A. INTRODUCTION

This chapter assesses existing and future transportation conditions and whether the proposed project has the potential to create significant adverse transportation impacts. As described in Chapter 1 (Project Description), the proposed actions would facilitate the enlargement of the existing commercial center currently known as the Hylan Plaza Shopping Center at 2600 Hylan Boulevard in Staten Island.

The proposed project, which is anticipated to be completed by 2019, would include the demolition of portions of the existing shopping center, development of new shopping center buildings, as well as a reconfiguration of the shopping center and its parking lot. The project would result in a net increase of approximately 36,300 sf of destination retail space (12 percent more than existing), approximately 17,000 sf of supermarket use (28 percent more than existing), and a net increase of 300 seats of movie theater use (43 percent more than existing). The existing and future development levels are summarized in **Tab1e 4-1**.

Table 4-1
Comparison of Existing and Future with the Proposed Project

Land Use	Existing	Proposed Project	Increment
Destination Retail	285,319 sf	341,280 sf	+ 55,961 sf [1]
Supermarket	59,809 sf	76,769 sf	+ 16,960 sf
Movie Theater	700 seats	1,000 seats	+ 300 seats
Parking	1,414 spaces	1,653 spaces	+ 239 spaces

Note:
1. Proposed destination retail increment includes 23,159 sf of receiving/common areas; a portion of this area was included in the 36,300 sf destination retail increment.

The project site currently has only four functional curb cuts for shoppers which would increase to twelve curb cuts in total as a result of the proposed project. These new curb cuts would make the proposed project more accessible to shoppers from all street frontages which could potentially reduce traffic and alleviating queueing at the existing project site entrances. In order to reduce the potential for pedestrian conflicts, at the curb cut along Ebbitts Street closest to Mill Road tractor trailers would be restricted between the hours of 10 AM and 10 PM, unless accompanied by a flagger. Additionally, the proposed project will provide a direct east-west path through the project site from Hylan Boulevard (from the entrance at Beach Avenue) to Mill Road to the east, and the parking spaces would be reconfigured which would potentially reduce the travel distance for pedestrian from their cars to the various shopping center buildings.

The objective of the transportation analysis is to determine whether a proposed project may result in significant adverse impacts to travelers (by means of private car, taxi, subway and rail, bus, ferry, bicycle, and walking). The analyses contained within this chapter follow the guidelines contained in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*. Mitigation for significant traffic impacts is addressed in Chapter 8, "Mitigation." ~~Where~~

~~significant traffic impacts are identified, the ability to mitigate those impacts is addressed in Chapter 8, "Mitigation."~~

B. PRINCIPAL CONCLUSIONS

TRAFFIC

The proposed project would generate 193 vehicles per hour (vph) (92 "ins" and 101 "outs") in the weekday midday peak hour; 198 vph (96 "ins" and 102 "outs") in the weekday PM peak hour; and 272 vph (141 "ins" and 131 "outs") during the Saturday midday peak hour.

Of the ten study area intersections analyzed (nine signalized and one unsignalized intersections), the proposed project would create significant traffic impacts at five in the weekday midday peak hour~~; six in the weekday PM peak hour;~~, and seven in the weekday PM and Saturday midday peak hours. These are summarized below in **Table 4-2**.

Table 4-2
Summary of Significant Adverse Traffic Impacts

Intersection	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Hylan Boulevard and New Dorp Lane	~~NBL~~ SBL	EBTR ~~WBL~~ SBL SBTR	~~EBL~~ WBL NBL SBL
Hylan Boulevard and Beach Avenue	SBL	WBTR SBL	EBLTR WBLT SBL
Hylan Boulevard and Ebbitts Street	WBL SBL	WBL SBL	WBL SBL
Hylan Boulevard and Tysens Lane	-	EBL WBL SBTR	EBL WBL
Hylan Boulevard and Lincoln Avenue	NBL	NBL	NBL
Hylan Boulevard and Guyon Avenue	EBL	SBTR	EBL
Hylan Boulevard and Midland Avenue	-	-	SBL
Hylan Boulevard and Buffalo Street	-	SBTR	-
Total Impacted Intersections	**5**	**~~6~~7**	**7**
Total impacted Movements	**~~7~~6**	**~~11~~13**	**~~12~~13**

PARKING

The proposed project would provide an additional 239 new parking spaces to the existing 1,414 parking spaces provided on-site for a total of 1,653 parking spaces. The existing parking on-site is underutilized, and the Applicant is seeking a permit to reduce the parking requirement by approximately 50 percent from the zoning requirements. A parking analysis was performed to determine whether the projected parking demand associated with the future shopping center expansion could be accommodated. The findings of the analysis determined that the future weekday peak parking demand (approximately 564 parking spaces, 34 percent occupancy), and

the future Saturday peak parking demand (approximately 622 parking spaces, 38 percent occupancy), could be accommodated on-site with the reduced parking requirements.

TRANSIT

A trip generation screening assessment was performed and shows that the number of bus and subway person trips expected to be generated by the proposed project would not have the potential for significant adverse bus or subway impacts. Therefore, no detailed analysis was warranted.

PEDESTRIANS

A trip generation screening assessment was performed and shows that the number pedestrian trips expected to be generated by the proposed project would not have the potential for significant adverse impacts. Therefore, no detailed analysis was warranted.

VEHICULAR AND PEDESTRIAN SAFETY

Per New York City Department of Transportation (NYCDOT) criteria, one of the ten intersections analyzed is considered a high accident location. The Hylan Boulevard and Ebbitts Street intersection had six pedestrian/bicyclist-related crashes in 2013. Traffic improvement measures in the form of signal phasing modifications were ~~identified~~ implemented at this intersection ~~as part of the *450 New Dorp Lane Project EAS* that~~ by NYCDOT in 2016 and are ~~is~~ expected to improve safety conditions at this intersection ~~and signal phasing modifications were implemented at this intersection by NYCDOT in 2016~~. No additional measures were identified.

C. PRELIMINARY ANALYSIS METHODOLOGY

According to the ~~2014~~ *CEQR Technical Manual* procedures for transportation analysis, a two-tiered screening process is to be undertaken to determine whether a quantified analysis is necessary. The first step, the Level 1 (Trip Generation) screening, determines whether the volume of peak hour person and vehicle trips generated by the Hylan Plaza Study (the "proposed project") would remain below the minimum thresholds for further study. These thresholds are:

- 50 peak hour vehicle trip ends;
- 200 peak hour subway/rail or bus transit riders; and
- 200 peak hour pedestrian trips.

If the proposed project results in increments that would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is generally performed. Under this assessment, project-generated trips that exceed Level 1 thresholds are assigned to and from the site through their respective networks (streets, buses, subway lines, sidewalks, etc.) based on expected origin-destination patterns and travel routes. This determines the volume of peak hour vehicular traffic that would be added per intersection, the volume of riders that would be added per subway line or bus route, and the walk trips that would be added per individual pedestrian network element (crosswalk, corner reservoir area, etc.). If the Level 2 screening assessment determines that any single traffic location, transit line or station element, or pedestrian network element would experience an increase of trips beyond the above thresholds for any peak hour, then a detailed analysis is typically warranted.

The proposed project, which is anticipated to be completed by 2019, would include the demolition of portions of the existing shopping center, development of new shopping center buildings, as well as a reconfiguration of the shopping center and its parking lot, resulting in a

net increase of approximately 36,300 sf of destination retail space (12 percent more than existing), approximately 17,000 sf of supermarket use (28 percent more than existing), and a net increase of 300 seats of movie theater use (43 percent more than existing).

The proposed project is an expansion of the existing shopping center and no new land uses are anticipated. Project increments were determined based on the characteristics of the existing shopping center trip patterns. Existing counts were conducted to quantify typical traffic volumes in and out of the shopping center and to form the basis for projecting future increases as a result of the proposed expansion. A trip generation estimate in accordance with the trip rates published in the ~~*2014 CEQR Technical Manual*~~ was then prepared to determine the percentages of the counted total vehicle trips attributed to each land use (i.e. general retail, supermarket, and cinema). Finally, the projected new trips were then allocated to each land use based on these percentages.

The existing driveways along Hylan Boulevard (at Beach Street) and along Ebbitts Street would continue to provide access to the site; additional driveways would be provided along Mill Road, and along Ebbitts Street near its intersection with Mill Road. **Figures 4-1 and 4-2** depict the existing and proposed site plans.

D. LEVEL 1 SCREENING ASSESSMENT

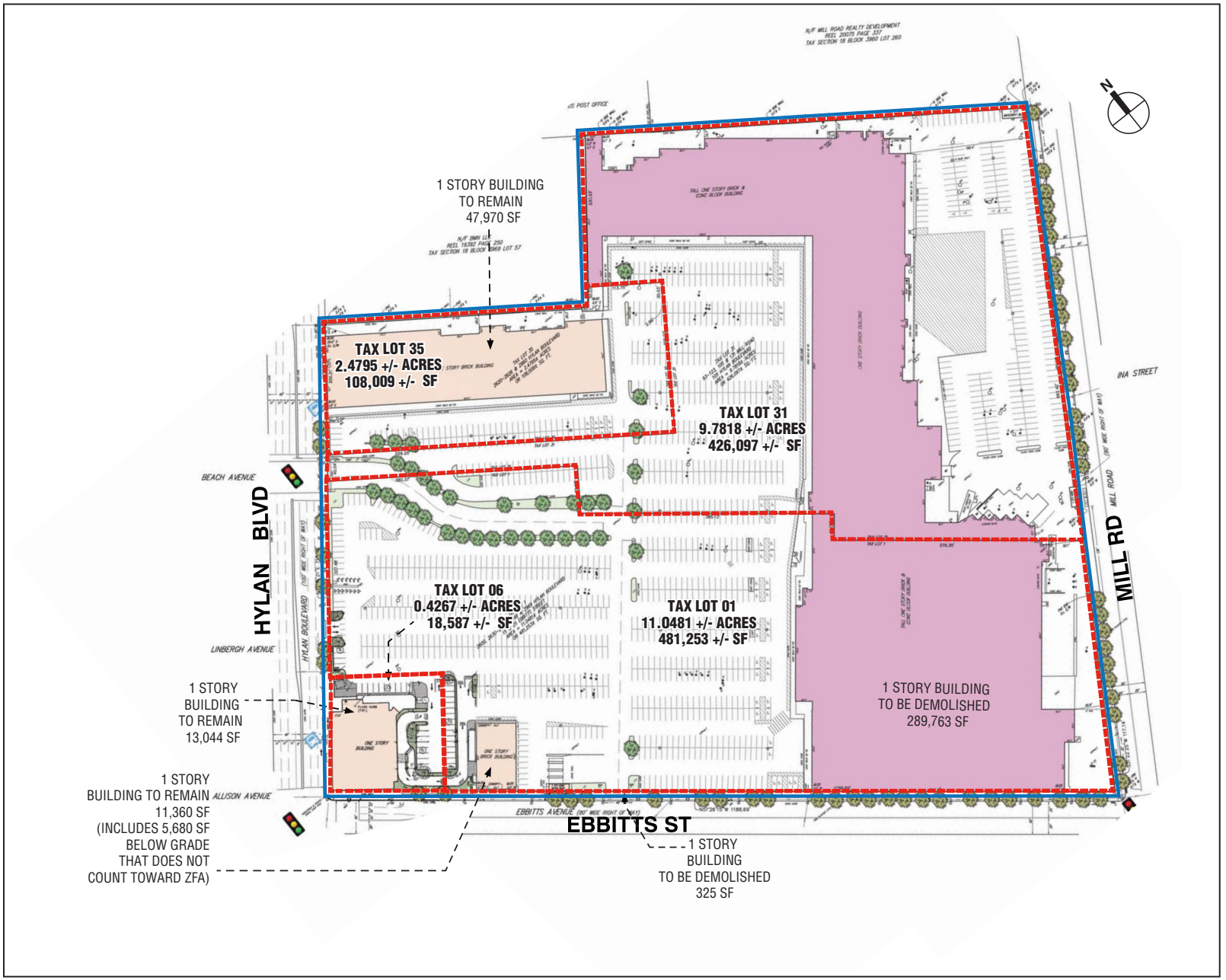
A Level 1 trip generation screening assessment was conducted to estimate the volume of person and vehicle trips by mode expected to be generated by the proposed project during the weekday midday, PM, and Saturday midday peak hours. These estimates showed that a Level 2 screening and quantified analyses is warranted only for vehicle trips.

TRANSPORTATION PLANNING ASSUMPTIONS

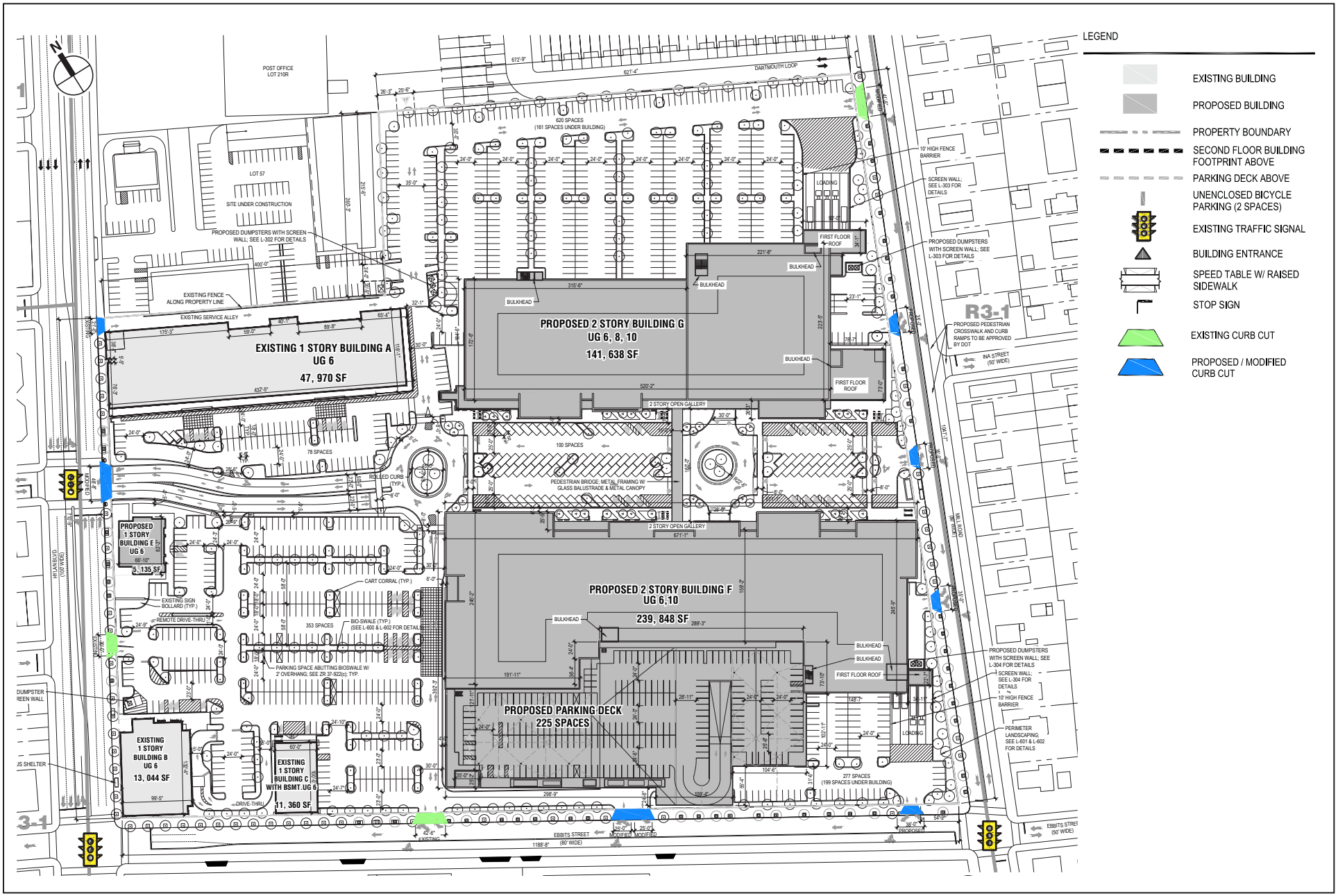
The Hylan Plaza Shopping Center is located at 2600 Hylan Boulevard and is bounded by Hylan Boulevard to the west, Mill Road to the east, Sterling Avenue to the north, and Allison Avenue/Ebbitts Street to the south in the New Dorp section of Staten Island (Block 3969, Lots 1, 6, 31, and 35). The existing shopping center is largely categorized into three land uses—destination retail (285,300 sf), supermarket (59,800 sf), and movie theatre (700 seats), totaling to about 362,500 square feet (sf) of floor area with about 1,414 accessory parking spaces. The proposed project consists of an expansion of the existing shopping center by an additional 96,617 sf of floor area and 239 additional parking spaces. It is a possible that about 37,500 sf of destination retail expansion would be replaced with a health club. However, to be conservative, the analysis classified this space as destination retail which is a higher trip generator.

