descriptions of the roadways and key intersections include the geometric conditions and traffic control characteristics.

Garvies Point Road

Garvies Point Road is an east-west local roadway under the jurisdiction of the City of Glen Cove. Garvies Point Road is a dead end road that runs slightly south and then west from its intersection with Herb Hill Road and provides direct access to the subject premises. North from its intersection with Herb Hill Road, the designation changes to Dickson Street. The posted speed limit within the study area is 30 mph

and on-street parking is not permitted in the vicinity of the study intersection on Main Street.

Herb Hill Road

Herb Hill Road is a short east-west local roadway that runs east from Garvies Point Road to Brewster Street. It provides one travel lane in each direction and the posted speed limit within the study area is 30 mph. On-street parking is not permitted on the roadway. The New York State Department of Transportations (NYSDOT) Traffic Data Viewer forecast puts the AADT at approximately 1,423 vehicles per day.

Glen Cove Avenue/Brewster Street

Glen Cove Avenue/Brewster Street is a north-south arterial roadway under the jurisdiction of the Nassau County Department of Public Works (NCDPW). This thoroughfare changes its designation from Glen Cove Avenue to Brewster Street north of its intersection with Pratt Boulevard (NYS Route 107). It provides two travel lanes in each direction with turn lanes and center left turn lanes where appropriate. The posted speed limit within the study area is 30 mph and on-street parking is not permitted within the area considered as a part of this analysis. The New York State Department of Transportations (NYSDOT) Traffic Data Viewer forecast puts the AADT at approximately 14,279 vehicles per day.

Pratt Boulevard (NYS Route 107)

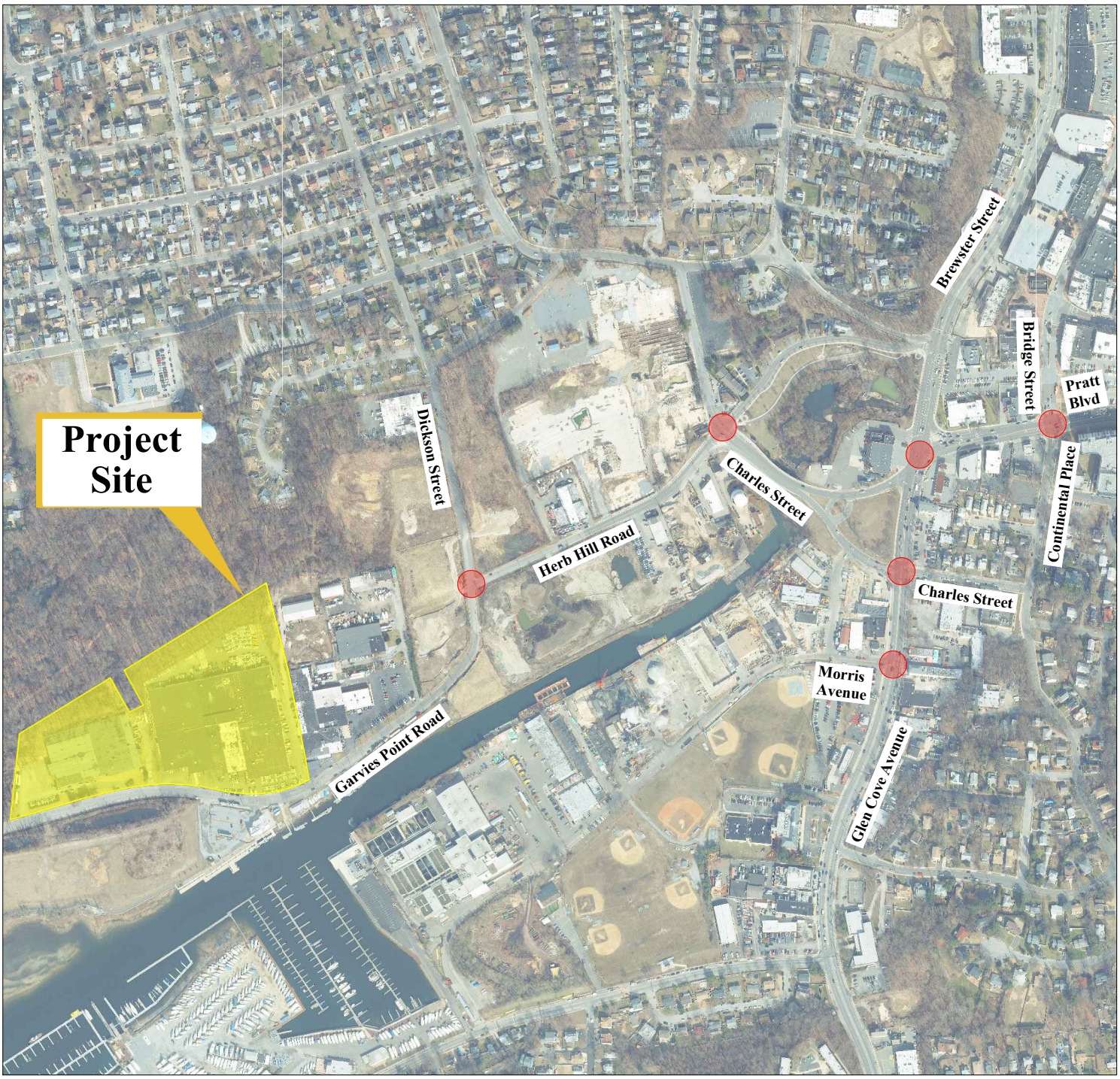
Pratt Boulevard (NYS Route 107) is a north-south arterial roadway under the jurisdiction of the New York State Department of Transportation (NYSDOT). This roadway primarily runs north-south but turns east-west in the area where it intersects with Glen Cove Avenue/Brewster Street. It provides two travel lanes in each direction with turn lanes where appropriate. The posted speed limit within the study area is 40 mph and on-street parking is not permitted on the roadway. The New York State Department of Transportations (NYSDOT) Traffic Data Viewer forecast puts the AADT at approximately 19885 vehicles per day.

Study Intersections

To determine the potential traffic impacts of the proposed project, the following study intersections were identified for analysis under the Existing, No-Build and future Build conditions:

- Glen Cove Avenue/Brewster Street at Pratt Boulevard/Charles Street (Signalized)
- Pratt Boulevard (NYS Route 107) at Bridge Street/Continental Place (Signalized)
- Garvies Point Road/Dickson Street at Herb Hill Road (Unsignalized)
- Herb Hill Road at Charles Street (Signalized)
- Glen Cove Avenue at Charles Street (Signalized)
- Glen Cove Avenue at Morris Avenue (Signalized)

The study intersections are shown on Figure 2. Aerial views of the intersections and descriptions of same are included in the next section of this report.



Not to Scale

Figure 2

Study Intersections Map
Mixed-Use Development
Glen Cove, New York

Glen Cove Avenue/Brewster Street at Pratt Boulevard (NYS Route 107)/Charles Street

Glen Cove Avenue/Brewster Street at Pratt Boulevard (NYS Route 107)/Charles Street is a signalized four-legged intersection with three active approaches. The eastbound approach of Charles Street is a one-way and allows only westbound traffic away from the intersection. The westbound approach of Pratt Boulevard provides an exclusive left-turn lane, a shared left-turn and through lane, a shared through and right-turn lane, and an exclusive right-turn lane. There is a right-turn channel controlled by a signal on this approach. The northbound approach of Glen Cove Avenue provides an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane. The southbound approach of Brewster Street provides two exclusive left-turn lanes, a through lane, and a shared through and right-turn lane. Right-turns on Red are not permitted at this intersection. The intersection is controlled by a semi-actuated multi-phase signal. The phasing is as follows:

- Protected northbound and southbound left-turns with overlapping westbound right-turns
- Northbound and southbound movement with permissive northbound left-turns
- Protected westbound movement with overlapping northbound right-turns

Pratt Boulevard (NYS Route 107) at Continental Place/Bridge Street

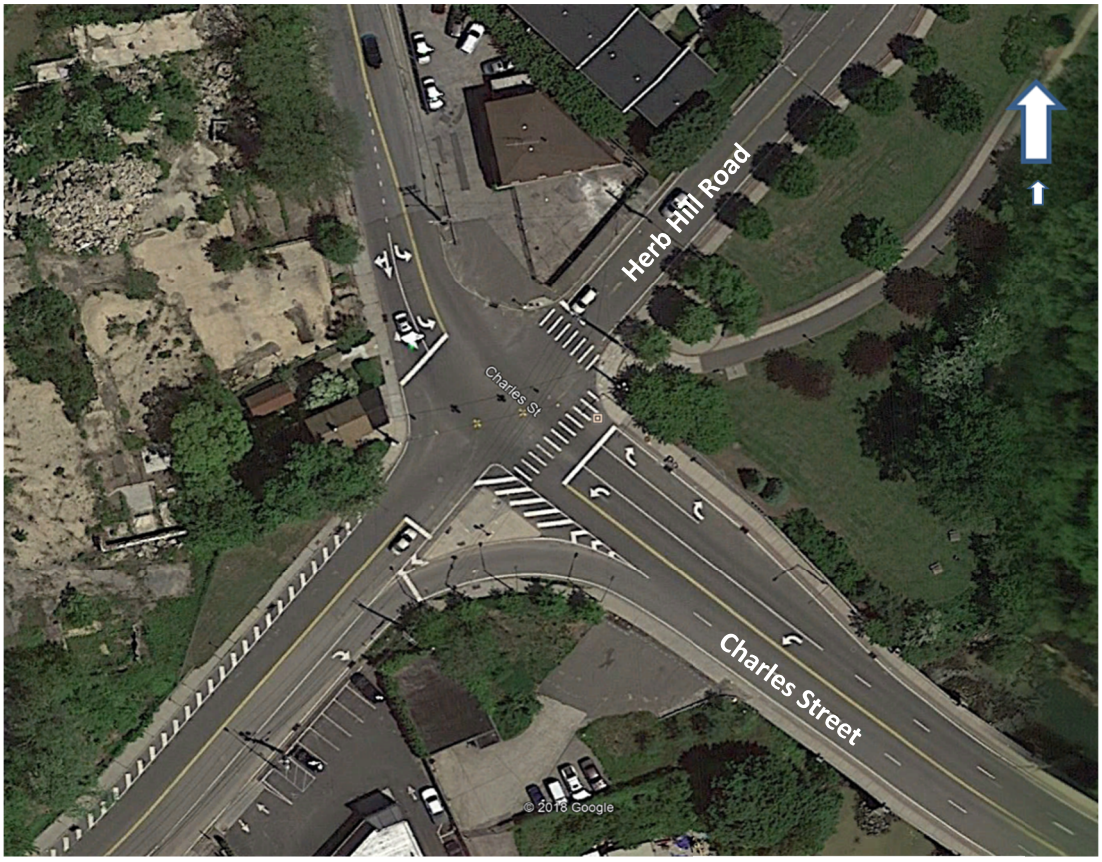
Pratt Boulevard (NYS Route 107) at Continental Place/Bridge Street is a signalized four-legged intersection. The eastbound and westbound approaches of Pratt Boulevard provide an exclusive left turn lane, a through lane, and a shared through and right-turn lane. The northbound approach of Continental Place provides a shared left-turn, through lane, and right-turn lane. The southbound approach of Bridge Street provides a shared left-turn and through lane and an exclusive right-turn lane. Right-turns on Red are permitted at this intersection.

This intersection is controlled by a two-phase traffic signal.

Garvies Point Road/Dickson Street at Herb Hill Road

Garvies Point Road/Dickson Street and Herb Hill Road form a three-legged unsignalized, all-way stop controlled intersection. The westbound approach of Herb Hill Road provides a shared left-turn and right-turn lane. The northbound approach of Garvies Point Road provides a shared through and right-turn lane. The southbound approach of Dickson Street provides a shared left-turn and through lane.

Charles Street at Herb Hill Road



Charles Street at Herb Hill Road is a signalized four-legged intersection. The eastbound approach of Herb Hill Road provides a shared left-turn and through lane and a channelized right-turn lane. The westbound approach of Herb Hill Road provides a shared left-turn, through, and a right-turn lane. The northbound approach of Charles Street provides an exclusive left-turn lane, a through lane, and an exclusive right-turn lane. The southbound approach of Charles Street provides an exclusive left-turn lane and a shared through and right-turn lane. Right-turns on Red are permitted on all approaches except the eastbound approach. The intersection is controlled by a semi-actuated multi-phase signal. The phasing is as follows:

- East-west movement with permitted left-turns
- Protected southbound movement
- Protected northbound movement with overlapping eastbound right-turns

Glen Cove Avenue at Charles Street

Glen Cove Avenue at Charles Street is a signalized four-legged intersection. The eastbound approach of Charles Street is a one-way in the eastbound direction only and provides an exclusive left-turn lane, a through lane, and an exclusive right-turn lane. The westbound approach of Charles Street provides a shared left-turn and right-turn lane. The northbound approach of Glen Cove Avenue provides a through lane and a shared through and right-turn lane. The southbound approach of Glen Cove Avenue provides an exclusive left-turn lane, and two through lanes. Right-turns on Red are permitted at this intersection.

This intersection is controlled by a two-phase traffic signal.

Glen Cove Avenue at Morris Avenue

Glen Cove Avenue at Morris Avenue is a signalized three-legged intersection. The eastbound approach of Morris Avenue provides a shared left-turn and right-turn lane. The northbound approach of Glen Cove Avenue provides an exclusive left-turn lane and two through lanes. The southbound approach of Brewster Street provides a through lane and a shared through and right-turn lane. Right-turns on Red are permitted at this intersection.

This intersection is controlled by a two-phase traffic signal.

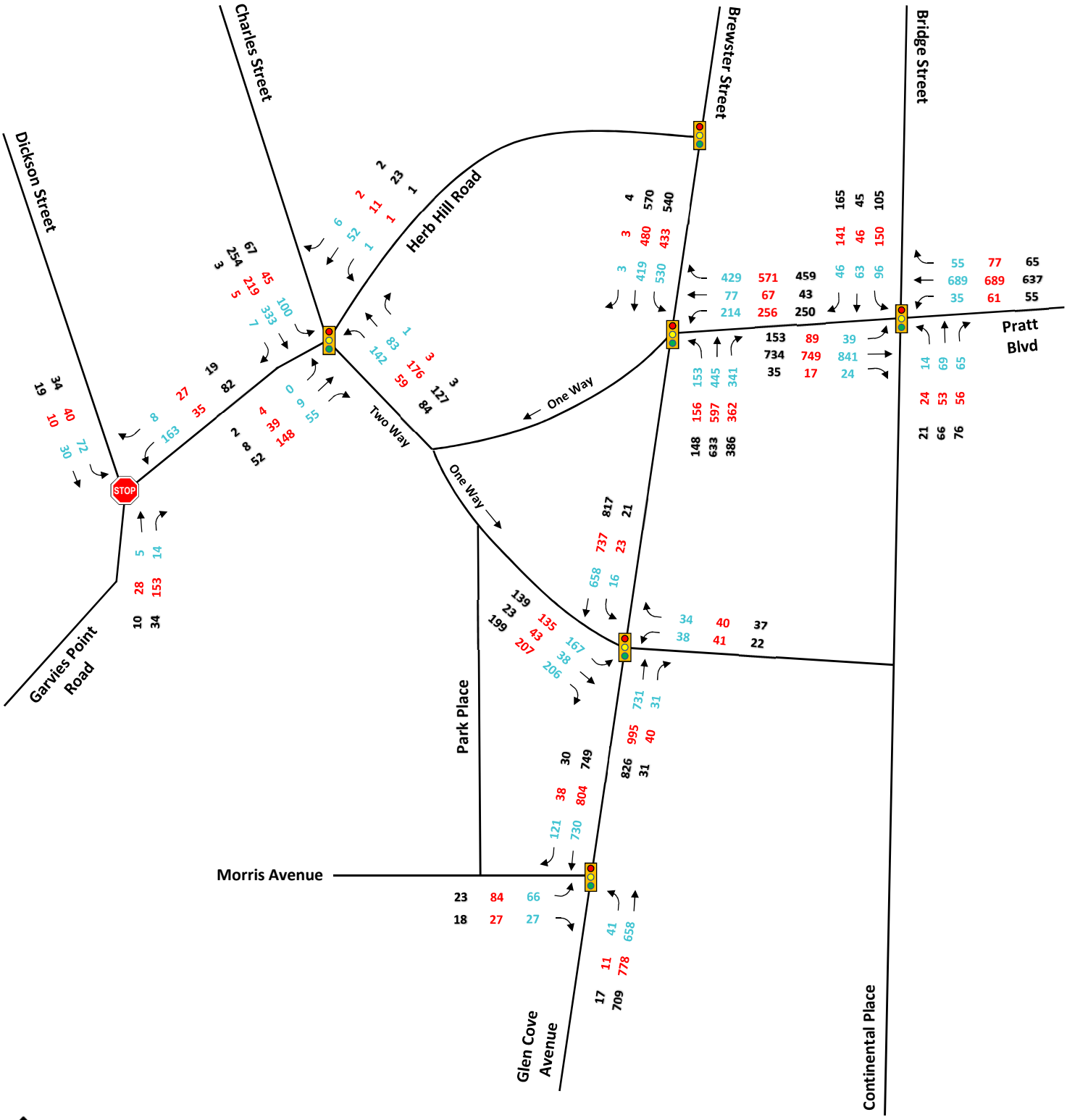
Existing Traffic Volume Data

As previously indicated, the ongoing construction for the RXR Glen Isle project makes the conventional collection of turning movement data within the study area irrelevant to the future condition. As a result, the data for the RXR project, which was collected for that study and projected forward to the predicted 2016 Build year for that project, was utilized to represent the 'Existing' condition. More specifically, the 'No Build' volumes from the RXR Glen Isle Traffic study were utilized the represent the 'Existing' condition for the purposes of the preparing the traffic study contained herein. From this point, the traffic generated by the RXR Glen Isle project was treated as an 'other planned development' when the 'No Build' condition was being assessed for this analysis.

The Intersection turning movement counts utilized were collected between 7:00 a.m. and 9:30 a.m. (for weekday a.m. peak) and between 4:00 p.m. and 6:30 p.m. (for weekday p.m. peak) and between 11:00 a.m. and 2:00 p.m. (for Saturday midday peak). These traffic counts were conducted during these times so that they coincided with the heaviest traffic flows associated with the proposed site, commuter activities and shopping in the local area.

The turning movement count figures referenced from the RXR Glen Isle EIS are available in Appendix A.

The 2016 existing weekday a.m., p.m. and Saturday midday peak hours traffic volumes are shown in Figure 3.



Not to Scale

Key: AM PEAK PM PEAK SATURDAY PEAK

Figure 3

Existing 2016 Peak Hour Traffic Volumes
Mixed-Use Development
Glen Cove, New York

Accident History

As a part of this study, a formal accident analysis was not prepared. While accident data from the NYSDOT Accident Location Information System (ALIS) records may be available, this history would not properly reflect the incidence of accidents within the study area in the future for two reasons:

1. The Three-Year Period for which accident data would be available would include time periods during which construction activities were taking place. These activities necessitate detours in certain instances and any crash experience would not be reflective of typical conditions.
2. Due to the extents of the proposed reconstruction of the undying infrastructure for the study area, the accidents which did occur prior to the construction activities would be subject to modified traffic control and roadway geometry. Accordingly, the crash experience would not be consistent in the future condition.

As a result of the above considerations, no accident analysis has been prepared as a part of the traffic study contained herein.

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Future Conditions

The analysis of future conditions, without and with the proposed project ("No-Build" and "Build" conditions, respectively), was performed to evaluate the effect of the proposed project on future traffic conditions in the area. The 2016 background traffic volumes obtained from the RXR Glen Isle Traffic Study were projected to the year 2022, reflecting the year when this project is expected to be completed and operational. The No-Build Condition represents the future traffic conditions that can be expected to occur, even if the proposed project is not constructed. The No-Build Condition serves as a comparison to the Build Condition, which represents expected future traffic conditions resulting from both project and non-project generated traffic.

No-Build Condition

No-Build traffic volumes include all existing traffic and any new traffic due to background traffic growth and any other significant planned developments in the immediate vicinity of the project site. Due to the unique nature of the preparation of this study in utilizing projected data to emulate the 'Existing' condition, the RXR Glen Isle project, which is currently under construction, was treated as a Planned Development in the No-Build condition.

Other Planned Developments

The City of Glen Cove was contacted for information regarding other planned developments in the vicinity of the subject property that may impact the traffic volumes on the adjacent roadway network. With the exception of the RXR Glen Isle Development, no other planned projects were identified:

RXR Glen Isle, is a mixed-use development located on multiple premises within the Garvies Point Area on both the North and South sides of Herb Hill Road as well as the North and South sides of Garvies Point Road. The project would consist of 680 Condominium Units, 180 Apartment Units, a 250 Unit Hotel, 50,000 sf of office space, 20,000 sf of retail space/cultural arts/entertainment center, a 5,000 sf restaurant, and an 85 slip marina. In accordance with the traffic impact study prepared for the DEIS and FEIS for this project, this proposed mixed-use development is projected to generate approximately 583 trips (Entering 254 trips, Exiting 329 trips), 826 trips (Entering 438 trips, exiting 388 trips) and 855 trips (Entering 461 trips, exiting 394 trips) for the a.m., p.m. and Saturday midday peak hours, respectively.

This traffic was assigned to the study area in accordance with the percentages and volumes projected in the Traffic Impact Study. Furthermore, the mitigation associated with this action was also incorporated into the 'No-Build' condition, which included the installation of a single lane roundabout at the intersection of Garvies Point Road/Dickson Street and Herb Hill Road.

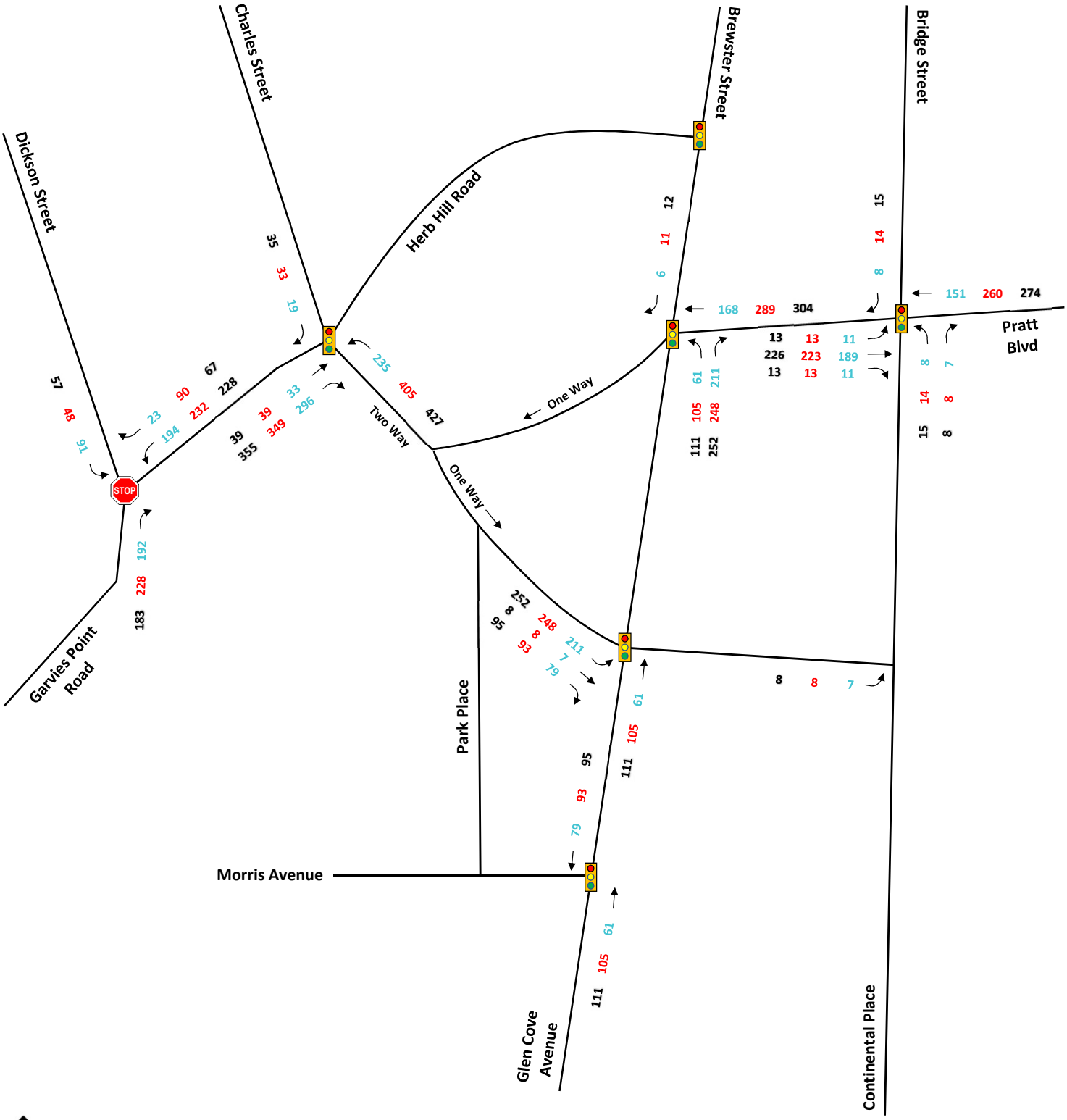
The traffic volumes associated with the other planned developments are shown in Figure 4.

Background Traffic Growth

To account for increases in general population and background growth not related to the proposed project, an annual growth factor was applied to the existing traffic volumes. Based on the NYSDOT published information, the growth rate anticipated for the Town of Oyster Bay, which includes the City of Glen Cove is 0.6% percent per year.

To account for any other planned developments in the vicinity of the project site that may have been overlooked, a total growth rate of 3.6% (6 years at 0.6% per year) was applied to the 2016 traffic data to develop the background traffic based on the anticipated Build year of 2022.

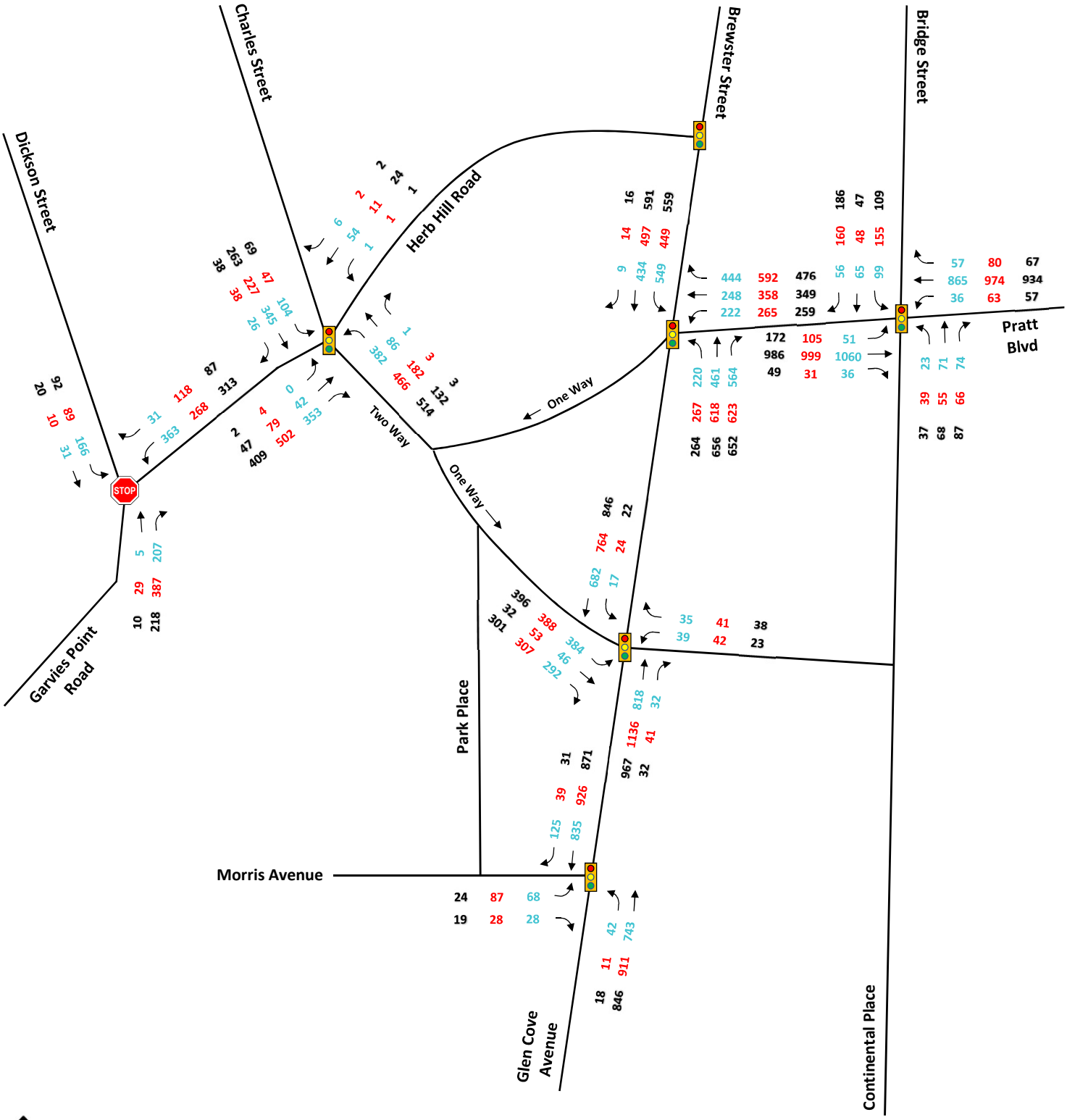
After applying the growth factor to the existing traffic volumes, the resulting 2022 No-Build traffic volumes for the weekday a.m., p.m. and Saturday midday peak hours are shown in Figure 5.



