A. INTRODUCTION

Since the publication of the Draft Environmental Impact Statement (DEIS), the design of certain Proposed Project elements has been refined, and in some instances, changes have been made in response to comments received as part of the public review process. While the total maximum size of the retail component of the Proposed Project has been reduced to up to 350,000 gsf, this chapter conservatively retains the assumption of up to 435,000 gsf of retail space (on both Sites A and B) presented in the DEIS. The reduction in the size of the hotel from 230,000 gsf to 210,000 gsf, and the increase in size of the arena from 690,000 gsf to 745,000 gsf are not relevant to this analysis, because trip generation for these components is based on the number of hotel rooms and arena seats, respectively, which have not changed.

The Proposed Project is a major development consisting of an arena, retail, dining, and entertainment uses, a hotel, and a modest amount of office and community space; the potential for it to impact traffic, transit, parking, and pedestrian conditions on the Project Sites and the surrounding neighborhoods is an important consideration in the assessment of potential environmental impacts. This chapter identifies the potential significant adverse impacts of the Proposed Project on specific components of the local street and highway networks, utilization of public transportation services (commuter rail and bus services), the adequacy of parking to be provided, pedestrian circulation within the Project Sites, and vehicular and pedestrian safety at the intersections to be analyzed. Vehicular access to the Project Sites would primarily be via direct access to and from the Cross Island Parkway and via site entrances on Hempstead Turnpike. The Project Sites are also served by the Long Island Rail Road (LIRR) at a seasonal-use station and bus service from both Nassau County and Queens.

Where significant adverse impacts are identified, the ability to mitigate those impacts is addressed in Chapter 17, "Mitigation."

A separate analysis of transportation during construction of the Proposed Project is provided in Chapter 15, "Construction."

PRINCIPAL CONCLUSIONS

LOCAL STREET NETWORK

Overall, the Proposed Project would generate a total of 832 primary vehicle trips (670 "ins" and 162 "outs") during the weekday AM peak hour, 4,261 vehicle trips (3,810 "ins" and 451 "outs") during the weekday PM peak hour, 4,075 vehicle trips (798 "ins" and 3,277 "outs") during the Saturday midday peak hour, 4,384 vehicle trips (3,758 "ins" and 626 "outs") during the Saturday PM peak hour, and 4,496 vehicle trips (240 "ins" and 4,256 "outs") during the Saturday night peak hour. Of the 38 intersections analyzed, the Proposed Project would result in significant adverse traffic impacts at six intersections during the weekday AM peak hour, six intersections during the weekday PM peak hour, nine intersections during the Saturday midday peak hour, six intersections during the Saturday PM peak hour, and two intersections during the Saturday night peak hour.

HIGHWAY NETWORK

Of the 37 highway segments analyzed on the northbound and southbound Cross Island Parkway between the Southern State Parkway and Jamaica Avenue, the Proposed Project would result in significant adverse traffic impacts to six highway segments during the weekday AM peak hour, 15 highway segments during the weekday PM peak hour, 24 highway segments during the Saturday midday peak hour, 22 highway segments during the Saturday PM peak hour, and 21 highway segments during the Saturday night peak hour.

Of the five merge and weaving segments analyzed at the interchanges of the Cross Island Parkway with the Long Island Expressway and Grand Central Parkway, the Proposed Project would result in significant adverse traffic impacts at one weaving segment during the Saturday midday peak hour and two merge segments during the Saturday PM peak hour.

LIRR SERVICE

On days with scheduled events at the proposed arena, it is anticipated that the LIRR would provide two round trip trains between Jamaica Station and Belmont Park Station, with eastbound trains arriving at Belmont Park prior to the start of the event and westbound trains departing from Belmont Park following the conclusion of the event, which could accommodate the projected number of passengers that would use the LIRR, which would be expected to be used by up to 2,280 and 1,330 arena patrons arriving for weekday and Saturday events, respectively. It is unlikely that the Proposed Action would result in any impacts to platforms, stairways, or ramps at Belmont Park Station.

BUS SERVICE

It is likely that the Proposed Project would result in a significant adverse impact to Nassau Inter-County Express (NICE) and Metropolitan Transportation Authority (MTA) bus routes during time periods before and after sold-out arena events, requiring some increases in bus service to accommodate bus rider trips made by arena patrons. Bus operators typically adjust their service based on ridership and market demand and it is anticipated that such increases in service would be coordinated with NYAP as part of the transportation management plan for the arena.

PARKING

The Project Sites would include a total of 1,900 parking spaces in new structured parking beneath the retail village and within and below the hotel's podium. During times of high attendance arena events and/or peak shopping periods, approximately 6,014 additional parking spaces on the North, South, and East Lots would be made available to NYAP through a shared parking agreement among NYAP, the Franchise Oversight Board (FOB), and The New York Racing Association (NYRA). The peak parking demand for the Proposed Project would occur during times of arena events when there would be demand from both arena employees and patrons as well as retail shoppers and other visitors. The Proposed Project would generate its maximum parking demand of 6,846 spaces on a weekday evening with a concert at the arena, which could be accommodated by the parking provided on the Project Sites and the North, South, and East Lots. The analysis of parking conditions also considered the combined parking demand of the Proposed Project with live daytime racing at Belmont Park. The maximum combined parking demand of the Proposed Project and Belmont Park would occur during the Saturday midday period (a demand of 7,541 spaces), which could be accommodated by the parking provided on the Project Sites and the North, South, and East Lots.

PEDESTRIAN CIRCULATION

The Proposed Project would provide pedestrian connectivity between the parking facilities and public transportation services with the arena, retail, hotel, office, and community space uses. During arena events and/or peak shopping periods, shuttle buses would be provided to transport attendees between the North and East Lots and the arena, or between the South and East Lots and the retail village, so that patrons would not have to walk unreasonable distances. The Proposed Project would provide one or more grade-separated pedestrian connections providing access between the portions of the Project Sites located on the north and south sides of Hempstead Turnpike and would not introduce at-grade crossings of this roadway adjacent to the Project Sites.

VEHICULAR AND PEDESTRIAN SAFETY

A crash analysis performed for the roadway segments and intersections analyzed in Nassau County revealed crash patterns that are consistent with what would be anticipated on roadway segments and intersections similar to those studied. Although the Proposed Project would result in an increase in traffic volumes on the roadways in the local street network and at intersections within the study area, it is not anticipated that the project-generated traffic volumes would unduly influence the rate of accident occurrence. In addition, roadway improvements planned by the New York State Department of Transportation (NYSDOT) have the potential to enhance traffic and pedestrian safety.

A review of crash data for the traffic study area intersections in Queens for the most recent three-year period for which data were available identified one intersection—Hempstead Avenue and Springfield Boulevard—as a high-crash location. This intersection would experience modest increases in conflicting turning volumes in the analyzed peak hours as a result of the Proposed Actions and is categorized as a priority intersection as part of New York City's Vision Zero initiatives, and it also lies on Hempstead Avenue, which is categorized as a priority corridor. As part of its Vision Zero initiatives, the City will explore additional measures for potential implementation at this high-crash location to enhance traffic and pedestrian safety.

B. METHODOLOGY

This section provides the basic methodologies followed in each of the technical areas along with the first key technical analysis step of determining the trip generation projections for the Proposed Project by travel mode and by traffic analysis period ("Travel Demand Analysis"). It establishes why each traffic analysis period was selected for detailed analysis, why each study area was identified, and the definition of level of service criteria for the most significant technical areas being analyzed (i.e., local street network and highway network traffic analyses) along with LIRR capacity analyses, bus network availability, parking availability, pedestrian circulation, and vehicular and pedestrian safety analyses.

TRAVEL DEMAND ANALYSIS

TRIP GENERATION

Weekday and Saturday travel demand estimates were prepared for the proposed arena and non-arena uses. The travel demand assumptions were developed based on historical ticket sales data provided by the New York Islanders (from recent seasons at both the Nassau Coliseum and Barclays Center), *Institute of Transportation Engineers (ITE) Trip Generation Manual* (10th Edition), U.S. Census data, and other previously approved projects. The trip estimates were

prepared for five peak hours: weekday AM, weekday PM Pre-Event, Saturday midday, Saturday PM Pre-Event, and Saturday Night Post-Event.

Arena

Patrons

The proposed arena would host New York Islanders hockey games, other major events such as concerts, and smaller events such as college sports, conferences, and family events (e.g., Disney on Ice, Harlem Globetrotters, Marvel Universe Live!). After reviewing the anticipated arena programming and start times for hockey games and concerts, hockey games were selected as the representative worst-case analysis scenario for traffic conditions. Compared to concerts, hockey games are expected to have an earlier start time (with a larger overlap with the background evening commuter peak period) and more concentrated temporal distribution (i.e., a higher percentage of arena patrons would arrive during the hour before the event's start time).[1] During the daytime on weekends, the arena would also host smaller events such as family events; Disney on Ice was selected as the representative analysis scenario for this time period.[2] For a conservative analysis, the trip generation for both hockey games (18,000 seats) and Disney on Ice (11,500 seats) assume sold-out conditions and do not account for the presence of empty seats due to no-shows. Overall, the conditions identified in the analysis of peak hours that include trips by arena patrons for sold-out events are expected to occur at only limited instances over the course of the year, and non-sell-out conditions during most days with arena events would experience fewer trips.

Modal splits for the arena patrons were developed using the estimated distribution of origins of arena patrons for an Islanders hockey game (developed based on a review of the ZIP Code origin information from the New York Islanders ticket sales data at the Nassau Coliseum and Barclays Center) and the proposed arena's location in relation to the regional roadway and transit networks, considering the estimated travel time by driving or using public transportation for each ZIP Code. It is expected that the geographical distribution of attendees for an Islanders game would be similar to when the team played at Nassau Coliseum with most arena patrons coming from Nassau and Suffolk Counties, but there would be a slight increase in trips coming from New York City given the arena's closer proximity to Queens and the availability of LIRR service from points west. Driving by auto is expected to be the primary travel mode for arena patrons, with 83 and 88 percent of arena patrons arriving by auto for weekday and Saturday hockey games, respectively. Taxis, including transportation network companies (commonly referred to as "rideshare" services such as Uber and Lyft), are expected to be used by 3 percent of arena patrons. The LIRR is expected to be used by 12 and 7 percent of arena patrons arriving for weekday and Saturday hockey games, respectively. The extent of utilization of this service has been confirmed with the MTA and LIRR. Based on a review of other sporting venues within the United States, including the Barclays Center, average vehicle occupancies (AVO) of 2.75 and 3.00 persons per vehicle have been assumed for weekday and Saturday hockey games, respectively. For Disney on Ice, which is a more family-oriented event, a higher AVO of 3.90 was assumed based on information from the

[1] Marquee concerts/entertainment events would fully utilize the arena's space, would have a higher seating capacity compared to hockey games, and would represent the worst-case analysis scenario for parking conditions.

[2] A review of data indicates that Saturday afternoon hockey games do not happen on a regular occurrence. In their last nine seasons played at Nassau Coliseum, the New York Islanders averaged fewer than two Saturday matinee games per season.

Barclays Center with adjustments to reflect the location of the Project Sites.[3] **Table 11-1** presents the modal split and AVO assumptions for hockey games and Disney on Ice.

Employees

The number of arena employees was estimated from the information presented in 2009 *The Lighthouse at Long Island Final Generic EIS (FGEIS)*. It is assumed that arena employees would arrive at the arena before patrons enter, remain at the arena, and depart from the arena after the patrons exit. Modal splits and AVO for the arena employees were developed based on the U.S. Census American Community Survey (ACS) 2006–2010 Five-year estimates Reverse Journey-to-Work (RJTW) for the Nassau County Census tract in which the existing Belmont Park Racetrack is located. **Table 11-2** presents the modal split and AVO assumptions for arena employees.

Table 11-1
Proposed Arena Patron Modal Splits and AVOs

Day	Auto	Taxi	Subway	LIRR	Transit Bus	Walk	AVO
Hockey Games							
Weekday	83%	3%	0%	12%	2%	0%	2.75
Saturday	88%	3%	0%	7%	2%	0%	3.00
Disney on Ice							
Saturday	88%	3%	0%	7%	2%	0%	3.90

Notes and Sources:
(1) Modal splits based on estimated distribution of origins of arena patrons for an Islanders game and the Proposed Project's location in relationship to the regional roadway and transit networks.
(2) Disney on Ice AVO based on Barclays Center TDM Effectiveness in Meeting Mode Split Objectives, 2013

Table 11-2
Proposed Arena Employee Modal Splits and AVOs

Day	Auto	Taxi	Subway	LIRR	Transit Bus	Walk	AVO
Weekday/Saturday	80%	1%	2%	2%	12%	3%	1.10

Notes and Sources: (1) Based on U.S. Census ACS 2006–2010 RJTW data for Nassau County Census Tract 4048.
(2) Subway trips are assumed to transfer to and from buses in Jamaica, Queens.

Non-Arena

The Proposed Project would include a number of non-arena uses including up to 435,000 gross square feet (gsf) of retail, dining and entertainment, up to 250 hotel rooms, up to 30,000 gsf of office space, and 10,000 gsf of community space.[4] Trip estimates for these non-arena uses were developed based on the *ITE Trip Generation Manual* (10th Edition), U.S. Census Data, and the 2013 *Willets Point Development Final Supplemental EIS (FSEIS)*. Trip generation estimates for the non-arena uses include both visitors/patrons and employees.

The proposed retail use would include primarily destination retail uses within a "retail village" on Site B (south of Hempstead Turnpike) and "experiential" retail and food and beverage uses on Site A (north of Hempstead Turnpike), consisting mostly of dining uses. The retail village would be expected to draw its customers from residents in the surrounding region and visitors from Long Island and the Greater New York City metropolitan area, as well as from the national and

[3] June 7, 2013 Memorandum from Sam Schwartz Engineering on Barclays Center TDM Effectiveness in Meeting Mode Split Objectives.

[4] The Proposed Project would also include open space in the form of a plazas on Site A and landscaped areas on Site B. These open spaces would not be expected to generate standalone trips to the Project Sites during the traffic analysis periods and are not included in the travel demand estimates.

international tourism industry. Trip generation for this use was developed based on ITE Land Use 820, Shopping Center. The "experiential" retail on Site A is expected to include up to 135,000 gsf and the retail village on Site B is expected to include up to 350,000 gsf. As discussed below, it is assumed that a substantial portion of peak period trips to the food and beverage uses on Site A would be made by arena patrons. For transportation analysis purposes, trip generation for the retail use conservatively assumes the maximum amount of retail village (350,000 gsf) on Site B. Given the total retail uses across the entire development would not exceed the overall maximum of 435,000 gsf of retail, approximately 85,000 gsf of retail is assumed on Site A. The trip generation also conservatively assumes that there would be no reductions for the retail use attributable to a stay-away factor, which would involve shoppers who choose to stay away from the Project Sites during an arena event.

The proposed office space is expected to be used by employees associated with the New York Islanders staff and Proposed Project operations. Trip generation for this use was developed based on ITE Land Use 715, Single Tenant Office Building.

The proposed hotel would include conference and banquet facilities and is intended to serve the existing Belmont Park Racetrack, the surrounding community, and new demand generated by the Proposed Project. Trip generation for this use was developed based on ITE Land Use 310, Hotel.

The proposed community space would offer an array of programming options with particular focus on health and wellness, as well as educational and career development services. Trip generation for this use was developed based on ITE Land Use 495, Recreational Community Center.

Modal splits and AVO for the non-arena uses were developed based on the U.S. Census ACS 2006–2010 RJTW data for the Nassau County Census tract in which the existing Belmont Park Racetrack is located. For the proposed retail village, it is anticipated that private bus operators would provide service for shoppers, and would supplement existing public transit services, similar to the private bus services that currently operate between Manhattan and Woodbury Common Premium Outlets in Central Valley, NY. The temporal distributions for the retail use were based on traffic counts at Value Retail's Bicester Village luxury outlet center near London, United Kingdom, which is the most comparable facility for the type of retail anticipated at Belmont Park; a review of travel patterns at Bicester Village also indicates that it has a similar pattern of arrivals, departures and shopping durations to Woodbury Common Premium Outlets. The temporal distributions for other non-arena uses are based on the 2013 *Willets Point Development FSEIS*. **Table 11-3** presents the modal split and AVO assumptions for the non-arena uses.

Table 11-3
Proposed Non-Arena Uses Modal Splits and AVOs

Use	Auto	Taxi	Subway	LIRR	Transit Bus	Walk	AVO
Retail	80%	1%	2%	2%	12%	3%	1.10
Office	80%	1%	2%	2%	12%	3%	1.10
Hotel	80%	1%	2%	2%	12%	3%	1.10
Community Space	80%	1%	2%	2%	12%	3%	1.10

Notes and Sources:
(1) Based on U.S. Census ACS 2006–2010 RJTW data for Nassau County Census Tract 4048.
(2) Subway trips are assumed to transfer to and from buses in Jamaica, Queens.

Internal Capture and Pass-by Trips

Since the Proposed Project is a mixed-use development including retail, internal capture and pass-by trip assumptions were also developed. The *National Cooperative Highway Research Program*

(NCHRP) 684 Report methodology was used to estimate the number of internal capture trips between the retail, hotel, and office uses for the weekday peak hours. It was conservatively assumed that the proposed retail uses would not yet be open during the weekday AM peak hour, and, therefore, no internal capture trips were assumed for the retail use during this peak hour. For Saturday, the internal capture trip assumptions between the retail, hotel, and office uses were developed based on the *ITE Trip Generation Handbook*, 2nd and 3rd Editions. It was assumed that 75 percent of the trips to the retail on Site A (primarily food and beverage uses) would be made by arena patrons during the weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours. In addition, for internal trip capture between the arena and retail on Site B, it was assumed that five percent of weekday peak period trips to the retail village during hockey games would be made by arena patrons. For Saturday, it was assumed that ten percent of peak period trips to the retail village would be made by either arena patrons attending Disney on Ice or hockey games.

Weekday and Saturday pass-by trip assumptions for the proposed retail uses were also developed based on the *ITE Trip Generation Handbook*, 3rd Edition for Land Use 820, Shopping Center. A pass-by rate of 34 percent was assumed for the weekday PM peak hour and a pass-by rate of 26 percent was assumed for the Saturday peak hours. Similar to the weekday AM internal trip capture assumption, no pass-by trip credit was assumed for the weekday AM peak hour as it is assumed the proposed retail uses would not yet be open during this peak hour.

Trip Estimates Summary

Tables 11-4 and 11-5 present the Proposed Project's anticipated person and vehicle trip generation for five time periods.

ANALYSIS PERIODS

As shown in **Table 11-5**, the majority of vehicle trips generated by the Proposed Project would be from its arena and retail components. Shopping centers typically generate their highest demand during the midday and afternoon periods and have a higher number of trips occurring on Saturdays compared to weekdays. The arena would generate much of its travel demand during the evening and nighttime periods on weekdays and weekends. The total trip generation for the Proposed Project was used, along with a side-by-side comparison of existing traffic volumes on the local street and highway networks near the Project Sites, to determine the peak traffic analysis hours.

As summarized in **Table 11-6**, a total of five peak hours were identified for detailed evaluation. The weekday AM (7:30 AM–8:30 AM) peak hour reflects the existing morning commuter peak period for area roadways, and the trip generation for the weekday AM time period detailed in **Table 11-5** was added to this peak hour. The weekday PM (6:30 PM–7:30 PM) peak hour overlaps the peak demand of arena patrons arriving for a 7:30 PM hockey game with a portion of the existing afternoon/evening commuter peak period for area roadways, and the trip generation for the weekday Pre-Event time period detailed in **Table 11-5** was added to this peak hour.[5]

[5] Although some nationally televised weekday games could start at 8:00 PM, a 7:30 PM start time was conservatively assumed for the weeknight hockey game since the earlier start time would produce an overlap with higher volumes of background and retail traffic. There would not be 7:00 PM hockey games on weekdays.

Table 11-4
Proposed Project—Person Trip Generation Summary

Use	Weekday AM 8 AM–9 AM In	Weekday AM 8 AM–9 AM Out	Weekday Pre-Event 7 PM–8 PM (Hockey) In	Weekday Pre-Event 7 PM–8 PM (Hockey) Out	Saturday Midday 1 PM–2 PM (Disney on Ice) In	Saturday Midday 1 PM–2 PM (Disney on Ice) Out	Saturday Pre-Event 6 PM–7 PM (Hockey) In	Saturday Pre-Event 6 PM–7 PM (Hockey) Out	Saturday Post-Event 9 PM–10 PM (Hockey) In	Saturday Post-Event 9 PM–10 PM (Hockey) Out
Auto										
Retail – Site A	119	15	35	87	155	223	64	129	23	64
Retail – Site B	490	61	146	356	638	917	262	531	93	266
Hotel	64	91	77	51	96	75	95	95	40	17
Office	36	1	1	2	7	5	0	1	0	0
Community Space	18	1	9	9	6	6	1	3	0	0
Arena – Patrons	0	0	9,711	0	1,013	10,119	10,296	0	0	11,880
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	727	169	9,979	505	1,915	11,345	10,718	759	156	12,227
Taxi										
Retail – Site A	1	0	0	1	2	3	1	2	0	1
Retail – Site B	6	1	2	4	8	11	3	7	1	3
Hotel	1	1	1	1	1	1	1	1	0	0
Office	0	0	0	0	0	0	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	351	0	35	345	351	0	0	405
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	8	2	354	6	46	360	356	10	1	409
Subway										
Retail – Site A	3	0	1	2	4	6	2	3	1	2
Retail – Site B	12	2	4	9	16	23	7	13	2	7
Hotel	2	2	2	1	2	2	2	2	1	0
Office	1	0	0	0	0	0	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	0	0	0	0	0	0	0	0
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	18	4	7	12	22	31	11	18	4	9
LIRR										
Retail – Site A	3	0	1	2	4	6	2	3	1	2
Retail – Site B	12	2	4	9	16	23	7	13	2	7
Hotel	2	2	2	1	2	2	2	2	1	0
Office	1	0	0	0	0	0	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	1,404	0	81	805	819	0	0	945
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	18	4	1,411	12	108	836	830	18	4	954
Transit Bus										
Retail – Site A	18	2	5	13	23	33	10	19	3	10
Retail – Site B	74	9	22	53	96	138	39	80	14	40
Hotel	10	14	11	8	14	11	14	14	6	3
Office	5	0	0	0	1	1	0	0	0	0
Community Space	3	0	1	1	1	1	0	0	0	0
Arena – Patrons	0	0	234	0	23	230	234	0	0	270
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	110	25	273	75	158	414	297	113	23	323
Walk										
Retail – Site A	4	1	1	3	6	8	2	5	1	2
Retail – Site B	18	2	5	13	24	34	10	20	3	10
Hotel	2	3	3	2	4	3	4	4	1	1
Office	1	0	0	0	0	0	0	0	0	0
Community Space	1	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	0	0	0	0	0	0	0	0
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	26	6	9	18	34	45	16	29	5	13
Total Person Trips										
Retail – Site A	148	18	43	108	194	279	81	161	29	81
Retail – Site B	612	77	183	444	798	1,146	328	664	115	333
Hotel	81	113	96	64	119	94	118	118	49	21
Office	44	1	1	2	8	6	0	1	0	0
Community Space	22	1	10	10	7	7	1	3	0	0
Arena – Patrons	0	0	11,700	0	1,152	11,499	11,700	0	0	13,500
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Total	907	210	12,033	628	2,278	13,031	12,228	947	193	13,935

Table 11-5
Proposed Project—Vehicle Trip Generation Summary

Use	Weekday AM 8 AM–9 AM In	Weekday AM 8 AM–9 AM Out	Weekday Pre-Event 7 PM–8 PM (Hockey) In	Weekday Pre-Event 7 PM–8 PM (Hockey) Out	Saturday Midday 1 PM–2 PM (Disney on Ice) In	Saturday Midday 1 PM–2 PM (Disney on Ice) Out	Saturday Pre-Event 6 PM–7 PM (Hockey) In	Saturday Pre-Event 6 PM–7 PM (Hockey) Out	Saturday Post-Event 9 PM–10 PM (Hockey) In	Saturday Post-Event 9 PM–10 PM (Hockey) Out
Auto Trips										
Retail – Site A	108	13	32	80	141	203	59	117	22	59
Retail – Site B	446	55	132	326	580	834	238	483	87	241
Hotel	58	83	70	46	87	68	86	86	36	17
Office	33	1	1	2	7	4	0	2	0	0
Community Space	16	1	8	8	5	6	2	3	0	0
Arena – Patrons	0	0	3,531	0	260	2,595	3,432	0	0	3,960
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	661	153	3,774	462	1,080	3,710	3,817	691	145	4,277
Internal Capture Trips Credit										
Retail – Site A	0	0	-1	-2	-5	-7	-3	-6	-1	-3
Retail – Site B	0	0	-3	-9	-19	-28	-12	-26	-4	-10
Hotel	0	-1	-12	-3	-32	-23	-32	-15	-13	-5
Office	-1	0	0	0	-3	-1	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	-31	0	-164	-235	-68	0	0	-68
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	-1	-1	-47	-14	-223	-294	-115	-47	-18	-86
Pass-by Trips Credit										
Retail – Site A	0	0	-11	-27	-35	-51	-15	-29	-5	-15
Retail – Site B	0	0	-44	-108	-146	-210	-59	-119	-22	-60
Hotel	0	0	0	0	0	0	0	0	0	0
Office	0	0	0	0	0	0	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	0	0	0	0	0	0	0	0
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	0	0	-55	-135	-181	-261	-74	-148	-27	-75
Balanced Taxi Trips										
Retail – Site A	1	1	1	1	5	5	2	2	1	1
Retail – Site B	7	7	6	6	17	17	9	9	4	4
Hotel	2	2	3	3	2	2	2	2	0	0
Office	0	0	0	0	0	0	0	0	0	0
Community Space	0	0	0	0	0	0	0	0	0	0
Arena – Patrons	0	0	128	128	98	98	117	117	135	135
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Subtotal	10	10	138	138	122	122	130	130	140	140
Primary Trips										
Retail – Site A	109	14	21	52	106	150	43	84	17	42
Retail – Site B	453	62	91	215	432	613	176	347	65	175
Hotel	60	84	61	46	57	47	56	73	23	12
Office	32	1	1	2	4	3	0	2	0	0
Community Space	16	1	8	8	5	6	2	3	0	0
Arena – Patrons	0	0	3,628	128	194	2,458	3,481	117	135	4,027
Arena – Employees	0	0	0	0	0	0	0	0	0	0
Total	670	162	3,810	451	798	3,277	3,758	626	240	4,256

Notes and Sources:
(1) Internal trip capture credits were shown for both retail and arena patrons to differentiate between the different types of internal capture trips. The internal capture trips listed under the retail, hotel, and office uses represent trips between these uses and are listed under these uses. The internal capture trips between the retail uses and the arena patrons represent trips between the retail uses and arena patrons and are listed under the arena patrons.

Table 11-6
Traffic Analysis Peak Hours

Day	Time Period	Type of Arena Event
Weekday	7:30 AM–8:30 AM	None
	6:30 PM–7:30 PM	Hockey Game Arrivals
Saturday	12:45 PM–1:45 PM	Disney on Ice Departures
	6:00 PM–7:00 PM	Hockey Game Arrivals
	9:30 PM–10:30 PM	Hockey Game Departures

The Saturday midday (12:45 PM–1:45 PM) peak hour reflects a combination of the peak traffic of adjacent roadways with the peak demand for the retail component and coincides with the peak demand of arena patrons departing from a 11:00 AM Disney on Ice event; the trip generation for the Saturday midday time period detailed in **Table 11-5** was superimposed on this peak hour. The Saturday PM (6:00 PM–7:00 PM) and Saturday night (9:30 PM–10:30 PM) peak hours reflect the peak demand of arena patrons arriving and departing from a 7:00 PM hockey game, and the trip generation for the Saturday Pre-Event and Saturday Post-Event time periods detailed in **Table 11-5** were added to these peak hours, respectively.[6] The Saturday night peak hour was selected in lieu of a weeknight peak hour to provide for a more conservative analysis of the departures of arena patrons following a hockey game since a review of existing traffic volume data indicated that background traffic volumes on area roadways are higher on Saturday nights compared to weeknights.

TRIP DISTRIBUTION AND ASSIGNMENT

The Proposed Project is expected to be both a local and a regional destination, and as discussed further below, the traffic study area includes a combination of intersections on the local street network and segments along the adjacent highway network. The volume of vehicular traffic generated by the Proposed Project was assigned to the roadway networks using origin/destination patterns attributed to each of the proposed uses. Similar to their differences in travel demand characteristics, the components of the Proposed Project also have unique trip assignment patterns based on their geographic distribution of trips. Trips generated by the Proposed Project were assigned to the access points of the Project Sites. It is anticipated that regional traffic would generally access the Project Sites via the Cross Island Parkway and local traffic would generally access the Project Sites via Hempstead Turnpike or Hempstead Avenue.

Arena

As discussed above, the expected geographical distribution of arena patrons for a hockey game was based on a review of New York Islanders ticket sales data. For each ZIP Code origin, auto trips were assigned to the roadway network following the most direct route to the Project Sites. For arena patrons traveling to a hockey game, it was estimated that approximately 45 percent would travel southbound on the Cross Island Parkway (including trips from the Grand Central Parkway, Northern State Parkway, and Long Island Expressway), approximately 44 percent would travel northbound on the Cross Island Parkway (including trips from the westbound Southern State Parkway and eastbound Belt Parkway), approximately seven percent would travel westbound on Hempstead Turnpike (including trips from Jericho Turnpike and Plainfield Avenue), and approximately four percent of vehicles would travel eastbound on Hempstead Avenue from Queens.

Non-Arena

The assignment of auto trips for the Proposed Project's retail, hotel, office, and community space components was based on population data from U.S. Census, ACS 2012-2016 Five-Year estimates, U.S. Census, ACS 2006–2010 Five-Year estimates RJTW data for commuters using

[6] Saturday games could start at 7:30 PM, but a 7:00 PM start time was conservatively assumed for the Saturday night hockey game since the earlier start time for hockey games would produce an overlap with higher volumes of background and retail traffic. Several NHL teams, including Dallas, Detroit, Montreal, Ottawa, and Tampa Bay typically schedule their weeknight games to start at 7:30 PM and their Saturday night games to start at 7:00 PM.

autos to travel to workplaces in the study area, and other assumptions based on professional judgement.

For the retail use, the assignment of auto trips was based on the distribution of population within an approximate 30-minute driving distance of the Project Sites, with adjustments made based on median household income, the average number of household vehicles, and the proximity of Census tracts to transit services. It was estimated that approximately 46 percent would travel northbound on the Cross Island Parkway, approximately 44 percent would travel southbound on the Cross Island Parkway, approximately six percent would travel westbound on Hempstead Turnpike, and approximately four percent would travel eastbound on Hempstead Avenue from Queens.

The assignment of auto trips for the hotel use was based on the distribution of retail trips with adjustments made to account for additional trips from area airports, as well as trips coming from areas outside of the region (e.g., trips from New England and Upstate New York via the Bronx-Whitestone Bridge and Throgs Neck Bridge, trips from southern New Jersey and points south via the Verrazano-Narrows Bridge). It was estimated that approximately 63 percent would travel southbound on the Cross Island Parkway, approximately 32 percent would travel northbound on the Cross Island Parkway, approximately three percent would travel westbound on Hempstead Turnpike, and approximately two percent would travel eastbound on Hempstead Avenue from Queens.

For the office use, the assignment of auto trips was based on the residences of commuters using autos to travel to workplaces in the study area based on ACS RJTW data.

For the community space use, the assignment of auto trips was based on the distribution of population within an approximate 10-minute driving distance to the Project Sites.

DETAILED ANALYSIS METHODOLOGIES

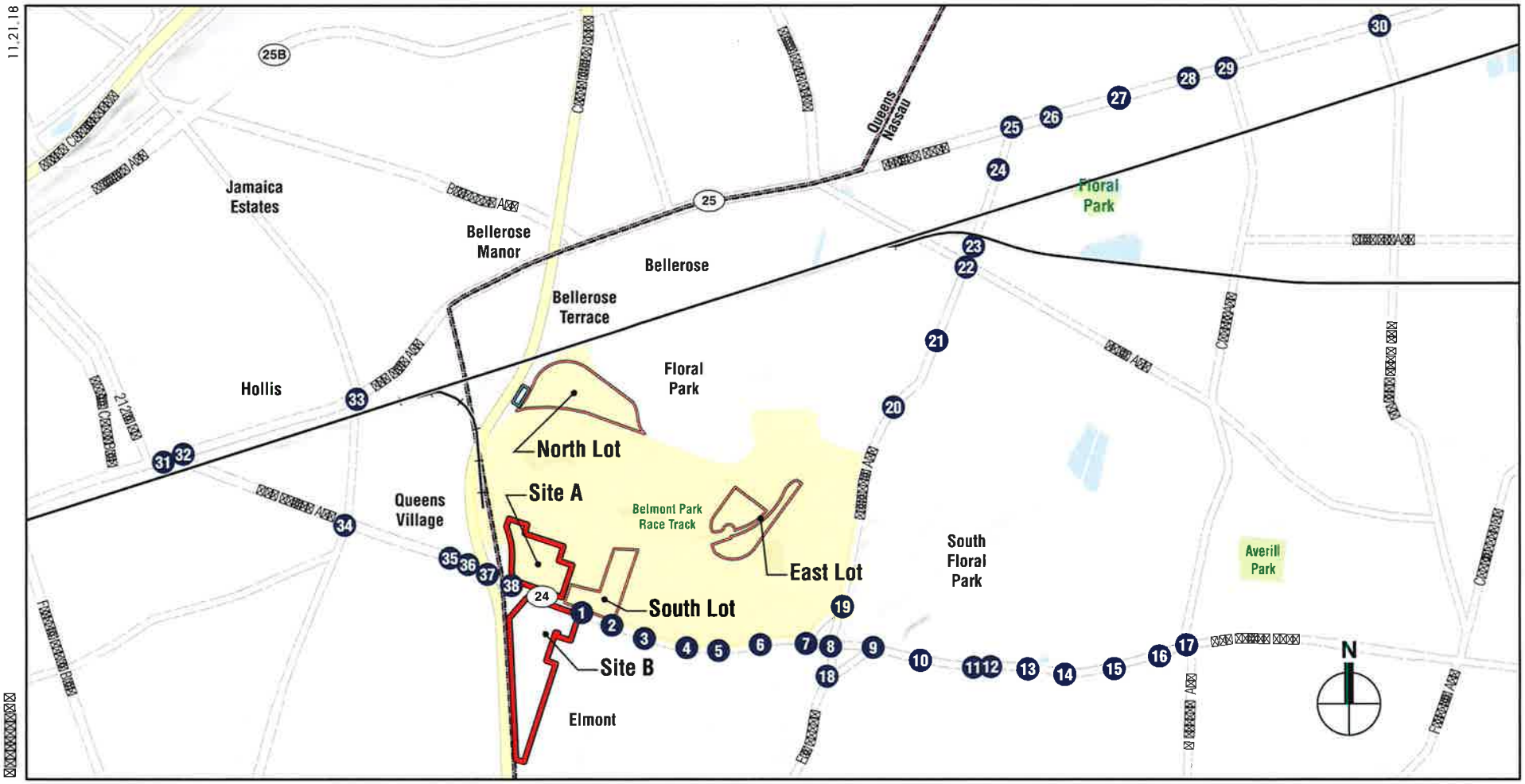
The methodologies used to analyze existing and projected future conditions Without and With the Proposed Project (the No Action and With Action conditions, respectively) are identified below for each of the different transportation analyses.

LOCAL STREET NETWORK

The assessment of vehicular traffic on the local street network provides a detailed analysis of traffic conditions, including volume-to-capacity (v/c) ratios, average vehicle delays, and levels of service (LOS) for each intersection analyzed along roadways leading to the Project Sites, primarily along Hempstead Turnpike (NYS Route 24), Jericho Turnpike (NYS Route 25), and Plainfield Avenue from Nassau County, and along Hempstead Avenue from Queens. Traffic level of service measures the ability of each traffic movement at an intersection to be accommodated by the number and widths of travel lanes available, signal timing, on-street parking, and other characteristics that affect traffic flow, and is the primary performance measure used to evaluate intersections.