This section details the travel demand assumptions used to determine the number of trips generated by the proposed project. The analysis below has determined that the increase in vehicle trips generated by the proposed project would exceed the *CEQR* Level 1 screening threshold for vehicular traffic during the weekday midday, PM and the Saturday midday peak hours. As a result, a Level 2 screening analysis was conducted for these peak hours and is also detailed in this section. The analysis has also determined that the increase in transit and pedestrian trips generated by the proposed project would not exceed the CEQR Level 1 screening for these categories; therefore, no further transit or pedestrian analysis are needed.

Table 4-3 provides the travel demand assumptions used for the weekday midday and PM peak, and Saturday midday peak hours for each land use.



Existing Site Plan
Figure 4-1



Proposed Site Plan

Figure 4-2

Table 4-3
Travel Demand Characteristics

Rates	Destination Retail (285,300 sf)	Supermarket (59,800 sf)	Movie Theater (700 seats)
Weekday Person Trip Gen Rate	78.2 [1]	175.0 [1]	3.26 [1]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Saturday Person Trip Gen Rate	92.5 [1]	231.0 [1]	6.25 [1]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Temporal Distribution			
Weekday Midday/PM Peak	9% / 9% [1]	6% / 10% [1]	3% / 8% [1]
Saturday Midday Peak	11% [1]	9% [1]	5% [5]
Linkage			
	0%	15% [8]	0%
Modal Split			
Auto	90% [6]	90% [7]	90% [7]
Taxi	1% [6]	1% [7]	1% [7]
Bus	5% [6]	5% [7]	5% [7]
Walk/Other	4% [6]	4% [7]	4% [7]
Vehicle Occupancy			
Auto	1.45 [3]	1.65 [2]	2.52 [4]
Taxi	1.60 [3]	1.40 [2]	2.30 [4]
Directional Split (Ins)			
Weekday Midday/PM Peak	54% / 52% [3]	46% / 47% [2]	62% / 54% [4]
Saturday Midday Peak	54% [3]	51% [2]	62% [5]
Weekday Truck Trip Gen	0.35 [3]	0.35 [2]	0.02 [4]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Saturday Truck Trip Gen	0.04 [3]	0.04 [2]	0.00 [5]
	per 1,000 SF	*per 1,000 SF*	*per seat*
Truck Temporal Distribution			
Weekday Midday/PM Peak	11% / 2% [3]	11% / 2% [2]	11% / 1% [4]
Saturday Midday Peak	11% [3]	11% [2]	0% [5]
Truck Trip Directional Split—50% Ins			

Sources:
(1) *2014 CEQR Technical Manual*
(2) *Seward Park Mixed-Use Development Project FGEIS (2012)*
(3) *Charleston Mixed-Use Development FEIS (2013)*
(4) *Staten Island Lighthouse Point EAS (2013)*
(5) *Willets Point Development Plan FGEIS (2013)*
(6) VHB assumption of local traffic characteristics modified from *Charleston Mixed-Use Development*
(7) Assumed to be similar to destination retail
(8) VHB assumption based on *Seward Park Mixed-Use Development Project FGEIS,* reduced to be more conservative

DESTINATION RETAIL

The travel demand factors used to determine the percentage allocation of existing destination retail trips that could be applied to the projected new trips were obtained primarily from the ~~*2014*~~ *CEQR Technical Manual*, and previously approved New York City Environmental Impact Studies (EISs) and Assessments (EASs) such as the *Charleston Mixed-Use Development FEIS* (2013).

A trip generation rate of 78.2 daily weekday person trips per 1,000 sf and temporal distributions of 9 percent for the weekday midday and PM peak hours, were obtained from the ~~*2014 CEQR*~~

Technical Manual. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were based on the *Charleston Mixed-Use Development FEIS* and adjusted to account for the characteristics of the area (proximity to residential communities, density of developed areas, presence of Select Bus Service (SBS) and several bus lines along Hylan Boulevard). The Charleston Shopping Center is located in a section of Staten Island that is less conducive to walk or transit trips (offering limited alternatives to driving) as compared to Hylan Plaza. Vehicle occupancies of 1.45 persons per auto and 1.60 per taxi were obtained from the *Charleston Mixed-Use Development FEIS*. Directional distributions of 54 percent "in" for the weekday midday peak hour, and 52 percent "in" for the weekday PM peak hour were obtained from the *Charleston Mixed-Use Development FEIS*.

For delivery trips, a trip generation rate of 0.35 daily weekday trucks per 1,000 sf and a temporal distribution of 11 percent for the weekday midday peak hour and 2 percent for the weekday PM peak hour were obtained from the *Charleston Mixed-Use Development FEIS*.

For the Saturday peak hour, a trip generation rate of 92.5 person trips per 1,000 sf and a temporal distribution of 11 percent were obtained from the ~~*2014 CEQR Technical Manual*~~. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 1.45 persons per auto and 1.60 per taxi were used. A directional split of 54 percent "in" was used, similarly to the weekday midday peak hour.

For delivery trips, a trip generation rate of 0.04 daily trucks per 1,000 sf and a temporal distribution of 11 percent were obtained from the *Charleston Mixed-Use Development FEIS*.

SUPERMARKET

The travel demand factors used to determine the percentage allocation of existing supermarket trips that could be applied to the projected new trips were obtained primarily from the ~~*2014 CEQR Technical Manual*~~ and the *Seward Park Mixed-Use Development Project* (2013).

A trip generation rate of 175 daily weekday person trips per 1,000 sf and temporal distributions of 6 percent and 10 percent for the weekday midday and PM peak hours, respectively, were obtained from the ~~*2014 CEQR Technical Manual*~~. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were assumed to be similar to the destination retail use based on travel characteristics around the shopping center. Vehicle occupancies of 1.65 persons per auto and 1.40 per taxi were obtained from the *Seward Park Mixed-Use Development Project*. Directional distributions of 46 percent "in" for the weekday midday peak hour, and 47 percent "in" for the weekday PM peak hour were obtained from the *Seward Park Mixed-Use Development Project*.

For delivery trips, a trip generation rate of 0.35 daily weekday trucks per 1,000 sf and a temporal distribution of 11 percent for the weekday midday peak hour, and 2 percent for the weekday PM peak hour were obtained from the *Seward Park Mixed-Use Development Project*.

For the Saturday peak hour, a trip generation rate of 231 person trips per 1,000 sf and a temporal distribution of 9 percent were obtained from the ~~*2014 CEQR Technical Manual*~~. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 1.65 persons per auto and 1.40 per taxi were used. A directional split of 51 percent "in" was obtained from the *Seward Park Mixed-Use Development Project*.

For delivery trips, a trip generation rate of 0.04 daily trucks per 1,000 sf and a temporal distribution of 11 percent were obtained from the *Seward Park Mixed-Use Development Project*.

A linked trip credit of 15 percent was applied to both the weekday and Saturday peak hours based on *Seward Park Mixed-Use Development Project* and reduced to be more conservative.

MOVIE THEATER

The travel demand factors used to determine the percentage allocation of existing movie theater trips that could be applied to the projected new trips were obtained from the ~~*2014 CEQR Technical Manual*~~, the *Staten Island Lighthouse Point EAS* (2013), and the *Willets Point Development Plan FGEIS* (2013).

A trip generation rate of 3.26 daily weekday person trips per seat and temporal distributions of 3 percent and 8 percent for the weekday midday and PM peak hours, respectively, were obtained from the ~~*2014 CEQR Technical Manual*~~. The weekday midday and PM peak hour modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, were assumed to be similar to the destination retail use based on travel characteristics around the shopping center. Vehicle occupancies of 2.52 persons per auto and 2.30 per taxi were obtained from the *Staten Island Lighthouse Point EAS*. Directional distributions of 62 percent "in" for the weekday midday peak hour, and 54 percent "in" for the weekday PM peak hour were obtained from the *Staten Island Lighthouse Point EAS.*

For delivery trips, a trip generation rate of 0.02 daily weekday trucks per seat and a temporal distributions of 11 percent for the weekday midday peak hour, and 1 percent for the weekday PM peak hour were also obtained from the *Staten Island Lighthouse Point EAS.*

For the Saturday peak hour, a trip generation rate of 6.25 person trips per seat and a temporal distribution of 5 percent were obtained from the ~~*2014 CEQR Technical Manual*~~. Similar to the weekday peak hours, modal splits of 90 percent by auto, 1 percent by taxi, 5 percent by bus, and 4 percent by walk, and vehicle occupancies of 2.52 persons per auto and 2.30 per taxi were used. A directional split of 62 percent "in" was used, similarly to the weekday midday. No daily delivery trips were anticipated for the Saturday peak hour for movie theater use.

TRIP GENERATION

TRAFFIC

The proposed project is an expansion of an existing shopping center with no new land uses anticipated. In order to quantify vehicular activity at the shopping center, first, existing traffic counts were conducted at its driveways. In order to determine the distribution of the driveway counts trips by the type of shopping center use (i.e., destination retail, supermarket, and cinema), trip generation rates were used from the ~~*2014 CEQR Technical Manual*~~ and other approved studies. In this way, the percentages of the total existing vehicle trips attributed to each existing land use could be calculated. Finally, these percentages were then applied to the projected new trips to determine the volume of vehicle trips by each land use's expansion in order to determine the volume of new project-generated vehicular trips by land use.

Using the travel demand assumptions mentioned above and applying them to existing square footages the trip generation projections for the existing site could be derived as shown in **Table 4-4** below.

Table 4-4
Trip Generation Summary—Trip Generation Projections based on CEQR Assumptions

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	685	586	1,271	656	606	1,262	984	839	1,823
Supermarket	138	161	299	231	260	491	298	286	584
Movie theater	16	10	26	35	30	65	49	31	80
Total	**839**	**757**	**1,596**	**922**	**896**	**1,818**	**1,331**	**1,156**	**2,487**

These projections were then used to determine the trip percentage distributions by land use as shown in **Table 4-5** below.

Table 4-5
Trip Generation Summary—Existing Distribution of Vehicle Trips by Land Use

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	82%	77%	80%	71%	68%	69%	74%	72%	73%
Supermarket	16%	21%	18%	25%	29%	27%	22%	25%	24%
Movie theater	2%	2%	2%	4%	3%	4%	4%	3%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

From **Table 4-5** above, it can be seen that during the midday peak period, approximately 80 percent of existing trips were associated with destination retail, approximately 18 percent were associated with the supermarket, and approximately 2 percent were associated with the movie theater. During the PM peak period, approximately 69 percent of existing trips were associated with destination retail, approximately 27 percent were associated with the supermarket, and approximately 4 percent were associated with the movie theater. During the Saturday midday peak period, approximately 73 percent of existing trips were associated with destination retail, approximately 24 percent were associated with the supermarket, and approximately 3 percent were associated with the movie theater.

These percentages were then applied to the existing shopping center driveway counts to establish the existing volumes for each land use for each peak period. **Table 4-6**, below, provides the existing peak hour driveway counts, while **Table 4-7** summarizes the total peak hour vehicular volumes ("ins" plus "outs") after applying the distribution percentages from **Table 4-5** to the existing driveway counts in **Table 4-6**.

Table 4-6
Trip Generation Summary—Existing Driveway Counts

	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Shopping Center	611	639	1,250	557	577	1,134	847	779	1,626

Table 4-7
Trip Generation Summary—Existing Vehicle Trips by Land Use

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	499	495	994	396	391	787	626	565	1,191
Supermarket	100	136	236	140	167	307	190	193	383
Movie theater	12	8	20	21	19	40	31	21	52
Total	**611**	**639**	**1,250**	**557**	**577**	**1,134**	**847**	**779**	**1,626**

In order to calculate the future trips associated with the expansion of the shopping center, the existing vehicle trips were increased proportionally to the increase in square footage (or number of seats for the theater) associated with each land use. The proposed expansion of the existing shopping center would include an increase in retail size by approximately 12 percent, the supermarket would increase by approximately 28 percent, and the movie theater would increase (in seats) by approximately 43 percent. The existing counts for each land use were increased by the corresponding percentage increment for that land use to determine future demand associated with that land use shown in **Table 4-8**.

Table 4-8
Trip Generation Summary—Future Expansion Vehicle Trips

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	558	554	1,112	443	438	881	700	632	1,332
Supermarket	128	175	303	180	214	394	244	248	492
Movie theater	17	11	28	30	27	57	44	30	74
Total	**703**	**740**	**1,443**	**653**	**679**	**1,332**	**988**	**910**	**1,898**

Subtracting the existing number of trips from the trips with the proposed expansion yields the project increments. As shown in **Table 4-9**, below, the proposed project would generate 193 vehicles per hour (vph) in the weekday midday peak hour, 198 vph in the weekday PM peak hour, and 272 vph during the Saturday peak hour. Since the volume of incremental vehicle trips generated by the proposed project is expected to exceed the 50 vehicle trip threshold during each peak hour, a Level 2 (Trip Assignment) screening assessment is warranted for those peak hours.

Table 4-9
Trip Generation Summary—Vehicle Trip Increments

Land Use	Weekday Midday			Weekday PM			Saturday Midday		
	In	Out	Total	In	Out	Total	In	Out	Total
Destination Retail	59	59	118	47	47	94	74	67	141
Supermarket	28	39	67	40	47	87	54	55	109
Movie theater	5	3	8	9	8	17	13	9	22
Total	**92**	**101**	**193**	**96**	**102**	**198**	**141**	**131**	**272**

TRANSIT AND PEDESTRIANS

The transit and pedestrian trips were also calculated using similar methodologies mentioned above. a combination of the project increments from **Table 4-9**, and the vehicle occupancies and modal splits from **Table 4-3** to generate the person trips associated with bus and walk trips. As

shown in **Tables 4-10 through 4-12**, the number of transit and pedestrian trips generated by the proposed project is not expected to exceed the ~~*2014 CEQR Technical Manual*~~ Level 1 screening thresholds and therefore no further transit or pedestrian analyses are needed.

Table 4-10
Bus Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	5	5	10	4	4	8	6	5	11
Supermarket	2	3	5	4	4	8	5	5	10
Movie theater	1	0	1	1	1	2	2	1	3
Total	**8**	**8**	**16**	**9**	**9**	**18**	**13**	**11**	**24**

Table 4-11
Walk / Other Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	4	4	8	3	3	6	5	4	9
Supermarket	2	3	5	3	3	6	4	4	8
Movie theater	1	0	1	1	1	2	1	1	2
Total	**7**	**7**	**14**	**7**	**7**	**14**	**10**	**9**	**19**

Table 4-12
Total Bus and Walk / Other Trips

	Weekday Midday			Weekday PM			Saturday Midday		
Land Use	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Destination Retail	9	9	18	7	7	14	11	9	20
Supermarket	4	6	10	7	7	14	9	9	18
Movie theater	2	0	2	2	2	4	3	2	5
Total	**15**	**15**	**30**	**16**	**16**	**32**	**23**	**20**	**43**

E. LEVEL 2 SCREENING ASSESSMENT

The following section details the assumptions used for the Level 2 screening assessment for vehicular traffic.

TRAFFIC

A trip assignment was performed for vehicular traffic based on our knowledge of travel characteristics within the study area and the proximity of the Hylan Plaza Shopping Center to other similar retail destinations.

For the destination retail use, the majority of the trips are expected to originate from neighborhoods along Hylan Boulevard, such as Dongan Hills, Midland Beach, New Dorp Beach, Bay Terrace, and Oakwood. Other significant shopping centers located on Staten Island such as the Staten Island Mall in New Springville, the Forest Avenue Plaza in Elm Park, and shopping centers in Eltingville and in Charleston were also considered while assigning trips for the

proposed project. Approximately 40 percent of destination retail trips are assumed to originate from north of New Dorp Lane and arrive at the site via southbound Hylan Boulevard or eastbound New Dorp Lane, while another 43 percent are expected to originate from south of Tysens Lane and use northbound Hylan Boulevard or eastbound Tysens Lane. Another 10 percent of the trips would arrive from west of the project site and likely use Beach Avenue, while 7 percent would be expected to originate from the neighborhood south and east of the site and travel to the shopping center via New Dorp Lane, Ebbitts Street, and Mill Road. Multiple entrances to the site would be provided on the east, west, and south sides of the site—along Mill Road, Hylan Boulevard, and Ebbitts Street, respectively.