Key: AM PEAK PM PEAK SATURDAY PEAK

Figure 4

Other Planned Developments Peak Hour Traffic Volumes
Mixed-Use Development
Glen Cove, New York



Key: AM PEAK PM PEAK SATURDAY PEAK

Figure 5

No Build Peak Hour Traffic Volumes
Mixed-Use Development
Glen Cove, New York

Build Condition

To estimate the traffic impact of the proposed redevelopment, it is necessary to determine the traffic volumes expected to be generated by the proposed project. It is noted that to provide a conservative high-side analysis of potential impacts, no credit was taken for the traffic associated with the existing uses on the site.

Development Details

The proposed development mix for the project is shown in Table 1, along with the corresponding Land Use Code from the Institute of Transportation Engineers ("ITE"), Trip Generation Manual, 10th Edition.

Table 1 - Proposed Development Mix

Land-Use Component	Size/Density	ITE Reference
Retail Shopping Center	34,200 SF	Land Use Code # 820
Quality Restaurant	120 Seats	Land Use Code # 931
Mid-Rise Multi-Family Residential	400 Units	Land Use Code # 221

Project-Generated Traffic Volumes

In order to estimate the net project-generated traffic, a review was undertaken of available trip generation data sources, including the reference published by the Institute of Transportation Engineers (ITE), *Trip Generation Manual,10th Edition.* This widely used reference source contains trip generation rates for numerous land uses, including "Shopping Center" (Land Use Code #820), "Quality Restaurant" (Land Use Code #931) and "Multifamily Residential (Mid-rise – 3 to 10 levels)" (Land Use Code #221). Table 2 summarizes the unadjusted, gross trip generation estimates for the development mix presented in Table 1.

Table 2 - Trip Generation Estimates (Unadjusted)

Project Component	Component Size	AM Peak Hour		PM Peak Hour		Saturday Midday	
RETAIL SPACE ITE # 820 Shopping Center	**34,200 SF**	Rate = 0.94		Rate = 3.81		Rate = 4.50	
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		62%	38%	48%	52%	52%	48%
		20	12	62	68	80	74
		Total =	**32**	Total =	**130**	Total =	**154**
Quality Restaurant ITE # 120	**120 Seats**	Rate = 0.15		Rate = 0.28		Rate = 0.33	
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		69%	31%	67%	33%	59%	41%
		12	6	23	11	24	16
		Total =	**18**	Total =	**34**	Total =	**40**
Multifamily Residential ITE # 221 Mid-Rise (3 to 10 Levels)	**400 Units**	Rate = 0.36		Rate = 0.44		Rate = 0.44	
		Entering	Exiting	Entering	Exiting	Entering	Exiting
		26%	74%	61%	39%	49%	51%
		37	107	107	69	86	90
		Total =	**144**	Total =	**176**	Total =	**176**
Total		**AM Peak Hour Trips**		**PM Peak Hour Trips**		**Saturday Midday Trips**	
		Entering	**Exiting**	**Entering**	**Exiting**	**Entering**	**Exiting**
		69	**125**	**192**	**148**	**190**	**180**
		194		**340**		**370**	

Adjustments to Peak Hour Trips

The methodology presented in the previous section utilized ITE trip generation statistics to calculate gross (unadjusted) peak hour site (or driveway) volumes. The sum of the peak hour volumes for each of the components presented in Table 2 above does not account for factors which influence the actual level of trip making to the site that should be accounted for in accurately predicting peak hour trips to and from the site. These adjustments are described below and performed in keeping with standard and accepted practice as set forth by ITE and accepted by reviewing transportation agencies. These factors adjust the gross trip generation to account for the interrelationship amongst the specific uses on the site and to reflect that fact that some land uses attract visitors from the adjacent roadways that are already traveling in the area and are not new trips. To provide a more accurate estimate of future new trips and serve as the basis for an accurate estimate of potential impacts, adjustments to account for the following are detailed in below:

› Internal Capture

› Pass-By Trips

Internal Capture

It is noted that the trip generation forecasts presented previously in this section are the sum total of the trips generated by individual components, devoid of any consideration for interaction amongst the various uses on the site. It has long been recognized that there is an interaction between the various uses on a mixed-use site. This interaction, known as internal trips or internal capture, effectively reduces external trips to and from a site that would otherwise occur on the external roadway system. On large mixed-use sites, this reduction can be significant.

A mixed-use development could consist of any combination of different land use types within a defined, congruous area. The internal trip-making characteristics of a mixed-use development site are directly related to its mix of on-site land uses (which are typically a combination of office, retail, restaurant, cinema/entertainment, residential and hotel). When combined within a single mixed-use development, these land uses tend to interact and thus attract a portion of each other's trip generation. As should be expected, the observed internal capture rates for mixed-use developments vary by time of day, mix of on-site land uses, and the size of the development. The internal capture between the land uses within the development was calculated based on the ITE recommendations in the ITE's Trip Generation Handbook, 3rd Edition. The internal capture rates were taken from Chapter 6, Tables 6.1 and 6.2. The ITE information and the internal capture calculations can be found in Appendix D.

ITE does not present recommended internal trip capture rates for the Saturday midday peak hour. Hence, the PM rates were used to arrive at the internal capture trips for Saturday midday.

Table 3 summarizes the internal capture trips for the mixed-use development

Table 3– Internal Capture Trips

COMPONENT	AM Peak Hour Trips		PM Peak Hour Trips		Saturday Midday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Retail	2	3	11	25	15	26
Quality Restaurant	4	1	10	7	10	10
Multi-family Residential	1	3	20	9	22	11
Total Internal Capture Trips	**7**	**7**	**41**	**41**	**47**	**47**
	14		**82**		**94**	
Internal Capture Percentage	**7.2%**		**24.1%**		**25.4%**	

Pass-by Trips

The application of pass-by trips is a well-understood and widely accepted concept that has been used by traffic engineers for many years. ITE defines pass-by trips as trips made as intermediate stops, at a retail/commercial development on the way from an origin to a primary trip destination without diversion. Pass-by trips are attracted from adjacent streets that offer direct access to a site, in this case from Garvies Point Road. These pass-by trips do not add new traffic to the adjacent street system. Therefore, they may be reduced from the total external trips generated by the study site. However, at site access points the pass-by trips are included as part of the entering and exiting traffic at the site access.

It is noted that Garvies Point Road "dead-ends" west of the site at the water front. While this would not lend itself normally to pass-by trip making, the future activity that will exist in the area due to the RXR project will. In addition, the Ferry Terminal located across from the site is expected to see increased activity in the future as the City's initiative to do so. It is our understanding that the City is in negotiations with an operator.

The Institute of Transportation Engineers (ITE) Trip Generation Handbook, 3rd Edition, an ITE Recommended Practice presents data on pass-by trips for a number of land uses, including Shopping Center (LUC 820). The average pass-by trip percentage among all sites for the weekday p.m. peak period is reported as 34 percent while the average pass-by trip percentage among all sites for the Saturday midday peak period is reported as 26 percent. However, to provide a more high-side conservative analysis a significantly lower pass-by percentages as presented in Table 4 were utilized in this study.

Table 4 -Pass-by Rates

Land-Use Component	AM Peak Hour	PM Peak Hour	Saturday Midday Peak Hour
Retail Space LUC # 820	10%	10%	10%

The pass-by rates were applied to the trips likely to be generated by the Retail Shopping Component of the development and the pass-by trip calculations and the net trip generation estimates for the Retail uses after the pass-by credit are shown in Table 5.

Table 5- Pass-by & Primary Retail Trips

Component	AM Peak Hour		PM Peak Hour		Saturday Midday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Est. Gross Site Generated Trips by Retail Component	18	9	51	43	65	48
Conservative Pass-by percentage applied	10%		10%		10%	
Total Pass-by Trips	2	1	5	4	7	5
Primary Retail Trips	**16**	**8**	**46**	**39**	**58**	**43**
	24		**85**		**101**	

From the gross unadjusted trip generation presented in Table 2, the internal capture trips shown in Table 3 were deducted from the respective land-use components to obtain the net external trips likely to be generated by the development. The total pass-by trips shown in Table 5 were then deducted from the gross retail component trips. The net external trips likely to be generated by the Garvies Point Mixed-Use Development are presented in Table 6.

Table 6 - Net External Trip Generation

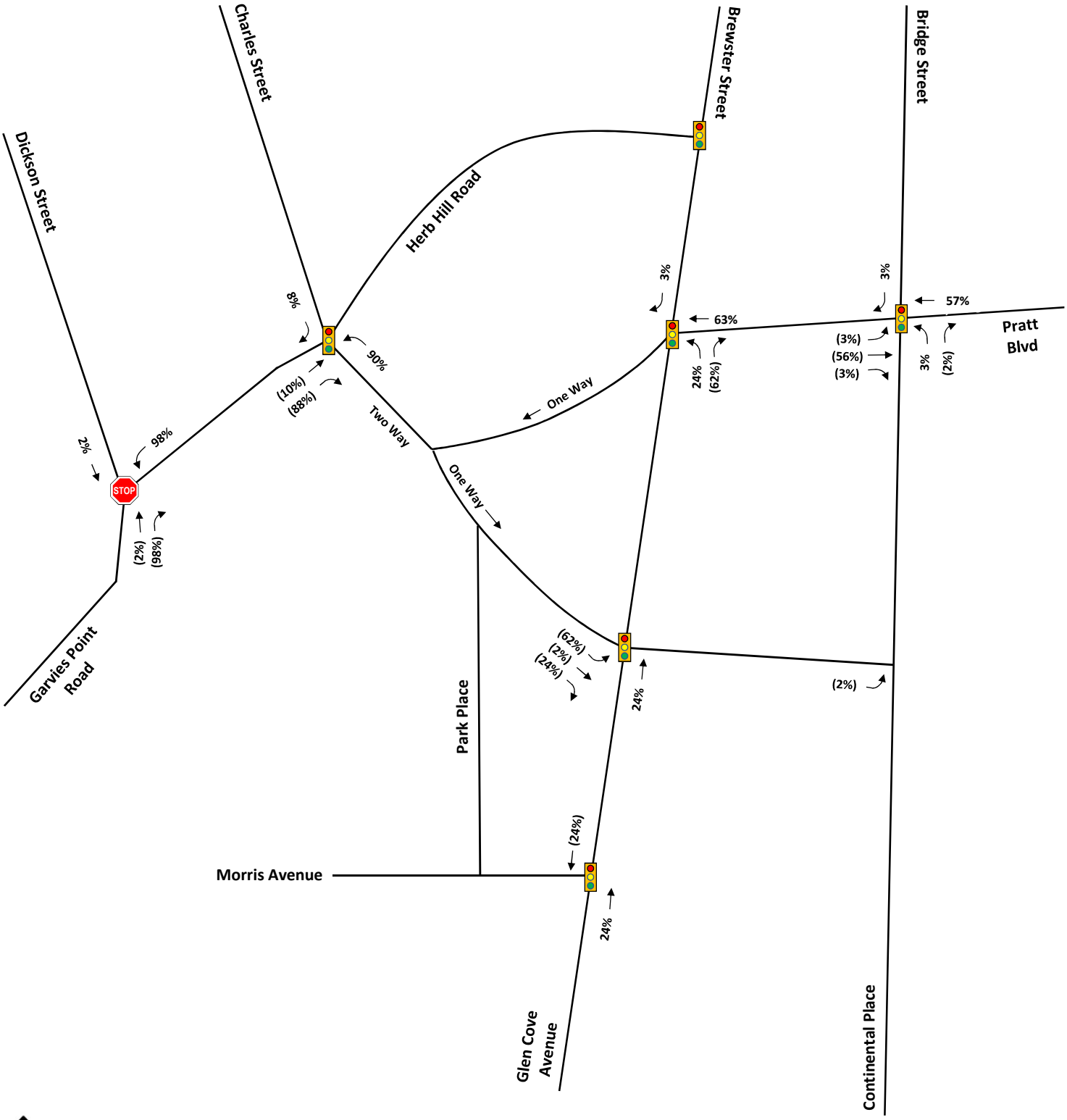
Net Trip Generation	AM Peak Hour Trips		PM Peak Hour Trips		Saturday Midday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Primary Retail Trips (34,200 SF)	16	8	46	39	58	43
Quality Restaurant (120 Seats)	8	5	13	4	14	6
Residential Trips (400 Units)	36	104	87	60	64	79
Totals	**60**	**117**	**146**	**103**	**136**	**128**
	177		**249**		**264**	

Table 6 shows that the net external trips generated by the site are forecast to be, 177 trips (60 entering and 117 exiting) during the weekday a.m. peak hour, 249 trips (146 entering and 103 exiting) during the weekday p.m. peak hour and 264 trips (136 entering and 128 exiting) during the Saturday midday peak hour. It is noted that in this study, no credit was taken for the trips generated by the existing development on the site, resulting in a high-side conservative evaluation of the proposed redevelopment.

Trip Distribution and Assignment

The trips originating from and destined to the project site were assigned to the adjacent roadways based on characteristics of the roadway network, the location of the site access point, likely destination points, and an examination of the trip distribution utilized for the RXR Glen Isle development. Due to the fact that the development which is under construction includes the same types of uses as that proposed as a part of the proposed development, the overall distribution directing traffic in the varying directions of travel was assumed for the current application. The trip distribution percentages adopted for the project and assigned to the local roadway network are shown in Figure 6. These were then applied to the trips generated by the proposed project site and the resulting site generated traffic volumes for the weekday a.m., p.m. and Saturday midday peak hours are shown in Figures 7.

To determine the future Build Condition traffic volumes, the project-generated trips were added to the No-Build traffic volumes at the key intersections. The resulting Build traffic volumes for the weekday a.m., p.m. and Saturday midday peak hours are shown in Figure 8.



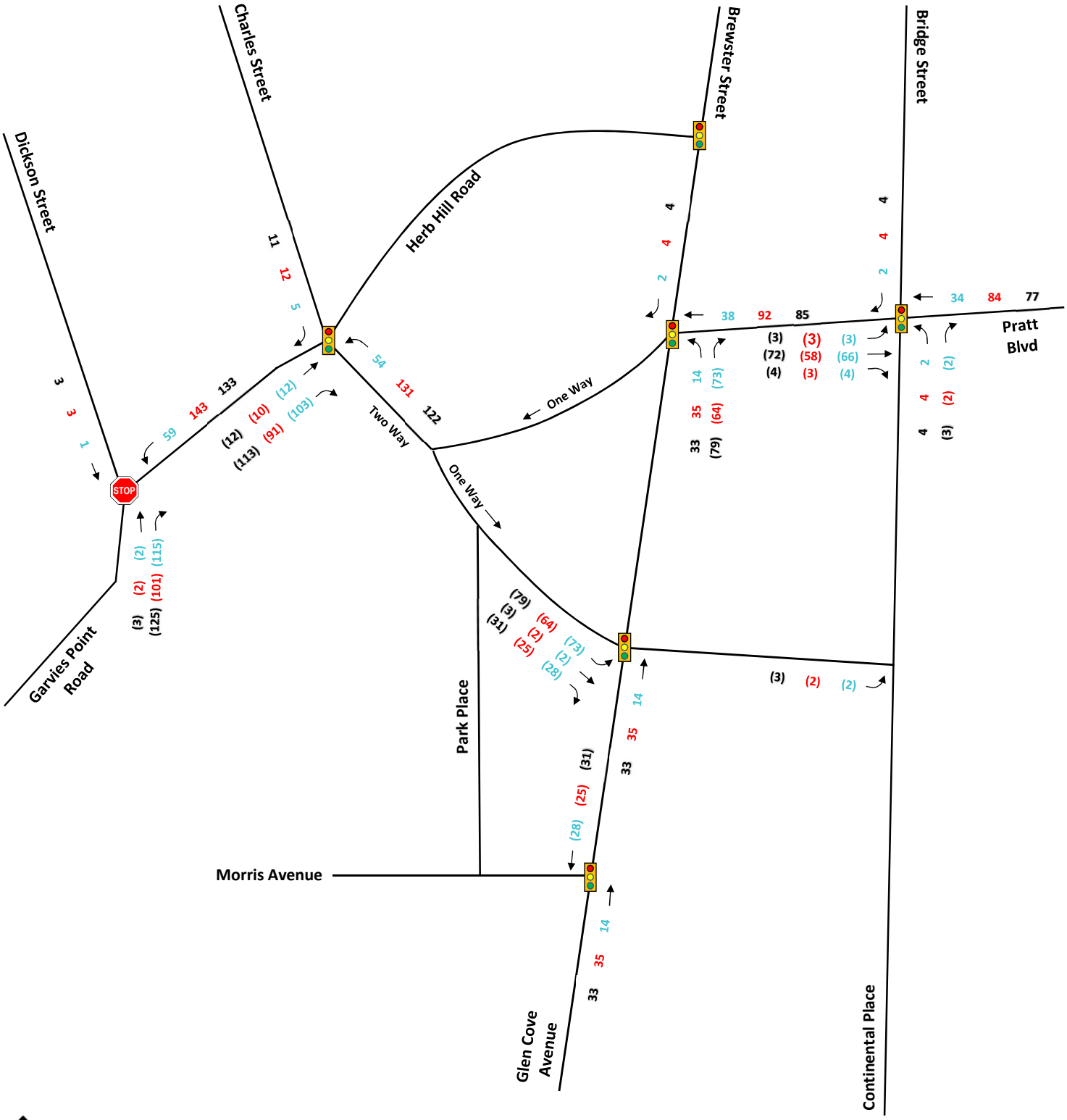
Not to Scale

Key: AM PEAK PM PEAK SATURDAY PEAK

ENTERING TRAFFIC (EXITING TRAFFIC)

Figure 6

Trip Distribution
Mixed-Use Development
Glen Cove, New York



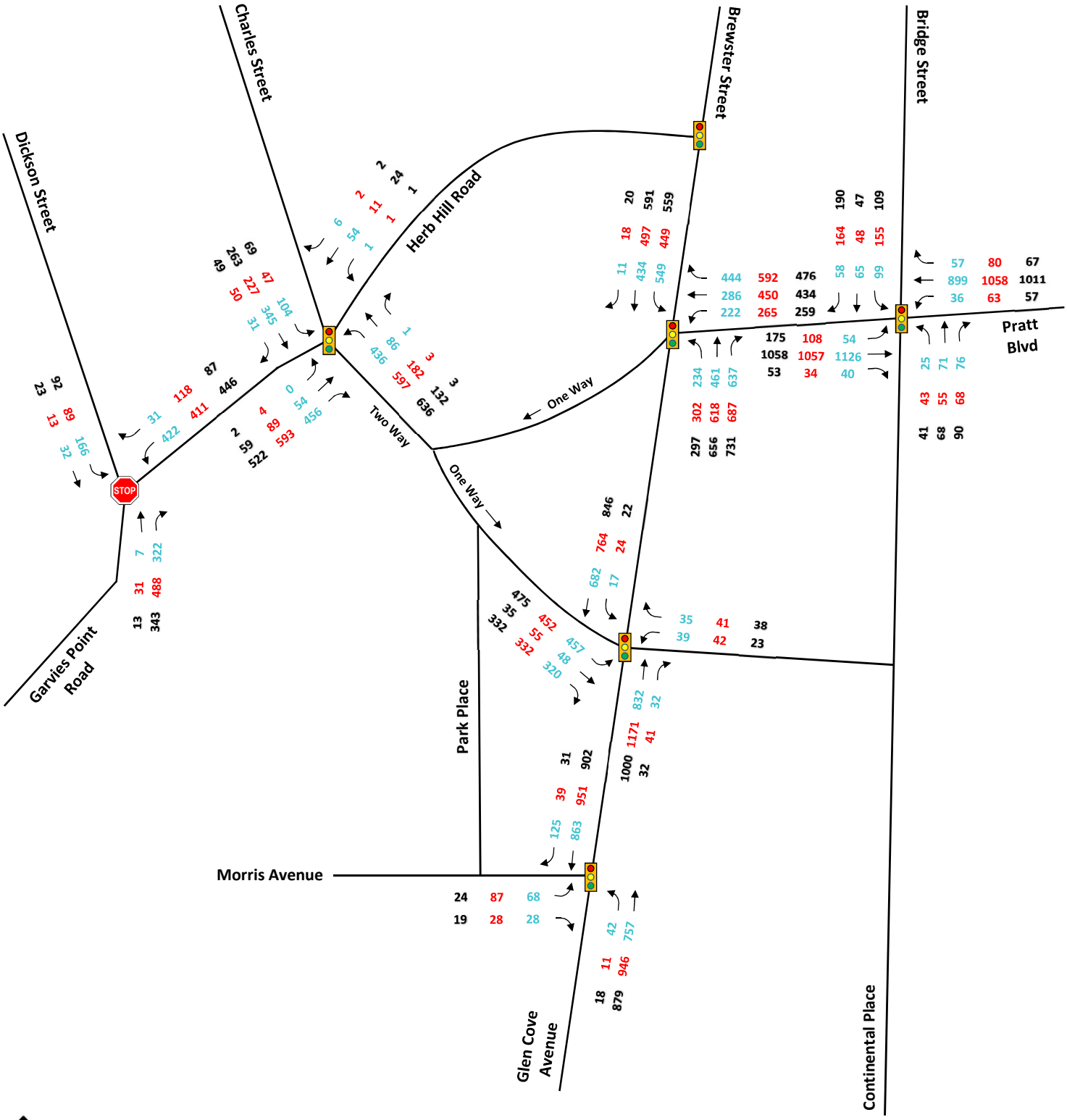
Not to Scale

Key: AM PEAK PM PEAK SATURDAY PEAK

ENTERING TRAFFIC (EXITING TRAFFIC)

Figure 7

Site Generated Peak Hour Traffic Volumes
Mixed-Use Development
Glen Cove, New York



Not to Scale

Key: AM PEAK PM PEAK SATURDAY PEAK

Figure 8

Build Peak Hour Traffic Volumes
Mixed-Use Development
Glen Cove, New York

4

Traffic Operations Analysis

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess quality of traffic flow, roadway capacity analyses were conducted with respect to the Existing, No-Build and future Build conditions. These capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands.

Level of Service and Delay Criteria

The evaluation criteria used to analyze area intersections in this traffic study are based on the 2000 & 2010 Highway Capacity Manual (HCM). The term 'level of service' (LOS) is used to denote the different operating conditions that occur at an intersection under various traffic volume loads. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay and freedom to maneuver. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

In addition to LOS, vehicle delay time (expressed in seconds per vehicle) is typically used to quantify the traffic operations at intersections. For example, a delay of 15 seconds for a particular vehicular movement or approach indicates that vehicles on the movement or approach will experience an average additional travel time of 15 seconds. It should be noted that delay time has a range of values for a given LOS letter designation. Therefore, when evaluating intersection capacity results, in addition to the LOS, vehicle delay time should also be considered.

The level of service designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus, the LOS designation is for the critical movement exiting the side street, which is generally the left-turn out of the side street or side driveway.

It should be noted that the analytical methodologies typically used for the analysis of unsignalized intersections use conservative parameters such as long critical gaps. Actual field observations indicate that drivers on minor streets generally accept shorter gaps in traffic than those used in the analysis procedures and therefore experience less delay than reported by the analysis software. The analysis methodologies also do not take into account the beneficial grouping effects caused by nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delay at unsignalized intersections in the study area. Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

The level of service (LOS) definitions for both the signalized and unsignalized intersections can be found in Appendix B of the report.

Software

The capacity analyses were done using the traffic analysis software Synchro, version 10, a computer program developed by Trafficware Ltd. Synchro is a complete software package for modeling and optimizing traffic signal timing. Synchro adheres to and implements the guidelines and methods set forth in the 2000 Highway Capacity Manual and the 2010 Highway Capacity Manual. This analysis methodology was used to evaluate the ability of an intersection or roadway to efficiently handle the number of vehicles using the facility. Synchro was used to model and analyze the Existing, No-Build and Build conditions at the key intersections.

Level of Service Analysis

LOS analyses were conducted for the Existing, No-Build and future Build conditions for the key study unsignalized intersections of Warner Avenue at Express Plaza, Warner Avenue at Lincoln Avenue/Railroad Avenue and Railroad Avenue at Main Street.

Analysis Results

The results of the capacity analyses for the three unsignalized intersection in Existing, No-Build and future Build conditions are summarized in Tables 7, 8 and 9

below, for the weekday a.m., p.m. and Saturday midday peak hours, respectively. The detailed capacity analysis worksheets are contained in Appendix C.

