Chapter 12: Transportation

I. INTRODUCTION

This chapter examines the potential traffic, transit, pedestrian, safety, and parking impacts associated with the proposed redevelopment of the former Peninsula Hospital Center on the Project Site located in the Rockaway neighborhood in Queens Community District 14 based on guidelines provided in the City Environmental Quality Review (CEQR) Technical Manual.

As described in Chapter 1, "Project Description," the Applicant is seeking a set of Proposed Actions in the form of discretionary approvals that include zoning map and text amendments, a large-scale general development (LSGD) special permit, a City Map Amendment to re-establish a portion of Beach 52nd Street south of Rockaway Beach Boulevard to reconnect with Rockaway Freeway, and public funding and/or financing from various City and New York State agencies and/or programs related to affordable housing development on the Project Site. The Proposed Actions would facilitate the Proposed Project to consist of an approximately 2,371,000 gross square feet (gsf) development on the Project Site, comprised of 11 buildings with approximately 2,200 residential income-restricted dwelling units (DUs), of which 1,927 DUs would be income-restricted up to 80% of the Area Median Income (AMI), to include approximately 270 DUs set aside for senior housing, with the remaining 273 DUs restricted to income levels not exceeding 130% of AMI. In addition to the residential DUs, the Proposed Project would include approximately 72,000 gsf of retail space, including a fitness center and a supermarket, approximately 77,000 gsf of community facility space, and approximately 24,000 square feet (sf) of publicly-accessible open space. Approximately 973 parking spaces would be provided as part of the Proposed Project, including 744 spaces for residential use, 83 spaces for retail use, 75 spaces for community facility medical office use, and 71 on-street parking spaces.

As described in Chapter 1, "Project Description," the Project Site is divided into North and South Parcels. The North Parcel of the Project Site is bounded by Beach Channel Drive to the north, Rockaway Beach Boulevard to the south, Beach 53rd Street to the west, and Beach 50th Street to the east and would be occupied by ten of the eleven buildings proposed for the Project Site. The South Parcel of the Project Site is bounded by Rockaway Beach Boulevard to the north, Rockaway Freeway to the south, and Beach 52nd Street to the west and would be occupied by the last of the proposed buildings. The Proposed Project includes a privately owned, publicly accesible internal street network with two new 60-foot wide publicly-accessible private streets: 1) the extension of Beach 52nd Street would proceed northward from Rockaway Beach Boulevard, cut through the center of the Project Site and terminate to Beach Channel Drive; and 2) a new east-west street named Peninsula Way would extend between Beach 50th Street and Beach 53rd Street.

Four peak hours were considered for the transportation analysis: Weekday AM (7:30 AM to 8:30 AM), Weekday Midday (MD) (1:00 PM to 2:00 PM), Weekday PM (5:00 PM to 6:00 PM), and Saturday MD (2:30 PM to 3:30 PM). Given the seasonal effects of beach traffic in the Rockaways during the summer, the Weekday MD, Weekday PM, and Saturday MD peak hour analyses were based on counts collected during the summer months, and the Weekday AM peak hour analyses were based on counts collected during the non-summer months. The study area includes 35 existing signalized intersections, 11 existing unsignalized intersections, five proposed unsignalized intersections, nine proposed driveways, 50 existing pedestrian elements, 36 proposed pedestrian elements, and 15 transit elements (one subway line, nine subway stairs, three subway control areas, and two bus routes).

II. PRINCIPAL CONCLUSIONS

Detailed transportation analyses were conducted and found that the Proposed Project would result in significant adverse traffic, pedestrians, and public transit impacts as detailed below.

Traffic Flow and Operating Conditions

Table 12-1: Significant Adverse Traffic Impacts at Signalized Intersections shows the signalized intersections that would experience significant adverse traffic impacts in 2034 ("analysis year"). As shown in **Table 12-1**, the Proposed Project would result in significant adverse impacts at 21, 16, 18, and 12 signalized intersections during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours, respectively.

Table 12-1: Significant Adverse Traffic Impacts at Signalized Intersections

#		Weekday AM	Weekday MD	Weekday PM	Saturday MD	
#	Intersection	Peak Hour	Peak Hour	Peak Hour	Peak Hour	
1	Beach Channel Drive & Beach 116th Street	Χ	X	Χ	X	
3	Rockaway Beach Boulevard & Beach 116th Street	Х	Х	Х		
4	Beach Channel Drive & Rockaway Freeway	Х	X	Х	X	
5	Beach Channel Drive & Beach 108th Street	Χ				
7	Rockaway Beach Boulevard & Beach 108th Street	Χ				
8	Beach Channel Drive & Beach 92nd Street/Beach 94th Street	Χ	X	X	X	
13	Beach Channel Drive & Beach 73rd Street	Χ	Χ	X		
15	Beach Channel Drive & Beach 62nd Street	Χ	X	X	X	
16	Rockaway Beach Boulevard & Beach 62nd Street	Χ	Χ	X	X	
19	Arverne Boulevard & Beach 59th Street	Χ		X		
20	Rockaway Freeway & Beach 59th Street	Χ	X	X	X	
21	Rockaway Beach Boulevard & Beach 59th Street	Χ	Х		Х	
23	Arverne Boulevard & Beach 54th Street	Χ	X	X	X	
24	Rockaway Freeway & Beach 54th Street			X		
25	Edgemere Avenue & Beach 54th Street	Χ	X	X	X	
42	Rockaway Freeway & Seagirt Boulevard	Χ	Χ			
44	Rockaway Freeway & Cornaga Avenue	Χ				
46	Beach Channel Drive & Mott Avenue	Χ	Χ	X	X	
47	Beach Channel Drive & Dix Avenue	Χ	X	X		
48	Beach Channel Drive & Birdsall Avenue	Χ		X		
49	Beach Channel Drive & Nameoke Avenue	Χ	X	X	X	
50	Beach Channel Drive & Hassock Street	Х	X	X	X	
	Total Number of Impacted Intersections:	21	16	18	12	
	Total Number of Impacted Lane Groups:	33	21	30	18	

 $[\]it X$ - denotes intersection significantly impacted in the peak hour

Table 12-2: Significant Adverse Traffic Impacts at Unsignalized Intersections shows the unsignalized intersections that would experience significant adverse traffic impacts due in the analysis year. As shown in **Table 12-2**, the Proposed Project would result in significant adverse impacts at three, five, three, and two unsignalized intersections during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours, respectively.

Table 12-2: Significant Adverse Traffic Impacts at Unsignalized Intersections

#	Intersection	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour		
26	Beach Channel Drive & Beach 53rd Street	Х	Х	Х	Х		
27	Rockaway Beach Boulevard & Beach 53rd Street	X	X	Х	X		
28	Rockaway Beach Boulevard & Beach 52nd Street		X				
30	Beach Channel Drive & Beach 50th Street		X				
Р8	Parking Garage 8 driveway, via Peninsula Way	X	X	X			
Total Number of Impacted Intersections:		3	5	3	2		
	Total Number of Impacted Lane Groups:	3	5	5	2		

X - denotes intersection significantly impacted in the peak hour

Transit Facilities

Subway Stations

Under the With-Action condition, all analyzed subway station stairways and turnstile elements would operate at Level of Service (LOS) A during the Weekday AM and Weekday PM peak hours. Therefore, there would be no stairway- or control area-related significant adverse impacts associated with the Proposed Project.

Subway Line-Haul

Under the With-Action condition, the A train would operate below guideline capacity in the peak direction during the Weekday AM, Weekday PM, Saturday MD, and Sunday MD peak hours. Therefore, there would be no subway line-haul-related significant adverse impact associated with the Proposed Project.

Bus

Under the With-Action condition, the Q22 bus would operate above capacity in the westbound direction in the Weekday AM and Weekday PM peak hours, and the Q52-Select Bus Service (SBS) bus would operate above capacity in the southbound direction in the Weekday PM peak hour. Therefore, there would be significant adverse bus line-haul-related impacts on the Q22 and Q52-SBS buses during the Weekday AM and Weekday PM peak hours.

Pedestrian Facilities

Sidewalks

Under the With-Action condition, all sidewalk elements are expected to operate at LOS C or better during all peak hours for the platoon condition except for the following four locations, which would experience significant adverse impacts due to the Proposed Project:

- The north sidewalk on the east leg of the intersection of Beach 54th Street and Arverne Boulevard in the Weekday MD, Weekday PM, and Saturday MD peak hours.
- The south sidewalk on the west leg of Beach 53rd Street and Beach Channel Drive in the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours.
- The west sidewalk on the north leg of Beach 44th Street and Rockaway Freeway in the Weekday PM peak hour.
- The north sidewalk on the west leg of Beach 56th Street and Arverne Boulevard in the Weekday AM peak hour.

Crosswalks

Under the With-Action condition, all crosswalk elements would operate at LOS C or better during all peak hours except for the following two locations, which would experience significant adverse impacts due to the Proposed Project:

- The south crosswalk at Beach 54th Street and Beach Channel Drive during the Weekday MD, Weekday PM, and Saturday MD peak hours.
- The north crosswalk at Beach 54th Street and Arverne Boulevard during the Weekday PM and Saturday MD peak hours.

Corners

Under the With-Action condition, all corner locations would operate at LOS C or better during all peak hours except for the following location, which would experience significant adverse impacts due to the Proposed Project:

• The northeast corner at Beach 54th Street and Arverne Boulevard during the Weekday PM and Saturday MD peak hours.

Parking Conditions

The Proposed Project would provide approximately 973 parking spaces, including 744 spaces for residential use, 83 spaces for retail use, 75 spaces for community facility medical office use, with approximately 55 of the 75 medical office designated spaces in building E parking garage available overnight for residential use. Signage in building E parking garage would be installed to specify which parking spaces would be designated for overnight residential parking use and during which hours. There would be an additional 71 on-street parking spaces within the streets internal to the Project Site. The remainder of the parking demand generated by the Proposed Project would be accommodated on-street. As less than half of the available on-street parking spaces would be used by the Proposed Project, there would not be a parking-related significant adverse impact.

Vehicular and Pedestrian Safety Assessments

There was one study intersection identified as a high vehicular or pedestrian/bicycle crash location as per *CEQR Technical Manual* thresholds. The intersection of Beach Channel Drive and Mott Avenue had five of more pedestrian/bike crashes in 2015 and 2016. It has been identified as a Priority Intersection in the *Vision Zero Queens Pedestrian Safety Action Plan* and is included in the Downtown Far Rockaway Urban Design and Streetscape Reconstruction Project. Measures identified as part of those efforts are expected to address pedestrian safety issues at this intersection. With those measures, the projected increase in vehicle and pedestrian trips associated with the Proposed Project would not result in a significant adverse safety impact at this location.

III. SCREENING METHODOLOGY

Transportation impact analysis methodologies for proposed projects in New York City (NYC) are defined in the *CEQR Technical Manual*, which outlines a two-tiered screening process. The Level 1 screening assessment includes a trip generation analysis to determine whether the Proposed Project would result in more than 50 vehicle trips, 200 subway/rail or bus riders, or 200 pedestrian trips in a peak hour. The Level 2 screening is a trip assignment review that identifies intersections with 50 or more vehicle trips, pedestrian elements with 200 or more pedestrian trips, 50 bus trips in a single direction on a single route, or 200 passengers at a subway station or line during any analysis peak hour which would require detailed analyses. The results of the screening analysis are described below.

Traffic

According to *CEQR Technical Manual* guidelines, traffic analyses are generally required at intersections where more than 50 new vehicle trips would be generated by a proposed project during an individual peak hour based on the results of the vehicle trip assignment. The Proposed Project peak period generated trips were overlaid on the representative peak hours for the study area, which were determined based on the review of turning moving counts and Automated Traffic Recorder (ATR) counts collected during peak periods when background traffic is typically greatest and/or when the Proposed Project is projected to generate the greatest number of trips that would be added to the roadway network (as described further in Section VI, "Existing Conditions"). The four critical traffic peak hours are as follows:

Weekday AM peak hour: 7:30 AM to 8:30 AM

Weekday MD peak hour: 1:00 PM to 2:00 PM

Weekday PM peak hour: 5:00 PM to 6:00 PM

Saturday MD peak hour: 2:30 PM to 3:30 PM

Detailed intersection analyses were conducted for all four peak hours at 51 study intersections within the study area that exceeded the 50 new vehicle trip threshold in the *CEQR Technical Manual*. Specifically, 46 existing intersections were analyzed under the Existing and No-Action conditions and 51 intersections (which includes five proposed intersections that would be created as part of the Proposed Project) were analyzed under the With-Action condition.

Transit

CEQR Technical Manual guidelines and thresholds established by NYC Transit (NYCT) and the Metropolitan Transportation Authority (MTA) were used to determine which subway/rail and bus routes in the study area would be analyzed. According to the criteria, if a proposed project is projected to result in fewer than 200 peak hour subway/rail passengers assigned to a single subway station or on a single subway line or 50 bus passengers assigned to a single bus line (in one direction), further transit analyses are not typically required as a proposed project is considered unlikely to create a significant transit impact. Transit peak hours were determined by element based on existing count data.

Subway Transit

It was determined that the number of new subway trips generated by the Proposed Project would exceed the *CEQR Technical Manual* thresholds at Beach 60th Street Station and Beach 44th Street Station during the Weekday AM and Weekday PM peak hours; therefore, analyses of subway station elements were conducted. Based on information provided by NYCT for the station element assignment, a detailed subway analysis was performed for eight subway elements at the 60th Street station during the Weekday AM and Weekday PM peak hours and four subway elements at the 44th Street station during the Weekday PM peak hour. Per discussion with NYCT, a subway line-haul analysis for the A train was performed during the

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Saturday MD and Sunday MD peak hours in addition to the Weekday AM and Weekday PM commuter peak hours as subway service is less frequent on weekends. For purposes of this analysis, it was assumed that the same number of project-generated trips would occur during the Saturday and Sunday peak hours.

Bus Transit

It was determined that the number of new bus trips generated by the Proposed Project would exceed the *CEQR Technical Manual* thresholds for the Q22 bus route in the eastbound and westbound directions and the Q52-SBS bus route in the northbound and southbound directions during the Weekday AM and Weekday PM peak hours; therefore, analyses of the Q22 and Q52-SBS bus routes were conducted during the Weekday AM and Weekday PM peak hours.

Pedestrians

Based on criteria specified in the *CEQR Technical Manual*, projected pedestrian volume increases of more than 200 pedestrians per hour at any sidewalk, crosswalk, or intersection corner would be considered a location with the potential for significant impacts, and would require a detailed analysis. As the Proposed Project would generate more than 200 peak hour pedestrian trips at <u>50</u> existing pedestrian locations and 30 proposed pedestrian elements during at least one peak hour based on a combination of walk, subway, and bus trips, a detailed pedestrian analysis was conducted for those elements during the four peak hours, which were determined based on the review of pedestrian counts collected during peak periods. The four critical pedestrian peak hours are as follows:

• Weekday AM peak hour: 7:45 AM to 8:45 AM

• Weekday MD peak hour: 1:00 PM to 2:00 PM

Weekday PM peak hour: 4:30 PM to 5:30 PM

Saturday MD peak hour: 2:00 PM to 3:00 PM

In addition to the <u>80</u> pedestrian elements analyzed based on the results of the screening analyses (<u>50</u> existing pedestrian elements and 30 proposed pedestrian elements), the With-Action condition analyses also includes an additional <u>six proposed</u> pedestrian elements internal to the Project Site.