Trips associated with supermarket would assume similar assignment patterns as destination retail.

Consideration was given to the locations of similar movie theaters situated on Staten Island such as the United Artists in Graniteville and the Atrium in Great Kills. Given the location of the Atrium, fewer trips were anticipated from south of Ebbitts Street as compared to the destination retail use. About 50 percent of the movie theater trips are expected to originate from north of New Dorp Lane, while 35 percent would travel from south of Tysens Lane. Similar to destination retail, 10 percent of the trips would arrive from west of the project site and likely use Beach Avenue, while 5 percent would be expected to originate from the neighborhood south and east of the site via New Dorp Lane, Ebbitts Street, and Mill Road. A higher percentage of trips would enter the site via Mill Road due to the location of the movie theater within the eastern section of the shopping plaza.

Traffic volume increments for the midday, PM, and Saturday midday peak hours are provided in **Figures 4-3 through 4-5**.

F. TRANSPORTATION ANALYSIS METHODOLOGIES

TRAFFIC OPERATIONS

The operation of all of the signalized and unsignalized intersection analysis locations were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*, which is the analysis methodology approved for use by NYCDOT The *HCM* procedures evaluate the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for determining levels of service for individual lane groups (grouping of movements in one or more travel lanes), the overall approaches to each intersection, and the overall intersection itself. Levels of service are defined in **Table 4-13**.

Table 4-13
LOS Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

The Boulevard at Hylan Plaza

Figure 4-3

Project Trip Increments

Weekday Midday Peak Hour

The Boulevard at Hylan Plaza

Figure 4-4

Project Trip Increments

Weekday PM Peak Hour

The Boulevard at Hylan Plaza

Figure 4-5

Project Trip Increments

Saturday Midday Peak Hour

LOS A describes operations with low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.

LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.

LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.

LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.

LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.

LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Based on *CEQR Technical Manual* guidelines, LOS A, B, and C are considered acceptable, LOS D is considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections) and unacceptable above mid-LOS D, and LOS E and F indicate congestion. These guidelines are applicable to individual traffic movements and overall intersection levels of service.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. Level of service criteria for unsignalized intersections are summarized in **Table 4-14**.

Table 4-14
LOS Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

For unsignalized intersections, LOS E is considered the limit of acceptable delay, while LOS F is considered unacceptable to most drivers. LOS F conditions exist when there are insufficient gaps of suitable size in a major vehicular traffic stream to allow side street traffic to cross safely.

Significant Impact Criteria

The assessment of potential significant traffic impacts of a proposed project is based on significant impact criteria defined in the *CEQR Technical Manual.* No Action LOS A, B, or C conditions that deteriorate to unacceptable LOS D, E, or F in the future With Action condition are considered a significant traffic impact.

For future No Action LOS A, B, or C conditions that deteriorate to unacceptable LOS D, mitigation to mid-LOS D (45.0 seconds of delay for signalized intersections and 30.0 seconds of delay for unsignalized intersections) needs to be considered to fully mitigate the impact.

For a No Action LOS D, an increase of delay by five or more seconds in the With Action condition is considered a significant impact if the With Action delay meets or exceeds 45.0 seconds. For a No Action LOS E, the threshold is a four second increase in With Action delay; for a No Action LOS F, a three second increase in delay in the With Action condition is significant. For unsignalized intersections, for the minor street to generate a significant impact, 90 passenger car equivalents (PCEs) must be identified in the With Action condition in any peak hour.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by a proposed project. If the analysis concludes that there would be a shortfall in parking, the parking study area would need to be expanded to provide adequate parking supply.

For proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a quarter-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area and the patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. If there is an adequate parking supply within a half-mile of the project site, the projected parking shortfall may not be considered significant.

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT.

G. TRANSPORTATION ANALYSIS

2015 EXISTING CONDITIONS

ROADWAY NETWORK

The traffic study area encompasses ~~eight~~ ten intersections (nine signalized and one unsignalized) as shown in **Figure 4-6** and listed below:

1. Hylan Boulevard and New Dorp Lane
2. Hylan Boulevard and Beach Avenue
3. Hylan Boulevard and Allison Avenue/Ebbitts Street
4. Hylan Boulevard and Tysens Lane
5. Hylan Boulevard and Lincoln Avenue
6. Hylan Boulevard and Guyon Avenue
7. Ebbitts Street and Mill Road
8. Ebbitts Street and Plaza Driveway
9. Hylan Boulevard and Midland Avenue
10. Hylan Boulevard and Buffalo Street

Access to the project site will be provided at the existing intersection at Hylan Boulevard and Beach Avenue, as well as existing and proposed curb cuts along Ebbitts Street and Mill Road. The majority of trips to the project site are assumed to utilize the main signalized entrance at Hylan Boulevard and Beach Avenue and the existing driveway along Ebbitts Street.

Hylan Boulevard

Hylan Boulevard is the key north-south commuter arterial along the eastern region of Staten Island, extending from Edgewater Street to the north near the Alice Austen Park to Satterlee Street to the south near the Conference House Park. Within the study area, Hylan Boulevard consists of three travel lanes in each direction with left-turn bays and a raised median in the middle of the roadway. Parking is prohibited along both directions near the analysis locations, and commuter traffic peaks in the northbound direction during the AM peak period and in the southbound direction during the PM peak. Multiple local and express bus lines operate along this roadway within the vicinity of the project site such as the S78, S79, X1, X2, X3, X8, and X9.

Ebbitts Street

Ebbitts Street extends east-west from Hylan Boulevard to Cedar Grove Avenue. It consists of one travel lane with parking in each direction; however, the section with parking prohibitions (near the Hylan Plaza Shopping Center driveway) is wide enough to accommodate two lanes of traffic in each direction if needed. Ebbitts Street is used by bus lines such as the S57, S76/S86, X2, X3, and X9.

Mill Road

Mill Road is a north-south roadway that extends from New Dorp Lane to the north to the Oakwood Beach Water Control Plant to the south. It generally has one travel lane with parking in each direction and services the S57, S76/S86, X2, X3, and X9 bus lines.

TRAFFIC VOLUMES

Existing traffic counts were conducted in June 2015 for the weekday midday and PM, and Saturday midday peak periods using manual turning movement counts and 24-hour Automatic Traffic Recorder

N

Rockland Ave
Richmond Rd
Richmond Rd
Amboy Rd
N Railroad Ave
S Railroad Ave
N Railroad Ave
S Railroad Ave
New Dorp Ln
New Dorp Ln
Midland Ave
Lincoln Ave
Hylan Blvd
Bancroft Ave
Miller Field
Hylan Commons
Beach Ave
Allison Ave
Hylan Plaza
PROJECT SITE
Tysens Ln
Tysens Park
Shopping Center
Mill Rd
Ebbitts St
Tysens Ln
Guyon Ave
Hylan Blvd
Buffalo St

Analysis Location

The Boulevard at Hylan Plaza
Figure 4-6
Traffic Analysis Locations

(ATR) machine counts. Additional turning movement counts were conducted in April 2016 at the intersections of Lincoln Avenue and Guyon Avenue with Hylan Boulevard and in November 2016 at the intersections of Midland Avenue and Buffalo Street with Hylan Boulevard, and were verified using ATR machine counts. These volumes were used along with observations of traffic conditions to determine the levels of service for the weekday peak hours of 1:00 PM to 2:00 PM and 5:00 PM to 6:00 PM, and the Saturday peak hour of 12:30 PM to 1:30 PM.

Within the study area, traffic volumes along northbound Hylan Boulevard range between approximately 990 vph to 1,425 vph during the weekday midday peak hours, approximately 1,020 vph to 1,395 vph during the weekday PM peak hour, and approximately 1,285 vph to 1,725 vph during the Saturday midday peak hour. Southbound Hylan Boulevard carries between approximately 1,145 vph to 1,540 vph during the weekday midday peak hours, approximately 1,550 vph to 2,170 vph during the weekday PM peak hour, and approximately 1,185 vph to 1,820 vph during the Saturday midday peak hour.

Traffic volumes along eastbound Ebbitts Street between Hylan Boulevard and Mill Road range between 175 vph to 350 vph during the weekday midday peak hour, 270 vph to 315 vph during the weekday PM peak hour, and 200 vph to 400 vph during the Saturday midday peak hour. Westbound Ebbitts Street carries between approximately 245 vph to 425 vph during the weekday midday peak hour, 235 vph to 355 vph during the weekday PM peak hour, and 285 vph to 455 vph during the Saturday midday peak hour.

Existing traffic volumes are provided in **Figures 4-7 through 4-9**.

TRAFFIC LEVELS OF SERVICE

Tables 4-15 and 4-16 provide an overview of levels of service that characterize existing "overall" intersection conditions and individual traffic movements, respectively, during the weekday midday and PM, and Saturday midday peak hours. Detailed existing conditions traffic levels of service are provided in **Table 4-17**.

Table 4-15
2015 Existing Traffic Levels of Service—Overall Intersections

	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Intersections at Overall LOS A/B/C	9	6	8
Intersections at Overall LOS D	1	4	2
Intersections at Overall LOS E	0	0	0
Intersections at Overall LOS F	0	0	0
Note: Includes nine signalized and one unsignalized intersections			

Table 4-16
2015 Existing Traffic Levels of Service—Traffic Movements

	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or Acceptable LOS D	58	46	46
Traffic Movements at Unacceptable LOS D	4	13	10
Traffic Movements at Overall LOS E	4	5	5
Traffic Movements at Overall LOS F	1	4	6
Number of individual traffic movements	67	68	67
Note: The weekday PM consists of one additional movement due to the southbound Hylan Boulevard bus lane operating during the PM peak			

TABLE 4-17
2015 EXISTING TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & New Dorp Lane													
New Dorp Lane	EB	L	0.55	44.7	D	L	0.48	42.8	D	L	0.59	49.9	D
		TR	0.61	42.9	D	TR	0.90	66.7	E	TR	0.74	52.0	D
	WB	L	0.59	49.4	D	L	0.94	111.9	F	L	0.91	94.1	F
		T	0.34	35.5	D	T	0.34	36.2	D	T	0.45	39.4	D
		R	0.64	46.4	D	R	0.63	47.4	D	R	0.83	63.5	E
Hylan Bouelvard	NB	L	0.58	43.8	D	L	0.66	52.5	D	L	0.70	52.8	D
		TR	0.64	24.7	C	TR	0.65	26.8	C	TR	0.76	28.1	C
	SB	L	0.81	59.0	E	L	0.97	81.4	F	L	0.98	92.4	F
		TR	0.69	26.1	C	TR	1.01	56.9	E	TR	0.75	27.8	C
Overall Intersection		**-**	**0.84**	**32.1**	**C**	**-**	**1.04**	**51.0**	**D**	**-**	**0.97**	**39.7**	**D**
Hylan Boulevard & Beach Avenue													
Beach Avenue	EB	LTR	0.45	38.1	D	LTR	0.50	40.0	D	LTR	0.63	43.9	D
	WB	LT	0.25	34.0	C	LT	0.29	35.3	D	LT	0.53	40.9	D
		R	0.40	21.7	C	R	0.38	22.0	C	R	0.45	22.9	C
Hylan Boulevard	NB	L	0.21	25.2	C	L	0.30	29.7	C	L	0.18	24.2	C
		TR	0.66	29.2	C	TR	0.67	28.7	C	TR	0.84	34.6	C
	SB	L	0.78	38.5	D	L	0.68	29.2	C	L	0.97	81.4	F
		TR	0.52	13.7	B	TR	0.64	8.4	A	TR	0.51	13.5	B
Overall Intersection		**-**	**0.66**	**23.6**	**C**	**-**	**0.67**	**19.8**	**B**	**-**	**0.81**	**30.8**	**C**
Hylan Boulevard & Ebbitts Street													
Ebbitts Street	EB	LTR	0.14	33.0	C	LTR	0.14	32.8	C	LTR	0.17	32.6	C
	WB	L	0.70	50.4	D	L	0.72	50.8	D	L	0.60	43.6	D
		T	0.23	34.1	C	T	0.28	34.8	C	T	0.24	33.5	C
		R	0.28	26.2	C	R	0.20	24.9	C	R	0.33	26.5	C
Hylan Boulevard	NB	L	0.32	21.9	C	L	0.26	21.9	C	L	0.23	18.7	B
		TR	0.60	21.4	C	TR	0.59	21.1	C	TR	0.72	24.4	C
	SB	L	0.97	63.0	E	L	0.98	60.9	E	L	1.03	92.5	F
		TR	0.53	13.3	B	TR	0.67	8.5	A	TR	0.46	12.7	B
Overall Intersection		**-**	**0.89**	**23.3**	**C**	**-**	**0.90**	**20.0**	**B**	**-**	**0.94**	**26.5**	**C**
Hylan Boulevard & Tysens Lane													
Tysens Lane	EB	L	0.60	51.3	D	L	0.63	57.6	E	L	0.67	61.1	E
		T	0.57	41.3	D	T	0.70	50.1	D	T	0.66	47.8	D
		R	0.24	33.8	C	R	0.39	40.1	D	R	0.20	36.1	D
	WB	L	0.94	93.0	F	L	0.99	114.6	F	L	1.00	117.3	F
		T	0.63	43.3	D	T	0.65	47.7	D	T	0.64	47.0	D
		R	0.23	33.8	C	R	0.26	37.4	D	R	0.26	37.4	D
Hylan Boulevard	NB	L	0.38	40.2	D	L	0.44	45.5	D	L	0.20	25.2	C
		TR	0.59	27.1	C	TR	0.55	23.9	C	TR	0.75	30.1	C
	SB	L	0.42	30.3	C	L	0.45	28.1	C	L	0.68	52.4	D
		TR	0.81	32.9	C	TR	0.95	34.1	C	TR	0.67	28.4	C
Overall Intersection		**-**	**0.91**	**36.2**	**D**	**-**	**1.05**	**37.2**	**D**	**-**	**0.99**	**37.5**	**D**
Mill Road & Ebbitts Streets													
Ebbitts Street	EB	LTR	0.48	18.1	B	LTR	0.72	22.9	C	LTR	0.51	17.7	B
	WB	LTR	0.47	19.8	B	LTR	0.44	19.2	B	LTR	0.54	21.3	C
Mill Road	NB	LTR	0.27	9.7	A	LTR	0.45	11.7	B	LTR	0.29	9.8	A
	SB	LTR	0.35	10.4	B	LTR	0.44	11.6	B	LTR	0.34	10.2	B
Overall Intersection		**-**	**0.40**	**14.2**	**B**	**-**	**0.56**	**16.0**	**B**	**-**	**0.42**	**14.7**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)													
Ebbitts Street	EB	LT	-	9.0	A	LT	-	8.6	A	LT	-	9.4	A
	WB	TR	-	-	-	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	25.9	D	LR	-	22.2	C	LR	-	34.6	D
Overall Intersection		**-**	**-**	**10.8**	**B**	**-**	**-**	**8.8**	**A**	**-**	**-**	**13.7**	**B**
Hylan Boulevard & Lincoln Avenue													
Lincoln Avenue	WB	L	0.42	37.3	D	L	0.79	48.3	D	L	0.58	39.1	D
		TR	0.31	36.5	D	TR	0.64	46.0	D	TR	0.54	40.3	D
Hylan Boulevard	NB	L	0.69	30.7	C	L	0.81	49.0	D	L	1.04	110.1	F
		T	0.45	11.8	B	T	0.40	10.8	B	T	0.53	13.9	B
	SB	TR	0.66	22.2	C	T	0.91	26.8	C	TR	0.82	28.5	C
		-	-	-	-	R	0.44	14.5	B	-	-	-	-
Overall Intersection		**-**	**0.61**	**20.8**	**C**	**-**	**0.89**	**27.3**	**C**	**-**	**0.93**	**28.8**	**C**
Hylan Boulevard & Guyon Avenue													
Guyon Avenue	EB	L	0.83	73.5	E	L	0.43	42.1	D	L	0.84	73.5	E
		TR	0.47	44.9	D	TR	0.51	42.8	D	TR	0.51	46.0	D
	WB	L	0.62	55.5	E	L	0.59	50.7	D	L	0.72	64.0	E
		TR	0.43	43.6	D	TR	0.27	37.0	D	TR	0.36	42.0	D
Hylan Boulevard	NB	L	0.53	21.0	C	L	0.79	59.6	E	L	0.69	31.5	C
		TR	0.38	11.5	B	TR	0.47	14.5	B	TR	0.51	13.1	B
	SB	L	0.12	15.5	B	L	0.18	13.9	B	L	0.23	18.5	B
		TR	0.63	21.5	C	TR	1.01	36.2	D	TR	0.66	22.3	C
Overall Intersection		**-**	**0.71**	**24.9**	**C**	**-**	**0.87**	**31.1**	**C**	**-**	**0.74**	**25.4**	**C**