Based on the distribution and assignment of vehicular trips discussed above and in more detail in the "Potential Impacts of the Proposed Actions" section further below, a total of 38 intersections (34 signalized and 4 unsignalized) within the vicinity of the Project Sites were identified for study as listed below and shown in **Figure 11-1**:

1. Hempstead Turnpike and Wellington Road;
2. Hempstead Turnpike and Locustwood Boulevard/Gate 5 Road;
3. Hempstead Turnpike and Sterling Road;



Project Sites

North, South, and East Parking Lots

Proposed Belmont Electrical Substation

Long Island Rail Road (LIRR)

Traffic Intersection

Traffic Study Area

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-1

4. Hempstead Turnpike and Biltmore Avenue/Gallant Fox Road;
5. Hempstead Turnpike and Gotham Avenue;
6. Hempstead Turnpike and Holland Avenue;
7. Hempstead Turnpike and Plainfield Avenue;
8. Hempstead Turnpike and Elmont Road;
9. Hempstead Turnpike and School Road/Marguerite Avenue;
10. Hempstead Turnpike and Terrace Avenue;
11. Hempstead Turnpike and Stone Street;
12. Hempstead Turnpike and Jacob Street;
13. Hempstead Turnpike and Belmont Boulevard;
14. Hempstead Turnpike and Benson Avenue/West Gate;
15. Hempstead Turnpike and Hill Avenue/Landau Avenue;
16. Hempstead Turnpike and Butler Boulevard/Crown Avenue;
17. Hempstead Turnpike and Covert Avenue/Meacham Avenue;
18. Elmont Road and School Road;
19. Plainfield Avenue and Elmont Road (unsignalized);
20. Plainfield Avenue and Cherry Street (unsignalized);
21. Plainfield Avenue and Carnation Avenue;
22. Plainfield Avenue and Tulip Avenue;
23. Plainfield Avenue and Magnolia Avenue/Woodbine Court;
24. Plainfield Avenue and Elizabeth Street;
25. Jericho Turnpike and Plainfield Avenue;
26. Jericho Turnpike and Depan Avenue/Willis Avenue;
27. Jericho Turnpike and Cherry Lane;
28. Jericho Turnpike and Hillside Boulevard/South 5th Street;
29. Jericho Turnpike and Covert Avenue;
30. Jericho Turnpike and New Hyde Park Road;
31. Jamaica Avenue and 212th Place/Hempstead Avenue;
32. Jamaica Avenue and 213th Street/Hempstead Avenue;
33. Jamaica Avenue and Springfield Boulevard;
34. Hempstead Avenue and Springfield Boulevard;
35. Hempstead Avenue and 224th Street;
36. Hempstead Avenue and 225th Street;
37. Hempstead Avenue and Cross Island Parkway southbound off-ramp (unsignalized); and
38. Hempstead Avenue and Cross Island Parkway northbound off-ramp (unsignalized).

The operation of each signalized and unsignalized intersection analysis location was assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using Synchro 9.[7] The HCM procedures evaluate the levels of service for signalized and unsignalized intersections using average control delay, in seconds per vehicle, as described below.

Signalized Intersections

The average control delay per vehicle is the basis for determining level 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 11-7**.

[7] Synchro is an industry-standard macroscopic traffic analysis model that generates LOS results by movement based on the Transportation Research Board's HCM.

Table 11-7
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.	

- 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.

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. Levels of service criteria for unsignalized intersections are summarized in **Table 11-8**.

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.

Table 11-8
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.	

HIGHWAY NETWORK

The assessment of vehicular traffic on the highway network provides a detailed analysis of traffic conditions on segments of the Cross Island Parkway and its interchanges with other highways and local streets. The Cross Island Parkway is located adjacent to the Project Sites and is anticipated to be a primary route used by project-generated traffic. As three separate interchanges on the Cross Island Parkway (Exits 26A, 26B/C, and 26D) provide access to the Project Sites, traffic conditions along this segment of the highway network were assessed using a VISSIM micro-simulation model, because this software can better replicate the influence that entrance and exit ramps serving the Proposed Project have on the immediately adjacent segments of the Cross Island Parkway, particularly when modeling traffic conditions before and after events at the proposed arena. The software also provides the capability to model complex interchange configurations that other traditional software packages are not able to properly analyze. As shown in **Figure 11-2**, the traffic simulation model includes an approximately 4-mile long stretch of the Cross Island Parkway from the interchange with Linden Boulevard (Exit 25B) to the interchange with Jamaica Avenue (Exit 27) and consists of all mainline segments, ramp junctions, merge/diverge segments, and weaving segments along this corridor. The model also includes the merge segment on the northbound Cross Island Parkway at the on-ramp from the westbound Southern State Parkway, which is located immediately to the south of the Linden Boulevard interchange.

The VISSIM model reports the average speed of each segment being analyzed and its density in passenger cars per mile per lane (pc/mi/ln). The 2000 *HCM* defines levels of service thresholds using density for basic freeway segments, freeway weaving, merge and diverge segments, and weaving segments on collector-distributor roadways; these thresholds have been used for the assessment of vehicular traffic on the highway network. The levels of service are described qualitatively below:

- LOS A describes operations with very low densities and high free flow speeds.
- LOS B describes operations with fairly low densities and moderate to high free flow speeds.
- LOS C describes operations with moderate densities and moderate free flow speeds.
- LOS D describes operations with moderate to high densities and moderate to low free flow speeds. A mid-LOS D density (i.e., 31.5 pc/mi/ln for freeway weaving, merge and diverge segments) is considered the high range of acceptable density. Densities greater than mid-LOS D are unacceptable but are commonplace on highways in Nassau County and New York City.
- LOS E describes operations with high densities and low free flow speeds. 45 pc/mi/ln is considered the maximum density for sustained flows at capacity on a typical basic freeway segment. Queuing can begin at densities higher than this.

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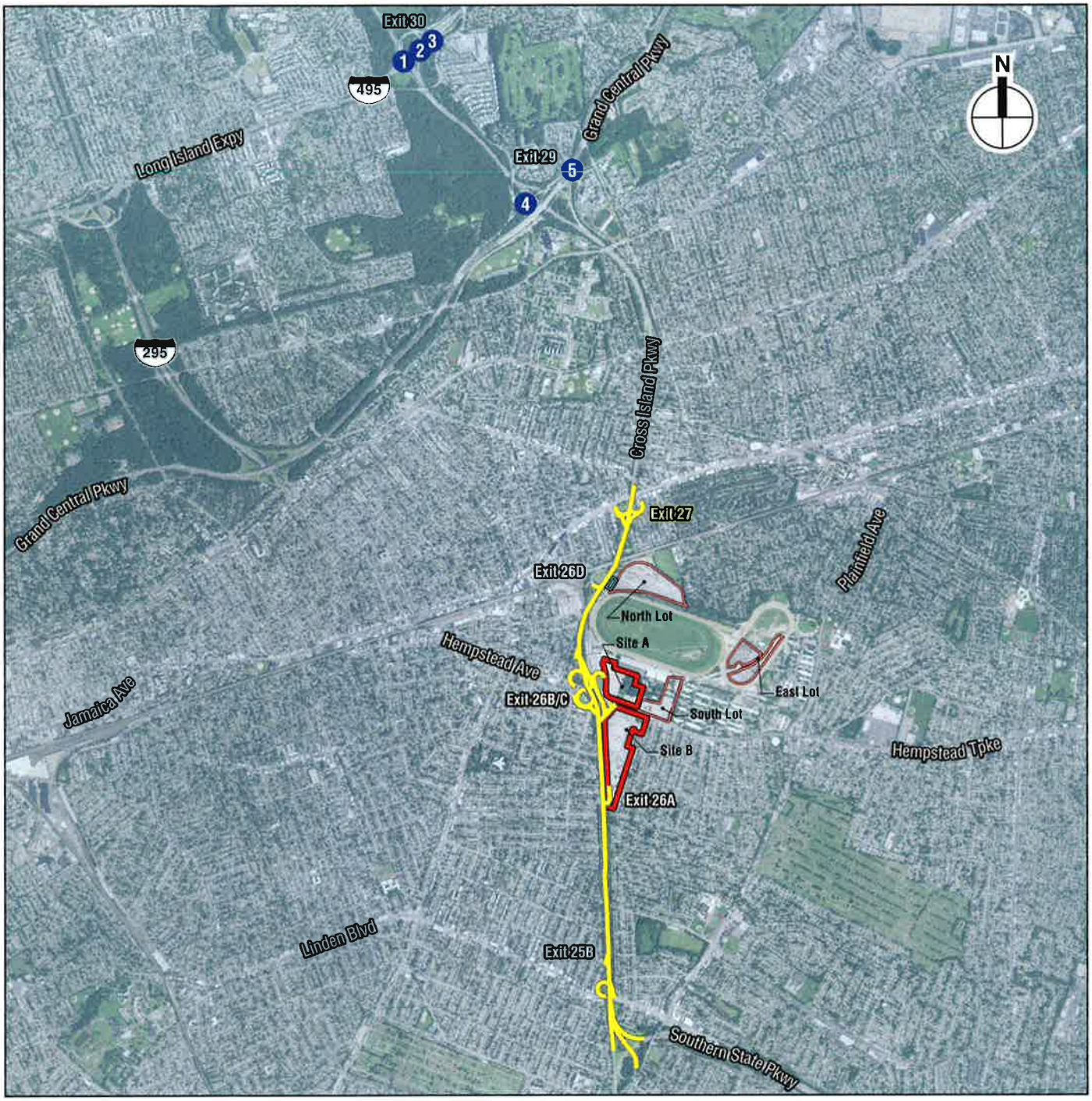

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Project Sites

North, South, and East Parking Lots

Proposed Belmont Electrical Substation

Vissim Simulation Model

1 *Merge and Weaving Analysis Locations*

Traffic Study Area - Highway Network

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-2

- LOS F describes operations with very high densities and very low free flow speeds. Queuing is common within LOS F, which leads to failure conditions and congestion.

Density thresholds for each level of service in terms of passenger cars per mile per lane are defined in **Table 11-9**.

Table 11-9
LOS Criteria for Highway Network Segments

LOS	Density (pc/mi/ln)			
	Basic Freeway Segment	Freeway Weaving Segment	Freeway Merge/Diverge Areas	Collector-Distributor Weaving Segment
A	≤11	≤10	≤10	≤12
B	>11–18	>10–20	>10–20	>12–24
C	>18–26	>20–28	>20–28	>24–32
D	>26–35	>28–35	>28–35	>32–36
E	>35–45	>35–43	>35	>36–40
F	>45	>43	Demand exceeds capacity	>40

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

In addition to the simulation model of the segments of the Cross Island Parkway in the vicinity of the Project Sites, key merges and weaving sections at the interchanges of the Cross Island Parkway with the Long Island Expressway and Grand Central Parkway were also analyzed, the locations of which are shown in **Figure 11-2**:

1. Merge segment on the southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway;
2. Weaving segment on the collector-distributor road following the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway and service road;
3. Merge segment on the eastbound Long Island Expressway at the on-ramp from the northbound and southbound Cross Island Parkway;
4. Merge segment on the southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway; and
5. Merge segment on the eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway.

The operation of the merge and weaving segments described above were assessed using methodologies presented in the 2000 *HCM* and the level of service thresholds defined in **Table 11-9** using Highway Capacity Software (HCS) Version 5.5.[8]

LIRR SERVICE

Direct rail service to the Project Sites is provided at the LIRR Belmont Park Station, which is located on the west side of the racetrack. The evaluation of rail service focuses on the operational capacity of the type of service planned by the LIRR for arena events, the capacity of the spur line that serves the Belmont Park Station, and the capacity of station elements such as stairways, ramps, and walkways to accommodate projected passenger volumes resulting from the Proposed Project.

[8] This software is also referred to as HCS+.

BUS SERVICE

The assessment of bus service provides an overview of public bus routes operated by the MTA Bus Company, MTA New York City Transit, and NICE that currently provide access to the Project Sites, the areas served by these routes, and the frequency of service on weekdays and weekends. The assessment also includes an evaluation of the effect of the Proposed Project on the MTA bus loop area adjacent to the LIRR Belmont Park Station.

PARKING

The parking analysis identifies the extent to which on-site parking is available and utilized under existing and future conditions on the Project Sites, including parking on the North, South, and East Lots, which is anticipated to be made available for arena events through a shared parking agreement to be negotiated between NYAP, the FOB, and NYRA. The analysis takes into consideration the anticipated changes in parking supply and provides a comparison of parking needs versus availability to determine whether or not the amount of parking to be provided on-site would be sufficient to accommodate all parking demands. The assessment of parking conditions also describes the proposed parking management plan for arena events and the proposed operation of parking facilities.

PEDESTRIAN CIRCULATION

The assessment of pedestrian conditions includes an evaluation of walking routes between the Project Sites and proposed parking facilities (including the North, South, and East Lots) and public transportation services. This also includes an assessment of on-site pedestrian circulation and connectivity between the arena, hotel, retail, office, community space, and parking components on Site A and the retail village and parking components on Site B via a grade-separated pedestrian connection across Hempstead Turnpike.

VEHICULAR AND PEDESTRIAN SAFETY

Nassau County

The assessment of vehicular and pedestrian safety in Nassau County consists of a crash analysis study for a 2.2-mile segment of Hempstead Turnpike from the Cross Island Parkway to Covert Avenue/Meacham Avenue as well as at 12 individual intersections along Jericho Turnpike and Plainfield Avenue within the study area for the local street network:

- Plainfield Avenue and Elmont Road;
- Plainfield Avenue and Cherry Street;
- Plainfield Avenue and Carnation Avenue;
- Plainfield Avenue and Tulip Avenue;
- Plainfield Avenue and Magnolia Avenue/Woodbine Court;
- Plainfield Avenue and Elizabeth Street;
- Jericho Turnpike and Plainfield Avenue/Emerson Avenue;
- Jericho Turnpike and Depan Avenue/Willis Avenue;
- Jericho Turnpike and Cherry Lane;
- Jericho Turnpike and Hillside Avenue/South 5th Street;
- Jericho Turnpike and Covert Avenue/North 6th Street; and
- Jericho Turnpike and New Hyde Park Road.

The crash analysis is based on methodology and procedures utilized by NYSDOT in the performance of crash studies. The data reviewed as part of the crash study consisted of police accident reports (Form MV-104AN) and New York State Department of Motor Vehicles (NYSDMV) accident reports (Form MV-104) representing the most recent three-year period of available information. Collision and condition diagrams were developed and reviewed to identify high crash types and/or patterns by location to provide a comparison by location with regard to calculated accident rates for study segments and intersections versus statewide average rates for similar facilities. The assessment also includes an evaluation of the effects of the Proposed Project on walking routes to schools that involve crossings of Plainfield Avenue.

Queens

For the intersections in the local street network along Jamaica Avenue and Hempstead Avenue, the evaluation of vehicular and pedestrian safety focuses on intersections in the traffic study area that have been identified as high-crash 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, crash trends are identified to determine whether project-generated vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the location and nature of the impact, traffic and pedestrian volumes affected by or affecting such impacts, crash types and severity, and other contributing factors. Where appropriate, potential measures to improve traffic and pedestrian safety are identified.

C. EXISTING CONDITIONS

LOCAL STREET NETWORK

The physical and operational characteristics of the major roadways in the local street network are described in the following sections.

HEMPSTEAD TURNPIKE

Hempstead Turnpike (NYS Route 24) is one of the primary east-west arterial roads in Nassau County and extends from the Queens County border (located near the east side of the Cross Island Parkway) to the Suffolk County border. Route 24 is known as Fulton Avenue within downtown Hempstead and reverts back to being called Hempstead Turnpike east of downtown Hempstead. Between the Cross Island Parkway overpass and Locustwood Boulevard, Hempstead Turnpike provides three lanes in each direction with a raised center median and left turn bays at intersections with no stopping permitted on both sides of the roadway. The roadway runs between the Project Sites, which are connected with a vehicular and pedestrian underpass at Belmont Park Road and a pedestrian tunnel located to the west of the underpass. Access to the Belmont Park Racetrack is provided via Gate 3 (located between the northbound Cross Island Parkway ramps and the Belmont Park Road underpass, which is accessible in the westbound direction), Gate 14 (a loop ramp located between the Belmont Park Road underpass and Wellington Road, which is accessible in the eastbound direction), and a signalized intersection at Gate 5 Road, which is accessible in both directions. Between Gate 5 Road and Covert Avenue/Meacham Avenue, Hempstead Turnpike traverses commercial uses on both sides (except for the Belmont Park stable area on the north side of the street between Gate 5 Road and Plainfield Avenue), provides two lanes in each direction with left turn bays at intersections, and includes curbside parking in some areas. The N1 and N6/N6X bus routes operate along Hempstead Turnpike.

PLAINFIELD AVENUE

Plainfield Avenue is a key north-south road in the area that extends between Hempstead Turnpike and Jericho Turnpike and also serves as a northerly extension of Elmont Road, mostly traversing residential uses, except for a short commercial strip by Tulip Avenue in the Village of Floral Park. The roadway also runs along the east side of the Belmont Park stable area and passes next to the Floral Park Memorial High School. It is comprised of both signalized and unsignalized intersections, and has one lane per direction with no curbside parking.

JERICHO TURNPIKE

Similar to Hempstead Turnpike, Jericho Turnpike (NYS Route 25) is also one of the primary east-west arterial roads in Nassau County and extends from the Queens County line into Suffolk County. Within the study area, the corridor traverses busy commercial uses on both sides and the roadway provides two lanes in each direction, left turn bays at key intersections, and curbside parking. The N24 bus operates along the corridor.

ELMONT ROAD

Elmont Road is a key north-south road in the area that runs from Plainfield Avenue to the Queens County border, traversing a combination of residential and retail uses. South of its intersection with School Road, Elmont Road has one lane in each direction with no curbside parking. Between School Road and Hempstead Turnpike, Elmont Road widens to two lanes in the northbound direction and has one lane in the southbound direction with adjacent curbside parking. Between Hempstead Turnpike and Plainfield Avenue, Elmont Road provides two lanes in each direction with curbside parking on both sides of the street.

JAMAICA AVENUE

Jamaica Avenue is a major east-west road that extends from Brooklyn to the Nassau County border, where it becomes Jericho Turnpike. Within the study area, the corridor is surrounded by commercial uses and the roadway contains two lanes in each direction with curbside parking on both sides of the street. The Q36 bus route operates along Jamaica Avenue. Jamaica Avenue is designated by the New York City Department of Transportation (NYCDOT) as a through truck route.

HEMPSTEAD AVENUE

Hempstead Avenue (NYS Route 24) is another major east-west roadway that extends from Jamaica Avenue to the Nassau County border, where it becomes Hempstead Turnpike. The short corridor traverses a combination of retail and residential land uses and contains two lanes in each direction with curbside parking on both sides of the street. The Q110 bus route operates along the corridor and the Q2 bus route also operates along the portion of the corridor east of Springfield Boulevard. Hempstead Avenue is designated by NYCDOT as a through truck route.

TRAFFIC VOLUMES

Traffic counts on the local street network were conducted using a combination of Miovision turning movement and vehicle classification counts at all study area intersections and 24-hour Automatic Traffic Recorder (ATR) machine counts at 35 locations for a continuous nine-day period including two weekends. These volumes were used along with field observations of traffic conditions to determine levels of service for the weekday peak hours of 7:30 AM to 8:30 AM and 6:30 PM to 7:30 PM and the Saturday peak hours of 12:45 PM to 1:45 PM, 6:00 PM to 7:00 PM,

and 9:30 PM to 10:30 PM. Traffic counts were conducted in October 2017 during the racing season at Belmont Park and were supplemented with additional counts in January, February, May, and June 2018.

Traffic volumes along the key corridors within the study area are described below. Detailed traffic volume maps for the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours are presented in **Appendix F**.

HEMPSTEAD TURNPIKE

Eastbound Hempstead Turnpike within the study area extending between Wellington Road and Covert Avenue/Meacham Avenue is generally traveled by approximately 900 vehicles per hour (vph) to 1,050 vph during the weekday AM peak hour except for the segment between Plainfield Avenue and Marguerite Avenue, which is traveled by slightly lower volumes due to vehicles turning left onto northbound Plainfield Avenue and turning right onto southbound Elmont Road. On this segment, eastbound Hempstead Turnpike traffic volumes are in the range of 750 vph to 850 vph during the weekday AM peak hour. Traffic volumes in the westbound direction on Hempstead Turnpike are higher compared to traffic volumes in the eastbound direction, especially on the segment between Plainfield Avenue and Wellington Road, with traffic volumes in the range of 1,200 vph to 1,500 vph during the weekday AM peak hour. East of Plainfield Avenue, westbound Hempstead Turnpike carries approximately 800 vph to 1,150 vph during the weekday AM peak hour.

During the weekday PM peak hour, the peak direction of traffic flow on Hempstead Turnpike is reversed, with the highest traffic volumes occurring in the eastbound direction. Traffic volumes on eastbound Hempstead Turnpike west of Terrace Avenue are generally in the range of 1,200 vph to 1,400 vph, except for the segment between Plainfield Avenue and Marguerite Avenue, which is traveled by slightly lower volumes in the range of 950 vph to 1,050 vph. East of Terrace Avenue, eastbound Hempstead Avenue is traveled by approximately 950 vph to 1,150 vph during the weekday PM peak hour. Westbound volumes on Hempstead Turnpike generally range from approximately 800 vph to 1,000 vph throughout the corridor from Covert Avenue/Meacham Avenue to the Cross Island Parkway.

During the Saturday midday and PM peak hours, eastbound Hempstead Turnpike is generally traveled by approximately 1,250 vph to 1,600 vph between Wellington Road and Terrace Avenue except for the segment between Plainfield Avenue and Marguerite Avenue, which is traveled by slightly lower volumes in the range of 1,100 vph to 1,200 vph due to vehicles turning left onto northbound Plainfield Avenue and turning right onto southbound Elmont Road similar to the weekday peak hours. Eastbound Hempstead Turnpike traffic volumes east of Terrace Avenue are in the range of 950 vph to 1,200 vph during the Saturday midday and PM peak hours. Westbound Hempstead Turnpike traffic volumes between Holland Avenue and Wellington Road range from 1,200 vph to 1,450 vph whereas traffic volumes east of Holland Avenue range from 900 vph to 1,250 vph. Saturday night peak hour traffic volumes are much lower compared to all the other peak hours being analyzed. Hempstead Turnpike carries approximately 550 vph to 850 vph in the eastbound direction, and approximately 450 vph to 750 vph in the westbound direction during the Saturday night peak hour.

PLAINFIELD AVENUE

During the weekday AM peak hour, the peak traffic flow is along northbound Plainfield Avenue and along southbound Plainfield Avenue during the weekday PM peak hour. Between Cherry Street and Elizabeth Street, northbound Plainfield Avenue during the weekday AM peak hour and southbound Plainfield Avenue during the weekday PM peak hour is traveled by approximately 350 vph to 650 vph. Southbound Plainfield Avenue during the weekday AM peak hour, and

northbound Plainfield Avenue during the weekday PM peak hour is traveled by approximately 250 vph to 450 vph.

Within the study area, Plainfield Avenue carries approximately 250 vph to 400 vph per direction during the Saturday midday and Saturday PM peak hours. Plainfield Avenue is traveled by up to 200 vph per direction during the Saturday night peak hour.

JERICHO TURNPIKE

During the weekday AM peak hour, Jericho Turnpike between Plainfield Avenue and New Hyde Park Road is traveled by approximately 1,050 vph to 1,250 vph in the eastbound direction, and by approximately 900 vph to 1,050 vph in the westbound direction. Jericho Turnpike is traveled by approximately 1,000 vph to 1,200 vph per direction during the weekday PM peak hour except for eastbound volumes in the segment west of Depan Avenue/Willis Avenue, which is traveled by approximately 850 vph.

During the Saturday midday and Saturday PM peak hours, traffic volumes along Jericho Turnpike range from approximately 1,050 vph to 1,200 vph per direction except during the Saturday PM peak hour, when eastbound Jericho Turnpike traffic volumes range from 700 vph to 950 vph. Jericho Turnpike carries up to 550 vph in the eastbound direction and approximately 650 vph in the westbound direction during the Saturday night peak hour.

ELMONT ROAD

Between School Road and Plainfield Avenue, Elmont Road is traveled by approximately 550 vph to 850 vph in the northbound direction, and by approximately 250 vph to 300 vph in the southbound direction during the weekday AM peak hour. During the weekday PM peak hour, traffic volumes on northbound Elmont Road range from 250 vph to 550 vph, and southbound Elmont Road traffic volumes are approximately 350 vph. Northbound Elmont Road is the peak direction of traffic flow during the weekday AM peak hour whereas southbound is the peak direction during the weekday PM peak hour.

During the Saturday midday and PM peak hours, northbound Elmont Road carries approximately 250 vph to 700 vph, and southbound Elmont Road carries approximately 250 vph to 300 vph. Elmont Road is traveled by up to 250 vph per direction during the Saturday night peak hour.

JAMAICA AVENUE

During the weekday peak hours, Jamaica Avenue between 212th Place/Hempstead Avenue and Springfield Boulevard is generally traveled by approximately 450 vph to 950 vph except for the eastbound volumes west of 212th Place during the weekday AM peak hour, which are approximately 1,100 vph. During the Saturday midday and Saturday PM peak hours, traffic volumes on Jamaica Avenue between 212th Place and Springfield Boulevard range from 350 vph to 850 vph, and approximately 200 vph to 400 vph during the Saturday night peak hour.

HEMPSTEAD AVENUE

Within the study area, traffic volumes on Hempstead Avenue during the weekday AM peak hour generally range from 700 vph to 1,100 vph in the eastbound direction and from 1,000 vph to 1,650 vph in the westbound direction, with the highest volumes occurring near the interchange of the Cross Island Parkway. During the weekday PM peak hour, eastbound traffic volumes on Hempstead Avenue between 225th Street and the Nassau County line generally range from 1,350 vph to 1,450 vph except for the segment between 225th Street and southbound Cross Island Parkway off-ramp, which is traveled by about 900 vph, and westbound traffic volumes are

approximately 1,100 vph. Traffic volumes west of 225th Street generally range from 950 vph to 1,250 vph in the eastbound direction and 700 vph to 1,100 vph in the westbound direction.

During the Saturday midday and Saturday PM peak hours, west of 225th Street, eastbound and westbound traffic volumes on Hempstead Avenue generally range from 800 vph to 1,150 vph. Between 225th Street and the Nassau County line, eastbound traffic volumes generally range from 1,200 vph to 1,600 vph and westbound traffic volumes generally range from 1,300 vph to 1,800 vph. During the Saturday night peak hour, Hempstead Avenue carries approximately 450 vph to 850 vph per direction between Jamaica Avenue and the Nassau County line.

LEVELS OF SERVICE

To supplement the traffic volume data, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were also recorded to provide appropriate inputs for the capacity analyses. In addition, official signal timings from NYSDOT, the Nassau County Department of Public Works, and NYCDOT were obtained for all of the signalized intersections in the study area. **Tables 11-10 and 11-11** present the overall level of service at each intersection in the study area as well as the specific traffic movements that currently operate at unacceptable LOS E or F during the weekday and Saturday peak hours, respectively. Detailed traffic level of service tables showing all intersection movements are available in **Appendix F**.

The overall findings of the traffic level of service analyses and field observations are:

- None of the 38 intersections analyzed operate at overall unacceptable LOS E or F in the weekday or Saturday peak hours.[9] During the weekday AM peak hour, the intersections of Jericho Turnpike at New Hyde Park Road, and Jamaica Avenue and Hempstead Avenue along Springfield Boulevard, operate above mid-LOS D, i.e., within the unacceptable range of LOS D. During the Saturday midday peak hour, the intersection of Hempstead Avenue at Springfield Boulevard operates above mid-LOS D. During the Saturday PM and Saturday night peak hours, all intersections operate at acceptable LOS D or better.
- In each of the traffic peak hours, there are individual traffic movements at specific intersections that currently operate at unacceptable LOS E or F, even if the overall intersection operates acceptably. The intersections of Elmont Road, Louis Avenue/School Road/Marguerite Avenue, Hill Avenue/Landau Avenue, and Meacham Avenue/Covert Avenue along Hempstead Turnpike; Woodbine Court/Magnolia Avenue at Plainfield Avenue; the intersections of Plainfield Avenue/Emerson Avenue, Depan Avenue/Willis Avenue, Covert Avenue, and New Hyde Park Road along Jericho Turnpike; 212th Place/Hempstead Avenue at Jamaica Avenue; and the intersections of Springfield Boulevard and 225th Street along Hempstead Avenue have at least one traffic movement operating at LOS E or F during both the weekday peak hours.
- The intersections of Benson Avenue/West Gate and Butler Boulevard/Crown Avenue along Hempstead Turnpike; Tulip Avenue at Plainfield Avenue; the intersections of Cherry Lane and South 5th Street/Hillside Boulevard along Jericho Turnpike; and the intersections of 213th Street/Hempstead Avenue and Springfield Boulevard along Jamaica Avenue have at least one traffic movement operating at LOS E or F during either the weekday AM or PM peak hours.

[9] "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 intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all the individual traffic movements).

Table 11-10
2017 Existing Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	13.8	None	B	10.1	None
Hempstead Turnpike at Locustwood Boulevard/ Gate 5 Road	A	5.6	None	A	7.3	None
Hempstead Turnpike at Sterling Road	B	12.7	None	B	10.8	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	C	21.1	None	B	16.0	None
Hempstead Turnpike at Gotham Avenue	B	11.4	None	B	10.6	None
Hempstead Turnpike at Holland Avenue	A	9.2	None	A	5.8	None
Hempstead Turnpike at Plainfield Avenue	A	9.5	None	A	7.9	None
Hempstead Turnpike at Elmont Road	C	26.2	Elmont Rd SB left turn	B	18.9	Elmont Rd NB left turn
Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue	C	29.2	School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	43.5	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right
Hempstead Turnpike at Terrace Avenue	B	10.5	None	B	10.8	None
Hempstead Turnpike at Stone Street	A	7.1	None	A	9.7	None
Hempstead Turnpike at Jacob Street	A	3.1	None	A	4.3	None
Hempstead Turnpike at Belmont Boulevard	B	10.7	None	B	11.0	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	22.7	West Gate SB approach	B	15.0	None
Hempstead Turnpike at Hill Avenue/ Landau Avenue	C	31.0	Hill Ave NB approach; Landau Ave SB approach	B	19.2	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	7.7	Butler Blvd NB approach	A	7.0	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	43.9	Meacham Ave NB through	D	39.4	Meacham Ave NB left turn; Covert Ave SB through and right
Elmont Road at Foster Meadow Road/Atherton Avenue and School Road	B	17.7	None	C	20.2	None
Plainfield Avenue at Elmont Road/Burtis Place	A	3.8	None	A	6.0	None
Plainfield Avenue at Cherry Street	C	17.6	None	C	17.1	None

Table 11-10 (cont'd)
2017 Existing Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Carnation Avenue	C	20.9	None	B	17.1	None
Plainfield Avenue at Tulip Avenue	C	29.8	Plainfield Ave NB approach	C	21.5	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	C	33.9	Woodbine Ct EB approach; Magnolia Ave WB approach	C	20.9	Woodbine Ct EB approach
Plainfield Avenue at Elizabeth Street	A	9.3	None	A	6.9	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	D	38.4	Plainfield Ave NB approach	C	27.9	Plainfield Ave NB approach
Jericho Turnpike at Depan Ave/Willis Ave	B	10.1	Depan Ave NB approach; Willis Ave SB approach	A	8.1	Depan Ave NB approach; Willis Ave SB approach
Jericho Turnpike at Cherry Lane	A	8.9	None	B	16.7	Cherry Ln SB approach
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	21.8	None	C	27.3	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	D	36.0	Covert Ave NB left turn; Driveway SB approach	D	42.5	Covert Ave NB left turn and shared through and right; Driveway SB approach
Jericho Turnpike at New Hyde Park Road	D	46.2	New Hyde Park Rd NB shared through and right	D	44.8	New Hyde Park Rd NB shared through and right, and SB shared through and right
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	22.8	212th Pl SB approach	C	23.6	212th Pl SB approach
Jamaica Avenue at 213th Street/ Hempstead Avenue	D	37.7	Hempstead Ave NB left turn and shared left and through	B	16.7	None
Jamaica Avenue at Springfield Boulevard	D	51.9	Springfield Blvd NB shared through and right and SB left turn	C	34.7	None
Hempstead Avenue at Springfield Boulevard	D	47.6	Hempstead Ave EB left turn and WB left turn and shared through and right; Springfield Blvd SB left turn	D	43.3	Hempstead Ave EB shared through and right and WB left turn
Hempstead Avenue at 224th Street	B	16.1	None	C	14.8	None
Hempstead Avenue at 225th Street	C	24.8	225th St NB right turn	D	37.7	Hempstead Ave WB de facto left turn
Hempstead Avenue at Cross Island Parkway SB off-ramp	A	2.8	None	A	4.3	None
Hempstead Avenue at Cross Island Parkway NB off-ramp	A	1.6	None	A	4.1	None

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 11-11
2017 Existing Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	11.5	None	B	11.0	None	A	8.1	None
Hempstead Turnpike at Locustwood Boulevard/ Gate 5 Road	B	11.8	Hempstead Tpke EB left turn	C	21.7	Gate 5 Rd SB approach	A	4.2	None
Hempstead Turnpike at Sterling Road	B	13.2	None	B	11.3	None	A	9.2	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	B	20.0	None	C	20.7	Gallant Fox Rd SB approach	A	9.9	None
Hempstead Turnpike at Gotham Avenue	B	10.4	None	B	11.8	None	A	5.2	None
Hempstead Turnpike at Holland Avenue	A	5.7	None	A	6.6	None	A	4.7	None
Hempstead Turnpike at Plainfield Avenue	A	8.0	None	A	8.2	None	A	6.8	None
Hempstead Turnpike at Elmont Road	B	18.7	Elmont Rd NB left turn and SB left turn	B	15.1	None	B	10.9	None
Hempstead Turnpike at Louis Avenue and School Road/ Marguerite Avenue	D	43.6	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	42.7	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	C	23.1	School Rd NB shared left and through; Marguerite Ave SB left turn and shared through and right
Hempstead Turnpike at Terrace Avenue	C	28.2	Hempstead Tpke EB left turn; Terrace Ave NB and SB approaches	B	16.4	Terrace Ave SB approach	A	8.5	None
Hempstead Turnpike at Stone Street	B	15.7	Stone St SB left turn and shared left and through	B	10.7	None	A	7.5	None
Hempstead Turnpike at Jacob Street	A	4.1	None	A	4.3	None	A	2.9	None
Hempstead Turnpike at Belmont Boulevard	B	14.0	None	A	9.0	None	A	4.6	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	20.5	West Gate SB approach	B	16.0	None	A	8.4	None
Hempstead Turnpike at Hill Avenue/Landau Avenue	B	18.7	Hill Ave NB approach; Landau Ave SB approach	B	16.2	Hill Ave NB approach; Landau Ave SB approach	A	9.6	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	6.1	None	A	6.6	None	A	4.6	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	39.1	Meacham Ave NB left turn; Covert Ave SB right turn	D	35.7	Covert Ave SB right turn	C	26.0	None
Elmont Road at Foster Meadow Road/ Atherton Avenue and School Road	B	19.6	None	B	19.9	None	B	17.1	None

Table 11-11 (cont'd)
2017 Existing Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Elmont Road/ Burtis Place	A	4.6	None	A	3.9	None	A	2.6	None
Plainfield Avenue at Cherry Street	B	13.6	None	B	11.5	None	A	8.0	None
Plainfield Avenue at Carnation Avenue	B	12.8	None	B	12.4	None	B	12.5	None
Plainfield Avenue at Tulip Avenue	C	23.3	None	C	20.4	None	B	13.3	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	B	16.2	None	B	15.5	None	B	10.9	None
Plainfield Avenue at Elizabeth Street	A	6.4	None	A	5.9	None	A	4.7	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	C	30.4	Plainfield Ave NB approach	C	23.4	Plainfield Ave NB approach	B	12.0	None
Jericho Turnpike at Depan Avenue/Willis Avenue	B	10.7	Depan Ave NB approach; Willis Ave SB approach	A	8.9	Depan Ave NB approach; Willis Ave SB approach	A	5.6	Depan Ave NB approach
Jericho Turnpike at Cherry Lane	B	10.6	None	A	9.3	None	A	5.0	None
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	32.2	S 5th St NB approach; Hillside Blvd SB approach	C	26.4	S 5th St NB approach; Hillside Blvd SB approach	B	11.2	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	D	37.7	Covert Ave NB left turn; Driveway SB approach	C	28.5	Covert Ave NB left turn; Driveway SB approach	B	15.8	Covert Ave NB left turn; Driveway SB approach
Jericho Turnpike at New Hyde Park Rd	D	42.3	New Hyde Park Rd NB shared through and right	D	36.2	New Hyde Park Rd NB shared through and right	C	29.4	None
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	22.6	None	C	20.7	None	B	17.5	None
Jamaica Avenue at 213th Street/ Hempstead Avenue	C	21.6	None	B	19.0	None	B	16.9	None
Jamaica Avenue at Springfield Boulevard	C	34.6	None	C	29.5	None	C	24.7	None
Hempstead Avenue at Springfield Boulevard	D	48.0	Hempstead Ave EB left turn and WB left turn and shared through and right	D	35.7	Hempstead Ave WB left turn	C	23.8	None
Hempstead Avenue at 224th Street	B	13.9	None	B	12.8	None	B	11.3	None
Hempstead Avenue at 225th Street	C	24.7	Hempstead Ave WB de facto left turn	C	21.3	Hempstead Ave WB de facto left turn	B	10.6	None
Hempstead Avenue at Cross Island Parkway SB off-ramp	B	12.0	CIP SB off-ramp NB approach	A	6.1	None	A	2.5	None
Hempstead Avenue at Cross Island Parkway NB off-ramp	A	9.8	CIP NB off-ramp SB approach	A	9.7	CIP NB off-ramp SB approach	A	3.6	None

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

- During the Saturday peak hours, the intersections of Louis Avenue/School Road/Marguerite Avenue and Hill Avenue/Landau Avenue along Hempstead Turnpike; the intersections of Depan Avenue/Willis Avenue, South 5th Street/Hillside Boulevard, and Covert Avenue along Jericho Turnpike have at least one traffic movement operating at LOS E or F during all the Saturday peak hours.
- At least one traffic movement, at the intersections of Locustwood Boulevard/Gate 5 Road, Gallant Fox Road/Biltmore Avenue, Elmont Road, Terrace Avenue, Stone Street, Benson Avenue/West Gate and Meacham Avenue/Covert Avenue along Hempstead Turnpike; at the intersections of Plainfield Avenue/Emerson Avenue and New Hyde Park Road along Jericho Turnpike; and at the intersections of Springfield Boulevard, 225th Street, the Cross Island Parkway southbound off-ramp, and the Cross Island Parkway northbound off-ramp along Hempstead Avenue operate at LOS E or F during at least one of the Saturday peak hours.