Parking Conditions

According to the *CEQR Technical Manual*, if the need for a detailed traffic analysis is triggered, it is likely that a parking assessment is also warranted. Since the Proposed Project is expected to generate more than 50 new vehicle trips at an individual intersection during any of the peak hours, a detailed traffic analysis was conducted, and, as such, a parking assessment was conducted. A parking analysis identifies the extent to which on-street and off-street parking is available and utilized under Existing, No-Action, and With-Action conditions. Typically, this analysis encompasses a study area within 0.25-mile of the Proposed Project. If the analysis identifies a shortfall in parking in the 0.25-mile study area, the study area could be extended to 0.5-mile to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the Proposed Project. Parking demand for the Proposed Project would be accommodated in on-site parking facilities and any shortfall would be accommodated on-street. An on-street parking utilization survey was conducted in the 0.25-mile study area to estimate available on-street parking spaces and considered as part of the detailed parking assessment.

Vehicular and Pedestrian Safety Assessment

An evaluation of traffic safety is necessary for locations within the study area that have been identified as high-crash locations as specified in the CEQR Technical Manual. These locations are defined as those with

more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes that occur during any consecutive 12 months of the most recent three-year period for which data is available. Crash histories are reviewed to determine whether projected vehicular and pedestrian traffic would further impact safety as these locations or whether existing conditions could adversely impact the flow of the projected new vehicular or pedestrian/bicycle trips.

IV. STUDY AREA

To assess the potential transportation impacts associated with the Proposed Project, the study area was defined based on principal access routes to and from the Project Site, traffic conditions in the surrounding area, and key intersections likely to be affected by trips generated by the Proposed Project. In total, 35 existing signalized intersections, 11 existing unsignalized intersections, and five proposed intersections and nine driveways that would be created as part of the Proposed Project were selected for the vehicular analyses. A total of 50 existing pedestrian elements and 36 proposed pedestrian elements were selected for the pedestrian analysis. The safety assessment was conducted for all vehicular and pedestrian study locations. The geographic locations of these intersections are depicted on **Figure 12-1: Proposed Project Vehicular Study Locations**.

Study Area Intersection and Roadway Characteristics

As shown in **Figure 12-1**, the study area includes the following 35 existing signalized intersections, 11 existing unsignalized intersections, five proposed unsignalized intersections, and nine proposed driveways:

- 1. Beach Channel Drive and Beach 116th Street (signalized)
- 2. Newport Avenue and Beach 116th Street (signalized)
- 3. Rockaway Beach Boulevard and Beach 116th Street (signalized)
- 4. Beach Channel Drive and Rockaway Freeway (signalized)
- 5. Beach Channel Drive and Beach 108th Street (signalized)
- 6. Rockaway Freeway and Beach 108th Street (signalized)
- 7. Rockaway Beach Boulevard and Beach 108th Street (signalized)
- 8. Beach Channel Drive and Beach 92nd Street/Beach 94th Street (unsignalized)
- 9. Rockaway Freeway and Cross Bay Parkway (signalized)
- 10. Rockaway Beach Boulevard and Cross Bay Parkway (signalized)
- 11. Rockaway Freeway and Beach 94th Street (signalized)
- 12. Rockaway Beach Boulevard and Beach 94th Street (signalized)
- 13. Beach Channel Drive and Beach 73rd Street (signalized)
- 14. Rockaway Beach Boulevard and Beach 73rd Street (signalized)
- 15. Beach Channel Drive/Arverne Boulevard and Beach 62nd Street (signalized)
- 16. Rockaway Beach Boulevard and Beach 62nd Street (signalized)
- 17. Beach Front Road and Beach 62nd Street (unsignalized)
- 18. Beach Channel Drive and Beach 59th Street (signalized)
- 19. Arverne Boulevard and Beach 59th Street (signalized)

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- 20. Rockaway Freeway and Beach 59th Street (signalized)
- 21. Rockaway Beach Boulevard and Beach 59th Street (signalized)
- 22. Beach Channel Drive and Beach 54th Street (signalized)
- 23. Arverne Boulevard and Beach 54th Street (signalized)
- 24. Rockaway Freeway and Beach 54th Street (signalized)
- 25. Edgemere Avenue and Beach 54th Street (signalized)
- 26. Beach Channel Drive and Beach 53rd Street (unsignalized)
- 27. Rockaway Beach Boulevard and Beach 53rd Street (unsignalized)
- 28. Rockaway Beach Boulevard and Beach 52nd Street (new southbound approach at existing intersection, unsignalized)
- 29. Beach Channel Drive and Beach 51st Street (signalized)
- 30. Beach Channel Drive and Beach 50th Street (unsignalized)
- 31. Rockaway Beach Boulevard and Beach 50th Street (unsignalized)
- 32. Beach Channel Drive and Beach 52nd Street (proposed intersection, unsignalized)
- 33. Peninsula Way and Beach 53rd Street (proposed intersection, unsignalized)
- 34. Peninsula Way and Beach 52nd Street (proposed intersection, unsignalized)
- 35. Peninsula Way and Beach 50th Street (proposed intersection, unsignalized)
- 36. Beach Channel Drive and Beach 47th Street (unsignalized)
- 37. Arverne Blvd/Rockaway Beach Boulevard and Beach 47th Street (unsignalized)
- 38. Rockaway Beach Boulevard and Beach 44th Street (unsignalized)
- 39. Rockaway Freeway and Beach 44th Street (signalized)
- 40. Beach Channel Dr/Seagirt Boulevard and Beach 35th Street (signalized)
- 41. Rockaway Freeway and Beach 35th Street (signalized)
- 42. Rockaway Freeway and Seagirt Boulevard (signalized)
- 43. Rockaway Freeway and Beach 25th Street (signalized)
- 44. Rockaway Freeway and Cornaga Avenue (signalized)
- 45. Beach Channel Drive and Cornaga Avenue (signalized)
- 46. Beach Channel Drive and Mott Avenue (signalized)
- 47. Dix Avenue and Beach Channel Drive (signalized)
- 48. Birdsall Avenue and Beach Channel Drive (unsignalized)
- 49. Nameoke Avenue and Beach Channel Drive (signalized)
- 50. Hassock Street and Beach Channel Drive (signalized)

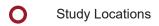
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- 51. Rockaway Freeway and Beach 52nd Street (proposed intersection, unsignalized)
- 52. Parking Lot 1 driveway, via Beach Channel Drive
- 53. Parking Lot 1 driveway, via Beach 53rd Street
- 54. Parking Garage 2 driveway, via Beach 53rd Street
- 55. Parking Garage 3 driveway, via Beach 53rd Street
- 56. Parking Garage 4 driveway, via Rockaway Beach Boulevard
- 57. Parking Garage 5 driveway, via Peninsula Way
- 58. Parking Lot 6 driveway, via Beach Channel Drive
- 59. Parking Garage 7 driveway, via Beach 52nd Street
- 60. Parking Garage 8 driveway, via Peninsula Way







PROPOSED PROJECT VEHICULAR STUDY LOCATIONS

The physical and operational characteristics of the major roadways in the study area are as follows:

- Beach Channel Drive is a two-way eastbound/westbound roadway that traverses most of the Rockaway peninsula with one travel lane in each direction and curbside parking on both sides of the street. West of the Cross Bay Veterans Memorial Bridge, Beach Channel Drive has two to three lanes in each direction. Between Beach 69th Street and Bay 32nd Street, there is a Class II bicycle lane in each direction. The Q22 and QM17 eastbound and westbound bus routes travel on Beach Channel Drive between Beach 73rd and Beach 35th streets and is the northernmost eastbound/westbound street in the study area.
- Edgemere Avenue is a two-way eastbound/westbound roadway with one travel lane in each direction and no curbside parking. Edgemere Avenue extends between Beach 54th Street and Beach 32nd Street. It is the southernmost eastbound/westbound street in the study area.
- Rockaway Freeway is a two-way eastbound/westbound roadway with one travel lane in each direction and no curbside parking. Rockaway Freeway is generally located below the elevated subway tracks (for the A train); subway columns separate the eastbound and westbound travel lanes.
- Arverne Boulevard is a two-way eastbound/westbound roadway with one travel lane in each direction and curbside parking on both sides of the street. The western end of Arverne Boulevard intersections with Beach Channel Drive at Beach 62nd Street, and the eastern end of Arverne Boulevard turns into Rockaway Beach Boulevard at Beach 54th Street. The Q52-SBS bus route travels in both directions on Arverne Boulevard.
- Rockaway Beach Boulevard is a two-way eastbound/westbound roadway that traverses the
 majority of the Rockaway peninsula with one to two travel lanes in each direction and generally
 provides curbside parking in both directions. The Q16, Q22, Q52-SBS, and Q53-SBS bus routes
 travel on portions of Rockaway Beach Boulevard in the eastbound and westbound directions.
- Cross Bay Parkway/Beach 94th Street are a pair of one-way northbound/southbound roadways that provide access to the Cross Bay Veterans Memorial Bridge and connect to Shore Front Parkway. Cross Bay Parkway is a one-way southbound roadway with a two-lane mainline exiting from the Cross Bay Veterans Memorial Bridge and a two-lane service road to the west coming from Beach Channel Drive. Beach 94th Street is one-way northbound roadway with a two-lane mainline providing access to the Cross Bay Veterans Memorial Bridge and a two-lane service road to the east providing access to Beach Channel Drive. The Q16, QM17, Q52-SBS, and Q53-SBS bus routes travel on Cross Bay Parkway/Beach 94th Street.
- Beach 54th Street is a two-way northbound/southbound roadway that operates with one travel lane and curbside parking in both directions south of Beach Channel Drive. It operates as a one-way southbound roadway north of Beach Channel Drive. The Q52-SBS southbound bus route travels on Beach 54th Street.
- Beach 53rd Street is a two-way northbound/southbound roadway that operates with one travel lane and curbside parking on the west side of the street.
- Beach 50th Street is a two-way northbound/southbound roadway that operates with one travel lane and curbside parking in both directions.

Transit Service

Transit service in the study area includes one subway line and three bus routes, as shown on **Figure 12-2**: **Transit Map.**

Subway Lines

The A train operates within the study area and serves two subway stations located near the Project Site, as shown on **Figure 12-2**:

- Beach 60th Street Station located at Beach 59th Street and Rockaway Freeway
- Beach 44th Street Station located at Beach 44th Street and Rockaway Freeway

Subway Station Elements

Subway station elements at the Beach 60th Street Station and Beach 44th Street Station are included in the transit analysis. Both subway stations are elevated stations above Rockaway Freeway that serve the A train.

Pedestrians access the Beach 60th station via four staircases on the northwest and southwest corners of Rockaway Freeway and Beach 59th Street. From the street-level stairs, passengers pass through the control area on the mezzanine level/head house. Past the control area, passengers reach the platforms via four staircases connecting the head house and the platform level, with two staircases leading to each platform. There is an additional exit-only control area and staircase from the platform level to the street-level servicing the southbound platform that exits on the south side of Rockaway Freeway between Beach 59th Street and Beach 56th Street. Detailed analyses were conducted at the northeast street-to-head house staircase, four head house-to-platform stairs, fare array elements within the control area, and southbound platform exit-only control area and staircase.

Pedestrians access the Beach 44th Street station via four staircases on the northwest and southwest corners of Rockaway Freeway and Beach 44th Street. From the street-level stairs, passengers pass through the control area on the mezzanine level/head house. Past the control area, passengers reach the platforms via four staircases connecting the head house and the platform level, with two staircases leading to each platform. Detailed analyses were conducted at the northwest street-to-head house staircase, two head house-to-platform stairs (southbound platform), and fare array elements within the control area.

Bus Routes

Two NYCT/MTA local bus routes, Q22 and Q52-SBS, provide regular bus service to the study area. One NYCT/MTA express bus route, QM17, provides express service to the study area. Each bus route is briefly described below and shown on **Figure 12-2**.

- Q22 operates between Rockaway Point Boulevard/Beach 169th Street in Roxbury and Mott Avenue/Beach 20th Street in Far Rockaway. The Q22 route provides daily services between approximately 5:00 AM and 2:00 AM. Headways on the Q22 are generally between eight to ten minutes during the weekday peak periods and ten minutes during the Saturday peak period.
- Q52-SBS operates between Roosevelt Avenue/61st Street in Woodside and Beach Channel Drive/Beach 54th Street in Rockaway Park. The Q52-SBS route provides daily service between approximately 6:00 AM and 1:00 AM. Headways on the Q52-SBS are generally between 15 and 20 minutes during the weekday peak periods and 20 minutes during the Saturday peak period.

QM17 operates between Mott Avenue/Beach 20th Street in Far Rockaway, Queens and Third Avenue/East 59th Street in Midtown, Manhattan. The QM17 route provides weekday express services to Manhattan between approximately 5:45 AM and 9:40 AM and to Far Rockaway between approximately 3:30 PM and 8:30 PM. Headways on the QM17 are 20 minutes in the Weekday AM peak period and 30 minutes in the Weekday PM peak period.

The Q22 and Q52-SBS bus routes are included in the detailed transit analysis.

Pedestrian Elements

A total of 50 existing pedestrian elements (16 sidewalks, seven crosswalks, 25 corner reservoirs, and two median elements) and 36 proposed pedestrian elements (14 sidewalks, nine crosswalks, and 13 corner reservoirs) were assessed at key intersections near the Proposed Project. The pedestrian elements are located along key routes to the Project Site entrances and represent locations where most of the pedestrian trips generated by the Proposed Project are anticipated. These locations are shown on **Figure 12-3: Proposed Project Pedestrian Study Locations**.

Parking Supply and Inventory

Existing study area parking conditions for on-street and off-street parking were evaluated through site visits. On-street parking regulations are shown on **Figure 12-4: On-Street Parking Regulation Map** and summarized in **Table 12-3: On-Street Parking Regulation Legend**. Parking utilization surveys for off-street parking facilities were not conducted since there are no off-street parking facilities located within a 0.25-mile radius of the Project Site.

Table 12-3: On-Street Parking Regulation Legend

Map #	Parking Regulation
1	No Parking (Street Cleaning) 9:30AM - 11AM Monday
2	No Parking (Street Cleaning) 9:30AM - 11AM Wednesday
3	No Parking (Street Cleaning) 8:30AM - 10AM Wednesday
4	No Parking (Street Cleaning) 8:30AM - 10AM Monday
5	No Parking 7AM - 4PM School Days
6	Bus Stop No Standing
7	No Standing Anytime
8	Back in 90 Degree Parking Only
9	Back in Angle Parking Only
10	No Parking Anytime
11	Bus Layover- No Engine Idling
12	AVO Police Department
13	No Stopping Anytime



Source: 2017 PLUTO, NYCDCP

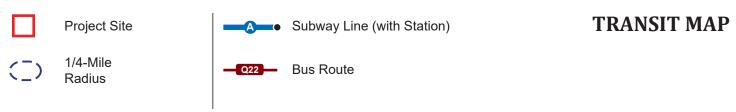
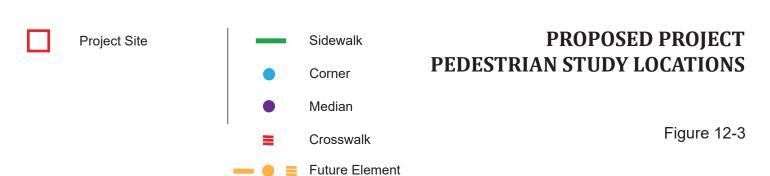
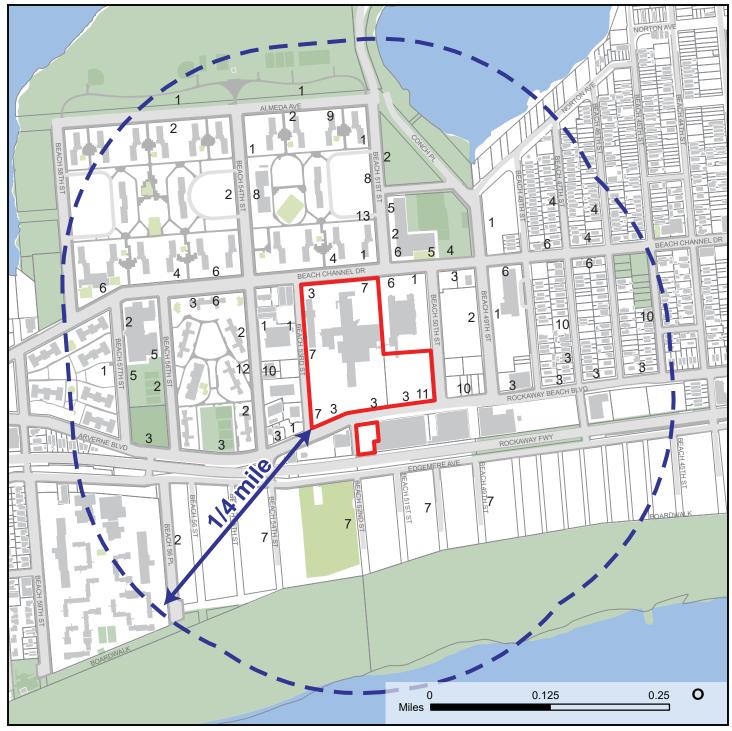


Figure 12-2



Source: 2016 Pluto, NYCDCP





= Posted Parking Regulation

Source: 2016 Pluto, NYCDCP



1/4-Mile Radius

ON-STREET PARKING REGULATION MAP

Figure 12-4

V. OPERATIONAL ANALYSIS METHODOLOGY

The following sections summarize the operational analysis methodologies and significant impact criteria in accordance with the *CEQR Technical Manual* guidelines for the assessment of traffic, transit, pedestrians, parking, and safety.