TABLE 4-17
2015 EXISTING TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & Midland Avenue													
Midland Avenue	EB	L	0.22	25.4	C	L	0.23	26.1	C	L	0.26	25.9	C
		T	0.46	42.1	D	T	0.59	46.3	D	T	0.77	55.2	E
		R	0.34	40.0	D	R	0.55	46.0	D	R	0.41	41.3	D
	WB	L	0.42	34.1	C	L	1.03	100.8	F	L	0.66	50.8	D
		R	0.11	35.3	D	R	0.07	34.8	C	R	0.09	35.1	D
Hylan Boulevard	NB	TR	0.67	26.7	C	TR	0.54	23.2	C	TR	0.74	28.4	C
	SB	L	0.35	29.5	C	L	0.07	17.9	B	L	0.51	43.0	D
		T	0.68	27.0	C	T	0.84	34.1	C	T	0.68	26.8	C
Overall Intersection		**-**	**0.64**	**28.5**	**C**	**-**	**0.97**	**39.7**	**D**	**-**	**0.81**	**31.8**	**C**
Hylan Boulevard & Buffalo Street													
Lincoln Avenue	EB	LTR	0.43	43.8	D	LTR	0.41	41.2	D	LTR	0.54	47.1	D
	WB	LTR	0.27	39.5	D	LTR	0.09	35.0	C	LTR	0.23	38.8	D
Hylan Boulevard	NB	L	0.09	9.1	A	L	0.07	18.2	B	L	0.09	9.2	A
		T	0.45	15.8	B	T	0.41	16.2	B	T	0.52	16.8	B
	SB	L	0.08	7.5	A	L	0.02	7.5	A	L	0.14	8.9	A
		TR	0.62	18.6	B	TR	1.01	48.4	D	TR	0.63	18.7	B
Overall Intersection		**-**	**0.54**	**19.2**	**B**	**-**	**0.77**	**38.9**	**D**	**-**	**0.59**	**19.8**	**B**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

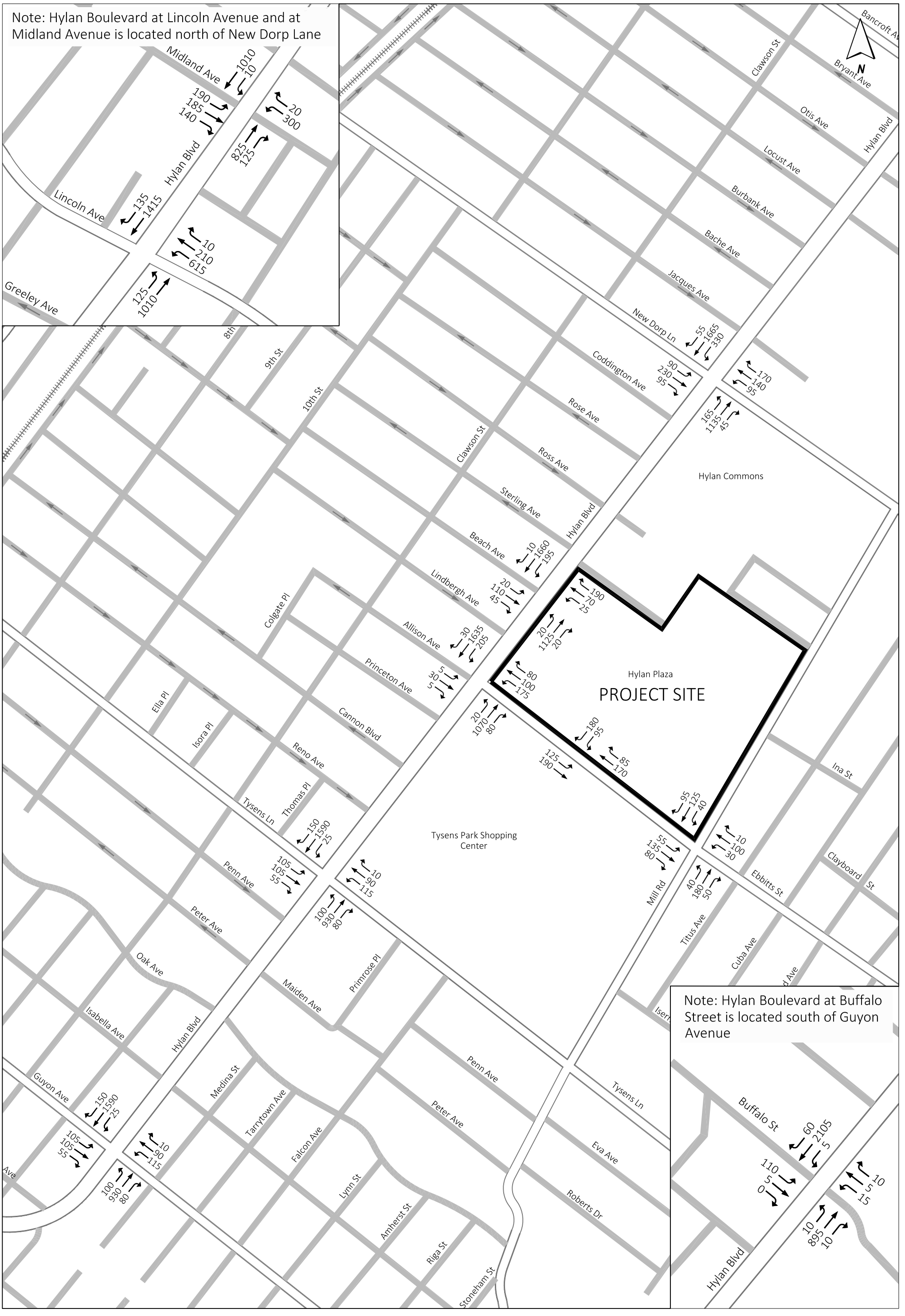
Note: Hylan Boulevard at Lincoln Avenue and at Midland Avenue is located north of New Dorp Lane

Midland Ave
1180
30
215
135
85
30
135
995
110
Hylan Blvd
Lincoln Ave
115
1200
15
90
285
125
1055
Greeley Ave
8th
9th St
10th St
Clawson St
Ross Ave
Sterling Ave
Beach Ave
15
1235
195
Lindbergh Ave
30
95
45
Colgate Pl
Allison Ave
35
1230
210
Princeton Ave
5
25
10
Ella Pl
Isora Pl
Cannon Blvd
Reno Ave
Thomas Pl
Tysens Ln
150
1135
100
Penn Ave
85
230
85
Peter Ave
Oak Ave
Isabella Ave
Hylan Blvd
Guyon Ave
115
1045
20
140
80
45
90
850
50
15
105
100
Maiden Ave
Primrose Pl
Medina St
Tarrytown Ave
Falcon Ave
Lynn St
Amherst St
Riga St
Stoneham St
Penn Ave
Peter Ave
Tysens Ln
Eva Ave
Roberts Dr
65
235
145
85
890
90
Tysens Park Shopping Center
35
1020
115
200
120
Hylan Plaza
PROJECT SITE
235
60
30
20
1070
25
115
95
170
225
75
75
200
100
95
15
Mill Rd
40
85
50
40
85
25
Titus Ave
Cuba Ave
Ebbitts St
10
105
30
Clayboard St
Ina St
Hylan Commons
180
130
85
150
1135
20
Coddington Ave
110
120
105
Rose Ave
New Dorp Ln
65
1250
225
Jacques Ave
Bache Ave
Burbank Ave
Locust Ave
Otis Ave
Bryant Ave
Clawson St
Bancroft Av
N

Note: Hylan Boulevard at Buffalo Street is located south of Guyon Avenue

Buffalo St
40
1250
20
95
5
10
40
10
30
15
870
35
Hylan Blvd

The Boulevard at Hylan Plaza
Figure 4-7
2015 Existing Traffic Volumes
Midday Peak Hour

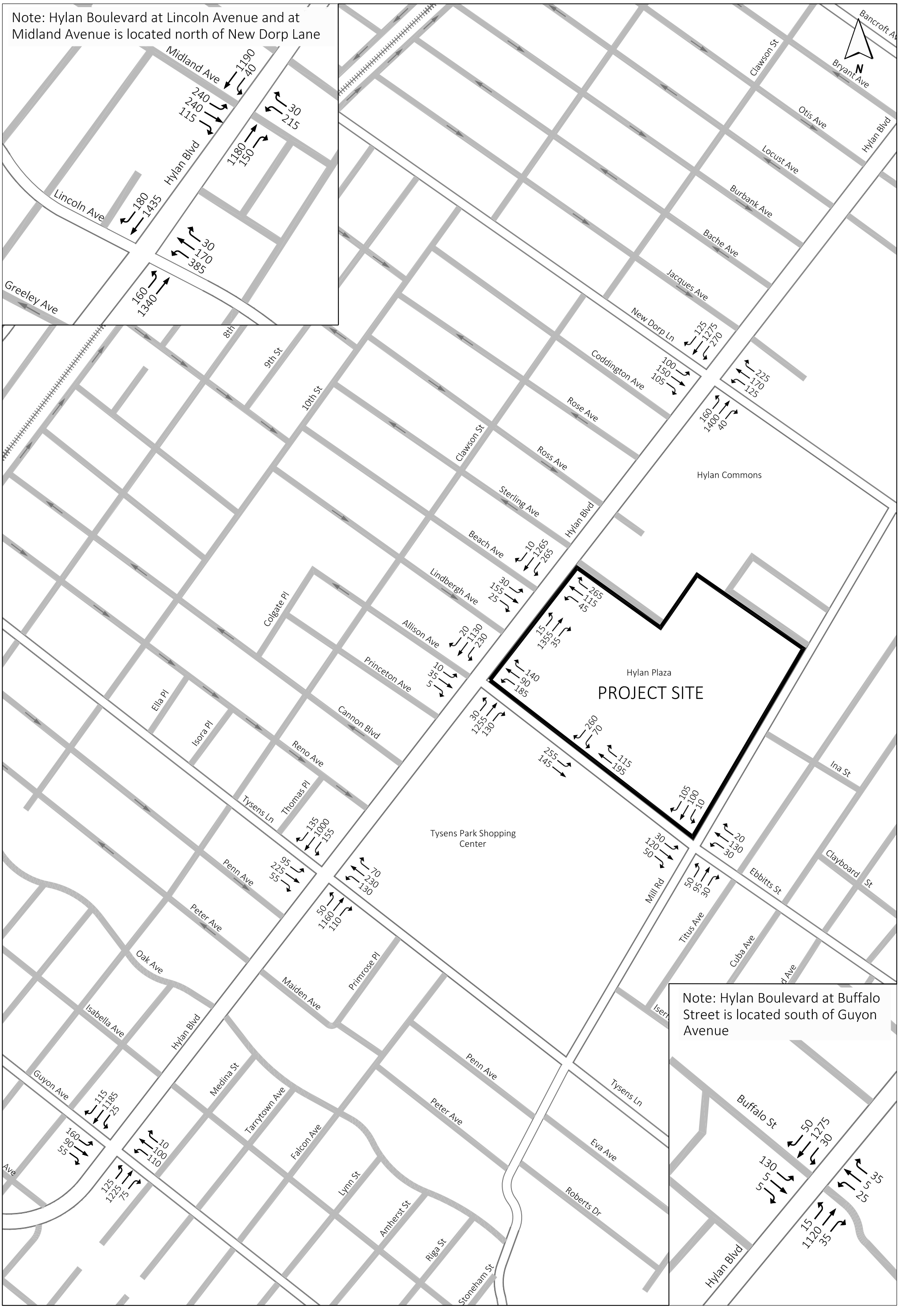


The Boulevard at Hylan Plaza

Figure 4-8

2015 Existing Traffic Volumes

Weekday PM Peak Hour



The Boulevard at Hylan Plaza

Figure 4-9

2015 Existing Traffic Volumes

Saturday Midday Peak Hour

The summary overview of existing conditions indicates that:

- During the weekday midday peak hour, none of the ten intersections operate at overall level of service (LOS) E or F. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersections are at LOS E or F with significant delays (the overall intersection level of service is a weighted average of all the individual traffic movements). Five individual traffic movements out of approximately 67 such movements analyzed operate at LOS E or F (e.g., left turns from one street to another, through traffic passing through the intersections, etc.), while four movements operate at unacceptable LOS D.
- In the weekday PM peak hour, all ten intersections operate at overall acceptable levels of service. Nine individual movements operate at LOS E or F, while 13 movements operate at unacceptable LOS D.
- In the Saturday midday peak hour, all ten intersections operate at overall acceptable levels of service. Eleven individual movements operate at LOS E or F, while ten movements operate at unacceptable LOS D.

Based on the analysis results, the majority of traffic movements would operate at acceptable levels of services. The following movements would operate at unacceptable LOS D, E or F[1] during at least one of the peak hours analyzed:

Hylan Boulevard and New Dorp Lane

- The eastbound left turn movement has a v/c ratio of 0.59 and a delay of 49.9 seconds during Saturday midday peak hour
- The eastbound through-right movement has a v/c ratio of 0.90 and a delay of 66.7 seconds during the weekday PM peak hour, and a v/c ratio of 0.74 and delay of 52.0 seconds during the Saturday midday peak hour
- The westbound left turn movement has a v/c ratio of 0.59 and a delay of 49.4 seconds during the weekday midday peak hour, a v/c ratio of 0.94 and delay of 111.9 seconds during the weekday PM peak hour, and a v/c ratio of 0.91 and delay of 94.1 seconds during the Saturday midday peak hour
- Westbound right turn movement has a v/c ratio of 0.64 and a delay of 46.4 seconds during the weekday midday peak hour, a v/c ratio of 0.63 and delay of 47.4 seconds during the weekday PM peak hour, and a v/c ratio of 0.83 and delay of 63.5 seconds during the Saturday midday peak hour
- Northbound left turn movement has a v/c ratio of 0.66 and a delay of 52.5 seconds during the weekday PM peak hour and a v/c ratio of 0.70 and delay of 52.8 seconds during the Saturday midday peak hour
- Southbound left turn movement has a v/c ratio of 0.81 and a delay of 59.0 seconds during the weekday midday peak hour, a v/c ratio of 0.97 and delay of 81.4 seconds during the weekday PM peak hour, and a v/c ratio of 0.98 and delay of 92.4 seconds during the Saturday midday peak hour

[1] Delay at a signalized movement that is greater than 45 seconds, or greater than 30 seconds for an unsignalized movement, is considered to operate at unacceptable levels of service.