Table 7 - LOS Summary – Study Intersections – AM Peak Hour --- 1 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue/Brewster Street & Charles Street	WB	L	35.9	D	39.8	D	39.8	D
		LTR	32.7	C	47.5	D	53.8	D
		R	11.3	B	11.4	B	11.6	B
		Approach	27.1	C	36.9	D	40.4	D
	NB	L	10.3	B	13.6	B	14.5	B
		TR	20.8	C	21.3	C	21.3	C
		R	9.8	A	15.2	B	18.8	B
		Approach	15.1	B	17.2	B	18.9	B
	SB	L	29.3	C	29.6	C	29.6	C
		TR	11.7	B	11.8	B	11.8	B
		Approach	21.5	C	21.6	C	21.6	C
	Overall		**20.8**	**C**	**24.3**	**C**	**26.0**	**C**
Continental Place/Bridge Street & Glen Cove Avenue	EB	L	28.2	C	25.2	C	21.6	C
		TR	30.5	C	24.2	C	21.2	C
		Approach	30.4	C	24.2	C	21.2	C
	WB	L	32.3	C	27.6	C	24.0	C
		TR	28.2	C	21.8	C	18.7	B
		Approach	28.4	C	22.0	C	18.9	B
	NB	LTR	14.1	B	21.3	C	24.9	C
		Approach	14.1	B	21.3	C	24.9	C
	SB	LT	15.5	B	22.5	C	26.7	C
		R	13.0	B	17.3	B	20.5	C
		Approach	14.9	B	21.2	C	25.1	C
	Overall		**26.9**	**C**	**22.9**	**C**	**20.9**	**C**
Glen Cove Avenue & Charles Street	EB	L	39.1	D	38.8	D	38.3	D
		T	23.5	C	14.8	B	13.5	B
		R	12.3	B	11.4	B	11.1	B
		Approach	24.2	C	26.2	C	26.3	C
	WB	LTR	14.3	B	8.8	A	8.2	A
		Approach	14.3	B	8.8	A	8.2	A
	NB	TR	11.2	B	23.8	C	28.3	C
		Approach	11.2	B	23.8	C	28.3	C
	SB	L	7.9	A	14.9	B	16.6	B
		T	7.8	A	15.6	B	18.5	B
		Approach	7.8	A	15.6	B	18.5	B
	Overall		**12.9**	**B**	**21.6**	**C**	**24.2**	**C**

Table 7 - LOS Summary – Study Intersections – AM Peak Hour --- 2 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue & Morris Avenue	EB	LR	28.6	C	28.6	C	28.6	C
		Approach	28.6	C	28.6	C	28.6	C
	NB	L	4.0	A	4.3	A	4.3	A
		T	3.5	A	3.6	A	3.6	A
		Approach	3.5	A	3.6	A	3.7	A
	SB	TR	4.1	A	7.6	A	8.7	A
		Approach	4.1	A	7.6	A	8.7	A
	Overall		**5.2**	**A**	**7.0**	**A**	**7.6**	**A**
Charles Street & Herb Hill Road	EB	LT	28.2	C	29.4	C	29.7	C
		R	0.01	A	0.3	A	0.4	A
		Approach	4.4	A	3.5	A	3.6	A
	WB	LTR	28.9	C	28.6	C	28.0	C
		Approach	28.9	C	28.6	C	28.0	C
	NB	L	17.6	B	27.1	C	32.7	C
		T	16.7	B	17.7	B	18.0	B
		R	0.0	A	0.0	A	0.0	A
		Approach	17.2	B	25.4	C	30.2	C
	SB	L	21.7	C	22.5	C	22.9	C
		TR	34.4	C	40.0	D	41.9	D
		Approach	31.5	C	36.2	D	37.5	D
	Overall		**25.0**	**C**	**23.0**	**C**	**23.7**	**C**

The capacity analysis results at the signalized study intersections during the a.m. peak hour are discussed below:

Glen Cove Avenue/Brewster Street at Charles Street: This intersection operates at an overall intersection LOS C during the weekday a.m. peak hour in the Existing, No-Build, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by only 1.7 seconds. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Continental Place/Bridge Street at Pratt Boulevard This intersection operates at an overall intersection LOS C during the weekday a.m. peak hour in the Existing, No-Build, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay decreasing by 2.0 seconds from No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Glen Cove Avenue at Charles Street: This intersection operates at an overall intersection LOS C during the weekday a.m. peak hour in the Existing, No-Build,

and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by only 2.6 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Glen Cove Avenue at Morris Avenue: This intersection operates at an overall intersection LOS A during the weekday a.m. peak hour in the Existing, No-Build, and Build conditions. The Build results are consistent with No-Build results with the overall intersection delay increasing by only 0.6 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Charles Street at Herb Hill Road: This intersection operates at an overall intersection LOS C during the weekday a.m. peak hour in the Existing, No-Build, and Build conditions. The Build results are consistent with No-Build results with the overall intersection delay increasing by only 0.7 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Table 8 - LOS Summary – Study Intersections – PM Peak Hour --- 1 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue/Brewster Street & Charles Street	WB	L	41.2	D	47.9	D	47.9	D
		LTR	36.4	D	129.8	F	172.3	F
		R	13.4	B	13.9	B	14.5	B
		Approach	30.2	C	84.4	F	109.6	F
	NB	L	10.3	B	18.1	B	23.5	C
		TR	21.5	C	22.0	C	22.0	C
		R	9.2	A	16.4	B	20.8	C
		Approach	16.0	B	19.0	B	21.7	C
	SB	L	29.3	C	29.6	C	29.6	C
		TR	12.5	B	12.5	B	12.4	B
		Approach	20.4	C	20.5	C	20.4	C
	Overall		**21.7**	**C**	**40.9**	**D**	**51.0**	**D**
Continental Place/Bridge Street & Glen Cove Avenue	EB	L	19.3	B	21.8	C	27.9	C
		TR	16.1	B	12.5	B	12.8	B
		Approach	16.5	B	13.3	B	14.2	B
	WB	L	17.1	B	14.9	B	16.0	B
		TR	16.0	B	12.6	B	13.2	B
		Approach	16.1	B	12.8	B	13.3	B
	NB	LTR	23.4	C	35.1	D	36.3	D
		Approach	23.4	C	35.1	D	36.3	D
	SB	LT	30.3	C	49.4	D	50.9	D
		R	25.4	C	34.6	C	35.0	D
		Approach	28.2	C	42.9	D	43.8	D
	Overall		**18.6**	**B**	**18.2**	**B**	**18.8**	**B**
Glen Cove Avenue & Charles Street	EB	L	35.6	D	45.2	D	53.0	D
		T	25.7	C	16.2	B	15.8	B
		R	18.1	B	15.3	B	15.3	B
		Approach	25.1	C	30.9	C	35.7	D
	WB	LTR	17.1	B	10.3	B	10.1	B
		Approach	17.1	B	10.3	B	10.1	B
	NB	TR	12.8	B	26.3	C	34.5	C
		Approach	12.8	B	26.3	C	34.5	C
	SB	L	7.5	A	19.0	B	24.3	C
		T	7.2	A	15.4	B	16.9	B
		Approach	7.3	A	15.5	B	17.1	B
	Overall		**13.2**	**B**	**24.0**	**C**	**29.5**	**C**

Table 8 - LOS Summary – Study Intersections – PM Peak Hour --- 2 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue & Morris Avenue	EB	LR	31.3	C	31.8	C	31.8	C
		Approach	31.3	C	31.8	C	31.8	C
	NB	L	4.0	A	4.2	A	4.2	A
		T	4.1	A	4.5	A	4.6	A
		Approach	4.1	A	4.5	A	4.6	A
	SB	TR	6.0	A	8.6	A	8.2	A
		Approach	6.0	A	8.6	A	8.2	A
	Overall		**6.8**	**A**	**8.0**	**A**	**7.8**	**A**
Charles Street & Herb Hill Road	EB	LT	29.7	C	29.8	C	28.9	C
		R	0.1	A	0.6	A	0.8	A
		Approach	6.8	A	4.8	A	4.6	A
	WB	LTR	26.2	C	24.4	C	23.6	C
		Approach	26.2	C	24.4	C	23.6	C
	NB	L	15.3	B	47.8	D	143.1	F
		T	16.8	B	20.4	C	22.0	C
		R	0.0	A	0.0	A	0.0	A
		Approach	16.2	B	39.9	D	114.3	F
	SB	L	21.0	C	23.2	C	24.4	C
		TR	31.9	C	37.8	D	41.3	D
		Approach	30.1	C	35.6	D	38.8	D
	Overall		**19.1**	**B**	**25.8**	**C**	**58.4**	**E**

The capacity analysis results at the signalized study intersections during the p.m. peak hour are discussed below:

Glen Cove Avenue/Brewster Street at Charles Street: This intersection operates at an overall intersection LOS C during the weekday p.m. peak hour in the Existing Condition and degrades to a LOS D in the No-Build and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by 10.1 seconds. Closer examination of the individual results at this intersection revealed that certain turning movements experience significant delays consistent with an LOS F in both the No-Build and Build conditions. As a result, mitigation was examined at this location during this time period and is discussed later in this analysis.

Continental Place/Bridge Street at Pratt Boulevard This intersection operates at an overall intersection LOS C during the weekday p.m. peak hour in the Existing, No-Build conditions, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by 0.6 seconds from No-Build condition to Build condition. As a result of the site generated traffic, each of the individual turning movements operate below capacity and mitigation is not required at this location.

Glen Cove Avenue at Charles Street: This intersection operates at an overall intersection LOS B during the weekday p.m. peak hour in the Existing Condition, and degrades to a LOS C in the No-Build condition and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by only 5.5 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, each of the individual turning movements continue to operate below capacity and mitigation is not required at this location.

Glen Cove Avenue at Morris Avenue: This intersection operates at an overall intersection LOS A during the weekday p.m. peak hour in the Existing, No-Build conditions, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay decreasing by 0.2 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Charles Street at Herb Hill Road: This intersection operates at an overall intersection LOS B during the weekday p.m. peak hour in the Existing condition, and degrades to a LOS C in the No-Build condition, and degrades to a LOS E in the Build condition. The Build results indicate that the overall intersection delay increases by 32.6 seconds from the No-Build condition to Build condition and the northbound approach at this intersection degrades from an LOS D to an LOS F. Due to the level of delay in the Build condition as a result of the site generated traffic, mitigation was investigated at this location and is discussed in detail later in this report.

Table 9 - LOS Summary – Study Intersections – Saturday Midday Peak Hour --- 1 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue/Brewster Street & Charles Street	WB	L	36.6	D	47.6	D	47.6	D
		LTR	33.1	C	75.8	E	104.2	F
		R	11.8	B	12.4	B	12.9	B
		Approach	27.4	C	54.2	D	70.2	E
	NB	L	10.6	B	19.6	B	25.5	C
		TR	22.9	C	23.5	C	23.5	C
		R	10.3	B	19.1	B	27.4	C
		Approach	17.2	B	21.0	C	25.6	C
	SB	L	29.8	C	29.9	C	29.9	C
		TR	12.5	B	12.5	B	12.5	B
		Approach	20.9	C	20.8	C	20.8	C
	Overall		**21.1**	**C**	**30.4**	**C**	**37.2**	**D**
Continental Place/Bridge Street & Glen Cove Avenue	EB	L	10.8	B	22.0	C	28.7	C
		TR	8.1	A	9.5	A	9.9	A
		Approach	8.5	A	11.3	B	12.5	B
	WB	L	7.8	A	9.8	A	10.6	B
		TR	7.8	A	9.3	A	9.7	A
		Approach	7.8	A	9.3	A	9.8	A
	NB	LTR	37.7	D	43.0	D	44.2	D
		Approach	37.7	D	43.0	D	44.2	D
	SB	LT	49.7	D	53.9	D	54.7	D
		R	41.5	D	42.8	D	43.2	D
		Approach	45.4	D	47.9	D	48.4	D
	Overall		**15.9**	**B**	**17.2**	**B**	**17.8**	**B**
Glen Cove Avenue & Charles Street	EB	L	38.9	D	42.8	D	46.7	D
		T	24.5	C	15.4	B	14.9	B
		R	21.2	C	16.5	B	15.9	B
		Approach	28.2	C	30.8	C	33.2	C
	WB	LTR	13.4	B	8.2	A	8.1	A
		Approach	13.4	B	8.2	A	8.1	A
	NB	TR	11.2	B	21.0	C	23.1	C
		Approach	11.2	B	21.0	C	23.1	C
	SB	L	7.0	A	15.6	B	18.2	B
		T	7.6	A	16.6	B	19.2	B
		Approach	7.6	A	16.5	B	19.1	B
	Overall		**12.7**	**B**	**21.9**	**C**	**24.6**	**C**

Table 9 - LOS Summary – Study Intersections – Saturday Midday Peak Hour --- 2 of 2

Intersection	Approach	Lane Group	Existing 2016		No-Build 2022		Build 2022	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue & Morris Avenue	EB	LR	24.2	C	24.2	C	24.2	C
		Approach	24.2	C	24.2	C	24.2	C
	NB	L	2.8	A	2.9	A	2.9	A
		T	2.5	A	2.7	A	2.7	A
		Approach	2.5	A	2.7	A	2.8	A
	SB	TR	3.2	A	5.7	A	4.8	A
		Approach	3.2	A	5.7	A	4.8	A
	Overall		**3.4**	**A**	**4.7**	**A**	**4.3**	**A**
Charles Street & Herb Hill Road	EB	LT	27.8	C	29.3	C	29	C
		R	0.0	A	0.4	A	0.5	A
		Approach	4.4	A	3.5	A	3.5	A
	WB	LTR	27.0	C	26.9	C	26.2	C
		Approach	27.0	C	26.9	C	26.2	C
	NB	L	14.4	B	34.2	C	74.6	E
		T	14.5	B	17.2	B	18.1	B
		R	0.0	A	0.0	A	0.0	A
		Approach	14.3	B	30.6	C	64.6	E
	SB	L	20.6	C	21.8	C	22.6	C
		TR	28.4	C	33.8	C	35.7	D
		Approach	26.8	C	31.5	C	33.3	C
	Overall		**20.3**	**C**	**22.5**	**C**	**37.0**	**D**

The capacity analysis results at the signalized study intersections during the Saturday midday peak hour are discussed below:

Glen Cove Avenue/Brewster Street at Charles Street: This intersection operates at an overall intersection LOS C during the Saturday midday peak hour in the Existing and No-Build and degrades to a LOS D in the Build condition. The Build results indicate that the overall intersection delay increases by 6.8 seconds in comparison to the No-Build condition. Closer examination of the individual results at this intersection revealed that certain turning movements experience significant delays consistent with an LOS F in the Build condition. As a result, mitigation was examined at this location during this time period and is discussed later in this analysis.

Continental Place/Bridge Street at Pratt Boulevard This intersection operates at an overall intersection LOS B during the Saturday midday peak hour in the Existing, No-Build conditions, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by 0.6 seconds from No-Build condition to Build condition. As a result of the site generated traffic, each of the individual turning movements operate below capacity and mitigation is not required at this location.

Glen Cove Avenue at Charles Street: This intersection operates at an overall intersection LOS B during the Saturday midday peak hour in the Existing Condition, and degrades to a LOS C in the No-Build condition and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay increasing by 2.7 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, each of the individual turning movements continue to operate below capacity and mitigation is not required at this location.

Glen Cove Avenue at Morris Avenue: This intersection operates at an overall intersection LOS A during the Saturday midday peak hour in the Existing, No-Build conditions, and Build conditions. The Build results are consistent with the No-Build results with the overall intersection delay decreasing by 0.4 seconds from the No-Build condition to Build condition. As a result of the site generated traffic, none of the individual turning movements degrade in LOS and mitigation is not required at this location.

Charles Street at Herb Hill Road: This intersection operates at an overall intersection LOS C during the Saturday midday peak hour in the Existing and No-Build conditions and degrades to a LOS D in the Build condition. The Build results indicate that the overall intersection delay increases by 14.5 seconds from the No-Build condition to Build condition and the northbound approach at this intersection degrades from an LOS C to an LOS E. Due to the level of delay in the Build condition as a result of the site generated traffic, mitigation was investigated at this location and is discussed in detail later in this report.

Unsignalized Intersection Analysis Results

The results of the capacity analyses for the unsignalized intersections in the study area for Existing, No-Build and future Build conditions are summarized in Tables 10, 11 and 12 below for the weekday a.m., weekday p.m. and Saturday midday peak hours, respectively. A discussion of the results for each location follows each table.

The detailed capacity analysis worksheets are contained in Appendix C.

Table 10 - LOS Summary – Study Intersection – AM Peak Hour

Intersection	Approach/ Movement	Existing 2016		No-Build 2022		Build 2022	
		Delay	LOS	Delay	LOS	Delay	LOS
Garvies Point Road & Herb Hill Road (Roundabout in future conditions)	EB	9.7	A	6.1	A	6.5	A
	WB	11.7	B	7.4	A	8.3	A
	NB			6.5	A	8.4	A
	SB			8.4	A	9.2	A
	Overall			**7.4**	**A**	**8.5**	**A**

Table 11 - LOS Summary – Study Intersection – PM Peak Hour

Intersection	Approach/ Movement	Existing 2016		No-Build 2022		Build 2022	
		Delay	LOS	Delay	LOS	Delay	LOS
Garvies Point Road & Herb Hill Road (Roundabout in future conditions)	EB	10.0	B	5.0	A	5.9	A
	WB	10.1	B	7.9	A	10.8	B
	NB			9.4	A	12.1	B
	SB			5.9	A	7.3	A
	Overall			**8.4**	**A**	**11.1**	**B**

Table 12 - LOS Summary – Study Intersection – Saturday Midday Peak Hour

Intersection	Approach/ Movement	Existing 2016		No-Build 2022		Build 2022	
		Delay	LOS	Delay	LOS	Delay	LOS
Garvies Point Road & Herb Hill Road (Roundabout in future conditions)	EB	9.5	A	5.7	A	6.8	A
	WB	10.2	B	8.6	A	12.1	B
	NB			6.8	A	9.3	A
	SB			7.1	A	9.0	A
	Overall			**7.8**	**A**	**10.8**	**B**

Tables 10, 11, and 12 show that the analysis results of the stop controlled intersection of Garvies Point Road and Herb Hill Road during the a.m., p.m., and Saturday peak hours are significantly below capacity during under the Build condition. It should be noted that, in accordance with the information contained in the RXR Glen Isle FEIS, as well as the ensuring Findings Statement, this location will have a one lane roundabout installed in the future condition to accommodate the newly generated traffic by that mixed-use development. Accounting for this, the intersection will operate at an LOS B during the a.m., p.m., and Saturday peak hours, which is considered below capacity.

The unsignalized East Site Access operates at a LOS B which is considered below capacity.

Site Access

The project site would be serviced by a multiple driveways on Garvies Point Road that would allow left and right turns into and out of the site. Due to the fact that Garvies Point Road is not a through roadway and experiences minimal east/west traffic, these driveways were consolidated for the purposes of this analysis

The Build condition results of the capacity analysis performed for the unsignalized Garvies Point Road and Site Access intersection are presented in Table 13 for the weekday a.m., p.m. and Saturday midday peak hours.

Table 13 - LOS Summary – Site Access

Intersection	Approach/ Movement	AM Peak Hour		PM Peak Hour		Saturday Midday Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS
Garvies Point Road & Site Access	EB	10.2	B	18.7	C	9.6	A

Table 13 shows that the site access is expected to operate well with low levels of delay and a LOS of C or better during all of the peak periods studied.

Mitigation – Signalized Intersections

Based on the detailed evaluation of potential impacts of the proposed redevelopment, the majority of the study intersections were found to accommodate the additional site traffic with minimal impact to future operations. However the intersections that showed a drop in either the overall intersection LOS or individual movement LOS have been identified for potential mitigation to improve their overall operation. These measures are as indicated in Table 14:

Table 14 – Mitigation

Intersection	Existing Condition	Peak Hour / Mitigation		
		AM	PM	Saturday Midday
Glen Cove Avenue & Charles Street/Brewster Street	The intersection is on "Free Operation" with an approximate cycle of 105 seconds during all time periods	No Mitigation Needed	Increase Cycle length to 115 seconds. Adjust phase splits to correlate to the future volumes	Increase Cycle length to 120 seconds. Adjust phase splits to correlate to the future volumes
Charles Street & Herb Hill Road	The intersection is on "Free Operation" with an approximate cycle of 83 seconds during all time periods		Increase Cycle length to 105 seconds. Adjust phase splits to correlate to the future volumes	Increase Cycle length to 100 seconds. Adjust phase splits to correlate to the future volumes

No capacity changes have been recommended at any of the intersections. The proposed mitigation is limited to changes to cycle length/split changes /signal progression to improve the future condition. Additionally, not mitigation measures were determined to be necessary during the a.m. peak hours. Accordingly, Tables 15 and 16 indicate the mitigation results for the No-Build, Build, and Mitigation Scenarios.

The detailed capacity analysis worksheets are contained in Appendix C

Table 15 - LOS Summary – Mitigation – PM Peak Hour

Intersection	Approach	Lane Group	No-Build 2022		Build 2022		Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue/Brewster Street & Charles Street	WB	L	47.9	D	47.9	D	30.8	C
		LTR	129.8	F	172.3	F	42.6	D
		R	13.9	B	14.5	B	12.6	B
		Approach	84.4	F	109.6	F	32.8	C
	NB	L	18.1	B	23.5	C	40.4	D
		TR	22.0	C	22.0	C	29.0	C
		R	16.4	B	20.8	C	20.0	B
		Approach	19.0	B	21.7	C	27.3	C
	SB	L	29.6	C	29.6	C	36.4	D
		TR	12.5	B	12.4	B	16.9	B
		Approach	20.5	C	20.4	C	26.0	C
	Overall		**40.9**	**D**	**51.0**	**D**	**28.8**	**C**
Charles Street & Herb Hill Road	EB	LT	29.8	C	28.9	C	40.4	D
		R	0.6	A	0.8	A	0.8	A
		Approach	4.8	A	4.6	A	6.2	A
	WB	LTR	24.4	C	23.6	C	32.1	C
		Approach	24.4	C	23.6	C	32.1	C
	NB	L	47.8	D	143.1	F	51.8	D
		T	20.4	C	22.0	C	19.8	B
		R	0.0	A	0.0	A	0.0	A
		Approach	39.9	D	114.3	F	44.1	D
	SB	L	23.2	C	24.4	C	31.4	C
		TR	37.8	D	41.3	D	53.0	D
		Approach	35.6	D	38.8	D	49.8	D
	Overall		**25.8**	**C**	**58.4**	**E**	**30.6**	**C**

Table 16 - LOS Summary – Mitigation – Saturday Midday Peak Hour

Intersection	Approach	Lane Group	No-Build 2022		Build 2022		Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
Glen Cove Avenue/Brewster Street & Charles Street	WB	L	47.6	D	47.6	D	31.3	C
		LTR	75.8	E	104.2	F	34.1	C
		R	12.4	B	12.9	B	11.3	B
		Approach	54.2	D	70.2	E	27.9	C
	NB	L	19.6	B	25.5	C	22.7	C
		TR	23.5	C	23.5	C	33.3	C
		R	19.1	B	27.4	C	27.9	C
		Approach	21.0	C	25.6	C	29.1	C
	SB	L	29.9	C	29.9	C	39.2	D
		TR	12.5	B	12.5	B	21.9	C
		Approach	20.8	C	20.8	C	30.2	C
	Overall		**30.4**	**C**	**37.2**	**D**	**29.0**	**C**
Charles Street & Herb Hill Road	EB	LT	29.3	C	29	C	37.1	D
		R	0.4	A	0.5	A	0.5	A
		Approach	3.5	A	3.5	A	4.3	A
	WB	LTR	26.9	C	26.2	C	33.3	C
		Approach	26.9	C	26.2	C	33.3	C
	NB	L	34.2	C	74.6	E	33.9	C
		T	17.2	B	18.1	B	15.2	B
		R	0.0	A	0.0	A	0.0	A
		Approach	30.6	C	64.6	E	30.5	C
	SB	L	21.8	C	22.6	C	30.1	C
		TR	33.8	C	35.7	D	48.5	D
		Approach	31.5	C	33.3	C	45.2	D
	Overall		**22.5**	**C**	**37.0**	**D**	**25.1**	**C**

As seen in Table 15 and 16, the signalized intersections that were reanalyzed operate at the same LOS after the mitigation measures as the No-Build condition during the time-periods analyzed.

5

Site Parking & Circulation

Site Parking

The required parking based on City of Glen Cove Code requirements, is summarized in Table 17, along with details from the site plan for the redevelopment under study to estimate the required parking.

Table 17- Parking Requirement Estimates

Component	Village Code	Proposed	Parking Required
Retail Space	1 space/250 GFA	34,200 SF	137 spaces (140 spaces)
Restaurant	1 space/3 seats	120 seats	40 spaces
Apartments	2 spaces/unit	400 units	800 spaces
Total Parking Required as per City Code		980 spaces	

As can be seen from Table 17 a total of 980 off-street spaces would be required for the mixed use development.

The site plan shows that 980 stalls have been provided. As such, code compliant parking is provided and no parking variance is required to accommodate the proposed action.

While the application does not include a parking shortfall, parking code requirements also do not account for the fact the multiple uses on the same site can utilize the same parking stalls as them may have peak parking demands that vary by the time of day meaning the peak demands of the uses do not occur at the same time. This is the case with this site and the residential, retail, and restaurant components where the peak residential parking demand occurs overnight while the retail occurs during the day and the restaurant occurs during the earlier evening.

To determine parking necessary to serve the actual demands of the uses on the redeveloped site, a shared parking analysis was performed.

Shared Parking

The performance of a shared parking study involves the projection of the parking demands for each of the project's components over the course of the day. This typically includes a weekday and weekend day. This produces a curve of parking demand for each component of the development plan which are then superimposed on each other to determine a composite demand for each time of day. When the peak demand of each component does not occur at the same time, it is shown that the peak demand for the site is lower than simply summing the peak demands of each use.

In the case of the proposed redevelopment it is proposed to construct 400 apartment units, 34,200 SF of retail space, and a 120-seat restaurant. ITE's *Parking Generation, 5th Edition,* is a widely used and accepted source for parking demand data for various land uses, including "Quality Restaurant" (Land Use Code #931), "Shopping Center" (Land Use Code #820), and "Low/Mid-Rise Apartment" (Land Use Code #221). From this publication, the 85th percentile peak parking demand rates for weekday and Saturday are as follows:

Quality Restaurant -	1.00 parked vehicles per seat on a weekday
	0.63 parked vehicles per seat on a Saturday
Shopping Center -	3.78 parked vehicles per 1,000 SF on a weekday
	3.74 parked vehicles per 1,000 SF on a Saturday
Apartments -	1.47 parked vehicles per unit on a weekday
	1.33 parked vehicles per unit on a Saturday

It should be noted that the 85th percentile data represents a more high-side conservative estimate for the parking generation in comparison with the average rates provided by ITE. Additionally, while the project would not be considered a

tradition transit oriented development based on walkable proximity, it is located substantially contiguous to the Long Island Railroad stations situated on the Oyster Bay line, which would allow residents to commute without necessarily owning a car which would be parked within the development. However, no reduction was applied to the ITE 85th percentile data to attempt to mimic this effect resulting in a more high-side conservative analysis.

Furthermore, it is the intention of the applicant to establish a 'Zipcar' program at the premises. Zipcar is a car-sharing company which allows members to reserve an utilize a vehicle (which they do not own) from a central hub to utilize locally. As a result, members who are residents of the development would not need to own their own vehicle, thereby reducing parking demand. Regardless, no reduction was applied to the residential parking estimates to provide a more conservative analysis.

The Urban Land Institute's (ULI) *Shared Parking 2th Edition* includes information regarding how the parking demands for numerous land uses vary over the course of the day and month of the year in the form of factors that adjust the peak demand ratios to specific times of the day. For instance, the peak of parking demand for apartments is found between 10:00 p.m. and early morning, coinciding with when the residents are home while the peak for shopping center is during the day with no real demand overnight.

A shared parking analysis applies these time-of-day factors to the peak demand and results in a projected demand for each hour. This method was utilized for the proposed redevelopment of the site, resulting in the curves presented on Figure 9 and Figure 10 for a weekday and weekend day, respectively. Presented on the figures are curves representing the demand over the course of the day for the restaurant, residential, and shopping center components separately as well as the combined total. The combined total represents the total demand of both components summed together at that time of the day.

As indicated on Figure 9, on a weekday the peak parking demand for the site is projected to be 780 parked vehicles at 8:00 p.m. Similarly, the peak parking demand on the weekend is projected to be 684 parked vehicles, occurring at 7:00 p.m.

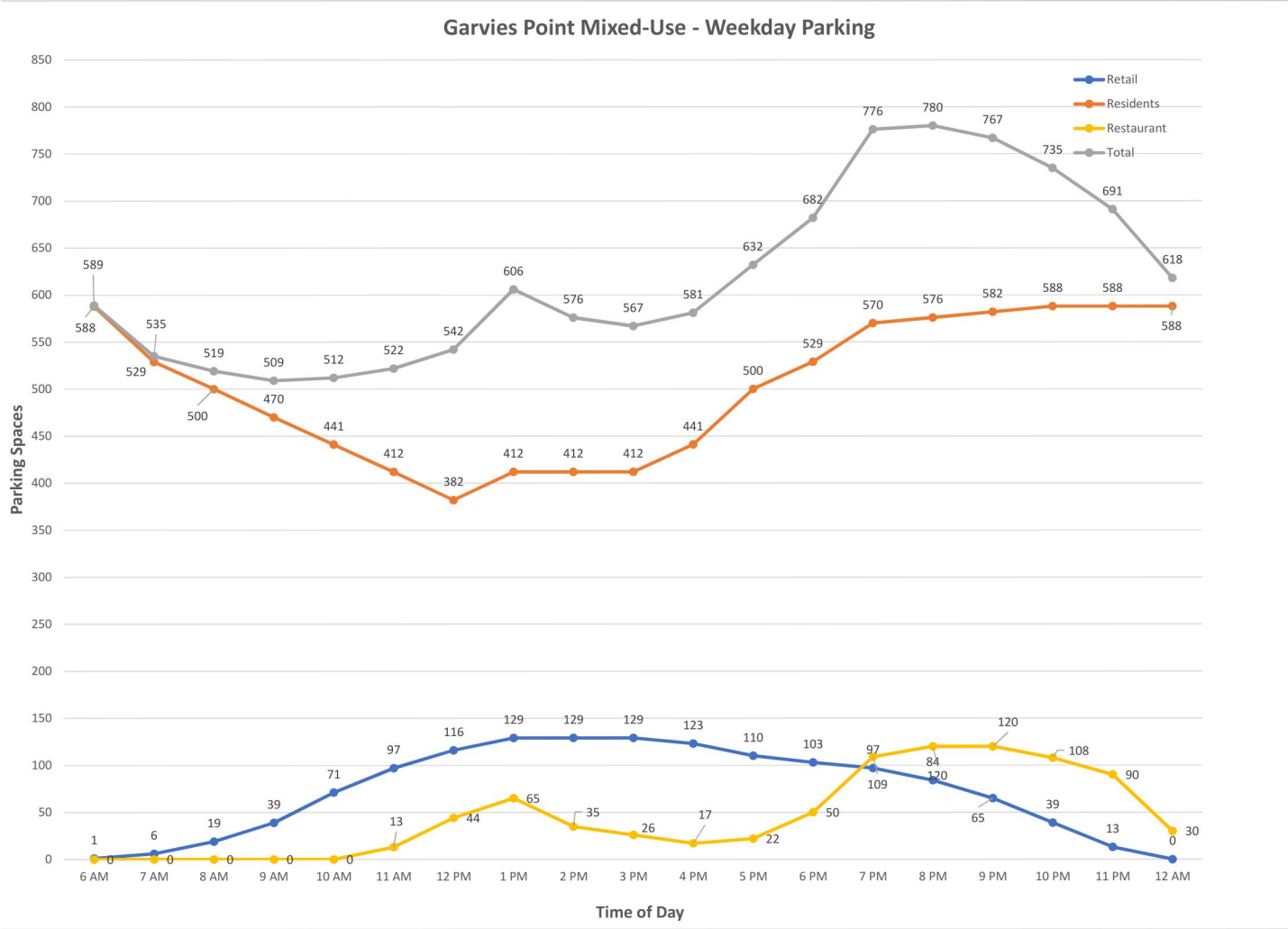


Figure 9

Weekday Parking Demand Distribution
Mixed-Use Development
Glen Cove, New York

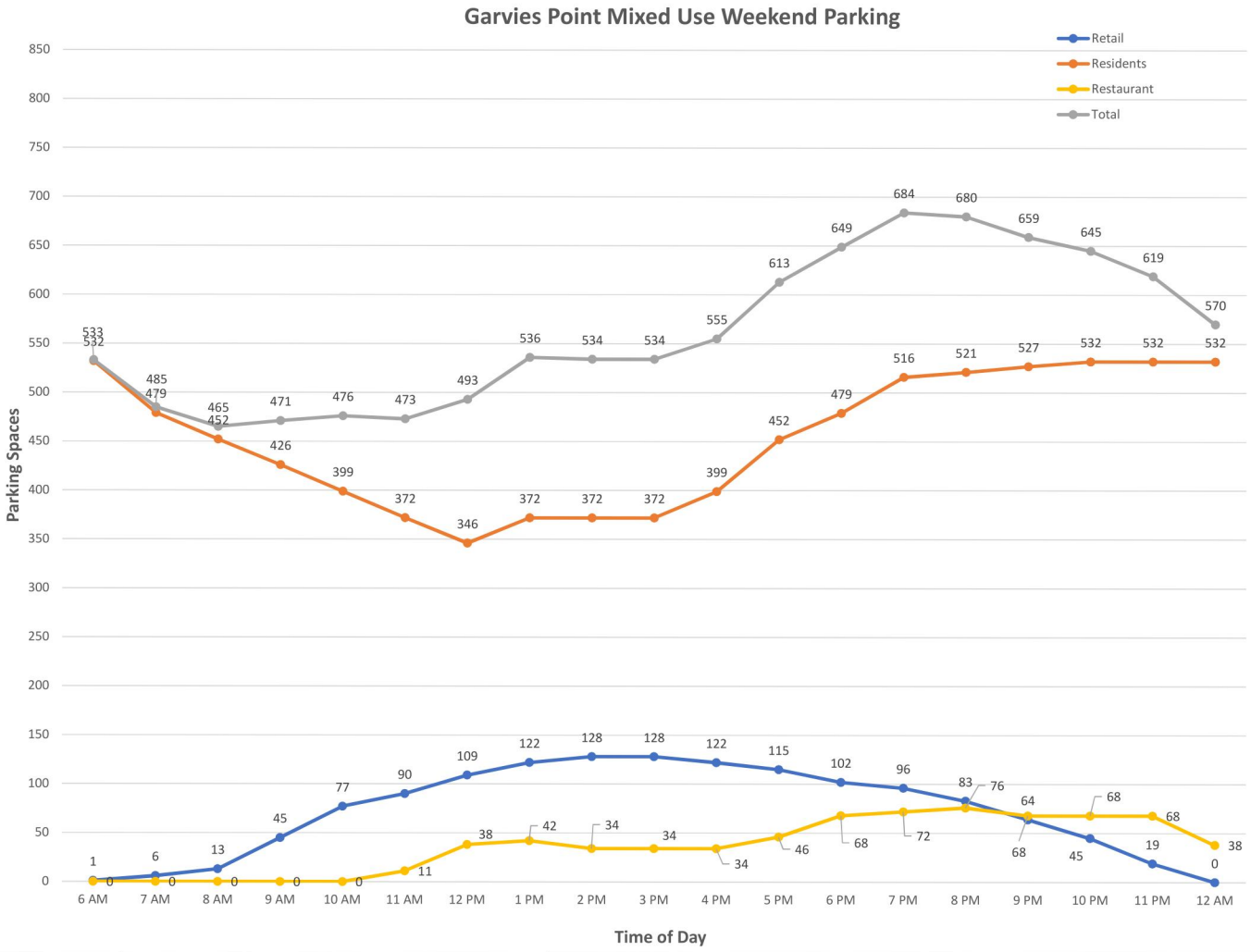


Figure 10

Weekend Parking Demand Distribution
Mixed-Use Development
Glen Cove, New York

The proposed site plan provides 980 on-site parking spaces. Based on the shared parking analysis detailed, the anticipated peak parking demand can be accommodated on the site while providing 200 unoccupied parking spaces (20%).