Traffic Operations

The operations of the study area intersections were analyzed in accordance with the *CEQR Technical Manual* guidelines by applying the methodologies presented in the *2000 Highway Capacity Manual* (HCM 2000) using the Highway Capacity Software (HCS+ 5.5) and Synchro 10. A description of these methodologies is provided below.

Signalized Intersections

The LOS of a signalized intersection is defined in terms of control delay per vehicle (seconds per vehicle). Control delay is the portion of total delay experienced by a motorist that is attributed to the traffic signal. Several factors contribute to the delay at a signalized intersection including cycle length, pedestrian crossing times, progression/signal coordination, and volume-to-capacity (v/c) ratios. For signalized intersections, LOS A describes operations with minimal delays, up to 10 seconds per vehicle, while LOS F describes operations with delays in excess of 80 seconds per vehicle. Delays experienced at LOS A, B, C or mid-D (less than or equal to 45.0 seconds per vehicle) are generally considered "acceptable" operating conditions according to the *CEQR Technical Manual*. Conversely, LOS E and F are generally considered "unacceptable" operating conditions. The LOS criteria for signalized intersections, as defined in the HCM 2000, are provided in **Table 12-4: LOS Criteria for Signalized Intersections**.

Table 12-4: LOS Criteria for Signalized Intersections

LOS	Average Delay
Α	≤ 10.0 seconds
В	> 10.0 and ≤ 20.0 seconds
С	> 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.

Unsignalized Intersections

For unsignalized intersections, the total 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. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS thresholds for unsignalized intersections are different from those for signalized intersections and are summarized in **Table 12-5: LOS Criteria for Unsignalized Intersections** as follows:

Table 12-5: LOS Criteria for Unsignalized Intersections

LOS	Average Delay
Α	≤ 10.0 seconds
В	> 10.0 and ≤ 15.0 seconds
С	> 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.

Significant Impact Criteria: Traffic Operations

According to the criteria presented in the *CEQR Technical Manual* for signalized intersections, a lane group under the With-Action condition operating within LOS A, B, or C, or mid-LOS D up to a maximum average control delay of 45.0 seconds/vehicle is not considered significant. However, if a lane group under the No-Action condition is within LOS A, B, or C, then deterioration under the With-Action condition to worse than mid-LOS D (delay greater than 45.0 seconds/vehicle) is considered a significant impact.

For lane groups operating at LOS D, E, or F under the No-Action condition, then deterioration under the With-Action condition that meet the following criteria are considered significant impacts:

- For a lane group operating at LOS D under the No-Action condition, an increase in projected average control delay of five or more seconds is considered significant if the With-Action condition delay exceeds mid-LOS D.
- For a lane group operating at LOS E under the No-Action condition, an increase in projected average control delay of four or more seconds is considered significant when compared with the With-Action condition delay.
- For a lane group operating at LOS F under the No-Action condition, impacts are considered significant and require examination of mitigation if they result in an increase of three or more seconds when compared with the With-Action condition.

The same criteria for signalized intersections apply to unsignalized intersections (mid-LOS D for unsignalized intersections is a 30-second delay); however, for the minor approach to trigger a significant impact, 90 passenger-car-equivalents (PCEs) must be identified in the With-Action condition in any peak hour.

Transit Operations

One subway route, 12 subway station elements, and two bus routes were analyzed in conformance to *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

Subway station elements, including stairs and control areas, were considered for this analysis as well as a line-haul for the A train and bus line-hauls for the Q22 and Q52-SBS buses.

Subway Line-Haul

The analysis of subway line-haul capacity is based on practical subway car capacity guidelines provided by NYCT. The capacity varies by the type of subway cars in operation. Line-haul capacity is based on the guideline capacity per subway car multiplied by the number of subway cars crossing the maximum load point in the peak hour. The maximum peak-period loading guideline capacities are provided in the CEQR Technical Manual for each car class:

- 51-foot subway/rail car (guideline capacity of 110 passengers/car)
- 60-foot subway/rail car (guideline capacity of 145 passengers/car)
- 75-foot subway/rail car (guideline capacity of 175 passengers/car)

The line-haul analysis for the A train is based on a guideline capacity of 175 passengers/car for the Weekday MA and Weekday PM peak hours (non-summer) and 88 passengers/car for the Saturday MD and Sunday MD peak hours (summer), as provided by NYCT.

The volume of passengers per subway car at the maximum load point on the line is quantified using methods outlined in the *CEQR Technical Manual* and is compared to the guideline capacities to determine if there is capacity available to accommodate additional project-generated trips. The *CEQR Technical Manual* does not define LOS thresholds for the subway line-haul analysis.

Subway Stairs

The v/c ratio and LOS for subway stairs are based on the peak 15-minute passenger volume divided by stair capacity. The NYCT guideline capacity for stairs is 10 pedestrians per foot per minute (PFM). This rate is based on the Volume/SVCD (Service Volume between LOS C and D) capacity ratio. The breakpoint between LOS C and LOS D at a v/c ratio of 1.00 has been established by NYCT as the minimum acceptable standard for pedestrian conditions. Therefore, the v/c ratio is used to determine the design capacity of the critical stair locations in a station during each peak 15-minute period.

To calculate the service level of a subway stair, the v/c ratio of the entering flow is calculated separately from the v/c ratio of the exiting flow. These ratios are added together to generate the overall v/c ratio of the stair. The data needed to derive the capacity of a stair include the effective width of the stair, 15-minute passenger volumes, SVCD (based on NYCT capacity guidelines), surge factor, and friction factor. The effective width of a stair is adjusted by reducing its width at the narrowest point by six inches on each side of the stair, and an additional three inches if a center handrail is present. Exiting passenger flows within subway stations can be "surged" which reduces the calculated capacity because there is a disproportionate number of pedestrians concentrated within portions of the 15-minute period. Circulation elements closest to the platform level have the highest reduction in capacity (25%) due to surging. Surging factors decrease for each level above the platform level as a result of passenger volumes dissipating each level towards the street. The effect of surging is also less for elements that serve three or more tracks. It is estimated by NYCT that the capacity on stairs is reduced by 10% due to friction if opposing flows are less than 95% in one direction. The LOS criteria for subway stairs and control area elements (see next section) are defined in Table 12-6: LOS Criteria for Subway Station Stairs and Control Areas.

Table 12-6: LOS Criteria for Subway Station Stairs and Control Areas

LOS	Description	Volume/SVCD Ratio
Α	Free Flow	0.00 to 0.45
В	Fluid Flow	0.45 to 0.70
С	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 to 1.67
F	Severely congested, queued	> 1.67

Source: CEQR Technical Manual (2014).

Control Areas

Station control areas separate the unpaid and paid areas of the station and are comprised of regular (low) turnstiles, High Entrance/Exit Turnstiles (HEETs), High Exit Turnstiles (HXT), and Emergency Gates. Regular and HEET turnstiles and Emergency Gates are bi-directional, where HXT turnstiles only serve exiting passengers. The v/c ratios of these fare control elements providing access to the station are based on the peak 15-minute passenger volume divided by the 15-minute capacity. The NYCT guideline capacities are 420 entries and 645 exits at regular turnstiles, 255 entries and 540 exits at HEETs, and 555 exits at HXTs. Emergency Gates are not included in control area capacity calculations. While passengers may make use of these gates, these passengers are assigned to turnstiles. For control area elements, overall capacity is measured by the number of elements, the NYCT guideline capacity per element, surging factors, and friction factors. The application of surging and friction factors to calculate capacity is the same as for stairs. The LOS criteria for control area elements are defined in **Table 12-6**.

Bus Line-Haul

Bus line-haul is analyzed in terms of passengers carried per bus in the peak direction at the peak load point. This is calculated as the number of passengers on each route divided by the number of buses operating on that route during the peak hours and then compared to NYCT bus capacity guidelines. A 40-ft standard bus has a capacity of 54 passengers, a 60-ft articulated bus has a capacity of 85 passengers, and a 45-ft over-the-road coach bus has a capacity of 55 passengers. The Q22 and the Q52-SBS bus routes both operate with 40-ft standard buses and therefore have guideline capacities of 54 passengers per bus.

Significant Impact Criteria: Transit Operations

For subway line-haul capacity, any increases in average per car load levels that remain within the guideline capacity limits are not defined as significant impacts. If the No-Action condition is within guideline capacity limits but the With-Action condition exceeds guideline capacity and the Proposed Action is generating five or more transit riders per car, the impact is considered significant.

NYCT has defined significant stair impacts in terms of the width increment threshold (WIT). The WIT is used only to determine significant impact and is not the actual widening that would be required to mitigate a significant impact. For stairs, the WIT is calculated using the formulas provided in the *CEQR Technical Manual* if the With-Action condition v/c ratio is greater than 1.00. Significant impacts are typically considered to occur once the WIT levels for stairs have reached or exceeded the thresholds provided in the *CEQR Technical Manual*.

For regular turnstiles, HEETs, and HXTs, if the No-Action condition v/c ratio is less than 1.00 but the With-Action condition v/c ratio increases to 1.00 or greater, the impact is considered significant. If both the No-Action and With-Action condition v/c ratios are 1.00 or greater, a 0.01 change in v/c ratio is considered significant.

According to MTA bus operating guidelines, increases in bus load levels to above their maximum capacity at any load point as a result of a project is defined as a significant impact since it necessitates adding more bus service along that route.

Pedestrian Operations

The pedestrian crosswalk, corner, and sidewalk elements were analyzed in accordance with the *CEQR Technical Manual* guidelines. A description of these methodologies is provided below.

Crosswalk/Corner

Crosswalk and corner analyses are conducted at signalized intersections using the analytical procedures described in the 2010 Highway Capacity Manual (HCM 2010). The capacity of crosswalks and corners are evaluated based on pedestrian space measured in terms of square feet (sf) per pedestrian (ft²/p). To calculate pedestrian space, effective crosswalk widths and corner areas, hourly pedestrian volumes (crosswalk, corner, and sidewalk), conflicting hourly turning vehicles, average walking speed (3.5 feet/second or 3.0 feet/second if 20% of pedestrians are seniors and/or school children or the intersection is in a Senior Pedestrian Focus Area), and signal timing are required. **Table 12-7: LOS Criteria for Crosswalks and Corners** shows the LOS criteria for crosswalks and corners based on pedestrian space.

Table 12-7: LOS Criteria for Crosswalks and Corners (Signalized intersections)

LOS	Pedestrian Space (ft²/p)
Α	> 60
В	60 to > 40
С	40 to > 24
D	24 to > 15
E	15 to > 8
F	≤ 8

Source: Transportation Research Board. Highway Capacity Manual, 2010.

Crosswalk analyses are conducted at unsignalized intersections using the analytical procedures described in the *HCM 2000*. The capacity of crosswalks at unsignalized intersections are evaluated based on the average delay per pedestrian in terms of seconds. To calculate average delay per pedestrian, effective crosswalk widths, crosswalk lengths, hourly pedestrian volumes, conflicting hourly vehicles, average walking speed (3.5 feet/second), and pedestrian start-up and end clearance time (3.0 seconds) are required. **Table 12-8: LOS Criteria for Crosswalks and Corners (Unsignalized intersections)** shows the LOS criteria for crosswalks at unsignalized intersections based on average pedestrian delay.

Table 12-8: LOS Criteria for Crosswalks and Corners (Unsignalized intersections)

LOS	Pedestrian delay Per Pedestrian (s)
Α	< 5
В	5 to <10
С	10 to <20
D	20 to <30
E	30 to <u><</u> 45
F	> 45

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

Sidewalk

As identified in the *HCM 2010*, pedestrian unit flow rate is the primary performance measure used to evaluate sidewalks. This measure is based on PFM which is calculated by dividing the average per minute two-way pedestrian volume (during the peak hour) by the effective sidewalk width in feet (incorporating a buffer between walls, curbs, and obstructions). To accurately calculate sidewalk LOS, it is important to determine whether the pedestrian flow is generally "platoon" (with surges from a bus stop, subway station, or a crosswalk) or "non-platoon" (uniform) within the peak period being analyzed. Accounting for platoons generally results in a poorer LOS. **Table 12-9: LOS Criteria for Sidewalks** shows the non-platoon and platoon LOS criteria for sidewalks based on PFM.

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LOS	Non-Platoon Flow (ft ² /p)	Platoon Flow (ft ² /p)
Α	> 60	> 530
В	> 40 to 60	> 90 to 530
С	> 24 to 40	> 40 to 90
D	> 15 to 24	> 23 to 40
E	> 8 to 15	> 11 to 23
F	< 8	< 11

Table 12-9: LOS Criteria for Sidewalks

Source: Transportation Research Board. Highway Capacity Manual, 2010.

Significant Impact Criteria: Pedestrian Operations

The CEQR Technical Manual provides guidance on the impact criteria for pedestrian facilities based on the general comfort of and convenience levels for pedestrians, according to the location of the study area. Pedestrians in central business district (CBD) areas have become accustomed to higher pedestrian volumes and generally are more tolerant of restricted LOS conditions that might not be acceptable in other less congested (non-CBD) locations. An acceptable LOS for CBD areas is generally a mid-LOS D or better while an acceptable LOS for non-CBD areas is generally the upper limit of LOS C or better. For purposes of the pedestrian operations analysis, the pedestrian elements in the study area were not considered to be part of a CBD area.

For corners and crosswalks at signalized intersections in non-CBD areas, the average pedestrian space that is considered acceptable ranges between LOS A and LOS C. If the pedestrian space deteriorates to worse than LOS C (less than 24.0 ft²/p), significant impacts are determined based on the following sliding scale:

- If the average pedestrian space under the No-Action condition is greater than 26.6 ft²/p, then a decrease to 24.0 ft²/p or less under the With-Action condition is considered a significant impact.
- If the average pedestrian space under the No-Action condition is between 5.1 and 26.6 ft²/p, a decrease in space under the With-Action condition should be considered significant if it is greater than or equal to ((No-Action pedestrian space ft²/p / 9.0) 0.31). The With-Action condition increments are provided in Table 16-12 in the CEQR Technical Manual.
- If the average pedestrian space under the No-Action condition is less than 5.1 ft²/p, then a decrease in pedestrian space greater than or equal to 0.2 ft²/p under the With-Action condition is considered a significant impact.

For crosswalks at unsignalized intersections in non-CBD areas, the average pedestrian delay that is considered acceptable is to be determined in coordination with NYCDOT.