- Southbound through-right movement has a v/c ratio of 1.01 and a delay of 56.9 seconds during the weekday PM peak hour

Hylan Boulevard and Beach Avenue

- Southbound left turn movement has a v/c ratio of 0.97 and a delay of 81.4 seconds during the Saturday midday peak hour

Hylan Boulevard and Ebbitts Street

- Westbound left turn movement has a v/c ratio of 0.70 and a delay of 50.4 seconds during the weekday midday peak hour and a v/c ratio of 0.72 and delay of 50.8 seconds during the weekday PM peak hour
- Southbound left turn movement has a v/c ratio of 0.97 and a delay of 63.0 seconds during the weekday midday peak hour, a v/c ratio of 0.98 and delay of 60.9 seconds during the weekday PM peak hour, and a v/c ratio of 1.03 and delay of 92.5 seconds during the Saturday midday peak hour

Hylan Boulevard and Tysens Lane

- Eastbound left turn movement has a v/c ratio of 0.60 and a delay of 51.3 seconds during the weekday midday peak hour, a v/c ratio of 0.63 and delay of 57.6 seconds during the weekday PM peak hour, and a v/c ratio of 0.67 and delay of 61.1 seconds during the Saturday midday peak hour
- Eastbound through movement has a v/c ratio of 0.70 and a delay of 50.1 seconds during the weekday PM peak hour and a v/c ratio of 0.66 and delay of 47.8 seconds during the Saturday midday peak hour
- Westbound left turn movement has a v/c ratio of 0.94 and a delay of 93.0 seconds during the weekday midday peak hour, a v/c ratio of 0.99 and delay of 114.6 seconds during the weekday PM peak hour, and a v/c ratio of 1.00 and delay of 117.3 seconds during the Saturday midday peak hour
- Westbound through movement has a v/c ratio of 0.65 and a delay of 47.7 seconds during the weekday PM peak hour and a v/c ratio of 0.64 and delay of 47.0 seconds during the Saturday midday peak hour
- Northbound left turn movement has a v/c ratio of 0.44 and a delay of 45.5 seconds during the weekday PM peak hour
- Southbound left turn movement has a v/c ratio of 0.68 and a delay of 52.4 seconds during the Saturday midday peak hour

Ebbitts Street and Plaza Driveway

- Southbound shared left and right turn movement has a delay of 34.6 seconds during the Saturday midday peak hour

Hylan Boulevard and Lincoln Avenue

- Westbound left turn movement has a v/c ratio of 0.79 and a delay of 48.3 seconds during the weekday PM peak hour
- Westbound through-right movement has a v/c ratio of 0.64 and a delay of 46.0 seconds during the weekday PM peak hour

- Northbound left turn lane movement has a v/c ratio of 0.81 and a delay of 49.0 seconds during the weekday PM peak hour and a v/c ratio of 1.04 and delay of 110.1 seconds during the Saturday midday peak hour

Hylan Boulevard and Guyon Avenue

- Eastbound left turn movement has a v/c ratio of 0.83 and a delay of 73.5 seconds during the weekday midday peak hour and a v/c ratio of 0.84 and delay of 73.5 seconds during the Saturday midday peak hour
- Eastbound through-right movement has a v/c ratio of 0.51 and a delay of 46.0 seconds during the Saturday midday peak hour
- Westbound left turn movement has a v/c ratio of 0.62 and a delay of 55.5 seconds during the weekday midday peak hour, a v/c ratio of 0.59 and delay of 50.7 seconds during the weekday PM peak hour, and a v/c ratio of 0.72 and delay of 64.0 seconds during the Saturday midday peak hour
- Northbound left turn movement has a v/c ratio of 0.79 and a delay of 59.6 seconds during the weekday PM peak hour

Hylan Boulevard and Midland Avenue

- Eastbound through movement has a v/c ratio of 0.59 and a delay of 46.3 seconds during the weekday PM peak hour and a v/c ratio of 0.77 and delay of 55.2 seconds during the Saturday midday peak hour
- Eastbound right-turn movement has a v/c ratio of 0.55 and a delay of 46.0 seconds during the weekday PM peak hour
- Westbound left-turn has a v/c ratio of 1.03 and a delay of 100.8 seconds during the weekday PM peak hour and a v/c ratio of 0.66 and delay of 50.8 seconds during the Saturday midday peak hour

Hylan Boulevard and Buffalo Street

- Eastbound approach has a v/c ratio of 0.54 and a delay of 47.1 seconds during the Saturday midday peak hour
- Southbound through-right movement has a v/c ratio of 1.01 and a delay of 48.4 seconds during the weekday PM peak hour

PARKING

There are 1,414 existing parking spaces available on-site. Parking counts were conducted during the weekday midday and PM, and Saturday midday peak periods for the existing shopping center. An inventory of the existing shopping center parking demand was a conducted for a typical weekday and Saturday in June 2015 which shows that the peak parking demand for a weekday and Saturday occurs between 12 PM and 1 PM. The weekday peak parking demand is 490 parking spaces (approximately 35 percent occupancy) and 534 parking spaces during the Saturday peak parking demand (approximately 38 percent occupancy). **Table 4-18** shows the hour by hour parking demand for the weekday and Saturday peak periods.

Table 4-18
Existing Site Parking Demand

Hour	Weekday Parking				Saturday Parking			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
11AM—12PM	580	556	445	31.5%	-	-	-	-
12PM—1PM	643	598	490	34.7%	861	748	504	35.6%
1PM—2PM	611	639	462	32.7%	787	754	537	38.0%
2PM—3PM	604	642	424	30.0%	779	833	483	34.2%
3PM—4PM	596	644	376	26.6%	765	732	516	36.5%
4PM—5PM	564	579	361	25.5%	-	-	-	-
5PM—6PM	557	577	341	24.1%	-	-	-	-

FUTURE CONDITIONS WITHOUT THE PROPOSED PROJECT (NO ACTION CONDITION—YEAR 2019)

This section establishes the baseline (No- Action) condition against which potential impacts of the project can be identified. Future year conditions were analyzed for the year 2019. No Action traffic volumes were established by applying a background growth of one percent per year in accordance with the ~~*2014 CEQR Technical Manual*~~ guidelines for Staten Island projects. ~~Four~~ Three background ~~projects,~~ retail developments totaling 41,000 square feet located just north of the main entrance of the proposed project along Hylan Boulevard, were also included as part of the No Action condition analysis ~~including three retail developments totaling 41,000 square feet located just north of the main entrance of the proposed project along Hylan Boulevard, and~~. A fourth project, a 100,000 square foot retail development north of the proposed project at New Dorp Lane and Mill Road (as per the *450 New Dorp Lane Project EAS*), was identified in the DEIS but is not included as part of the FEIS analysis since it is not expected to be completed by the proposed project's 2019 Build year. Details of the~~se~~ three background development ~~four~~ projects are provided in **Table 4-19** and are shown in **Figure 4-10**.

Table 4-19
Background Projects

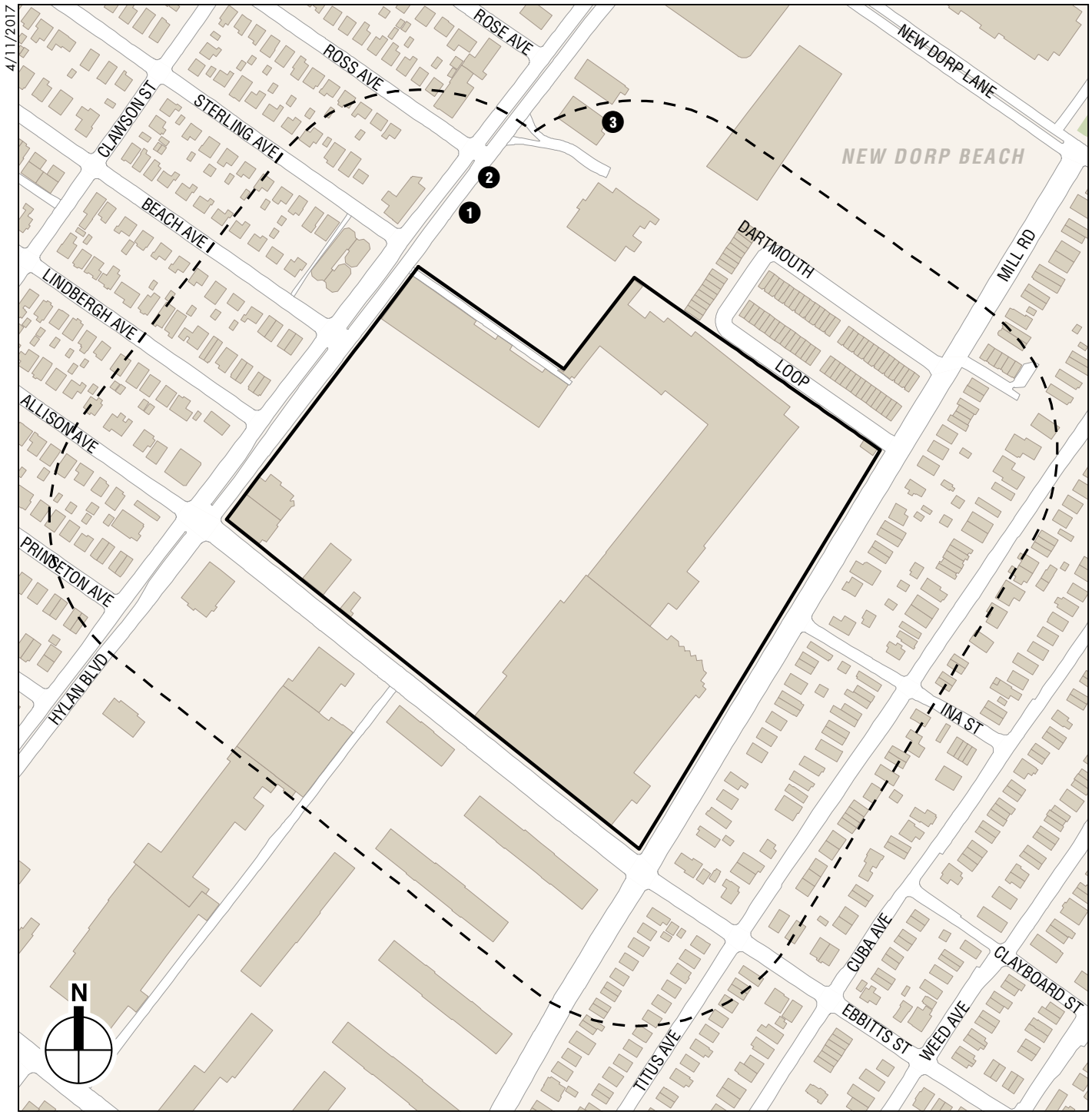
Project Name	Development Program	Status/Build Year
2590 Hylan Boulevard	30,000 sf retail	2019
2602 Hylan Boulevard	8,400 sf retail	2019
2580 Hylan Boulevard	2,600 sf retail	2019
~~450 New Dorp Lane~~	~~100,000 sf retail~~	~~2019~~

Note: Projects for which an expected date of completion is not available are assumed to be completed by the proposed project's Build year of 2019.
Sources: NYC Department of City Planning and Department of Buildings

In addition, the No- Action condition analysis incorporated ~~mitigation measures proposed in the *450 New Dorp Lane Project EAS* were considered at three of the analysis locations. These measures include the following:~~

- ~~Geometric improvements at the intersection of Hylan Boulevard and New Dorp Lane (roadway widening, pavement marking restriping, centerline shifting, curb reconstruction)~~

~~S~~signal phasing and timing plan changes implemented by NYCDOT in 2016 at the intersections of Hylan Boulevard and New Dorp Lane, Hylan Boulevard and Beach Avenue, and ~~at~~ Hylan Boulevard and Ebbitts Street ~~(these changes were not incorporated into the No-Action condition~~



Project Site

Study Area (400-foot boundary)

No Action Development

Map ID	Address	Project Type
1	2590 Hylan Boulevard	The project will introduce approximately 30,000 sf of retail and 200 parking spaces.
2	2602 Hylan Boulevard	The project will introduce approximately 8,400 sf of retail and 55 parking spaces.
3	2580 Hylan Boulevard	The development of a 2,600 sf bank facility is proposed near the intersection of Hylan Boulevard and Ross Avenue.

Notes: Land Use study area includes the area 400-feet from the boundary of the Project Site.
Sources: NYC Department of Buildings (DOB) Building Information Search; and AKRF, Inc. field work.

No Action Developments
Figure 4-10

~~analysis since NYCDOT implemented new signal phasing and timing plans at these two intersection in 2016)~~

~~Signal timing shift at the intersection of Ebbitts Street and Mill Road~~, as well as bike lanes that were proposed by NYCDOT along the Guyon Avenue, Mill Road, and New Dorp Lane corridors. These changes will modify the roadway geometries for the intersections of Hylan Boulevard and Guyon Avenue, and Mill Road and Ebbitts Street.

Further details of these changes are provided in **Table 4-20** below.

Table 4-20
No Action Condition Traffic Improvement Measures

Intersection	Traffic Improvement Measures
Hylan Boulevard and New Dorp Lane	~~Reduce the north sidewalk along the eastbound approach by four feet and the south sidewalk along the eastbound approach by seven feet for 125 feet.~~ ~~Restripe the eastbound approach to one 11-foot wide left-turn lane, one 10-foot wide through lane, one 10-foot wide right-turn lane, and one 18-foot wide receiving lane.~~ ~~Reduce the width of the median on the westbound approach to two feet and widen the eastbound receiving lane to 18 feet.~~ ~~Reduce the width of the median on the southbound approach to two feet and restripe the approach to one 12-foot wide left-turn lane, two 10-foot wide through lanes, and one 12-foot wide through-right lane.~~ Modify signal phasing and add a leading pedestrian interval phase. The new signal phasing will be as follows: (1) northbound/southbound phase; (2) new leading pedestrian interval phase; (3) eastbound/westbound phase; (4) northbound/southbound left-turn lag phase and new westbound right-turn lag phase.
Hylan Boulevard and Beach Avenue	Modify signal phasing and add a leading pedestrian interval phase. The new signal phasing will be as follows: (1) northbound/southbound phase; (2) new leading pedestrian interval phase; (3) eastbound/westbound phase; (4) southbound lead and westbound right turn-turn lane phase.
Hylan Boulevard and Ebbitts Street	Modify signal phasing and add a leading pedestrian interval phase. The new signal phasing will be as follows: (1) northbound/southbound phase; (2) new leading pedestrian interval phase; (3) eastbound/westbound phase; (4) southbound lead and westbound right-turn lag phase.
Ebbitts Street and Mill Road	~~Shift one second of green time from the northbound/southbound phase to the eastbound/westbound phase during the weekday PM peak hour.~~ ~~Shift four seconds of green time from the northbound/southbound phase to the eastbound/westbound phase during the Saturday midday peak hour.~~Restripe both the northbound and southbound approaches from one 25-foot wide travel lane with parking to one 11-foot wide travel lane, one 5-foot wide bike lane, and one 9-foot wide parking lane.
Hylan Boulevard and Guyon Avenue	Provide lane markings along the eastbound and westbound approach to designate that Guyon Avenue is a shared bike route.

TRAFFIC

Traffic Volumes

The combined 41,000 square foot retail developments along Hylan Boulevard are expected to generate approximately 155 vph during the weekday midday peak hour, approximately 80 vph during the weekday PM peak hour, and approximately 95 vph during the Saturday midday peak hour. The vast majority of these trips (approximately 80 percent) would travel through the project's study locations. ~~The *450 New Dorp Lane Project EAS* is expected to generate~~

~~approximately 250 vph during the weekday midday peak hour, 245 vph during the weekday PM peak hour, and approximately 355 vph during the Saturday midday peak hour. Nearly all of these trips would travel through the project's study locations except for a nominal amount (under 1%) which would originate from New Dorp Lane, east of Mill Road.~~ The growth of existing traffic volumes and the addition of the retail development trips to the traffic network are discussed below. The No-Action traffic volumes are shown in **Figures 4-~~10~~ 11 through 4-13**.

Traffic volumes along Hylan Boulevard within the study area are expected to increase by approximately ~~55~~ 40 vph to ~~130~~ 110 vph in the northbound direction and ~~65~~ 50 vph to ~~140~~ 105 vph in the southbound direction during the peak hours. ~~East of Bloomingdale Road, t~~Traffic volumes along Ebbitts Street between Hylan Boulevard and Mill Road are expected to increase by ~~approximately 20 vph to 80 vph in the eastbound direction and 55 vph to 80 vph in the westbound~~up to 25 vph in either direction.

Levels of Service

Based on the traffic increases mentioned above, the 2019 No-Action traffic levels of service were determined for the ten analysis locations. **Tables 4-21 and 4-22** provide an overview of the levels of service that characterize 2019 No Action overall intersection conditions and individual traffic movements, respectively, during the weekday midday, PM, and Saturday midday peak hours. Detailed traffic levels of service for the No-Action condition are provided in **Table 4-23**.