Due to the extents in the overage in parking, it is also the intention of the applicant to develop the facility infrastructure to potentially accommodate future activities that are not currently in place. This will potentially take the form of reserved parking for reestablishing the operation of the Glen Cove Ferry Terminal, located immediately opposite the site on Garvies Point Road, or accommodating a ride sharing hub, such as the aforementioned 'Zipcar' service. As a result, the additional parking to be constructed will serve as a benefit to the local community.

6

Conclusions

Based on the results of the analyses conducted for the purpose of this report, the following conclusions have been developed.

- Due to the extents of the construction activities for the RXR Glen Isle Development, traffic counts within the study area would not yield a conventional or accurate traffic impact analysis. Accordingly, the turning movement data collected for that development was referenced in the preparation of this study, as discussed in detail previously.
- The occurrence of traffic accidents within the study area for the three-year period of which data would be available was determined to not be salient to the future conditions. This is due to the level of construction present in the study area as well as the fact that the conditions previous to the construction activities would not be relevant following the opening of the RXR Glen Isle Development.
- The proposed redevelopment of the site would generate 177 trips (60 entering and 117 exiting) during the weekday a.m. peak hour, 249 trips (146 entering and 103 exiting) during the weekday p.m. peak hour and 264 trips (136 entering and 128 exiting) during the Saturday midday peak hour.
- The traffic generated by the redeveloped site can be accommodated on the adjacent roadways and intersections without upsetting the improvements to the roadway infrastructure proposed as a part of the RXR Glen Isle Development. This includes the installation of a 1 lane roundabout at the intersection of Garvies Point Road/Division Street and Herb Hill Road.
- The proposed site access plan is well developed, sufficient to serve the needs of the site and will operate well with low delays.

- The capacity analysis performed shows that the project generated traffic will result in no significant impact on the majority of the intersections identified for this study. Those study intersections will continue to operate similarly to the No Build condition with minimal increases in overall delay and no changes in LOS.
- The impacts to the intersections of Glen Cove Avenue/Brewster Street at Charles Street and Charles Street at Herb Hill Road are easily mitigated via single timing and phasing modifications. As a result, no modifications to the roadway network would be required.
- A shared parking analysis determined that, at a maximum, the uses proposed would generate 780 parked vehicles to be accommodated in 980 parking spaces. The overage in parking provided is a deliberate design decision, however, as the applicant is seeking to accommodate future programs, such as a 'Zipcar' hub, and potential activity for the public benefit, such as parking for the operation of the nearby ferry terminal.

Appendix A

Description

RXR Glen Isle Turning Movement Count Figures

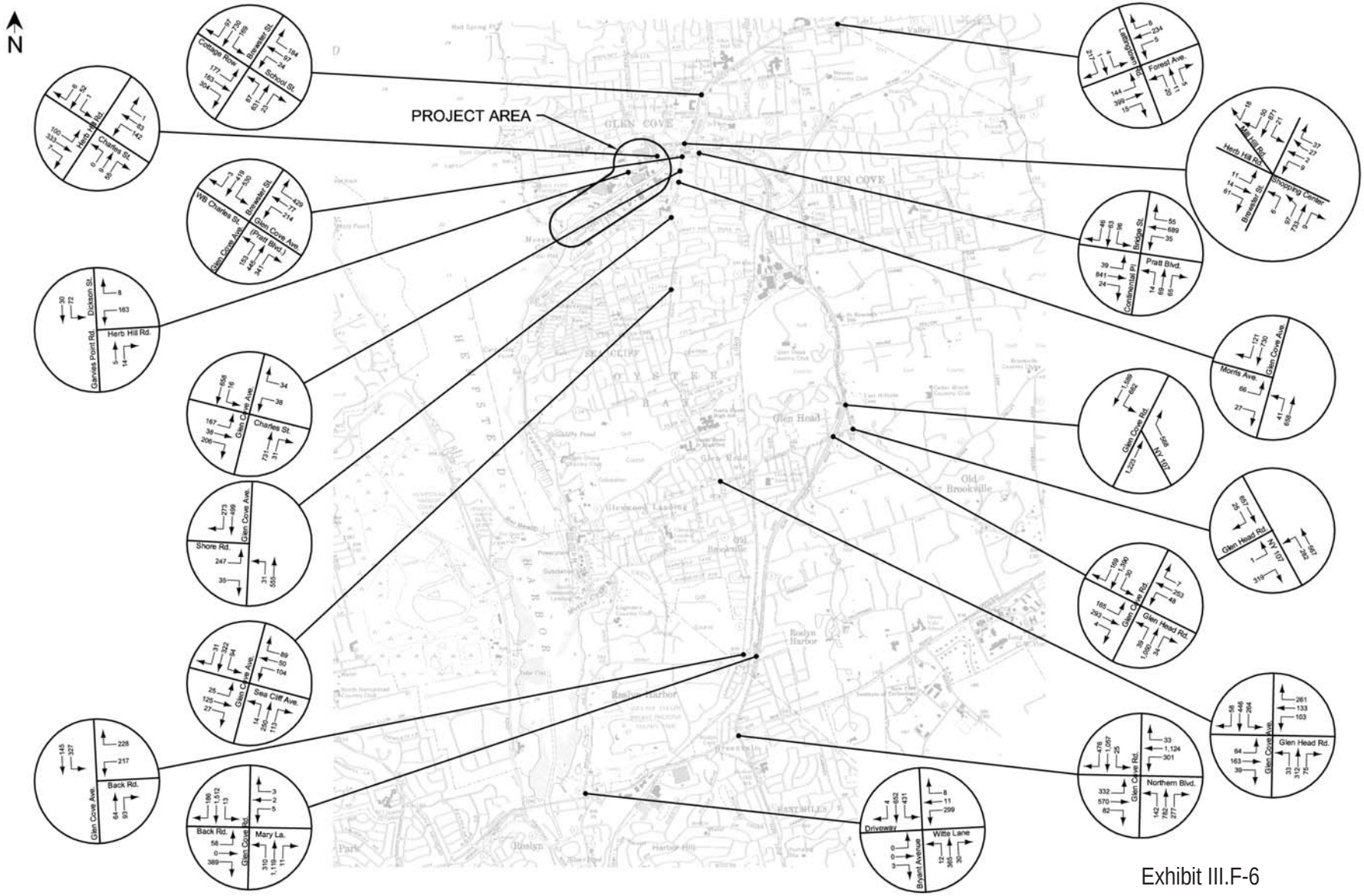


Exhibit III.F-6

2016 NO-BUILD TRAFFIC VOLUMES - AM PEAK HOUR

GLEN COVE CREEK
MIXED-USE WATERFRONT DEVELOPMENT
Glen Cove, New York

SOURCE: VHB

Saccardi & Schiff, Inc. - Planning and Development Consultants

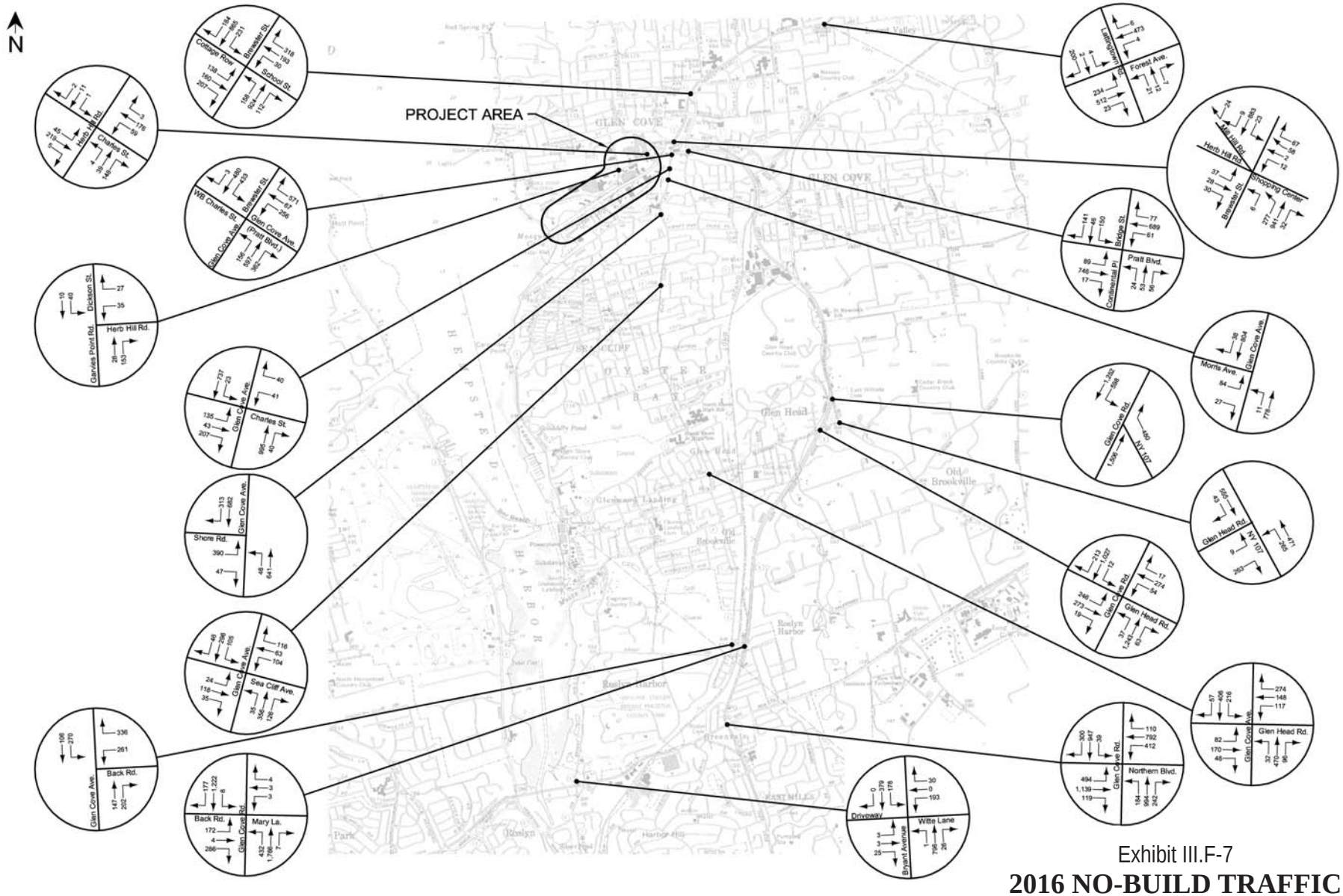


Exhibit III.F-7

2016 NO-BUILD TRAFFIC VOLUMES - PM PEAK HOUR

GLEN COVE CREEK
MIXED-USE WATERFRONT DEVELOPMENT
Glen Cove, New York

SOURCE: VHB

Saccardi & Schiff, Inc. - Planning and Development Consultants

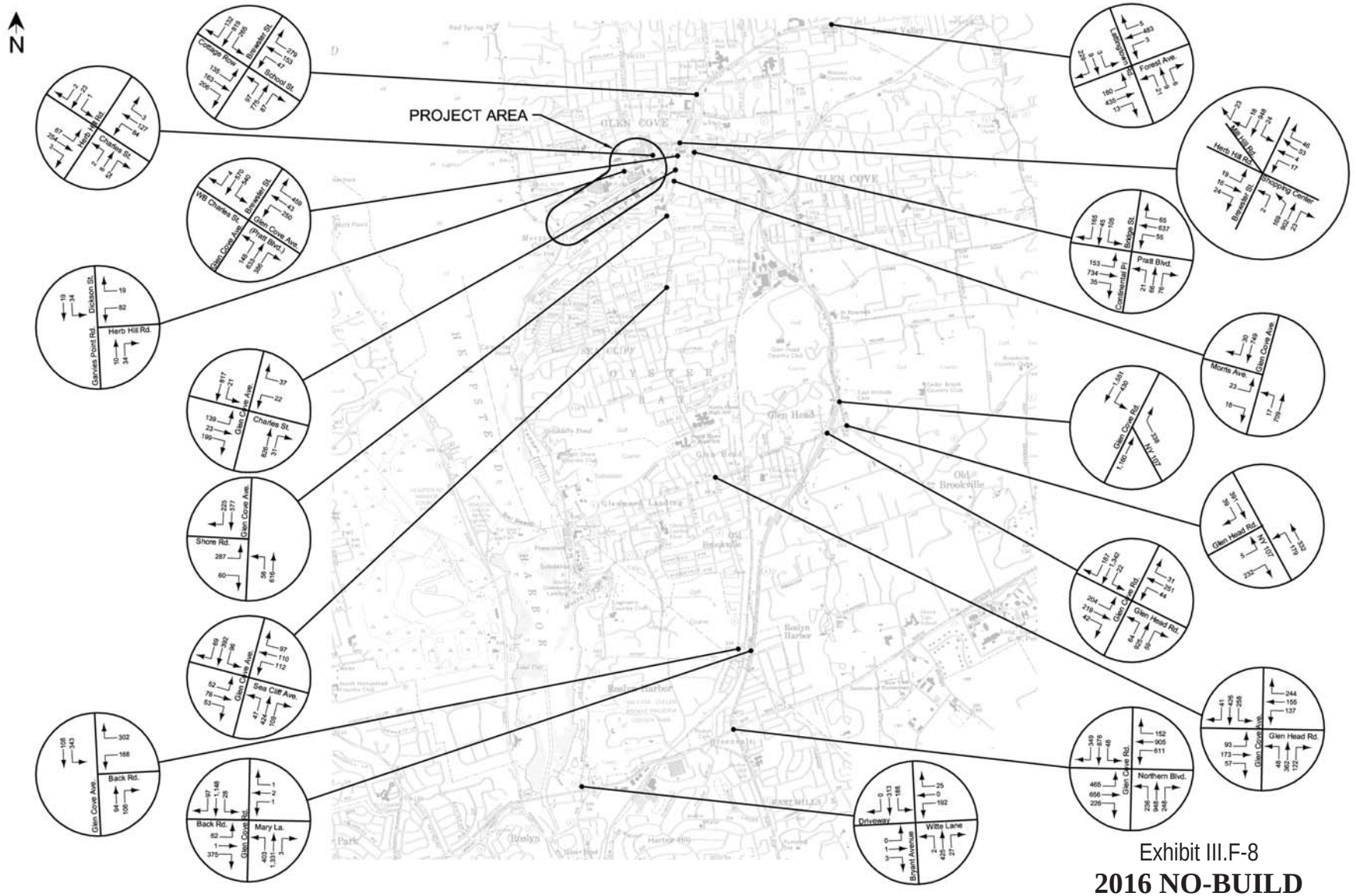


Exhibit III.F-8

2016 NO-BUILD TRAFFIC VOLUMES SATURDAY PEAK HOUR

GLEN COVE CREEK
MIXED-USE WATERFRONT DEVELOPMENT
Glen Cove, New York

SOURCE: VHB

Saccardi & Schiff, Inc. - Planning and Development Consultants

Appendix B

Description
Level of Service Definitions

Level of Service Definitions

Signal Controlled Intersections

The level of service and capacity of a signalized intersection are the criteria by which the quality of traffic service is measured. The levels of service range between level of service A (relatively congestion-free) and level of service F (congested).

The capacity of a signalized intersection is based upon the concepts of saturation flow and saturation flow rate. This is the maximum rate of flow that can pass through a given lane group under prevailing traffic and roadway conditions. The volume-to-capacity ratio is the ratio of the traffic flow for a given lane group or approach to the capacity. A V/C ratio of 1.0 indicates that the flow rate equals the capacity. Values over 1.0 indicate a temporary excess of demand. This does not necessarily indicate an intersection failure.

The level of service of a signalized intersection is evaluated on the basis of average control delay per vehicle for various movements within the intersection. The control delay is a function of the arrivals, delay from queuing and over saturation.
The following general statements may be made regarding the level of service of a signalized intersection.

- ***Level of service A*** describes operations with a very low delay. This occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short traffic signal cycles may contribute to low delay.
- ***Level of service B*** generally occurs with good progression and/or short traffic signal cycle lengths. More vehicles stop than for level of service A, causing higher average delays.
- ***Level of service C*** has higher delays than level of service B. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures, where motorists are required to wait through an entire signal cycle, may begin to appear in this level. The number of vehicles

stopping is significant at this level, although many still pass through the intersection without stopping.

- ***Level of service D*** means the influence of congestion has become more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths or high volume to capacity ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
- ***Level of service E*** is considered the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences.
- ***Level of Service F*** has delays that are considered unacceptable to most drivers. This condition often occurs with over saturations, i.e., when arrival flow rates exceed the capacity of the intersection. It may occur at volume to capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

The following average stopped delays are utilized to determine intersection and approach roadway levels of service for signalized intersections:

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 20.0
C	> 20.0 and $\leq$ 35.0
D	> 35.0 and $\leq$ 55.0
E	> 55.0 and $\leq$ 80.0
F	> 80.0

Two Way Stop Controlled Intersections

The level of service and capacity of a two-way stop controlled (TWSC) intersection are the criteria that are used to measure the quality of the traffic operations. The levels of service range between level of service A (relatively congestion-free) and level of service F (very congested).

The right of way at the TWSC intersection is controlled by stop signs on two opposing minor-street approaches (or on one leg of a "T"-type intersection). The capacity of a controlled approach is based on the distribution of gaps in the

major street traffic flow, driver judgment in selecting a gap through which to execute the desired maneuver and the follow up time required by each driver in a queue.

The level of service for the subject lane group movement of an approach of a TWSC intersection is evaluated based on the average total delay per vehicle. Control delay is a function of the capacity of the approach and the degree of saturation. It is defined as the total elapsed time from the time a vehicle stops at the end of the queue to the time the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the end of the queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. The average approach delay for all vehicles on a particular approach is computed as the weighted average of the control delay estimates for each individual movement on the approach.

The following levels of average control delay are used to determine approach levels of service:

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 15.0
C	> 15.0 and $\leq$ 25.0
D	> 25.0 and $\leq$ 35.0
E	> 35.0 and $\leq$ 50.0
F	> 50.0

While the level of service criteria are applied to each approach of a TWSC intersection, the average delay for an entire intersection can be calculated by taking a weighted average of the vehicles stopped on the minor approaches and the vehicles in the major street traffic flow, which suffer no delays. This total average control delay provides a means of comparison for two intersections.

All Way Stop Controlled Intersections

The level of service and capacity of an all way stop controlled (AWSC) intersection are the criteria by which the quality of traffic service is measured. The levels of service range between level of service A (relatively congestion-free) and level of service F (very congested).

The key variable in determining the capacity of an AWSC intersection is the distribution of traffic volumes among the approaches. Under ideal conditions traffic would be evenly distributed among the approaches. The flow rate for any given approach increases as the traffic decreases on the other approaches, allowing a smaller headway between vehicles departing from the stop line.

The capacity of each approach is computed under the assumption that the flows on the opposing and conflicting approaches are constant. The level of service of an AWSC intersection is evaluated based on the average total delay per vehicle. Total delay is defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the end of the queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in the queue. This delay is based on the flow rate for each approach. As indicated above, the flow rate and therefore the delay, is directly proportional to the distribution of vehicles among the approaches.

The following levels of average control delay are used to determine approach levels of service:

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 15.0
C	> 15.0 and $\leq$ 25.0
D	> 25.0 and $\leq$ 35.0
E	> 35.0 and $\leq$ 50.0
F	> 50.0

The average control delay is the most effective measure for indicating the performance of an AWSC intersection because it can readily be measured by a transportation analyst and can be clearly communicated to a lay person. In addition, the use of delay will result in a consistent measure for both signalized and unsignalized intersections. While both types of intersections are evaluated in terms of average delay, the level of service criteria are different. This is due to drivers who expect different levels of performance from different types of intersection controls. Since signalized intersections are designed to carry higher traffic volumes compared with AWSC intersections, higher levels of control delay are more acceptable at signalized intersections for the same level of service.

Appendix C

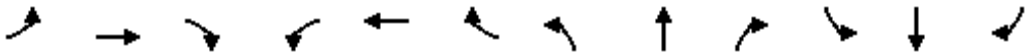
Description

Synchro Capacity Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	214	77	429	153	445	341	530	419	3
Future Volume (vph)	0	0	0	214	77	429	153	445	341	530	419	3
Satd. Flow (prot)	0	0	0	1610	2873	1441	1770	3539	1583	3433	3536	0
Flt Permitted				0.950	0.994		0.499			0.950		
Satd. Flow (perm)	0	0	0	1610	2873	1441	930	3539	1583	3433	3536	0
Satd. Flow (RTOR)											1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				18%		50%						
Lane Group Flow (vph)	0	0	0	181	340	221	158	459	352	546	435	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				13.7	13.7	36.8	29.1	23.0	42.8	17.1	34.1	
Actuated g/C Ratio				0.19	0.19	0.51	0.40	0.32	0.60	0.24	0.47	
v/c Ratio				0.59	0.62	0.30	0.35	0.40	0.37	0.67	0.26	
Control Delay				35.9	32.7	11.3	10.3	20.8	9.4	29.3	11.7	
Queue Delay				0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	
Total Delay				35.9	32.7	11.3	10.3	20.8	9.8	29.3	11.7	
LOS				D	C	B	B	C	A	C	B	
Approach Delay					27.1			15.1			21.5	
Approach LOS					C			B			C	
Queue Length 50th (ft)				83	83	58	24	85	77	113	57	
Queue Length 95th (ft)				152	131	103	45	127	131	163	85	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				314	560	757	446	2663	948	909	3301	
Starvation Cap Reductn				0	0	0	0	0	250	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.58	0.61	0.29	0.35	0.17	0.50	0.60	0.13	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 71.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 57.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

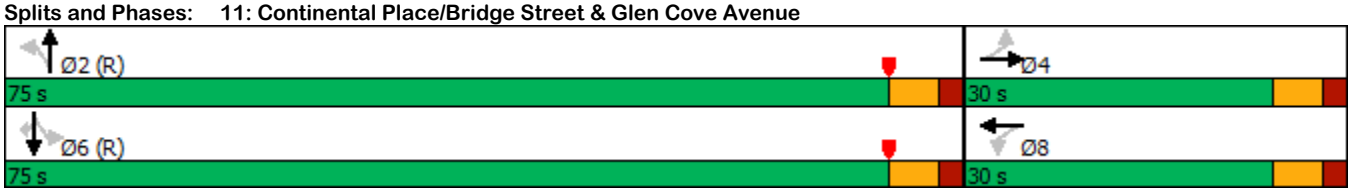


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	841	24	35	689	55	14	69	65	96	63	46
Future Volume (vph)	39	841	24	35	689	55	14	69	65	96	63	46
Satd. Flow (prot)	1770	3525	0	1770	3500	0	0	1744	0	0	1809	1583
Flt Permitted	0.234			0.172				0.968			0.744	
Satd. Flow (perm)	436	3525	0	320	3500	0	0	1697	0	0	1386	1583
Satd. Flow (RTOR)		3			7			5				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	921	0	37	792	0	0	158	0	0	169	49
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	40.2	40.2		40.2	40.2			52.8			52.8	52.8
Actuated g/C Ratio	0.38	0.38		0.38	0.38			0.50			0.50	0.50
v/c Ratio	0.25	0.68		0.30	0.59			0.19			0.24	0.06
Control Delay	28.2	30.5		32.3	28.2			14.1			15.5	13.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	28.2	30.5		32.3	28.2			14.1			15.5	13.0
LOS	C	C		C	C			B			B	B
Approach Delay		30.4			28.4			14.1			14.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	19	275		18	224			52			59	16
Queue Length 95th (ft)	49	346		49	286			90			102	35
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	167	1352		122	1345			1116			910	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.25	0.68		0.30	0.59			0.14			0.19	0.05

Intersection Summary

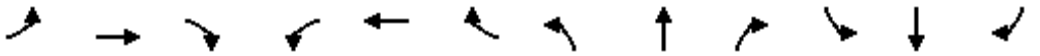
Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 76.6% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



12: Glen Cove Avenue & Charles Street
Lanes, Volumes, Timings

Existing 2016
AM Peak

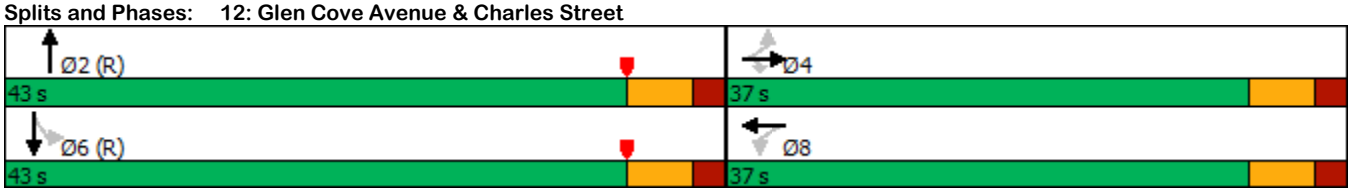


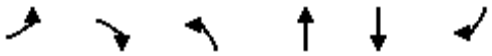
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	167	38	206	38	0	34	0	731	31	16	658	0
Future Volume (vph)	167	38	206	38	0	34	0	731	31	16	658	0
Satd. Flow (prot)	1770	1863	1583	0	1755	0	0	3518	0	1652	3421	0
Flt Permitted	0.708				0.830					0.330		
Satd. Flow (perm)	1319	1863	1583	0	1495	0	0	3518	0	574	3421	0
Satd. Flow (RTOR)			152		41			7				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	40	217	0	76	0	0	802	0	17	693	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	16.5	16.5	16.5		16.5			51.5		51.5	51.5	
Actuated g/C Ratio	0.21	0.21	0.21		0.21			0.64		0.64	0.64	
v/c Ratio	0.65	0.10	0.49		0.22			0.35		0.05	0.32	
Control Delay	39.1	23.5	12.3		14.3			10.9		7.9	7.8	
Queue Delay	0.0	0.0	0.0		0.0			0.3		0.0	0.0	
Total Delay	39.1	23.5	12.3		14.3			11.2		7.9	7.8	
LOS	D	C	B		B			B		A	A	
Approach Delay		24.2			14.3			11.2			7.8	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	82	16	27		14			113		3	70	
Queue Length 95th (ft)	128	36	75		1			214		13	133	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	511	721	706		604			2265		369	2200	
Starvation Cap Reductn	0	0	0		0			766		0	0	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.34	0.06	0.31		0.13			0.54		0.05	0.32	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 12.9 — Intersection LOS: B
Intersection Capacity Utilization 52.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Glen Cove Avenue & Charles Street