For sidewalks in non-CBD areas, the average pedestrian space that is considered acceptable ranges from LOS A to LOS C. If the pedestrian flow rate deteriorates to worse than LOS C (less than 24.0 ft²/p for non-platoon flow and less than 40.0 ft²/p for platoon flow), significant impacts are determined based on the following sliding scale:

Non-platoon flow

• If the average pedestrian space under the No-Action condition is greater than 26.6 ft²/p, then a decrease in pedestrian space under the With-Action condition to 24.0 ft²/p or less (LOS C or worse) should be considered a significant impact. If the average pedestrian space under the With-Action condition is greater than 24.0 ft²/p, the impact should not be considered significant.

• If the average pedestrian space under the No-Action condition is between 5.1 and 26.6 ft²/p, a decrease in pedestrian space under the With-Action condition should be considered significant if it is greater than or equal to ((No-Action pedestrian space ft²/p / 9.0) – 0.31). The With-Action increments are provided in Table 16-14 in the CEQR Technical Manual.

• If the average pedestrian space under the No-Action condition is less than 5.1 ft²/p, then a decrease in pedestrian space greater than or equal to 0.2 ft²/p should be considered significant.

Platoon flow

- If the average pedestrian space under the No-Action condition is greater than 44.3 ft²/p, then a decrease in pedestrian space under the With-Action condition to 40.0 ft²/p or less (LOS C or worse) should be considered a significant impact. If the average pedestrian space under the With-Action condition is greater than 40.0 ft²/p, the impact should not be considered significant.
- If the average pedestrian space under the No-Action condition is between 6.4 and 44.3 ft²/p, a decrease in pedestrian space under the With-Action condition should be considered significant if it is greater than or equal to ((No-Action pedestrian space ft²/p) / (9.5-0.321)). The With-Action increments are provided in Table 16-16 in the CEQR Technical Manual.
- If the average pedestrian space under the No-Action condition is less than 6.4 ft²/p, then a decrease in pedestrian space greater than or equal to 0.3 ft²/p should be considered significant.

Parking Conditions Assessment

The parking analysis identifies the extent to which on-street parking and off-street parking is available and utilized under Existing, No-Action, and With-Action conditions. Typically, this analysis encompasses a study area within 0.25-mile radius of the Project Site. If the analysis identifies a shortfall in parking in the 0.25-mile study area, the study area could be extended to 0.5-mile to identify additional parking supply. The analysis, which takes into consideration anticipated changes in area parking supply, provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from additional demand generated by the Proposed Project.

Determination of Significant Parking Shortfalls

According to the *CEQR Technical Manual*, if the Proposed Project generates more parking demand than it supplies, this shortfall may be considered significant. However, the available parking supply should consider the parking spaces within a 0.25-mile radius of the Project Site. If the project-generated parking demand can be accommodated with the on-site project parking supply and on-street/off-street parking spaces within a 0.25-mile radius of the Project Site, then the shortfall would not be considered significant depending on the location of the project. For projects in locations outside the *CEQR Technical Manual* parking zones one and two, which applies to the Proposed Project, as it is in Parking Zone 5, a parking shortfall may be considered significant if the parking demand a project generates would consume more than half the available on-street and off-street parking spaces within a 0.25-mile radius of the Project Site.

Vehicular and Pedestrian Safety Assessment

Crash data is collected for the most recent three-year period from NYCDOT and classified as Reportable, Non-Reportable, or Property Damage Only. For locations that are identified as a high-crash location, the safety assessment should include accident type and severity (including pedestrian and bicycle crashes), type of intersection control, and discernible patterns of crashes. Other factors should be also considered, such as high volumes of at-risk pedestrian age groups (children or the elderly), crossing locations with difficult sight lines, or uncontrolled locations. High-crash locations are defined as those with more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes during any consecutive 12 months of the most recent three-year period for which data is available. The vehicular and

pedestrian safety assessment will consider the projected vehicular and pedestrian traffic that would be added to each study intersection identified as a high crash location and/or whether the existing design and operations at the high crash locations would impact the flow of the projected new vehicular or pedestrian/bicycle trips.

Assessment of Vehicular and Safety Issues

The assessment of safety impacts is often subjective and depends largely on the location of the Proposed Project and the circumstances under which historic crashes took place. It is the goal of this analysis to determine whether the Proposed Project would increase the potential for pedestrian and bicycle crashes at study intersections that are considered high-crash locations. If the assessment identifies potential for significant pedestrian and/or bicycle impacts due to the Proposed Actions, possible remedies to improve pedestrian and bicycle safety should be identified and coordinated with NYCDOT.

VI. EXISTING CONDITIONS

Once the project characteristics have been defined, baseline conditions (the "Existing Conditions") are established for traffic, transit, pedestrian data, parking, and other physical and operational characteristics.

Traffic Operations

Existing study area traffic volumes were based on traffic data collected in August 2016, August 2017, and November 2017 during peak periods when background traffic is typically greatest and/or when the Proposed Project is projected to generate the greatest number of trips that would be added to the roadway network. The field programs included manual turning movement counts at study area intersections during the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak periods. Crosswalk counts were collected during all peak periods for all intersections.

Turning movement counts and vehicle classification counts were performed at each study intersection. Traffic volumes were balanced between intersections where appropriate. ATR were placed at 81 locations for continuous, nine-day periods in August 2016, August 2017, and November 2017 to collect 24-hour counts for both summer and non-summer conditions. The ATR counts were used to identify daily and temporal traffic variations. The ATR volumes indicated that Weekday AM peak period traffic volumes were higher during the non-summer season and that traffic volumes during the Weekday MD, Weekday PM, and Saturday MD peak periods were higher during the summer season. Therefore, Weekday AM peak period counts collected in August 2016 and August 2017 were adjusted using a seasonal growth factor to reflect non-summer conditions. Similarly, Weekday MD, Weekday PM, and Saturday MD peak period counts collected in November 2017 were adjusted using a seasonal growth factor to reflect summer conditions.

An inventory of the study intersections was performed to determine intersection control, traffic signal timing, phasing, and cycle length; street and curbside signage; pavement markings; and lane dimensions to be used in the calculation of street capacities. Official signal timings were obtained from NYCDOT to confirm field observations and for incorporation into the capacity analysis. **Figure 12-5** through **Figure 12-8** show the Existing Conditions traffic volumes for the four peak hours. The representative peak hours of background traffic in the study area were determined to be:

• Weekday AM peak hour: 7:30 AM to 8:30 AM (non-summer)

• Weekday MD peak hour: 1:00 PM to 2:00 PM (summer)

• Weekday PM peak hour: 5:00 PM to 6:00 PM (summer)

Saturday MD peak hour: 2:30 PM to 3:30 PM (summer)

Level of Service - Signalized Intersections

Table 12-12: 2016 Existing Conditions Level of Service Analysis – Signalized Intersections presents the capacity analysis results for the signalized intersections included in the study area. Most of the analyzed intersection approaches and lane groups operate at an acceptable level of mid-LOS D or better (45.0 seconds or less of delay for signalized intersections) during the four analysis peak hours. The lane groups that operate worse than mid-LOS D are summarized by peak hour in **Table 12-10: Signalized Lane Groups Operating Worse than Mid-LOS D – Existing Conditions**.

Table 12-10: Signalized Lane Groups Operating Worse than Mid-LOS D - Existing Conditions

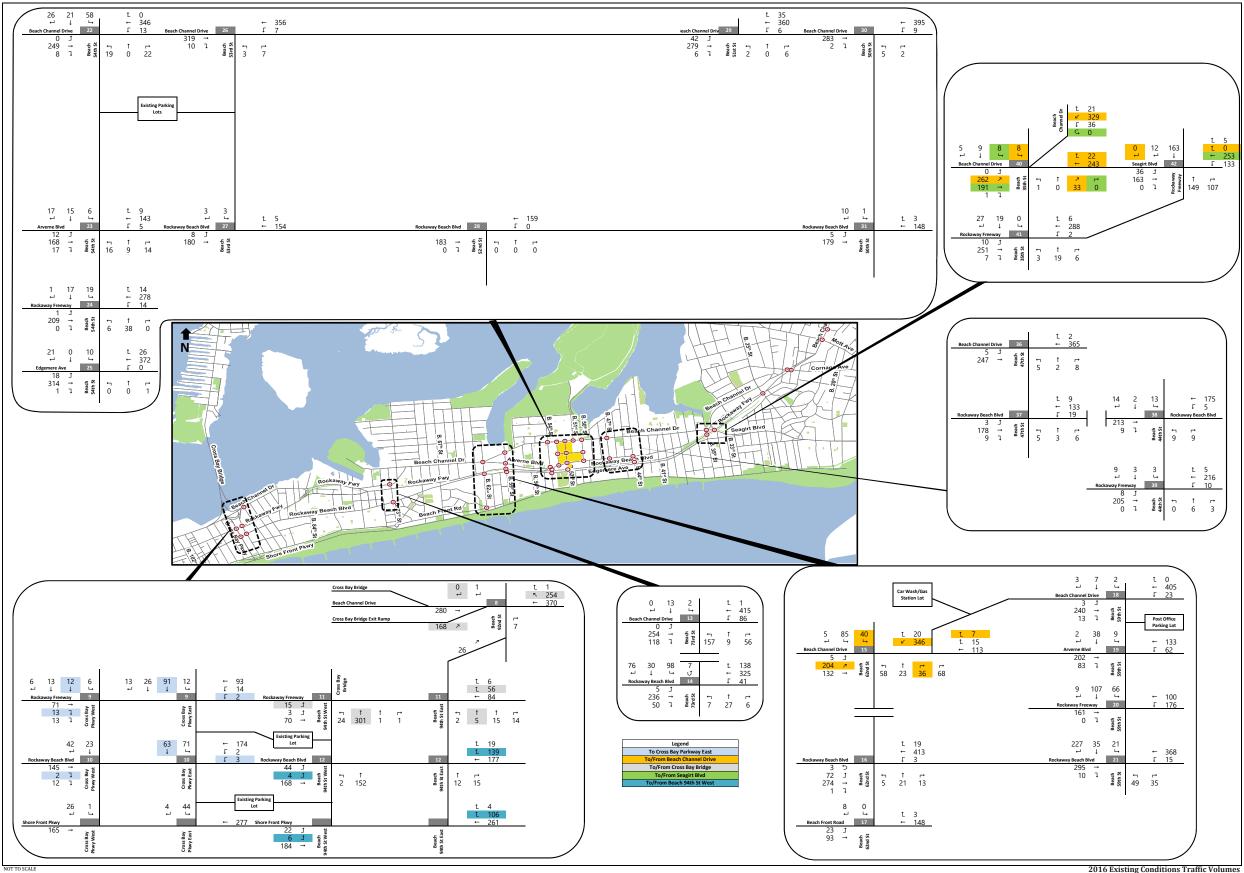
#	Intersection	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour	
1	Beach Channel Drive & Beach 116th Streetreet	WB-LTR, SB-LTR	SB-LTR	WB-LTR, SB-LTR	SB-LTR	
2	Newport Avenue & Beach 116th Streetreet		NB-LT	NB-LT	NB-LT	
4	Beach Channel Drive & Rockaway Freeway			EB-LTR		
15	Beach Channel Drive & Beach 62nd Street	WB (Beach Channel Drive)-T, SB-L				
20	Rockaway Freeway & Beach 59th Street	WB-L	WB-L	WB-L	WB-L	
25	Edgemere Avenue & Beach 54th Street			EB-LTR		
40	Beach Channel Drive/Seagirt Boulevard & Beach 35th Street	SWB-LR		SWB-LR	SWB-LR	
42	Rockaway Freeway & Seagirt Boulevard	EB-L, EB-TR	EB-L, EB-TR	EB-L, EB-TR	EB-L	
46	Beach Channel Drive & Mott Avenue	EB-LTR, NB-TR		NB-TR	NB-TR	
47	Beach Channel Drive & Dix Avenue		SB-LTR	SB-LTR	SB-LTR	
50	Beach Channel Drive & Hassock Street	NB-LT	NB-LT		NB-LT, SB-T	
	Total Number of Impacted Lane Groups:	11	7	11	9	

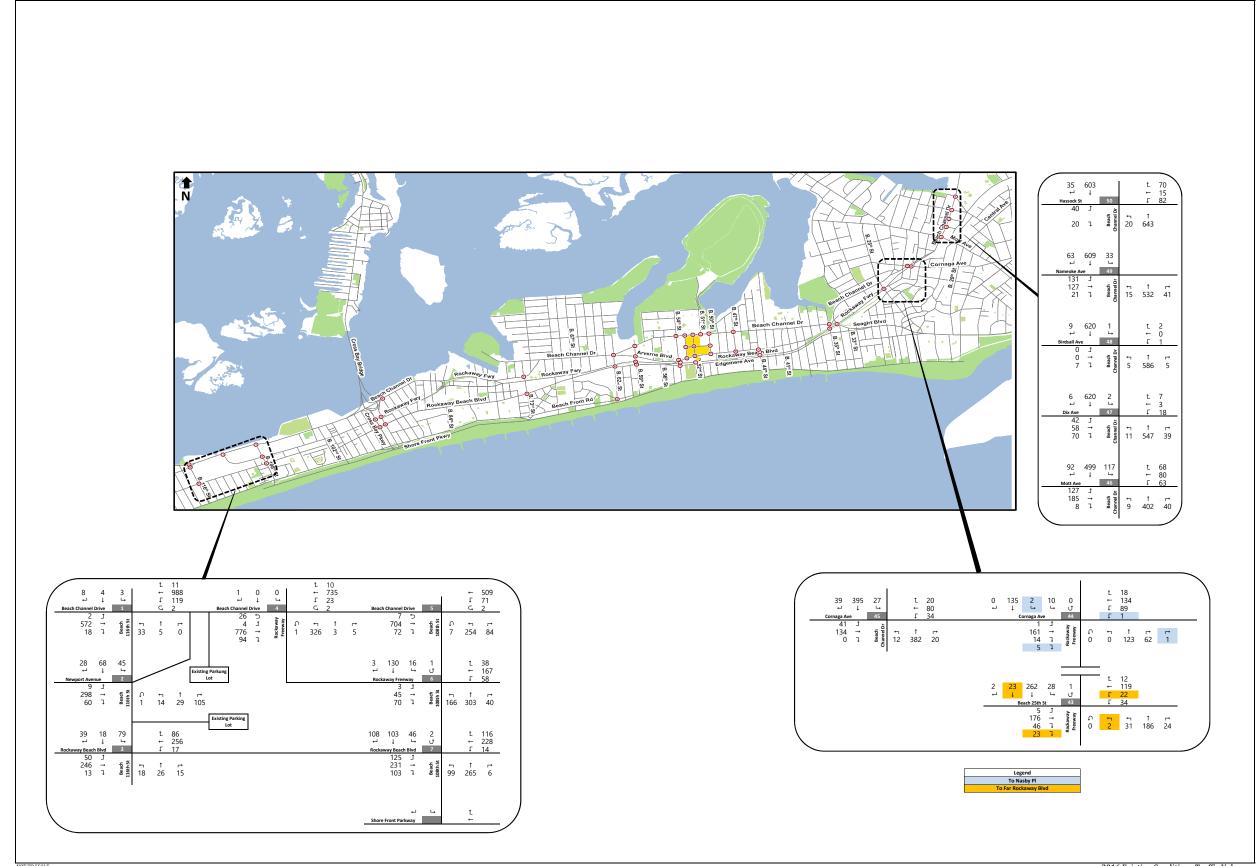
Level of Service - Unsignalized Intersections