Table 4-21
2015 Existing vs. 2019 No-Action Traffic Levels of Service—Overall Intersections

	2015 Existing			2019 No-Action		
	Weekday Midday Peak Hour	**Weekday PM Peak Hour**	**Saturday Midday Peak Hour**	**Weekday Midday Peak Hour**	**Weekday PM Peak Hour**	**Saturday Midday Peak Hour**
Intersections at Overall LOS A/B/C	9	6	8	8	5	7
Intersections at Overall LOS D	1	4	2	2	4	~~1~~2
Intersections at Overall LOS E	0	0	0	0	~~1~~0	~~2~~1
Intersections at Overall LOS F	0	0	0	0	~~0~~1	0
Note: Includes nine signalized and one unsignalized intersections						

The Boulevard at Hylan Plaza

Figure 4-11

2019 No-Action Traffic Volumes

Weekday Midday Peak Hour

The Boulevard at Hylan Plaza

Figure 4-12

2019 No-Action Traffic Volumes

Weekday PM Peak Hour

The Boulevard at Hylan Plaza
Figure 4-13
2019 No-Action Traffic Volumes
Saturday Midday Peak Hour

Table 4-22
2015 Existing vs. 2019 No Action Traffic Levels of Service—Traffic Movements

	2015 Existing			2019 No Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	58	46	46	~~54~~52	~~43~~44	43
Traffic Movements at Unacceptable LOS D	4	13	10	~~3~~5	~~11~~10	~~9~~7
Traffic Movements at Overall LOS E	4	5	5	~~5~~4	~~8~~6	~~6~~7
Traffic Movements at Overall LOS F	1	4	6	6	~~7~~8	10
Number of individual traffic movements	67	68	67	~~68~~67	~~69~~68	~~68~~67

The summary overview of 2019 No Action condition indicates that:

- During the weekday midday peak hour, none of the ten intersections analyzed would operate at overall LOS E or F (similar to the existing conditions). ~~Eleven~~ Ten individual traffic movements out of the approximately ~~68~~ 67 movements analyzed would operate at LOS E or F compared to five in the existing conditions, while ~~three~~ five movements would operate at unacceptable LOS D compared to four in the existing conditions.
- In the weekday PM peak hour, one intersection (Hylan Boulevard and New Dorp Lane) would operate at overall unacceptable LOS ~~E~~ F compared to none in the existing conditions. ~~Fifteen~~ Fourteen individual traffic movements would operate at LOS E or F compared to nine in the existing conditions, while ~~11~~ 10 movements would operate at unacceptable LOS D compared to 13 in the existing conditions.
- In the Saturday midday peak hour, ~~two~~ one intersections (Hylan at New Dorp Lane~~ and Ebbitts Street at the Plaza Driveway~~) would operate at unacceptable LOS E compared to none in the existing conditions. ~~Sixteen~~ Seventeen individual movements would operate at LOS E or F compared to 11 in the existing conditions, while ~~nine~~ seven movements would operate at unacceptable LOS D compared to ten in the existing conditions.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services. The following movements would be expected to deteriorate to unacceptable level when compared to the existing conditions:

Hylan Boulevard and New Dorp Lane

- Eastbound left turn movement has a v/c ratio of 0.~~78~~ 79 and a delay of ~~71~~73.~~1~~ 3 seconds during the weekday midday peak hour, and a v/c ratio of 0.~~70~~ 72 and delay of ~~64~~67.~~9~~ 2 seconds during the weekday PM peak hour
- Eastbound through-right ~~turn~~ movement has a v/c ratio of 0.~~56~~ 79 and a delay of ~~51~~60.~~2~~ 4 seconds during the weekday ~~PM~~ midday peak hour~~, and a v/c ratio of 0.53 and delay of 50.3 seconds during the Saturday midday peak hour~~
- Westbound through movement has a v/c ratio of 0.~~63~~ 59 and a delay of ~~51.5~~49.8 seconds during the Saturday midday peak hour

TABLE 4-23
2019 NO-ACTION TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & New Dorp Lane													
New Dorp Lane	EB	L	0.79	73.3	E	L	0.72	67.2	E	L	0.92	104.5	F
		TR	0.79	60.4	E	TR	1.21	165.7	F	TR	1.00	99.5	F
	WB	L	0.97	121.9	F	L	1.83	478.8	F	L	1.68	399.5	F
		T	0.44	43.3	D	T	0.45	44.2	D	T	0.59	49.8	D
		R	0.52	34.7	C	R	0.46	30.8	C	R	0.64	38.9	D
Hylan Bouelvard	NB	L	0.82	51.3	D	L	0.86	67.3	E	L	0.96	85.6	F
		TR	0.68	25.7	C	TR	0.69	27.7	C	TR	0.80	29.7	C
	SB	L	1.13	123.0	F	L	1.27	176.1	F	L	1.36	221.7	F
		TR	0.74	27.2	C	TR	1.06	72.3	E	TR	0.79	29.1	C
Overall Intersection		**-**	**1.19**	**40.7**	**D**	**-**	**1.85**	**81.8**	**F**	**-**	**2.00**	**62.9**	**E**
Hylan Boulevard & Beach Avenue													
Beach Avenue	EB	LTR	0.58	46.9	D	LTR	0.64	50.1	D	LTR	0.88	73.0	E
	WB	LT	0.33	40.3	D	LT	0.38	42.2	D	LT	0.51	44.4	D
		R	0.47	26.9	C	R	0.45	27.3	C	R	0.53	28.6	C
Hylan Boulevard	NB	L	0.25	27.5	C	L	0.35	33.8	C	L	0.21	26.0	C
		TR	0.73	31.5	C	TR	0.72	30.6	C	TR	0.90	38.3	D
	SB	L	0.86	54.0	D	L	0.74	39.0	D	L	1.01	93.5	F
		TR	0.56	14.9	B	TR	0.68	9.6	A	TR	0.54	14.6	B
Overall Intersection		**-**	**0.70**	**27.0**	**C**	**-**	**0.71**	**22.7**	**C**	**-**	**0.87**	**35.9**	**D**
Hylan Boulevard & Ebbitts Street													
Ebbitts Street	EB	LTR	0.19	39.2	D	LTR	0.18	38.9	D	LTR	0.21	38.8	D
	WB	L	0.93	86.1	F	L	0.94	87.6	F	L	0.78	61.8	E
		T	0.31	40.7	D	T	0.36	41.8	D	T	0.31	40.1	D
		R	0.37	32.7	C	R	0.26	30.5	C	R	0.43	33.1	C
Hylan Boulevard	NB	L	0.37	24.0	C	L	0.29	23.8	C	L	0.26	19.6	B
		TR	0.64	22.2	C	TR	0.62	21.7	C	TR	0.76	25.4	C
	SB	L	1.13	113.1	F	L	1.10	98.7	F	L	1.16	136.6	F
		TR	0.56	13.7	B	TR	0.71	8.9	A	TR	0.48	13.1	B
Overall Intersection		**-**	**1.15**	**29.9**	**C**	**-**	**1.12**	**25.2**	**C**	**-**	**1.27**	**31.7**	**C**
Hylan Boulevard & Tysens Lane													
Tysens Lane	EB	L	0.68	58.2	E	L	0.70	65.0	E	L	0.75	70.7	E
		T	0.60	42.1	D	T	0.73	51.6	D	T	0.68	49.1	D
		R	0.25	34.0	C	R	0.41	40.5	D	R	0.21	36.3	D
	WB	L	1.03	116.1	F	L	1.07	140.1	F	L	1.09	144.8	F
		T	0.66	44.4	D	T	0.68	48.9	D	T	0.67	48.2	D
		R	0.24	34.0	C	R	0.27	37.7	D	R	0.28	37.6	D
	NB	L	0.40	44.0	D	L	0.46	47.1	D	L	0.22	27.2	C
		TR	0.63	27.9	C	TR	0.58	24.5	C	TR	0.78	31.4	C
	SB	L	0.45	33.9	C	L	0.49	31.5	C	L	0.74	57.9	E
		TR	0.86	35.2	D	TR	1.00	42.8	D	TR	0.71	29.3	C
Overall Intersection		**-**	**1.01**	**39.0**	**D**	**-**	**1.09**	**42.5**	**D**	**-**	**1.03**	**40.0**	**D**
Mill Road & Ebbitts Street													
Ebbitts Street	EB	LTR	0.53	18.8	B	LTR	0.76	24.4	C	LTR	0.54	18.2	B
	WB	LTR	0.50	20.6	C	LTR	0.46	19.7	B	LTR	0.57	22.2	C
Mill Road	NB	LTR	0.35	10.7	B	LTR	0.56	14.0	B	LTR	0.36	10.8	B
	SB	LTR	0.43	11.7	B	LTR	0.55	13.8	B	LTR	0.42	11.4	B
Overall Intersection		**-**	**0.47**	**15.3**	**B**	**-**	**0.64**	**17.8**	**B**	**-**	**0.48**	**15.6**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)													
Ebbitts Street	EB	LT	-	9.2	A	LT	-	8.7	A	LT	-	9.6	A
	WB	TR	-	-	-	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	31.7	D	LR	-	25.6	D	LR	-	45.9	E
Overall Intersection		**-**	**-**	**12.6**	**B**	**-**	**-**	**9.8**	**A**	**-**	**-**	**17.3**	**C**
Hylan Boulevard & Lincoln Avenue													
Lincoln Avenue	WB	L	0.44	37.7	D	L	0.81	49.8	D	L	0.60	39.7	D
		TR	0.32	36.7	D	TR	0.65	46.6	D	TR	0.56	40.9	D
Hylan Boulevard	NB	L	0.77	39.6	D	L	0.97	94.6	F	L	1.10	133.9	F
		T	0.47	12.0	B	T	0.41	10.9	B	T	0.55	14.2	B
	SB	TR	0.68	22.9	C	T	0.98	36.2	D	TR	0.85	29.9	C
		-	-	-	-	R	0.34	12.7	B	-	-	-	-
Overall Intersection		**-**	**0.64**	**21.7**	**C**	**-**	**0.92**	**33.3**	**C**	**-**	**1.11**	**30.6**	**C**

TABLE 4-23
2019 NO-ACTION TRAFFIC LEVELS OF SERVICE

INTERSECTION & APPROACH		Midday (1:00 - 2:00PM) Mvt.	V/C	Control Delay	LOS	PM (5:00 - 6:00PM) Mvt.	V/C	Control Delay	LOS	SAT (12:30 - 1:30PM) Mvt.	V/C	Control Delay	LOS
Hylan Boulevard & Guyon Avenue													
Guyon Avenue	EB	L	0.88	82.3	F	L	0.46	43.1	D	L	0.90	83.2	F
		TR	0.47	45.1	D	TR	0.53	43.3	D	TR	0.52	46.4	D
	WB	L	0.65	57.4	E	L	0.62	52.8	D	L	0.75	67.6	E
		TR	0.44	44.0	D	TR	0.28	37.3	D	TR	0.38	42.4	D
Hylan Boulevard	NB	L	0.58	24.1	C	L	0.81	63.8	E	L	0.75	38.2	D
		TR	0.40	11.7	B	TR	0.49	14.8	B	TR	0.53	13.4	B
	SB	L	0.14	15.9	B	L	0.21	14.3	B	L	0.27	19.6	B
		TR	0.66	22.0	C	TR	1.04	48.5	D	TR	0.68	22.9	C
Overall Intersection		**-**	**0.75**	**25.9**	**C**	**-**	**0.91**	**37.6**	**D**	**-**	**0.77**	**26.7**	**C**
Hylan Boulevard & Midland Avenue													
Midland Avenue	EB	L	0.23	25.5	C	L	0.23	26.2	C	L	0.26	26.0	C
		T	0.47	42.5	D	T	0.61	47.1	D	T	0.79	57.0	E
		R	0.36	40.3	D	R	0.57	46.6	D	R	0.41	41.5	D
	WB	L	0.44	34.9	C	L	1.08	115.7	F	L	0.70	53.3	D
		R	0.11	35.4	D	R	0.08	34.8	C	R	0.09	35.1	D
Hylan Boulevard	NB	TR	0.70	27.4	C	TR	0.56	23.6	C	TR	0.77	29.3	C
	SB	L	0.41	33.3	C	L	0.07	18.0	B	L	0.58	51.7	D
		T	0.71	27.8	C	T	0.87	36.5	D	T	0.70	27.5	C
Overall Intersection		**-**	**0.67**	**29.2**	**C**	**-**	**1.00**	**42.1**	**D**	**-**	**0.84**	**32.8**	**C**
Hylan Boulevard & Buffalo Street													
Lincoln Avenue	EB	LTR	0.45	44.3	D	LTR	0.42	41.5	D	LTR	0.56	47.9	D
	WB	LTR	0.28	39.6	D	LTR	0.09	35.0	C	LTR	0.24	38.9	D
Hylan Boulevard	NB	L	0.10	9.4	A	L	0.07	18.7	B	L	0.09	9.5	A
		T	0.47	16.1	B	T	0.43	16.5	B	T	0.54	17.1	B
	SB	L	0.09	7.7	A	L	0.02	7.6	A	L	0.16	9.2	A
		TR	0.64	19.1	B	TR	1.04	58.8	E	TR	0.65	19.2	B
Overall Intersection		**-**	**0.57**	**19.6**	**B**	**-**	**0.80**	**45.9**	**D**	**-**	**0.61**	**20.2**	**C**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

- Northbound left turn movement has a v/c ratio of 0.~~85~~ 82 and a delay of ~~56~~51.~~4~~ 3 seconds during the weekday midday peak hour

Hylan Boulevard and Beach Avenue

- Eastbound approach has a v/c ratio of 0.58 and a delay of 46.9 seconds during the weekday midday peak hour, a v/c ratio of 0.64 and a delay of 50.1 seconds during the weekday PM peak hour, and a v/c ratio of 0.88 and a delay of 73.0 seconds during the Saturday midday peak hour
- Southbound left turn movement has a v/c ratio of 0.~~85~~ 86 and a delay of ~~52~~54.~~3~~ 0 seconds during the weekday midday peak hour

Hylan Boulevard and Ebbitts Street

- Westbound left turn movement has a v/c ratio of 0.78 and a delay of 61.8 seconds during the Saturday midday peak hour

~~*Hylan Boulevard and Tysens Lane*~~

- ~~Southbound through-right movement has a v/c ratio of 1.01 and a delay of 47.0 seconds during the weekday PM peak hour~~

~~*Ebbitts Street and Plaza Driveway*~~

- ~~Southbound shared left and right turn movement has a delay of 51.9 seconds during the weekday midday peak hour, and a delay of 35.8 seconds during the weekday PM peak hour~~

~~*Hylan Boulevard and Lincoln Avenue*~~

- ~~Northbound left turn movement has a v/c ratio of 0.81 and a delay of 45.9 seconds during the weekday midday peak hour~~

Hylan Boulevard and Guyon Avenue

- Eastbound through-right movement has a v/c ratio of 0.47 and a delay of 45.1 seconds during the weekday midday peak hour
- Southbound through-right movement has a v/c ratio of 1.~~06~~ 04 and a delay of ~~54~~48.~~0~~ 5 seconds during the weekday PM peak hour

Hylan Boulevard and Midland Avenue

- Southbound left turn movement has a v/c ratio of 0.~~62~~ 58 and a delay of ~~58~~51.~~4~~ 7 seconds during the Saturday midday peak hour

PARKING

The number of parking spaces available on-site would remain at 1,414 spaces in the No Action condition. In order to estimate future site parking conditions, existing occupancies were increased by the background traffic growth rate recommended by the *2014 CEQR Technical Manual*. The weekday peak parking demand would increase from 490 parking spaces to 515 parking spaces (approximately 36 percent occupancy) and the Saturday peak parking demand would increase from 537 parking spaces to 564 parking spaces (approximately 40 percent occupancy).

FUTURE CONDITIONS WITH THE PROPOSED PROJECT (WITH ACTION CONDITION—YEAR 2019)

TRAFFIC

The proposed project would expand the existing shopping center, resulting in a net increase of 36,300 sf of retail space (12 percent more than existing), 17,000 sf of supermarket space (28

percent more than existing), and an addition of 300 seats to the movie theater (43 percent more than existing). The net expansion would generate 193 total vehicle trips (92 "ins" and 101 "outs") during the weekday midday peak hour, 198 total vehicle trips (96 "ins" and 102 "outs") during the weekday PM peak hour, and 272 total vehicle trips (141 "ins" and 131 "outs") during the Saturday midday peak hour. These project-generated trips were added to No Action peak hour volumes to develop the With-Action condition traffic volumes.

Additional driveways would be provided along Mill Road, and along Ebbitts Street near its intersection with Mill Road. Existing driveways would continue to provide access to the site; some driveways would also be widened including the driveway along Hylan Boulevard at Beach Street (from one entry lane and two exit lanes to two entry lanes and two exit lanes). Delivery vehicles destined to the loading docks in the new shopping center buildings would access the site via driveways along Ebbitts Street and along Mill Road. Tractor trailers using the driveway along Ebbitts Street closest to Mill Road would be restricted between the hours of 10 AM and 10 PM, unless accompanied by a flagger; tractor trailers could utilize this driveway during other times.

Traffic Volume Increments

Project-generated trips were assigned to the project site primarily along Hylan Boulevard, Ebbitts Street and Mill Road. Traffic volumes along Hylan Boulevard both north and south of the site are expected to increase by approximately 15 vph to 55 vph in each direction during each of the peak hours. Along Ebbitts Street, traffic volumes are expected to increase by 5 vph to 35 vph in each direction during each of the peak hours, while along Mill Road, traffic volumes are expected to increase by 5 vph to 20 vph in each direction during each of the peak hours. With Action traffic volumes are provided in **Figures 4-14 through 4-16**.