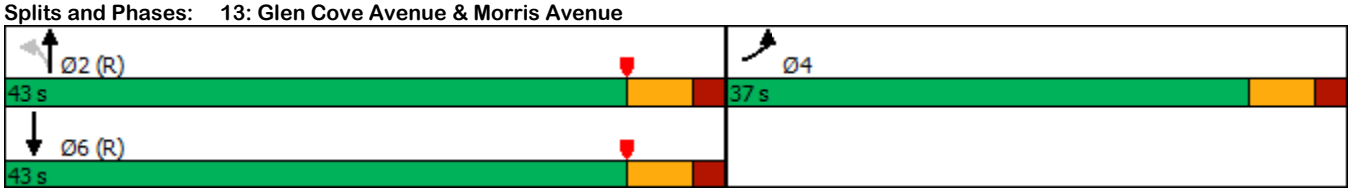


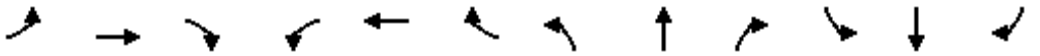
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	66	27	41	658	730	121
Future Volume (vph)	66	27	41	658	730	121
Satd. Flow (prot)	1960	0	1652	3539	3465	0
Flt Permitted	0.966		0.320			
Satd. Flow (perm)	1960	0	556	3539	3465	0
Satd. Flow (RTOR)	28				31	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	96	0	42	678	878	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	9.1		62.9	62.9	62.9	
Actuated g/C Ratio	0.11		0.79	0.79	0.79	
v/c Ratio	0.39		0.10	0.24	0.32	
Control Delay	28.6		4.0	3.5	4.0	
Queue Delay	0.0		0.0	0.0	0.2	
Total Delay	28.6		4.0	3.5	4.1	
LOS	C		A	A	A	
Approach Delay	28.6			3.5	4.1	
Approach LOS	C			A	A	
Queue Length 50th (ft)	32		4	43	51	
Queue Length 95th (ft)	73		16	74	120	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	776		437	2782	2730	
Starvation Cap Reductn	0		0	0	842	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.12		0.10	0.24	0.47	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.39
Intersection Signal Delay: 5.2 — Intersection LOS: A
Intersection Capacity Utilization 50.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	9	55	1	52	6	142	83	1	100	333	7
Future Volume (vph)	1	9	55	1	52	6	142	83	1	100	333	7
Satd. Flow (prot)	0	2013	1689	0	1870	0	1770	1925	1561	1805	1857	0
Flt Permitted		0.959			0.994		0.950			0.950		
Satd. Flow (perm)	0	1940	1689	0	1860	0	1770	1925	1561	1805	1857	0
Satd. Flow (RTOR)					7				118		1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	60	0	65	0	154	90	1	109	370	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		8.7	66.5		8.7		25.6	25.6	25.6	17.6	17.6	
Actuated g/C Ratio		0.13	1.00		0.13		0.38	0.38	0.38	0.26	0.26	
v/c Ratio		0.04	0.04		0.26		0.23	0.12	0.00	0.23	0.75	
Control Delay		28.2	0.0		28.9		17.6	16.7	0.0	21.7	34.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		28.2	0.0		28.9		17.6	16.7	0.0	21.7	34.4	
LOS		C	A		C		B	B	A	C	C	
Approach Delay		4.4			28.9			17.2			31.5	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		4	0		24		47	26	0	36	144	
Queue Length 95th (ft)		18	0		58		92	58	0	76	#269	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		597	1689		577		681	740	673	555	572	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.02	0.04		0.11		0.23	0.12	0.00	0.20	0.65	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 66.5
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 25.0 — Intersection LOS: C
Intersection Capacity Utilization 60.5% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Int Delay, s/veh	8.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	1	1	163	1	8	1	5	14	72	30	1
Future Vol, veh/h	1	1	1	163	1	8	1	5	14	72	30	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	179	1	9	1	5	15	79	33	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	212	214	34	208	207	13	34	0	0	20	0	0
Stage 1	192	192	-	15	15	-	-	-	-	-	-	-
Stage 2	20	22	-	193	192	-	-	-	-	-	-	-
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	745	684	1039	749	690	1067	1578	-	-	1596	-	-
Stage 1	810	742	-	1005	883	-	-	-	-	-	-	-
Stage 2	999	877	-	809	742	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	709	649	1039	718	655	1067	1578	-	-	1596	-	-
Mov Cap-2 Maneuver	709	649	-	718	655	-	-	-	-	-	-	-
Stage 1	809	705	-	1004	882	-	-	-	-	-	-	-
Stage 2	989	876	-	767	705	-	-	-	-	-	-	-

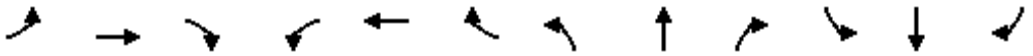
Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	11.7	0.4	5.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	767	729	1596	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.259	0.05	-	-
HCM Control Delay (s)	7.3	0	-	9.7	11.7	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	1	0.2	-	-

10: Glen Cove Avenue & Charles Street & Brewster Street

Existing 2016
PM Peak

Lanes, Volumes, Timings



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	256	67	571	156	597	362	433	480	3
Future Volume (vph)	0	0	0	256	67	571	156	597	362	433	480	3
Satd. Flow (prot)	0	0	0	1610	2840	1441	1770	3539	1583	3433	3536	0
Flt Permitted				0.950	0.995		0.465			0.950		
Satd. Flow (perm)	0	0	0	1610	2840	1441	866	3539	1583	3433	3536	0
Satd. Flow (RTOR)											1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				16%		50%						
Lane Group Flow (vph)	0	0	0	226	415	300	164	628	381	456	508	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	34.9	29.4	23.3	43.4	14.9	32.2	
Actuated g/C Ratio				0.20	0.20	0.50	0.42	0.33	0.62	0.21	0.46	
v/c Ratio				0.70	1.05dr	0.42	0.37	0.53	0.39	0.63	0.31	
Control Delay				41.2	36.4	13.4	10.3	21.5	8.8	29.3	12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	
Total Delay				41.2	36.4	13.4	10.3	21.5	9.2	29.3	12.5	
LOS				D	D	B	B	C	A	C	B	
Approach Delay					30.2			16.0			20.4	
Approach LOS					C			B			C	
Queue Length 50th (ft)				101	98	83	25	115	74	92	69	
Queue Length 95th (ft)				#226	#183	150	46	176	144	139	100	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				321	567	801	439	2725	977	930	3367	
Starvation Cap Reductn				0	0	0	0	1	256	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.70	0.73	0.37	0.37	0.23	0.53	0.49	0.15	

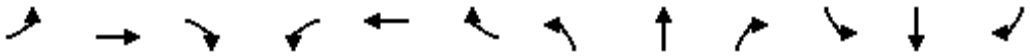
Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 70.3	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 21.7	Intersection LOS: C
Intersection Capacity Utilization 56.8%	ICU Level of Service B
Analysis Period (min) 15	

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

Queue shown is maximum after two cycles.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

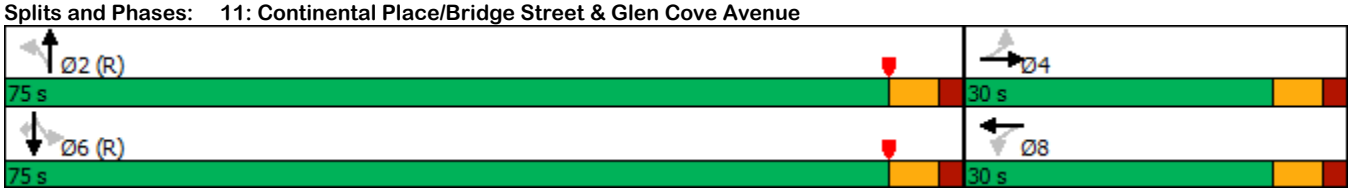


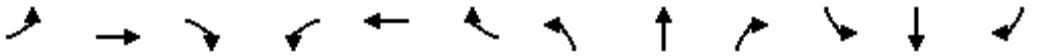
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	749	17	61	689	77	24	53	56	150	46	141
Future Volume (vph)	89	749	17	61	689	77	24	53	56	150	46	141
Satd. Flow (prot)	1770	3529	0	1770	3486	0	0	1741	0	0	1794	1583
Flt Permitted	0.286			0.286				0.922			0.685	
Satd. Flow (perm)	533	3529	0	533	3486	0	0	1620	0	0	1276	1583
Satd. Flow (RTOR)		2			11			8				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	823	0	66	824	0	0	143	0	0	210	152
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	57.0	57.0		57.0	57.0			36.0			36.0	36.0
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	0.34
v/c Ratio	0.33	0.43		0.23	0.43			0.25			0.48	0.28
Control Delay	19.3	16.1		17.1	16.0			23.4			30.3	25.4
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	19.3	16.1		17.1	16.0			23.4			30.3	25.4
LOS	B	B		B	B			C			C	C
Approach Delay		16.5			16.1			23.4			28.2	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	39	188		25	187			58			99	66
Queue Length 95th (ft)	74	213		51	212			113			181	125
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	288	1915		288	1895			1067			838	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.33	0.43		0.23	0.43			0.13			0.25	0.15

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 18.6 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



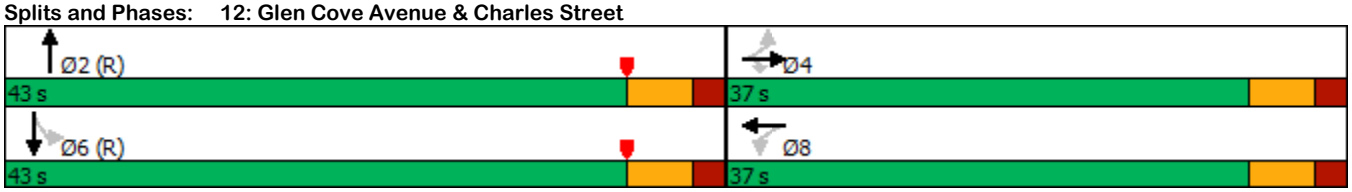


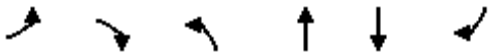
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	43	207	41	0	40	0	995	40	23	737	0
Future Volume (vph)	135	43	207	41	0	40	0	995	40	23	737	0
Satd. Flow (prot)	1770	1863	1583	0	1751	0	0	3518	0	1652	3421	0
Flt Permitted	0.786				0.821					0.234		
Satd. Flow (perm)	1464	1863	1583	0	1474	0	0	3518	0	407	3421	0
Satd. Flow (RTOR)			122		42			7				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	45	216	0	85	0	0	1078	0	24	768	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	14.6	14.6	14.6		14.6			53.4		53.4	53.4	
Actuated g/C Ratio	0.18	0.18	0.18		0.18			0.67		0.67	0.67	
v/c Ratio	0.53	0.13	0.56		0.28			0.46		0.09	0.34	
Control Delay	35.6	25.7	18.1		17.1			12.4		7.5	6.9	
Queue Delay	0.0	0.0	0.0		0.0			0.4		0.0	0.3	
Total Delay	35.6	25.7	18.1		17.1			12.8		7.5	7.2	
LOS	D	C	B		B			B		A	A	
Approach Delay		25.1			17.1			12.8			7.3	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	65	19	42		19			162		4	72	
Queue Length 95th (ft)	106	41	94		2			300		16	137	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	567	721	688		596			2352		271	2285	
Starvation Cap Reductn	0	0	0		0			715		0	844	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.25	0.06	0.31		0.14			0.66		0.09	0.53	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 13.2 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 12: Glen Cove Avenue & Charles Street



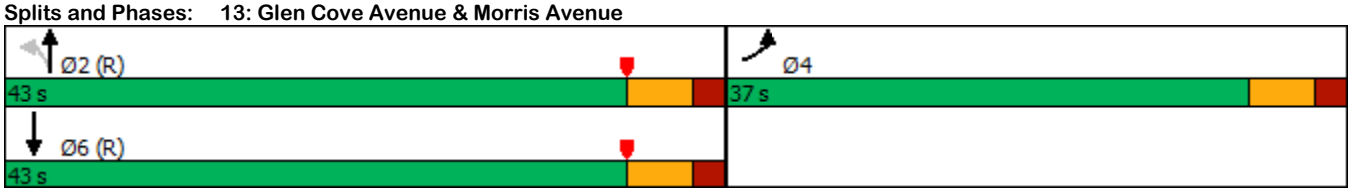


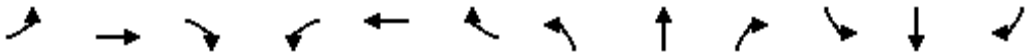
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	84	27	11	778	804	38
Future Volume (vph)	84	27	11	778	804	38
Satd. Flow (prot)	1966	0	1652	3539	3514	0
Flt Permitted	0.963		0.304			
Satd. Flow (perm)	1966	0	529	3539	3514	0
Satd. Flow (RTOR)	23				8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	120	0	12	846	915	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	9.9		62.1	62.1	62.1	
Actuated g/C Ratio	0.12		0.78	0.78	0.78	
v/c Ratio	0.45		0.03	0.31	0.34	
Control Delay	31.3		4.0	4.1	5.8	
Queue Delay	0.0		0.0	0.0	0.2	
Total Delay	31.3		4.0	4.1	6.0	
LOS	C		A	A	A	
Approach Delay	31.3			4.1	6.0	
Approach LOS	C			A	A	
Queue Length 50th (ft)	46		1	62	58	
Queue Length 95th (ft)	91		7	104	208	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	775		410	2746	2728	
Starvation Cap Reductn	0		0	0	876	
Spillback Cap Reductn	1		0	106	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.16		0.03	0.32	0.49	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 6.8 Intersection LOS: A
Intersection Capacity Utilization 40.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	39	148	1	11	2	59	176	3	45	219	5
Future Volume (vph)	4	39	148	1	11	2	59	176	3	45	219	5
Satd. Flow (prot)	0	2013	1689	0	1864	0	1770	1925	1561	1805	1857	0
Flt Permitted		0.967			0.979		0.950			0.950		
Satd. Flow (perm)	0	1956	1689	0	1830	0	1770	1925	1561	1805	1857	0
Satd. Flow (RTOR)					2				118		1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	183	0	17	0	73	217	4	56	276	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		8.3	66.1		8.3		25.1	25.1	25.1	14.7	14.7	
Actuated g/C Ratio		0.13	1.00		0.13		0.38	0.38	0.38	0.22	0.22	
v/c Ratio		0.22	0.11		0.07		0.11	0.30	0.01	0.14	0.67	
Control Delay		29.7	0.1		26.2		15.3	16.8	0.0	21.0	31.9	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.7	0.1		26.2		15.3	16.8	0.0	21.0	31.9	
LOS		C	A		C		B	B	A	C	C	
Approach Delay		6.8			26.2			16.2			30.1	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		20	0		6		18	59	0	18	101	
Queue Length 95th (ft)		47	0		21		43	108	0	40	154	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		593	1689		556		671	730	665	547	564	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.09	0.11		0.03		0.11	0.30	0.01	0.10	0.49	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 66.1
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 19.1 — Intersection LOS: B
Intersection Capacity Utilization 54.3% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 14: Charles Street & Herb Hill Road

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	1	1	1	35	1	27	1	28	153	40	10	1
Future Vol, veh/h	1	1	1	35	1	27	1	28	153	40	10	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	41	1	31	1	33	178	47	12	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	247	320	13	232	231	122	13	0	0	211	0	0
Stage 1	107	107	-	124	124	-	-	-	-	-	-	-
Stage 2	140	213	-	108	107	-	-	-	-	-	-	-
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	707	597	1067	723	669	929	1606	-	-	1360	-	-
Stage 1	898	807	-	880	793	-	-	-	-	-	-	-
Stage 2	863	726	-	897	807	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	663	576	1067	701	645	929	1606	-	-	1360	-	-
Mov Cap-2 Maneuver	663	576	-	701	645	-	-	-	-	-	-	-
Stage 1	897	779	-	879	792	-	-	-	-	-	-	-
Stage 2	832	725	-	863	779	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	10.1	0	6.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1606	-	-	717	782	1360	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.094	0.034	-	-
HCM Control Delay (s)	7.2	0	-	10	10.1	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-

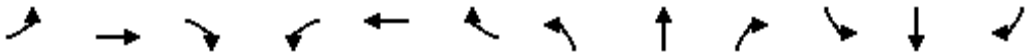
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	250	43	459	148	633	386	540	570	4
Future Volume (vph)	0	0	0	250	43	459	148	633	386	540	570	4
Satd. Flow (prot)	0	0	0	1610	2852	1441	1770	3539	1583	3433	3536	0
Flt Permitted				0.950	0.990		0.434			0.950		
Satd. Flow (perm)	0	0	0	1610	2852	1441	808	3539	1583	3433	3536	0
Satd. Flow (RTOR)											1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				27%		50%						
Lane Group Flow (vph)	0	0	0	185	343	232	149	639	390	545	580	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	37.1	29.4	23.4	43.4	17.1	34.5	
Actuated g/C Ratio				0.19	0.19	0.51	0.41	0.32	0.60	0.24	0.48	
v/c Ratio				0.60	0.62	0.31	0.37	0.56	0.41	0.67	0.34	
Control Delay				36.6	33.1	11.8	10.6	22.9	9.8	29.8	12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	
Total Delay				36.6	33.1	11.8	10.6	22.9	10.3	29.8	12.5	
LOS				D	C	B	B	C	B	C	B	
Approach Delay					27.4			17.2			20.9	
Approach LOS					C			B			C	
Queue Length 50th (ft)				85	84	61	23	126	88	113	81	
Queue Length 95th (ft)				#165	136	115	42	178	148	168	114	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				311	551	751	407	2640	947	901	3273	
Starvation Cap Reductn				0	0	0	0	4	248	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.59	0.62	0.31	0.37	0.24	0.56	0.60	0.18	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 72.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.67
Intersection Signal Delay: 21.1 Intersection LOS: C
Intersection Capacity Utilization 58.5% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

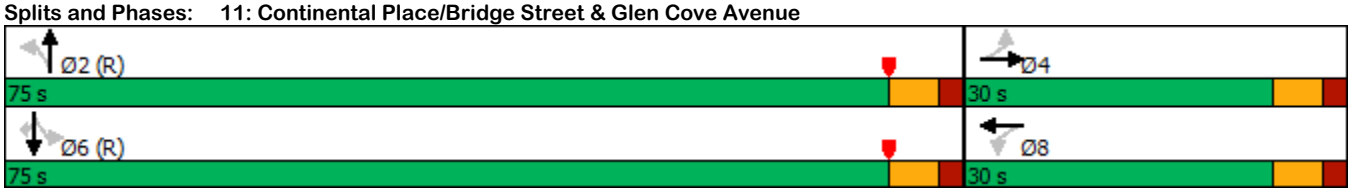


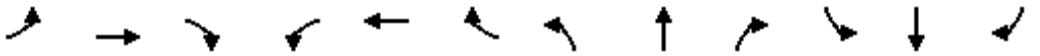
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	734	35	55	637	65	21	66	76	105	45	165
Future Volume (vph)	153	734	35	55	637	65	21	66	76	105	45	165
Satd. Flow (prot)	1770	3514	0	1770	3490	0	0	1735	0	0	1799	1583
Flt Permitted	0.355			0.326				0.945			0.609	
Satd. Flow (perm)	661	3514	0	607	3490	0	0	1649	0	0	1134	1583
Satd. Flow (RTOR)		4			10			11				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	801	0	57	732	0	0	170	0	0	156	172
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	70.2	70.2		70.2	70.2			22.8			22.8	22.8
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.22			0.22	0.22
v/c Ratio	0.36	0.34		0.14	0.31			0.46			0.63	0.50
Control Delay	10.8	8.1		7.8	7.8			37.7			49.7	41.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	10.8	8.1		7.8	7.8			37.7			49.7	41.5
LOS	B	A		A	A			D			D	D
Approach Delay		8.5			7.8			37.7			45.4	
Approach LOS		A			A			D			D	
Queue Length 50th (ft)	41	105		12	93			94			97	103
Queue Length 95th (ft)	91	156		33	140			153			160	163
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	441	2349		405	2335			1087			745	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.36	0.34		0.14	0.31			0.16			0.21	0.17

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 15.9 Intersection LOS: B
Intersection Capacity Utilization 73.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



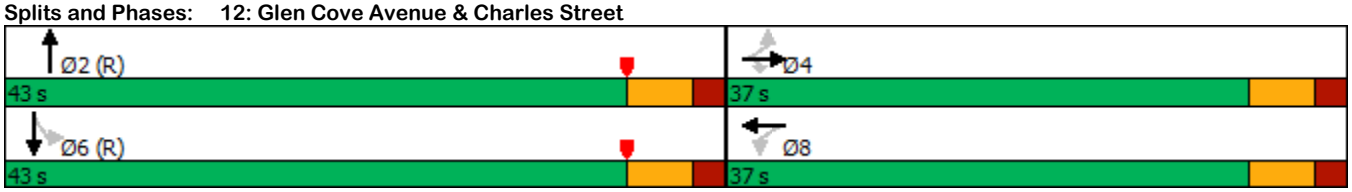


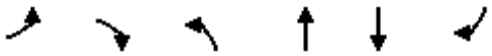
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	23	199	22	0	37	0	826	31	21	817	0
Future Volume (vph)	139	23	199	22	0	37	0	826	31	21	817	0
Satd. Flow (prot)	1770	1863	1583	0	1730	0	0	3522	0	1652	3421	0
Flt Permitted	0.717				0.889					0.299		
Satd. Flow (perm)	1336	1863	1583	0	1566	0	0	3522	0	520	3421	0
Satd. Flow (RTOR)			95		41			6				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	145	24	207	0	62	0	0	892	0	22	851	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	14.6	14.6	14.6		14.6			53.4		53.4	53.4	
Actuated g/C Ratio	0.18	0.18	0.18		0.18			0.67		0.67	0.67	
v/c Ratio	0.59	0.07	0.57		0.19			0.38		0.06	0.37	
Control Delay	38.9	24.5	21.2		13.4			10.8		7.0	7.2	
Queue Delay	0.0	0.0	0.0		0.0			0.4		0.0	0.4	
Total Delay	38.9	24.5	21.2		13.4			11.2		7.0	7.6	
LOS	D	C	C		B			B		A	A	
Approach Delay		28.2			13.4			11.2			7.6	
Approach LOS		C			B			B			A	
Queue Length 50th (ft)	68	10	50		9			127		3	83	
Queue Length 95th (ft)	111	26	102		0			250		15	156	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	517	721	671		631			2352		347	2282	
Starvation Cap Reductn	0	0	0		0			830		0	812	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.28	0.03	0.31		0.10			0.59		0.06	0.58	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 12.7 Intersection LOS: B
Intersection Capacity Utilization 56.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 12: Glen Cove Avenue & Charles Street

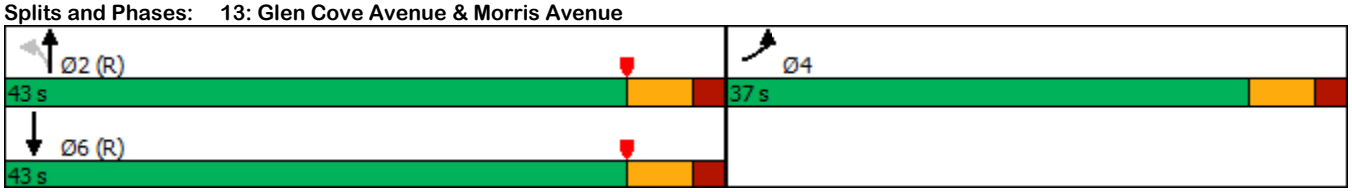


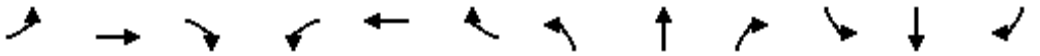


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	23	18	17	709	749	30
Future Volume (vph)	23	18	17	709	749	30
Satd. Flow (prot)	1931	0	1652	3539	3518	0
Flt Permitted	0.973		0.348			
Satd. Flow (perm)	1931	0	605	3539	3518	0
Satd. Flow (RTOR)	19				7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	0	18	731	803	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	8.1		67.9	67.9	67.9	
Actuated g/C Ratio	0.10		0.85	0.85	0.85	
v/c Ratio	0.20		0.04	0.24	0.27	
Control Delay	24.2		2.8	2.5	3.0	
Queue Delay	0.0		0.0	0.0	0.1	
Total Delay	24.2		2.8	2.5	3.2	
LOS	C		A	A	A	
Approach Delay	24.2			2.5	3.2	
Approach LOS	C			A	A	
Queue Length 50th (ft)	11		2	47	45	
Queue Length 95th (ft)	40		7	67	108	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	759		513	3002	2985	
Starvation Cap Reductn	0		0	0	982	
Spillback Cap Reductn	0		0	29	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.06		0.04	0.25	0.40	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.27	
Intersection Signal Delay: 3.4	Intersection LOS: A
Intersection Capacity Utilization 38.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	8	52	1	23	2	84	127	3	67	254	3
Future Volume (vph)	2	8	52	1	23	2	84	127	3	67	254	3
Satd. Flow (prot)	0	1998	1689	0	1877	0	1770	1925	1561	1805	1859	0
Flt Permitted		0.923			0.986		0.950			0.950		
Satd. Flow (perm)	0	1863	1689	0	1855	0	1770	1925	1561	1805	1859	0
Satd. Flow (RTOR)					2				118		1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	54	0	27	0	88	132	3	70	268	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		8.3	59.4		8.3		25.9	25.9	25.9	13.7	13.7	
Actuated g/C Ratio		0.14	1.00		0.14		0.44	0.44	0.44	0.23	0.23	
v/c Ratio		0.04	0.03		0.10		0.11	0.16	0.00	0.17	0.62	
Control Delay		27.8	0.0		27.0		14.4	14.5	0.0	20.6	28.4	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		27.8	0.0		27.0		14.4	14.5	0.0	20.6	28.4	
LOS		C	A		C		B	B	A	C	C	
Approach Delay		4.4			27.0			14.3			26.8	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)		4	0		9		22	34	0	23	97	
Queue Length 95th (ft)		17	0		32		55	76	0	52	166	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		649	1689		648		771	839	747	629	649	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.02	0.03		0.04		0.11	0.16	0.00	0.11	0.41	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 59.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 20.3 — Intersection LOS: C
Intersection Capacity Utilization 56.1% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 14: Charles Street & Herb Hill Road

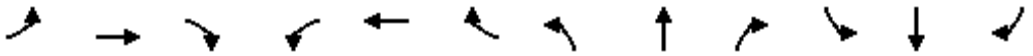
Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⚓			⚓			⚓			⚓	
Traffic Vol, veh/h	1	1	1	82	1	19	1	10	34	34	19	1
Future Vol, veh/h	1	1	1	82	1	19	1	10	34	34	19	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	77	77	77	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	1	106	1	25	1	13	44	44	25	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	164	173	26	152	151	35	26	0	0	57	0	0
Stage 1	114	114	-	37	37	-	-	-	-	-	-	-
Stage 2	50	59	-	115	114	-	-	-	-	-	-	-
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	801	720	1050	815	741	1038	1588	-	-	1547	-	-
Stage 1	891	801	-	978	864	-	-	-	-	-	-	-
Stage 2	963	846	-	890	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	763	698	1050	795	719	1038	1588	-	-	1547	-	-
Mov Cap-2 Maneuver	763	698	-	795	719	-	-	-	-	-	-	-
Stage 1	890	778	-	977	863	-	-	-	-	-	-	-
Stage 2	938	845	-	862	778	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	10.2	0.2	4.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1588	-	-	812	830	1547	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.16	0.029	-	-
HCM Control Delay (s)	7.3	0	-	9.5	10.2	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.6	0.1	-	-