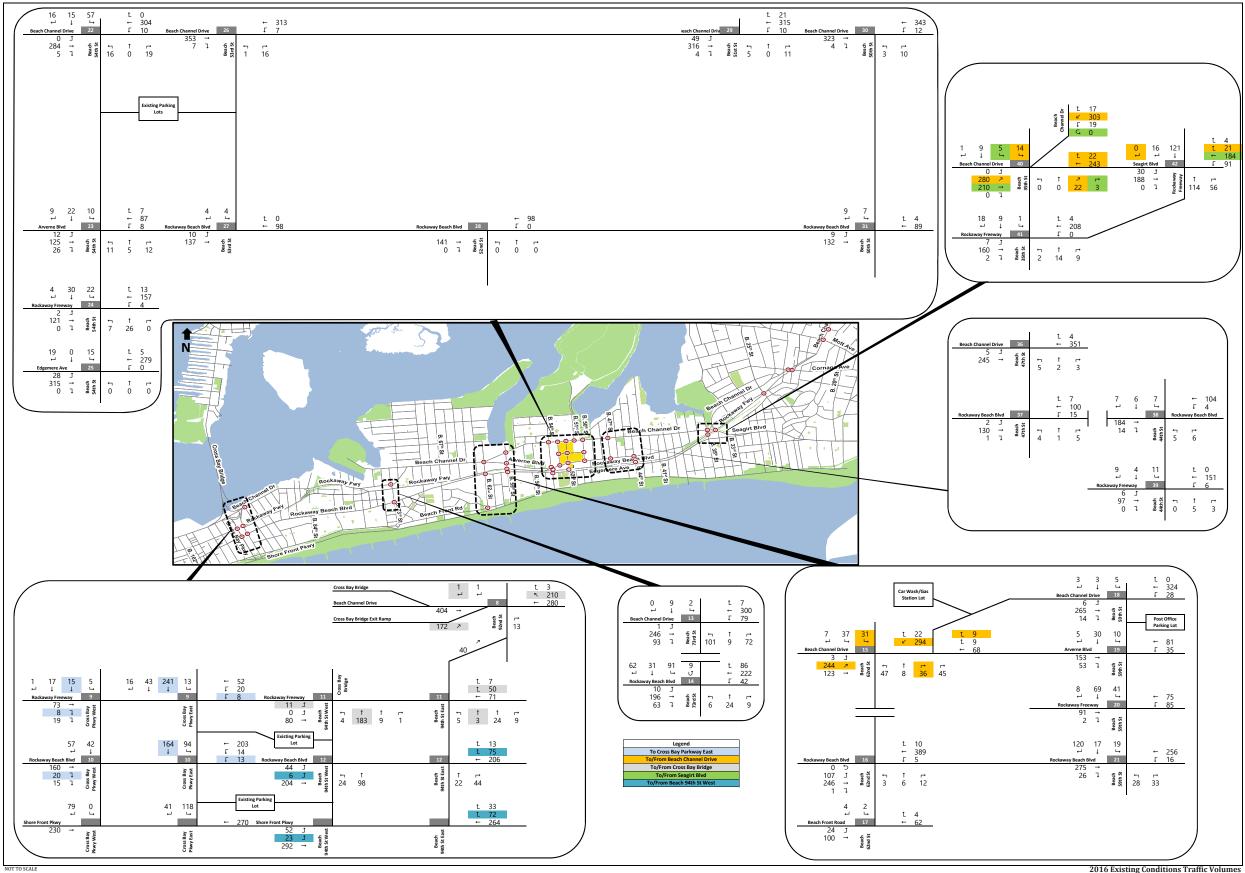
Table 12-13: 2016 Existing Conditions Level of Service Analysis – Unsignalized Intersections presents the capacity analysis results for the unsignalized intersections included in the study area. Most of the analyzed intersection approaches and lane groups operate at an acceptable level of mid-LOS D or better (30.0 seconds or less of delay for unsignalized intersections) during the four analysis peak hours. The lane groups that operate worse than mid-LOS D are summarized by peak hour in **Table 12-11: Unsignalized Lane Groups Operating Worse than Mid-LOS D – Existing Conditions**.

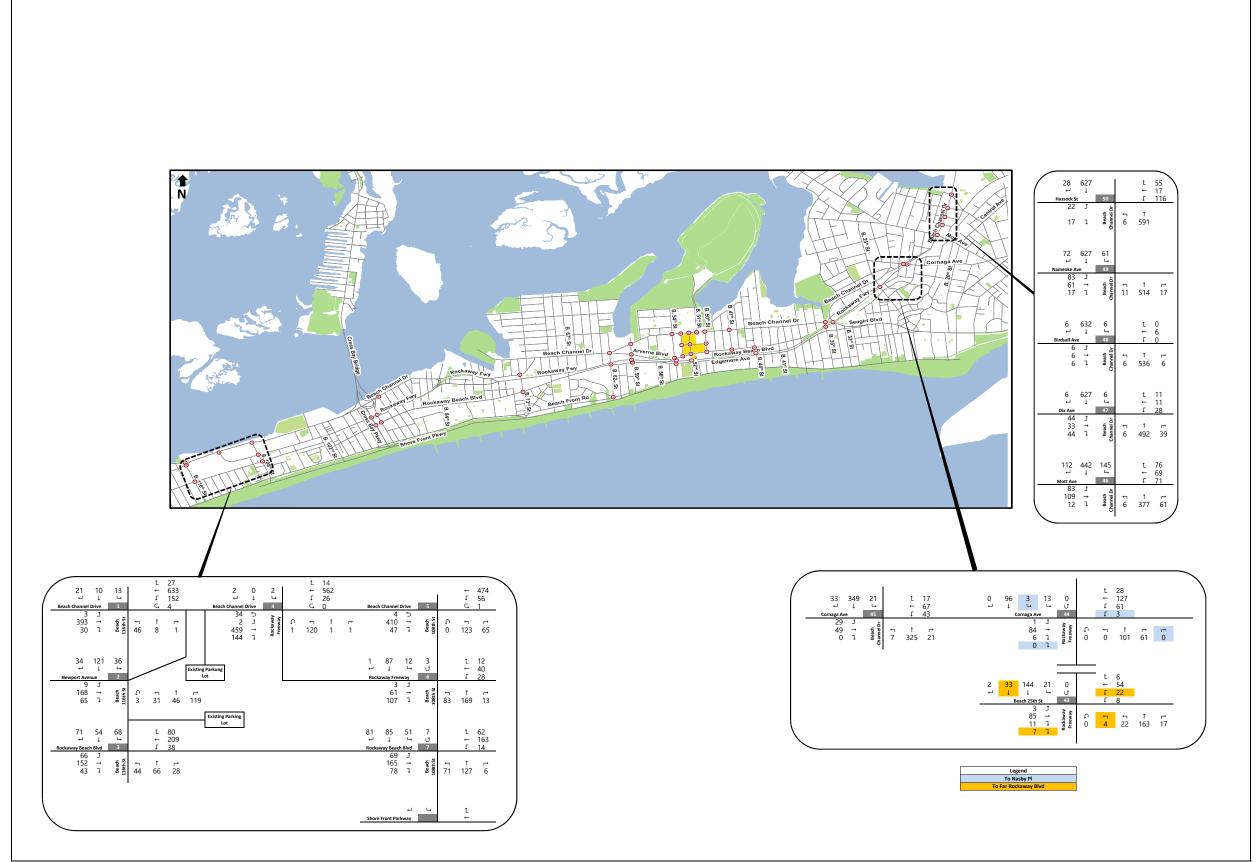
Table 12-11: Unsignalized Lane Groups Operating Worse than Mid-LOS D - Existing Conditions

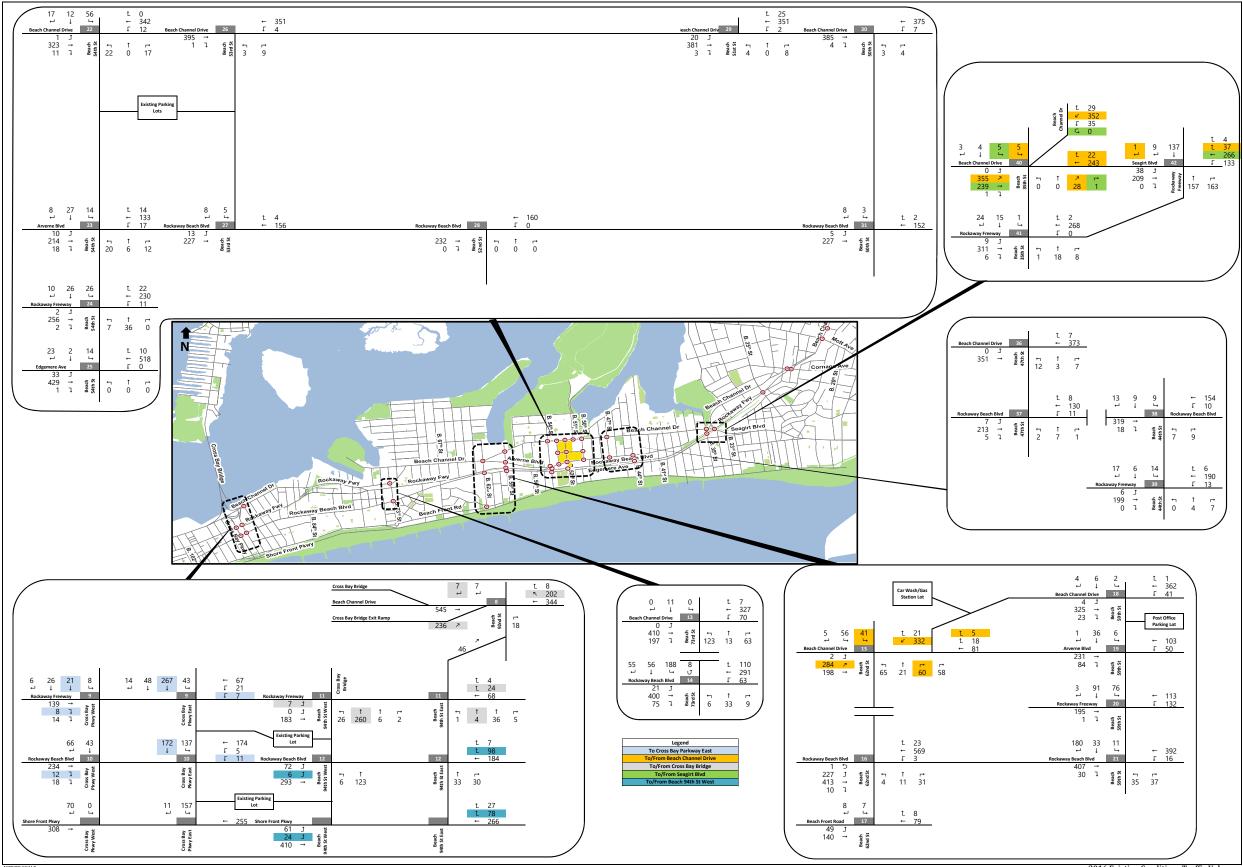
		Weekday AM	Weekday MD	Weekday PM	Saturday MD
#	Intersection	Peak Hour	Peak Hour	Peak Hour	Peak Hour
48	Beach Channel Drive & Birdsail Avenue		EB-LTR, WB-LTR	EB-LTR, WB-LTR	EB-LTR, WB-LTR
	Total Number of Impacted Lane Groups:	0	2	2	2