HIGHWAY NETWORK

The Cross Island Parkway is a limited access highway under the jurisdiction of NYCDOT that extends in a north-south direction along the Nassau-Queens border, abutting the western edge of the Project Sites. Trucks and commercial traffic are prohibited from using the parkway. It extends from a southern terminus at its interchange with the Southern State and Belt Parkways near Valley Stream to a northern terminus at its interchange with the Whitestone Expressway (I-678) and the Bronx-Whitestone Bridge near College Point, Queens. The Cross Island Parkway also has interchanges with other important highways, including the Grand Central Parkway, Long Island Expressway (I-495), Northern Boulevard (NYS Route 25A), and Clearview Expressway (I-295)/Throgs Neck Bridge. Near the Project Sites, the parkway typically consists of three travel lanes in each direction separated by a concrete median barrier with shoulders or pull-off areas in some locations. The posted speed limit is 50 miles per hour. Some of the parkway's entrance ramps are controlled by stop or yield signs due to the presence of short acceleration lanes.

The Cross Island Parkway provides access to the Project Sites at Exits 26A through 26D:

- Exit 26A provides access to the existing parking lot on Site B and is only currently open during the Spring and Fall racing meets at Belmont Park. Motorists using this exit can also continue along Belmont Park Road, which provides access to the South Lot via an underpass below Hempstead Turnpike. The entrance and exit ramps at this interchange are primarily used by vehicles traveling to/from points south on the Cross Island Parkway. The southbound exit ramp at this interchange is normally closed year-round.
- Exit 26B/C is a cloverleaf interchange that is open year-round and provides access to Hempstead Avenue (in Queens) and Hempstead Turnpike (in Nassau County), including the entrances to Belmont Park Racetrack located along Hempstead Turnpike. The interchange is signed as Exit 26B in the northbound direction, which includes a short collector-distributor road and provides access to both eastbound Hempstead Turnpike and westbound Hempstead Avenue. In the southbound direction, the interchange includes separate exit ramps for eastbound Hempstead Turnpike (Exit 26B) and westbound Hempstead Avenue (Exit 26C).
- Exit 26D provides access to the North Lot and is only currently open during the Spring and Fall racing meets at Belmont Park. Motorists using this exit can also continue along the Red Road along the west side of the racetrack, which provide access to the South Lot. The entrance and exit ramps at this interchange are primarily used by vehicles traveling to/from points north on the Cross Island Parkway.

TRAFFIC VOLUMES

Traffic counts on the Cross Island Parkway corridor and its interchanges with the Grand Central Parkway and Long Island Expressway were conducted using a combination of video ATR counts at eight mainline locations and eight ramp locations and 24-hour ATR machine counts at a total of 29 ramp locations. These volumes were used along with field observations of traffic conditions to determine levels of service for the weekday peak hours of 7:30 AM to 8:30 AM and 6:30 PM to 7:30 PM and the Saturday peak hours of 12:45 PM to 1:45 PM, 6:00 PM to 7:00 PM, and 9:30 PM to 10:30 PM. Traffic counts were conducted in October 2017 and supplemented with additional counts in May and June 2018. Traffic volumes along the Cross Island Parkway within the study area are described below. Detailed traffic volume maps for the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours are presented in **Appendix F**.

Traffic volumes on the northbound Cross Island Parkway range from approximately 4,200 vph south of the Hempstead Avenue overpass to approximately 5,000 vph north of the Hempstead Avenue overpass during the weekday AM peak hour. During the weekday PM peak hour, the parkway carries approximately 4,600 vph to 4,700 vph between the Linden Boulevard and Jamaica Avenue interchanges. Northbound traffic volumes between the Linden Boulevard and Jamaica Avenue interchanges range from approximately 4,800 vph during the Saturday midday peak hour, 4,900 vph to 5,200 vph during the Saturday PM peak hour, and 3,900 vph to 4,000 vph during the Saturday night peak hour.

Traffic volumes on the southbound Cross Island Parkway are approximately 5,000 vph between the Jamaica Avenue and Linden Boulevard interchanges during the weekday AM peak hour. During the weekday PM peak hour, the parkway carries approximately 5,200 vph north of the Hempstead Avenue overpass and approximately 5,500 vph south of the Hempstead Avenue overpass. Southbound traffic volumes between the Jamaica Avenue and Linden Boulevard interchanges range from approximately 4,100 vph to 4,300 vph during the Saturday midday peak hour, 4,700 vph to 4,900 during the Saturday PM peak hour, and 4,100 vph during the Saturday night peak hour.

At the interchange of the Cross Island Parkway with the Long Island Expressway, the southbound Cross Island Parkway carries approximately 2,000 vph to 2,700 vph at its merge with the on-ramp from the westbound Long Island Expressway, and the on-ramp at this location carries approximately 700 vph to 900 vph during the analyzed peak hours. The weaving segment between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road carries approximately 3,200 vph during the weekday AM peak hour, 2,600 vph to 2,800 vph during the weekday PM, Saturday midday, and Saturday PM peak hours, and 2,100 vph during the Saturday night peak hour. At its merge with the on-ramp from the northbound and southbound Cross Island Parkway, the eastbound Long Island Expressway carries approximately 4,100 vph during the weekday AM peak hour, 3,300 vph during the weekday PM peak hour, and 3,200 vph to 3,900 vph during the other analyzed peak hours. The on-ramp at this location carries approximately 2,800 vph during the weekday AM peak hour, 2,000 vph during the weekday PM peak hour, 2,500 vph during the Saturday midday peak hour, 2,300 vph during the Saturday PM peak hour, and 1,900 vph during the Saturday night peak hour.

At the interchange of the Cross Island Parkway with the Grand Central Parkway, the southbound Cross Island Parkway at its merge with the on-ramp from the westbound Grand Central Parkway carries approximately 3,100 vph during the weekday AM peak hour, 2,300 vph during the weekday PM peak hour, 2,800 vph during the Saturday midday peak hour, 3,100 vph during the Saturday PM peak hour, and 3,300 vph during the Saturday night peak hour. The on-ramp at this

location carries approximately 800 vph during the weekday AM peak hour, 900 vph during the Saturday midday peak hour, and 400 vph to 600 vph during the other analyzed peak hours. The eastbound Grand Central Parkway mainline at its merge with the on-ramp from the northbound Cross Island Parkway carries approximately 5,800 vph during the weekday AM peak hour, 4,700 vph during the weekday PM peak hour, 4,900 vph during the Saturday midday peak hour, 4,500 vph during the Saturday PM peak hour, and 2,300 vph during the Saturday night peak hour. The on-ramp from the northbound Cross Island Parkway at this location carries approximately 1,400 vph during the weekday AM peak hour, 500 vph during the weekday PM peak hour, 700 vph during the Saturday midday peak hour, 800 vph during the Saturday PM peak hour, and 400 vph during the Saturday night peak hour.

LEVELS OF SERVICE

Tables 11-12 and 11-13 show existing speeds, densities, and levels of service for the highway segments analyzed between the Southern State Parkway and Jamaica Avenue for the weekday and Saturday peak hours, respectively. The outputs of the existing conditions VISSIM models were calibrated to match field-observed data, including traffic volumes, measured travel times along the northbound and southbound Cross Island Parkway corridor, and other observations of traffic conditions during the peak hours including vehicle queues using the FHWA's *Traffic Analysis Toolbox Volume III – Guidelines for Applying Traffic Microsimulation Software* as guidance for model calibration targets.

As shown in **Tables 11-12 and 11-13**, average travel speeds on the northbound Cross Island Parkway range between approximately 5 to 46 mph during the weekday AM peak hour (with stop and go traffic conditions along the corridor, with the slowest speeds, i.e., 10 mph or less, at the merge with westbound Southern State Parkway on-ramp traffic and the merge with Linden Boulevard on-ramp traffic), and speeds of 33 to 52 mph during the other peak hours analyzed. Average speeds along the southbound Cross Island Parkway range between approximately 34 to 52 mph during the peak hours analyzed.

For the highway mainline segments on the northbound Cross Island Parkway, unacceptable LOS E or F conditions generally occur along the entire corridor during the weekday AM peak hour and the segments north of Exit 26D during the Saturday PM peak hour. The other northbound mainline segments generally operate at LOS D or better. On the southbound Cross Island Parkway, unacceptable LOS E or F conditions generally occur in the segments between the Hempstead Avenue overpass and Linden Boulevard during the weekday PM and the Saturday PM peak hours. The other southbound mainline segments generally operate at LOS D or better.

Tables 11-14 and 11-15 show existing speeds, densities, and levels of service for the key merge and weaving sections analyzed at the interchanges of the Cross Island Parkway with the Long Island Expressway and Grand Central Parkway for the weekday and Saturday peak hours, respectively. As shown in the tables, the merge and weaving segments all operate at LOS D or better, except for the merge segment on the eastbound Long Island Expressway at the on-ramp from the northbound and southbound Cross Island Parkway, which operates at LOS E during the weekday AM peak hour.[10]

[10] This merge segment consists of a two-lane on-ramp resulting in a lane addition on the freeway mainline and is classified as a major merge area. The analysis of a major merge area involves calculating the capacity of the upstream and downstream legs of the freeway mainline.

Table 11-12
2017 Existing Weekday Cross Island Parkway Levels of Service

	Segment	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	4.8	161.5	F	51.6	28.0	C
	Merge segment at the on-ramp from Linden Blvd	7.0	146.3	F	50.9	29.2	D
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	10.3	134.5	F	51.0	31.8	D
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	25.8	68.4	F	51.4	30.5	D
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	19.8	69.5	F	52.0	30.9	D
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	23.8	66.4	F	46.7	28.7	D
	Mainline between the Hempstead Ave off-ramp and on-ramp	17.7	73.6	F	51.6	26.8	D
	Merge segment at the Hempstead Ave on-ramp	20.1	63.7	F	46.9	28.7	D
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	44.5	36.5	E	51.4	30.4	D
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	35.1	33.8	D	45.7	29.4	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	45.6	35.5	E	51.3	30.6	D
	Diverge segment at the off-ramp to Jamaica Ave	43.7	35.5	E	50.4	27.0	C
	Mainline between the Jamaica Ave off-ramp and on-ramp	30.0	51.1	F	49.7	27.7	D
	Merge segment at the Jamaica Ave on-ramp	18.6	63.9	F	37.8	27.6	C
	Mainline north of the Jamaica Ave on-ramp	20.8	77.1	F	50.2	28.2	D
Southbound	Diverge segment at the off-ramp to Jamaica Ave	50.5	31.9	D	51.5	30.4	D
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.1	28.0	D	51.2	32.6	D
	Merge segment at the Jamaica Ave on-ramp	43.7	29.3	D	47.0	33.5	D
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	51.1	31.7	D	48.6	35.4	E
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.6	31.2	D	49.5	33.9	D
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	51.4	31.4	D	50.5	34.0	D
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	38.5	31.4	D	37.9	33.7	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	51.2	31.9	D	51.9	33.1	D
	Diverge segment at the Hempstead Ave WB off-ramp	50.3	30.2	D	51.6	31.6	D
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	51.4	29.5	D	51.3	34.3	D
	Merge segment at the Hempstead Ave WB on-ramp	38.8	29.9	D	38.1	37.6	E
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	45.6	34.4	D	45.5	40.3	E
	Diverge segment at the Hempstead Ave EB off-ramp	38.8	34.2	D	40.0	39.0	E
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	50.8	29.3	D	50.0	40.3	E
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	45.8	30.1	D	42.3	40.6	E
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.2	32.8	D	51.4	36.8	E
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	51.2	33.7	D	49.5	36.1	E
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	51.2	32.9	D	50.9	36.4	E
	Diverge segment at the off-ramp to Linden Blvd	48.9	31.7	D	50.8	34.7	D
	Mainline between the Linden Blvd off-ramp and on-ramp	51.3	30.2	D	51.0	34.9	D
	Merge segment at the Linden Blvd on-ramp	39.8	29.3	D	38.5	34.8	D
	Diverge segment at the Southern State Parkway off-ramp	50.5	31.0	D	45.0	39.5	E

Table 11-13
2017 Existing Saturday Cross Island Parkway Levels of Service

	Segment	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	51.6	28.1	D	51.4	29.8	D	51.8	23.0	C
	Merge segment at the on-ramp from Linden Blvd	50.7	29.6	D	49.8	30.9	D	51.3	24.1	C
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	51.3	32.5	D	48.7	35.1	E	51.6	25.9	C
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	49.6	32.8	D	51.4	31.8	D	51.3	26.5	C
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	51.2	32.0	D	52.0	32.2	D	51.5	26.8	D
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	45.3	30.0	D	46.8	30.0	D	46.9	23.7	C
	Mainline between the Hempstead Ave off-ramp and on-ramp	51.4	27.3	C	50.3	28.7	D	51.6	22.0	C
	Merge segment at the Hempstead Ave on-ramp	45.6	29.9	D	47.1	31.1	D	47.0	23.9	C
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	51.1	31.9	D	50.4	34.4	D	51.5	25.5	C
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	45.6	30.7	D	42.6	34.9	D	39.0	24.6	C
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	51.1	32.0	D	43.9	40.6	E	51.4	25.4	C
	Diverge segment at the off-ramp to Jamaica Ave	50.6	28.1	D	39.9	41.2	E	51.3	22.9	C
	Mainline between the Jamaica Ave off-ramp and on-ramp	51.2	28.2	D	43.2	36.6	E	51.5	23.2	C
	Merge segment at the Jamaica Ave on-ramp	39.7	27.8	C	33.3	35.9	E	40.9	22.7	C
	Mainline north of the Jamaica Ave on-ramp	51.2	29.2	D	42.0	39.8	E	51.4	23.8	C
Southbound	Diverge segment at the off-ramp to Jamaica Ave	51.8	26.7	C	51.4	28.8	D	51.6	25.9	C
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.4	27.2	C	50.9	30.0	D	51.6	27.5	C
	Merge segment at the Jamaica Ave on-ramp	49.1	26.7	C	49.2	29.2	D	50.0	27.0	C
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	51.6	28.4	D	51.5	30.8	D	51.7	27.3	D
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.5	27.7	C	50.7	30.3	D	38.8	26.7	C
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	51.7	27.6	C	51.6	30.1	D	51.8	26.4	C
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	45.5	27.5	C	43.5	29.9	D	38.8	26.0	C
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	51.1	28.0	D	50.9	30.4	D	51.3	26.3	D
	Diverge segment at the Hempstead Ave WB off-ramp	51.1	26.0	C	51.3	28.4	D	51.4	24.8	C
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	51.5	27.1	C	49.3	31.1	D	51.6	27.1	C
	Merge segment at the Hempstead Ave WB on-ramp	41.1	28.3	D	40.5	31.3	D	41.9	28.1	D
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	46.4	30.8	D	47.1	34.1	D	48.3	29.6	D
	Diverge segment at the Hempstead Ave EB off-ramp	38.9	30.0	D	40.0	33.3	D	41.1	29.1	D
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	51.3	31.1	D	51.1	34.8	D	51.6	30.8	D
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	45.8	29.2	D	44.2	34.4	D	46.1	29.4	D
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.5	29.1	D	33.6	53.4	F	51.8	29.0	D
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	49.6	28.3	D	35.3	43.3	F	38.7	27.4	C
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	51.3	28.1	D	42.4	40.3	E	51.4	26.9	D
	Diverge segment at the off-ramp to Linden Blvd	51.6	27.0	C	51.1	30.9	D	51.6	25.6	C
	Mainline between the Linden Blvd off-ramp and on-ramp	51.6	27.4	D	51.9	31.1	D	51.7	26.1	D
	Merge segment at the Linden Blvd on-ramp	41.6	26.4	C	40.0	30.6	D	42.1	25.2	C
	Diverge segment at the Southern State Parkway off-ramp	49.1	28.8	D	48.7	33.9	D	48.7	27.5	C

Table 11-14
2017 Existing Weekday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Weekday AM Peak Hour			Weekday PM Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	20.6	C	51.0	18.0	B
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	37.6	31.5	C	35.6	30.9	C
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	30.6	D	55.0	24.7	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		54.5	35.9	E	55.0	29.0	D
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	23.7	C	51.0	18.5	B
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	49.0	30.5	D	51.0	19.9	B

Note:
(1) See Figure 11-2 for locations

Table 11-15
2017 Existing Saturday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	20.8	C	50.0	22.9	C	51.0	20.2	C
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	34.4	31.3	C	43.0	22.1	B	45.2	17.1	B
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	26.2	D	55.0	25.6	C	55.0	21.0	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		55.0	31.1	D	55.0	30.6	D	55.0	25.2	C
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	23.4	C	51.0	22.3	C	51.0	20.9	C
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	51.0	22.8	C	51.0	20.9	C	51.0	10.8	B

Note:
(1) See Figure 11-2 for locations

LIRR SERVICE

Direct train service is provided to the LIRR Belmont Park Station on days when live racing is held at Belmont Park—typically Wednesdays through Sundays during the Spring Meet (from late April through mid-July) and during the Fall Meet (from mid-September through late October).

As shown in **Figure 11-3**, the LIRR Belmont Park Station is located adjacent to the west side of the racetrack and has an elevated covered walkway that connects the platforms to the second floor of the Grandstand. The station is the terminus of a short spur line that lies south of the Main Line between the Queens Village and Bellerose Stations. While originally an eight-track station with four low-level platforms serving eight-car trains, a station renovation in 2015 created two ADA-compliant high-level platforms serving four tracks that can accommodate ten-car trains. These platforms are primarily accessed via the elevated walkway from the Grandstand. ADA access to the platforms is also provided at their southern end, where a staircase and ramp connect to a crosswalk across the bus loading area and Red Road to the Red parking area. The remaining two low-level platforms and adjoining four tracks are not currently in use.

On typical racing days, the LIRR provides two round trip trains with eastbound trains arriving at Belmont Park near the start of the event and westbound trains departing the station near the end of the event. One train, also known as the Belmont Special, provides service to and from Penn Station in Manhattan with intermediate stops at Jamaica and Woodside while the second train only originates and terminates at Jamaica. Service to and from all other LIRR stations is provided via a transfer at Jamaica. Travel times from Penn Station and Jamaica to Belmont Park are about 35 and 15 minutes, respectively.

On the day of the Belmont Stakes, the LIRR provides additional train service to and from Belmont Park. For the 2018 Belmont Stakes, a total of 21 eastbound trains were operated to the racetrack between approximately 9:30 AM and 4:30 PM, most of which originated from Penn Station, with all trains stopping at Jamaica. After the Belmont Stakes race, westbound trains departed the station approximately every 15 minutes until the racetrack closed, providing service to Jamaica and Penn Station. **Table 11-16** summarizes ten years of LIRR ridership data for passenger arrivals to the Belmont Park Station on the day of the Belmont Stakes, as well as the total attendance and overall LIRR mode share. Over this time period, the LIRR has annually carried from 9,725 to 35,920 passengers to the racetrack, with variations in ridership from year to year that correspond with the total attendance, which fluctuates due to weather and the possibility for a Triple Crown winner.

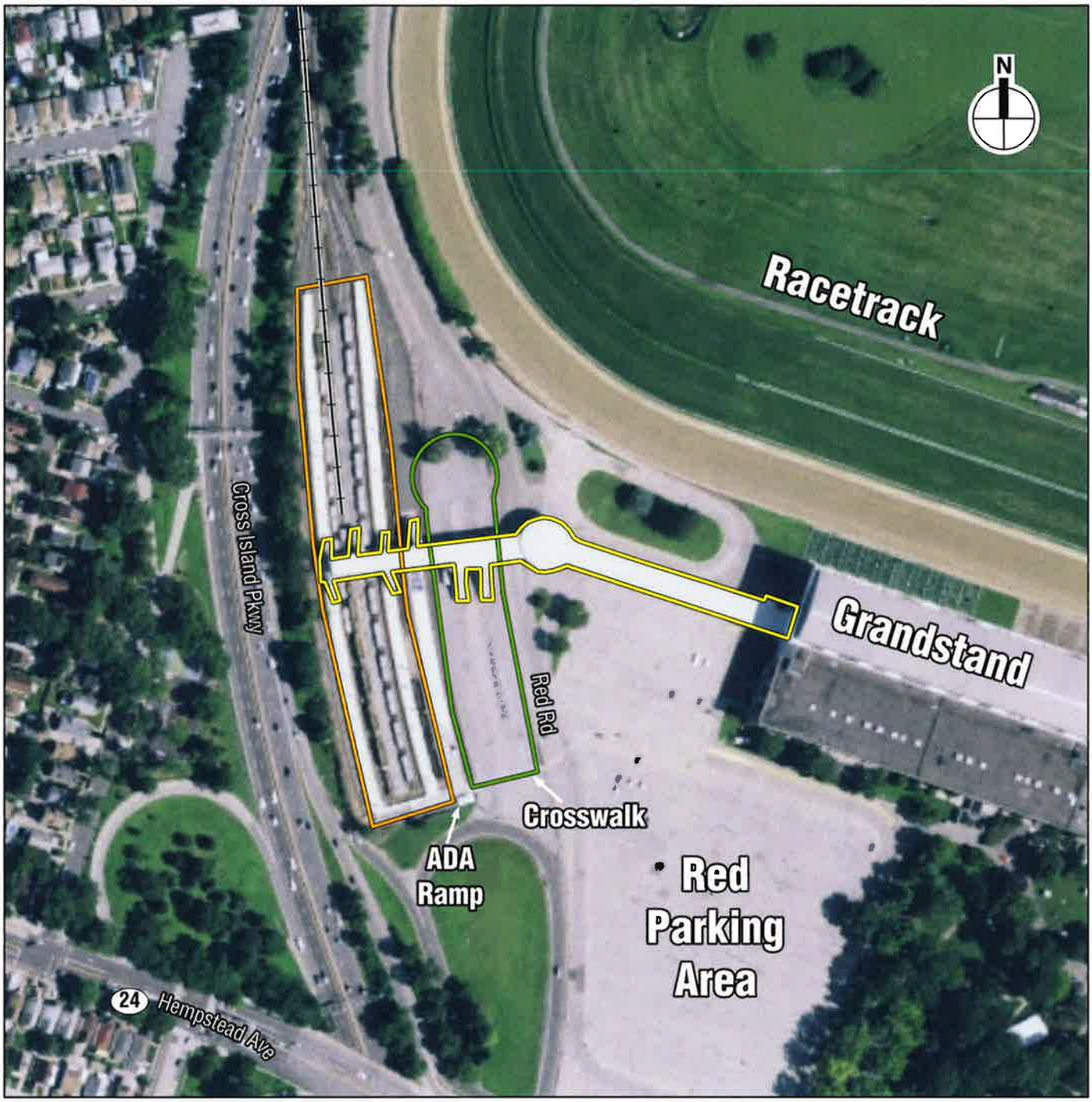
Table 11-16
Belmont Stakes LIRR Ridership

Year	2008*	2009	2010	2011	2012*	2013	2014*	2015*	2016	2017
Attendance	94,476	52,861	45,243	55,779	85,811	47,562	102,199	90,000	60,114	57,729
Ridership	20,810	11,355	9.791	9.725	19,100	10,568	35,920	25,583	15,984	16,036
Mode Share	22%	21%	22%	17%	22%	22%	35%	28%	27%	28%

Notes and Sources:
(1) * Denotes a year with the possibility for a Triple Crown winner
(2) Since 2015, NYRA has capped the attendance of the Belmont Stakes at 90,000
(3) 2016 and 2017 LIRR Ridership Books and 2018 NYRA Media Guide

BUS SERVICE

Buses operated by NICE and the MTA provide nearby or direct service to the Project Sites throughout the year from both Nassau County and Queens.



Long Island Rail Road (LIRR) Spur

Existing LIRR Belmont Park Station

Bus Boarding Area

Elevated Covered Walkway

0 400 FEET

Existing Long Island Rail Road Service

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT **Figure 11-3**

NICE BUS ROUTES

NICE operates two bus routes along Hempstead Turnpike, the N1 and N6, and bus stops are located near the intersections of Gate 3, Wellington Road, and Locustwood Boulevard/Gate 5 Road. These routes are shown in **Figure 11-4**. The range of bus service headways for these routes adjacent to the Project Sites is shown in **Table 11-17**.

Table 11-17
Bus Service Headways

Bus Route	Weekday						Weekend			
	AM Peak Period		PM Peak Period		Non-Peak Periods		Saturday		Sunday	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
N1	No Service	15–60 mins	14–26 mins	No Service	No Service		No Service		No Service	
N6	9–12 mins	8–10 mins	7–13 mins	10 mins	9–30 mins	9–30 mins	10–30 mins	10–30 mins	10–30 mins	10–30 mins
N6X	10–21 mins	6–16 mins	9–11 mins	10–30 mins	No Service		No Service		No Service	
Q2	15–20 mins	5–13 mins	7–9 mins	12–15 mins	9–60 mins	12–60 mins	12–60 mins	12–60 mins	15–60 mins	15–60 mins
Q110	6–25 mins	4–16 mins	8 mins	8–10 mins	8–60 mins	8–60 mins	10–60 mins	10–60 mins	15–60 mins	15–60 mins
Q110*	No Service	4–16 mins	20 mins	No Service	No Service		No Service		No Service	

Notes and Sources:
(1) Based on schedules from NICE, MTA Bus Company, and MTA New York City Transit.
(2) Peak periods are 6:30 AM to 9:30 AM and 4:00 PM to 7:00 PM.
(3) * Denotes Q110 bus service terminating at/originating from Hillside Avenue and 179th Street.

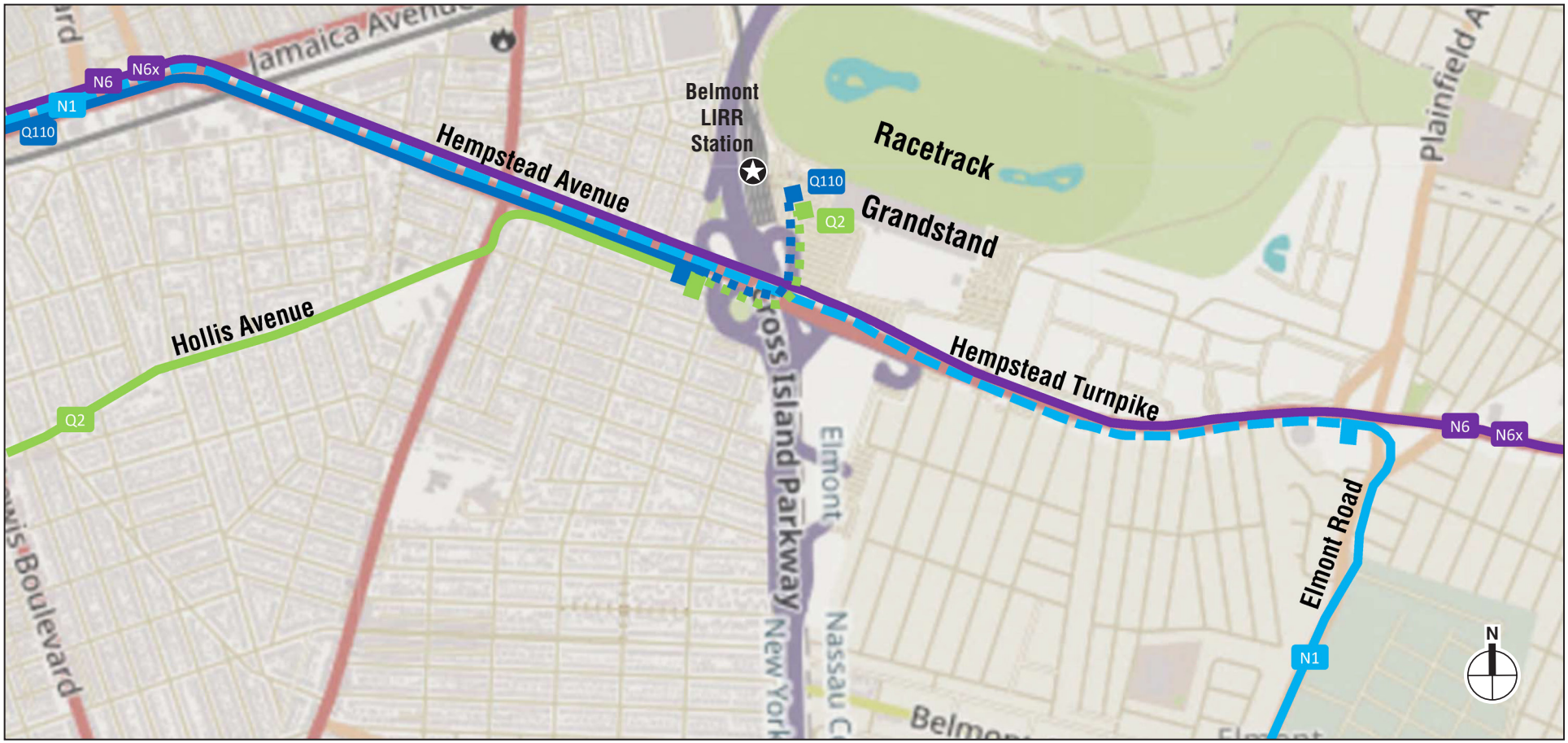
The N1 bus route provides weekday and weekend service between the communities of Hewlett, Gibson, Valley Stream, Alden Manor, and Elmont, normally terminating at the intersection of Hempstead Turnpike and Elmont Road in Elmont. During the weekday AM period, the route is extended to provide westbound service to the 165th Street Bus Terminal in Jamaica with connections to the NYC Transit F subway line at the 169th Street and 179th Street stations. This route extension operates between approximately 6:00 AM and 9:00 AM. Service from Jamaica in the eastbound direction is also provided via a route extension on weekdays from approximately 4:00 PM and 7:00 PM.

The N6 bus route provides weekday and weekend service between the Rosa Parks Hempstead Transit Center in the Village of Hempstead and the 165th Street Bus Terminal in Jamaica, Queens, connecting passengers to the NYC Transit F subway line at the 169th Street and 179th Street stations. The Hempstead Transit Center is the major transfer point for bus riders and provides for 17 NICE bus routes. Travel times from Belmont Park to the 179th Street Station and the Hempstead Transit Center are about 15 and 30 minutes, respectively. During the weekday AM and PM peak periods (which range from approximately 5:00 AM to 10:00 AM and 4:00 PM to 7:30 PM depending on direction), express service is provided by the N6X bus route. The closest express stops to the Project Sites are located at the intersections of Hempstead Turnpike at Elmont Road and Hempstead Avenue at Springfield Boulevard.

NICE does not provide service for trips wholly within Queens; NICE buses pick up eastbound passengers in Queens traveling to destinations within Nassau County and drop off westbound passengers in Queens who boarded at locations within Nassau County.

MTA BUS ROUTES

Belmont Park is served by two MTA bus routes, the Q2 and Q110, throughout the day on weekdays and weekends. These routes are shown in **Figure 11-4**. The range of bus service headways for these routes adjacent to the Project Sites is shown in **Table 11-17**.



Source: VHB

Full-time Service

Rush Hour Peak Direction Service Only

Race Day Service Only

Terminus

Belmont LIRR Station

Study Area Bus Service

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-4

On days when live racing is held at Belmont Park, the Q2 and Q110 bus routes both stop at the two low-level bus platforms on the east side of the LIRR Belmont Park Station. Each platform can accommodate up to ten articulated (about 60 feet long) or up to 16 conventional (about 40 feet long) right door boarding buses at the same time. These platforms contain staircases leading to the elevated covered walkway that connects to the second floor of the Grandstand. Buses access this stop by using the ramp from eastbound Hempstead Avenue to the northbound Cross Island Parkway to cross under Hempstead Avenue and then enter via the ramp from the northbound Cross Island Parkway to eastbound Hempstead Avenue. On days when there is no live racing at Belmont Park, buses continue to use the Cross Island Parkway ramps to turn around but do not enter the bus platform area, making the first and last stops along their routes at the intersection of Hempstead Avenue and 225th Street, which is an approximate five minute walk from the Project Sites.

The Q2 bus route, operated by MTA New York City Transit, provides weekday and weekend service between Belmont Park and the 165th Street Bus Terminal in Jamaica, primarily operating along Hempstead Avenue, Hollis Avenue, and Hillside Avenue. The route provides connections to the LIRR Hollis Station and the NYC Transit F subway line at the 169th Street and 179th Street stations. Travel times from Belmont Park to the Hollis Station and the 179th Street Station are about 15 and 25 minutes, respectively.