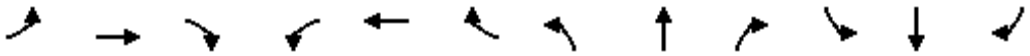
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	222	248	444	220	461	564	549	434	9
Future Volume (vph)	0	0	0	222	248	444	220	461	564	549	434	9
Satd. Flow (prot)	0	0	0	1610	2983	1441	1770	3539	1583	3433	3529	0
Flt Permitted				0.950	0.998		0.489			0.950		
Satd. Flow (perm)	0	0	0	1610	2983	1441	911	3539	1583	3433	3529	0
Satd. Flow (RTOR)											4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		49%						
Lane Group Flow (vph)	0	0	0	206	503	234	227	475	581	566	456	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	37.6	29.0	23.0	43.0	17.6	34.6	
Actuated g/C Ratio				0.19	0.19	0.52	0.40	0.32	0.59	0.24	0.48	
v/c Ratio				0.66	0.87	0.31	0.52	0.42	0.62	0.68	0.27	
Control Delay				39.8	47.5	11.4	13.6	21.3	13.5	29.6	11.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	
Total Delay				39.8	47.5	11.4	13.6	21.3	15.2	29.6	11.8	
LOS				D	D	B	B	C	B	C	B	
Approach Delay					36.9			17.2			21.6	
Approach LOS					D			B			C	
Queue Length 50th (ft)				97	131	61	36	90	160	119	60	
Queue Length 95th (ft)				#194	#227	109	63	132	262	170	89	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				310	575	774	434	2632	937	898	3257	
Starvation Cap Reductn				0	0	0	0	0	196	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.66	0.87	0.30	0.52	0.18	0.78	0.63	0.14	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 72.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 24.3 — Intersection LOS: C
Intersection Capacity Utilization 61.9% — ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

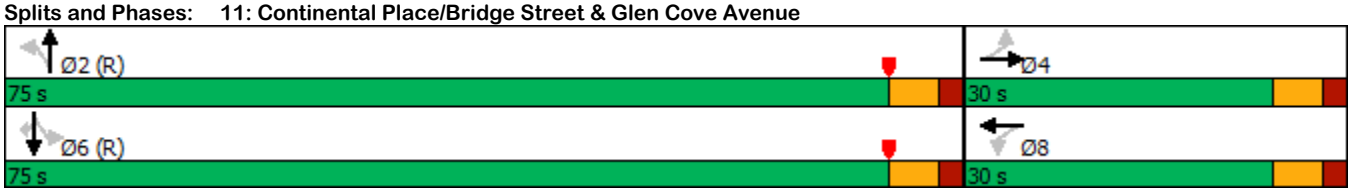


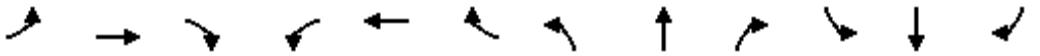
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	1060	36	36	865	57	23	71	74	99	65	56
Future Volume (vph)	51	1060	36	36	865	57	23	71	74	99	65	56
Satd. Flow (prot)	1770	3522	0	1770	3507	0	0	1741	0	0	1809	1583
Flt Permitted	0.208			0.145				0.943			0.723	
Satd. Flow (perm)	387	3522	0	270	3507	0	0	1653	0	0	1347	1583
Satd. Flow (RTOR)		3			6			1				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	1166	0	38	981	0	0	181	0	0	174	60
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	52.5	52.5		52.5	52.5			40.5			40.5	40.5
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.39			0.39	0.39
v/c Ratio	0.28	0.66		0.28	0.56			0.28			0.34	0.10
Control Delay	25.2	24.2		27.6	21.8			21.3			22.5	17.3
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	25.2	24.2		27.6	21.8			21.3			22.5	17.3
LOS	C	C		C	C			C			C	B
Approach Delay		24.2			22.0			21.3			21.2	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	23	330		16	256			75			74	23
Queue Length 95th (ft)	62	444		50	350			114			116	45
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	193	1762		134	1756			1086			885	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.28	0.66		0.28	0.56			0.17			0.20	0.06

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 22.9 Intersection LOS: C
Intersection Capacity Utilization 80.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue





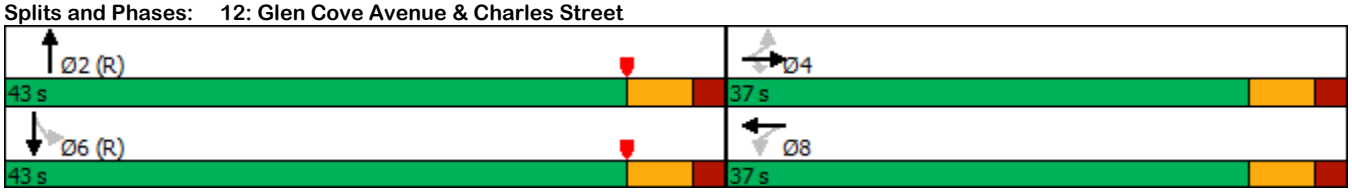
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	384	46	292	39	0	35	0	818	32	17	682	0
Future Volume (vph)	384	46	292	39	0	35	0	818	32	17	682	0
Satd. Flow (prot)	1770	1863	1583	0	1755	0	0	3518	0	1652	3421	0
Flt Permitted	0.706				0.855					0.247		
Satd. Flow (perm)	1315	1863	1583	0	1540	0	0	3518	0	429	3421	0
Satd. Flow (RTOR)			141		41			7				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	48	307	0	78	0	0	895	0	18	718	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	29.4	29.4	29.4		29.4			38.6		38.6	38.6	
Actuated g/C Ratio	0.37	0.37	0.37		0.37			0.48		0.48	0.48	
v/c Ratio	0.83	0.07	0.46		0.13			0.53		0.09	0.44	
Control Delay	38.8	14.8	11.4		8.8			23.2		14.9	15.6	
Queue Delay	0.0	0.0	0.0		0.0			0.6		0.0	0.0	
Total Delay	38.8	14.8	11.4		8.8			23.8		14.9	15.6	
LOS	D	B	B		A			C		B	B	
Approach Delay		26.2			8.8			23.8			15.6	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	173	15	55		11			213		5	124	
Queue Length 95th (ft)	#310	34	115		1			255		18	176	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	531	752	723		646			1756		213	1704	
Starvation Cap Reductn	0	0	0		0			467		0	0	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.76	0.06	0.42		0.12			0.69		0.08	0.42	

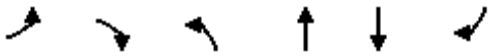
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 21.6 Intersection LOS: C
Intersection Capacity Utilization 61.6% ICU Level of Service B
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street



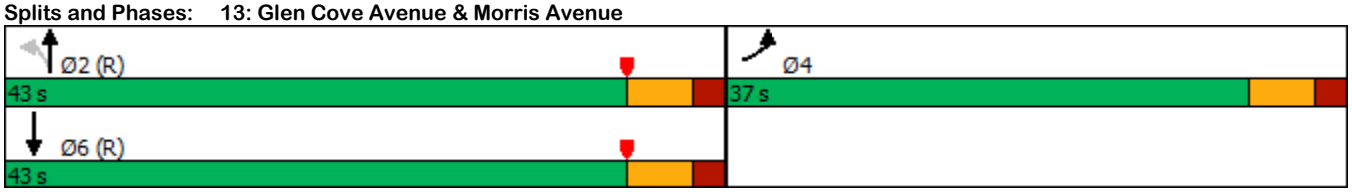


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	68	28	42	743	835	125
Future Volume (vph)	68	28	42	743	835	125
Satd. Flow (prot)	1958	0	1652	3539	3468	0
Flt Permitted	0.966		0.280			
Satd. Flow (perm)	1958	0	487	3539	3468	0
Satd. Flow (RTOR)	29				28	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	43	766	990	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	9.2		62.8	62.8	62.8	
Actuated g/C Ratio	0.12		0.78	0.78	0.78	
v/c Ratio	0.40		0.11	0.28	0.36	
Control Delay	28.6		4.3	3.6	7.3	
Queue Delay	0.0		0.0	0.0	0.3	
Total Delay	28.6		4.3	3.6	7.6	
LOS	C		A	A	A	
Approach Delay	28.6			3.6	7.6	
Approach LOS	C			A	A	
Queue Length 50th (ft)	33		5	51	153	
Queue Length 95th (ft)	75		16	86	230	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	776		382	2780	2730	
Starvation Cap Reductn	0		0	0	974	
Spillback Cap Reductn	20		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.13		0.11	0.28	0.56	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.40
Intersection Signal Delay: 7.0 — Intersection LOS: A
Intersection Capacity Utilization 51.6% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



14: Charles Street & Herb Hill Road
Lanes, Volumes, Timings

No-Build 2022
AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	42	353	1	54	6	382	86	1	104	345	26
Future Volume (vph)	1	42	353	1	54	6	382	86	1	104	345	26
Satd. Flow (prot)	0	2024	1689	0	1872	0	1770	1925	1561	1805	1844	0
Flt Permitted		0.993			0.995		0.950			0.950		
Satd. Flow (perm)	0	2012	1689	0	1864	0	1770	1925	1561	1805	1844	0
Satd. Flow (RTOR)					7				118		4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	384	0	67	0	415	93	1	113	403	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		9.5	71.7		9.5		25.1	25.1	25.1	19.1	19.1	
Actuated g/C Ratio		0.13	1.00		0.13		0.35	0.35	0.35	0.27	0.27	
v/c Ratio		0.18	0.23		0.27		0.67	0.14	0.00	0.23	0.81	
Control Delay		29.4	0.3		28.6		27.1	17.7	0.0	22.5	40.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.4	0.3		28.6		27.1	17.7	0.0	22.5	40.0	
LOS		C	A		C		C	B	A	C	D	
Approach Delay		3.5			28.6			25.4			36.2	
Approach LOS		A			C			C			D	
Queue Length 50th (ft)		19	0		25		153	28	0	38	162	
Queue Length 95th (ft)		47	0		58		#273	63	0	83	#326	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		562	1689		525		618	672	622	504	518	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.08	0.23		0.13		0.67	0.14	0.00	0.22	0.78	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 71.7
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 23.0 — Intersection LOS: C
Intersection Capacity Utilization 63.3% — ICU Level of Service B
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.

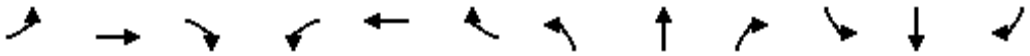
Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	434	233	217
Demand Flow Rate, veh/h	3	443	238	222
Vehicles Circulating, veh/h	628	7	188	409
Vehicles Exiting, veh/h	3	419	443	41
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.1	7.4	6.5	8.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	443	238	222
Cap Entry Lane, veh/h	603	1122	936	751
Entry HV Adj Factor	0.993	0.980	0.979	0.979
Flow Entry, veh/h	3	434	233	217
Cap Entry, veh/h	599	1099	916	735
V/C Ratio	0.005	0.395	0.254	0.296
Control Delay, s/veh	6.1	7.4	6.5	8.4
LOS	A	A	A	A
95th %tile Queue, veh	0	2	1	1



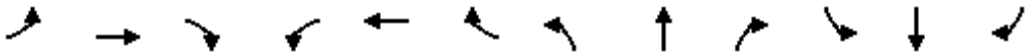
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	358	592	267	618	623	449	497	14
Future Volume (vph)	0	0	0	265	358	592	267	618	623	449	497	14
Satd. Flow (prot)	0	0	0	1610	2993	1441	1770	3539	1583	3433	3525	0
Flt Permitted				0.950	0.998		0.452			0.950		
Satd. Flow (perm)	0	0	0	1610	2993	1441	842	3539	1583	3433	3525	0
Satd. Flow (RTOR)											5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		48%						
Lane Group Flow (vph)	0	0	0	251	704	324	281	651	656	473	538	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	35.3	29.5	23.5	43.5	15.2	32.7	
Actuated g/C Ratio				0.20	0.20	0.50	0.42	0.33	0.61	0.21	0.46	
v/c Ratio				0.79	1.19	0.45	0.66	0.56	0.67	0.64	0.33	
Control Delay				47.9	129.8	13.9	18.1	22.0	14.0	29.6	12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	
Total Delay				47.9	129.8	13.9	18.1	22.0	16.4	29.6	12.5	
LOS				D	F	B	B	C	B	C	B	
Approach Delay					84.4			19.0			20.5	
Approach LOS					F			B			C	
Queue Length 50th (ft)				115	~220	92	47	122	170	96	73	
Queue Length 95th (ft)				#263	#366	169	#81	182	320	145	104	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				319	593	795	429	2706	972	923	3337	
Starvation Cap Reductn				0	0	0	0	9	192	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.79	1.19	0.41	0.66	0.24	0.84	0.51	0.16	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 70.8	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.19	
Intersection Signal Delay: 40.9	Intersection LOS: D
Intersection Capacity Utilization 64.9%	ICU Level of Service C
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

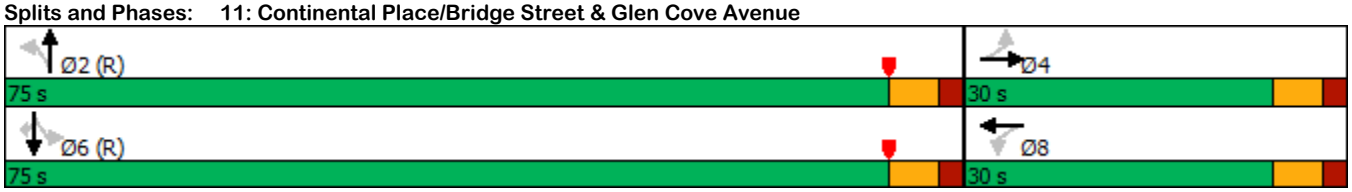


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	999	31	63	974	80	39	55	66	155	48	160
Future Volume (vph)	105	999	31	63	974	80	39	55	66	155	48	160
Satd. Flow (prot)	1770	3525	0	1770	3500	0	0	1737	0	0	1794	1583
Flt Permitted	0.200			0.208				0.853			0.626	
Satd. Flow (perm)	373	3525	0	387	3500	0	0	1500	0	0	1166	1583
Satd. Flow (RTOR)		3			7			1				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	113	1107	0	68	1133	0	0	172	0	0	219	172
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	65.9	65.9		65.9	65.9			27.1			27.1	27.1
Actuated g/C Ratio	0.63	0.63		0.63	0.63			0.26			0.26	0.26
v/c Ratio	0.48	0.50		0.28	0.52			0.44			0.73	0.42
Control Delay	21.8	12.5		14.9	12.6			35.1			49.4	34.6
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	21.8	12.5		14.9	12.6			35.1			49.4	34.6
LOS	C	B		B	B			D			D	C
Approach Delay		13.3			12.8			35.1			42.9	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	35	182		18	187			99			139	99
Queue Length 95th (ft)	121	317		60	328			140			195	139
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	234	2214		242	2200			986			766	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.48	0.50		0.28	0.52			0.17			0.29	0.17

Intersection Summary

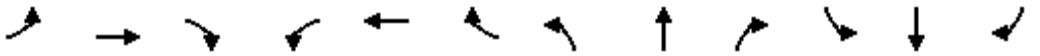
Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 18.2 Intersection LOS: B
Intersection Capacity Utilization 81.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



12: Glen Cove Avenue & Charles Street
Lanes, Volumes, Timings

No-Build 2022
PM Peak



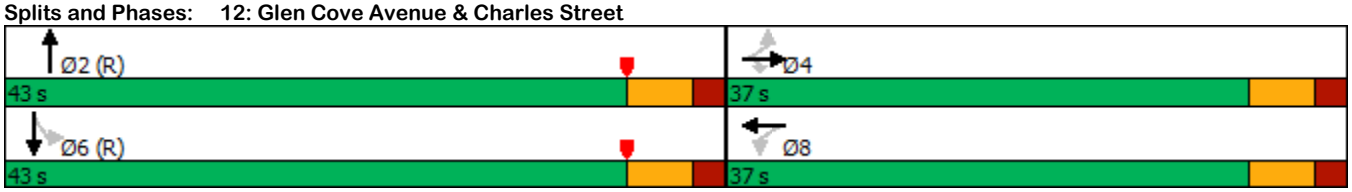
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	388	53	307	42	0	41	0	1136	41	24	764	0
Future Volume (vph)	388	53	307	42	0	41	0	1136	41	24	764	0
Satd. Flow (prot)	1770	1863	1583	0	1751	0	0	3522	0	1652	3421	0
Flt Permitted	0.701				0.852					0.134		
Satd. Flow (perm)	1306	1863	1583	0	1530	0	0	3522	0	233	3421	0
Satd. Flow (RTOR)			112		41			6				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	404	55	320	0	87	0	0	1226	0	25	796	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	28.3	28.3	28.3		28.3			39.7		39.7	39.7	
Actuated g/C Ratio	0.35	0.35	0.35		0.35			0.50		0.50	0.50	
v/c Ratio	0.88	0.08	0.51		0.15			0.70		0.22	0.47	
Control Delay	45.2	16.2	15.3		10.3			24.0		19.0	15.0	
Queue Delay	0.0	0.0	0.0		0.0			2.3		0.0	0.3	
Total Delay	45.2	16.2	15.3		10.3			26.3		19.0	15.4	
LOS	D	B	B		B			C		B	B	
Approach Delay		30.9			10.3			26.3			15.5	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	174	17	72		14			236		7	141	
Queue Length 95th (ft)	#327	39	143		2			374		27	190	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	507	722	683		618			1754		115	1701	
Starvation Cap Reductn	0	0	0		0			375		0	367	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.80	0.08	0.47		0.14			0.89		0.22	0.60	

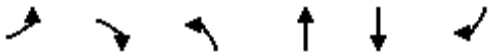
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 24.0 — Intersection LOS: C
Intersection Capacity Utilization 70.9% — ICU Level of Service C
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street

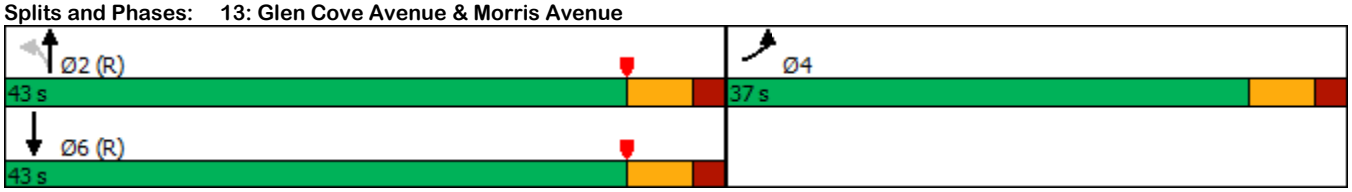




Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	28	11	911	926	39
Future Volume (vph)	87	28	11	911	926	39
Satd. Flow (prot)	1968	0	1652	3539	3518	0
Flt Permitted	0.963		0.259			
Satd. Flow (perm)	1968	0	450	3539	3518	0
Satd. Flow (RTOR)	23				7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	12	990	1049	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	10.1		61.9	61.9	61.9	
Actuated g/C Ratio	0.13		0.77	0.77	0.77	
v/c Ratio	0.47		0.03	0.36	0.38	
Control Delay	31.7		4.2	4.5	8.3	
Queue Delay	0.0		0.0	0.0	0.3	
Total Delay	31.8		4.2	4.5	8.6	
LOS	C		A	A	A	
Approach Delay	31.8			4.5	8.6	
Approach LOS	C			A	A	
Queue Length 50th (ft)	48		1	78	185	
Queue Length 95th (ft)	94		7	130	248	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	776		348	2740	2725	
Starvation Cap Reductn	0		0	0	966	
Spillback Cap Reductn	68		0	188	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.18		0.03	0.39	0.60	

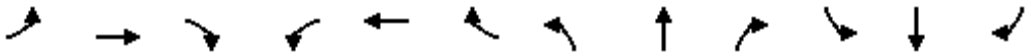
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 8.0	Intersection LOS: A
Intersection Capacity Utilization 43.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



14: Charles Street & Herb Hill Road
Lanes, Volumes, Timings

No-Build 2022
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	79	502	1	11	2	466	182	3	47	227	38
Future Volume (vph)	4	79	502	1	11	2	466	182	3	47	227	38
Satd. Flow (prot)	0	2021	1689	0	1864	0	1770	1925	1561	1805	1822	0
Flt Permitted		0.987			0.982		0.950			0.950		
Satd. Flow (perm)	0	1998	1689	0	1836	0	1770	1925	1561	1805	1822	0
Satd. Flow (RTOR)					2				118		10	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	620	0	17	0	575	225	4	58	327	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		11.6	71.5		11.6		25.2	25.2	25.2	16.6	16.6	
Actuated g/C Ratio		0.16	1.00		0.16		0.35	0.35	0.35	0.23	0.23	
v/c Ratio		0.32	0.37		0.06		0.92	0.33	0.01	0.14	0.76	
Control Delay		29.8	0.6		24.4		47.8	20.4	0.0	23.2	37.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.8	0.6		24.4		47.8	20.4	0.0	23.2	37.8	
LOS		C	A		C		D	C	A	C	D	
Approach Delay		4.8			24.4			39.9			35.6	
Approach LOS		A			C			D			D	
Queue Length 50th (ft)		41	0		6		242	72	0	20	128	
Queue Length 95th (ft)		76	0		20		#429	129	0	46	204	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		563	1675		518		623	678	626	508	520	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.18	0.37		0.03		0.92	0.33	0.01	0.11	0.63	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 71.5
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 25.8 — Intersection LOS: C
Intersection Capacity Utilization 67.0% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

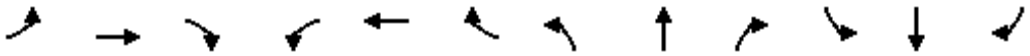
Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	450	485	116
Demand Flow Rate, veh/h	3	459	495	118
Vehicles Circulating, veh/h	435	37	107	320
Vehicles Exiting, veh/h	3	565	331	176
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.0	7.9	9.4	5.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	459	495	118
Cap Entry Lane, veh/h	731	1089	1015	821
Entry HV Adj Factor	0.993	0.980	0.980	0.981
Flow Entry, veh/h	3	450	485	116
Cap Entry, veh/h	727	1068	995	805
V/C Ratio	0.004	0.422	0.488	0.144
Control Delay, s/veh	5.0	7.9	9.4	5.9
LOS	A	A	A	A
95th %tile Queue, veh	0	2	3	1



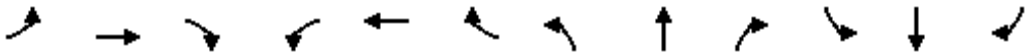
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	259	349	476	264	656	652	559	591	16
Future Volume (vph)	0	0	0	259	349	476	264	656	652	559	591	16
Satd. Flow (prot)	0	0	0	1610	3025	1441	1770	3539	1583	3433	3525	0
Flt Permitted				0.950	0.998		0.420			0.950		
Satd. Flow (perm)	0	0	0	1610	3025	1441	782	3539	1583	3433	3525	0
Satd. Flow (RTOR)											5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		44%						
Lane Group Flow (vph)	0	0	0	236	591	269	267	663	659	565	613	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	37.8	29.5	23.5	43.5	17.8	35.3	
Actuated g/C Ratio				0.19	0.19	0.52	0.40	0.32	0.59	0.24	0.48	
v/c Ratio				0.77	1.02	0.36	0.68	0.58	0.70	0.68	0.36	
Control Delay				47.6	75.8	12.4	19.6	23.5	15.8	29.9	12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0	
Total Delay				47.6	75.8	12.4	19.6	23.5	19.1	29.9	12.5	
LOS				D	E	B	B	C	B	C	B	
Approach Delay					54.2			21.0			20.8	
Approach LOS					D			C			C	
Queue Length 50th (ft)				114	~172	73	44	134	197	118	86	
Queue Length 95th (ft)				#243	#294	137	#77	186	323	176	120	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				307	578	767	395	2609	939	890	3225	
Starvation Cap Reductn				0	0	0	0	12	186	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.77	1.02	0.35	0.68	0.26	0.88	0.63	0.19	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 73.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 30.4	Intersection LOS: C
Intersection Capacity Utilization 66.3%	ICU Level of Service C
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street



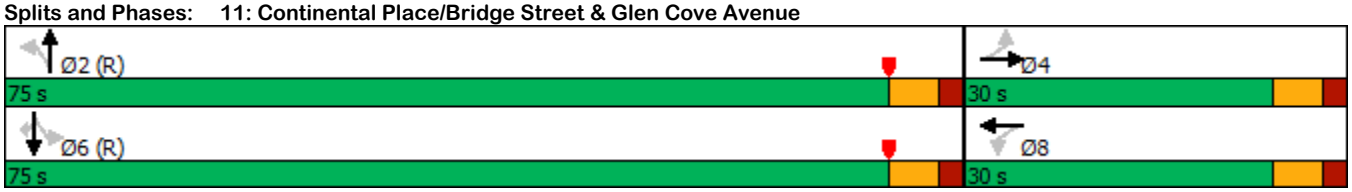
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	986	49	57	934	67	37	68	87	109	47	186
Future Volume (vph)	172	986	49	57	934	67	37	68	87	109	47	186
Satd. Flow (prot)	1770	3514	0	1770	3504	0	0	1732	0	0	1799	1583
Flt Permitted	0.237			0.226				0.905			0.572	
Satd. Flow (perm)	441	3514	0	421	3504	0	0	1583	0	0	1065	1583
Satd. Flow (RTOR)		4			6			2				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	1078	0	59	1043	0	0	201	0	0	163	194
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	69.8	69.8		69.8	69.8			23.2			23.2	23.2
Actuated g/C Ratio	0.66	0.66		0.66	0.66			0.22			0.22	0.22
v/c Ratio	0.61	0.46		0.21	0.45			0.57			0.69	0.56
Control Delay	22.0	9.5		9.8	9.3			43.0			53.9	42.8
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	22.0	9.5		9.8	9.3			43.0			53.9	42.8
LOS	C	A		A	A			D			D	D
Approach Delay		11.3			9.3			43.0			47.9	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)	59	158		13	151			122			103	118
Queue Length 95th (ft)	#181	240		39	229			185			168	179
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	293	2338		279	2332			1040			699	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.61	0.46		0.21	0.45			0.19			0.23	0.19

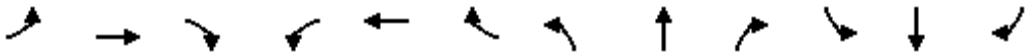
Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 79.6% ICU Level of Service D
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue





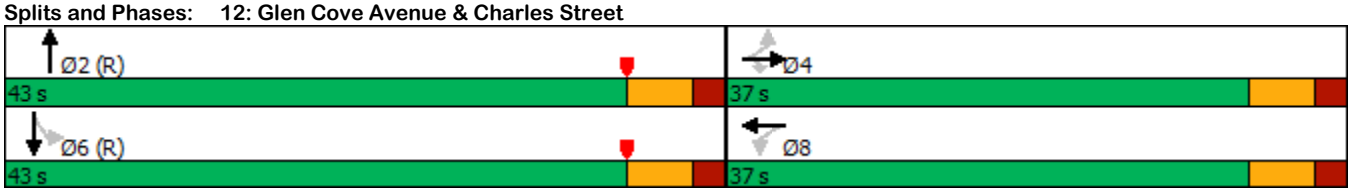
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	396	32	301	23	0	38	0	967	32	22	846	0
Future Volume (vph)	396	32	301	23	0	38	0	967	32	22	846	0
Satd. Flow (prot)	1770	1863	1583	0	1731	0	0	3522	0	1652	3421	0
Flt Permitted	0.715				0.911					0.193		
Satd. Flow (perm)	1332	1863	1583	0	1606	0	0	3522	0	336	3421	0
Satd. Flow (RTOR)			87		41			5				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	33	314	0	64	0	0	1040	0	23	881	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	28.7	28.7	28.7		28.7			39.3		39.3	39.3	
Actuated g/C Ratio	0.36	0.36	0.36		0.36			0.49		0.49	0.49	
v/c Ratio	0.86	0.05	0.50		0.11			0.60		0.14	0.53	
Control Delay	42.8	15.4	16.5		8.2			19.8		15.6	16.2	
Queue Delay	0.0	0.0	0.0		0.0			1.3		0.0	0.4	
Total Delay	42.8	15.4	16.5		8.2			21.0		15.6	16.6	
LOS	D	B	B		A			C		B	B	
Approach Delay		30.8			8.2			21.0			16.5	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	176	10	79		7			267		6	163	
Queue Length 95th (ft)	#333	27	152		0			248		22	215	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	524	732	675		656			1752		167	1699	
Starvation Cap Reductn	0	0	0		0			461		0	346	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.79	0.05	0.47		0.10			0.81		0.14	0.65	

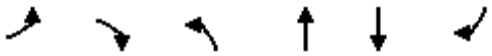
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 66.4% ICU Level of Service C
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street