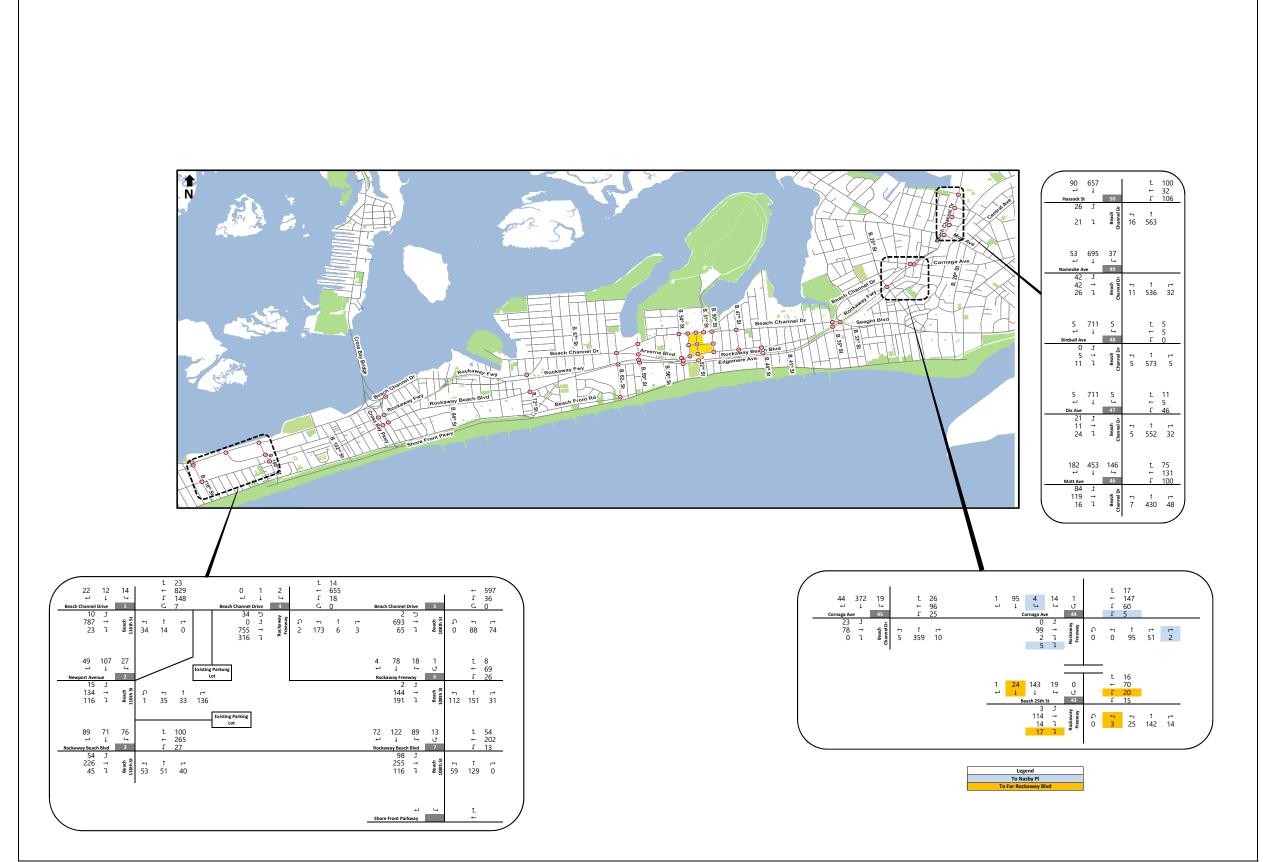


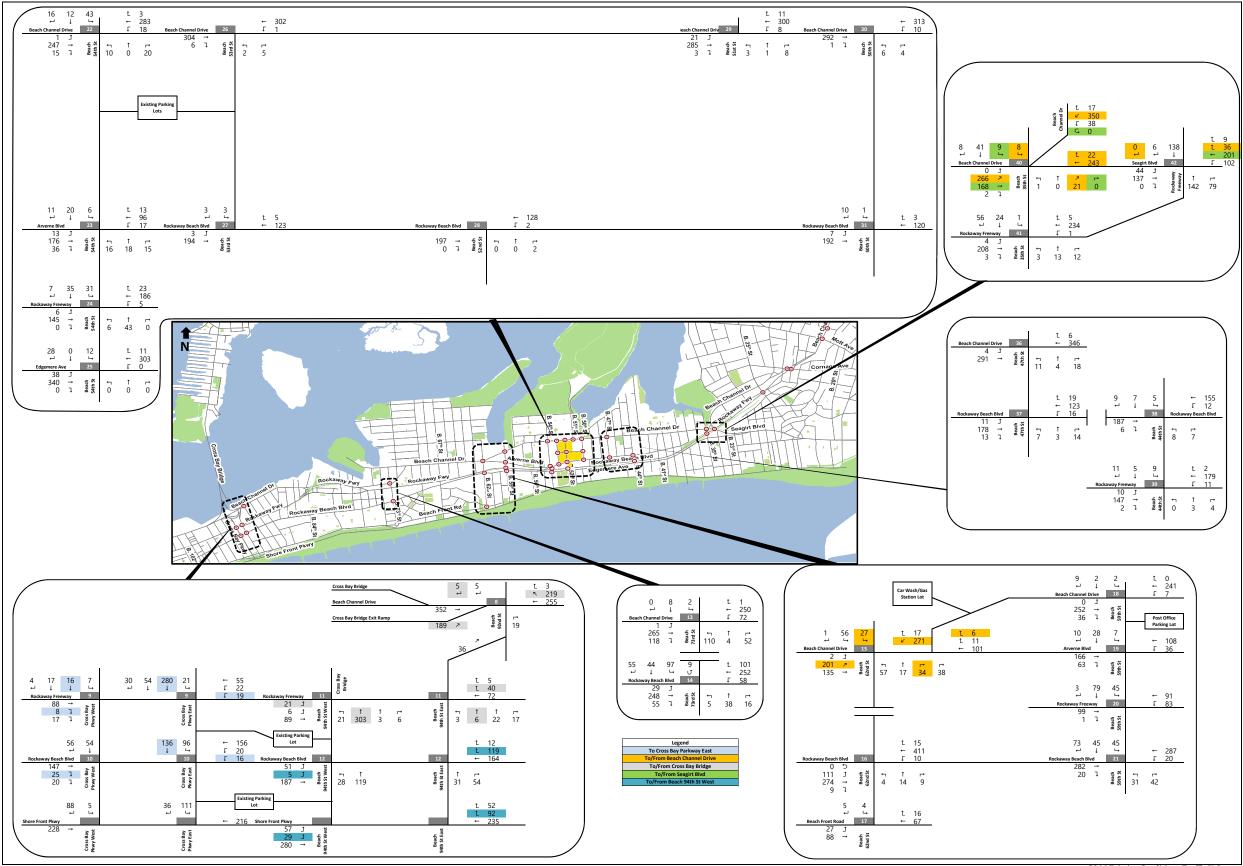












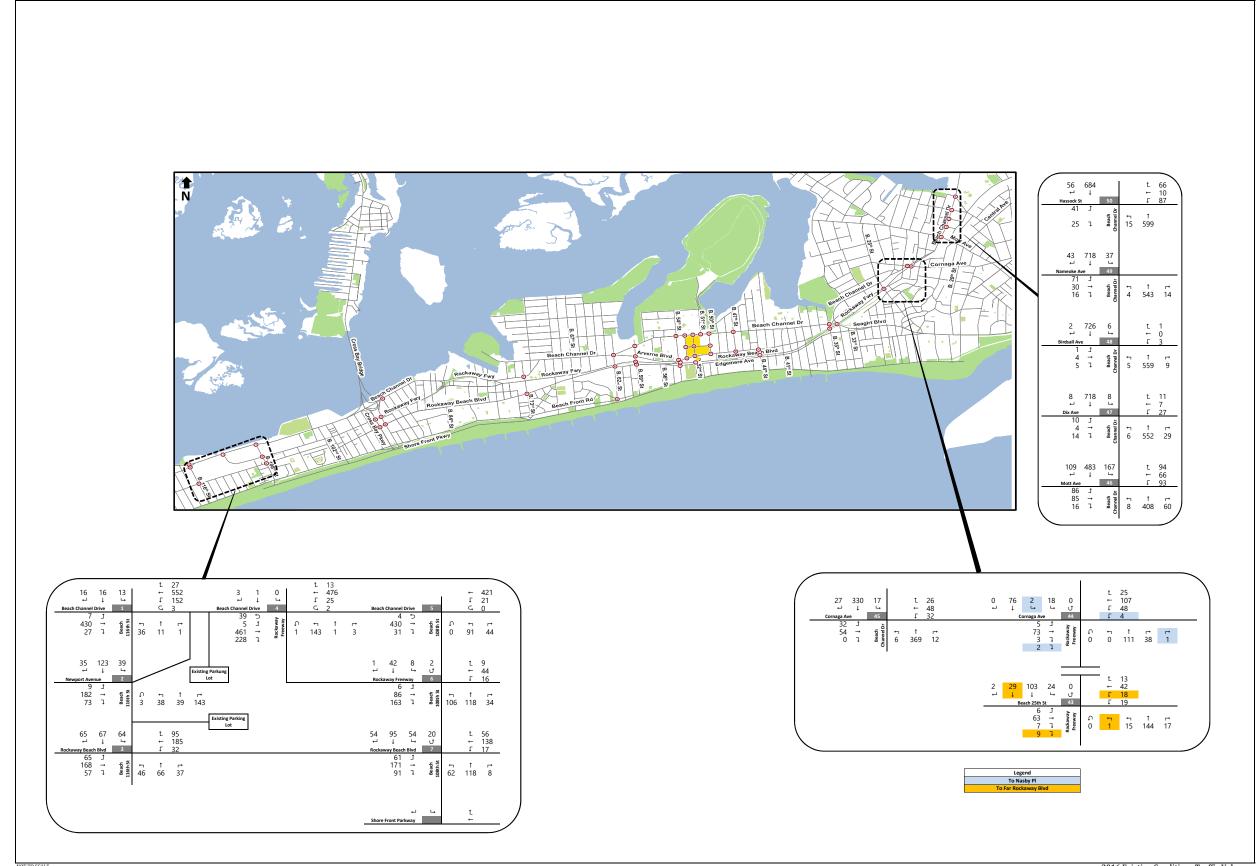


Table 12-12: 2016 Existing Conditions Level of Service Analysis – Signalized Intersections

	- u.b.o - i - i - i - i - i - i - i - i - i -	Weekday AM Peak Hour				Weekday MD Peak Hour Weekda					eekday PM Peak Hour			Saturday Peak Hour			
		Wee	kday Al	M Peak	Hour	Wee	kday M	D Peak	Hour	Wee	kday Pi	M Peak	Hour	Sa	turday	Peak H	our
		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay	LOS	Lane	v/c	Delay	
#	Intersection & Approach	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS
#	Beach Channel Drive and Beach 116th Street													•			_
	Eastbound	LTR	0.52	27.5	С	LTR	0.38	25.1	С	LTR	0.65	30.3	С	LTR	0.39	25.2	С
_	Westbound	LTR	1.03	61.6	Ē	LTR	0.70	22.6	C	LTR	1.04	63.3	Ē	LTR	0.64	20.6	C
1	Northbound	LTR	0.17	43.3	D	LTR	0.22	44.0	D	LTR	0.18	43.4	D	LTR	0.16	43.0	D
	Southbound	LTR	0.09	45.6	D	LTR	0.23	47.9	D	LTR	0.24	48.1	D	LTR	0.23	47.8	D
			ection	48.9	D		ection	25.3	С		ection	48.9	D		ection	24.3	С
	Newport Avenue and Beach 116th Street																
2	Eastbound	LTR	0.71	35.9	D	LTR	0.48	28.1	С	LTR	0.53	29.5	С	LTR	0.49	28.3	С
	Northbound	LT	0.22	44.4	D	LT	0.40	48.7	D	LT	0.34	47.0	D	LT	0.40	48.8	D
		R	0.32	33.5	С	R	0.39	35.0	D	R	0.38	34.6	С	R	0.41	35.2	D
	Southbound	LTR	0.22	17.5	В	LTR	0.28	18.3	В	LTR	0.26	18.0	В	LTR	0.28	18.3	В
			section	32.1	С	Inters	ection	29.1	С	Inters	ection	29.1	С	Inters	ection	29.4	С
	Rockaway Beach Boulevard and Beach 116th S																
	Eastbound	LTR	0.56	14.9	В	LTR	0.49	13.7	В	LTR	0.54	14.5	В	LTR	0.53	14.3	В
	Westbound	LTR	0.75	21.6	C	LTR	0.69	19.3	В	LTR	0.79	24.1	С	LTR	0.59	16.1	В
3	Northbound	L TD	0.05	12.5	В	L	0.16	13.8	В	L	0.20	14.3	В	L	0.16	13.7	В
	Caudhhain	TR	0.12	13.2	В	TR	0.23	14.2	В	TR	0.25	14.7	В	TR	0.24	14.3	В
	Southbound	TR	0.30	15.8	B B	L TR	0.27	15.6	В	TR	0.27	15.4 16.6	В	L TR	0.24	14.9	B B
			ection	13.5	В		ection	15.1	B B		ection		B B		ection	15.1 15.0	В
	Beach Channel Drive and Rockaway Freeway	milers	JUUIUII	17.5	В	HILEIS	COUUII	16.1	В	inters	COUUII	18.3	D	inters	COUOII	15.0	В
1	Eastbound	LTR	0.83	35.1	D	LTR	0.63	27.4	С	LTR	0.97	50.8	D	LTR	0.72	29.8	С
	Westbound	LTR	0.63	30.0	С	LTR	0.63	24.9	C	LTR	0.63	27.1	С	LTR	0.72	23.6	С
4	Northbound	LT	0.48	24.6	C	LT	0.19	19.8	В	LT	0.25	20.7	C	LT	0.20	20.0	В
	Northbound	R	0.01	17.8	В	R	0.00	17.6	В	R	0.01	17.7	В	R	0.01	17.7	В
			section	31.3	C		ection	25.6	C		ection	39.3	D		ection	26.5	C
	Beach Channel Drive and Beach 108th Street																
	Eastbound	TR	0.69	23.0	С	TR	0.40	17.8	В	TR	0.62	21.2	С	TR	0.41	17.8	В
-	Westbound	LT	0.80	29.1	С	LT	0.52	19.7	В	LT	0.56	20.3	С	LT	0.35	17.1	В
5	Northbound	L	0.39	18.3	В	L	0.19	15.7	В	L	0.13	15.1	В	L	0.14	15.2	В
		R	0.20	16.1	В	R	0.13	15.3	В	R	0.15	15.4	В	R	0.08	14.7	В
		Inters	section	24.0	С	Inters	ection	18.3	В	Inters	ection	20.2	С	Inters	ection	17.2	В
	Rockaway Freeway and Beach 108th Street					_											
	Eastbound	LTR	0.11	14.8	В	LTR	0.16	15.2	В	LTR	0.28	16.4	В	LTR	0.23	15.9	В
	Westbound	LTR	0.26	16.2	В	LTR	0.08	14.5	В	LTR	0.11	14.7	В	LTR	0.07	14.4	В
6	Northbound	L	0.40	19.2	В	L	0.15	15.5	В	L	0.23	16.4	В	L	0.21	16.1	В
	0	TR	0.29	16.5	В	TR	0.16	15.2	В	TR	0.16	15.2	В	TR	0.14	15.0	В
	Southbound	LTR	0.30	17.2	В	LTR	0.21	16.1	B B	LTR	0.19	15.7	В	LTR	0.10	14.9	В
	Rockaway Beach Boulevard and Beach 108th S		section	16.8	В	IIILEIS	ection	15.3	В	inters	ection	15.9	В	Inters	ection	15.5	В
	Eastbound	lieet	0.59	28.0	С		0.21	16.5	В		0.31	18.3	В	L	0.17	15.8	В
	Lasibourid	TR	0.64	24.4	С	TR	0.45	19.5	В	TR	0.66	24.5	С	TR	0.46	19.6	В
	Westbound	L	0.04	14.7	В	111	0.45	14.4	В	111	0.06	14.7	В	L	0.06	14.5	В
7	Westbound	TR	0.69	26.5	С	TR	0.38	18.4	В	TR	0.47	20.1	C	TR	0.35	17.9	В
	Northbound	LTR	0.72	27.9	C	LTR	0.40	18.9	В	LTR	0.36	18.2	В	LTR	0.38	18.6	В
	Southbound	LTR	0.57	22.8	Č	LTR	0.49	21.0	Č	LTR	0.63	24.6	C	LTR	0.49	20.7	C
			ection	25.7	C		ection	19.2	В		ection	22.1	C		ection	19.0	В
	Rockaway Freeway and Cross Bay Parkway	-						•						-			
	Eastbound	TR	0.18	19.2	В	TR	0.17	19.2	В	TR	0.23	19.9	В	TR	0.20	19.5	В
	Westbound	L	0.01	35.7	D	L	0.05	36.2	D	L	0.05	36.2	D	L	0.13	37.5	D
9		Т	0.13	10.3	В	Т	0.09	10.0	Α	Т	0.11	10.1	В	T	0.10	10.1	В
	Southbound (Cross Bay Bridge Off-Ramp)	LTR	0.16	20.8	С	LTR	0.32	22.4	С	LTR	0.35	22.9	С	LTR	0.40	23.5	С
	Southbound (Beach Channel Drive Off-Ramp)	LTR	0.07	20.0	С	LTR	0.07	20.1	С	LTR	0.12	20.6	С	LTR	0.09	20.3	С
			section	17.5	В	Inters	ection	20.2	С	Inters	ection	20.5	С	Inters	ection	21.4	С
	Rockaway Beach Boulevard and Cross Bay Par																
	Eastbound	TR	0.31	9.7	A	TR	0.36	10.1	В	TR	0.46	11.3	В	TR	0.36	10.1	В
10	Westbound	LT	0.24	8.7	A	LŢ	0.33	9.4	A	LT	0.27	9.0	A	LT	0.25	8.8	A
	Southbound (Cross Bay Bridge Off-Ramp)	LI	0.15	15.0	В	LI	0.27	15.9	В	LI	0.33	16.5	В	LI	0.28	16.0	В
	Southbound (Beach Channel Drive Off-Ramp)	TR Inters	0.20 section	16.0 11.5	B B	TR	0.26 ection	16.6 12.3	B B	TR	0.29 ection	17.0 13.2	B B	TR	0.28 ection	16.9 12.5	B B
	Rockaway Freeway and Beach 94th Street	inters	COLIOIT	11.3	D	inters	COLIDIT	12.3	D	inters	COLIOIT	13.2	D	IIICIS	COLIOIT	12.3	
	Eastbound	L	0.12	37.6	D	L	0.10	37.5	D	L	0.05	36.2	D	L	0.13	37.5	D
	Lasibound	Ť	0.12	10.2	В	Ť	0.10	10.2	В	Ť	0.20	10.9	В	T	0.13	10.3	В
	Westbound	TR	0.25	20.1	C	TR	0.22	19.7	В	TR	0.15	18.9	В			. 3.0	
11	301804114													Т	0.21	19.6	В
														R	0.01	17.5	В
	Northbound (Cross Bay Bridge On-Ramp)	LTR	0.28	21.9	С	LTR	0.19	21.0	С	LTR	0.25	21.6	С	LTR	0.32	22.3	C
	Northbound (Beach Channel Drive On-Ramp)	LTR			В	LTR		19.8	В	LTR		19.8	В	LTR	0.06	19.9	В
		Inters	section	20.1	С	Inters	ection	18.8	В	Inters	ection	18.0	В	Inters	ection	20.0	С
	Notes: L = Left Turn, T= Through, R = Right Turn,	DefL =	Defacto	Left Tu	rn; LOS	= Level	of Serv	ice =	Approac	ch has n	o volum	e recro	ded duri	ng this p	eak ho	ır.	
	 Signalized intersection with stop-controlled apprent 	oach(es	i).														
	2 Due to complete section and section AIVCDOT sec		00	to wor-				40	: 4	0 0 4	٠	45	/40 0 O	4=1			,

^{2.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

Table 12-12 (continued): 2016 Existing Conditions Level of Service Analysis – Signalized Intersections