The Q110 bus route, operated by MTA Bus Company, provides weekday and weekend service between Belmont Park and Downtown Jamaica, primarily operating along Hempstead Avenue and Jamaica Avenue. The route provides connections to the NYC Transit E, J, and Z subway lines at the Jamaica Center-Parsons/Archer Station. During the weekday AM period (between approximately 6:00 AM and 9:00 AM), some buses terminate at the intersection of Hillside Avenue and 179th Street in Jamaica with headways ranging from 4 to 12 minutes, providing a supplemental connection to the NYC Transit F subway line at the 179th Street Station; these buses also operate from Hillside Avenue and 179th Street during the weekday PM period (between approximately 4:30 PM and 7:00 PM) with headways of 20 minutes. Travel times from Belmont Park to the 179th Street Station and the Jamaica Center-Parsons/Archer Station are about 20 and 25 minutes, respectively.

PARKING

Existing parking at the Belmont Park Racetrack is provided in five main areas—1,185 spaces in the Red, Beige, and Silver parking areas north of the Hempstead Turnpike and generally west of Belmont Park's picnic area (the "Backyard") (a portion of proposed Site A); 2,580 spaces in the Yellow parking area south of Hempstead Turnpike (a portion of proposed Site B); 1,150 spaces in the Gold, Purple, Orange, and Silver parking areas north of Hempstead Turnpike and generally east of the Grandstand and Backyard (the proposed South Lot); 3,000 spaces in the Green parking area on the north side of the racetrack (the proposed North Lot); and 2,520 spaces in the Blue parking area inside the Training Track (portions of the proposed East Lot). These parking areas total approximately 10,435 spaces. The locations of these existing parking spaces are illustrated in **Figure 11-5**. On typical racing days, the cost of preferred parking in the areas on Site A and the South Lot ranges from $3.00 to $7.00 and parking in other areas is free. It is also noted that additional parking areas are provided at Belmont Park for trainers and backstretch workers (in the vicinity of the barn/stable area and Training Track) and for racetrack attendees on Belmont Stakes day (the White Lot and Pony Track, in the vicinity of the Training Track).

Based on existing parking utilization surveys conducted in October 2017, midday parking utilization associated with racetrack patrons during racing season at Belmont Park ranged from

11.21.18

Source: VHB

Existing Parking Areas

0 1,000 FEET

1 *Green Parking Area (proposed North Lot)*

2 *Red, Beige, and Silver Parking Areas (portion of proposed Site A)*

3 *Gold, Purple, Orange, and Silver Parking Areas (proposed South Lot)*

4 *Yellow Parking Area (portion of proposed Site B)*

5 *Blue Parking Area (portion of proposed East Lot)*

6 *White Lot*

7 *Pony Track*

Existing Parking Areas

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-5

approximately 795 vehicles on a weekday to approximately 2,030 vehicles on a Saturday. Nearly all of these vehicles used the parking areas on Site A or the South Lot; only a small number of racetrack patrons used the parking areas on Site B or the North Lot.

In addition to accommodating parking demand for racetrack patrons, it is noted that the parking lots were also being used to store new cars prior to being delivered to auto dealerships as well as trucks and trailers, with most of the vehicle storage occurring in the parking areas on Site B and in the North and East Lots. Approximately 6,600 to 7,200 new dealership cars and 100 trucks/trailers were observed as being stored in these parking lots during surveys conducted in September and October 2017, which were counted separately from the vehicles associated with racetrack patrons.

PEDESTRIAN CIRCULATION

Existing pedestrian circulation within the Project Sites is primarily provided between the parking lots and the LIRR Belmont Park Station and adjacent MTA bus stops with Belmont Park's Grandstand and Backyard. The Green parking area, located on the north side of the racetrack, is connected to the Grandstand by a sidewalk on the east side of the Red Road and adjacent to the main track. The Blue parking area, located inside the Training Track, is connected to the Clubhouse by a sidewalk on the north side of Gate 5 Road. The Yellow parking area, located on the south side of Hempstead Turnpike, is connected to the Backyard by a sidewalk on the west side of the Belmont Park Road underpass and a pedestrian tunnel that runs under Hempstead Turnpike in the vicinity of Gate 3. The LIRR station and the adjacent bus platforms are connected to the second floor of the Grandstand by an elevated walkway.

As discussed above, the parking lots are not fully utilized on typical racing days and most attendees park in lots near the Grandstand and Backyard. On Belmont Stakes day, NYRA operates shuttle buses that run throughout the parking lots and drop off and pick up attendees at admission gates next to the racetrack.

VEHICULAR AND PEDESTRIAN SAFETY

NASSAU COUNTY

Police accident reports and NYSDMV accident reports were obtained for the studied locations for the most recent available three-year period (March 1, 2015 to February 28, 2018). The reports were obtained from the Safety Information Management System (SIMS) and were provided by the NYSDOT Traffic Safety and Mobility Division. The data quantify and provide details regarding the total number of reportable (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the number of crashes involving injuries to pedestrians or bicyclists.

All crash reports were reviewed and sorted by location. The detailed information from each report was entered into a database program that generated crash summary information including date, time of day, collision type, severity, weather, lighting, roadway surface condition, and apparent contributing factors. Collision diagrams were prepared for each safety study location on aerial photograph imagery presenting crash types and spatial patterns in each area. A sign inventory was also conducted and is reflected on the collision diagrams included in **Appendix F**. The crash summary information and collision diagrams were reviewed to determine if there were significant patterns of crashes by type, location, or other identifiable factors or conditions. Statistical summary sheets, details of accident history, and the collision diagrams for each safety study location can be found in **Appendix F**.

Table 11-18 provides a summary of the crashes recorded in the study area during the three-year period, including a breakdown of crash severity and type for each study location. A discussion of the specifics of the accident history at each location is presented later in this section.

Table 11-18
Nassau County Vehicle Crash Data Summary

Segment/Intersection	Accident Severity				Total	Accident Type													
	Fatality	Injury	Property Damage Only	Non-Reportable		Rear-End	Overtaking	Right-angle	Left-turn	Right-turn	Fixed-object	Head-on	Side-Swipe	Pedestrian	Parked-vehicle	Backing	Run-Off-The-Road	Bicycle	Other/ Unknown
Hempstead Turnpike from Cross Island Parkway to Covert Avenue/Meacham Avenue	0	201	555	63	**819**	305	171	78	100	26	10	1	3	25	47	10	3	9	31
Plainfield Avenue and Elmont Road	0	1	7	0	**8**	5	1	1	0	0	0	0	0	0	0	1	0	0	0
Plainfield Avenue and Cherry Street	0	3	1	0	**4**	1	0	1	0	0	1	0	0	0	0	0	0	0	1
Plainfield Avenue and Carnation Avenue	0	2	9	0	**11**	1	0	2	2	0	2	0	0	0	2	0	0	0	2
Plainfield Avenue and Tulip Avenue	0	3	18	0	**21**	5	0	6	2	0	0	0	0	1	7	0	0	0	0
Plainfield Avenue and Magnolia Avenue/Woodbine Court	0	3	7	0	**10**	1	3	1	1	0	1	0	0	1	1	0	0	1	0
Plainfield Avenue and Elizabeth Street	0	1	4	0	**5**	4	0	0	0	0	0	0	0	0	1	0	0	0	0
Jericho Turnpike and Plainfield Avenue/Emerson Avenue	0	12	14	1	**27**	11	2	1	5	0	2	1	0	0	3	1	0	1	0
Jericho Turnpike and Depan Avenue/Willis Avenue	0	3	3	0	**6**	2	1	0	1	0	1	0	0	0	0	1	0	0	0
Jericho Turnpike and Cherry Lane	0	4	12	0	**16**	6	3	0	4	0	0	0	0	0	2	1	0	0	0
Jericho Turnpike and Hillside Boulevard/South 5th Street	0	5	27	2	**34**	16	1	0	4	0	2	0	1	0	7	1	0	0	2
Jericho Turnpike and Covert Avenue/North 6th Street	0	6	38	2	**46**	16	9	0	3	3	1	0	2	0	6	3	0	1	2
Jericho Turnpike and New Hyde Park Road	0	7	72	11	**90**	26	28	11	9	2	1	0	0	1	0	8	1	0	3
Total	**0**	**251**	**767**	**79**	**1,097**	**399**	**219**	**101**	**131**	**31**	**21**	**2**	**6**	**28**	**84**	**19**	**3**	**12**	**41**

Source: NYSDOT SIMS data from March 1, 2015 to February 28, 2018

Accident rates along the segment of Hempstead Turnpike in the study area and at each of the 12 intersections within the study limits were calculated and compared to the corresponding statewide average rates for similar facilities. For the segment of Hempstead Turnpike, the accident rate is expressed as accidents per million vehicle miles (accidents/MVM) as shown in the formula below. The AADT is the annual average daily traffic volume along the study segment in vehicles per day (vpd).

$$\text{Accident Rate per MVM} = \frac{\text{Number of Accidents x 1,000,000}}{\text{AADT x Number of Years x 365 days x Section Length (miles)}}$$

It is noted that the accident history for roadway segments, such as the segment of Hempstead Turnpike evaluated here, includes intersection and non-intersection accidents.

For each of the 12 study intersections, the accident rates are expressed as accidents per million entering vehicles (accidents/MEV) as shown in the formula below. The AADT is the annual average daily traffic volume entering the intersection on all approaches in vehicles per day.

$$\text{Accident Rate per MEV} = \frac{\text{Number of Accidents x 1,000,000}}{\text{AADT x Number of Years x 365 days}}$$

The statewide average accident rates on New York State roadways by facility type were obtained from the NYSDOT Traffic Safety and Mobility Division for the period from January 1, 2015 to December 31, 2016. **Table 11-19** provides a summary of the accident rates as calculated for each study location and the corresponding statewide average accident rate for that type of facility.

Table 11-19
Summary of Accident Rate Comparisons – Nassau County

Segment/Intersection	AADT (vpd)[1,2]	Number of Accidents	Calculated Accident Rate[3]	Statewide Average Accident Rate[3, 4]
Hempstead Turnpike from Cross Island Parkway to Covert Avenue/Meacham Avenue (2.2 mi)	40,768	819	8.34	3.95
Plainfield Avenue and Elmont Road	11,810	8	0.62	0.19
Plainfield Avenue and Cherry Street	10,670	4	0.34	0.18
Plainfield Avenue and Carnation Avenue	16,860	11	0.60	0.25
Plainfield Avenue and Tulip Avenue	16,820	21	1.14	0.52
Plainfield Avenue and Magnolia Avenue/Woodbine Court	15,410	10	0.59	0.52
Plainfield Avenue and Elizabeth Street	10,440	5	0.44	0.52
Jericho Turnpike and Plainfield Avenue/Emerson Avenue	29,450	27	0.84	0.25
Jericho Turnpike and Depan Avenue/Willis Avenue	25,340	6	0.22	0.25
Jericho Turnpike and Cherry Lane	27,170	16	0.54	0.14
Jericho Turnpike and Hillside Boulevard/South 5th Street	28,330	34	1.10	0.25
Jericho Turnpike and Covert Avenue/North 6th Street	29,590	46	1.42	0.25
Jericho Turnpike and New Hyde Park Road	40,190	90	2.05	0.25

Notes:
(1) AADT for Hempstead Turnpike segment is from NYSDOT Traffic Data Viewer.
(2) AADT for intersections is derived from 2017 Weekday peak hour traffic count data.
(3) For roadway segments, accident rate is expressed as accidents per million vehicle miles (accidents/MVM). For intersections, accident rate is expressed as accidents per million entering vehicles (accidents/MEV).
(4) Statewide average is presented for similar roadway facility types.

Accident rates in Nassau County, in general, are often much higher than the Statewide average rates, likely due to the prevalence of congestion, complex intersections, and more unique roadway characteristics than many other parts of the State, particularly the Upstate region where the majority of the roadways considered in compiling these statistics are located. A more apt comparison would be one where accident rates are compared to other rates within the same County. However, such rates are not available for comparison purposes. These Statewide rates are typically used to identify intersections with the highest accident rates so they can be prioritized, and not to compare one intersection to another.

The findings of the above analysis are as follows:

Hempstead Turnpike from the Cross Island Parkway to Covert Avenue/Meacham Avenue

A total of 819 accidents were reported to have occurred during the study period. There were no fatalities reported, 201 accidents resulted in personal injury, 555 accidents resulted in property-damage only, and 63 accidents were classified as non-reportable. The accidents were spread throughout the segment with higher concentrations at signalized intersections. The accident types with the highest frequency were rear-end collisions (305 accidents – 37.2 percent) and overtake collisions (171 accidents – 20.9 percent), which is typical for a roadway with elevated levels of traffic congestion and numerous intersections and driveways. In addition, 25 pedestrian accidents and 9 bicycle accidents were reported along this roadway segment. The accident rate was calculated to be 8.34 accidents/MVM for this segment, which is more than double the statewide average accident rate of 3.95 accidents/MVM for similar facilities.

Plainfield Avenue and Elmont Road

At this unsignalized intersection, a total of eight accidents were reported to have occurred during the study period. One accident resulted in personal injury, and seven accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was rear-end collisions (5 accidents – 62.5 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.62 accidents/MEV, which is more than three times the statewide average accident rate of 0.19 accidents/MEV for intersections with similar geometry and traffic control.

Plainfield Avenue and Cherry Street

At this unsignalized intersection, a total of four accidents were reported to have occurred during the study period. Three accidents resulted in personal injury, and one accident resulted in property-damage only. No fatalities were reported. There were four different accident types: a rear-end collision, a right-angle collision, a fixed-object collision, and one classified as other/unknown (one accident each – 25.0 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.34 accidents/MEV, which more than one and a half times the statewide average accident rate of 0.18 accidents/MEV for intersections with similar geometry and traffic control.

Plainfield Avenue and Carnation Avenue

At this signalized intersection, a total of 11 accidents were reported to have occurred during the study period. Two accidents resulted in personal injury, and 9 accidents resulted in property-damage only. No fatalities were reported. There were two accidents reported for each of the following accident types: right-angle collision, left-turn collision, fixed-object collision, parked-vehicle collision, and other/unknown collisions (two accidents each – 18.2 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.60 accidents/MEV, which is more than double the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

Plainfield Avenue and Tulip Avenue

At this signalized intersection, a total of 21 accidents were reported to have occurred during the study period. Three accidents resulted in personal injury, and 18 accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was parked-vehicle collision (seven accidents – 33.3 percent). In addition, one pedestrian accident was reported. The intersection accident rate was calculated to be 1.14 accidents/MEV, which is more

than double the statewide average accident rate of 0.52 accidents/MEV for intersections with similar geometry and traffic control.

Plainfield Avenue and Magnolia Avenue/Woodbine Court

At this signalized intersection, a total of 10 accidents were reported to have occurred during the study period. Three accidents resulted in personal injury, and seven accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was overtake collision (three accidents – 30.0 percent). In addition, one pedestrian accident and one bicycle accident were reported. The intersection accident rate was calculated to be 0.59 accidents/MEV, which exceeds the statewide average accident rate of 0.52 accidents/MEV for intersections with similar geometry and traffic control.

Plainfield Avenue and Elizabeth Street

At this signalized intersection, a total of five accidents were reported to have occurred during the study period. One accident resulted in personal injury, and four accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was rear-end collision (four accidents – 80.0 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.44 accidents/MEV, which is less than the statewide average accident rate of 0.52 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and Plainfield Avenue/Emerson Avenue

At this signalized intersection, a total of 27 accidents were reported to have occurred during the study period. Twelve accidents resulted in personal injury, 14 accidents resulted in property-damage only, and one accident was classified as non-reportable. No fatalities were reported. The accident type with the highest frequency was rear-end collision (11 accidents – 40.7 percent). One bicycle accident was reported. The intersection accident rate was calculated to be 0.84 accidents/MEV, which is more than three times the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and Depan Avenue/Willis Avenue

At this signalized intersection, a total of six accidents were reported to have occurred during the study period. Three accidents resulted in personal injury, and three accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was rear-end collision (2 accidents – 33.3 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.22 accidents/MEV, which is less than the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and Cherry Lane

At this signalized intersection, a total of 16 accidents were reported to have occurred during the study period. Four accidents resulted in personal injury, and 12 accidents resulted in property-damage only. No fatalities were reported. The accident type with the highest frequency was rear-end collision (6 accidents – 37.5 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 0.54 accidents/MEV, which is more than three times the statewide average accident rate of 0.14 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and Hillside Boulevard/South 5th Street

At this signalized intersection, a total of 34 accidents were reported to have occurred during the study period. Five accidents resulted in personal injury, 27 accidents resulted in property-damage only, and two accidents were classified as non-reportable. No fatalities were reported. The accident types with the highest frequency were rear-end collision (16 accidents – 47.1 percent) and parked-vehicle collision (7 accidents – 20.6 percent). No pedestrian or bicycle accidents were reported. The intersection accident rate was calculated to be 1.10 accidents/MEV, which is more than four times the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and Covert Avenue/North 6th Street

At this signalized intersection, a total of 46 accidents were reported to have occurred during the study period. Six accidents resulted in personal injury, 38 accidents resulted in property-damage only, and two accidents were classified as non-reportable. No fatalities were reported. The accident types with the highest frequency were rear-end collision (16 accidents – 34.8 percent) and overtake collision (9 accidents – 19.6 percent). One bicycle accident was reported. The intersection accident rate was calculated to be 1.42 accidents/MEV, which is more than five times the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

Jericho Turnpike and New Hyde Park Road

At this signalized intersection, a total of 90 accidents were reported to have occurred during the study period. Seven accidents resulted in personal injury, 72 accidents resulted in property-damage only, and 11 accidents were classified as non-reportable. No fatalities were reported. The accident types with the highest frequency were overtake collision (28 accidents – 31.1 percent) and rear-end collision (26 accidents – 28.9 percent). One pedestrian accident was reported. The intersection accident rate was calculated to be 2.05 accidents/MEV, which is more than eight times the statewide average accident rate of 0.25 accidents/MEV for intersections with similar geometry and traffic control.

QUEENS

Crash data were obtained for the traffic study area intersections in Queens from NYCDOT for the most recent three-year period (2012 through 2014). This information is based on data provided by NYSDOT, NYSDMV, and New York City Police Department (NYPD).

The crash data detail reported crashes (crashes resulting in death, injury, or property damage in excess of $1,000), fatalities, injuries, and pedestrian and bicycle injuries annually. A location is considered a high-crash location when there are 48 or more total reportable and non-reportable crashes, or five or more pedestrian/bicyclist injury crashes in any consecutive 12 months during the most recent three-year period for which data are available.

Table 11-20 presents a summary of total crashes at the study area intersections during the three-year period of 2012 through 2014, and also shows total fatalities, injuries, and pedestrian and bicycle crashes.

Table 11-20
Queens Vehicle and Pedestrian Crash Summary

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Injury Crashes			Total Crashes			Total Fatalities	Total Injuries
		2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014		
Jamaica Ave	212th Pl	0	0	1	0	0	0	0	0	1	2	1	2	0	10
	213th St/ Hempstead Ave	1	0	0	0	0	0	1	0	0	6	5	9	0	22
	Springfield Blvd	4	2	1	0	0	0	4	2	1	11	8	7	1	28
Hempstead Ave	Springfield Blvd	1	5	5	0	1	0	1	6	5	10	9	14	0	33
	224th St	0	0	0	0	0	0	0	0	0	1	1	1	0	5
	225th St	0	1	1	0	0	0	0	1	1	8	8	7	0	26
Totals		**22**			**1**			**23**			**110**			**1**	**124**

Source: NYSDOT accident data from January 1, 2012 through December 31, 2014
Note: Shading denotes high-crash locations

As shown in **Table 11-20**, during the three-year reporting period, there were a total of 110 reportable and non-reportable crashes, one fatality, and 23 pedestrian/bicyclist-related injury crashes. No intersection had 48 or more crashes in any consecutive 12 months during this period. A review of the crash data identified one intersection that has experienced five or more pedestrian and/or cyclist injury crashes in a consecutive 12-month period, which is identified as a high-crash location:

Hempstead Avenue and Springfield Boulevard

The intersection of Hempstead Avenue and Springfield Boulevard is currently signalized and has pedestrian signals with countdown timers, a signal timing plan that has been retimed for 25 mph traffic and slower pedestrian walking speeds, leading pedestrian intervals on all four crosswalks, high visibility crosswalks on all approaches, advance stop bars on all approaches, and left turn traffic calming in the form of a raised rubber curb and bollards in the centerline on the northbound approach. The intersection is categorized as a priority intersection as part of New York City's Vision Zero initiatives and also lies on Hempstead Avenue, which is categorized as a priority corridor. One pedestrian- and bicycle-related crash occurred in 2012, compared to six pedestrian/bicycle crashes in 2013 and five pedestrian/bicycle crashes in 2014. Based on a review of the crash data, of the six pedestrian/bicycle crashes in 2013, four occurred at night and four involved a pedestrian crossing against the signal or with no signal. Of the five pedestrian/bicycle crashes in 2014, two occurred at night and two involved a pedestrian crossing against the signal or with no signal.

D. FUTURE WITHOUT THE PROPOSED ACTIONS

This section establishes the Future without the Proposed Actions condition (or the No Action condition) to provide a baseline condition against which potential impacts of the Proposed Project can be identified. Future year conditions were analyzed for the year 2021.

Projected future traffic volumes without the Proposed Project were developed by applying an annual background growth rate (to account for general historical growth in traffic and smaller projects that would generate a modest amount of traffic) to the existing volumes and adding the traffic expected to be generated by significant development projects near the traffic study area. For background traffic growth, an annual background rate of 0.5 percent was assumed, which would add about two percent more traffic to all roadways by 2021 as compared to existing conditions. As detailed in Chapter 2, "Land Use, Zoning, and Community Character," several

development projects are being planned and would be expected to be developed by the year 2021 within the study area. Three projects were incorporated into the 2021 No Action condition analyses, which are detailed in **Table 11-21**. Where other No Action developments were found to generate relatively little new traffic through analyzed intersections, demand from these sites was assumed to be reflected as part of general background growth. Overall, the 2021 No Action transportation analyses account for a total of approximately 54,300 gsf of retail uses and 25,100 gsf of community facility uses.

Table 11-21
No Action Development Projects

Project Location	Description
383 Jericho Turnpike	17,116 gsf commercial development (assumed as retail)
222-225 Jamaica Avenue	Mixed use development with 32,200 gsf of local retail and a 19,300 gsf community facility (medical office)
110-38 Springfield Boulevard	Mixed use development with 4,980 gsf of local retail and a 5,842 gsf community facility (preschool)
Sources: NYC Department of Buildings, YIMBY	

It is anticipated that NYRA will seek to make physical improvements to the Belmont Park facility by the 2021 analysis year, including additional food and beverage spaces within the existing Grandstand and Clubhouse structures to provide an improved guest experience. These changes are not anticipated to result in increased levels of attendance. NYRA also plans to install LED lighting around the dirt and turf courses to provide for the possible addition of night racing at Belmont Park one or two nights during some of the weeks of the Spring and Fall racing meets. Night racing has not been authorized by the New York State Legislature and would need approval to move forward. If night racing is approved, NYAP and NYRA have agreed to coordinate in such a manner that night racing would not be scheduled on the same evening as a hockey game. As shown in **Table 11-6**, the weekday PM, Saturday PM, and Saturday night peak hours include a sold-out hockey game at the arena as part of the representative worst-case analysis scenario for traffic conditions. Vehicular trips associated with night horse racing have not been included in the No Action traffic analysis because if night racing is authorized, night racing would not occur at the same time as a hockey game. If night racing is approved, NYAP and NYRA have agreed that night racing and non-hockey arena events could be scheduled on the same evening as long as the aggregate attendance for both events does not exceed the maximum attendance level for a sold-out hockey game (18,000 seats). The start times of night racing and a concurrent non-hockey arena event would likely be staggered (e.g., a start time of about 6:00 PM for night racing and a start time between 7:00 PM and 8:00 PM for an arena event), which would spread out the combined arrivals of racetrack and arena patrons and reduce the amount of trips generated during the peak arrival hour. Therefore, a sold-out hockey game at the arena is the representative worst-case analysis scenario for traffic conditions.

As part of the LIRR's Third Track project, an additional track is being added to the Main Line between the Floral Park and Hicksville stations and all grade crossings along this corridor will be eliminated. The existing LIRR grade crossing at South 12th Street in New Hyde Park will be permanently closed and result in the diversion of traffic to new grade-separated crossings at Covert Avenue and New Hyde Park Road. Although the Third Track project is currently anticipated for completion beyond the Proposed Project's future analysis year of 2021, it would have long-term permanent effects on traffic patterns in a portion of the study area. To reflect these patterns and provide a conservative traffic impact analysis, the No Action condition accounts for these

associated traffic diversions, new station-oriented traffic that would be generated by LIRR riders during the weekday AM and PM peak hours, and traffic mitigation measures at the intersections of Jericho Turnpike with Covert Avenue and New Hyde Park Road.

Queens Community Board 13 has recommended the conversion of 103rd Avenue between 223rd and 225th Streets from a two-way street to a one-way westbound street due to requests from community residents. The proposed street direction change is intended to improve pedestrian and motorist safety and to stop cut-through traffic from using 103rd Avenue to access the on-ramp to the southbound Cross Island Parkway. This analysis assumes that the recommended street direction change would be implemented by the 2021 analysis year. Therefore, in the No Action condition eastbound vehicles currently using 103rd Avenue to access the southbound Cross Island Parkway on-ramp were rerouted to use Hempstead Avenue. Additionally, NYCDOT plans to reconfigure 225th Street between 103rd Avenue and Hempstead Avenue to provide two lanes in the southbound direction, which is planned to be implemented in 2019.

Two roadway improvement projects within the study area were identified as being included in the New York Metropolitan Transportation Council's (NYMTC) Transportation Improvement Program (TIP):

- Pavement resurfacing on Hempstead Turnpike between the New York City line and Nassau Boulevard, including the installation of new pavement markings, signal detector loops, and curb ramps. The work commenced in the fall of 2017.
- Pedestrian safety improvements along NYS Route 25 (Jericho Turnpike), between the New York City line and Orient Point in Suffolk County, including installing new or upgraded traffic signals, sidewalks, ADA-compliant curb ramps, crosswalks, pedestrian refuge islands, and flashing beacons. This work is anticipated to take place from 2017 through 2019.

LOCAL STREET NETWORK

TRAFFIC VOLUMES

The additional vehicle trips associated with the No Action projects described above were assigned to the traffic study area and added to the existing traffic volumes and background growth. Below is a detailed description of the projected changes in traffic volumes expected within the study area due to the No Action projects (exclusive of background growth).

Hempstead Turnpike

Traffic volumes along the Hempstead Turnpike corridor would be expected to increase by approximately 5 vph in the eastbound direction and by about 10 vph in the westbound direction during the weekday AM peak hour. Similarly, Hempstead Turnpike traffic volumes would be expected to increase by up to 5 vph per direction during the weekday PM peak hour, and by about 10 vph per direction during the Saturday midday and Saturday PM peak hours. During the Saturday night peak hour, no increase in traffic volumes would be expected on Hempstead Turnpike.

Plainfield Avenue

Minor traffic volume increases of up to 5 vph are expected on Plainfield Avenue per direction north of Carnation Avenue during the Saturday midday and Saturday PM peak hours. No traffic volume increases would be expected along Plainfield Avenue during the weekday AM, weekday PM, and Saturday night peak hours.

Jericho Turnpike

During all of the peak hours except for the Saturday night peak hour, traffic volumes on Jericho Turnpike would generally increase by approximately 5 vph to 45 vph in each direction. During the Saturday night peak hour, traffic volumes on Jericho Turnpike would be expected to increase by about 5 vph to 10 vph per direction.

Elmont Road

During all of the peak hours, no traffic volume increases would be expected on Elmont Road.

Jamaica Avenue

Jamaica Avenue would experience increases in traffic volumes of approximately 10 vph to 25 vph per direction during the weekday AM and weekday PM peak hours, and about 20 vph to 45 vph during the Saturday midday and Saturday PM peak hours. Minor traffic volume increases of up to 10 vph per direction would be expected during the Saturday night peak hour.

Hempstead Avenue

Traffic volumes on Hempstead Avenue would be expected to increase by up to 15 vph per direction during all of the peak hours except for eastbound traffic volumes at the intersections of 224th and 225th Street, which would be expected to increase by approximately 100 vph to 180 vph during the weekday AM, weekday PM, and Saturday PM peak hours, and by about 75 vph to 85 vph during the Saturday midday and Saturday night peak hours. Detailed traffic volume maps showing the resulting traffic volumes in the 2021 No Action condition for the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours are presented in **Appendix F**.

LEVELS OF SERVICE

Based on the projected changes in future traffic volumes described above, the 2021 No Action traffic levels of service were determined for each of the traffic analysis locations. **Tables 11-22 and 11-23** present the resulting overall level of service at each intersection in the study area as well as the specific traffic movements that operate at unacceptable LOS E or F during the weekday and Saturday peak hours, respectively. Detailed traffic level of service tables showing all intersection movements are available in **Appendix F**.

Table 11-22
2021 No Action Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	14.1	None	B	10.3	None
Hempstead Turnpike at Locustwood Boulevard/ Gate 5 Road	A	5.7	None	A	7.4	None
Hempstead Turnpike at Sterling Road	B	13.0	None	B	11.0	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	C	22.3	None	B	16.5	None
Hempstead Turnpike at Gotham Avenue	B	11.7	None	B	11.1	None
Hempstead Turnpike at Holland Avenue	A	9.4	None	A	6.0	None
Hempstead Turnpike at Plainfield Avenue	A	9.8	None	A	8.1	None
Hempstead Turnpike at Elmont Road	C	27.3	Elmont Rd NB shared through and right and SB left turn	B	19.3	Elmont Rd NB left turn
Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue	C	30.1	School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	47.0	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right
Hempstead Turnpike at Terrace Avenue	B	10.9	None	B	11.0	None
Hempstead Turnpike at Stone Street	A	7.2	None	A	9.8	None
Hempstead Turnpike at Jacob Street	A	3.1	None	A	4.3	None
Hempstead Turnpike at Belmont Boulevard	B	10.9	None	B	11.4	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	23.6	West Gate SB approach	B	15.3	None
Hempstead Turnpike at Hill Avenue/ Landau Avenue	C	32.2	Hill Ave NB approach; Landau Ave SB approach	B	19.5	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	7.8	Butler Ave NB approach	A	7.0	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	44.9	Meacham Ave NB through	D	40.1	Meacham Ave NB left turn; Covert Ave SB through and right turn
Elmont Road at Foster Meadow Road/Atherton Avenue and School Road	B	17.9	None	C	20.3	None
Plainfield Avenue at Elmont Road/Burtis Place	A	3.9	None	A	6.4	None
Plainfield Avenue at Cherry Street	C	18.5	None	C	17.9	None
Plainfield Avenue at Carnation Avenue	BC	21.7	None	B	17.5	None

Table 11-22 (cont'd)
2021 No Action Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Tulip Avenue	C	31.6	Plainfield Ave NB approach	C	22.0	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	D	37.7	Woodbine Ct EB approach; Magnolia Ave WB approach	C	21.8	Woodbine Ct EB approach
Plainfield Avenue at Elizabeth Street	A	9.4	None	A	7.0	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	D	41.3	Plainfield Ave NB approach	C	29.4	Plainfield Ave NB approach
Jericho Turnpike at Depan Ave/Willis Ave	B	10.2	Depan Ave NB approach; Willis Ave SB approach	A	8.1	Depan Ave NB approach; Willis Ave SB approach
Jericho Turnpike at Cherry Lane	A	9.4	None	B	17.4	Cherry Ln SB approach
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	24.8	None	C	25.8	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	C	31.8	Covert Ave NB shared through and right	D	36.7	Covert Ave NB left turn
Jericho Turnpike at New Hyde Park Road	D	50.8	New Hyde Park Rd NB shared through and right	D	50.5	Jericho Tpke EB shared through and right; New Hyde Park Rd NB left turn and shared through and right, and SB shared through and right
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	22.6	212th Pl SB approach	C	24.8	212th Pl SB approach
Jamaica Avenue at 213th Street/ Hempstead Avenue	D	39.1	Hempstead Ave NB left turn and shared left and through	B	16.8	None
Jamaica Avenue at Springfield Boulevard	E	61.5	Hempstead Ave WB approach; Springfield Blvd NB shared through and right and SB left turn	D	37.4	None
Hempstead Avenue at Springfield Boulevard	E	79.5	Hempstead Ave EB left turn, WB left turn, and WB shared through and right; Springfield Blvd NB shared through and right, and SB left turn	D	47.3	Hempstead Ave EB shared through and right and WB left turn
Hempstead Avenue at 224th Street	B	17.1	None	B	18.4	None
Hempstead Avenue at 225th Street	D	46.2	Hempstead Ave EB approach; 225th St NB right turn	F	91.2	Hempstead Ave EB through and de facto right turn; WB de facto left turn
Hempstead Avenue at Cross Island Parkway SB off-ramp	A	3.0	None	A	4.6	None
Hempstead Avenue at Cross Island Parkway NB off-ramp	A	1.8	None	A	4.5	None

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

Table 11-23
2021 No Action Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	11.7	None	B	11.2	None	A	8.3	None
Hempstead Turnpike at Locustwood Boulevard/ Gate 5 Road	B	13.3	Hempstead Tpke EB left turn	C	23.3	Gate 5 Rd SB approach	A	4.2	None
Hempstead Turnpike at Sterling Road	B	14.1	None	B	11.4	None	A	9.4	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	B	19.8	None	C	21.7	Gallant Fox Rd SB approach	A	9.9	None
Hempstead Turnpike at Gotham Avenue	B	10.9	None	B	12.2	None	A	5.3	None
Hempstead Turnpike at Holland Avenue	A	6.1	None	A	6.8	None	A	4.7	None
Hempstead Turnpike at Plainfield Avenue	A	8.2	None	A	8.3	None	A	6.6	None
Hempstead Turnpike at Elmont Road	B	19.3	Elmont Rd NB left turn and SB left turn	B	15.6	None	B	10.9	None
Hempstead Turnpike at Louis Avenue and School Road/ Marguerite Avenue	D	47.6	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	46.9	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	C	23.3	School Rd NB shared left and through; Marguerite Ave SB left turn and shared through and right
Hempstead Turnpike at Terrace Avenue	C	31.1	Hempstead Tpke EB left turn; Terrace Ave NB and SB approaches	B	17.3	Terrace Ave SB approach	A	8.5	None
Hempstead Turnpike at Stone Street	B	16.6	Stone St SB left turn and shared left and through	B	10.9	None	A	7.5	None
Hempstead Turnpike at Jacob Street	A	4.1	None	A	4.4	None	A	2.9	None
Hempstead Turnpike at Belmont Boulevard	B	14.5	None	A	9.4	None	A	4.6	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	21.3	West Gate SB approach	B	16.6	None	A	8.5	None
Hempstead Turnpike at Hill Avenue/Landau Avenue	B	19.5	Hill Ave NB approach; Landau Ave SB approach	B	17.2	Hill Ave NB approach; Landau Ave SB approach	A	9.6	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	6.2	None	A	6.7	None	A	4.5	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	40.2	Meacham Ave NB left turn; Covert Ave SB right turn	D	36.2	Covert Ave SB right turn	C	26.1	None
Elmont Road at Foster Meadow Road/ Atherton Avenue and School Road	B	19.8	None	C	20.1	None	B	17.1	None
Plainfield Avenue at Elmont Road/ Burtis Place	A	4.8	None	A	4.0	None	A	2.7	None

Table 11-23 (cont'd)
2021 No Action Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Cherry Street	B	14.0	None	B	11.7	None	A	8.1	None
Plainfield Avenue at Carnation Avenue	B	12.9	None	B	12.4	None	B	12.5	None
Plainfield Avenue at Tulip Avenue	C	24.2	None	C	21.2	None	B	13.2	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	B	16.9	None	B	15.9	None	B	10.9	None
Plainfield Avenue at Elizabeth Street	A	6.4	None	A	5.9	None	A	4.6	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	C	33.1	Plainfield Ave NB approach	C	24.2	Plainfield Ave NB approach	B	12.1	None
Jericho Turnpike at Depan Avenue/Willis Avenue	B	10.9	Depan Ave NB approach; Willis Ave SB approach	A	8.9	Depan Ave NB approach; Willis Ave SB approach	A	5.5	Depan Ave NB approach
Jericho Turnpike at Cherry Lane	B	11.3	None	A	9.7	None	A	5.2	None
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	34.0	S 5th St NB approach; Hillside Blvd SB approach	C	25.7	S 5th St NB approach; Hillside Blvd SB approach	B	11.8	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	C	33.7	Covert Ave NB left turn	C	24.0	None	B	13.7	Covert Ave NB left turn
Jericho Turnpike at New Hyde Park Rd	D	45.7	Jericho Tpke EB shared through and right; New Hyde Park Rd NB shared through and right	D	37.1	New Hyde Park Rd NB shared through and right	C	29.6	None
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	23.1	None	C	21.0	None	B	17.5	None
Jamaica Avenue at 213th Street/ Hempstead Avenue	C	21.7	None	B	19.1	None	B	16.9	None
Jamaica Avenue at Springfield Boulevard	D	38.9	None	C	30.9	None	C	24.9	None
Hempstead Avenue at Springfield Boulevard	D	53.9	Hempstead Ave EB left turn and shared through and right; WB left turn and shared through and right	D	39.0	Hempstead Ave EB left turn and WB left turn	C	24.1	None
Hempstead Avenue at 224th Street	B	14.8	None	B	14.0	None	B	11.6	None
Hempstead Avenue at 225th Street	D	42.0	Hempstead Ave EB approach and WB de facto left turn	D	43.3	Hempstead Ave EB approach and WB de facto left turn	B	15.1	None
Hempstead Avenue at Cross Island Parkway SB off-ramp	B	14.0	CIP SB off-ramp NB approach	A	6.8	CIP SB off-ramp NB approach	A	2.5	None
Hempstead Avenue at Cross Island Parkway NB off-ramp	B	11.9	CIP NB off-ramp SB approach	B	11.6	CIP NB off-ramp SB approach	A	3.8	None

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable.