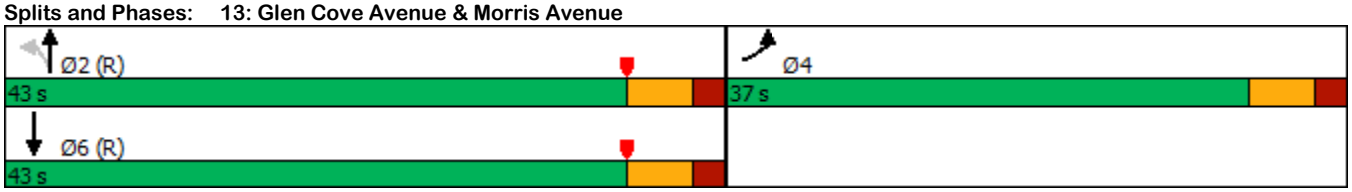


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	19	18	846	871	31
Future Volume (vph)	24	19	18	846	871	31
Satd. Flow (prot)	1931	0	1652	3539	3522	0
Flt Permitted	0.973		0.306			
Satd. Flow (perm)	1931	0	532	3539	3522	0
Satd. Flow (RTOR)	20				6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	19	872	930	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	8.2		67.8	67.8	67.8	
Actuated g/C Ratio	0.10		0.85	0.85	0.85	
v/c Ratio	0.21		0.04	0.29	0.31	
Control Delay	24.2		2.9	2.7	5.4	
Queue Delay	0.0		0.0	0.0	0.2	
Total Delay	24.2		2.9	2.7	5.7	
LOS	C		A	A	A	
Approach Delay	24.2			2.7	5.7	
Approach LOS	C			A	A	
Queue Length 50th (ft)	12		2	59	178	
Queue Length 95th (ft)	41		7	84	206	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	760		451	3001	2987	
Starvation Cap Reductn	0		0	0	1170	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.06		0.04	0.29	0.51	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.31
Intersection Signal Delay: 4.7 — Intersection LOS: A
Intersection Capacity Utilization 41.7% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	47	409	1	24	2	514	132	3	69	263	38
Future Volume (vph)	2	47	409	1	24	2	514	132	3	69	263	38
Satd. Flow (prot)	0	2021	1689	0	1877	0	1770	1925	1561	1805	1827	0
Flt Permitted		0.988			0.988		0.950			0.950		
Satd. Flow (perm)	0	2001	1689	0	1858	0	1770	1925	1561	1805	1827	0
Satd. Flow (RTOR)					2				118		8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	426	0	28	0	535	138	3	72	314	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		9.1	68.4		9.1		25.1	25.1	25.1	16.1	16.1	
Actuated g/C Ratio		0.13	1.00		0.13		0.37	0.37	0.37	0.24	0.24	
v/c Ratio		0.19	0.25		0.11		0.82	0.20	0.00	0.17	0.72	
Control Delay		29.3	0.4		26.9		34.2	17.2	0.0	21.8	33.8	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.3	0.4		26.9		34.2	17.2	0.0	21.8	33.8	
LOS		C	A		C		C	B	A	C	C	
Approach Delay		3.5			26.9			30.6			31.5	
Approach LOS		A			C			C			C	
Queue Length 50th (ft)		20	0		10		197	38	0	24	117	
Queue Length 95th (ft)		50	0		32		#420	86	0	57	209	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		587	1689		547		649	706	648	530	542	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.09	0.25		0.05		0.82	0.20	0.00	0.14	0.58	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 68.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 22.5 — Intersection LOS: C
Intersection Capacity Utilization 66.3% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	520	297	146
Demand Flow Rate, veh/h	3	530	303	149
Vehicles Circulating, veh/h	562	15	123	416
Vehicles Exiting, veh/h	3	411	442	129
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.7	8.6	6.8	7.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	530	303	149
Cap Entry Lane, veh/h	644	1113	999	745
Entry HV Adj Factor	0.993	0.981	0.979	0.983
Flow Entry, veh/h	3	520	297	146
Cap Entry, veh/h	640	1092	979	733
V/C Ratio	0.005	0.476	0.303	0.200
Control Delay, s/veh	5.7	8.6	6.8	7.1
LOS	A	A	A	A
95th %tile Queue, veh	0	3	1	1

10: Glen Cove Avenue & Charles Street & Brewster Street

Build 2022
AM Peak

Lanes, Volumes, Timings

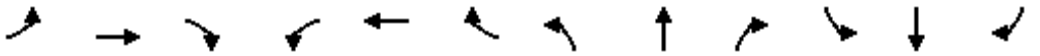
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	222	286	444	234	461	637	549	434	11
Future Volume (vph)	0	0	0	222	286	444	234	461	637	549	434	11
Satd. Flow (prot)	0	0	0	1610	3002	1441	1770	3539	1583	3433	3525	0
Flt Permitted				0.950	0.998		0.488			0.950		
Satd. Flow (perm)	0	0	0	1610	3002	1441	909	3539	1583	3433	3525	0
Satd. Flow (RTOR)											5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		47%						
Lane Group Flow (vph)	0	0	0	206	533	243	241	475	657	566	458	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	37.6	29.0	23.0	43.0	17.6	34.6	
Actuated g/C Ratio				0.19	0.19	0.52	0.40	0.32	0.59	0.24	0.48	
v/c Ratio				0.66	0.92	0.33	0.56	0.42	0.70	0.68	0.27	
Control Delay				39.8	53.8	11.6	14.5	21.3	15.8	29.6	11.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	
Total Delay				39.8	53.8	11.6	14.5	21.3	18.8	29.6	11.8	
LOS				D	D	B	B	C	B	C	B	
Approach Delay					40.4			18.9			21.6	
Approach LOS					D			B			C	
Queue Length 50th (ft)				97	141	64	39	90	195	119	61	
Queue Length 95th (ft)				#194	#245	114	67	132	325	170	89	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				310	578	774	434	2632	937	898	3254	
Starvation Cap Reductn				0	0	0	0	0	180	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.66	0.92	0.31	0.56	0.18	0.87	0.63	0.14	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 72.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92
Intersection Signal Delay: 26.0 — Intersection LOS: C
Intersection Capacity Utilization 65.1% — ICU Level of Service C
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

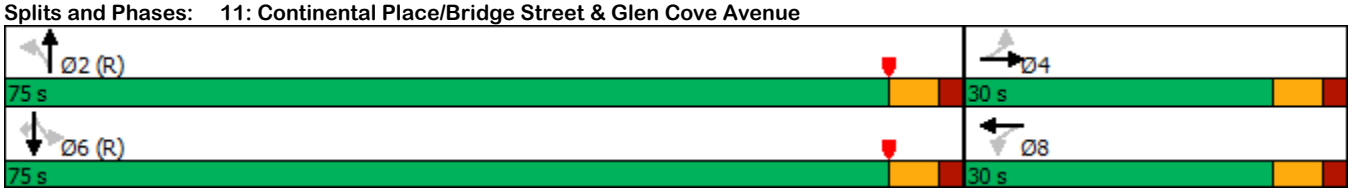


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	1126	40	36	899	57	25	71	76	99	65	58
Future Volume (vph)	54	1126	40	36	899	57	25	71	76	99	65	58
Satd. Flow (prot)	1770	3522	0	1770	3507	0	0	1739	0	0	1809	1583
Flt Permitted	0.210			0.140				0.937			0.695	
Satd. Flow (perm)	391	3522	0	261	3507	0	0	1642	0	0	1295	1583
Satd. Flow (RTOR)		3			6			1				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.89	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	57	1241	0	38	1017	0	0	185	0	0	174	62
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	56.8	56.8		56.8	56.8			36.2			36.2	36.2
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	0.34
v/c Ratio	0.27	0.65		0.27	0.54			0.33			0.39	0.11
Control Delay	21.6	21.2		24.0	18.7			24.9			26.7	20.5
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	21.6	21.2		24.0	18.7			24.9			26.7	20.5
LOS	C	C		C	B			C			C	C
Approach Delay		21.2			18.9			24.9			25.1	
Approach LOS		C			B			C			C	
Queue Length 50th (ft)	22	326		14	242			84			81	26
Queue Length 95th (ft)	60	447		47	337			127			128	50
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	211	1905		141	1899			1079			851	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.27	0.65		0.27	0.54			0.17			0.20	0.06

Intersection Summary

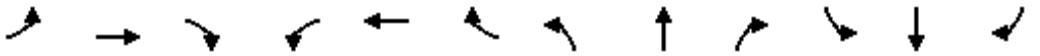
Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 20.9 Intersection LOS: C
Intersection Capacity Utilization 81.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



12: Glen Cove Avenue & Charles Street
Lanes, Volumes, Timings

Build 2022
AM Peak



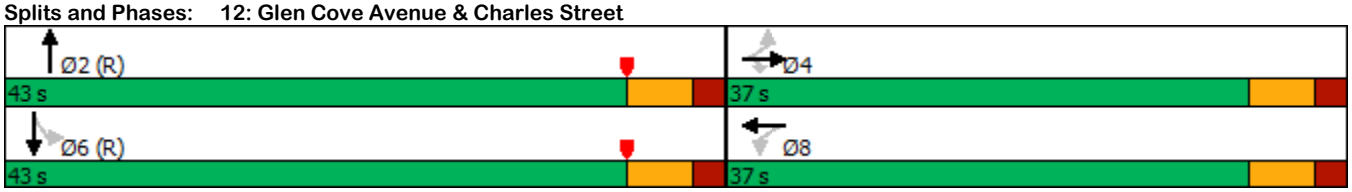
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	457	48	320	39	0	35	0	832	32	17	682	0
Future Volume (vph)	457	48	320	39	0	35	0	832	32	17	682	0
Satd. Flow (prot)	1770	1863	1583	0	1755	0	0	3518	0	1652	3421	0
Flt Permitted	0.706				0.859					0.214		
Satd. Flow (perm)	1315	1863	1583	0	1548	0	0	3518	0	372	3421	0
Satd. Flow (RTOR)			141		41			6				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	481	51	337	0	78	0	0	910	0	18	718	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	34.1	34.1	34.1		34.1			33.9		33.9	33.9	
Actuated g/C Ratio	0.43	0.43	0.43		0.43			0.42		0.42	0.42	
v/c Ratio	0.86	0.06	0.45		0.11			0.61		0.11	0.50	
Control Delay	38.3	13.5	11.1		8.2			27.7		16.6	18.5	
Queue Delay	0.0	0.0	0.0		0.0			0.5		0.0	0.0	
Total Delay	38.3	13.5	11.1		8.2			28.3		16.6	18.5	
LOS	D	B	B		A			C		B	B	
Approach Delay		26.3			8.2			28.3			18.5	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	189	13	56		10			236		6	146	
Queue Length 95th (ft)	#405	36	135		1			256		19	175	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	567	803	762		690			1648		174	1599	
Starvation Cap Reductn	0	0	0		0			339		0	0	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.85	0.06	0.44		0.11			0.70		0.10	0.45	

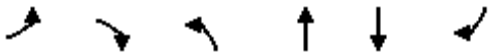
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 24.2 — Intersection LOS: C
Intersection Capacity Utilization 66.0% — ICU Level of Service C
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street

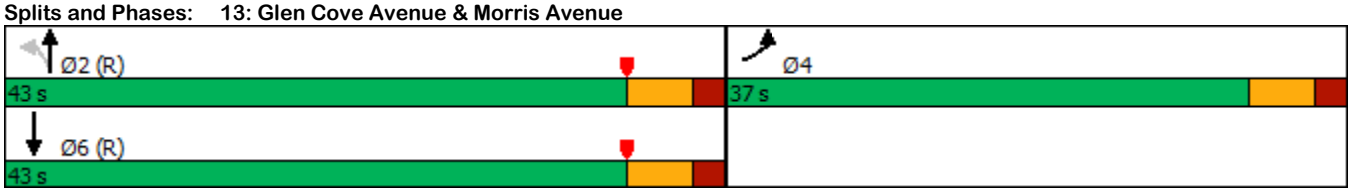




Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	68	28	42	757	863	125
Future Volume (vph)	68	28	42	757	863	125
Satd. Flow (prot)	1958	0	1652	3539	3472	0
Flt Permitted	0.966		0.270			
Satd. Flow (perm)	1958	0	469	3539	3472	0
Satd. Flow (RTOR)	29				27	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	43	780	1019	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	9.2		62.8	62.8	62.8	
Actuated g/C Ratio	0.12		0.78	0.78	0.78	
v/c Ratio	0.40		0.12	0.28	0.37	
Control Delay	28.6		4.3	3.6	8.4	
Queue Delay	0.0		0.0	0.0	0.3	
Total Delay	28.6		4.3	3.6	8.7	
LOS	C		A	A	A	
Approach Delay	28.6			3.7	8.7	
Approach LOS	C			A	A	
Queue Length 50th (ft)	33		5	52	191	
Queue Length 95th (ft)	75		17	88	228	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	776		368	2780	2733	
Starvation Cap Reductn	0		0	0	974	
Spillback Cap Reductn	22		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.13		0.12	0.28	0.58	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay: 7.6	Intersection LOS: A
Intersection Capacity Utilization 51.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



14: Charles Street & Herb Hill Road
Lanes, Volumes, Timings

Build 2022
AM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	54	456	1	54	6	436	86	1	104	345	31
Future Volume (vph)	1	54	456	1	54	6	436	86	1	104	345	31
Satd. Flow (prot)	0	2024	1689	0	1872	0	1770	1925	1561	1805	1840	0
Flt Permitted		0.995			0.995		0.950			0.950		
Satd. Flow (perm)	0	2016	1689	0	1864	0	1770	1925	1561	1805	1840	0
Satd. Flow (RTOR)					7				118		5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	60	496	0	67	0	474	93	1	113	409	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		10.0	72.4		10.0		25.1	25.1	25.1	19.3	19.3	
Actuated g/C Ratio		0.14	1.00		0.14		0.35	0.35	0.35	0.27	0.27	
v/c Ratio		0.22	0.29		0.25		0.77	0.14	0.00	0.23	0.83	
Control Delay		29.7	0.4		28.0		32.7	18.0	0.0	22.9	41.6	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.7	0.4		28.0		32.7	18.0	0.0	22.9	41.6	
LOS		C	A		C		C	B	A	C	D	
Approach Delay		3.6			28.0			30.2			37.5	
Approach LOS		A			C			C			D	
Queue Length 50th (ft)		25	0		25		184	28	0	38	165	
Queue Length 95th (ft)		56	0		58		#367	64	0	84	#339	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		558	1688		521		612	666	617	499	513	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.11	0.29		0.13		0.77	0.14	0.00	0.23	0.80	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 72.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 23.7 — Intersection LOS: C
Intersection Capacity Utilization 69.9% — ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	499	363	218
Demand Flow Rate, veh/h	3	509	370	223
Vehicles Circulating, veh/h	695	10	188	475
Vehicles Exiting, veh/h	3	548	510	44
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.5	8.3	8.4	9.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	509	370	223
Cap Entry Lane, veh/h	564	1119	936	703
Entry HV Adj Factor	0.993	0.980	0.981	0.979
Flow Entry, veh/h	3	499	363	218
Cap Entry, veh/h	560	1097	918	688
V/C Ratio	0.005	0.455	0.395	0.317
Control Delay, s/veh	6.5	8.3	8.4	9.2
LOS	A	A	A	A
95th %tile Queue, veh	0	2	2	1

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	212	393	62	118	0
Future Vol, veh/h	0	212	393	62	118	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, %	2	2	2	2	2	2
Mvmt Flow	0	230	427	67	128	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	494	0	-	0	691	461
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	230	-
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	1070	-	-	-	410	600
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1070	-	-	-	410	600
Mov Cap-2 Maneuver	-	-	-	-	410	-
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1070	-	-	-	410
HCM Lane V/C Ratio	-	-	-	-	0.313
HCM Control Delay (s)	0	-	-	-	17.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	450	592	302	618	687	449	497	18
Future Volume (vph)	0	0	0	265	450	592	302	618	687	449	497	18
Satd. Flow (prot)	0	0	0	1610	3028	1441	1770	3539	1583	3433	3522	0
Flt Permitted				0.950	0.998		0.450			0.950		
Satd. Flow (perm)	0	0	0	1610	3028	1441	838	3539	1583	3433	3522	0
Satd. Flow (RTOR)											7	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		44%						
Lane Group Flow (vph)	0	0	0	251	776	349	318	651	723	473	542	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	35.3	29.5	23.5	43.5	15.2	32.7	
Actuated g/C Ratio				0.20	0.20	0.50	0.42	0.33	0.61	0.21	0.46	
v/c Ratio				0.79	1.29	0.49	0.74	0.56	0.74	0.64	0.33	
Control Delay				47.9	172.3	14.5	23.5	22.0	16.5	29.6	12.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	
Total Delay				47.9	172.3	14.5	23.5	22.0	20.8	29.6	12.4	
LOS				D	F	B	C	C	C	C	B	
Approach Delay					109.6			21.7			20.4	
Approach LOS					F			C			C	
Queue Length 50th (ft)				115	~257	102	54	122	202	96	73	
Queue Length 95th (ft)				#263	#410	184	#117	182	386	145	105	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				319	600	795	428	2706	972	923	3334	
Starvation Cap Reductn				0	0	0	0	9	176	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.79	1.29	0.44	0.74	0.24	0.91	0.51	0.16	

Intersection Summary

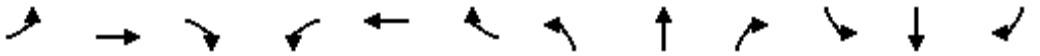
Cycle Length: 105
Actuated Cycle Length: 70.8
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.29
Intersection Signal Delay: 51.0 Intersection LOS: D
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

11: Continental Place/Bridge Street & Glen Cove Avenue
Lanes, Volumes, Timings

Build 2022
PM Peak



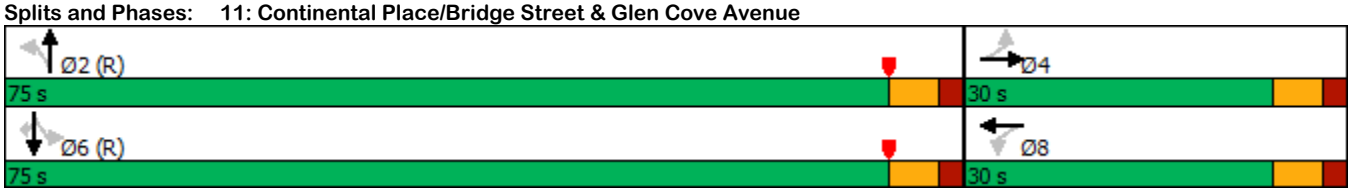
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	1057	34	63	1058	80	43	55	68	155	48	164
Future Volume (vph)	108	1057	34	63	1058	80	43	55	68	155	48	164
Satd. Flow (prot)	1770	3522	0	1770	3500	0	0	1737	0	0	1794	1583
Flt Permitted	0.175			0.189				0.823			0.618	
Satd. Flow (perm)	326	3522	0	352	3500	0	0	1449	0	0	1151	1583
Satd. Flow (RTOR)		3			7			1				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	1174	0	68	1224	0	0	178	0	0	219	176
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	66.1	66.1		66.1	66.1			26.9			26.9	26.9
Actuated g/C Ratio	0.63	0.63		0.63	0.63			0.26			0.26	0.26
v/c Ratio	0.57	0.53		0.31	0.55			0.48			0.74	0.43
Control Delay	27.9	12.8		16.0	13.2			36.3			50.9	35.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	27.9	12.8		16.0	13.2			36.3			50.9	35.0
LOS	C	B		B	B			D			D	C
Approach Delay		14.2			13.3			36.3			43.8	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	37	191		17	203			106			142	104
Queue Length 95th (ft)	#157	347		64	369			146			195	142
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	205	2218		221	2206			952			756	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.57	0.53		0.31	0.55			0.19			0.29	0.17

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.74
Intersection Signal Delay: 18.8 Intersection LOS: B
Intersection Capacity Utilization 83.5% ICU Level of Service E
Analysis Period (min) 15

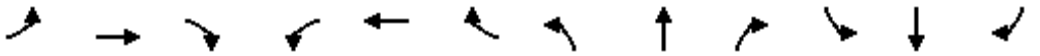
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



12: Glen Cove Avenue & Charles Street
Lanes, Volumes, Timings

Build 2022
PM Peak



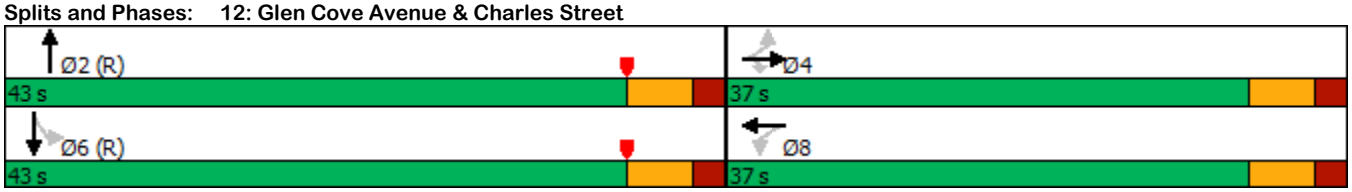
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	452	55	332	42	0	41	0	1171	41	24	764	0
Future Volume (vph)	452	55	332	42	0	41	0	1171	41	24	764	0
Satd. Flow (prot)	1770	1863	1583	0	1751	0	0	3522	0	1652	3421	0
Flt Permitted	0.701				0.855					0.108		
Satd. Flow (perm)	1306	1863	1583	0	1535	0	0	3522	0	188	3421	0
Satd. Flow (RTOR)			112		41			6				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	471	57	346	0	87	0	0	1263	0	25	796	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	30.8	30.8	30.8		30.8			37.2		37.2	37.2	
Actuated g/C Ratio	0.38	0.38	0.38		0.38			0.46		0.46	0.46	
v/c Ratio	0.94	0.08	0.51		0.14			0.77		0.29	0.50	
Control Delay	53.0	15.8	15.3		10.1			25.6		24.3	16.4	
Queue Delay	0.0	0.0	0.0		0.0			8.9		0.0	0.5	
Total Delay	53.0	15.8	15.3		10.1			34.5		24.3	16.9	
LOS	D	B	B		B			C		C	B	
Approach Delay		35.7			10.1			34.5			17.1	
Approach LOS		D			B			C			B	
Queue Length 50th (ft)	220	18	84		14			244		7	140	
Queue Length 95th (ft)	#408	40	160		2			386		30	190	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	513	731	690		627			1657		87	1607	
Starvation Cap Reductn	0	0	0		0			369		0	372	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.92	0.08	0.50		0.14			0.98		0.29	0.64	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 29.5 — Intersection LOS: C
Intersection Capacity Utilization 75.4% — ICU Level of Service D
Analysis Period (min) 15

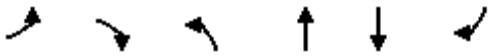
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street



13: Glen Cove Avenue & Morris Avenue
Lanes, Volumes, Timings

Build 2022
PM Peak

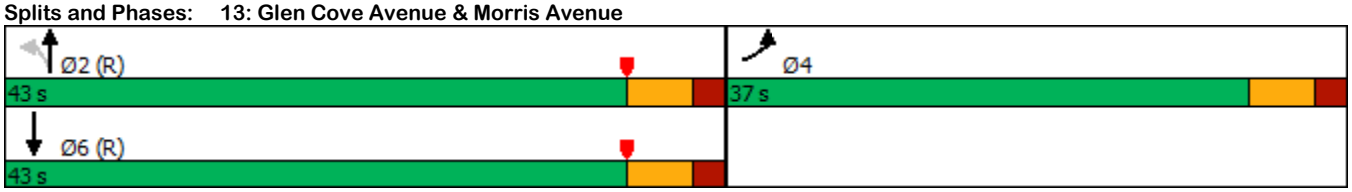


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	87	28	11	946	951	39
Future Volume (vph)	87	28	11	946	951	39
Satd. Flow (prot)	1968	0	1652	3539	3518	0
Flt Permitted	0.963		0.250			
Satd. Flow (perm)	1968	0	435	3539	3518	0
Satd. Flow (RTOR)	23				7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	125	0	12	1028	1076	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	10.1		61.9	61.9	61.9	
Actuated g/C Ratio	0.13		0.77	0.77	0.77	
v/c Ratio	0.47		0.04	0.38	0.39	
Control Delay	31.7		4.2	4.5	7.9	
Queue Delay	0.0		0.0	0.0	0.3	
Total Delay	31.8		4.2	4.6	8.2	
LOS	C		A	A	A	
Approach Delay	31.8			4.6	8.2	
Approach LOS	C			A	A	
Queue Length 50th (ft)	48		1	82	185	
Queue Length 95th (ft)	94		7	136	249	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	776		336	2740	2725	
Starvation Cap Reductn	0		0	0	928	
Spillback Cap Reductn	69		0	217	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.18		0.04	0.41	0.60	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 7.8 — Intersection LOS: A
Intersection Capacity Utilization 44.2% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



14: Charles Street & Herb Hill Road
Lanes, Volumes, Timings

Build 2022
PM Peak

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	89	593	1	11	2	597	182	3	47	227	50
Future Volume (vph)	4	89	593	1	11	2	597	182	3	47	227	50
Satd. Flow (prot)	0	2021	1689	0	1864	0	1770	1925	1561	1805	1812	0
Flt Permitted		0.989			0.984		0.950			0.950		
Satd. Flow (perm)	0	2003	1689	0	1840	0	1770	1925	1561	1805	1812	0
Satd. Flow (RTOR)					2				118		13	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	732	0	17	0	737	225	4	58	342	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		13.6	74.3		13.6		25.2	25.2	25.2	17.3	17.3	
Actuated g/C Ratio		0.18	1.00		0.18		0.34	0.34	0.34	0.23	0.23	
v/c Ratio		0.31	0.43		0.05		1.23	0.34	0.01	0.14	0.79	
Control Delay		28.9	0.8		23.6		143.1	22.0	0.0	24.4	41.3	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		28.9	0.8		23.6		143.1	22.0	0.0	24.4	41.3	
LOS		C	A		C		F	C	A	C	D	
Approach Delay		4.6			23.6			114.3			38.8	
Approach LOS		A			C			F			D	
Queue Length 50th (ft)		48	0		6		~439	78	0	21	140	
Queue Length 95th (ft)		82	0		20		#624	136	0	48	222	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		543	1680		501		600	653	607	489	501	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.21	0.44		0.03		1.23	0.34	0.01	0.12	0.68	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 74.3
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 58.4 — Intersection LOS: E
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	616	604	119
Demand Flow Rate, veh/h	3	629	616	121
Vehicles Circulating, veh/h	608	39	107	490
Vehicles Exiting, veh/h	3	684	504	178
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.9	10.8	12.1	7.3
Approach LOS	A	B	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	629	616	121
Cap Entry Lane, veh/h	615	1087	1015	692
Entry HV Adj Factor	0.993	0.979	0.981	0.981
Flow Entry, veh/h	3	616	604	119
Cap Entry, veh/h	611	1064	996	679
V/C Ratio	0.005	0.579	0.607	0.175
Control Delay, s/veh	5.9	10.8	12.1	7.3
LOS	A	B	B	A
95th %tile Queue, veh	0	4	4	1

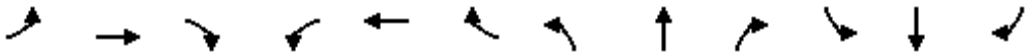
Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	413	274	151	107	0
Future Vol, veh/h	0	413	274	151	107	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, %	2	2	2	2	2	2
Mvmt Flow	0	449	298	164	116	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	462	0	-	0	829	380
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	449	-
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	1099	-	-	-	340	667
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1099	-	-	-	340	667
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	643	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1099	-	-	-	340
HCM Lane V/C Ratio	-	-	-	-	0.342
HCM Control Delay (s)	0	-	-	-	21
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	259	434	476	297	656	731	559	591	20
Future Volume (vph)	0	0	0	259	434	476	297	656	731	559	591	20
Satd. Flow (prot)	0	0	0	1610	3060	1441	1770	3539	1583	3433	3522	0
Flt Permitted				0.950	0.998		0.418			0.950		
Satd. Flow (perm)	0	0	0	1610	3060	1441	779	3539	1583	3433	3522	0
Satd. Flow (RTOR)											6	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		39%						
Lane Group Flow (vph)	0	0	0	236	652	293	300	663	738	565	617	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				20.0	20.0		12.0	60.0	20.0	25.0	73.0	
Total Split (%)				19.0%	19.0%		11.4%	57.1%	19.0%	23.8%	69.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				14.0	14.0	37.8	29.5	23.5	43.5	17.8	35.3	
Actuated g/C Ratio				0.19	0.19	0.52	0.40	0.32	0.59	0.24	0.48	
v/c Ratio				0.77	1.12	0.39	0.76	0.58	0.79	0.68	0.36	
Control Delay				47.6	104.2	12.9	25.5	23.5	19.4	29.9	12.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	
Total Delay				47.6	104.2	12.9	25.5	23.5	27.4	29.9	12.5	
LOS				D	F	B	C	C	C	C	B	
Approach Delay					70.2			25.6			20.8	
Approach LOS					E			C			C	
Queue Length 50th (ft)				114	~205	81	50	134	240	118	86	
Queue Length 95th (ft)				#243	#331	150	#109	186	404	176	121	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				307	584	767	394	2609	939	890	3222	
Starvation Cap Reductn				0	0	0	0	12	167	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.77	1.12	0.38	0.76	0.26	0.96	0.63	0.19	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 73.3	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 37.2	Intersection LOS: D
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