		Weel	kday Al	M Peak	Hour	Weel	kday M	D Peak	Hour	Weel	kday Pl	M Peak	Hour	Sa	turday	Peak He	our
		Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
#	Intersection & Approach	Group	Ratio	(sec)	103	Group	Ratio	(sec)	103	Group	Ratio	(sec)	103	Group	Ratio	(sec)	LU3
	Rockaway Beach Boulevard and Beach 94th S		0.00	0.0		1.7	0.00	0.5			0.40	1444	_	1.7	0.04	0.0	_
12	Eastbound Westbound	LT TR	0.29	9.2 12.4	A B	LT TR	0.33	9.5 11.2	A B	LT TR	0.48	11.1 10.6	B B	LT TR	0.31	9.3	A B
	Northbound (Cross Bay Bridge On-Ramp)	LT	0.15	14.9	В	LT	0.12	14.7	В	LT	0.13	14.8	В	LT	0.14	14.9	В
	Northbound (Beach Channel Drive On-Ramp)	TR	0.07	14.6	В	TR	0.17	15.5	В	TR	0.14	15.2	В	TR	0.24	16.4	В
	Beach Channel Drive and Beach 73rd Street	Inters	ection	12.1	В	inters	ection	11.6	В	inters	ection	11.8	В	Inters	ection	11.8	В
	Eastbound	L	0.00	9.3	Α	L	0.00	9.4	Α	L	0.00	9.3	Α	L	0.00	9.4	Α
		T.	0.28	11.6	В	T.	0.26	11.4	В	T.	0.38	12.7	В	T.	0.25	11.3	В
13 ¹	Westbound	L TR	0.24	12.0 16.3	B B	L TR	0.19	11.3 15.1	B B	L TR	0.22	11.9 15.5	B B	L TR	0.17	11.1 12.8	B B
	Northbound	LT	0.39	24.7	Č	LT	0.24	22.1	Č	LT	0.29	22.9	Č	LT	0.23	22.1	Č
	Southbound	LTR	0.04	19.7	В	LTR	0.03	19.6	В	LTR	0.03	19.7	В	LTR	0.02	19.6	В
	Rockaway Beach Boulevard and Beach 73rd S		ection	16.2	В	inters	ection	14.6	В	inters	ection	15.2	В	Inters	ection	13.6	В
14	Eastbound	LT	0.27	8.7	Α	LT	0.21	8.2	Α	LT	0.42	10.4	В	LT	0.30	9.0	Α
		R	0.09	7.5	Α	R	0.11	7.6	Α	R	0.12	7.7	Α	R	0.09	7.4	A
	Westbound	L TR	0.08	7.5 8.9	A	L TR	0.08	7.4 8.0	A	L TR	0.14	8.0 8.5	A	L TR	0.13	7.8 8.2	A
	Northbound	LT	0.10	24.6	Ĉ	LT	0.20	24.4	Ĉ	LT	0.12	24.8	C	LT	0.23	24.8	C
	<u> </u>	R	0.02	23.8	С	R	0.03	23.9	С	R	0.03	23.9	С	R	0.06	24.3	С
	Southbound	L TR	0.35	28.8 30.2	C	L TR	0.36	28.9 28.1	C	L TR	0.64	37.0 29.1	D C	L TR	0.34	28.6	C
			ection	13.4	В	_	ection	13.6	В		ection	15.7	В	_	ection	13.4	В
	Beach Channel Drive/Arverne Boulevard and B			_													
	Eastbound Westbound (Beach Channel Drive)	LT T	1.04	29.1 80.9	C F	LT T	0.68	29.5 26.0	C	LT T	0.85	38.8 25.4	D C	LT T	0.62	26.8 22.4	C
15	Westbound (Arverne Blvd)	LR	0.60	41.6	D	LR	0.00	31.1	C		0.00	20.4	Ĕ	LR	0.43	32.5	C
	,									L	0.31	31.3	С				
	Northbound	LTR	0.57	36.9	D	LTR	0.28	30.2	С	R LTR	0.02	27.4 32.4	C	LTR	0.28	30.2	С
	Southbound	L	0.68	49.0	D	L	0.38	34.7	Č	L	0.54	39.8	D	L	0.20	33.8	C
		R	0.02	27.5	С	R	0.04	27.8	С	R	0.02	27.5	С	R	0.00	27.3	С
	Rockaway Beach Boulevard and Beach 62nd 9	Inters	ection	53.5	D	Inters	ection	28.2	С	Inters	ection	32.9	С	Inters	ection	26.0	С
	Eastbound	L	0.23	26.3	С	L	0.30	27.3	С	L	0.61	34.9	С	L	0.30	27.4	С
16		TR	0.31	7.5	Α	TR	0.28	7.3	Α	TR	0.46	9.1	Α	TR	0.30	7.4	Α
	Westbound Northbound	LTR LTR	0.53	27.0 28.4	C	LTR LTR	0.42	25.2 27.5	C	LTR LTR	0.73	31.8 28.8	OO	LTR LTR	0.47	25.9 27.5	С
	Northbound	Inters		20.4	C		ection	19.6	В	_	ection	25.1	С	Inters		20.0	В
18	Beach Channel Drive and Beach 59th Street																
	Eastbound	LT R	0.34	12.5 9.5	B A	LT R	0.32	12.2 9.5	B A	LT R	0.36	12.7 9.7	B A	LT R	0.29	11.8 9.8	B A
	Westbound	LTR	0.51	15.1	В	LTR	0.48	14.5	В	LTR	0.56	16.2	В	LTR	0.26	11.5	В
	Southbound	LTR	0.02	19.5	В	LTR	0.02	19.5	В	LTR	0.02	19.5	В	LTR	0.02	19.6	В
	Arverne Boulevard and Beach 59th Street	Inters	ection	14.1	В	Inters	ection	13.6	В	Inters	ection	14.6	В	Inters	ection	11.7	В
19	Eastbound	Т	0.25	8.6	Α	Т	0.17	8.1	Α	Т	0.23	8.5	Α	Т	0.19	8.2	Α
		R	0.17	8.2	A	R	0.09	7.6	A	R	0.14	8.0	A	R	0.12	7.8	A
	Westbound Southbound	LT LTR	0.31	9.4 15.0	A B	LT LTR	0.19	8.3 14.9	A B	LT LTR	0.27	9.1 14.9	A B	LT LTR	0.21	8.4 15.1	A B
	Coutibouria	Inters		9.5	A	-	ection	9.0	A		ection	9.2	A	Inters		9.0	A
	Rockaway Freeway and Beach 59th Street			46.5	_			46.5	_			46 :					
20	Eastbound Westbound	TR	1.04	18.2 116.7	B F	TR	0.13	16.9 49.3	B D	TR I	0.27	18.4 87.9	B F	TR	0.14	17.0 48.6	B D
	vvestbodild	T	0.10	8.7	Α	T	0.08	8.6	Α	T	0.32	8.9	Α	T	0.10	8.7	A
	Southbound		0.45	27.8	С	LTR	0.29	25.0	С	LTR	0.44	27.8	С	LTR	0.32	25.5	С
21	Rockaway Beach Boulevard and Beach 59th S		ection	45.9	D	inters	ection	25.3	С	inters	ection	35.1	D	inters	ection	24.4	С
	Eastbound	TR	0.50	22.4	С	TR	0.56	23.7	С	TR	0.75	30.3	С	TR	0.51	22.6	С
	Westbound	LT	0.60	24.5	С	LT	0.41	20.4	С	LT	0.59	24.1	С	LT	0.49	21.9	С
	Northbound Southbound	LR LTR	0.37	27.9 19.1	C B	LR LTR	0.22	24.3 14.7	C B	LR LTR	0.27	25.2 15.9	СВ	LR LTR	0.26	25.0 14.6	C B
	DNIDOGIJIJUG		ection	22.7	С		ection	20.9	С	Inters		24.9	С	Inters		20.9	С
	Beach Channel Drive and Beach 54th Street																
	Eastbound	T R	0.34	12.5 9.4	B A	T R	0.37	12.8 9.4	B A	T R	0.36	12.6 9.5	B A	T R	0.31	12.0 9.5	B A
22	Westbound	LT	0.01	16.4	В	LT	0.01	15.0	В	LT	0.02	15.4	В	LT	0.02	14.3	В
	Northbound	LR	0.14	21.2	С	LR	0.13	21.0	С	LR	0.13	21.0	С	LR	0.09	20.5	С
	Southbound	LTR	0.24	22.1	С	LTR	0.21 ection	21.7	С	LTR	0.19	21.5	С	LTR	0.16	21.1	С
	Notes: L = Left Turn, T= Through, R = Right Turn		ection Defact	16.2 to Left T	B um: LO			15.3 rvice -	B = Appro		ection	15.2 lume red	B croded o		ection is neak	14.4	В
	1. Signalized intersection with stop-controlled app			.o Lon I	ann, LO	J LOV	5, 5, 56	1106	, thbit	Jaon na	. 110 VU			aaring li	pear	ioui .	
	Due to complex geometry and per NYCDOT re			ults wer	e calcul	ated usi	ng Syn	chro 10	, versio	n 10.2, b	ouild 0,	revision	45 (10,	,2,0,45).			
										_							

Table 12-12 (continued): 2016 Existing Conditions Level of Service Analysis – Signalized Intersections

		Wee	kday Al	M Peak	Hour	Weel	kday M	D Peak	Hour	Wee	kday Pl	VI Peak	Hour	Sa	turday	Peak H	our
		Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
#	Intersection & Approach	Group	Ratio	(sec)	LUS	Group	Ratio	(sec)	1 503	Group	Ratio	(sec)	103	Group	Ratio	(sec)	103
	Arverne Boulevard and Beach 54th Street																
	Eastbound	LTR	0.34	19.6	В	LTR	0.28	18.7	В	LTR	0.38	20.1	С	LTR	0.35	19.5	В
23	Westbound Northbound	LTR LTR	0.26	18.3 12.7	B B	LTR LTR	0.19	17.6 12.6	B B	LTR LTR	0.29	18.8 12.8	B B	LTR	0.22	17.9 12.9	B B
	Southbound	LTR	0.11	22.6	C	LTR	0.11	22.7	C	LTR	0.13	22.8	C	LTR	0.10	22.4	C
		Inters		18.8	В		ection	18.3	В		ection	19.3	В		ection	18.5	В
	Rockaway Freeway and Beach 54th Street																
	Eastbound	LTR	0.29	18.6	В	LTR	0.19	17.5	В	LTR	0.37	19.7	В	LTR	0.23	17.9	В
24	Westbound	L TR	0.09	36.8 10.2	D B	L TR	0.03	35.9 9.4	D A	L TR	0.07	36.5 10.3	D B	L TR	0.03	36.0 9.6	D A
	Northbound	LTR	0.09	22.2	C	LTR	0.07	22.0	C	LTR	0.08	22.2	C	LTR	0.10	22.4	C
	Southbound	LTR	0.08	22.2	С	LTR	0.12	22.7	С	LTR	0.13	22.7	С	LTR	0.16	23.2	С
		Inters	ection	15.7	В	Inters	ection	15.3	В	Inters	ection	16.7	В	Inters	ection	16.0	В
	Edgemere Avenue and Beach 54th Street	LTD	0.54	00.4		LTD	0.50	00.5	_	LTD	0.04	45.4		LTD	0.57	00.0	
	Eastbound Westbound	LTR LTR	0.51	22.1 21.9	C	LTR LTR	0.52	22.5 19.4	C B	LTR LTR	0.91	45.4 27.0	D C	LTR LTR	0.57	23.8	C
25	Northbound	LTR	0.00	21.4	C	LTR	0.00	21.4	C	LTR	0.00	21.4	Č	LTR	0.00	21.4	C
	Southbound	LTR	0.04	12.6	В	LTR	0.16	14.6	В	LTR	0.18	14.8	В	LTR	0.17	14.8	В
		Inters	ection	21.6	С	Inters	ection	20.8	С	Inters	ection	34.9	С	Inters	ection	21.9	С
	Beach Channel Drive and Beach 51st Street		0.14	10.8	В		0.15	10.0	В	,	0.06	9.9	۸	_	0.05	9.8	
	Eastbound	TR	0.14	15.8	В	TR	0.15	10.9 15.5	В	TR	0.06	15.9	A B	TR	0.05	13.9	A B
29	Westbound	LT	0.47	14.5	В	LT	0.47	14.4	В	LT	0.42	13.5	В	LT	0.43	12.8	В
		R	0.07	9.9	В	R	0.04	9.7	В	R	0.04	9.7	В	R	0.02	9.5	В
	Northbound	LTR	0.01	19.5	В	LTR	0.03	19.6	В	LTR	0.02	19.6	В	LTR	0.03	19.6	В
	Rockaway Freeway and Beach 44th Street	Inters	ection	14.6	В	inters	ection	14.6	В	inters	ection	14.5	В	inters	ection	13.3	В
	Eastbound	Т	0.05	36.3	D	L	0.04	36.1	D	L	0.04	36.1	D	L	0.06	36.5	D
		TR	0.31	19.0	В	TR	0.15	17.0	В	TR	0.31	18.9	В	TR	0.21	17.7	В
39	Westbound	L	0.02	9.6	Α	L	0.01	8.1	Α	L	0.02	9.7	Α	L	0.02	8.4	Α
••	Northbound	TR LTR	0.29	18.6	В	TR	0.21	17.7	B	TR	0.29	18.6	B C	TR	0.25	18.1	B C
	Southbound	LTR	0.02	21.5 21.9	C	LTR	0.02	21.5 22.2	C	LTR	0.02	21.6	C	LTR	0.01	21.5	C
	Couribound	Inters		19.1	В		ection	18.2	В		ection	19.1	В		ection	18.5	В
	Beach Channel Drive/Seagirt Boulevard and Be	ach 35t												-			
	Eastbound	ᆫ	0.67	26.3	С	L	0.63	24.6	С	L	0.75	28.7	С	L	0.60	23.2	С
	Westbound (from Seagirt Boulevard)	TR TR	0.30	11.4 11.0	B B	TR TR	0.32	11.6 12.4	B B	TR TR	0.38	12.2 10.3	B B	TR TR	0.28	11.2 8.6	B A
40 ^{1,2}	Southwestbound (from Beach Channel Drive)	LR	0.97	68.3	E	LR	0.81	44.6	D	LR	0.46	69.3	E	LR	0.94	61.6	E
٠.	Southbound	LTR	0.08	21.4	C	LTR	0.09	21.4	C	LTR	0.05	21.0	C	LTR	0.17	22.5	C
	Northbound	LT	0.00	21.0	С	LT	0.00	0.0	-	LT	0.00	0.0	-	LT	0.00	17.0	В
		TR	0.07	19.1	В	TR	0.05	19.8	B	TR	0.06	18.6	В	TR	0.04	16.3	В
	Rockaway Freeway and Beach 35th Street	Inters	ection	36.3	D	IIILEIS	ection	24.8	С	IIILEIS	ection	35.1	D	IIILEIS	ection	34.2	С
	Eastbound	L	0.06	35.1	D	L	0.05	34.9	С	L	0.05	34.8	С	L	0.02	34.2	С
		TR	0.36	18.8	В	TR	0.22	16.8	В	TR	0.45	20.2	С	TR	0.28	17.6	В
41 ²	Westbound	L	0.01	35.0	С	L	0.00	0.0	-	L	0.00	0.0	- D	L	0.00	39.0	D
	Southbound	TR LTR	0.43	11.4 26.2	B C	TR LTR	0.29	8.9 21.2	A C	TR _LTR	0.36	11.2 26.4	B C	TR LTR	0.33	10.4 21.8	B C
	Northbound	LTR	0.09	25.7	C	LTR	0.10	25.4	C	LTR	0.13	25.6	C	LTR	0.09	25.6	C
		Inters		16.5	В		ection	14.1	В	Inters	ection	17.6	В	Inters	ection	15.8	В
	Rockaway Freeway and Seagirt Boulevard																
	Eastbound	L TR	0.11	50.8 48.7	D D	L TR	0.10	47.4 69.3	D E	L TR	0.12	51.2	D	L TR	0.14	55.7 29.8	E
42 ²	Westbound	LTR	0.19	32.6	С	LTR	0.23	30.2	C	LTR	0.20	66.9 33.3	E C	LTR	0.14	30.8	C
**	Southbound	TR	0.31	22.1	С	TR	0.25	21.1	C	TR	0.26	21.3	C	TR	0.23	20.8	Ċ
	Northbound	TR	0.42	10.7	В	TR	0.31	12.0	В	TR	0.62	13.4	В	TR	0.36	11.3	В
	Pockaway Frontay and Pooch 25th Chront	Inters	ection	28.9	С	Inters	ection	34.7	С	Inters	ection	32.1	С	Inters	ection	25.8	С
	Rockaway Freeway and Beach 25th Street Eastbound	LTR	0.56	30.0	С	LTR	0.23	23.9	С	LTR	0.32	25.2	С	LTR	0.18	23.3	С
	Westbound	LTR	0.46	28.3	C	LTR	0.23	23.8	C	LTR	0.32	24.7	C	LTR	0.10	23.8	C
43	Northbound	L	0.19	37.4	D	L	0.16	37.0	D	L	0.17	37.2	D	L	0.09	35.9	D
40		TR	0.33	20.0	В	TR	0.31	19.7	В	TR	0.25	18.8	В	TR	0.26	18.9	В
	Southbound	L	0.16	37.1	D	L	0.13	36.5	D B	L TD	0.10	36.1	D	L TD	0.15	36.8	D
		TR Inters	0.44 ection	21.4 25.6	C	TR Inters	0.27 ection	19.0 22.3	B C	TR Inters	0.22 ection	18.3 22.8	B C	TR Inters	0.18 ection	18.0 21.8	B C
	Notes: L = Left Turn, T= Through, R = Right Turn,																
	Signalized intersection with stop-controlled appropriate to complex geometry and per NYCDOT req	oach(es).						••								