A comparison of the overall intersection levels of service and individual traffic movement levels of service shows that there would be additional locations operating at mid-LOS D or worse under the 2021 No Action condition as compared to existing conditions due to the additional volumes generated by the No Action projects superimposed on top of the background growth rate.

The key overall findings of the traffic level of service analyses are:

- In the weekday AM peak hour, of the 38 intersections analyzed, the number of locations that are projected to operate at mid-LOS D or worse would increase from three under existing conditions to four in the 2021 No Action condition. The same intersections operating at overall unacceptable levels of service under existing conditions (Jericho Turnpike at New Hyde Park Road, and Jamaica Avenue and Hempstead Avenue along Springfield Boulevard) would continue to do so in the 2021 No Action condition. The intersections of Jamaica Avenue and Hempstead Avenue along Springfield Boulevard would deteriorate from above mid-LOS D to LOS E. One additional intersection—Hempstead Avenue at 225th Street—would operate above mid-LOS D. A total of 30 individual traffic movements would operate at LOS E or F, compared to 27 movements under existing conditions.
- In the weekday PM peak hour, four locations including Hempstead Turnpike at Louis Avenue/School Road, Jericho Turnpike at New Hyde Park Road, and Hempstead Avenue at Springfield Boulevard and 225th Street are projected to operate at mid-LOS D or worse in the 2021 No Action condition compared to none under existing conditions. A total of 26 individual traffic movements would operate at LOS E or F, compared to 25 movements under existing conditions.
- During the Saturday peak hours, the number of locations that are projected to operate at mid-LOS D or worse in the 2021 No Action condition would increase from one under existing conditions to three in the Saturday midday peak hour. The intersection of Hempstead Avenue at Springfield Boulevard would continue to operate at unacceptable mid-LOS D similar to existing conditions. Two additional intersections (the intersections of Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue, and Jericho Turnpike at New Hyde Park Road) during the Saturday midday peak hour, and one in the Saturday PM peak hour (the intersection of Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue) would operate at unacceptable LOS D.
- In each of the traffic peak hours, there are individual traffic movements at specific intersections that would operate at unacceptable LOS E or F, even if the overall intersection operates acceptably. The majority of the intersections with at least one traffic movement operating at LOS E or F during the study peak hours under existing conditions would continue to do so under the 2021 No Action condition with one exception: in the Saturday PM peak hour, the intersection of Jericho Turnpike at Covert Avenue would no longer have any traffic movements operating at unacceptable LOS E or F.

HIGHWAY NETWORK

TRAFFIC VOLUMES

Future No Action traffic volumes on the Cross Island Parkway corridor and its interchanges with the Long Island Expressway and Grand Central Parkway were developed by increasing the existing traffic volumes by the background growth rate to reflect expected growth in travel through the highway and incorporating vehicle trips from No Action projects within the study area. Below is a detailed description of the projected changes in traffic volumes expected within the study area due to the No Action projects (exclusive of background growth).

Traffic volumes on the northbound Cross Island Parkway between the Linden Boulevard and Jamaica Avenue interchanges would be expected to increase by approximately 25 vph, 20 vph, 40 vph, 30 vph, and 10 vph during the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours, respectively. Traffic volumes on the southbound Cross Island Parkway between the Jamaica Avenue and Linden Boulevard interchanges would be expected to increase by approximately 15 vph, 25 vph, 40 vph, 30 vph, and 5 vph during the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours, respectively.

At the interchange of the Cross Island Parkway with the Long Island Expressway, traffic volumes on the on-ramp from the westbound Long Island Expressway to the southbound Cross Island Parkway and traffic volumes on southbound Cross Island Parkway mainline just north of the on-ramp would be expected to increase by approximately 5 vph to 15 vph during the analyzed peak hours. Traffic volumes along the off-ramp from the northbound Cross Island Parkway to the eastbound Long Island Expressway, the on-ramp from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway, and the weaving segment between the ramps would be expected to increase by about 5 vph to 10 vph during the analyzed peak hours.

At the interchange of Cross Island Parkway with Grand Central Parkway, traffic volumes on the on-ramp from the westbound Grand Central Parkway to the southbound Cross Island Parkway would be expected to increase by approximately 5 vph to 10 vph during the analyzed peak hours, and traffic volumes on the southbound Cross Island Parkway mainline just north of the on-ramp would be expected to increase by about 5 vph to 25 vph during the analyzed peak hours. Traffic volumes on the on-ramp from the northbound Cross Island Parkway to the eastbound Grand Central Parkway would be expected to increase by about 5 vph to 10 vph during the analyzed peak hours.

LEVELS OF SERVICE

Tables 11-24 and 11-25 present future No Action speeds, densities, and levels of service for the highway segments analyzed between the Southern State Parkway and Jamaica Avenue for the weekday and Saturday peak hours, respectively. In the 2021 No Action condition, increased vehicular volumes generated by the No Action projects superimposed on top of the background growth rate would generally result in slightly higher densities and somewhat lower speeds on most highway segments. In a few instances, conditions would slightly improve as a result of congested locations having a “metering” effect on adjacent downstream segments of the highway network.

Average travel speeds on the northbound Cross Island Parkway in the 2021 No Action condition would be generally similar to existing speeds during the weekday AM, weekday PM, Saturday midday, and Saturday night peak hours. During the Saturday PM peak hour, northbound speeds on the segments north of Exit 26A would decrease to a range of approximately 22 to 40 mph, compared to a range of about 33 to 50 mph under existing conditions. Average speeds along the southbound Cross Island Parkway in the 2021 No Action condition would generally be similar to existing speeds during all of the peak hours, except for the Saturday PM peak hour, where speeds would decrease to a range of approximately 25 to 52 mph, compared to a range of about 34 to 52 mph under existing conditions.

Table 11-24
2021 No Action Weekday Cross Island Parkway Levels of Service

	Segment	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	4.7	159.6	F	51.4	28.8	D
	Merge segment at the on-ramp from Linden Blvd	6.9	147.6	F	50.1	30.0	D
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	10.1	136.4	F	47.5	35.0	E
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	24.8	69.1	F	51.5	31.5	D
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	19.7	69.7	F	51.9	31.9	D
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	23.3	67.1	F	46.7	29.8	D
	Mainline between the Hempstead Ave off-ramp and on-ramp	17.4	74.1	F	51.6	27.9	D
	Merge segment at the Hempstead Ave on-ramp	19.9	64.3	F	46.8	29.7	D
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	46.0	35.4	E	51.3	31.5	D
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	36.6	32.4	D	44.2	30.5	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	48.1	33.7	D	51.2	31.7	D
	Diverge segment at the off-ramp to Jamaica Ave	47.4	31.8	D	50.3	27.9	C
	Mainline between the Jamaica Ave off-ramp and on-ramp	42.3	37.6	E	49.3	28.8	D
	Merge segment at the Jamaica Ave on-ramp	26.9	46.1	F	37.0	29.0	D
	Mainline north of the Jamaica Ave on-ramp	23.8	67.8	F	50.0	29.4	D
Southbound	Diverge segment at the off-ramp to Jamaica Ave	50.7	32.5	D	51.4	31.2	D
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.2	28.7	D	50.9	33.6	D
	Merge segment at the Jamaica Ave on-ramp	42.8	30.3	D	46.0	34.9	D
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	51.0	32.6	D	48.1	36.8	E
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.5	32.1	D	49.5	35.0	E
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	51.4	32.3	D	50.3	35.2	E
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	38.5	32.2	D	37.8	34.9	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	51.0	32.8	D	51.8	34.2	D
	Diverge segment at the Hempstead Ave WB off-ramp	49.9	31.3	D	51.7	32.4	D
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	51.4	30.4	D	51.2	35.1	E
	Merge segment at the Hempstead Ave WB on-ramp	38.5	31.0	D	38.0	38.4	E
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	45.0	35.9	E	45.5	41.2	E
	Diverge segment at the Hempstead Ave EB off-ramp	38.6	35.4	E	39.8	39.9	E
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	50.8	30.2	D	49.4	41.5	E
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	45.9	30.9	D	41.2	42.0	E
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.1	33.7	D	51.5	37.4	E
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	51.2	34.6	D	49.5	36.9	E
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	51.2	33.8	D	50.8	37.2	E
	Diverge segment at the off-ramp to Linden Blvd	48.4	33.0	D	50.8	35.3	E
	Mainline between the Linden Blvd off-ramp and on-ramp	51.1	31.0	D	50.6	35.8	E
	Merge segment at the Linden Blvd on-ramp	39.6	30.1	D	37.8	36.1	E
	Diverge segment at the Southern State Parkway off-ramp	50.4	31.8	D	43.8	41.3	E

Table 11-25
2021 No Action Saturday Cross Island Parkway Levels of Service

	Segment	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	51.4	29.5	D	51.3	30.6	D	51.7	24.6	C
	Merge segment at the on-ramp from Linden Blvd	50.3	30.9	D	49.4	31.8	D	51.1	25.4	C
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	51.2	34.0	D	46.5	37.6	E	51.7	27.4	D
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	50.1	33.7	D	50.4	33.6	D	51.4	28.2	D
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	51.2	33.3	D	47.5	37.9	E	51.5	28.4	D
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	45.3	31.0	D	39.6	42.7	E	46.2	25.1	C
	Mainline between the Hempstead Ave off-ramp and on-ramp	51.4	28.0	D	39.1	42.0	E	51.6	22.5	C
	Merge segment at the Hempstead Ave on-ramp	45.6	31.0	D	29.4	61.4	F	47.0	24.6	C
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	51.0	33.1	D	30.5	70.4	F	51.5	26.3	D
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	44.1	31.9	D	30.0	55.7	F	39.0	25.4	C
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	51.1	33.2	D	26.5	73.5	F	51.4	26.3	D
	Diverge segment at the off-ramp to Jamaica Ave	50.4	29.0	D	28.2	67.4	F	51.3	23.4	C
	Mainline between the Jamaica Ave off-ramp and on-ramp	51.1	28.9	D	29.2	56.1	F	51.5	23.7	C
	Merge segment at the Jamaica Ave on-ramp	39.1	28.8	D	21.7	56.1	F	40.7	23.1	C
	Mainline north of the Jamaica Ave on-ramp	51.0	30.3	D	27.6	59.3	F	51.4	24.4	C
Southbound	Diverge segment at the off-ramp to Jamaica Ave	51.7	27.4	C	51.5	29.5	D	51.7	26.3	C
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.4	28.0	D	51.1	30.7	D	51.6	27.9	D
	Merge segment at the Jamaica Ave on-ramp	48.8	27.5	C	49.0	30.0	D	49.9	27.4	C
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	51.5	29.3	D	51.5	31.6	D	51.7	27.8	D
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.6	28.5	D	50.7	31.1	D	38.8	27.2	C
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	51.6	28.5	D	51.6	30.9	D	51.7	26.9	D
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	44.9	28.4	D	44.2	30.8	D	38.8	26.6	C
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	51.0	29.0	D	50.9	31.4	D	51.3	26.9	D
	Diverge segment at the Hempstead Ave WB off-ramp	51.2	26.6	C	51.3	29.2	D	51.5	25.2	C
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	51.5	27.7	D	49.2	31.9	D	51.6	27.6	D
	Merge segment at the Hempstead Ave WB on-ramp	41.1	28.7	D	40.1	32.1	D	41.9	28.7	D
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	46.6	31.4	D	46.3	35.5	E	48.3	30.2	D
	Diverge segment at the Hempstead Ave EB off-ramp	38.9	30.6	D	39.0	35.2	E	41.0	29.8	D
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	51.3	31.8	D	43.1	43.3	E	51.5	31.5	D
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	45.9	29.8	D	32.2	51.5	F	46.1	30.0	D
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.5	29.7	D	24.5	76.4	F	51.7	29.6	D
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	49.6	28.8	D	34.7	45.0	F	38.7	27.9	C
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	51.3	28.7	D	42.0	41.6	E	51.4	27.4	D
	Diverge segment at the off-ramp to Linden Blvd	51.7	27.4	C	51.1	31.5	D	51.5	26.0	C
	Mainline between the Linden Blvd off-ramp and on-ramp	51.6	27.9	D	51.9	31.8	D	51.7	26.5	D
	Merge segment at the Linden Blvd on-ramp	41.3	27.0	C	39.7	31.4	D	41.8	25.6	C
	Diverge segment at the Southern State Parkway off-ramp	48.0	30.0	D	48.5	34.7	D	48.9	27.9	C

In the 2021 No Action condition, the highway segments on the northbound Cross Island Parkway would generally operate similar to existing conditions, except that during the weekday PM peak hour, the mainline segment between the Linden Boulevard on-ramp and the off-ramp at Exit 26A would deteriorate from LOS D to LOS E, and during the Saturday PM peak hour, there would be additional segments operating at unacceptable LOS E or F conditions north of Exit 26A, compared to LOS D or E under existing conditions. The highway segments on the southbound Cross Island Parkway would generally operate similar to existing conditions, except that there would be some segments operating at LOS E in the vicinity of the Hempstead Avenue overpass during the weekday AM peak hour, additional segments operating at LOS E in the vicinities of Exit 26D and Linden Boulevard during the weekday PM peak hour, and additional segments operating at LOS E in the vicinity of the Hempstead Avenue overpass during the Saturday PM peak hour, compared to LOS D under existing conditions.

Tables 11-26 and 11-27 present future No Action speeds, densities, and levels of service for the key merge and weaving sections analyzed at the interchanges of the Cross Island Parkway with the Long Island Expressway and Grand Central Parkway for the weekday and Saturday peak hours, respectively. As shown in the tables, the merge and weaving segments would all continue to operate at LOS D or better, except for the merge segment on the eastbound Long Island Expressway at the on-ramp from the northbound and southbound Cross Island Parkway, which would continue to operate at LOS E during the weekday AM peak hour.

Table 11-26
2021 No Action Weekday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Weekday AM Peak Hour			Weekday PM Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	21.1	C	51.0	18.5	B
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	37.4	32.3	D	35.4	31.8	C
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	31.2	D	55.0	25.2	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		54.2	36.8	E	55.0	29.7	D
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	24.3	C	51.0	19.0	B
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	48.0	31.1	D	51.0	20.4	C

Note:
(1) See Figure 11-2 for locations

Table 11-27
2021 No Action Saturday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	21.4	C	50.0	23.4	C	51.0	20.6	C
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	34.1	32.4	D	42.8	22.7	B	45.0	17.5	B
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	26.7	D	55.0	26.1	D	55.0	21.4	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		55.0	31.8	D	55.0	31.3	D	55.0	25.7	C
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	24.1	C	51.0	22.8	C	51.0	21.3	C
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	50.0	23.4	C	51.0	21.3	C	51.0	11.0	B

Note:
(1) See Figure 11-2 for locations

LIRR SERVICE

It is expected that the LIRR service to the Belmont Park Station would remain as described above under existing conditions by the 2021 analysis year.

BUS SERVICE

It is expected that the NICE and MTA bus routes providing service to the Project Sites would remain as described above under existing conditions by the 2021 analysis year.

PARKING

It is expected that weekday and Saturday midday parking demand associated with racetrack patrons would remain as described above under existing conditions by the 2021 analysis year and that the parking areas would continue to be used for vehicle storage. As described above, NYRA is considering the addition of night racing at Belmont Park, but this would require authorization by the New York State Legislature. If night racing is approved, there would also be parking demand associated with racetrack patrons on one or two nights a week during the Spring and Fall racing meets.

PEDESTRIAN CIRCULATION

It is expected that pedestrian circulation within the Project Sites would remain as described above under existing conditions by the 2021 analysis year.

VEHICULAR AND PEDESTRIAN SAFETY

NASSAU COUNTY

As discussed above, roadway improvements within the study area include pavement resurfacing and the installation of new pavement markings along Hempstead Turnpike, and pedestrian safety improvements along Jericho Turnpike. These programmed construction projects could enhance traffic or pedestrian safety.

QUEENS

The intersections of Springfield Boulevard with Jamaica Avenue and Hempstead Avenue are categorized as priority intersections as part of New York City's Vision Zero initiatives, and the segments of Jamaica Avenue and Hempstead Avenue within the traffic study area are also categorized as priority corridors within the program. As part of its Vision Zero initiatives, the City would be expected to explore additional measures for potential implementation at these intersections and others in the study area to enhance traffic and pedestrian safety.

E. POTENTIAL IMPACTS OF THE PROPOSED ACTIONS

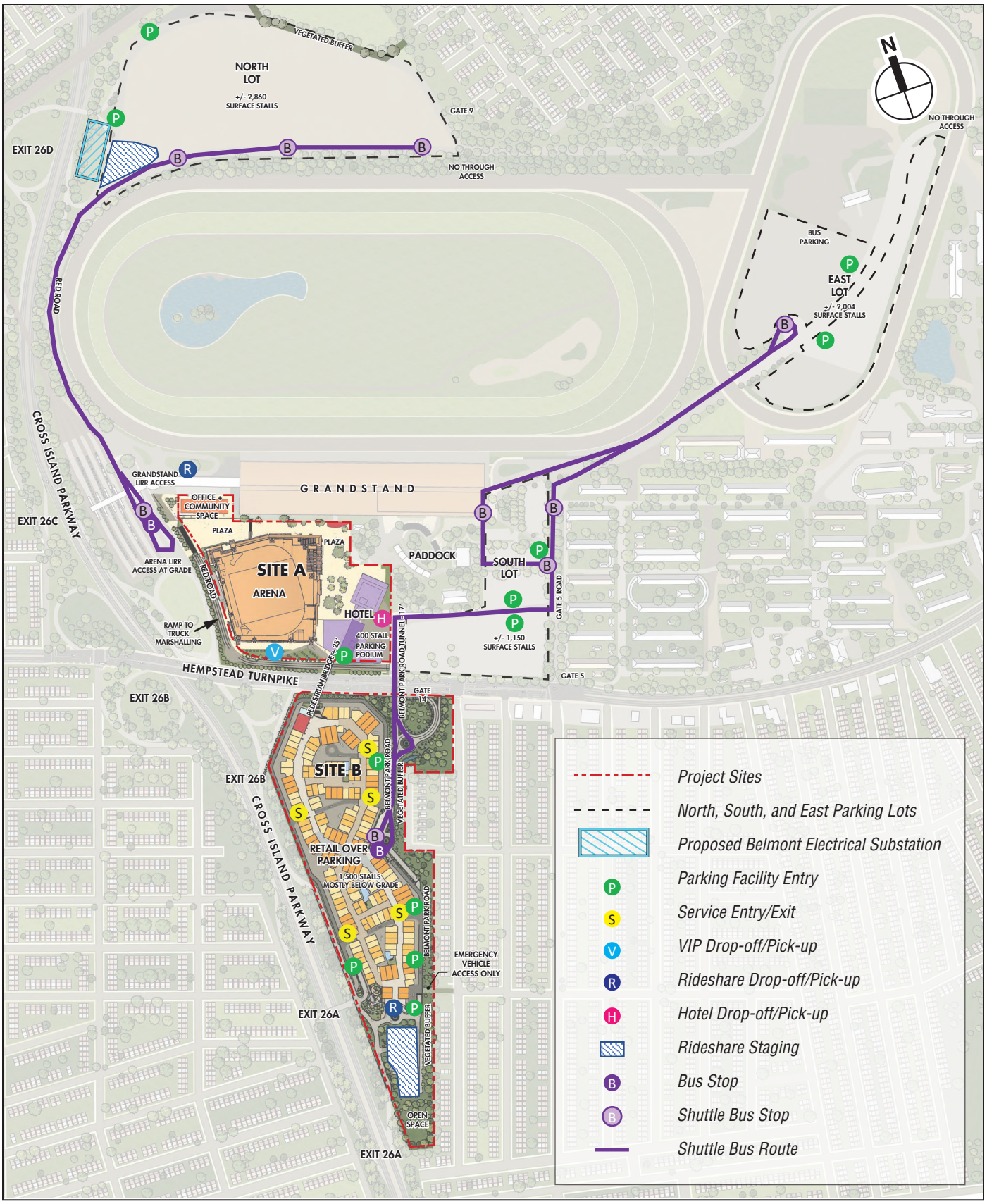
This section provides an analysis of Future conditions with the Proposed Project (the With Action condition) in the Proposed Project's Build year of 2021. As described in Chapter 1, "Project Description," the Proposed Project includes the development of a new entertainment complex, centered on a new multi-purpose arena with up to 18,000 seats for NHL hockey and up to 19,000 seats for concert/entertainment events that would fully utilize the arena's space. In addition to the arena, up to 435,000 gsf of retail, dining, and entertainment uses, up to 250 hotel rooms, 30,000 gsf of office space, 10,000 gsf of community space, as well as parking, would be developed within the grounds of Belmont Park. As part of the redevelopment plan, the Proposed Project would also create one or more grade-separated pedestrian connections providing access between Sites A and B. In addition to the two Project Sites, it is expected that NYAP would utilize the North, South, and East Lots at Belmont Park for additional parking through a shared parking agreement among NYAP, the FOB, and NYRA.

PROPOSED SITE PLAN

SITE ACCESS AND EGRESS

Vehicular access to the Project Sites and the associated parking facilities would be provided via two entrances on Hempstead Turnpike (Gates 5 and 14) and three interchanges on the Cross Island Parkway (Exits 26A, 26B/C and 26D), the locations of which are shown on the Proposed Project site plan in **Figure 11-6**:

- Gate 5, located at the signalized intersection of Hempstead Turnpike with Gate 5 Road and Locustwood Boulevard, would provide access to Site A, the South and East Lots, and the retail village from both the eastbound and westbound directions of Hempstead Turnpike and egress from Site A and the South and East Lots to both the eastbound and westbound directions of Hempstead Turnpike.
- Gate 14, a loop ramp located to the west of Wellington Road, would provide access to Site A, the South Lot, and the retail village from Hempstead Turnpike in the eastbound direction. Gate 14 would provide egress to Hempstead Turnpike in the eastbound direction; use of this exit would mostly be limited to service vehicles and coach buses exiting the retail village.



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Source: New York Arena Partners, LLC, Belmont Arena + RD&E Master Plan, July 5, 2018 and VHB.

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Proposed Project Site Plan

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-6

- Exit 26A would provide access to the retail village from the Cross Island Parkway in the northbound direction and egress from the retail village to both directions of the Cross Island Parkway. Exit 26A would also facilitate egress from Site A and the South Lot to both directions of the Cross Island Parkway. Vehicles exiting the retail village destined to local streets would enter the northbound Cross Island Parkway at Exit 26A and then use Exit 26B to access Hempstead Turnpike or Hempstead Avenue. The southbound exit ramp at Exit 26A is proposed to remain closed.
- Exit 26B/C would provide access to the retail village, Site A, South Lot, and East Lot from both directions of the Cross Island Parkway and egress from Site A and the South and East Lots to both directions of the Cross Island Parkway via Hempstead Turnpike and Gates 5 and/or 14.[11]
- Exit 26D would provide access to and egress from the North Lot and would connect with both directions of the Cross Island Parkway.

The entrances to Belmont Park at Plainfield Avenue (Gate 8) and Mayfair Avenue (Gate 9) are not proposed to be used for vehicular or pedestrian site access to the Proposed Project.

As part of the Proposed Project, improvements would be made at the site entrance at the intersection of Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road. These would include: reconfiguring Hempstead Turnpike to include two eastbound left turn lanes, two eastbound through lanes, and one eastbound shared through and right turn lane; extending the length of the eastbound left turn lane; modifying the traffic signal phasing to provide an eastbound left turn phase with a southbound right turn overlap; reconfiguring Gate 5 Road to include one southbound shared left turn and through lane, one southbound right turn lane, and two northbound receiving lanes; and relocating the crosswalk on Hempstead Turnpike from the west side of the intersection to the east side of the intersection. Schematic drawings of the proposed improvement measures are presented in **Appendix F**.

INTERNAL SITE ROADWAYS

As part of the Proposed Project, the existing internal site roadways on the Project Sites would be reconfigured. As shown in **Figure 11-6**, the new roadway network would generally consist of access roads within and around the perimeter of the Project Sites to provide access to parking facilities and pick-up/drop-off locations as well as the circulation of buses, trucks, and emergency vehicles. Once on internal roadways, guide signs would direct visitors to their destination within the Project Sites in the most direct way to minimize traffic in areas unrelated to the ultimate destination of the traveler.

North of Hempstead Turnpike, a two-way roadway network would provide access to Site A and the South Lot, with the Red Road running from Gate 5 Road through the South Lot and around the south and west sides of the arena and the west end of the racetrack, providing access to the arena's below-grade marshalling area (via a ramp on the west end of the arena), a VIP drop-off/pick-up area on the south side of the arena, and the North Lot. The portion of the Red Road adjacent to the arena would be closed during times of events when it would solely provide access for buses, emergency vehicles, and pre-screened VIP vehicles. Belmont Park Road would connect

[11] It is not expected that Exit 26C would be used by vehicles to access the Project Sites as this ramp primarily provides access from the southbound Cross Island Parkway to westbound Hempstead Avenue. Vehicles traveling to the Project Sites from the southbound Cross Island Parkway would be expected to use Exit 26B, which is a loop ramp that provides direct access to eastbound Hempstead Avenue.

with the existing vehicular/pedestrian tunnel below Hempstead Turnpike, which would be retained.

South of Hempstead Turnpike, Belmont Park Road would continue along the east side of Site B to a drop-off location and staging area for rideshare vehicles at the southern end of the retail village. This segment of the Belmont Park Road would primarily be accessed from eastbound Hempstead Turnpike at Gate 14 via a "jughandle" that would intersect Belmont Park Road at a roundabout. Belmont Park Road would include multiple right-in/right-out driveways leading to the parking facility beneath the retail village. A bus stop and valet would be located near the middle of the retail village. A service roadway that would only be accessible to trucks and emergency vehicles would be located along the northern, western, and portions of the eastern sides of the retail village at the same level as the retail stores; this would include up to five entrances to the interior and service areas of the retail village. One segment of the service roadway near the southeastern portion of the retail village would connect to a new restricted-access entrance for emergency vehicles only located near the intersection of 109th Avenue and Wellington Road. At the southern end of the retail village, a short two-way roadway would run in an east-west direction and connect Belmont Park Road with the northbound off-ramp, northbound on-ramp, and southbound on-ramp at Exit 26A on the Cross Island Parkway. An entrance to the parking beneath the retail village would be located near the southeast corner of the retail village and an exit from the parking beneath the retail village would be located near the southwestern corner of the retail village.

A two-lane, one-way perimeter road would be provided around the North Lot, providing access for autos, shuttle buses, and rideshare vehicles. Access to the East Lot for autos and shuttle buses would be provided by Gate 5 Road, which includes an underpass below the Training Track.

PARKING FACILITIES

The Project Sites would include on-site parking to accommodate the Proposed Project's patrons and employees. Site A would include approximately 400 spaces in new structured parking within and below the hotel's podium (expected to include valet parking) and Site B would include approximately 1,500 spaces on one level of new structured parking beneath the retail village (expected to include some valet parking). Additionally, during events, approximately 40 spaces would be made available for player and coach parking in the arena's loading dock area when it is not being used by trucks. Overall, the Proposed Project would include a total of 1,900 new parking spaces on Sites A and B, which would increase to 1,940 spaces during times of arena events.

In addition, it is anticipated that through a shared parking agreement among NYAP, the FOB, and NYRA, NYAP would utilize existing parking on the North, South, and East Lots (up to approximately 6,014 surface parking spaces) for arena events and/or peak shopping periods and would provide shuttle service to Site A for visitors parking in the North Lot or East Lot during times of an arena event and to the retail village for visitors parking in the South or East Lots during peak shopping periods. The North Lot would be paved and restriped to maximize the number of spaces that can be accommodated.

It is anticipated that retail shoppers, office employees and visitors, and community space visitors would not be charged a parking fee but arena patrons and other visitors such as hotel guests would be charged for parking. Retail shoppers would be differentiated from other parkers using a validation system at retail pay points. Office workers and visitors to the community space would use access cards or receive validations.

The collection of parking fees is not anticipated on entry to the parking beneath the retail village. To optimize vehicle entry into this parking facility and minimize queuing from spilling back, vehicles would enter the parking facility without waiting to collect a ticket. Parkers needing to pay would then be encouraged to pay on foot at pay stations and fees would be collected on exit. The parking within and below the hotel's podium would be verified and paid through the hotel, and some spaces would be set aside during events for arena patrons with pre-paid parking permits. The North Lot would function as a pay-on entry parking facility, and approximately six toll booths would be provided to process entering traffic. There would be separate entry lanes within the North Lot for traffic exiting the northbound and southbound directions of the Cross Island Parkway and toll booths would be situated at least a half mile from the exit ramps to minimize the potential for queues spilling back onto the parkway. During times of arena events, the South Lot would function as a pre-paid lot via the purchase of a parking permit. The East Lot would also function as a pay-on entry parking facility and payment would be collected near the southern entrance to the parking lot.

It is assumed that most arena patrons would purchase parking in advance (as part of full or partial season ticket plans or online when purchasing event tickets) and would be directed to the entrance of the parking facility where they reserved a space based on driving directions provided with the parking pass and/or guide signs on the local street and highway networks to minimize unnecessary recirculation of vehicles looking for a parking space.

Parking spaces for coach buses would be provided within the East Lot. If needed, additional buses could also be parked near the bus platforms adjacent to the LIRR Belmont Park Station.

TAXI/RIDESHARE DROP-OFF AND PICK-UP LOCATIONS

A designated drop-off and pick-up location for taxis and rideshare vehicles serving arena patrons would be located below the elevated covered walkway that connects the Grandstand with the LIRR station and bus platforms. This area would include multiple vehicle drop-off and pick-up locations to allow for simultaneous loading and unloading, a small staging lot for vehicles, and pedestrian queuing corrals on existing raised islands or the sidewalk. A larger staging area for rideshare vehicles would be provided in the southwestern corner of the North Lot and vehicles would be released from this area and travel along Red Road on the west side of the racetrack as space becomes available in the smaller staging lot near the arena. A drop-off and pick-up area for taxis and other vehicles would be provided on the east side of the hotel at its main entrance.

On Site B, a designated drop-off and pick-up location for taxis and rideshare vehicles would be located on the south end of the retail village along with a staging lot for rideshare vehicles (see **Figure 11-6**).

BUS STOPS

During times when the North and East Lots are used, shuttle bus service would be provided between these parking lots and the Project Sites. Shuttle buses would be provided to transport arena patrons parking in the North Lot to and from the arena. Multiple shuttle bus stops would be located along the south side of the North Lot and buses would operate to/from the bus platforms on the east side of the LIRR Belmont Park Station via Red Road along the west side of the racetrack. Shuttle buses would also be provided to transport arena patrons and shoppers parking in the East Lot to and from the arena and/or retail village. Bus stops along this shuttle bus route would be provided at the south end of the East Lot, along Gate 5 Road and Red Road within the

South Lot, and along Belmont Park Road midway along the east side of the retail village, the latter of which would also be used for coach buses providing service to the retail village.[12]

LOCAL STREET NETWORK

As shown in **Table 11-5**, the Proposed Project would generate a total of 832 primary vehicle trips (670 "ins" and 162 "outs") during the weekday AM peak hour, 4,261 vehicle trips (3,810 "ins" and 451 "outs") during the weekday PM peak hour, 4,075 vehicle trips (798 "ins" and 3,277 "outs") during the Saturday midday peak hour, 4,384 vehicle trips (3,758 "ins" and 626 "outs") during the Saturday PM peak hour, and 4,496 vehicle trips (240 "ins" and 4,256 "outs") during the Saturday night peak hour. The distribution of these vehicle trips and the resulting traffic volume increases and impacts on levels of service for the 2021 With Action conditions are presented below.

TRIP ASSIGNMENT

Project-generated vehicles were assigned to approach and depart the study area along the most logical routes between the trip distributions described above in the "Travel Demand Analysis" section and parking facilities or drop-off/pick-up locations within the Project Sites. The assignment of project-generated vehicle trips to site entrances is described in the following sections.

Arena

Auto trips for arena patrons were assigned to five parking facilities based on their available parking supply before an arena event:

New Parking beneath the Retail Village

Figure 11-7 shows the access and egress routes that autos would use when traveling to and from the new parking beneath the retail village. Northbound trips on the Cross Island Parkway were assigned to enter the parking facility using the off-ramp at Exit 26A and would not travel on the local street network. Southbound trips on the Cross Island Parkway were assigned to use Exit 26B and travel east along Hempstead Turnpike and enter the parking facility using the loop ramp at Gate 14. Eastbound trips on Hempstead Avenue were also assigned to enter the parking facility using the loop ramp at Gate 14 and westbound trips on Hempstead Turnpike were assigned to enter the parking facility using Gate 5 via the underpass below Hempstead Turnpike.

Vehicles exiting the parking facility destined to the northbound and southbound Cross Island Parkway would use the on-ramps at Exit 26A and would not travel on the local street network. Outbound vehicles destined to eastbound Hempstead Turnpike or westbound Hempstead Avenue would use the northbound on-ramp at Exit 26A and then use the off-ramps at Exit 26B to access Hempstead Avenue/Turnpike.

New Parking within and below the Hotel's Podium

Figure 11-8 shows the access and egress routes that autos would use when traveling to and from the new parking within and below the hotel's podium. Vehicle trips entering the parking facility were distributed between the site entrances at Gate 5 and Gate 14; vehicles from the Cross Island

[12] The transportation analyses in the FEIS conservatively assess future conditions with LIRR service provided to Belmont Park Station for arena events only. If LIRR service were to be provided to the Belmont Park Station during off-peak periods during times with no arena events, an additional shuttle bus route would be provided between the bus platforms on the east side of the LIRR Belmont Park Station and the bus stop on the north side of the retail village, operating along Red Road and Belmont Park Road.