Levels of Service

The 2019 With Action traffic levels of service were determined for the ten analysis locations. **Tables 4-24 and 4-25** provide an overview of the levels of service that characterize 2019 With Action "overall" intersection conditions and individual traffic movements during the weekday midday and PM, and Saturday midday peak hours, respectively. Detailed traffic level of service comparisons for No Action and With Action conditions are provided in **Tables 4-26 through 4-28**.

Table 4-24
2019 No Action vs. 2019 With Action Traffic Levels of Service—
Overall Intersections

	2019 No Action			2019 With Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Intersections at Overall LOS A/B/C	8	5	7	~~7~~8	~~5~~4	~~5~~6
Intersections at Overall LOS D	2	4	~~1~~2	~~3~~2	~~4~~5	3
Intersections at Overall LOS E	0	~~1~~0	~~2~~1	0	~~1~~0	1
Intersections at Overall LOS F	0	~~0~~1	0	0	1~~0~~	~~1~~0
Note: Includes nine signalized and one unsignalized intersection						

The Boulevard at Hylan Plaza

Figure 4-14

2019 With-ActionTraffic Volumes

Weekday Midday Peak Hour

The Boulevard at Hylan Plaza

Figure 4-15

2019 With-Action Traffic Volumes

Weekday PM Peak Hour

The Boulevard at Hylan Plaza

Figure 4-16

2019 With-Action Traffic Volumes

Saturday Midday Peak Hour

Table 4-25
2019 No Action vs. 2019 With Action Traffic Levels of Service—Traffic Movements

	2019 No Action			2019 With Action		
	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	~~54~~52	~~43~~44	43	~~54~~51	~~41~~40	42
Traffic Movements at Unacceptable LOS D	~~3~~5	~~11~~10	~~9~~7	~~1~~3	~~12~~14	~~10~~7
Traffic Movements at Overall LOS E	~~5~~4	~~8~~6	~~6~~7	~~7~~6	~~8~~6	6
Traffic Movements at Overall LOS F	6	~~7~~8	10	~~6~~7	8	~~10~~12
Number of individual traffic movements	~~68~~67	~~69~~68	678	~~68~~67	~~69~~68	~~68~~67
Number of intersections with significant impacts	-	-	-	5	~~6~~7	7

The summary overview of 2019 With Action conditions indicates that:

- During the weekday midday peak hour, none of the ten intersections analyzed would operate at overall LOS E or F (similar to the No Action conditions). Thirteen individual traffic movements out of the approximately ~~68~~ 67 movements analyzed would operate at LOS E or F compared to ~~eleven ten~~10 in the No Action conditions, while ~~one~~ three movements would operate at unacceptable LOS D compared to ~~three~~ five in the No Action conditions. Overall, five of the ~~ten~~ 10 intersections would have significant impacts.
- In the weekday PM peak hour, one intersection (Hylan Boulevard and New Dorp Lane) would operate at overall unacceptable LOS ~~E~~ F similar to the No Action conditions. ~~Sixteen~~ Fourteen individual traffic movements would operate at LOS E or F ~~compare to 15 in~~ similar to the No Action conditions, while ~~12~~ 14 movements would operate at unacceptable LOS D compared to ~~11~~ ten in the No Action conditions. Overall, ~~six~~ seven of the ten intersections would have significant impacts.
- In the Saturday midday peak hour, ~~one intersection (Ebbitts Street and the Plaza Driveway) would operate at unacceptable LOS F (this intersection operate at LOS E in the No Action condition) and~~ one intersection (Hylan Boulevard and New Dorp Lane) would operate at unacceptable LOS E (similar to the No Action condition). ~~Sixteen~~ Eighteen individual movements would operate at LOS E or F ~~similar~~ compared to 17 ~~to~~ in the No Action conditions, while ~~ten~~ seven movements would operate at unacceptable LOS D ~~compared to nine in~~ similar to the No Action conditions. Overall, seven of the ten intersections would have significant impacts.

Traffic movements expected to operate at unacceptable levels of service under the No Action condition would continue to do so under the With Action condition. Additional movements expected to operate at unacceptable levels of service as a result of the proposed project are listed below:

TABLE 4-26
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - MIDDAY PEAK HOUR

			2019 No-Action				With Action		
				Control				Control	
INTERSECTION & APPROACH	**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**
Hylan Boulevard & New Dorp Lane								
New Dorp Lane	EB	L	0.79	73.3	E	L	0.80	74.0	E
		TR	0.79	60.4	E	TR	0.80	61.0	E
	WB	L	0.97	121.9	F	L	0.98	124.5	F
		T	0.44	43.3	D	T	0.45	43.4	D
		R	0.52	34.7	C	R	0.54	35.2	D
Hylan Bouelvard	NB	L	0.82	51.3	D	L	0.83	55.5	E
		TR	0.68	25.7	C	TR	0.70	26.2	C
	SB	L	1.13	123.0	F	L	1.18	144.1	F
		TR	0.74	27.2	C	TR	0.75	27.7	C
Overall Intersection	**-**	**1.19**	**40.7**	**D**	**-**	**1.28**	**42.5**	**D**
Hylan Boulevard & Beach Avenue								
Beach Avenue	EB	LTR	0.58	46.9	D	LTR	0.65	50.6	D
	WB	LT	0.33	40.3	D	LT	0.47	44.2	D
		R	0.47	26.9	C	R	0.53	28.5	C
Hylan Boulevard	NB	L	0.25	27.5	C	L	0.25	27.5	C
		TR	0.73	31.5	C	TR	0.74	31.9	C
	SB	L	0.86	54.0	D	L	0.98	81.0	F
		TR	0.56	14.9	B	TR	0.56	14.9	B
Overall Intersection	**-**	**0.70**	**27.0**	**C**	**-**	**0.73**	**30.1**	**C**
Hylan Boulevard & Ebbitts Street								
Ebbitts Street	EB	LTR	0.19	39.2	D	LTR	0.19	39.2	D
	WB	L	0.93	86.1	F	L	1.06	118.2	F
		T	0.31	40.7	D	T	0.31	40.7	D
		R	0.37	32.7	C	R	0.37	32.8	C
Hylan Boulevard	NB	L	0.37	24.0	C	L	0.38	24.6	C
		TR	0.64	22.2	C	TR	0.66	22.7	C
	SB	L	1.13	113.1	F	L	1.18	132.6	F
		TR	0.56	13.7	B	TR	0.57	13.9	B
Overall Intersection	**-**	**1.15**	**29.9**	**C**	**-**	**1.25**	**33.9**	**C**
Hylan Boulevard & Tysens Lane								
Tysens Lane	EB	L	0.68	58.2	E	L	0.71	61.2	E
		T	0.60	42.1	D	T	0.60	42.1	D
		R	0.25	34.0	C	R	0.25	34.0	C
	WB	L	1.03	116.1	F	L	1.03	117.7	F
		T	0.66	44.4	D	T	0.66	44.4	D
		R	0.24	34.0	C	R	0.24	34.0	C
	NB	L	0.40	44.0	D	L	0.40	44.8	D
		TR	0.63	27.9	C	TR	0.65	28.4	C
	SB	L	0.45	33.9	C	L	0.46	35.6	D
		TR	0.86	35.2	D	TR	0.88	36.8	D
Overall Intersection	**-**	**1.01**	**39.0**	**D**	**-**	**1.04**	**39.8**	**D**
Mill Road & Ebbitts Street								
Ebbitts Street	EB	LTR	0.53	18.8	B	LTR	0.54	19.0	B
	WB	LTR	0.50	20.6	C	LTR	0.51	20.7	C
Mill Road	NB	LTR	0.35	10.7	B	LTR	0.36	10.9	B
	SB	LTR	0.43	11.7	B	LTR	0.44	11.8	B
Overall Intersection	**-**	**0.47**	**15.3**	**B**	**-**	**0.48**	**15.4**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)								
Ebbitts Street	EB	LT	-	9.2	A	LT	-	9.3	A
	WB	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	31.7	D	LR	-	43.5	E
Overall Intersection	**-**	**-**	**12.6**	**B**	-	**-**	**17.1**	**C**
Hylan Boulevard & Lincoln Avenue								
Lincoln Avenue	WB	L	0.44	37.7	D	L	0.45	37.8	D
		TR	0.32	36.7	D	TR	0.32	36.7	D
Hylan Boulevard	NB	L	0.77	39.6	D	L	0.83	47.4	D
		T	0.47	12.0	B	T	0.48	12.2	B
	SB	TR	0.68	22.9	C	TR	0.69	23.2	C
Overall Intersection	**-**	**0.64**	**21.7**	**C**	-	**0.62**	**22.2**	**C**

TABLE 4-26
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - MIDDAY PEAK HOUR

		2019 No-Action				With Action			
				Control				Control	
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**
Hylan Boulevard & Guyon Avenue									
Guyon Avenue	EB	L	0.88	82.3	F	L	0.92	89.7	F
		TR	0.47	45.1	D	TR	0.47	45.1	D
	WB	L	0.65	57.4	E	L	0.65	57.4	E
		TR	0.44	44.0	D	TR	0.46	44.4	D
Hylan Boulevard	NB	L	0.58	24.1	C	L	0.59	25.4	C
		TR	0.40	11.7	B	TR	0.41	11.8	B
	SB	L	0.14	15.9	B	L	0.16	16.3	B
		TR	0.66	22.0	C	TR	0.67	22.3	C
Overall Intersection		**-**	**0.75**	**25.9**	**C**	-	**0.77**	**26.5**	**C**
Hylan Boulevard & Midland Avenue									
Midland Avenue	EB	L	0.23	25.5	C	L	0.23	25.5	C
		T	0.47	42.5	D	T	0.47	42.5	D
		R	0.36	40.3	D	R	0.37	40.7	D
	WB	L	0.44	34.9	C	L	0.44	34.9	C
		R	0.11	35.4	D	R	0.11	35.4	D
Hylan Boulevard	NB	TR	0.70	27.4	C	TR	0.72	28.0	C
	SB	L	0.41	33.3	C	L	0.43	35.4	D
		T	0.71	27.8	C	T	0.72	28.2	C
Overall Intersection		**-**	**0.67**	**29.2**	**C**	**-**	**0.68**	**29.6**	**C**
Hylan Boulevard & Buffalo Street									
Lincoln Avenue	EB	LTR	0.45	44.3	D	LTR	0.45	44.3	D
	WB	LTR	0.28	39.6	D	LTR	0.28	39.6	D
Hylan Boulevard	NB	L	0.10	9.4	A	L	0.10	9.6	A
		T	0.47	16.1	B	T	0.48	16.2	B
	SB	L	0.09	7.7	A	L	0.09	7.8	A
		TR	0.64	19.1	B	TR	0.65	19.4	B
Overall Intersection		**-**	**0.57**	**19.6**	**B**	**-**	**0.57**	**19.8**	**B**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

TABLE 4-27
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - PM PEAK HOUR

			2019 No-Action				With Action		
				Control				Control	
INTERSECTION & APPROACH	**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**
Hylan Boulevard & New Dorp Lane								
New Dorp Lane	EB	L	0.72	67.2	E	L	0.73	68.4	E
		TR	1.21	165.7	F	TR	1.22	169.4	F
	WB	L	1.83	478.8	F	L	1.83	478.8	F
		T	0.45	44.2	D	T	0.46	44.4	D
		R	0.46	30.8	C	R	0.48	31.4	C
Hylan Bouelvard	NB	L	0.86	67.3	E	L	0.86	67.4	E
		TR	0.69	27.7	C	TR	0.70	28.1	C
	SB	L	1.27	176.1	F	L	1.32	198.3	F
		TR	1.06	72.3	E	TR	1.08	78.7	E
Overall Intersection	**-**	**1.85**	**81.8**	**F**	**-**	**1.96**	**86.2**	**F**
Hylan Boulevard & Beach Avenue								
Beach Avenue	EB	LTR	0.64	50.1	D	LTR	0.68	52.3	D
	WB	LT	0.38	42.2	D	LT	0.54	47.5	D
		R	0.45	27.3	C	R	0.53	29.3	C
Hylan Boulevard	NB	L	0.35	33.8	C	L	0.35	33.8	C
		TR	0.72	30.6	C	TR	0.73	30.9	C
	SB	L	0.74	39.0	D	L	0.86	54.9	D
		TR	0.68	9.6	A	TR	0.68	9.6	A
Overall Intersection	**-**	**0.71**	**22.7**	**C**	**-**	**0.73**	**24.7**	**C**
Hylan Boulevard & Ebbitts Street								
Ebbitts Street	EB	LTR	0.18	38.9	D	LTR	0.18	38.9	D
	WB	L	0.94	87.6	F	L	1.07	120.1	F
		T	0.36	41.8	D	T	0.36	41.8	D
		R	0.26	30.5	C	R	0.26	30.5	C
Hylan Boulevard	NB	L	0.29	23.8	C	L	0.30	24.3	C
		TR	0.62	21.7	C	TR	0.64	22.2	C
	SB	L	1.10	98.7	F	L	1.14	115.6	F
		TR	0.71	8.9	A	TR	0.71	9.0	A
Overall Intersection	**-**	**1.12**	**25.2**	**C**	**-**	**1.21**	**28.8**	**C**
Hylan Boulevard & Tysens Lane								
Tysens Lane	EB	L	0.70	65.0	E	L	0.75	70.6	E
		T	0.73	51.6	D	T	0.73	51.6	D
		R	0.41	40.5	D	R	0.41	40.5	D
	WB	L	1.07	140.1	F	L	1.08	144.4	F
		T	0.68	48.9	D	T	0.68	48.9	D
		R	0.27	37.7	D	R	0.27	37.7	D
	NB	L	0.46	47.1	D	L	0.46	47.5	D
		TR	0.58	24.5	C	TR	0.59	24.8	C
	SB	L	0.49	31.5	C	L	0.50	33.1	C
		TR	1.00	42.8	D	TR	1.02	48.8	D
Overall Intersection	**-**	**1.09**	**42.5**	**D**	**-**	**1.09**	**45.5**	**D**
Mill Road & Ebbitts Street								
Ebbitts Street	EB	LTR	0.76	24.4	C	LTR	0.78	25.0	C
	WB	LTR	0.46	19.7	B	LTR	0.47	19.8	B
Mill Road	NB	LTR	0.56	14.0	B	LTR	0.57	14.3	B
	SB	LTR	0.55	13.8	B	LTR	0.55	13.9	B
Overall Intersection	**-**	**0.64**	**17.8**	**B**	**-**	**0.66**	**18.1**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)								
Ebbitts Street	EB	LT	-	8.7	A	LT	-	8.8	A
	WB	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	25.6	D	LR	-	32.8	D
Overall Intersection	**-**	**-**	**9.8**	**A**	-	**-**	**12.7**	**B**
Hylan Boulevard & Lincoln Avenue								
Lincoln Avenue	WB	L	0.81	49.8	D	L	0.82	50.2	D
		TR	0.65	46.6	D	TR	0.65	46.6	D
Hylan Boulevard	NB	L	0.97	94.6	F	L	1.07	125.0	F
		T	0.41	10.9	B	T	0.43	11.1	B
	SB	T	0.98	36.2	D	T	0.99	39.9	D
		R	0.34	12.7	B	R	0.34	12.7	B
Overall Intersection	**-**	**0.92**	**33.3**	**C**	-	**1.07**	**36.0**	**D**

TABLE 4-27
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - PM PEAK HOUR

		2019 No-Action				With Action			
				Control				Control	
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**
Hylan Boulevard & Guyon Avenue									
Guyon Avenue	EB	L	0.46	43.1	D	L	0.49	44.1	D
		TR	0.53	43.3	D	TR	0.53	43.3	D
	WB	L	0.62	52.8	D	L	0.62	52.8	D
		TR	0.28	37.3	D	TR	0.30	37.5	D
Hylan Boulevard	NB	L	0.81	63.8	E	L	0.81	64.1	E
		TR	0.49	14.8	B	TR	0.50	15.0	B
	SB	L	0.21	14.3	B	L	0.24	14.7	B
		TR	1.04	48.5	D	TR	1.06	54.6	D
Overall Intersection		**-**	**0.91**	**37.6**	**D**	-	**0.91**	**40.7**	**D**
Hylan Boulevard & Midland Avenue									
Midland Avenue	EB	L	0.23	26.2	C	L	0.23	26.2	C
		T	0.61	47.1	D	T	0.61	47.1	D
		R	0.57	46.6	D	R	0.59	47.3	D
	WB	L	1.08	115.7	F	L	1.08	115.7	F
		R	0.08	34.8	C	R	0.08	34.8	C
Hylan Boulevard	NB	TR	0.56	23.6	C	TR	0.57	23.9	C
	SB	L	0.07	18.0	B	L	0.08	18.2	B
		T	0.87	36.5	D	T	0.89	38.0	D
Overall Intersection		**-**	**1.00**	**42.1**	**D**	**-**	**1.01**	**42.5**	**D**
Hylan Boulevard & Buffalo Street									
Lincoln Avenue	EB	LTR	0.42	41.5	D	LTR	0.42	41.5	D
	WB	LTR	0.09	35.0	C	LTR	0.09	35.0	C
Hylan Boulevard	NB	L	0.07	18.7	B	L	0.07	19.1	B
		T	0.43	16.5	B	T	0.44	16.6	B
	SB	L	0.02	7.6	A	L	0.02	7.6	A
		TR	1.04	58.8	E	TR	1.06	62.8	E
Overall Intersection		**-**	**0.80**	**45.9**	**D**	**-**	**0.81**	**48.5**	**D**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