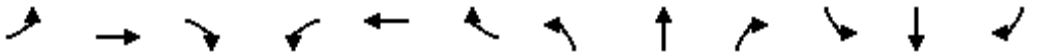
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street



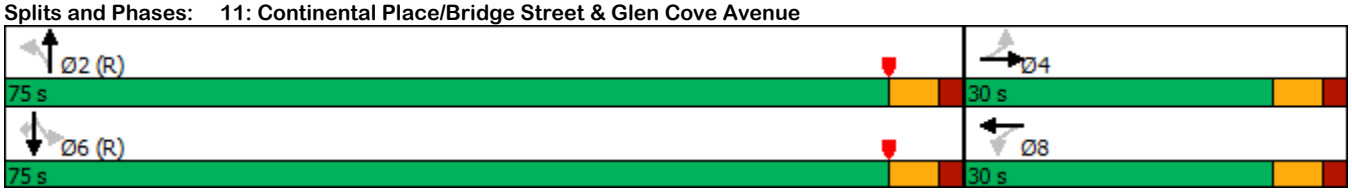
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	1058	53	57	1011	67	41	68	90	109	47	190
Future Volume (vph)	175	1058	53	57	1011	67	41	68	90	109	47	190
Satd. Flow (prot)	1770	3514	0	1770	3507	0	0	1732	0	0	1799	1583
Flt Permitted	0.213			0.203				0.897			0.565	
Satd. Flow (perm)	397	3514	0	378	3507	0	0	1569	0	0	1052	1583
Satd. Flow (RTOR)		4			6			1				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	1157	0	59	1123	0	0	208	0	0	163	198
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	4	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		22.0	22.0		22.0	22.0	22.0
Minimum Split (s)	32.0	32.0		32.0	32.0		28.0	28.0		28.0	28.0	28.0
Total Split (s)	30.0	30.0		30.0	30.0		75.0	75.0		75.0	75.0	75.0
Total Split (%)	28.6%	28.6%		28.6%	28.6%		71.4%	71.4%		71.4%	71.4%	71.4%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0			6.0			6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		C-Min	C-Min		C-Min	C-Min	C-Min
Act Effct Green (s)	69.8	69.8		69.8	69.8			23.2			23.2	23.2
Actuated g/C Ratio	0.66	0.66		0.66	0.66			0.22			0.22	0.22
v/c Ratio	0.69	0.49		0.24	0.48			0.60			0.70	0.57
Control Delay	28.7	9.9		10.6	9.7			44.2			54.7	43.2
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	28.7	9.9		10.6	9.7			44.2			54.7	43.2
LOS	C	A		B	A			D			D	D
Approach Delay		12.5			9.8			44.2			48.4	
Approach LOS		B			A			D			D	
Queue Length 50th (ft)	65	176		14	168			128			103	121
Queue Length 95th (ft)	#222	266		41	255			192			168	184
Internal Link Dist (ft)		499			309			267			298	
Turn Bay Length (ft)	95			125								
Base Capacity (vph)	264	2338		251	2334			1031			691	1040
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.49		0.24	0.48			0.20			0.24	0.19

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 105
Offset: 10 (10%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 17.8 Intersection LOS: B
Intersection Capacity Utilization 81.7% ICU Level of Service D
Analysis Period (min) 15

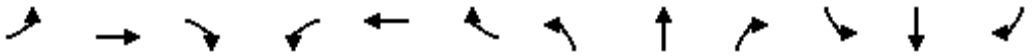
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Continental Place/Bridge Street & Glen Cove Avenue



12: Glen Cove Avenue & Charles Street
Lanes, Volumes, Timings

Build 2022
Saturday Midday



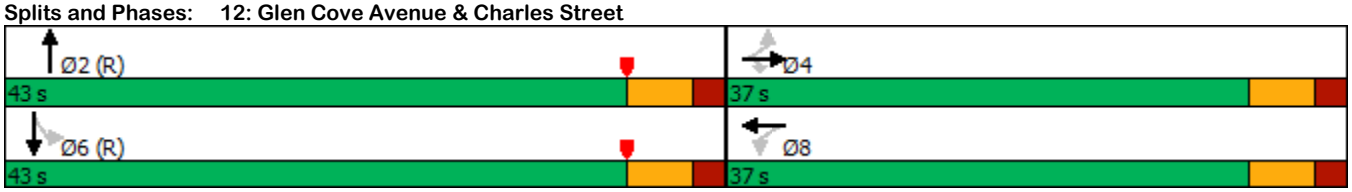
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	35	332	23	0	38	0	1000	32	22	846	0
Future Volume (vph)	475	35	332	23	0	38	0	1000	32	22	846	0
Satd. Flow (prot)	1770	1863	1583	0	1731	0	0	3522	0	1652	3421	0
Flt Permitted	0.715				0.914					0.157		
Satd. Flow (perm)	1332	1863	1583	0	1612	0	0	3522	0	273	3421	0
Satd. Flow (RTOR)			87		41			5				
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.25	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	36	346	0	64	0	0	1075	0	23	881	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8						6		
Detector Phase	4	4	4	8	8			2		6	6	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0			20.0		20.0	20.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0			26.0		26.0	26.0	
Total Split (s)	37.0	37.0	37.0	37.0	37.0			43.0		43.0	43.0	
Total Split (%)	46.3%	46.3%	46.3%	46.3%	46.3%			53.8%		53.8%	53.8%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0			2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0		6.0			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None			C-Min		C-Min	C-Min	
Act Effct Green (s)	32.7	32.7	32.7		32.7			35.3		35.3	35.3	
Actuated g/C Ratio	0.41	0.41	0.41		0.41			0.44		0.44	0.44	
v/c Ratio	0.91	0.05	0.50		0.09			0.69		0.19	0.58	
Control Delay	46.7	14.9	15.9		8.1			21.9		18.2	18.7	
Queue Delay	0.0	0.0	0.0		0.0			1.2		0.0	0.4	
Total Delay	46.7	14.9	15.9		8.1			23.1		18.2	19.2	
LOS	D	B	B		A			C		B	B	
Approach Delay		33.2			8.1			23.1			19.1	
Approach LOS		C			A			C			B	
Queue Length 50th (ft)	215	10	86		6			236		7	176	
Queue Length 95th (ft)	#432	29	173		0			260		23	215	
Internal Link Dist (ft)		242			133			285			310	
Turn Bay Length (ft)	130									80		
Base Capacity (vph)	547	765	701		686			1637		126	1588	
Starvation Cap Reductn	0	0	0		0			324		0	280	
Spillback Cap Reductn	0	0	0		0			0		0	0	
Storage Cap Reductn	0	0	0		0			0		0	0	
Reduced v/c Ratio	0.90	0.05	0.49		0.09			0.82		0.18	0.67	

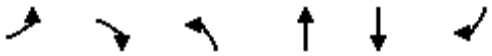
Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 37 (46%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 24.6 — Intersection LOS: C
Intersection Capacity Utilization 71.6% — ICU Level of Service C
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Glen Cove Avenue & Charles Street



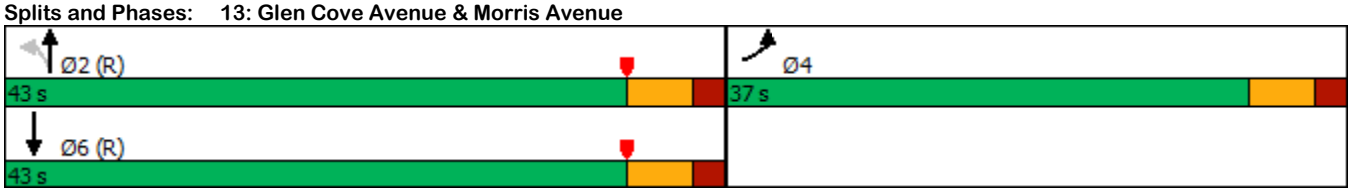


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	19	18	879	902	31
Future Volume (vph)	24	19	18	879	902	31
Satd. Flow (prot)	1931	0	1652	3539	3522	0
Flt Permitted	0.973		0.295			
Satd. Flow (perm)	1931	0	513	3539	3522	0
Satd. Flow (RTOR)	20				6	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	45	0	19	906	962	0
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Detector Phase	4		2	2	6	
Switch Phase						
Minimum Initial (s)	8.0		20.0	20.0	20.0	
Minimum Split (s)	28.0		26.0	26.0	26.0	
Total Split (s)	37.0		43.0	43.0	43.0	
Total Split (%)	46.3%		53.8%	53.8%	53.8%	
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	6.0		6.0	6.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None		C-Max	C-Max	C-Max	
Act Effct Green (s)	8.2		67.8	67.8	67.8	
Actuated g/C Ratio	0.10		0.85	0.85	0.85	
v/c Ratio	0.21		0.04	0.30	0.32	
Control Delay	24.2		2.9	2.7	4.6	
Queue Delay	0.0		0.0	0.0	0.2	
Total Delay	24.2		2.9	2.7	4.8	
LOS	C		A	A	A	
Approach Delay	24.2			2.8	4.8	
Approach LOS	C			A	A	
Queue Length 50th (ft)	12		2	62	172	
Queue Length 95th (ft)	41		7	88	207	
Internal Link Dist (ft)	178			326	285	
Turn Bay Length (ft)			70			
Base Capacity (vph)	760		435	3001	2987	
Starvation Cap Reductn	0		0	0	1147	
Spillback Cap Reductn	5		0	0	0	
Storage Cap Reductn	0		0	0	0	
Reduced v/c Ratio	0.06		0.04	0.30	0.52	

Intersection Summary

Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 4.3 Intersection LOS: A
Intersection Capacity Utilization 42.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 13: Glen Cove Avenue & Morris Avenue



14: Charles Street & Herb Hill Road
Lanes, Volumes, Timings

Build 2022
Saturday Midday

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	59	522	1	24	2	636	132	3	69	263	49
Future Volume (vph)	2	59	522	1	24	2	636	132	3	69	263	49
Satd. Flow (prot)	0	2021	1689	0	1877	0	1770	1925	1561	1805	1818	0
Flt Permitted		0.991			0.989		0.950			0.950		
Satd. Flow (perm)	0	2007	1689	0	1860	0	1770	1925	1561	1805	1818	0
Satd. Flow (RTOR)					2				118		11	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	544	0	28	0	663	138	3	72	325	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	26.0	26.0	26.0	26.0	26.0		31.0	31.0	31.0	26.0	26.0	
Total Split (%)	31.3%	31.3%	31.3%	31.3%	31.3%		37.3%	37.3%	37.3%	31.3%	31.3%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		10.3	70.1		10.3		25.2	25.2	25.2	16.5	16.5	
Actuated g/C Ratio		0.15	1.00		0.15		0.36	0.36	0.36	0.24	0.24	
v/c Ratio		0.21	0.32		0.10		1.04	0.20	0.00	0.17	0.75	
Control Delay		29.0	0.5		26.2		74.6	18.1	0.0	22.6	35.7	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		29.0	0.5		26.2		74.6	18.1	0.0	22.6	35.7	
LOS		C	A		C		E	B	A	C	D	
Approach Delay		3.5			26.2			64.6			33.3	
Approach LOS		A			C			E			C	
Queue Length 50th (ft)		25	0		10		~326	41	0	25	125	
Queue Length 95th (ft)		58	0		31		#579	89	0	58	222	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		576	1688		535		635	690	635	518	529	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.11	0.32		0.05		1.04	0.20	0.00	0.14	0.61	

Intersection Summary

Cycle Length: 83
Actuated Cycle Length: 70.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 37.0 — Intersection LOS: D
Intersection Capacity Utilization 73.7% — ICU Level of Service D
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	3	693	463	150
Demand Flow Rate, veh/h	3	707	472	153
Vehicles Circulating, veh/h	743	19	123	593
Vehicles Exiting, veh/h	3	576	623	133
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.8	12.1	9.3	9.0
Approach LOS	A	B	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	3	707	472	153
Cap Entry Lane, veh/h	537	1109	999	624
Entry HV Adj Factor	0.993	0.980	0.980	0.983
Flow Entry, veh/h	3	693	463	150
Cap Entry, veh/h	534	1087	979	614
V/C Ratio	0.006	0.638	0.472	0.245
Control Delay, s/veh	6.8	12.1	9.3	9.0
LOS	A	B	A	A
95th %tile Queue, veh	0	5	3	1

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	224	327	143	133	0
Future Vol, veh/h	0	224	327	143	133	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, %	2	2	2	2	2	2
Mvmt Flow	0	243	355	155	145	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	510	0	-	0	676	433
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	243	-
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	1055	-	-	-	419	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1055	-	-	-	419	623
Mov Cap-2 Maneuver	-	-	-	-	419	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	797	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1055	-	-	-	419
HCM Lane V/C Ratio	-	-	-	-	0.345
HCM Control Delay (s)	0	-	-	-	18.1
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.5

Lanes, Volumes, Timings

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	450	592	302	618	687	449	497	18
Future Volume (vph)	0	0	0	265	450	592	302	618	687	449	497	18
Satd. Flow (prot)	0	0	0	1610	3028	1441	1770	3539	1583	3433	3522	0
Flt Permitted				0.950	0.998		0.450			0.950		
Satd. Flow (perm)	0	0	0	1610	3028	1441	838	3539	1583	3433	3522	0
Satd. Flow (RTOR)											5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		44%						
Lane Group Flow (vph)	0	0	0	251	776	349	318	651	723	473	542	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				30.0	30.0		12.0	60.0	30.0	25.0	73.0	
Total Split (%)				26.1%	26.1%		10.4%	52.2%	26.1%	21.7%	63.5%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				24.0	24.0	46.8	30.1	24.1	54.2	16.7	34.8	
Actuated g/C Ratio				0.29	0.29	0.56	0.36	0.29	0.65	0.20	0.42	
v/c Ratio				0.54	0.88	0.43	0.85	0.63	0.70	0.68	0.37	
Control Delay				30.8	42.6	12.6	40.4	29.0	14.2	36.4	16.9	
Queue Delay				0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0	
Total Delay				30.8	42.6	12.6	40.4	29.0	20.0	36.4	16.9	
LOS				C	D	B	D	C	B	D	B	
Approach Delay					32.8			27.3			26.0	
Approach LOS					C			C			C	
Queue Length 50th (ft)				119	222	102	81	156	220	115	97	
Queue Length 95th (ft)				219	#379	192	#178	216	366	177	134	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				466	877	853	372	2309	1034	788	2851	
Starvation Cap Reductn				0	0	0	0	36	252	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.54	0.88	0.41	0.85	0.29	0.92	0.60	0.19	

Intersection Summary

Cycle Length: 115
Actuated Cycle Length: 82.9
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 28.8 Intersection LOS: C
Intersection Capacity Utilization 68.5% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

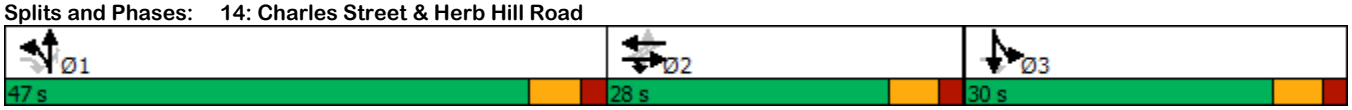
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	89	593	1	11	2	597	182	3	47	227	50
Future Volume (vph)	4	89	593	1	11	2	597	182	3	47	227	50
Satd. Flow (prot)	0	2021	1689	0	1864	0	1770	1925	1561	1805	1812	0
Flt Permitted		0.989			0.984		0.950			0.950		
Satd. Flow (perm)	0	2003	1689	0	1840	0	1770	1925	1561	1805	1812	0
Satd. Flow (RTOR)					2				94		10	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	732	0	17	0	737	225	4	58	342	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	28.0	28.0	28.0	28.0	28.0		47.0	47.0	47.0	30.0	30.0	
Total Split (%)	26.7%	26.7%	26.7%	26.7%	26.7%		44.8%	44.8%	44.8%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		14.2	94.6		14.2		41.3	41.3	41.3	21.1	21.1	
Actuated g/C Ratio		0.15	1.00		0.15		0.44	0.44	0.44	0.22	0.22	
v/c Ratio		0.38	0.43		0.06		0.95	0.27	0.01	0.14	0.83	
Control Delay		40.4	0.8		32.1		51.8	19.8	0.0	31.4	53.0	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		40.4	0.8		32.1		51.8	19.8	0.0	31.4	53.0	
LOS		D	A		C		D	B	A	C	D	
Approach Delay		6.2			32.1			44.1			49.8	
Approach LOS		A			C			D			D	
Queue Length 50th (ft)		65	0		8		431	87	0	28	189	
Queue Length 95th (ft)		104	0		24		#647	142	0	58	277	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		468	1669		432		772	839	733	460	470	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.25	0.44		0.04		0.95	0.27	0.01	0.13	0.73	

Intersection Summary

Cycle Length: 105
Actuated Cycle Length: 94.6
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 30.6 — Intersection LOS: C
Intersection Capacity Utilization 73.4% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	259	434	476	297	656	731	559	591	20
Future Volume (vph)	0	0	0	259	434	476	297	656	731	559	591	20
Satd. Flow (prot)	0	0	0	1610	3060	1441	1770	3539	1583	3433	3522	0
Flt Permitted				0.950	0.998		0.418			0.950		
Satd. Flow (perm)	0	0	0	1610	3060	1441	779	3539	1583	3433	3522	0
Satd. Flow (RTOR)											4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.25	0.25	0.25	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				10%		39%						
Lane Group Flow (vph)	0	0	0	236	652	293	300	663	738	565	617	0
Turn Type				Perm	NA	pt+ov	pm+pt	NA	custom	Prot	NA	
Protected Phases					4	4 1	5	2	4	1	6	
Permitted Phases				4			2		2			
Detector Phase				4	4	4 1	5	2	4	1	6	
Switch Phase												
Minimum Initial (s)				8.0	8.0		4.0	23.0	8.0	8.0	23.0	
Minimum Split (s)				14.0	14.0		10.0	29.0	14.0	14.0	29.0	
Total Split (s)				33.0	33.0		17.0	59.0	33.0	28.0	70.0	
Total Split (%)				27.5%	27.5%		14.2%	49.2%	27.5%	23.3%	58.3%	
Yellow Time (s)				4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)				2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)				0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)				6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None		Min	Min	None	Min	Min	
Act Effct Green (s)				27.1	27.1	53.4	35.9	25.0	58.1	20.3	34.5	
Actuated g/C Ratio				0.30	0.30	0.59	0.40	0.28	0.64	0.22	0.38	
v/c Ratio				0.49	0.71	0.34	0.70	0.68	0.73	0.73	0.46	
Control Delay				31.3	34.1	11.3	22.7	33.3	16.4	39.2	21.9	
Queue Delay				0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0	
Total Delay				31.3	34.1	11.3	22.7	33.3	27.9	39.2	21.9	
LOS				C	C	B	C	C	C	D	C	
Approach Delay					27.9			29.1			30.2	
Approach LOS					C			C			C	
Queue Length 50th (ft)				120	191	82	83	181	268	151	135	
Queue Length 95th (ft)				219	288	162	129	241	416	226	182	
Internal Link Dist (ft)		173			499			310			405	
Turn Bay Length (ft)				240		180	145			155		
Base Capacity (vph)				481	915	878	431	2078	1017	837	2499	
Starvation Cap Reductn				0	0	0	0	53	260	0	0	
Spillback Cap Reductn				0	0	0	0	0	0	0	0	
Storage Cap Reductn				0	0	0	0	0	0	0	0	
Reduced v/c Ratio				0.49	0.71	0.33	0.70	0.33	0.97	0.68	0.25	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 90.4	
Natural Cycle: 70	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 29.0	Intersection LOS: C
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 10: Glen Cove Avenue & Charles Street & Brewster Street

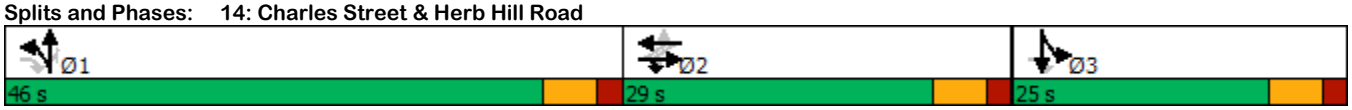
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	59	522	1	24	2	636	132	3	69	263	49
Future Volume (vph)	2	59	522	1	24	2	636	132	3	69	263	49
Satd. Flow (prot)	0	2021	1689	0	1877	0	1770	1925	1561	1805	1818	0
Flt Permitted		0.991			0.989		0.950			0.950		
Satd. Flow (perm)	0	2007	1689	0	1860	0	1770	1925	1561	1805	1818	0
Satd. Flow (RTOR)					2				98		8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	0%	2%	0%	0%	0%	2%	2%	0%	0%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	63	544	0	28	0	663	138	3	72	325	0
Turn Type	Perm	NA	custom	Perm	NA		Split	NA	Perm	Split	NA	
Protected Phases		2	2		2		1	1		3	3	
Permitted Phases	2		1 3	2					1			
Detector Phase	2	2	2	2	2		1	1	1	3	3	
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0		25.0	25.0	25.0	8.0	8.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		31.0	31.0	31.0	19.0	19.0	
Total Split (s)	29.0	29.0	29.0	29.0	29.0		46.0	46.0	46.0	25.0	25.0	
Total Split (%)	29.0%	29.0%	29.0%	29.0%	29.0%		46.0%	46.0%	46.0%	25.0%	25.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		6.0	6.0		6.0		6.0	6.0	6.0	6.0	6.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag		Lead	Lead	Lead			
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None		Min	Min	Min	None	None	
Act Effct Green (s)		10.5	84.1		10.5		37.0	37.0	37.0	18.4	18.4	
Actuated g/C Ratio		0.12	1.00		0.12		0.44	0.44	0.44	0.22	0.22	
v/c Ratio		0.25	0.32		0.12		0.85	0.16	0.00	0.18	0.80	
Control Delay		37.1	0.5		33.3		33.9	15.2	0.0	30.1	48.5	
Queue Delay		0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay		37.1	0.5		33.3		33.9	15.2	0.0	30.1	48.5	
LOS		D	A		C		C	B	A	C	D	
Approach Delay		4.3			33.3			30.5			45.2	
Approach LOS		A			C			C			D	
Queue Length 50th (ft)		32	0		13		304	43	0	32	167	
Queue Length 95th (ft)		69	0		38		#547	84	0	72	#325	
Internal Link Dist (ft)		469			204			327			350	
Turn Bay Length (ft)			340						75	75		
Base Capacity (vph)		553	1689		514		848	923	799	411	420	
Starvation Cap Reductn		0	0		0		0	0	0	0	0	
Spillback Cap Reductn		0	0		0		0	0	0	0	0	
Storage Cap Reductn		0	0		0		0	0	0	0	0	
Reduced v/c Ratio		0.11	0.32		0.05		0.78	0.15	0.00	0.18	0.77	

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 84.1
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 25.1 — Intersection LOS: C
Intersection Capacity Utilization 73.7% — ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 14: Charles Street & Herb Hill Road



Appendix D

Description

Internal Capture

Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

Job Name: **Garvies Point Mixed Use**
Job Number: **20068**
Date: **6/25/19**
Time Period: **AM Peak Hour**

INTERNAL CAPTURE CALCULATIONS

Internal Capture Rates from Trip Generation Handbook - 3rd Edition - Chapter 6 - Tables 6.1 & 6.2

Land Use A — **Residential**
ITE LUC 221 Units: 400

	Total	Internal	External
Enter	37	1	36
Exit	107	3	104
Total	144	4	140
%	100%	3%	97%

Enter from External: 36
Exit to External: 104

To Resi fr Rest: 5% | 2
Balanced: 0
Fr Rest to Resi: 4% | 0

Fr Resi to Rest: 20% | 21
Balanced: 2
To Rest fr Resi: 20% | 2

Land Use C — **Restaurant**
ITE LUC 931 Size: 120 Seats

	Total	Internal	External
Enter	12	4	8
Exit	6	1	5
Total	18	5	13
%	100%	28%	72%

Enter from External: 8
Exit to External: 5

To Res fr Ret: 2% | 1
Balanced: 1
Fr Ret to Res: 14% | 2

Fr Rest to Ret: 14% | 1
Balanced: 1
To Ret fr Rest: 8% | 2

To Rest fr Ret: 50% | 6
Balanced: 2
Fr Ret to Rest: 13% | 2

Overall Internal Capture Rate
7.2%

Fr Res to Ret: 1% | 1
Balanced: 1
To Ret fr Res: 17% | 3

Land Use B — **Retail**
ITE LUC 820 Size: 34,200 SF

	Total	Internal	External
Enter	20	2	18
Exit	12	3	9
Total	32	5	27
%	100%	16%	84%

Enter from External: 18
Exit to External: 9

Net External Trips for Multi-Use Development

	Land Use A-Residential	Land Use B-Retail	Land Use C-Restaurant	Total	Total Internal Capture
Enter	36	18	8	62	7
Exit	104	9	5	118	7
Total	140	27	13	180	14
Single-Use Trip Gen. Est.	144	32	18	194	**7.2%**

Job Name: **Garvies Point Mixed Use**
Job Number: **20068**
Date: **6/25/19**
Time Period: **PM Peak Hour**

INTERNAL CAPTURE CALCULATIONS

Internal Capture Rates from Trip Generation Handbook - 3rd Edition - Chapter 6 - Tables 6.1 & 6.2

Land Use A — **Residential**
ITE LUC 221 Units: 400

	Total	Internal	External
Enter	107	20	87
Exit	69	9	60
Total	176	29	147
%	100%	16%	84%

Enter from External: 87
Exit to External: 60

Land Use B — **Retail**
ITE LUC 820 Size: 34,200 SF

	Total	Internal	External
Enter	62	11	51
Exit	68	25	43
Total	130	36	94
%	100%	28%	72%

Enter from External: 51
Exit to External: 43

Land Use C — **Restaurant**
ITE LUC 931 Size: 120 Seats

	Total	Internal	External
Enter	23	10	13
Exit	11	7	4
Total	34	17	17
%	100%	50%	50%

Enter from External: 13
Exit to External: 4

To Resi fr Rest: 16% | 17 — Balanced: 2 — Fr Rest to Resi: 18% | 2

Fr Resi to Rest: 21% | 14 — Balanced: 3 — To Rest fr Resi: 14% | 3

To Res fr Ret: 46% | 49 — Balanced: 18 — 26% | 18 — Fr Ret to Res

Fr Rest to Ret: 41% | 5 — Balanced: 5 — 50% | 31 — To Ret fr Rest

Fr Res to Ret: 42% | 29 — Balanced: 6 — 10% | 6 — To Ret fr Res

To Rest fr Ret: 29% | 7 — Balanced: 7 — 29% | 20 — Fr Ret to Rest

Overall Internal Capture Rate
24.1%

Net External Trips for Multi-Use Development

	Land Use A-Residential	Land Use B-Retail	Land Use C-Restaurant	Total	Total Internal Capture
Enter	87	51	13	151	41
Exit	60	43	4	107	41
Total	147	94	17	258	82
Single-Use Trip Gen. Est.	176	130	34	340	**24.1%**

Job Name: **Garvies Point Mixed Use**
Job Number: **20068**
Date: **6/25/19**
Time Period: **Saturday Midday Peak Hour**

With PM Rates

INTERNAL CAPTURE CALCULATIONS

Internal Capture Rates from Trip Generation Handbook - 3rd Edition - Chapter 6 - Tables 6.1 & 6.2

Land Use A — **Residential**
ITE LUC 221 Units: 400

	Total	Internal	External
Enter	86	22	64
Exit	90	11	79
Total	176	33	143
%	100%	19%	81%

Enter from External: 64
Exit to External: 79

To Resi fr Rest: 16% | 14 | Balanced: 3 | Fr Rest to Resi: 18% | 3

Fr Resi to Rest: 21% | 19 | Balanced: 3 | To Rest fr Resi: 14% | 3

Land Use C — **Restaurant**
ITE LUC 931 Size: 120 Seats

	Total	Internal	External
Enter	24	10	14
Exit	16	10	6
Total	40	20	20
%	100%	50%	50%

Enter from External: 14
Exit to External: 6

To Res fr Ret: 46% | 40 | Balanced: 19 | 26% | 19
Fr Ret to Res

Fr Rest to Ret: 41% | 7 | Balanced: 7 | 50% | 40
To Ret fr Rest

To Rest fr Ret: 29% | 7 | Balanced: 7 | 29% | 21
Fr Ret to Rest

Overall Internal Capture Rate
25.4%

Fr Res to Ret: 42% | 38 | Balanced: 8 | 10% | 8
To Ret fr Res

Land Use B — **Retail**
ITE LUC 820 Size: 34,200 SF

	Total	Internal	External
Enter	80	15	65
Exit	74	26	48
Total	154	41	113
%	100%	27%	73%

Enter from External: 65
Exit to External: 48

Net External Trips for Multi-Use Development

	Land Use A-Residential	Land Use B-Retail	Land Use C-Restaurant	Total	Total Internal Capture
Enter	64	65	14	143	47
Exit	79	48	6	133	47
Total	143	113	20	276	94
Single-Use Trip Gen. Est.	176	154	40	370	**25.4%**