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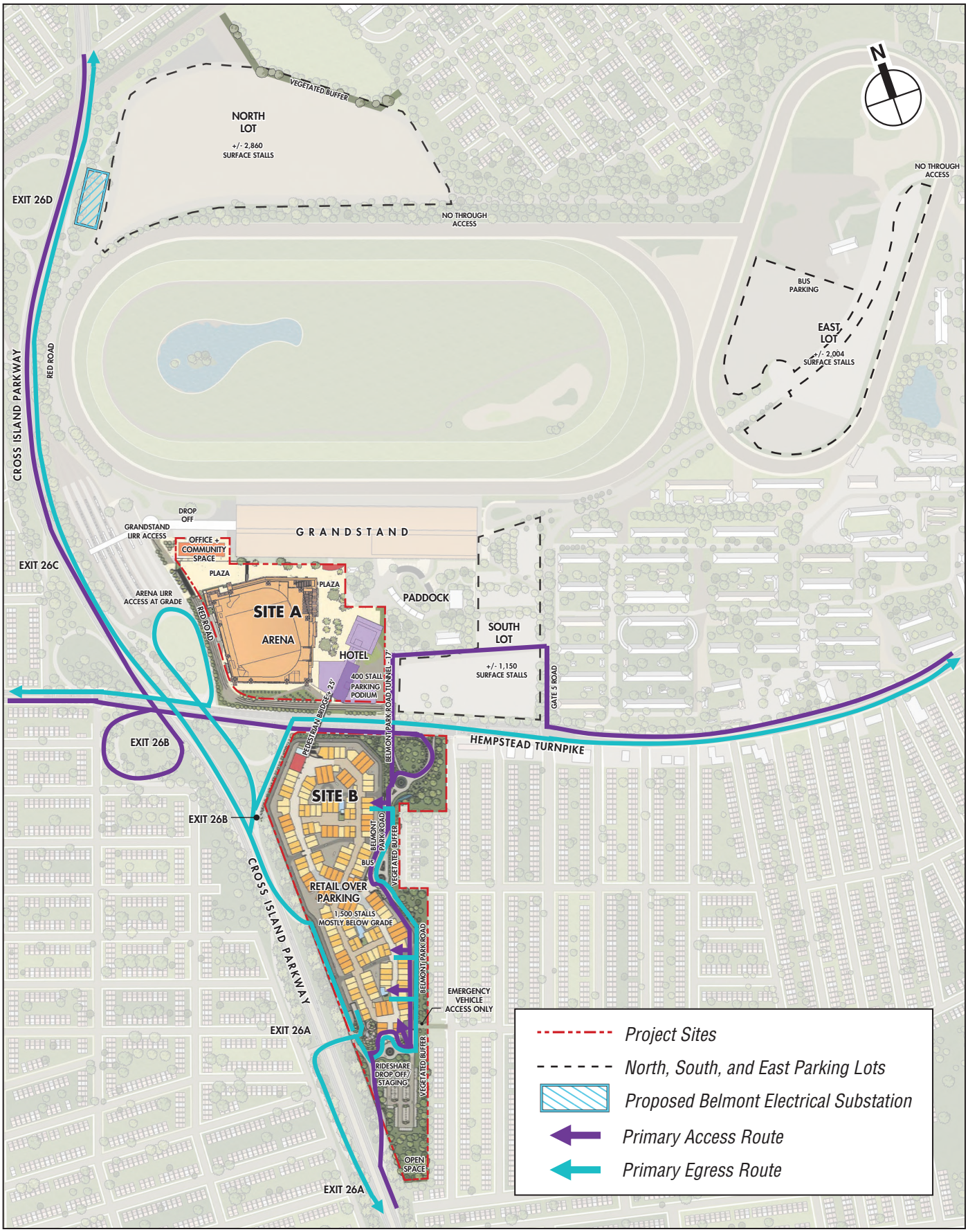

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Auto Trip Assignments to/from New Parking Beneath the Retail Village

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT **Figure 11-7**

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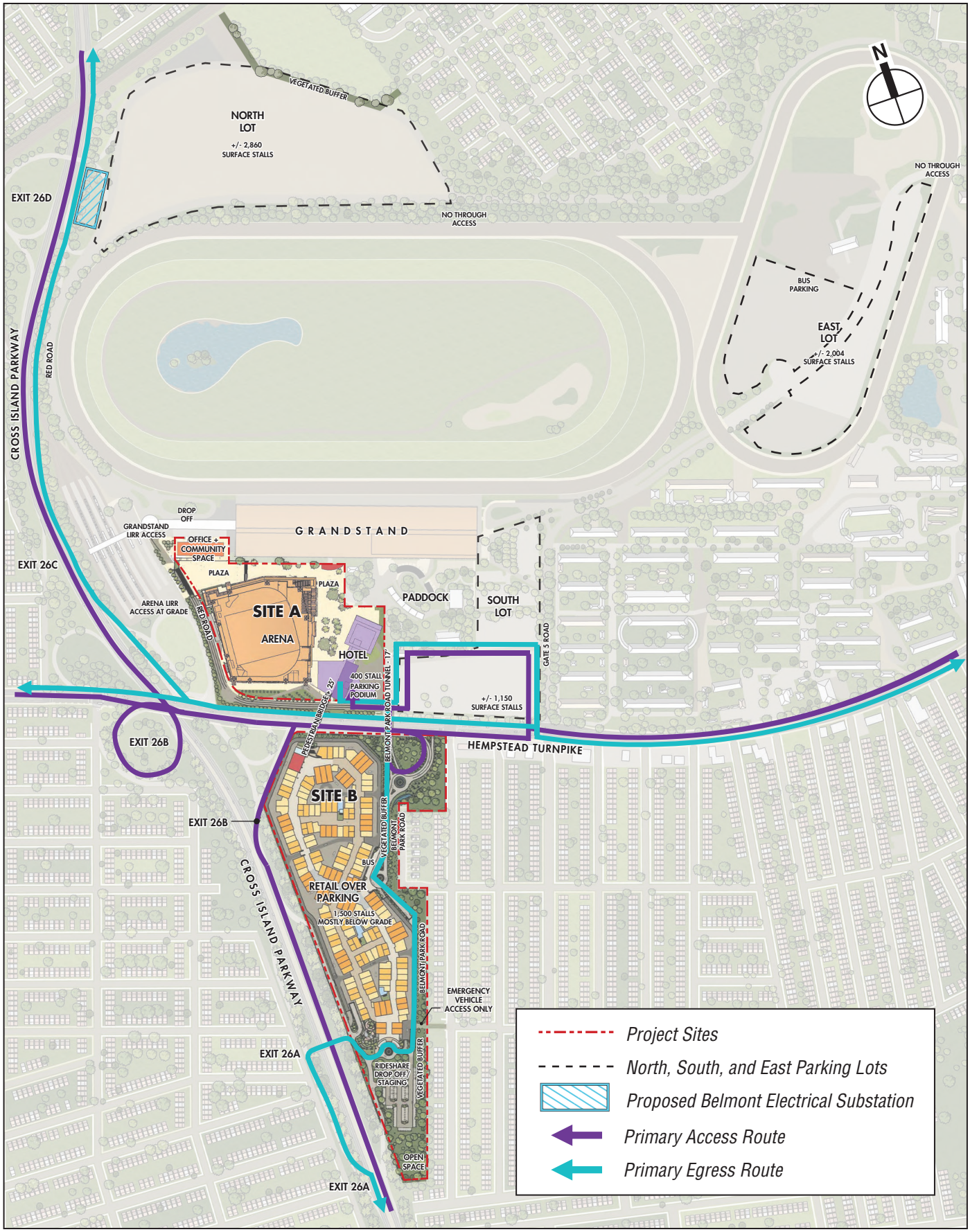

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Auto Trip Assignments to/from New Parking in the Hotel's Podium

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-8

Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5 or Gate 14. As Gate 14 is only accessible from the eastbound direction of Hempstead Turnpike, all westbound trips on Hempstead Turnpike were assigned to enter the parking facility using Gate 5.

Outbound vehicles destined for the southbound Cross Island Parkway were assigned to use the on-ramp at Exit 26A via the underpass below Hempstead Turnpike and the internal site roadway adjacent to the retail village and would not travel on the local street network. All other trips were assigned to exit the parking facility at Gate 5, and vehicles destined to the northbound Cross Island Parkway would travel westbound on Hempstead Turnpike to access the on-ramp at Exit 26B.

South Lot

Figure 11-9 shows the access and egress routes that autos would use when traveling to and from the South Lot. All trips were assigned to enter the parking facility using Gate 5 or Gate 14; vehicles from the Cross Island Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5 or Gate 14.

Some of the outbound vehicles destined for the southbound Cross Island Parkway were assigned to use the on-ramp at Exit 26A via the underpass below Hempstead Turnpike and the internal site roadway adjacent to the retail village. All other trips were assigned to exit the parking facility at Gate 5; vehicles destined to the Cross Island Parkway would travel westbound on Hempstead Turnpike to access the northbound on-ramp or the two southbound on-ramps at Exit 26B.

North Lot

Figure 11-10 shows the access and egress routes that autos would use when traveling to and from the North Lot. All trips entering and exiting the North Lot were assigned to use Exit 26D on the Cross Island Parkway.

East Lot

Figure 11-11 shows the access and egress routes that autos would use when traveling to and from the East Lot. All trips were assigned to enter the parking facility using Gate 5; vehicles from the Cross Island Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5. All trips were assigned to exit the parking facility at Gate 5; vehicles destined to the Cross Island Parkway would travel westbound on Hempstead Turnpike to access the northbound on-ramp or the two southbound on-ramps at Exit 26B.

Retail Village

Auto trips for the retail village were assigned to use the new parking beneath the retail village. Similar to the assignment for arena patrons using this parking facility, northbound trips on the Cross Island Parkway were assigned to enter the parking facility using the off-ramp at Exit 26A and would not travel on the local street network. Southbound trips on the Cross Island Parkway were assigned to use Exit 26B and travel east along Hempstead Turnpike and enter the parking facility using the loop ramp at Gate 14. Eastbound trips on Hempstead Avenue were also assigned to enter the parking facility using the loop ramp at Gate 14 and westbound trips on Hempstead Turnpike were assigned to enter the parking facility using Gate 5 via the underpass below Hempstead Turnpike.

Vehicles exiting the parking facility destined to the northbound and southbound Cross Island Parkway would use the on-ramps at Exit 26A and would not travel on the local street network. Outbound vehicles destined to eastbound Hempstead Turnpike or westbound Hempstead Avenue

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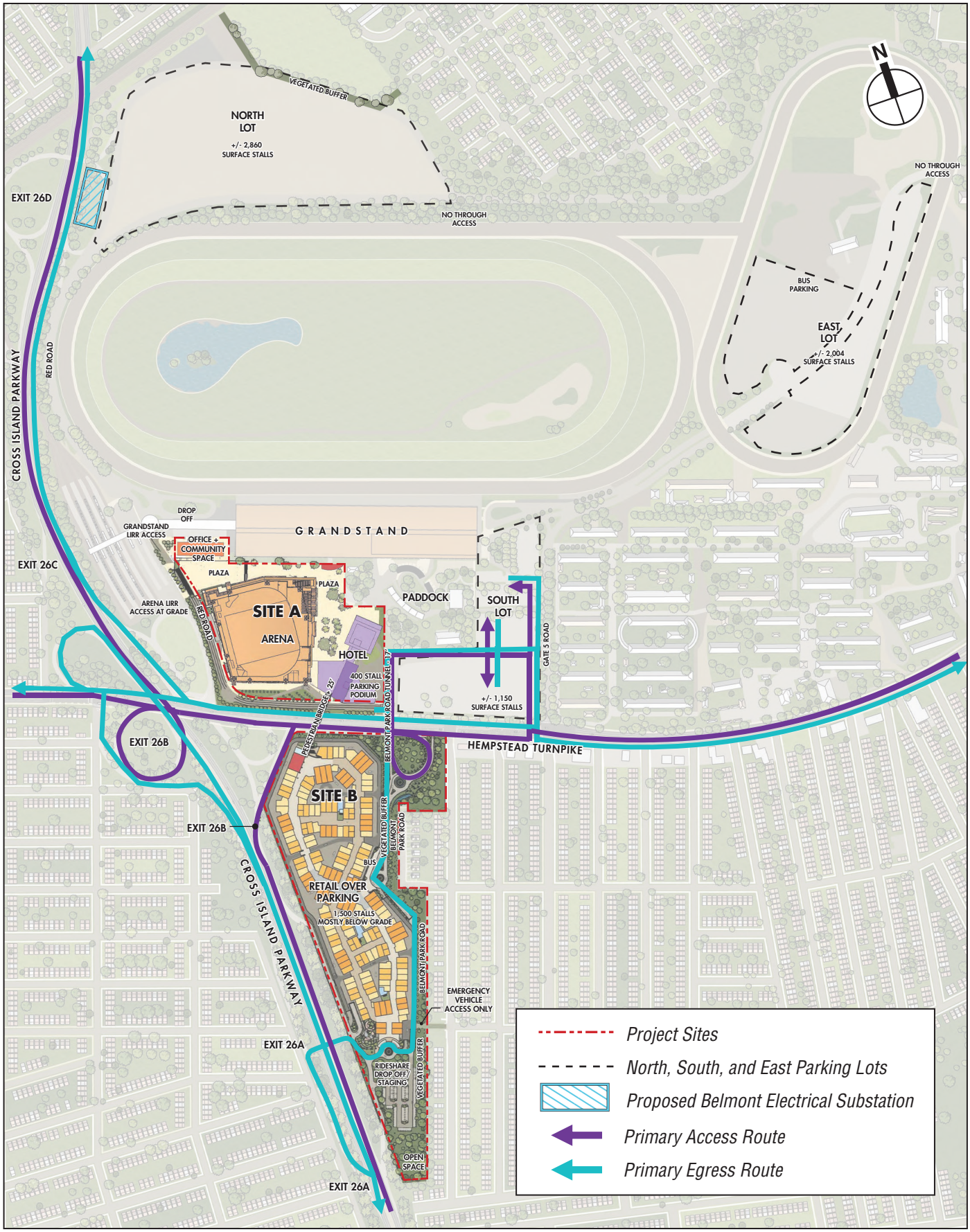

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Auto Trip Assignments to/from South Lot

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-9

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Auto Trip Assignments to/from North Lot

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-10

6.18.19

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Auto Trip Assignments to/from East Lot

BELMONT PARK REDEVELOPMENT CIVIC AND LAND USE IMPROVEMENT PROJECT

Figure 11-11

would use the northbound on-ramp at Exit 26A and then use the off-ramp at Exit 26B to access Hempstead Avenue/Turnpike.

During the Saturday midday peak hour, the new parking beneath the retail village would not be able to accommodate all of its projected demand. Therefore, a portion of the auto trips for the retail village were assigned to use the East Lot. Similar to the assignment for arena patrons using this parking facility, all trips were assigned to enter the parking facility using Gate 5; vehicles from the Cross Island Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5. All trips were assigned to exit the parking facility at Gate 5; vehicles destined to the Cross Island Parkway would travel westbound on Hempstead Turnpike to access the northbound on-ramp or the two southbound on-ramps at Exit 26B.

"Experiential" Retail, Hotel, Office, and Community Space

Auto trips for the non-arena uses on Site A were assigned to use the new parking within and below the hotel's podium. Similar to the assignment for arena patrons using this parking facility, inbound vehicle trips were distributed between the site entrances at Gate 5 and Gate 14; vehicles from the Cross Island Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5 or Gate 14. As Gate 14 is only accessible from the eastbound direction of Hempstead Turnpike, all westbound trips on Hempstead Turnpike were assigned to enter the parking facility using Gate 5.

Outbound vehicles destined for the southbound Cross Island Parkway were assigned to use the on-ramp at Exit 26A via the underpass below Hempstead Turnpike and the internal site roadway adjacent to the retail village and would not travel on the local street network. All other trips were assigned to exit the parking facility at Gate 5, and vehicles destined to the northbound Cross Island Parkway would travel westbound on Hempstead Turnpike to access the on-ramp at Exit 26B.

Pass-by Trips

Pass-by trips by autos (vehicles already in the traffic network traveling along roads adjacent to the Project Sites that would stop at the new retail uses) were assigned from Hempstead Turnpike and the Cross Island Parkway to use site entrances at Exit 26A and Gates 5 and 14.[13] These trips represent new trips added to the site driveways, but not on the adjacent local streets or highways.

Taxis and Rideshare Vehicles

Taxi and rideshare trips associated with arena patrons were assigned to enter and exit the Project Sites via Exit 26D on the Cross Island Parkway, which would provide access to the designated drop-off and pick-up location near the LIRR station and bus platforms as well as the staging area in the North Lot.

Taxi and rideshare trips for the "experiential" retail, hotel, office, and community space would use the drop-off/pick-up area at the main entrance of the hotel and enter and exit Site A using similar routes as the auto assignment for arena patrons. Inbound vehicle trips were distributed between the site entrances at Gate 5 and Gate 14; vehicles from the Cross Island Parkway would use the northbound and southbound off-ramps at Exit 26B and travel eastbound along Hempstead Turnpike to access Gate 5 or Gate 14. As Gate 14 is only accessible from the eastbound direction

[13] An example of a pass-by trip is a driver on their way home from work who decides to stop at a shopping center along their route.

of Hempstead Turnpike, all westbound trips on Hempstead Turnpike were assigned to enter Site A using Gate 5.

Outbound taxi and rideshare vehicles from Site A destined for the southbound Cross Island Parkway were assigned to use the on-ramp at Exit 26A via the underpass below Hempstead Turnpike and Belmont Park Road adjacent to the retail village and would not travel on the local street network. All other trips were assigned to exit Site A at Gate 5, and vehicles destined to the northbound Cross Island Parkway would travel westbound on Hempstead Turnpike to access the on-ramp at Exit 26B.

Taxi and rideshare trips for the retail village would use the drop-off/pick-up area at the south end of the retail village and would generally enter and exit Site B using the similar routes as auto assignment for arena patrons. Northbound and southbound trips on the Cross Island Parkway were assigned to use Exit 26B and travel east along Hempstead Turnpike and enter Site B using the loop ramp at Gate 14. Eastbound trips on Hempstead Avenue were also assigned to enter the drop-off/pick-up area using the loop ramp at Gate 14 and westbound trips on Hempstead Turnpike were assigned to enter the drop-off/pick-up area using Gate 5 via the underpass below Hempstead Turnpike.

Taxi and rideshare vehicles exiting Site B destined to the northbound and southbound Cross Island Parkway would use the on-ramps at Exit 26A and would not travel on the local street network. Outbound vehicles destined to eastbound Hempstead Turnpike or westbound Hempstead Avenue would primarily use the northbound on-ramp at Exit 26A and then use the off-ramps at Exit 26B to access Hempstead Avenue/Turnpike.

Trucks and Buses

Trucks and buses would travel to and from the Project Sites via Hempstead Avenue or Hempstead Turnpike due to access restrictions on the Cross Island Parkway. Trucks and buses to the retail village would travel eastbound along Hempstead Turnpike and would enter the Project Sites via Gate 14. Trucks and buses to Site A would travel along Hempstead Turnpike and would enter the Project Sites via Gate 5. All trucks and buses from Site A would exit the Project Sites via Gate 5, and all trucks and buses from the retail village would exit the Project Sites via Gate 14 to travel eastbound on Hempstead Turnpike and would not exit the Project Sites via the Cross Island Parkway. Trucks and buses traveling westbound along Hempstead Turnpike traveling to the retail village would turn around at a location in Queens to approach the site in the eastbound direction. Similarly, trucks and buses exiting the retail village destined to travel westbound on Hempstead Avenue would exit the Project Sites in the eastbound direction and then turn around at a location such as the intersection of Hempstead Turnpike with Locustwood Boulevard/Gate 5 Road. Service vehicles less than 9' 3" in height would be able to travel between Sites A and B using the Belmont Park Road tunnel below Hempstead Turnpike.

TRAFFIC DIVERTED BY NETWORK CHANGES

Temporary closures of internal site roadways during arena events and permanent changes to the street directions of internal site roadways would alter the flow of traffic for racetrack patrons using Exits 26A and 26D on the Cross Island Parkway in the No Action condition. With the redevelopment of Site B, Exit 26A would no longer provide direct access to the South Lot via the underpass below Hempstead Turnpike. Motorists using this exit and Belmont Park Road to access the South Lot were reassigned to instead use Exit 26B, travel east along Hempstead Turnpike, and enter the South Lot via Gate 5 and Gate 14.

During times of arena events, Exit 26D would no longer provide direct access to the South Lot via the roads running along the west side of the racetrack as the Red Road along the south and west sides of the arena would be closed off to general traffic for security purposes and to provide for emergency vehicle access. Motorists using this exit and the Red Road to access the South Lot were reassigned to instead use Exit 26B, travel east along Hempstead Turnpike, and enter the South Lot via Gate 5 and Gate 14.

Gate 3, which is located on westbound Hempstead Turnpike between the northbound Cross Island Parkway ramps and the Belmont Park Road underpass, would be closed as part of the Proposed Project. Motorists using this gate were reassigned to instead enter and exit Belmont Park via Gate 5.

TRAFFIC VOLUMES

The project-generated vehicle trips described above were added to the No Action traffic volumes to produce With Action traffic volume networks. Below is a detailed description of the projected changes in traffic volumes expected within the study area due to the Proposed Actions.

Hempstead Turnpike

Eastbound traffic volumes along Hempstead Turnpike east of Locustwood Boulevard/Gate 5 Road would be expected to increase by 5 vph to 10 vph during the weekday AM peak hour and increase by about 15 vph to 50 vph during the weekday PM and Saturday PM peak hours, respectively. West of Locustwood Boulevard/Gate 5 Road, eastbound Hempstead Turnpike traffic volumes would be expected to increase by approximately 100 vph, 605 vph, and 745 vph during the weekday AM, weekday PM, and Saturday PM peak hours, respectively. During the saturday midday and Saturday night peak hours eastbound Hempstead Turnpike traffic volumes east of Plainfield Avenue would increase by about 60 vph to 85 vph, and west of Plainfield Avenue, eastbound Hempstead Turnpike traffic volumes would increase by about 130 vph to 330 vph during the Saturday midday peak hour and by about 100 vph to 165 vph during the Saturday night peak hour.

Westbound Hempstead Turnpike traffic volumes east of Plainfield Avenue would be expected to increase by approximately 10 vph to 25 vph during the weekday AM and Saturday midday peak hours, and increase by about 60 vph to 75 vph during the weekday PM and Saturday PM peak hours. West of Plainfield Avenue, these volumes would be expected to increase by about 145 vph to 150 vph during the weekday PM and Saturday PM peak hours, and would increase by about 45 vph to 65 vph during the weekday AM and Saturday midday peak hours, except for the segment between Wellington Road and Locustwood Boulevard/Gate 5 Road, where traffic volumes would increase by about 785 vph during the Saturday midday peak hour. During the Saturday night peak hour, westbound Hempstead Turnpike traffic volumes would increase by up to 10 vph except for the segment between Locustwood Boulevard/Gate 5 Road and Wellington Road, where traffic volumes would increase by about 1,220 vph.

Plainfield Avenue

Northbound traffic volumes on Plainfield Avenue would be expected to increase by about 5 vph to 20 vph during the weekday AM, weekday PM, and Saturday PM peak hours, and by about 45 vph to 85 vph during the Saturday midday and Saturday night peak hours. Southbound Plainfield Avenue traffic volumes would be expected to increase by approximately 5 vph to 25 vph during the weekday AM, Saturday midday, and Saturday night peak hours, and would increase by about 55 vph to 80 vph during the weekday PM and Saturday PM peak hours.

Jericho Turnpike

During all of the peak hours, traffic volumes on Jericho Turnpike would generally increase by approximately 5 vph to 15 vph in each direction, except for westbound traffic volumes during the weekday PM and Saturday PM peak hour and eastbound traffic volumes during Saturday midday and Saturday night peak hours, which would be expected to increase by about 30 vph to 85 vph.

Elmont Road

During all of the peak hours, traffic volumes on Elmont Road would generally increase by about 5 vph in each direction.

Jamaica Avenue

During all of the peak hours, eastbound and westbound traffic volumes on Jamaica Avenue at Hempstead Avenue would be expected to increase by approximately 5 vph to 25 vph.

Hempstead Avenue

During all of the peak hours on Hempstead Avenue, eastbound and westbound traffic volumes west of the Cross Island Parkway southbound off-ramp would be expected to increase by about 5 vph to 45 vph except for the westbound traffic volumes on the segment between 225th Street and the Cross Island Parkway northbound off-ramp, where traffic volumes would increase by about 250 vph and 400 vph during the Saturday midday and Saturday night peak hours, respectively. Eastbound Hempstead Avenue traffic volumes east of the Cross Island Parkway southbound off-ramp would be expected to increase by about 330 vph to 420 vph, 420 vph to 785 vph, and 100 vph to 175 vph during the weekday AM, Saturday midday, and Saturday night peak hours, respectively. For the same segment, during the weekday PM and Saturday PM peak hours, eastbound Hempstead Avenue traffic volumes would increase in the range of 1,060 vph to 1,850 vph. Westbound Hempstead Avenue traffic volumes east of the Cross Island Parkway northbound off-ramp would be expected to increase by about 65 vph during the weekday AM peak hour, 115 vph to 245 vph during the weekday PM and Saturday PM peak hours, 775 vph during the Saturday midday peak hour, and 1,220 vph during the Saturday night peak hour.

Detailed traffic volume maps showing the project-generated vehicle trip increments and the resulting traffic volumes in the 2021 With Action condition for the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours are presented in **Appendix F**.

LEVELS OF SERVICE

Based on the traffic increments described above, the 2021 With Action traffic levels of service were determined for each of the traffic analysis locations. **Tables 11-28 and 11-29** present the resulting overall level of service at each intersection in the study area as well as the specific traffic movements that operate at unacceptable LOS E or F during the weekday and Saturday peak hours, respectively. Detailed traffic level of service tables showing all intersection movements are available in **Appendix F**.

Table 11-28
2021 With Action Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	16.0	None	B	11.9	None
Hempstead Turnpike at Locustwood Boulevard/ Gate 5 Road	B	14.7	None	D	37.5	Hempstead Tpke EB left turn
Hempstead Turnpike at Sterling Road	B	12.0	None	A	9.7	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	C	24.7	None	B	17.0	None
Hempstead Turnpike at Gotham Avenue	B	11.9	None	B	11.8	None
Hempstead Turnpike at Holland Avenue	A	9.8	None	A	7.2	None
Hempstead Turnpike at Plainfield Avenue	B	10.8	None	B	11.1	None
Hempstead Turnpike at Elmont Road	C	27.7	Elmont Rd NB shared through and right and SB left turn	B	19.4	Elmont Rd NB left turn
Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue	C	30.2	School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	49.4	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right
Hempstead Turnpike at Terrace Avenue	B	11.1	None	B	11.3	None
Hempstead Turnpike at Stone Street	A	7.2	None	A	9.6	None
Hempstead Turnpike at Jacob Street	A	3.1	None	A	4.3	None
Hempstead Turnpike at Belmont Boulevard	B	11.0	None	B	11.6	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	24.0	West Gate SB approach	B	15.7	None
Hempstead Turnpike at Hill Avenue/ Landau Avenue	C	32.8	Hill Ave NB approach; Landau Ave SB approach	C	20.2	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	7.9	Butler Ave NB approach	A	7.3	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	45.1	Meacham Ave NB through	D	40.3	Meacham Ave NB left turn; Covert Ave SB through and right turn
Elmont Road at Foster Meadow Road/Atherton Avenue and School Road	B	17.9	None	C	20.3	None
Plainfield Avenue at Elmont Road/Burtis Place	A	4.0	None	A	6.7	None
Plainfield Avenue at Cherry Street	C	19.6	None	D	25.7	None

Table 11-28 (cont'd)
2021 With Action Weekday Traffic Levels of Service Summary

Intersection	Weekday AM Peak Hour			Weekday PM Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Carnation Avenue	C	21.7	None	B	17.5	None
Plainfield Avenue at Tulip Avenue	C	34.5	Plainfield Ave NB approach	C	25.0	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	D	37.3	Woodbine Ct EB approach; Magnolia Ave WB approach	C	21.5	Woodbine Ct EB approach
Plainfield Avenue at Elizabeth Street	A	9.4	None	A	7.1	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	D	43.7	Jericho Tpke WB left turn; Plainfield Ave NB approach	C	33.6	Plainfield Ave NB approach
Jericho Turnpike at Depan Ave/Willis Ave	B	10.3	Depan Ave NB approach; Willis Ave SB approach	A	8.4	Depan Ave NB approach; Willis Ave SB approach
Jericho Turnpike at Cherry Lane	A	9.5	None	B	18.1	Cherry Ln SB approach
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	25.1	None	C	28.5	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	C	31.9	Covert Ave NB shared through and right	D	36.3	Covert Ave NB left turn
Jericho Turnpike at New Hyde Park Road	D	51.0	New Hyde Park Rd NB shared through and right	D	51.4	Jericho Tpke EB shared through and right; New Hyde Park Rd NB shared through and right, and SB shared through and right
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	22.8	212th Pl SB approach	C	24.9	212th Pl SB approach
Jamaica Avenue at 213th Street/ Hempstead Avenue	D	39.7	Hempstead Ave NB left turn and shared left and through	B	17.1	None
Jamaica Avenue at Springfield Boulevard	E	61.4	Jamaica Ave WB approach; Springfield Blvd NB shared through and right and SB left turn	D	37.7	None
Hempstead Avenue at Springfield Boulevard	F	85.1	Hempstead Ave EB left turn; WB left turn and shared through and right; Springfield Blvd NB through and right; SB left turn	D	50.0	Hempstead Ave EB shared through and right and WB left turn
Hempstead Avenue at 224th Street	B	17.5	None	B	18.7	None
Hempstead Avenue at 225th Street	D	51.4	Hempstead Ave EB approach; 225th St NB right turn	F	93.8	Hempstead Ave EB through and de facto right turn; WB de facto left turn
Hempstead Avenue at Cross Island Parkway SB off-ramp	D	32.3	CIP SB off-ramp NB approach	F	300.3	CIP SB off-ramp NB approach
Hempstead Avenue at Cross Island Parkway NB off-ramp	A	1.7	None	A	4.6	CIP NB off-ramp SB approach

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable. Shading denotes intersections with significant adverse traffic impacts.

Table 11-29
2021 With Action Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Hempstead Turnpike at Wellington Road	B	10.9	None	B	13.0	None	A	8.4	None
Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road	F	136.5	Hempstead Tpke EB left turn; Gate 5 Rd SB right turn	F	195.4	Hempstead Tpke EB left turn; Gate 5 Rd SB right turn	F	426.0	Gate 5 Rd SB right turn
Hempstead Turnpike at Sterling Road	B	13.2	None	B	10.9	None	A	8.2	None
Hempstead Turnpike at Gallant Fox Road/ Biltmore Avenue	C	21.1	None	C	22.5	Gallant Fox Rd SB approach	A	9.4	None
Hempstead Turnpike at Gotham Avenue	B	12.9	None	B	12.6	None	A	6.2	None
Hempstead Turnpike at Holland Avenue	A	7.4	None	A	8.9	None	A	4.8	None
Hempstead Turnpike at Plainfield Avenue	A	9.1	None	B	11.2	None	A	6.9	None
Hempstead Turnpike at Elmont Road	B	19.8	Elmont Rd NB left turn and SB left turn	B	16.2	None	B	10.6	None
Hempstead Turnpike at Louis Avenue and School Road/ Marguerite Avenue	E	57.3	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	D	49.4	Hempstead Tpke EB approach; School Rd NB shared left and through; Marguerite Ave SB shared through and right	C	25.5	School Rd NB shared left and through; Marguerite Ave SB left turn and shared through and right
Hempstead Turnpike at Terrace Avenue	C	31.4	Hempstead Tpke EB left turn; Terrace Ave NB and SB approaches	B	17.8	Terrace Ave SB approach	A	8.3	None
Hempstead Turnpike at Stone Street	B	16.7	Hempstead Tpke EB left turn; Stone St SB left turn and shared left and through	B	10.9	None	A	7.5	None
Hempstead Turnpike at Jacob Street	A	4.1	None	A	4.3	None	A	2.9	None
Hempstead Turnpike at Belmont Boulevard	B	15.0	None	A	9.7	None	A	4.7	None
Hempstead Turnpike at Benson Avenue/ West Gate	C	21.7	West Gate SB approach	B	17.2	None	A	8.3	None
Hempstead Turnpike at Hill Avenue/Landau Avenue	C	20.2	Hill Ave NB approach; Landau Ave SB approach	B	17.3	Hill Ave NB approach; Landau Ave SB approach	A	9.6	Hill Ave NB approach; Landau Ave SB approach
Hempstead Turnpike at Butler Boulevard/ Crown Avenue	A	6.3	Butler Ave NB approach	A	6.7	None	A	4.4	None
Hempstead Turnpike at Meacham Avenue/ Covert Avenue	D	41.0	Meacham Ave NB left turn; Covert Ave SB right turn	D	36.6	Covert Ave SB right turn	C	26.2	None
Elmont Road at Foster Meadow Road/ Atherton Avenue and School Road	B	19.7	None	B	20.0	None	B	17.0	None

Table 11-29 (cont'd)
2021 With Action Saturday Traffic Levels of Service Summary

Intersection	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F	Overall LOS	Delay	Traffic Movements at LOS E or F
Plainfield Avenue at Elmont Road/ Burtis Place	A	7.3	None	A	4.0	None	A	4.5	None
Plainfield Avenue at Cherry Street	C	16.3	None	B	13.6	None	A	8.6	None
Plainfield Avenue at Carnation Avenue	B	12.9	None	B	12.3	None	B	11.1	None
Plainfield Avenue at Tulip Avenue	C	26.5	None	C	22.8	None	B	15.1	None
Plainfield Avenue at Woodbine Court/ Magnolia Avenue	B	16.6	None	B	15.6	None	A	9.6	None
Plainfield Avenue at Elizabeth Street	A	6.3	None	A	5.8	None	A	4.2	None
Jericho Turnpike at Plainfield Avenue/ Emerson Avenue	D	39.6	Jericho Tpke WB left turn; Plainfield Ave NB approach	C	25.5	Plainfield Ave NB approach	B	14.6	None
Jericho Turnpike at Depan Avenue/Willis Avenue	B	11.1	Depan Ave NB approach; Willis Ave SB approach	A	9.2	Depan Ave NB approach; Willis Ave SB approach	A	5.4	Depan Ave NB approach
Jericho Turnpike at Cherry Lane	B	11.4	None	A	10.0	None	A	5.1	None
Jericho Turnpike at South 5th Street/ Hillside Boulevard	C	34.6	S 5th St NB approach; Hillside Blvd SB approach	C	26.8	S 5th St NB approach; Hillside Blvd SB approach	B	11.5	S 5th St NB approach; Hillside Blvd SB approach
Jericho Turnpike at Covert Avenue/ Driveway	D	35.8	Covert Ave NB left turn	C	24.1	None	B	13.7	Covert Ave NB left turn
Jericho Turnpike at New Hyde Park Rd	D	48.6	Jericho Tpke EB shared through and right; New Hyde Park Rd NB shared through and right	D	37.5	New Hyde Park Rd NB shared through and right	C	30.1	None
Jamaica Avenue at 212th Place/ Hempstead Avenue	C	23.7	None	C	21.3	None	B	17.7	None
Jamaica Avenue at 213th Street/ Hempstead Avenue	C	22.3	None	B	19.4	None	B	17.2	None
Jamaica Avenue at Springfield Boulevard	D	39.1	None	C	31.0	None	C	24.9	None
Hempstead Avenue at Springfield Boulevard	E	63.1	Hempstead Ave EB left turn and shared through and right, WB left turn and shared through and right	D	42.1	Hempstead Ave EB left turn and WB left turn	C	24.4	None
Hempstead Avenue at 224th Street	B	14.7	None	B	14.1	None	B	11.1	None
Hempstead Avenue at 225th Street	E	66.3	Hempstead Ave EB approach and WB de facto left turn	D	45.8	Hempstead Ave EB approach and WB de facto left turn	B	18.1	None
Hempstead Avenue at Cross Island Parkway SB off-ramp	F	97.3	CIP SB Off-ramp NB approach	F	337.9	CIP SB Off-ramp NB approach	A	2.8	None
Hempstead Avenue at Cross Island Parkway NB off-ramp	E	41.1	CIP NB off-ramp SB approach	C	15.8	CIP NB off-ramp SB approach	C	20.2	CIP NB off-ramp SB approach

Note: Delay measured in seconds per vehicle. See **Appendix F** for detailed LOS for each turning movement. See page 11-13 for definitions of Levels of Service (LOS) and which LOS are considered acceptable. Shading denotes intersections with significant adverse traffic impacts.