TABLE 4-28
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY MIDDAY PEAK HOUR

		2019 No-Action				With Action			
				Control				Control	
INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Delay**	**LOS**	**Mvt.**	**V/C**	**Delay**	**LOS**
Hylan Boulevard & New Dorp Lane									
New Dorp Lane	EB	L	0.92	104.5	F	L	0.92	106.4	F
		TR	1.00	99.5	F	TR	1.01	102.0	F
	WB	L	1.68	399.5	F	L	1.72	417.7	F
		T	0.59	49.8	D	T	0.60	50.1	D
		R	0.64	38.9	D	R	0.66	39.9	D
Hylan Bouelvard	NB	L	0.96	85.6	F	L	0.97	89.8	F
		TR	0.80	29.7	C	TR	0.83	30.6	C
	SB	L	1.36	221.7	F	L	1.42	248.4	F
		TR	0.79	29.1	C	TR	0.81	30.1	C
Overall Intersection		**-**	**2.00**	**62.9**	**E**	**-**	**2.28**	**66.0**	**E**
Hylan Boulevard & Beach Avenue									
Beach Avenue	EB	LTR	0.88	73.0	E	LTR	1.03	107.5	F
	WB	LT	0.51	44.4	D	LT	0.67	51.5	D
		R	0.53	28.6	C	R	0.61	31.2	C
Hylan Boulevard	NB	L	0.21	26.0	C	L	0.21	26.0	C
		TR	0.90	38.3	D	TR	0.92	40.0	D
	SB	L	1.01	93.5	F	L	1.17	144.6	F
		TR	0.54	14.6	B	TR	0.54	14.6	B
Overall Intersection		**-**	**0.87**	**35.9**	**D**	**-**	**1.56**	**44.5**	**D**
Hylan Boulevard & Ebbitts Street									
Ebbitts Street	EB	LTR	0.21	38.8	D	LTR	0.21	38.8	D
	WB	L	0.78	61.8	E	L	0.91	78.8	E
		T	0.31	40.1	D	T	0.31	40.1	D
		R	0.43	33.1	C	R	0.42	33.1	C
Hylan Boulevard	NB	L	0.26	19.6	B	L	0.27	19.8	B
		TR	0.76	25.4	C	TR	0.80	26.5	C
	SB	L	1.16	136.6	F	L	1.20	155.6	F
		TR	0.48	13.1	B	TR	0.49	13.2	B
Overall Intersection		**-**	**1.27**	**31.7**	**C**	**-**	**1.43**	**34.6**	**C**
Hylan Boulevard & Tysens Lane									
Tysens Lane	EB	L	0.75	70.7	E	L	0.80	77.2	E
		T	0.68	49.1	D	T	0.69	49.2	D
		R	0.21	36.3	D	R	0.21	36.3	D
	WB	L	1.09	144.8	F	L	1.11	151.9	F
		T	0.67	48.2	D	T	0.67	48.2	D
		R	0.28	37.6	D	R	0.28	37.6	D
	NB	L	0.22	27.2	C	L	0.23	28.8	C
		TR	0.78	31.4	C	TR	0.82	32.6	C
	SB	L	0.74	57.9	E	L	0.76	61.0	E
		TR	0.71	29.3	C	TR	0.74	30.2	C
Overall Intersection		**-**	**1.03**	**40.0**	**D**	**-**	**1.05**	**41.2**	**D**
Mill Road & Ebbitts Street									
Ebbitts Street	EB	LTR	0.54	18.2	B	LTR	0.55	18.4	B
	WB	LTR	0.57	22.2	C	LTR	0.59	22.6	C
Mill Road	NB	LTR	0.36	10.8	B	LTR	0.38	11.0	B
	SB	LTR	0.42	11.4	B	LTR	0.42	11.5	B
Overall Intersection		**-**	**0.48**	**15.6**	**B**	**-**	**0.49**	**15.8**	**B**
Ebbitts Street & Plaza Driveway (Unsignalized)									
Ebbitts Street	EB	LT	-	9.6	A	LT	-	9.9	A
	WB	TR	-	-	-	TR	-	-	-
Plaza Driveway	SB	LR	-	45.9	E	LR	-	82.4	F
Overall Intersection		**-**	**-**	**17.3**	**C**	-	**-**	**30.4**	**D**
Hylan Boulevard & Lincoln Avenue									
Lincoln Avenue	WB	L	0.60	39.7	D	L	0.61	39.9	D
		TR	0.56	40.9	D	TR	0.56	40.9	D
Hylan Boulevard	NB	L	1.10	133.9	F	L	1.16	155.1	F
		T	0.55	14.2	B	T	0.57	14.4	B
	SB	TR	0.85	29.9	C	TR	0.86	30.8	C
Overall Intersection		**-**	**1.11**	**30.6**	**C**	-	**1.24**	**32.2**	**C**

TABLE 4-28
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY MIDDAY PEAK HOUR

			2019 No-Action				With Action		
				Control				Control	
INTERSECTION & APPROACH	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS
Hylan Boulevard & Guyon Avenue								
Guyon Avenue	EB	L	0.90	83.2	F	L	0.95	94.2	F
		TR	0.52	46.4	D	TR	0.52	46.4	D
	WB	L	0.75	67.6	E	L	0.75	67.6	E
		TR	0.38	42.4	D	TR	0.40	42.8	D
Hylan Boulevard	NB	L	0.75	38.2	D	L	0.77	41.6	D
		TR	0.53	13.4	B	TR	0.54	13.6	B
	SB	L	0.27	19.6	B	L	0.33	21.6	C
		TR	0.68	22.9	C	TR	0.70	23.3	C
Overall Intersection	**-**	**0.77**	**26.7**	**C**	-	**0.79**	**27.7**	**C**
Hylan Boulevard & Midland Avenue								
Midland Avenue	EB	L	0.26	26.0	C	L	0.26	26.0	C
		T	0.79	57.0	E	T	0.79	57.0	E
		R	0.41	41.5	D	R	0.43	42.0	D
	WB	L	0.70	53.3	D	L	0.70	53.3	D
		R	0.09	35.1	D	R	0.09	35.1	D
Hylan Boulevard	NB	TR	0.77	29.3	C	TR	0.79	30.0	C
	SB	L	0.58	51.7	D	L	0.62	58.4	E
		T	0.70	27.5	C	T	0.72	28.0	C
Overall Intersection	**-**	**0.84**	**32.8**	**C**	**-**	**0.85**	**33.2**	**C**
Hylan Boulevard & Buffalo Street								
Lincoln Avenue	EB	LTR	0.56	47.9	D	LTR	0.56	48.1	D
	WB	LTR	0.24	38.9	D	LTR	0.24	38.9	D
Hylan Boulevard	NB	L	0.09	9.5	A	L	0.09	9.7	A
		T	0.54	17.1	B	T	0.56	17.4	B
	SB	L	0.16	9.2	A	L	0.16	9.5	A
		TR	0.65	19.2	B	TR	0.66	19.5	B
Overall Intersection	**-**	**0.61**	**20.2**	**C**	**-**	**0.62**	**20.4**	**C**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000
(3): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

~~*Hylan Boulevard and New Dorp Lane*~~
~~Westbound through movement has a v/c ratio of 0.48 and a delay of 45.2 seconds during the weekday PM peak hour~~

Hylan Boulevard and Beach Avenue

- Westbound shared left-through movement has a v/c ratio of 0.54 and a delay of 47.5 seconds during the weekday PM peak hour, and has a v/c ratio of 0.67 and a delay of 51.5 seconds during the Saturday midday peak hour
- ~~Eastbound approach has a v/c ratio of 0.73 and a delay of 49.4 seconds during the Saturday midday peak hour~~
- Southbound left turn movement has a v/c ratio of 0.~~85~~ 86 and a delay of ~~53~~54.~~7~~ 9 seconds during the weekday PM peak hour

Hylan Boulevard and Tysens Lane

- Southbound shared through-right movement has a v/c ratio of 1.02 and a delay of 48.8 seconds during the weekday PM peak hour

Ebbitts Street and Plaza Driveway

- Southbound shared and right turn movement has a delay of 32.8 seconds during the weekday PM peak hour

Hylan Boulevard and Lincoln Avenue

- Northbound left turn movement has a v/c ratio of 0.83 and a delay of 47.4 seconds during the weekday midday peak hour

- ~~—~~

Significant Impacts

Of the ten study area intersections analyzed, the proposed action would cause significant traffic impacts at five intersections in the weekday midday peak hour, ~~six~~ seven intersections in the weekday PM peak hour, and seven intersections in the Saturday midday peak hour. Impacted traffic movements and the peak hours in which they are impacted are identified below.

Hylan Boulevard and New Dorp Lane

- Eastbound New Dorp Lane left turn movement (~~Saturday~~ weekday ~~midday~~ PM)
- Westbound New Dorp Lane left turn (~~weekday PM and~~ Saturday midday)
- Northbound Hylan Boulevard left turn movement (~~weekday midday and~~ Saturday midday)
- Southbound Hylan Boulevard left turn movement (weekday midday, PM, and Saturday midday)
- Southbound Hylan Boulevard through-right movement (weekday PM)

Hylan Boulevard and Beach Avenue

- Southbound Hylan Boulevard left turn movement (weekday midday, PM, and Saturday midday)

Hylan Boulevard and Ebbitts Street

- Westbound Ebbitts Street left turn movement (weekday midday, PM, and Saturday midday)
- Southbound Hylan Boulevard left turn movement (weekday midday, PM, and Saturday midday)

Hylan Boulevard and Tysens Lane

- Eastbound Tysens Lane left turn movement (weekday PM and Saturday midday)
- Westbound Tysen Lane left turn movement (weekday PM and Saturday midday)
- Southbound Hylan Boulevard through-right movement (weekday PM)

Hylan Boulevard and Lincoln Avenue

- Northbound Hylan Boulevard left turn movement (weekday midday, PM, and Saturday midday)

Hylan Boulevard and Guyon Avenue

- Eastbound Guyon Avenue left turn movement (weekday midday and Saturday midday)
- Southbound Hylan Boulevard through-right movement (weekday PM)

Hylan Boulevard and Midland Avenue

- Southbound Hylan Boulevard left turn movement (Saturday midday)

Hylan Boulevard and Buffalo Street

- Southbound Hylan Boulevard shared through-right movement (weekday PM)

PARKING

The existing parking on-site is underutilized, and the Applicant is seeking a permit to reduce the parking requirement by approximately 50 percent from the zoning requirements. A parking analysis was performed to determine whether the projected parking demand associated with the future shopping center expansion could be accommodated. With the future expansion, the number of available parking spaces is expected to increase from the existing 1,414 on-site spaces to 1,653 spaces (for a total of 239 additional parking spaces of which 225 parking spaces would be located on the rooftop of a proposed building structure located on the southeast corner of the project site). Parking counts were conducted during the weekday midday and PM, and Saturday midday peak periods for the existing shopping center. Hour by hour increments were determined for the peak periods based on the methodologies described earlier in this memorandum and then added to the existing parking counts to obtain the future parking demand. **Tables 4-29 and 4-30** provide the hour by hour parking accumulation for the weekday and Saturday, respectively, and **Table 4-31** provides the hour by hour parking accumulation for the rooftop parking located on the southeast corner of the project site.

Table 4-29
Weekday Peak Period Parking Accumulation

Hour	Existing Parking (capacity = 1,414 spaces)				Future Expansion Parking (capacity = 1,653 spaces)			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
11AM—12PM	580	556	445	31.5%	668	643	516	31.2%
12PM—1PM	643	598	490	34.7%	740	692	564	34.1%
1PM—2PM	611	639	462	32.7%	703	740	527	31.9%
2PM—3PM	604	642	424	30.0%	701	750	478	28.9%
3PM—4PM	596	644	376	26.6%	698	758	418	25.3%
4PM—5PM	564	579	361	25.5%	661	682	397	24.0%
5PM—6PM	557	577	341	24.1%	653	679	371	22.4%

Table 4-30
Saturday Peak Period Parking Accumulation

Hour	Existing Parking (capacity = 1,414 spaces)				Future Expansion Parking (capacity = 1,653 spaces)			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
12PM—1PM	861	748	504	35.6%	1,006	874	585	35.4%
1PM—2PM	787	754	537	38.0%	918	881	622	37.6%
2PM—3PM	779	833	483	34.2%	909	972	559	33.8%
3PM—4PM	765	732	516	36.5%	892	855	596	36.1%

Table 4-31
Rooftop Parking—Weekday and Saturday Peak Period Parking Accumulation

Hour	Weekday Parking Accumulation				Saturday Parking Accumulation			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
11AM—12PM	91	88	70	31.1%	-	-	-	-
12PM—1PM	101	94	77	34.2%	137	119	80	35.6%
1PM—2PM	96	101	72	32.0%	125	120	85	37.8%
2PM—3PM	95	102	65	28.9%	124	132	77	34.2%
3PM—4PM	95	103	57	25.3%	121	116	82	36.4%
4PM—5PM	90	93	54	24.0%	-	-	-	-
5PM—6PM	89	92	51	22.7%	-	-	-	-

Based on the findings of this parking analysis, the proposed expansion is expected to provide sufficient on-site parking capacity for the peak periods of both a typical weekday and Saturday.

H. VEHICULAR AND PEDESTRIAN SAFETY

According to the ~~*2014 *~~*CEQR Technical Manual* criteria, any intersection with 48 or more total (reportable and non-reportable) crashes, or five or more pedestrian/bicycle injury crashes, in any consecutive 12 months of the most recent three-year period for which data are available, is considered a high crash location. The safety assessment performed for this study was based on accident data provided by NYCDOT for years 2012 to 2014. As shown in **Table 4-32**, the intersection of Hylan Boulevard and Ebbitts Street had six pedestrian/bicycle injury crashes during 2013 and would be considered a high accident intersection. Vehicular and pedestrian crash thresholds are not exceeded at any of the other analysis intersections.

Table 4-32
Vehicle and Pedestrian Crash Details

Intersection		Study Period					Crashes by Year					
North-South Roadway	East-West Roadway	All Crashes by Year			Total Fatalities	Total Injuries	Pedestrian			Bicycle		
		2012	2013	2014			2012	2013	2014	2012	2013	2014
Hylan Boulevard	New Dorp Lane	19	11	17	0	36	3	1	2	1	0	1
Hylan Boulevard	Beach Avenue	8	15	4	0	24	1	1	1	0	0	0
Hylan Boulevard	Ebbitts Street	15	11	8	0	35	3	6	0	0	0	0
Hylan Boulevard	Tysens Lane	16	13	9	1	30	0	3	2	0	0	0
Hylan Boulevard	Lincoln Avenue	11	8	8	0	19	4	2	1	0	0	0
Hylan Boulevard	Guyon Avenue	10	7	8	0	16	1	2	0	0	0	0
Mill Road	Ebbitts Street	2	2	3	0	4	0	0	0	0	0	0
Plaza Driveway	Ebbitts Street	0	0	0	0	0	0	0	0	0	0	0
Hylan Boulevard	Midland Avenue	15	10	5	0	21	3	1	0	1	0	0
Hylan Boulevard	Buffalo Street	7	7	4	0	17	1	1	0	0	0	0

Source: New York State Department of Transportation/New York State Department of Motor Vehicles 2012-2014 accident data.

Traffic improvements were implemented by NYCDOT in 2016 which included the implementation of a leading pedestrian interval phase for pedestrians crossing Hylan Boulevard. After reviewing the pedestrian injury crashes during that three-year span it was found that three instances involved the pedestrian crossing without the given crossing signal and four instances involved left-turning vehicles. By providing a leading pedestrian interval phase, pedestrians would have more time to cross and there would be a reduction in the number of vehicle-pedestrian conflicts. The implementation of these proposed measures would improve the safety conditions at this intersection. ✷