The key overall findings of the traffic level of service analyses are:

- In the weekday AM peak hour, of the 38 intersections analyzed, the number of locations that are projected to operate at mid-LOS D or worse would increase from four under the 2021 No Action condition to five in the 2021 With Action condition. The same four intersections operating at overall unacceptable levels of service under the 2021 No Action condition (Jericho Turnpike at New Hyde Park Road, Springfield Boulevard at Jamaica and Hempstead Avenues, and Hempstead Avenue at 225th Street) would continue to do so in the 2021 With Action condition. One additional intersection—Hempstead Turnpike at Meacham Avenue/Covert Avenue—would operate above mid-LOS D. A total of 32 individual traffic movements would operate at LOS E or F, compared to 30 individual traffic movements under the 2021 No Action condition.
- In the weekday PM peak hour, the number of locations that are projected to operate at mid-LOS D or worse would increase from four under the 2021 No Action condition to five in the 2021 With Action condition. All of the locations operating at overall unacceptable levels of service under 2021 No Action condition would continue to do so under the 2021 With Action condition. One additional intersection—Hempstead Avenue at the Cross Island Parkway southbound off-ramp—would operate at LOS F under the 2021 With Action condition. A total of 29 individual traffic movements would operate at LOS E or F, compared to 26 individual traffic movements under the 2021 No Action condition.
- During the Saturday peak hours, the same three locations that are projected to operate at mid-LOS D or worse in the 2021 No Action condition would continue to do so under the 2021 With Action condition. Four additional intersections would operate at mid-LOS D or worse under the 2021 With Action condition. The intersection of Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road would operate at an unacceptable LOS F during the Saturday midday, Saturday PM, and Saturday night peak hours. The intersection of Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue would worsen from LOS D to LOS E in the Saturday midday peak hour. The intersection of Hempstead Avenue at Springfield Boulevard would worsen from LOS D to LOS E in the Saturday midday peak hour. The intersection of Hempstead Avenue and 225th Street would operate at LOS E during the Saturday midday peak hour, and above mid-LOS D during the Saturday PM peak hour under the 2021 With Action condition. The intersection of Hempstead Avenue and the Cross Island Parkway southbound off-ramp would operate at LOS F during Saturday midday and Saturday PM peak hours, and the intersection of Hempstead Avenue and the Cross Island Parkway northbound off-ramp would operate at LOS E during the Saturday midday peak hour. A total of 36 individual traffic movements compared to 32, 22 compared to 21, and 11 compared to 9, would operate at LOS E or F during the Saturday midday, Saturday PM, and Saturday night peak hours, respectively.
- In each of the traffic peak hours, there are individual traffic movements at specific intersections that would operate at unacceptable LOS E or F, even if the overall intersection operates acceptably. The majority of the intersections with at least one traffic movement operating at LOS E or F during the study peak hours under 2021 No Action condition would continue to do so under the 2021 With Action condition with the following exceptions:
  - The intersection of Hempstead Avenue at the Cross Island Parkway southbound off-ramp would have at least one traffic movement at unacceptable LOS E or F during both the weekday peak hours compared to none under the 2021 No Action condition.

- In the weekday PM peak hour, the intersections of Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road and Hempstead Avenue at the Cross Island Parkway northbound off-ramp would have at least one traffic movement at unacceptable LOS E or F compared to none under the 2021 No Action condition.
- In the Saturday midday peak hour, the intersection of Hempstead Turnpike at Butler Boulevard/Crown Avenue would have at least one traffic movement operating at LOS E or F compared to none under the 2021 No Action condition.
- In the Saturday night peak hour, Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road, and the intersection of Hempstead Avenue at the Cross Island Parkway northbound off-ramp would have at least one traffic movement operating at LOS E or F compared to none under the 2021 No Action condition.

Of the 38 intersections analyzed, the Proposed Project would result in significant adverse traffic impacts at six intersections (at nine movements) during the weekday AM peak hour, six intersections (at six movements) during the weekday PM peak hour, nine intersections (at 13 movements) during the Saturday midday peak hour, six intersections (at nine movements) during the Saturday PM peak hour, and two intersections (at two movements) during the Saturday night peak hour.[14] The significantly impacted traffic movements are identified below:

Hempstead Turnpike at Locustwood Boulevard/Gate 5 Road

- Eastbound Hempstead Turnpike left turn movement (weekday PM and Saturday PM)
- Southbound Gate 5 Road right turn movement (Saturday midday, Saturday PM, and Saturday night)

Hempstead Turnpike at Louis Avenue and School Road/Marguerite Avenue

- Eastbound Hempstead Turnpike approach (weekday PM, Saturday midday, and Saturday PM)

Hempstead Turnpike at Terrace Avenue

- Eastbound Hempstead Turnpike left turn movement (Saturday midday)

Plainfield Avenue at Tulip Avenue

- Northbound Plainfield Avenue approach (weekday AM)

Jericho Turnpike at Plainfield Avenue/Emerson Avenue

- Westbound Jericho Turnpike left turn movement (weekday AM and Saturday midday)
- Northbound Plainfield Avenue approach (weekday AM)

Jericho Turnpike at New Hyde Park Road

- Eastbound Jericho Turnpike shared through and right turn movement (Saturday midday)

Jamaica Avenue at 213th Street/Hempstead Avenue

- Northbound Hempstead Avenue shared left turn and through movement (weekday AM)

[14] Criteria from the *City Environmental Quality Review (CEQR) Technical Manual* were used for the determination of significant impacts for intersections located in Queens.

Hempstead Avenue at Springfield Boulevard

- Eastbound Hempstead Avenue left turn movement (Saturday midday and Saturday PM)
- Westbound Hempstead Avenue left turn movement (weekday AM, weekday PM, Saturday midday, and Saturday PM)
- Westbound Hempstead Avenue shared through and right turn movement (Saturday midday)
- Northbound Springfield Boulevard shared through and right turn movements (weekday AM)
- Southbound Springfield Boulevard left turn movement (weekday AM and Saturday midday)

Hempstead Avenue at 225th Street

- Eastbound Hempstead Avenue approach (weekday AM, Saturday midday, and Saturday PM)
- Eastbound Hempstead Avenue through movement (weekday PM)
- Westbound Hempstead Avenue de facto left turn movement (Saturday midday and Saturday PM)

Hempstead Avenue at Cross Island Parkway Southbound Off-Ramp

- Northbound off-ramp right turn movement (weekday AM, weekday PM, Saturday midday, and Saturday PM)

Hempstead Avenue at Cross Island Parkway Northbound Off-Ramp

- Southbound off-ramp right turn movement (weekday PM, Saturday midday, Saturday PM, and Saturday night)

The identification and evaluation of traffic capacity improvements needed to mitigate potential significant adverse traffic impacts created by the Proposed Project are presented in Chapter 17, "Mitigation."

POTENTIAL FOR TRAFFIC DIVERSIONS TO LOCAL STREETS

The site access and egress locations for the Proposed Project has been designed to minimize the potential for project-generated trips to divert onto alternate routes or "cut through" local streets as a means to reduce travel times and/or avoid traffic congestion. The Project Sites would include direct on-ramps and off-ramps to the Cross Island Parkway at Exits 26A and 26D, the latter of which would serve as the single point of access and egress to the North Lot. Most vehicles accessing Site B, as well as a portion of vehicles accessing Site A, would use the "jughandle" from eastbound Hempstead Turnpike to enter the Project Sites, discouraging vehicles from traveling through the residential communities located to the east. As previously described in the "Proposed Site Plan" section above, the entrances to Belmont Park at Plainfield Avenue (Gate 8) and Mayfair Avenue (Gate 9) are not proposed to be used for vehicular or pedestrian site access to the Proposed Project.

Nonetheless, it is acknowledged that certain routes in the vicinity of the traffic study area may be susceptible to traffic diversions by drivers using mobile navigation apps with real-time traffic data (e.g., Google Maps or Waze) to avoid congestion, or by other motorists with a high degree of familiarity with the local street network. One such diversion route may include Elmont Road, which could be used by vehicles in the northbound direction originating from the eastbound Belt Parkway or the westbound Southern State Parkway in the event that there is congestion on the northbound Cross Island Parkway. Another diversion route may include the roadway pair of 212th Street and Hollis Court Boulevard, which could be used by northbound and southbound vehicles,

respectively, in traveling between Hempstead Avenue and the Clearview Expressway or Grand Central Parkway. The trip distribution and assignment used in the traffic analysis include the assignment of some project-generated trips to these routes, but it is possible that a greater percentage of traffic may choose to use these routes in certain instances. Should traffic diversions occur, potential mitigation measures that could be implemented to address this issue are discussed in Chapter 17, "Mitigation."

EFFECT ON EMERGENCY VEHICLE RESPONSE TIMES

The Proposed Project would result in increased traffic volumes and delays at intersection movements in the local street network during the peak hours analyzed and could potentially slow down emergency vehicle response times. However, with the proposed mitigation measures described in Chapter 17, "Mitigation," project-generated traffic volumes are not expected to significantly affect emergency vehicle response times. Furthermore, emergency vehicles such as police cars, fire trucks, and ambulances can maneuver around and through congested areas when responding to emergencies because they are not bound by standard traffic controls. Therefore, incremental traffic volumes projected to occur with the Proposed Project would not be expected to significantly affect emergency vehicle response times.

The Project Sites will be served by multiple access points including Gates 5 and 14 on Hempstead Turnpike and Exits 26A and 26D on the Cross Island Parkway as well as multiple access points for emergency vehicles only, including existing entrances to Belmont Park at Gate 6 (Gallant Fox Road), Gate 7 (Man O' War Avenue), Gate 8 (Plainfield Avenue), Gate 9 (Mayfair Avenue), and the new restricted-access entrance to Site B near the intersection of 109th Avenue and Wellington Road.

HIGHWAY NETWORK

TRAFFIC VOLUMES

Traffic volumes on the northbound Cross Island Parkway between the Linden Boulevard and Jamaica Avenue interchanges would be expected to increase by approximately 85 vph to 120 vph during the weekday AM peak hour, except for the segment south of Exit 26A where traffic volumes would increase by about 290 vph. During the weekday PM and Saturday PM peak hours, traffic volumes on the northbound Cross Island Parkway would be expected to increase by about 1,300 vph to 1,650 vph south of Exit 26B, increase by about 1,000 vph to 1,100 vph between Exit 26B and Exit 26D, and increase by about 250 vph to 350 vph north of Exit 26D. During the Saturday midday and Saturday night peak hours, traffic volumes on the northbound Cross Island Parkway would be expected to increase by about 100 vph to 350 vph south of Exit 26A, increase by about 550 vph to 1,300 vph between Exit 26A and Exit 26D, and increase by about 1,700 vph to 2,300 vph north of Exit 26D.

Traffic volumes on the southbound Cross Island Parkway would be expected to increase by about 295 vph north of Exit 26B and increase by about 60 vph south of Exit 26A during the weekday AM peak hour. During the weekday PM and Saturday PM peak hours, traffic volumes on the southbound Cross Island Parkway would be expected to increase by about 1,950 vph to 2,000 vph north of Exit 26D, increase by about 1,000 vph to 1,100 vph between Exit 26D and Exit 26B, and increase by about 50 vph to 300 vph south of Exit 26B. During the Saturday midday and Saturday night peak hours, southbound Cross Island Parkway traffic volumes would be expected to increase by about 50 vph to 400 vph north of Exit 26D, increase by about 900 vph to 1,200 vph between Exit 26D and Exit 26A, and increase by about 1,500 vph to 1,850 vph south of Exit 26A.

At the interchange of the Cross Island Parkway with the Long Island Expressway, traffic volumes on the on-ramp from the westbound Long Island Expressway to the southbound Cross Island Parkway would be expected to increase by approximately 45 vph to 115 vph during the weekday AM, Saturday midday, and Saturday night peak hours, and increase by about 820 vph to 840 vph during the weekday PM and Saturday PM peak hours. At this same interchange, traffic volumes on the southbound Cross Island Parkway mainline just north of the on-ramp would be expected to increase by approximately 20 vph to 40 vph during the weekday AM, Saturday midday, and Saturday night peak hours, and increase by about 325 vph to 335 vph during the weekday PM and Saturday PM peak hours.

Traffic volumes along the off-ramp from the northbound Cross Island Parkway to the eastbound Long Island Expressway, the on-ramp from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway, and the weaving segment between the ramps would be expected to increase by about 15 vph during the weekday AM peak hour, increase by about 65 vph to 85 vph during the weekday PM and Saturday PM peak hours, increase by about 650 vph during the Saturday midday peak hour, and increase by about 940 vph during the Saturday night peak hour.

At the interchange of the Cross Island Parkway with the Grand Central Parkway, traffic volumes on the on-ramp from the westbound Grand Central Parkway to the southbound Cross Island Parkway would be expected to increase by about 25 vph to 75 vph during the weekday AM, Saturday midday, and Saturday night peak hours, and increase by about 450 vph to 460 vph during the weekday PM and Saturday PM peak hours. Traffic volumes on the southbound Cross Island Parkway mainline just north of the on-ramp would be expected to increase by about 145 vph to 200 vph during the weekday AM and Saturday midday peak hours, increase by about 1,300 vph to 1,340 vph during the weekday PM and Saturday PM peak hours, and increase by about 75 vph during the Saturday night peak hour. Traffic volumes on the on-ramp from the northbound Cross Island Parkway to the eastbound Grand Central Parkway would be expected to increase by 10 vph during the weekday AM peak hour, increase by about 40 vph to 55 vph during the weekday PM and Saturday PM peak hours, and increase by about 375 vph to 520 vph during the Saturday midday and Saturday night peak hours.

LEVELS OF SERVICE

Tables 11-30 and 11-31 present future With Action speeds, densities, and levels of service for the highway segments analyzed between the Southern State Parkway and Jamaica Avenue for the weekday and Saturday peak hours, respectively, and also identify the highway segments that would have significant adverse traffic impacts.[15] As a result of the additional vehicle trips added to the highway network as a result of the Proposed Project, there would be decreases in travel speeds and increases in density to most highway segments. As under the No Action condition, there would be a few instances where conditions would slightly improve due to the "metering" effect highly congested locations would have on adjacent downstream segments of the highway network.

The key overall findings of the traffic level of service analyses are:

- During the weekday AM peak hour, average travel speeds on the northbound and southbound Cross Island Parkway would generally be similar to speeds in the No Action condition. The highway segments in both directions would generally operate at the same levels of service as in the No Action condition, except for some additional congestion that would occur in the southbound direction in the vicinity of the Hempstead Avenue overpass, which would cause three highway segments to deteriorate from LOS D to LOS E or from LOS E to LOS F. The

[15] Criteria from the *CEQR Technical Manual* were used for the determination of significant impacts for highway segments.

Proposed Project would result in significant adverse traffic impacts to three highway segments in the northbound direction and three highway segments in the southbound direction.

- During the weekday PM peak hour, average travel speeds on the northbound and southbound Cross Island Parkway would generally be similar to speeds in the No Action condition, except for decreases of approximately 29 to 36 mph in the northbound direction south of Exit 26A, a decrease of approximately 15 mph in the northbound direction at the weaving segment between Exit 26A and Exit 26B, and decreases of approximately 29 to 34 mph in the southbound direction in the vicinity of the Jamaica Avenue interchange compared to the No Action condition. The northbound highway segments would mostly remain at LOS D or deteriorate from LOS D to LOS E or F, while the southbound highway segments would mostly remain at LOS E or deteriorate from LOS D to LOS E or F. The Proposed Project would result in significant adverse traffic impacts to eight highway segments in the northbound direction and seven highway segments in the southbound direction.
- During the Saturday midday peak hour, average travel speeds on the Cross Island Parkway would generally be similar to speeds in the No Action condition, except for a decrease of approximately 19 mph in the northbound weaving segment between Exit 26A and Exit 26B, a decrease of approximately 17 mph in the northbound weaving segment at Exit 26D, and a decrease of approximately 12 mph at the southbound merge segment with the Exit 26D on- ramp. The northbound highway segments would mostly deteriorate from LOS D to LOS E or F, while the southbound highway segments would mostly remain at LOS D or deteriorate from LOS D to LOS E or F. The Proposed Project would result in significant adverse traffic impacts to nine highway segments in the northbound direction and 15 highway segments in the southbound direction.
- During the Saturday PM peak hour, compared to the No Action condition, average travel speeds on the northbound Cross Island Parkway would decrease by approximately 28 to 37 mph south of Exit 26A, decrease by approximately 10 mph immediately north of the Hempstead Avenue overpass, and increase by approximately 7 to 14 mph north of Exit 26D. On the southbound Cross Island Parkway average travel speeds would decrease by approximately 8 to 35 mph north of Exit 26A. The northbound highway segments would mostly remain at LOS F, except for four segments that would deteriorate from LOS D or E to LOS F. The southbound highway segments would generally deteriorate from LOS D to LOS F north of the Hempstead Avenue overpass, would generally remain at LOS F or deteriorate from LOS E to LOS F between the Hempstead Avenue overpass and Exit 26A, and would generally operate at the same levels of service as in the No Action condition south of Exit 26A. The Proposed Project would result in significant adverse traffic impacts to five highway segments in the northbound direction and 17 highway segments in the southbound direction.
- During the Saturday night peak hour, compared to the No Action condition, average travel speeds on the Cross Island Parkway would generally be similar to speeds in the No Action condition, except for a decrease of approximately 17 mph in the northbound weaving segment between Exit 26A and Exit 26B, a decrease of approximately 9 mph in the northbound weaving segment at Exit 26D, and decrease of approximately 7 to 8 mph south of the Linden Boulevard on-ramp. The northbound highway segments would generally operate at the same levels of service as in the No Action condition south of the Exit 26A on-ramp, but would deteriorate from LOS C or D to LOS D, E or F north of the Exit 26A on-ramp. The southbound highway segments would generally operate at the same levels of service as in the No Action condition, except that nine highway segments south of the Hempstead Avenue overpass would deteriorate from LOS C or D to LOS E or F. The Proposed Project would result in significant adverse traffic impacts to nine highway segments in the northbound direction and 12 highway segments in the southbound direction.

Table 11-30
2021 With Action Weekday Cross Island Parkway Levels of Service

	Segment	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	5.0	156.7	F	15.7	105.9	F
	Merge segment at the on-ramp from Linden Blvd	7.1	147.7	F	13.7	102.7	F
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	10.3	136.6	F	18.5	98.1	F
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	26.9	63.0	F	51.2	34.7	D
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	19.9	68.6	F	51.9	35.2	E
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	20.2	66.6	F	31.4	45.4	F
	Mainline between the Hempstead Ave off-ramp and on-ramp	16.7	75.9	F	50.7	32.6	D
	Merge segment at the Hempstead Ave on-ramp	19.4	65.4	F	46.2	33.8	D
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	45.7	35.5	E	51.1	35.8	E
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	35.9	33.1	D	46.8	34.2	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	47.0	34.5	D	50.8	35.7	E
	Diverge segment at the off-ramp to Jamaica Ave	45.7	33.4	D	49.1	32.6	D
	Mainline between the Jamaica Ave off-ramp and on-ramp	38.7	42.9	E	47.7	33.8	D
	Merge segment at the Jamaica Ave on-ramp	24.2	54.5	F	35.8	33.8	D
	Mainline north of the Jamaica Ave on-ramp	21.8	75.0	F	49.2	33.7	D
Southbound	Diverge segment at the off-ramp to Jamaica Ave	50.3	34.6	D	17.5	100.4	F
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.1	30.6	D	16.8	100.6	F
	Merge segment at the Jamaica Ave on-ramp	41.3	32.5	D	16.8	90.0	F
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	50.8	34.5	D	42.2	47.6	F
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.5	33.8	D	49.1	37.5	E
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	51.3	34.1	D	50.5	37.4	E
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	38.4	34.1	D	41.7	37.4	E
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	50.6	35.1	E	51.5	37.2	E
	Diverge segment at the Hempstead Ave WB off-ramp	49.3	33.8	D	51.7	35.1	E
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	50.7	32.7	D	50.8	37.0	E
	Merge segment at the Hempstead Ave WB on-ramp	35.7	35.5	E	34.6	42.4	E
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	38.9	44.1	F	40.2	48.2	F
	Diverge segment at the Hempstead Ave EB off-ramp	33.9	41.2	E	35.6	43.9	F
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	50.2	30.9	D	48.5	42.9	E
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	46.1	31.0	D	40.8	42.9	E
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.2	33.6	D	51.5	37.6	E
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	50.9	34.5	D	51.1	37.1	E
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	51.0	34.1	D	50.7	38.5	E
	Diverge segment at the off-ramp to Linden Blvd	48.5	33.1	D	50.4	36.7	E
	Mainline between the Linden Blvd off-ramp and on-ramp	51.2	31.2	D	50.1	37.2	E
	Merge segment at the Linden Blvd on-ramp	39.5	30.4	D	36.2	38.6	E
	Diverge segment at the Southern State Parkway off-ramp	50.2	32.2	D	42.2	44.0	F

Note: Shading denotes highway segments with significant adverse traffic impacts

Table 11-31
2021 With Action Saturday Cross Island Parkway Levels of Service

	Segment	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
		Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
Northbound	Merge segment at the Southern State Parkway on-ramp	51.2	31.8	D	15.8	103.4	F	51.7	25.2	C
	Merge segment at the on-ramp from Linden Blvd	50.0	33.0	D	12.8	107.6	F	51.1	26.0	C
	Mainline between the Linden Blvd on-ramp and Belmont Racetrack off-ramp (Exit 26A)	51.0	36.3	E	18.2	98.6	F	51.7	28.0	D
	Diverge segment at the Belmont Racetrack off-ramp (Exit 26A)	48.6	37.3	E	51.5	33.4	D	51.0	28.8	D
	Mainline between the Belmont Racetrack off-ramp and on-ramp (Exit 26A)	48.2	38.0	E	48.6	36.9	E	51.3	28.9	D
	Weaving segment between the Belmont Racetrack on-ramp (Exit 26A) and the Hempstead Ave off-ramp	26.5	56.2	F	34.2	45.5	F	29.5	43.0	E
	Mainline between the Hempstead Ave off-ramp and on-ramp	50.1	31.5	D	38.5	42.1	E	50.3	26.3	D
	Merge segment at the Hempstead Ave on-ramp	39.5	37.9	E	19.0	80.1	F	43.6	31.7	D
	Mainline between the Hempstead Ave on-ramp and the Belmont Racetrack (Exit 26D) on-ramp	45.1	43.6	E	20.1	93.1	F	50.6	34.8	D
	Weaving segment between the Belmont Racetrack (Exit 26D) on-ramp and off-ramp	27.4	65.5	F	36.8	47.9	F	30.3	56.9	F
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Jamaica Ave off-ramp	47.0	44.4	E	40.4	48.8	F	47.9	40.6	E
	Diverge segment at the off-ramp to Jamaica Ave	49.9	37.8	E	40.5	46.6	F	50.8	35.5	E
	Mainline between the Jamaica Ave off-ramp and on-ramp	51.1	37.9	E	39.2	44.3	E	51.3	35.7	E
	Merge segment at the Jamaica Ave on-ramp	38.5	37.3	E	29.1	45.3	F	39.6	34.7	D
	Mainline north of the Jamaica Ave on-ramp	50.8	38.5	E	38.2	47.0	F	51.1	35.9	E
Southbound	Diverge segment at the off-ramp to Jamaica Ave	51.7	29.6	D	16.5	112.5	F	51.7	27.0	C
	Mainline between the Jamaica off-ramp and the Jamaica Ave on-ramp	51.3	29.4	D	17.5	98.1	F	51.6	28.1	D
	Merge segment at the Jamaica Ave on-ramp	48.5	29.5	D	13.2	114.4	F	49.9	27.8	C
	Mainline between the Jamaica Ave on-ramp and the Belmont Racetrack (Exit 26D) off-ramp	51.3	31.6	D	17.9	108.0	F	51.6	28.3	D
	Diverge segment at the Belmont Racetrack (Exit 26D) off-ramp	50.2	30.3	D	19.9	108.6	F	50.5	27.6	C
	Mainline between the Belmont Racetrack (Exit 26D) off-ramp and on-ramp	49.2	31.8	D	15.4	115.7	F	51.5	27.4	D
	Merge segment at the Belmont Racetrack (Exit 26D) on-ramp	32.6	50.6	F	14.6	111.0	F	40.7	31.2	D
	Mainline between the Belmont Racetrack (Exit 26D) on-ramp and the Hempstead Ave WB off-ramp	47.4	38.5	E	18.1	98.2	F	49.8	33.9	D
	Diverge segment at the Hempstead Ave WB off-ramp	51.1	33.1	D	21.5	97.3	F	51.2	31.1	D
	Mainline between the Hempstead Ave WB off-ramp and on-ramp	51.2	33.5	D	25.7	65.6	F	51.5	31.6	D
	Merge segment at the Hempstead Ave WB on-ramp	37.6	35.3	E	21.3	64.6	F	39.0	32.9	D
	Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	42.3	42.3	E	22.3	82.4	F	46.8	36.8	E
	Diverge segment at the Hempstead Ave EB off-ramp	35.8	39.1	E	21.4	72.7	F	41.1	35.4	E
	Mainline between the Hempstead Ave EB off-ramp and on-ramp	50.6	35.1	E	16.5	96.5	F	51.2	34.6	D
	Weaving segment between the Hempstead Ave EB on-ramp and the Belmont Racetrack (Exit 26A) off-ramp	46.4	33.8	D	11.1	113.6	F	46.8	34.5	D
	Mainline between the Belmont Racetrack (Exit 26A) off-ramp and on-ramp	51.2	34.6	D	12.6	127.0	F	51.4	35.5	E
	Merge segment at the Belmont Racetrack (Exit 26A) on-ramp	50.8	34.3	D	26.6	52.3	F	50.4	35.5	E
	Mainline between the Belmont Racetrack (Exit 26A) on-ramp and the Linden Blvd off-ramp	50.2	38.0	E	44.6	40.2	E	49.4	40.4	E
	Diverge segment at the off-ramp to Linden Blvd	50.6	36.4	E	51.3	32.2	D	49.3	38.9	E
	Mainline between the Linden Blvd off-ramp and on-ramp	49.7	37.1	E	51.9	32.6	D	48.2	39.8	E
	Merge segment at the Linden Blvd on-ramp	35.9	38.5	E	39.2	32.4	D	34.6	41.4	E
	Diverge segment at the Southern State Parkway off-ramp	41.9	44.1	F	47.6	36.3	E	41.2	46.5	F

Note: Shading denotes highway segments with significant adverse traffic impacts

As further discussed in the following section, it is important to note that the results of the VISSIM model are conservative since the analysis does not reflect how congestion on upstream portions of the highway network could serve to meter the demand on the analyzed highway segments of the Cross Island Parkway and that there could be changes in baseline traffic volumes due to motorists that could choose to alter their travel patterns during pre-event and post-event peak hours by traveling at a different time of the day or using alternate highways. Although the results of the micro-simulation model are more conservative by not accounting for these conditions, the methodology and findings of the analysis are appropriate to identify the incremental effects of the Proposed Project on the Cross Island Parkway in the vicinity of the Project Sites.

Tables 11-32 and 11-33 present a comparison of the total vehicular demand and the number of vehicles that could be processed by the Cross Island Parkway based on the results of the VISSIM micro-simulation model in the future No Action and With Action conditions for the weekday and Saturday peak hours, respectively. These comparisons were made at three locations in both the northbound and southbound directions—one near the northern end of the analyzed highway segments, one near the Hempstead Avenue overpass, and one near the southern end of the analyzed highway segments.

The key overall findings of the vehicle demand analysis are:

- During the weekday AM peak hour, the northbound Cross Island Parkway could process about 81 to 91 percent of the peak hour demand (compared to about 87 to 94 percent in the No Action condition) and the southbound Cross Island Parkway could process about 96 to 99 percent of the peak hour demand (compared to about 96 to 100 percent in the No Action condition).
- During the weekday PM peak hour, the northbound Cross Island Parkway could process about 79 to 100 percent of the peak hour demand (compared to about 100 percent in the No Action condition) and the southbound Cross Island Parkway could process about 74 to 99 percent of the peak hour demand (compared to about 99 to 100 percent in the No Action condition). Project-generated trips would result in congestion on the northbound Cross Island Parkway and additional congestion on the southbound Cross Island Parkway, the latter of which was operating near capacity in the No Action condition. As shown in **Table 11-32**, 4,761 of the total 5,991 vehicles could be processed by the northbound mainline near the merge at the on-ramp from the westbound Southern State Parkway. The remaining 1,230 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in additional congestion on the Cross Island Parkway. Also, 4,556 of the total 6,160 vehicles could be processed by the southbound mainline near the northern end of the model. The remaining 1,604 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in additional congestion on the Cross Island Parkway.
- During the Saturday midday peak hour, the northbound Cross Island Parkway could process about 93 to 100 percent of the peak hour demand (compared to about 100 percent in the No Action condition) and the southbound Cross Island Parkway could process about 98 to 100 percent of the peak hour demand (compared to about 100 percent in the No Action condition). Vehicles merging onto the northbound Cross Island Parkway at Exit 26D would cause queues to spill back along the on-ramp from the North Lot. As shown in **Table 11-33**, 6,149 of the total 6,585 vehicles could be processed by the northbound mainline near the northern end of the model. The remaining 436 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in congestion getting onto the northbound Cross Island Parkway from the North Lot.

Table 11-32
2021 With Action Weekday Cross Island Parkway Vehicle Demand Analysis

Scenario		Segment	Weekday AM Peak Hour				Weekday PM Peak Hour			
			Veh. Demand	Veh. Served	Unmet Demand	% Served	Veh. Demand	Veh. Served	Unmet Demand	% Served
No Action	Northbound	Merge segment at the Southern State Parkway on-ramp	3,364	2,917	447	87%	4,346	4,346	0	100%
		Mainline between the Hempstead Ave off-ramp and on-ramp	4,104	3,845	259	94%	4,172	4,172	0	100%
		Mainline at Hillside Ave overpass	5,530	5,088	442	92%	4,634	4,634	0	100%
	Southbound	Mainline at Hillside Ave overpass	4,694	4,678	16	100%	4,396	4,395	1	100%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	4,901	4,780	121	98%	5,305	5,274	31	99%
		Diverge segment at the Southern State Parkway off-ramp	4,798	4,627	171	96%	5,310	5,310	0	100%
With Action	Northbound	Merge segment at the Southern State Parkway on-ramp	3,648	2,971	677	81%	5,991	4,761	1,230	79%
		Mainline between the Hempstead Ave off-ramp and on-ramp	4,131	3,776	355	91%	5,073	4,813	260	95%
		Mainline at Hillside Ave overpass	5,614	5,080	534	90%	4,880	4,880	0	100%
	Southbound	Mainline at Hillside Ave overpass	4,957	4,929	28	99%	6,160	4,556	1,604	74%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	5,194	5,043	151	97%	6,383	5,694	689	89%
		Diverge segment at the Southern State Parkway off-ramp	4,857	4,676	181	96%	5,535	5,461	74	99%
Net Change	Northbound	Merge segment at the Southern State Parkway on-ramp	+284	+54	+230	-6%	+1,645	+415	+1,230	-21%
		Mainline between the Hempstead Ave off-ramp and on-ramp	+27	-69	+96	-3%	+901	+641	+260	-5%
		Mainline at Hillside Ave overpass	+84	-8	+92	-2%	+246	+246	0	0%
	Southbound	Mainline at Hillside Ave overpass	+263	+251	+12	-1%	+1,764	+161	+1,603	-26%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	+293	+263	+30	-1%	+1,078	+420	+658	-10%
		Diverge segment at the Southern State Parkway off-ramp	+59	+49	+10	0%	+225	+151	+74	-1%

Table 11-33
2021 With Action Saturday Cross Island Parkway Vehicle Demand Analysis

Scenario		Segment	Saturday Midday Peak Hour				Saturday PM Peak Hour				Saturday Night Peak Hour			
			Veh. Demand	Veh. Served	Unmet Demand	% Served	Veh. Demand	Veh. Served	Unmet Demand	% Served	Veh. Demand	Veh. Served	Unmet Demand	% Served
No Action	Northbound	Merge segment at the Southern State Parkway on-ramp	4,458	4,458	0	100%	4,472	4,472	0	100%	3,631	3,631	0	100%
		Mainline between the Hempstead Ave off-ramp and on-ramp	4,148	4,148	0	100%	4,421	4,421	0	100%	3,428	3,428	0	100%
		Mainline at Hillside Ave overpass	4,995	4,995	0	100%	5,268	5,200	68	99%	3,928	3,919	9	100%
	Southbound	Mainline at Hillside Ave overpass	3,969	3,969	0	100%	4,280	4,265	15	100%	3,779	3,749	30	99%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	4,209	4,209	0	100%	4,764	4,707	57	99%	4,006	3,962	44	99%
		Diverge segment at the Southern State Parkway off-ramp	4,050	4,050	0	100%	4,937	4,895	42	99%	3,884	3,823	61	98%
With Action	Northbound	Merge segment at the Southern State Parkway on-ramp	4,805	4,800	5	100%	6,097	4,596	1,501	75%	3,734	3,734	0	100%
		Mainline between the Hempstead Ave off-ramp and on-ramp	4,437	4,437	0	100%	5,301	4,660	641	88%	3,876	3,861	15	100%
		Mainline at Hillside Ave overpass	6,585	6,149	436	93%	5,641	5,267	374	93%	6,019	5,572	447	93%
	Southbound	Mainline at Hillside Ave overpass	4,304	4,304	0	100%	6,041	4,947	1,094	82%	3,887	3,852	35	99%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	5,386	5,336	50	99%	5,895	5,183	712	88%	5,103	5,062	41	99%
		Diverge segment at the Southern State Parkway off-ramp	5,507	5,413	94	98%	5,234	5,028	206	96%	5,751	5,608	143	98%
Net Change	Northbound	Merge segment at the Southern State Parkway on-ramp	+347	+342	+5	0%	+1,625	+124	+1,501	-25%	+103	+103	0	0%
		Mainline between the Hempstead Ave off-ramp and on-ramp	+289	+289	0	0%	+880	+239	+641	-12%	+448	+433	+15	0%
		Mainline at Hillside Ave overpass	+1,590	+1,154	+436	-7%	+373	+67	+306	-6%	+2,091	+1,653	+438	-7%
	Southbound	Mainline at Hillside Ave overpass	+335	+335	0	0%	+1,761	+682	+1,079	-18%	+108	+103	+5	0%
		Weaving segment between the Hempstead Ave WB on-ramp and Hempstead Ave EB off-ramp	+1,177	+1,127	+50	-1%	+1,131	+476	+655	-11%	+1,097	+1,100	-3	0%
		Diverge segment at the Southern State Parkway off-ramp	+1,457	+1,363	+94	-2%	+297	+133	+164	-3%	+1,867	+1,785	+82	0%

- During the Saturday PM peak hour, the northbound Cross Island Parkway could process about 75 to 93 percent of the peak hour demand (compared to about 99 to 100 percent in the No Action condition) and the southbound Cross Island Parkway could process about 82 to 96 percent of the peak hour demand (compared to about 99 to 100 percent in the No Action condition). Project-generated trips would result in congestion on the northbound and southbound Cross Island Parkway. As shown in **Table 11-33**, 4,596 of the total 6,097 vehicles could be processed by the northbound mainline near the merge at the on-ramp from the westbound Southern State Parkway. The remaining 1,501 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in congestion on the Cross Island Parkway. Also, 4,947 of the total 6,041 vehicles could be processed by the southbound mainline near the northern end of the model. The remaining 1,094 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in congestion on the Cross Island Parkway.
- During the Saturday night peak hour, the northbound Cross Island Parkway could process about 93 to 100 percent of the peak hour demand (compared to about 100 percent in the No Action condition) and the southbound Cross Island Parkway could process about 98 to 99 percent of the peak hour demand (compared to about 98 to 99 percent in the No Action condition). Vehicles merging onto the northbound Cross Island Parkway at Exit 26D would cause queues to spill back along the on-ramp from the North Lot. As shown in **Table 11-33**, 5,572 of the total 6,019 vehicles could be processed by the northbound mainline near the northern end of the model. The remaining 447 "unserved" vehicles, or unmet demand, would be processed outside of the peak hour and would result in congestion getting onto the northbound Cross Island Parkway from the North Lot.

It is important to note that the results of the VISSIM model are conservative since they do not reflect how congestion on upstream portions of the highway network could serve to meter the demand on the analyzed highway segments of the Cross Island Parkway, yet the model assumes that there would be no potential reductions in vehicular demand at highway segments that enter the model. Also the analysis assumes that there would be no changes in baseline traffic volumes, although some motorists could choose to alter their travel patterns to avoid traveling along the Cross Island Parkway during pre-event and post-event peak hours, either by traveling at a different time of the day or using an alternate highway (such as the Meadowbrook State Parkway, the Wantagh State Parkway, or the Seaford–Oyster Bay Expressway). Although the results of the micro-simulation model are more conservative by not accounting for these conditions, the methodology and findings of the analysis are appropriate to identify the incremental effects of the Proposed Project on the Cross Island Parkway in the vicinity of the Project Sites.

Chapter 17, "Mitigation," identifies and evaluates measures to improve overall highway network conditions by minimizing project-generated vehicular traffic and reducing the confluence of peak traffic conditions from adjacent uses, which would most benefit traffic reduction along key segments of the Cross Island Parkway. These measures include a new full-time LIRR Elmont Station, and demand management strategies that would be included in a comprehensive transportation management plan (TMP) for the Proposed Project.

Tables 11-34 and 11-35 present future With Action speeds, densities, and levels of service for the key merge and weaving sections analyzed at the interchanges of the Cross Island Parkway with the Long Island Expressway and Grand Central Parkway for the weekday and Saturday peak hours, respectively. As shown in the tables, the merge and weaving segments would all continue to operate at LOS D or better, except for the following locations:

Table 11-34
2021 With Action Weekday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Weekday AM Peak Hour			Weekday PM Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	21.8	C	50.0	27.2	C
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	37.3	32.6	D	34.7	33.2	D
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	31.2	D	55.0	25.2	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		54.2	36.9	E	55.0	30.0	D
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	25.5	C	49.0	29.8	D
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	48.0	31.2	D	51.0	20.7	C

Notes:
(1) See Figure 11-2 for locations

Table 11-35
2021 With Action Saturday Highway Interchange Levels of Service

ID[1]	Segment Name	Type	Saturday Midday Peak Hour			Saturday PM Peak Hour			Saturday Night Peak Hour		
			Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
1	Southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway	Merge	51.0	22.6	C	49.0	31.7	D	51.0	21.1	C
2	Weave between the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway mainline and service road	Weaving Segment	29.1	47.1	F	41.6	24.1	C	33.5	33.5	D
3	Eastbound Long Island Expressway mainline upstream of the on-ramp from the northbound and southbound Cross Island Parkway	Major Merge Area	55.0	26.7	D	55.0	26.1	D	55.0	21.4	C
	Eastbound Long Island Expressway mainline downstream of the on-ramp from the northbound and southbound Cross Island Parkway		54.7	35.2	E	55.0	31.7	D	55.0	30.4	D
4	Southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway	Merge	50.0	25.7	C	48.0	33.6	D	51.0	21.8	C
5	Eastbound Grand Central Parkway at the on-ramp from the northbound Cross Island Parkway	Merge	50.0	26.7	C	51.0	21.8	C	51.0	15.2	B

Notes:
(1) See Figure 11-2 for locations
(2) Shading denotes highway segments with significant adverse traffic impacts

- The merge segment on the eastbound Long Island Expressway at the on-ramp from the northbound and southbound Cross Island Parkway would operate at LOS E during the weekday AM peak hour, similar to the No Action condition.
- The weaving segment on the collector-distributor road following the off-ramps from the northbound and southbound Cross Island Parkway to the eastbound Long Island Expressway and service road would operate at LOS F during the Saturday midday peak hour, as compared to LOS D in the No Action condition and result in a significant adverse traffic impact.
- The downstream leg of the major merge segment on the eastbound Long Island Expressway at the on-ramp from the northbound and southbound Cross Island Parkway would operate at LOS E during the Saturday midday peak hour, as compared to LOS D in the No Action condition.
- The merge segment on the southbound Cross Island Parkway at the on-ramp from the westbound Long Island Expressway would deteriorate from LOS C to unacceptable LOS D (i.e., above mid-LOS D) during the Saturday PM peak hour and result in a significant adverse traffic impact.
- The merge segment on the southbound Cross Island Parkway at the on-ramp from the westbound Grand Central Parkway would deteriorate from LOS C to unacceptable LOS D during the Saturday PM peak hour and result in a significant adverse traffic impact.

The identification and evaluation of mitigation measures to improve overall highway network conditions are presented in Chapter 17, "Mitigation."

LIRR SERVICE

As previously described in the "Travel Demand Analysis" section, the LIRR is expected to be used by 12 and 7 percent of arena patrons arriving for weekday and Saturday events, respectively.[16] **Table 11-36** summarizes the projected amount of LIRR ridership to Belmont Park Station by arena patrons based on these modal split assumptions and the attendance level for a sold-out hockey game (18,000 seats), a sold-out concert (19,000 seats), and a sold-out Disney on Ice event (11,500 seats).

Table 11-36
Project-Generated LIRR Trips by Arena Patrons

Analysis Period	Type of Arena Event	Projected LIRR Ridership
Weekday Evening	Hockey	2,160
	Concert	2,280
Saturday Midday	Disney on Ice	805
Saturday Evening	Hockey	1,260
	Concert	1,330

On days with scheduled events at the proposed arena, the LIRR would provide shuttle service between Jamaica Station and Belmont Park Station, with eastbound trains arriving at Belmont Park prior to the start of the event and westbound trains departing from Belmont Park following the conclusion of the event. Service to and from Penn Station in Manhattan, Atlantic Terminal in

[16] While there have been discussions regarding the provision of additional LIRR service for the retail uses during off-peak periods during times with no arena events, the transportation analyses conservatively assess future conditions with LIRR service provided to Belmont Park Station for arena events only.

Brooklyn, and all other LIRR stations would be available via a transfer at Jamaica. The specifics of the operating plan would be determined by the LIRR. It is anticipated that the LIRR would provide two round trip trains each consisting of eight M3 Electric Multiple-Unit (EMU) rail cars for mid- to large-size arena events (e.g., events with 10,000 or more attendees), which could accommodate the projected number of passengers for arena events.[17]

Arena patrons choosing to take the LIRR to events would disembark from trains onto one of the station's two high-level platforms, exit using the staircases near the middle of the station, walk along the elevated walkway, and use the staircase before the Grandstand to access the plazas on Site A. Passengers could also exit the south end of the station via the staircase or ramp leading to the bus loading area, and walk at-grade to the arena. Following an arena event, LIRR riders would follow the opposite routes and either walk along the elevated walkway (using the staircase near the Grandstand and the staircases near the middle of the station) or walk at-grade from the arena (using the staircase or ramp leading from the bus loading area and entering the south end of the station). The two high-level platforms at the station could hold up to four trains and allow all of the projected riders to board a train immediately following an event. Since the LIRR has been serving Belmont Park on Belmont Stakes day and attendance on that day is substantially higher than for a sports/entertainment event at the proposed arena, it is unlikely that the Proposed Actions would result in any impacts to platforms, stairways, or ramps at the Belmont Park Station.

For weeknight trips to Belmont Park Station before an event, eastbound travelers from Penn Station, Atlantic Terminal, Hunterspoint Avenue, and other intermediate stations in Brooklyn and Queens would need to use regularly scheduled LIRR trains to travel to Jamaica and transfer to a Belmont Park train. Based on a review of existing LIRR ridership data from the Spring and Fall of 2017, it is anticipated that eastbound commuter trains operating from west of Jamaica would have sufficient capacity to accommodate the additional riders traveling to arena events, many of which could be accommodated within available seats.[18]

BUS SERVICE

Based on the person trip generation shown in **Table 11-4**, it is anticipated that the Proposed Project would generate a total of 179 bus rider trips (146 "ins" and 33 "outs") during the weekday AM peak hour, 386 bus rider trips (287 "ins" and 99 "outs") during the weekday PM peak hour, 678 bus rider trips (202 "ins" and 476 "outs") during the Saturday midday peak hour, 468 bus rider trips (319 "ins" and 149 "outs") during the Saturday PM peak hour, and 372 bus rider trips (31 "ins" and 341 "outs") during the Saturday night peak hour. These trips include transfers that would be made to/from subways or the LIRR, except for arena patrons using the railroad that would travel directly to/from the LIRR Belmont Park Station during times when special service would be provided during arena events.

Project-generated bus rider trips were assigned to specific routes serving the Project Sites based on the geographical distribution of arena and non-arena patrons, as described in the "Travel Demand Analysis" section above. Given the scale of the Proposed Project, it is assumed that a new bus stop on the N6X route would be added on Hempstead Turnpike adjacent to the Project

[17] The total capacity of two 8-car LIRR M3 trains is 1,920 seated passengers, or up to about 2,400 passengers if standees are included. Since the publication of the DEIS, the LIRR has indicated they would provide two 10-car trains. The FEIS conservatively retains the analyses that were presented in the DEIS that were based on the assumption of up to two 8-car trains.

[18] Customer counts for all revenue trains are provided in the LIRR 2017 Ridership Book.

Sites in the With Action condition. **Table 11-37** provides a summary of the projected increase in ridership by bus route for each of the analyzed peak hours. As the N1 route only provides direct service to the Project Sites in the westbound direction during the weekday AM peak period and the eastbound direction during the weekday PM peak period, trips assigned to this bus route that could not travel directly to the Project Sites were added as transfers to the N6 or N6X bus routes, assuming that passengers would transfer between bus routes at the intersection of Hempstead Turnpike and Elmont Road.

Table 11-37
Project-Generated Bus Trips

Bus	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday Midday Peak Hour		Saturday PM Peak Hour		Saturday Night Peak Hour	
Route	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
N1	1*	6	4	2*	9*	7*	6*	3*	3*	1*
N6	19	17	15	118	239	99	45	206	204	20
N6X	16	12	11	72	0	0	0	0	0	0
Q2	31	7	45	21	42	62	51	32	7	27
Q110	58	13	62	39	75	161	75	59	12	102

Note: * Trips would transfer to/from the N6/N6X bus routes

It is likely that the Proposed Project would result in a significant adverse impact to NICE and MTA bus routes during time periods before and after sold-out arena events, requiring some increases in bus service to accommodate bus rider trips made by arena patrons. Bus operators typically adjust their service based on ridership and market demand, and it is anticipated that such increases in service would be coordinated with NYAP as part of the transportation management plan for the arena. A transportation management plan for the arena is discussed in Chapter 17, "Mitigation."

The Proposed Project would preserve access to the MTA bus loop area adjacent to the LIRR Belmont Park Station and would not be expected to result in an impact to current bus operations. As discussed below in the "Pedestrian Circulation" section, riders using LIRR service for arena events that enter or exit at the south end of the station would need to walk at-grade along the south side of the bus platform area to travel to and from the arena, and pedestrian flows would be managed by security staff to ensure that buses could enter and exit the bus platform area via the Cross Island Parkway ramps.

PARKING

The Proposed Project would include a total of 1,900 new parking spaces on Sites A and B, which would increase to 1,940 spaces during times of arena events. In addition, it is anticipated that NYAP, through a shared parking agreement among NYAP, the FOB, and NYRA, would utilize existing parking on the North, South, and East Lots (up to approximately 6,014 surface parking spaces) for arena events and/or peak shopping periods. Therefore, overall, a total of 1,900 spaces would be available for patrons and employees of the Proposed Project, which would increase to up to 7,954 spaces during times of high attendance arena events or peak shopping periods. As discussed in Chapter 7, "Socioeconomic Conditions," it is expected that the vehicles stored for auto dealerships and the other trucks/trailers stored on Site B and the North and East Lots would be relocated from the Project Sites to a location outside of the study area in the With Action condition.

Table 11-38 provides a summary of the amount of parking spaces on the Project Sites and North, South, and East Lots in the No Action and With Action conditions and the net change in total parking spaces as a result of the Proposed Project. On Site A, the existing 1,185 surface parking spaces would be repurposed with arena, hotel, and retail uses and would include 400 parking spaces within and below the hotel's podium and 40 spaces available during events for player and coach parking in the arena's loading dock area. On Site B, the existing 2,580 surface parking spaces would be repurposed with retail uses and 1,500 spaces on one level of structured parking beneath the retail village. On the North Lot, there would be a net reduction of approximately 140 parking spaces in the parking lot to account for elements such as toll booths and shuttle bus stops. There would be no changes to the amount of parking spaces on the South and East Lots between the No Action and With Action conditions. Overall, the Proposed Project would result in a net reduction of approximately 1,965 parking spaces on the Project Sites (an approximate 20 percent reduction).

Table 11-38
Net Change in Parking Spaces on the Project Sites and North, South, and East Lots

Parking Location	No Action Condition Spaces	With Action Condition Spaces	Net Change in Spaces
Site A	1,185	440	-745
Site B	2,580	1,500	-1,080
North Lot	3,000	2,860[2]	-140
South Lot	1,150	1,150	0
East Lot[1]	2,004	2,004	0
Total	**9,919**	**7,954**	**-1,965**

Note:
(1) Totals do not include 516 parking spaces located on the north end of the Blue parking area (the existing portion of this is not part of the proposed East Lot).
(2) Total includes approximately 150 parking spaces located in the rideshare staging area that would not be available on full event days.

As described above in the "Travel Demand Analysis" section, a sold-out hockey game (18,000 seats) was selected as the representative worst-case analysis scenario for traffic conditions due to the travel patterns of its patrons. However, a sold-out concert (19,000 seats) would represent the worst-case analysis scenario for parking conditions due to the higher level of attendance. If night racing is approved, NYAP and NYRA have agreed that night racing and non-hockey arena events could be scheduled on the same evening as long as the aggregate attendance for both events does not exceed the maximum attendance level for a sold-out hockey game (18,000 seats). Therefore, a sold-out concert is the representative worst-case analysis scenario for parking conditions due to the higher level of attendance.

Parking demand projections were prepared for both a hockey game and a concert at the arena on weekday evening and a Saturday evening. The parking demand projections for weekday and Saturday concerts were based on the same modal splits and AVO used for weekday and Saturday hockey games, respectively. Parking demand projections were also prepared for Disney on Ice shows at the arena, which was selected as the representative analysis scenario for the Saturday midday period. **Tables 11-39 through 11-43** show the hourly parking demand for each land use for five scenarios:

- Weekday with a hockey game starting at 7:30 PM;
- Weekday with a concert starting at 8:00 PM;

- Saturday with Disney on Ice shows starting at 11:00 AM, 3:00 PM, and 7:00 PM;
- Saturday with a hockey game starting at 7:00 PM; and
- Saturday with a concert starting at 8:00 PM.

In **Tables 11-39 and 11-40**, the weekday hourly parking demand for the retail, hotel, office and community space are identical and only differ in the parking demand for arena patrons and employees. Similarly, in **Tables 11-41 through 11-43**, the Saturday hourly parking demand for the retail, hotel, office, and community space are identical and only differ in the parking demand for arena patrons and employees. Detailed parking accumulation profiles showing the hourly entering trips, exiting trips, and parking accumulation by land use are presented in **Appendix F**.

Table 11-39
Weekday Projected Parking Demand by Land Use
With a Hockey Game at the Arena

Time Period	Site A Retail	Site B Retail	Hotel	Office	Community Space	Arena Patrons	Arena Employees	Total
12:00 AM–1:00 AM	0	0	175	0	0	0	0	175
1:00 AM–2:00 AM	0	0	182	0	0	0	0	182
2:00 AM–3:00 AM	0	0	182	0	0	0	0	182
3:00 AM–4:00 AM	3	11	182	0	0	0	0	196
4:00 AM–5:00 AM	8	33	182	0	0	0	0	223
5:00 AM–6:00 AM	21	87	182	0	0	0	0	290
6:00 AM–7:00 AM	47	195	182	0	0	0	0	424
7:00 AM–8:00 AM	123	506	180	3	9	0	0	821
8:00 AM–9:00 AM	218	897	155	35	24	0	0	1,329
9:00 AM–10:00 AM	312	1,283	132	58	31	0	0	1,816
10:00 AM–11:00 AM	375	1,540	132	59	34	0	0	2,140
11:00 AM–12:00 PM	436	1,790	132	50	33	0	0	2,441
12:00 PM–1:00 PM	423	1,732	221	48	32	0	0	2,456
1:00 PM–2:00 PM	379	1,548	183	57	30	0	0	2,197
2:00 PM–3:00 PM	301	1,226	153	61	28	0	44	1,813
3:00 PM–4:00 PM	275	1,116	123	59	25	0	197	1,795
4:00 PM–5:00 PM	253	1,025	87	41	21	0	350	1,777
5:00 PM–6:00 PM	242	981	128	6	17	0	437	1,811
6:00 PM–7:00 PM	227	922	86	1	13	1,297	437	2,983
7:00 PM–8:00 PM	179	728	110	0	13	4,797	437	6,264
8:00 PM–9:00 PM	133	539	122	0	5	5,308	437	6,544
9:00 PM–0:00 PM	76	306	140	0	0	3,981	437	4,940
10:00 PM–11:00 PM	48	194	160	0	0	0	350	752
11:00 PM–12:00 AM	0	0	169	0	0	0	45	214

Note:
(1) Parking demand for non-arena uses conservatively does not account for internal capture trips with other non-arena uses

Table 11-40
Weekday Projected Parking Demand by Land Use with a Concert at the Arena

Time Period	Site A Retail	Site B Retail	Hotel	Office	Community Space	Arena Patrons	Arena Employees	Total
12:00 AM–1:00 AM	0	0	175	0	0	0	45	220
1:00 AM–2:00 AM	0	0	182	0	0	0	0	182
2:00 AM–3:00 AM	0	0	182	0	0	0	0	182
3:00 AM–4:00 AM	3	11	182	0	0	0	0	196
4:00 AM–5:00 AM	8	33	182	0	0	0	0	223
5:00 AM–6:00 AM	21	87	182	0	0	0	0	290
6:00 AM–7:00 AM	47	195	182	0	0	0	0	424
7:00 AM–8:00 AM	123	506	180	3	9	0	0	821
8:00 AM–9:00 AM	218	897	155	35	24	0	0	1,329
9:00 AM–10:00 AM	312	1,283	132	58	31	0	0	1,816
10:00 AM–11:00 AM	375	1,540	132	59	34	0	0	2,140
11:00 AM–12:00 PM	436	1,790	132	50	33	0	0	2,441
12:00 PM–1:00 PM	423	1,732	221	48	32	0	0	2,456
1:00 PM–2:00 PM	379	1,548	183	57	30	0	0	2,197
2:00 PM–3:00 PM	301	1,226	153	61	28	0	44	1,813
3:00 PM–4:00 PM	275	1,116	123	59	25	0	197	1,795
4:00 PM–5:00 PM	253	1,025	87	41	21	0	350	1,777
5:00 PM–6:00 PM	242	981	128	6	17	0	437	1,811
6:00 PM–7:00 PM	227	922	86	1	13	1,373	437	3,059
7:00 PM–8:00 PM	179	728	110	0	13	3,923	437	5,390
8:00 PM–9:00 PM	133	539	122	0	5	5,610	437	6,846
9:00 PM–10:00 PM	76	306	140	0	0	5,610	437	6,569
10:00 PM–11:00 PM	48	194	160	0	0	4,488	437	5,327
11:00 PM–12:00 AM	0	0	169	0	0	0	350	519

Note:
(1) Parking demand for non-arena uses conservatively does not account for internal capture trips with other non-arena uses

Table 11-41
Saturday Projected Parking Demand by Land Use
With Disney on Ice at the Arena

Time Period	Site A Retail	Site B Retail	Hotel	Office	Community Space	Arena Patrons	Arena Employees	Total
12:00 AM–1:00 AM	0	0	175	0	0	0	0	175
1:00 AM–2:00 AM	0	0	182	0	0	0	0	182
2:00 AM–3:00 AM	0	0	182	0	0	0	0	182
3:00 AM–4:00 AM	0	0	182	0	0	0	0	182
4:00 AM–5:00 AM	0	0	182	0	0	0	0	182
5:00 AM–6:00 AM	6	25	182	0	0	0	28	241
6:00 AM–7:00 AM	19	79	182	0	0	0	125	405
7:00 AM–8:00 AM	42	174	176	0	0	0	222	614
8:00 AM–9:00 AM	106	437	156	0	0	0	278	977
9:00 AM–10:00 AM	251	1,035	136	1	2	77	278	1,780
10:00 AM–11:00 AM	429	1,769	139	2	4	1,917	278	4,538
11:00 AM–12:00 PM	572	2,362	142	4	4	1,926	278	5,288
12:00 PM–1:00 PM	615	2,538	145	6	3	1,926	278	5,511
1:00 PM–2:00 PM	553	2,284	164	9	2	96	278	3,386
2:00 PM–3:00 PM	487	2,012	135	9	2	1,995	278	4,918
3:00 PM–4:00 PM	405	1,678	84	7	2	2,119	278	4,573
4:00 PM–5:00 PM	384	1,594	84	5	2	2,119	278	4,466
5:00 PM–6:00 PM	325	1,351	84	4	2	150	278	2,194
6:00 PM–7:00 PM	267	1,106	84	2	1	2,158	278	3,896
7:00 PM–8:00 PM	179	741	106	0	0	2,382	278	3,686
8:00 PM–9:00 PM	108	448	124	0	0	2,382	278	3,340
9:00 PM–10:00 PM	71	294	143	0	0	0	222	730
10:00 PM–11:00 PM	47	194	159	0	0	0	28	428
11:00 PM–12:00 AM	0	0	169	0	0	0	0	169

Note: (1) Parking demand for non-arena uses conservatively does not account for internal capture trips with other non-arena uses

Table 11-42
Saturday Projected Parking Demand by Land Use
With a Hockey Game at the Arena

Time Period	Site A Retail	Site B Retail	Hotel	Office	Community Space	Arena Patrons	Arena Employees	Total
12:00 AM–1:00 AM	0	0	175	0	0	0	0	175
1:00 AM–2:00 AM	0	0	182	0	0	0	0	182
2:00 AM–3:00 AM	0	0	182	0	0	0	0	182
3:00 AM–4:00 AM	0	0	182	0	0	0	0	182
4:00 AM–5:00 AM	0	0	182	0	0	0	0	182
5:00 AM–6:00 AM	6	25	182	0	0	0	0	213
6:00 AM–7:00 AM	19	79	182	0	0	0	0	280
7:00 AM–8:00 AM	42	174	176	0	0	0	0	392
8:00 AM–9:00 AM	106	437	156	0	0	0	0	699
9:00 AM–10:00 AM	251	1,035	136	1	2	0	0	1,425
10:00 AM–11:00 AM	429	1,769	139	2	4	0	0	2,343
11:00 AM–12:00 PM	572	2,362	142	4	4	0	0	3,084
12:00 PM–1:00 PM	615	2,538	145	6	3	0	0	3,307
1:00 PM–2:00 PM	553	2,284	164	9	2	0	44	3,056
2:00 PM–3:00 PM	487	2,012	135	9	2	0	197	2,842
3:00 PM–4:00 PM	405	1,678	84	7	2	0	350	2,526
4:00 PM–5:00 PM	384	1,594	84	5	2	0	437	2,506
5:00 PM–6:00 PM	325	1,351	84	4	2	1,210	437	3,413
6:00 PM–7:00 PM	267	1,106	84	2	1	4,574	437	6,471
7:00 PM–8:00 PM	179	741	106	0	0	5,067	437	6,530
8:00 PM–9:00 PM	108	448	124	0	0	5,067	437	6,184
9:00 PM–10:00 PM	71	294	143	0	0	1,267	437	2,212
10:00 PM–11:00 PM	47	194	159	0	0	0	350	750
11:00 PM–12:00 AM	0	0	169	0	0	0	45	214

Note: (1) Parking demand for non-arena uses conservatively does not account for internal capture trips with other non-arena uses

Table 11-43
Saturday Projected Parking Demand by Land Use
With a Concert at the Arena

Time Period	Site A Retail	Site B Retail	Hotel	Office	Community Space	Arena Patrons	Arena Employees	Total
12:00 AM–1:00 AM	0	0	175	0	0	0	45	220
1:00 AM–2:00 AM	0	0	182	0	0	0	0	182
2:00 AM–3:00 AM	0	0	182	0	0	0	0	182
3:00 AM–4:00 AM	0	0	182	0	0	0	0	182
4:00 AM–5:00 AM	0	0	182	0	0	0	0	182
5:00 AM–6:00 AM	6	25	182	0	0	0	0	213
6:00 AM–7:00 AM	19	79	182	0	0	0	0	280
7:00 AM–8:00 AM	42	174	176	0	0	0	0	392
8:00 AM–9:00 AM	106	437	156	0	0	0	0	699
9:00 AM–10:00 AM	251	1,035	136	1	2	0	0	1,425
10:00 AM–11:00 AM	429	1,769	139	2	4	0	0	2,343
11:00 AM–12:00 PM	572	2,362	142	4	4	0	0	3,084
12:00 PM–1:00 PM	615	2,538	145	6	3	0	0	3,307
1:00 PM–2:00 PM	553	2,284	164	9	2	0	0	3,012
2:00 PM–3:00 PM	487	2,012	135	9	2	0	44	2,689
3:00 PM–4:00 PM	405	1,678	84	7	2	0	197	2,373
4:00 PM–5:00 PM	384	1,594	84	5	2	0	350	2,419
5:00 PM–6:00 PM	325	1,351	84	4	2	0	437	2,203
6:00 PM–7:00 PM	267	1,106	84	2	1	1,325	437	3,222
7:00 PM–8:00 PM	179	741	106	0	0	3,798	437	5,261
8:00 PM–9:00 PM	108	448	124	0	0	5,445	437	6,562
9:00 PM–10:00 PM	71	294	143	0	0	5,445	437	6,390
10:00 PM–11:00 PM	47	194	159	0	0	4,356	437	5,193
11:00 PM–12:00 AM	0	0	169	0	0	0	350	519

Note:
(1) Parking demand for non-arena uses conservatively does not account for internal capture trips with other non-arena uses

Table 11-44 presents a comparison of the projected parking supply and demand for each of the five scenarios. In each of the scenarios, the parking demand for the Proposed Project would be accommodated by the parking supply of the Project Sites and the North, South, and East Lots. The Proposed Project would generate its maximum parking demand from 8:00 PM to 9:00 PM on a weekday evening with a concert at the arena (a demand of 6,846 spaces), which could be accommodated by the parking provided on the Project Sites and the North, South, and East Lots (a supply of 7,804 spaces). **Table 11-44** also shows that combined parking demand for the Proposed Project and for live racing at Belmont Park from 12:00 PM to 1:00 PM during the Saturday midday period (a demand of 7,541 spaces) would also be accommodated by the parking provided on the Project Sites and the North, South, and East Lots. It was assumed that racetrack patrons would park in the North, South, and East Lots during the Saturday midday period and could utilize shuttle buses to travel to the Grandstand or Clubhouse.

Table 11-44
2021 With Action Parking Supply and Demand

Analysis Period	Type of Arena Event	Peak Hour	Parking Supply			Parking Demand			Available Spaces
			Sites A and B	North, South, and East Lots[1]	Total	Proposed Project	Belmont Park	Total	
Weekday Evening	Hockey	8–9 PM	1,940	5,864	7,804	6,544	0	6,544	1,260
	Concert	8–9 PM	1,940	5,864	7,804	6,846	0	6,846	958
Saturday Midday	Disney on Ice	12–1 PM	1,940	5,864	7,804	5,511	2,030	7,541	263
Saturday Evening	Hockey	7–8 PM	1,940	5,864	7,804	6,530	0	6,530	1,274
	Concert	8–9 PM	1,940	5,864	7,804	6,562	0	6,562	1,242

Note:
(1) Totals exclude approximately 150 spaces from the North Lot that would be used for the staging of rideshare vehicles during arena events.

POTENTIAL FOR PARKING IN RESIDENTIAL NEIGHBORHOODS

Although the parking demand for the Proposed Project and the combined parking demand for the Proposed Project and Belmont Park could be accommodated on-site, as it is anticipated that arena patrons would be charged a parking fee, there is a possibility that some arena attendees may attempt to park for free in the surrounding neighborhoods, such as in the West End of Floral Park. The Mayfair Avenue Gate (Gate 9) would be enhanced or staffed with a security guard to close the pedestrian entrance during arena events and prevent arena patrons from parking in the West End of Floral Park and walking in to the North Lot to catch a shuttle bus to the arena. Should parking in residential neighborhoods occur, potential mitigation measures that could be implemented to address this issue are discussed in Chapter 17, "Mitigation."

PEDESTRIAN CIRCULATION

The Proposed Project would include one or more grade-separated pedestrian connections providing access between Sites A and B: a new pedestrian bridge above Hempstead Turnpike, an improved pedestrian/vehicular underpass below Hempstead Turnpike that currently connects Site B to Belmont Park Racetrack, and/or an improved pedestrian-only tunnel under Hempstead Turnpike that currently connects Site B to Belmont Park Racetrack.

On Site A, large plazas would be located on the north and east sides of the arena to provide ample space for pedestrian circulation, pop-up installations, and special events. The retail village on Site B would consist of pedestrian boulevards and squares lined with storefronts; these would be connected to the one level of structured parking below by staircases and elevators at multiple locations. A pedestrian walkway would also be constructed from the south side of Hempstead Turnpike near the intersection of Wellington Road to the bus stop along the east side of the retail village, running on the east side of the Belmont Park Road.

During arena events, patrons parking below the retail village would utilize a grade-separated pedestrian connection (bridge or tunnel) to cross Hempstead Turnpike on their walk to the arena. Arena patrons parking in the South Lot would be expected to walk through the Backyard or Paddock area to access the arena. The walking distance between the arena and North Lot would exceed a half mile, which is generally considered the maximum distance to which drivers would walk; however, as described above, arena patrons parking in the North Lot could utilize shuttle buses to travel to the bus platforms on the east side of the LIRR Belmont Park Station, from which they would walk through the plaza on the north side of the arena. Arena patrons parking in the North Lot and choosing to walk to the arena could use the sidewalk running along the Red Road on the west side of the racetrack. The walking distance between the arena and East Lot would also

exceed a half mile; however as described above, arena patrons parking in the East Lot could utilize shuttle buses to travel to the South Lot, from which they would walk to the arena. Arena patrons parking in the East Lot and choosing to walk to the arena could use the sidewalk running along Gate 5 Road and then walk through the Backyard or Paddock area to access the arena. During times of peak shopping periods, vehicles parking in the South or East Lots could utilize shuttle buses to travel to the retail village.

Riders using the LIRR Belmont Park Station would exit using the staircases near the middle of the station, walk along the elevated walkway, and use the staircase before the Grandstand to access the arena/plaza area. LIRR riders could also exit at the south end of the platforms would walk at-grade by the south side of the bus platform area and cross the Red Road to reach the plaza on the north side of the arena. The Red Road would be closed to general traffic before, during, and after arena events and security staff would be provided to direct the flow of pedestrians and ensure that pedestrians would be stopped when buses are entering and exiting the bus platform area via the Cross Island Parkway ramps. Bus riders on the Q2 and Q110 routes getting dropped off at the bus platform area adjacent to the LIRR station would follow similar routes to the arena, walking at-grade across the Red Road to the plaza on the north side of the arena or walking along the elevated walkway (using the staircases near the north end of the bus platforms and the staircase before the Grandstand to access the plaza area). Bus riders on the N1, N6, and N6X routes operating along Hempstead Turnpike would use the existing bus stops near the intersection of Gate 5 Road and walk through the South Lot and Backyard to access Site A, and if traveling to Site B, use the pedestrian walkway that would connect the intersection of Hempstead Turnpike and Wellington Road with the bus stop along the east side of the retail village. The intersections of Hempstead Turnpike at Wellington Road and Gate 5 Road include existing crosswalks for bus riders that would need to cross Hempstead Turnpike.

The entrances to Belmont Park on Plainfield Avenue (Gate 8) and Mayfair Avenue (Gate 9) would be closed to pedestrians for all arena events.

VEHICULAR AND PEDESTRIAN SAFETY

NASSAU COUNTY

The results of the crash analysis discussed above in the "Existing Conditions" section reveal crash patterns that are consistent with what would be anticipated on roadway segments and intersections similar to those studied. The traffic control devices in the study area are in generally good condition and generally conform to current standards. Although the Proposed Project would result in an increase in traffic volumes on the roadways in the local street network and at intersections within the study area, it is not anticipated that the project-generated traffic volumes would unduly influence the rate of accident occurrence. In addition, the roadway improvements planned by NYSDOT as discussed previously in the "Future without the Proposed Actions" section have the potential to enhance traffic and pedestrian safety.

There are several schools in the vicinity of the Plainfield Avenue corridor, including three elementary schools (Floral Park-Bellerose School, John Lewis Childs School, Our Lady of Victory School) and one high school (Floral Park Memorial High School), which generally have school days that begin between 8:00 AM and 9:00 AM and conclude between 2:30 PM and 3:45 PM. Along Plainfield Avenue, school crossing signs are provided at the intersections of Zinnia Street, Carnation Avenue, Floral Parkway, and Elizabeth Street. Each of these intersections is signalized and has pedestrian signal heads except for the intersection of Zinnia Street, which has all-way stop control. School crossing guards were also observed during school arrival and dismissal periods at

the signalized intersections of Tulip Avenue and Elizabeth Street. The Proposed Project is expected to result in two-way traffic volume increases of approximately 28 vph to 54 vph (i.e., a total of 28 vph to 54 vph in both directions) during school arrival and dismissal times, or about one vehicle every one to two minutes. This level of additional traffic would not be expected to have a significant impact on walking routes to schools that involve crossings of Plainfield Avenue.

On weekdays during the months of September and October, the boys and girls soccer teams from Floral Park Memorial High School use the infield of the Pony Track at Belmont Park from 3:00 PM to 6:00 PM around four to five times per week.[19] When the Pony Track is used, there are usually around 25 players (one team) present at a time. The Proposed Project is expected to result in two-way traffic volume increases of approximately 43 vph to 46 vph (i.e., a total of 43 vph to 46 vph in both directions) during the times when the Pony Track is used by the soccer teams, or about one vehicle every one to two minutes. This level of additional traffic would not be expected to have a significant impact on walking routes for student athletes that involve crossings of Plainfield Avenue.

QUEENS

As discussed above in the "Existing Conditions" section, the intersection of Hempstead Avenue and Springfield Boulevard was identified as a high-crash location as it experienced five or more pedestrian and/or cyclist injury crashes in a consecutive 12-month period during the three-year period of 2012 through 2014. With the Proposed Actions, this intersection would experience modest increases in conflicting turning volumes in the analyzed peak hours (approximately 24, 28, 51, 27, and 14 turning vehicles during the weekday AM, weekday PM, Saturday midday, Saturday PM, and Saturday night peak hours, respectively, or about one vehicle every one to four minutes). With initiatives that are part of New York City's Vision Zero program and the implementation of safety improvement measures made at this location subsequent to 2014, which include the leading pedestrian interval for the crosswalks crossing Springfield Boulevard, advance stop bars on the Springfield Boulevard approaches, left turn traffic calming on the northbound approach, and a curb extension at the southeast corner of the intersection, safety conditions could potentially improve. A measure to further improve pedestrian safety at this intersection could potentially include improving the lighting to provide better visibility outside of daylight hours as a majority of pedestrian/bicycle crashes occurred during the night. ✷

[19] The Pony Track is located on the west side of Plainfield Avenue near Gate 8 and opposite Floral Park Memorial High School.