Table 12-12 (continued): 2016 Existing Conditions Level of Service Analysis – Signalized Intersections

#		Lane	v/c	Delay		Lane		D . I									
#			*/-	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
	Intersection & Approach	Group	Ratio	(sec)	103	Group	Ratio	(sec)	103	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	L03
	Rockaway Freeway and Cornaga Avenue																
	Eastbound	LTR	0.29	20.5	С	LTR	0.15	19.0	В	LTR	0.16	19.0	В	LTR	0.14	18.8	В
	Westbound	LTR	0.65	30.5	С	LTR	0.57	27.1	С	LTR	0.52	25.6	С	LTR	0.42	23.2	С
44	Northbound	TR	0.40	25.9	С	TR	0.35	25.0	С	TR	0.30	24.2	С	TR	0.30	24.1	С
	Southbound	L	0.08	36.6	D	L	0.11	37.3	D	L	0.13	37.5	D	L	0.13	37.4	D
		TR	0.20	13.5	В	TR	0.14	12.9	В	TR	0.13	12.9	В	TR	0.11	12.6	В
	D	Inters	ection	24.0	С	inters	ection	23.2	С	Inters	ection	22.3	С	Inters	ection	21.7	С
	Beach Channel Drive and Cornaga Avenue	LTD	0.00	24.2	_	LTD	0.44	40.0		LTD	0.47	10.1		LTD	0.40	40.4	_ n
	Eastbound	LTR LTR	0.32	21.2	C	LTR LTR	0.14	18.8 20.7	B C	LTR LTR	0.17	19.1	B C	LTR LTR	0.16	19.1 19.9	B B
	Westbound Northbound	LIK	0.29	12.3	В	LIK	0.28	12.2	В	LIK	0.29	12.0	В	LIK	0.22	12.0	В
45	Nottiboulia	TR	0.50	17.4	В	TR	0.03	16.6	В	TR	0.02	16.4	В	TR	0.02	16.2	В
	Southbound	IK	0.30	13.0	В	I I	0.44	13.1	В	I I	0.06	12.4	В	I	0.43	12.4	В
	Southbourid	TR	0.10	18.3	В	TR	0.10	16.7	В	TR	0.49	17.3	В	TR	0.00	16.1	В
		Inters		18.6	В		ection	17.3	В	Inters		17.6	В	Inters		16.8	В
	Beach Channel Drive and Mott Avenue	IIICIS	CCLIOIT	10.0	ь	IIIICIS	CCIOII	17.3	ь	IIICIS	CCLIOIT	17.0	В	IIICIS	CCLIOIT	10.0	В
	Eastbound	LTR	0.87	46.9	D	LTR	0.50	25.3	С	LTR	0.72	35.6	D	LTR	0.55	27.3	С
	Westbound	LT	0.41	23.5	C	LT	0.38	22.9	С	LT	0.60	28.1	C	LT	0.45	24.4	C
	Westbound	R	0.14	10.6	В	R	0.14	10.6	В	R	0.14	10.6	В	R	0.16	10.7	В
46	Northbound	ì	0.07	20.6	C	L	0.04	19.9	В	ï	0.06	20.6	C	L	0.05	20.2	C
	Hombouria	TR	0.90	48.5	D	TR	0.87	43.9	D	TR	0.94	53.8	D	TR	0.90	47.8	Ď
	Southbound	L	0.58	25.2	C	L	0.57	23.6	Ċ	L	0.65	28.3	C	L	0.74	32.9	Ċ
		TR	0.73	22.1	Č	TR	0.66	19.6	В	TR	0.76	23.3	Č	TR	0.66	19.5	В
		Inters	ection	33.2	С	Inters	ection	27.1	С	Inters	ection	33.1	С	Inters	ection	29.5	С
	Beach Channel Drive and Dix Avenue																
	Eastbound	LTR	0.57	30.5	С	LTR	0.43	26.7	С	LTR	0.20	22.2	С	LTR	0.09	20.4	С
47	Westbound	LTR	0.09	20.4	С	LTR	0.15	21.2	С	LTR	0.17	21.5	С	LTR	0.13	20.9	С
41	Northbound	LTR	0.90	35.3	D	LTR	0.89	34.8	С	LTR	0.87	31.4	C	LTR	0.84	27.8	C
	Southbound	LTR	0.90	33.6	С	LTR	0.99	51.4	D	LTR	1.03	61.1	Е	LTR	1.05	65.3	Е
		Inters	ection	33.6	С	Inters	ection	41.2	D	Inters	ection	45.3	D	Inters	ection	47.3	D
	Beach Channel Drive and Nameoke Avenue																
	Eastbound	LTR	0.72	35.7	D	LTR	0.45	26.3	С	LTR	0.32	23.7	С	LTR	0.32	23.6	С
	Northbound	L	0.11	11.1	В	L	0.09	10.8	В	L	0.10	11.4	В	L	0.04	10.0	В
49		TR	0.70	19.6	В	TR	0.78	23.6	С	TR	0.67	19.0	В	TR	0.65	18.0	В
	Southbound	L	0.16	11.6	В	L	0.38	17.2	В	L	0.16	11.5	В	L	0.17	11.6	В
		TR	0.84	27.0	С	TR	0.93	38.0	D	TR	0.92	35.0	D	TR	0.90	32.8	С
	December Observed December 11 and 11 and 12 Accessed	Inters	ection	25.4	С	Inters	ection	30.0	С	Inters	ection	27.1	С	Inters	ection	25.8	С
	Beach Channel Drive and Hassock Avenue		0.10	40.0	В	10	0.40	40.0	В	LD	0.40	40.0	В	I D	0.40	40.5	Ь
	Eastbound	LR	0.16	19.3	B B	LR	0.12	18.9	B C	LR I	0.12	18.8	B C	LR	0.18	19.5	В
	Westbound	L TR	0.18	19.5 19.7	В	L TR	0.26 0.18	20.5 19.5	В	TR	0.25	22.2	C	L TR	0.20	19.7 19.4	B B
50	Northbound	LT	1.05	70.9	E	LT	1.04	66.5	E	LT	0.35	43.8	D	LT	1.03	65.0	E
	Southbound	T	0.89	34.0	C	T	0.94	40.9	D	T	0.94	36.7	D	T	0.98	50.3	D
	Southbound	R	0.89	11.5	В	R	0.94	11.2	В	R	0.91	12.6	В	R	0.98	12.0	В
		Inters		46.5	D		ection	47.7	D	Inters		34.7	С	Inters		49.9	D
	Notes: L = Left Turn, T= Through, R = Right Turn,																υ

Table 12-13: 2016 Existing Conditions Level of Service Analysis – Unsignalized Intersections

		Weel	kday Al	M Peak	Hour	Wee	kday M	D Peak	Hour	Wee	kday Pl	M Peak	Hour	Sa	turday	Peak Ho	our
		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
#	Intersection & Approach																
	Beach Channel Drive and Beach 92nd Street/Be					_											
	Southbound	R	0.00	10.2	В	R	0.00	12.1	В	R	0.03	12.6	В	R	0.02	12.7	В
8	Northbound (Cross Bay Bridge)	R	0.28	12.2	В	R	0.36	14.6	В	R	0.52	19.6	С	R	0.36	14.0	В
	Northbound (Beach 94th Street)	R	0.05	11.5	В	R	0.11	14.2	В	R	0.16	17.0	С	R	0.10	13.6	В
	Northbound (Beach 92nd Street)	R	0.01	11.4	В	R	0.04	14.0	В	R	0.07	17.8	С	R	0.05	14.0	В
	Beach Channel Drive and Beach 73rd Street																
13 ¹	Eastbound	R	0.14	9.7	Α	R	0.11	9.3	Α	R	0.26	10.2	В	R	0.15	9.5	Α
	Northbound	R	0.09	10.4	В	R	0.11	10.2	В	R	0.12	11.4	В	R	0.08	10.2	В
	Beach Front Road and Beach 62nd Street																
17²	Eastbound	L	0.02	7.3	Α	LT	0.02	7.3	Α	LT	0.04	7.3	Α	LT	0.02	7.3	Α
17	Westbound	TR	0.21	11.0	В	TR	0.11	10.8	В	TR	0.17	12.5	В	TR	0.15	11.1	В
	Southbound	LR	0.01	8.4	Α	LR	0.01	8.9	Α	LR	0.02	9.7	Α	LR	0.01	9.4	Α
	Beach Channel Drive and Beach 53rd Street																
26	Westbound	LT	0.01	8.3	Α	LT	0.01	8.2	Α	LT	0.00	8.6	Α	LT	0.00	8.0	Α
	Northbound	LR	0.02	12.3	В	LR	0.03	11.3	В	LR	0.03	12.4	В	LR	0.01	11.6	В
	Rockaway Beach Boulevard and Beach 53rd St	reet		•	•		•	•			•	•		*	•	•	
27	Eastbound	LT	0.01	7.8	Α	LT	0.01	7.5	Α	LT	0.01	7.7	Α	LT	0.00	7.6	Α
	Southbound	LR	0.01	10.3	В	LR	0.01	9.8	Α	LR	0.02	10.5	В	LR	0.01	10.0	Α
	Rockaway Beach Boulevard and Beach 52nd St	reet			•								•				
28	Westbound	LT	0.00	7.7	Α	LT	0.00	7.6	Α	LT	0.00	7.7	Α	LT	0.00	7.8	Α
	Northbound	LR	0.00	0.0	-	LR	0.00	0.0	-	LR	0.00	0.0	-	LR	0.00	9.6	A
	Beach Channel Drive and Beach 50th Street		0.00	0.0			0.00	0.0			0.00	0.0	-		0.00	0.0	
30	Westbound	LT	0.01	8.3	Α	LT	0.01	8.1	Α	LT	0.01	8.3	Α	LT	0.01	8.1	Α
••	Northbound	LR	0.02	15.0	В	LR	0.03	11.6	В	LR	0.02	13.4	В	LR	0.02	13.0	В
	Rockaway Beach Boulevard and Beach 50th St		0.02	10.0	D	LIX	0.03	11.0	D	LIX	0.02	10.4	U	LIX	0.02	10.0	
31	Eastbound	LT	0.00	7.8	Α	LT	0.01	7.4	Α	LT	0.00	7.6	Α	LT	0.01	7.5	Α
31	Southbound	LR	0.00	9.6	A	LR	0.01	9.5	A	LR	0.00	9.9	A	LR	0.01	9.3	A
	Beach Channel Drive and Beach 47th Street	LIN	0.02	9.0	_ ^	LIN	0.02	9.5	_ ^	LIN	0.02	5.5	_ ^	LIN	0.02	9.5	
36	Eastbound	LT	0.01	8.6	Α	LT	0.01	8.4	Α	LT	0.00	8.2	Α	LT	0.00	8.1	Α
36	Northbound	LTR	0.01	12.9	В	LTR	0.01	13.0	В	LTR	0.06	14.7	В	LTR	0.08	13.0	В
	Arverne Boulevard/Rockaway Beach Boulevard					LIK	0.02	13.0	Б	LIK	0.00	14.7	Ь	LIK	0.06	13.0	ь
		LTR	0.00	7.5		LTR	0.00	7.5		LTR	0.01	7.7		LTR	0.01	7.6	Α
37	Eastbound Westbound	LTR			A			_	A	LTR	0.01	7.9	A	LTR	0.01	7.7	
			0.02	7.9	B	LTR	0.01	7.6									A B
	Northbound	LTR	0.02	10.8	В	LTR	0.02	10.1	В	LTR	0.02	12.0	В	LTR	0.04	10.6	В
	Rockaway Beach Boulevard and Beach 44th Str		0.04	0.4			0.00	7.0			0.04	0.0			0.04		
38	Westbound	LT	0.01	8.1	A	LT	0.00	7.8	A	LT	0.01	8.2	A	LT	0.01	7.7	A
	Northbound	LR	0.04	12.1	В	LR	0.02	11.0	В	LR	0.04	12.9	В	LR	0.03	11.3	В
	Southbound	LTR	0.07	12.6	В	LTR	0.04	11.4	В	LTR	0.08	13.7	В	LTR	0.04	11.7	В
40 ^{1,3}	Beach Channel Drive and Seagirt Boulevard		0.00				0.01	40.6	-		0.00	44.0	-		0.07	10.0	
	Westbound	R	0.00	0.0	Α	R	0.04	10.6	В	R	0.08	11.3	В	R	0.07	10.8	В
	Beach Channel Drive and Birdsall Avenue		0.05	10.5	-		0.0:	10.5	_		0.45	00.5	-		0.45	40.6	
	Eastbound	LTR	0.02	13.5	В	LTR	0.21	49.8	E	LTR	0.15	39.2	E	LTR	0.10	40.3	Е
48	Westbound	LTR	0.01	15.6	С	LTR	0.09	56.4	F	LTR	0.11	42.1	E	LTR	0.06	65.0	F
	Northbound	LTR	0.01	9.3	Α	LTR	0.01	9.9	Α	LTR	0.01	9.9	Α	LTR	0.01	10.1	В
	Southbound	LTR	0.00	9.3	Α	LTR	0.01	9.5	Α	LTR	0.01	10.0	Α	LTR	0.01	9.4	Α
	Notes: L = Left Turn, T= Through, R = Right Turn,			Left Tu	rn; LOS	= Level	of Serv	ice =	Approac	ch has n	o volum	ne recro	ded duri	ing this p	eak ho	ur.	
	 Signalized intersection with stop-controlled appre 	oach(es)).														
	Analyzed westbound approach in HCS as a stop	-controll	led nort	hbound	approac	ch, as th	ere are	a stop s	igns on	the sou	thbound	and we	estboun	d approa	aches.		
	3. Due to complex geometry and per NYCDOT reg	uest. L.C	S resul	ts were	calculat	ed using	Synch	ro 10. v	ersion 1	0.2. buil	d 0. rev	ision 45	(10.2.0	.45).			
		,					,				-,						

Transit Operations

The transit elements within the study area were assessed for the Weekday AM and PM peak hours. Based on discussions with NYCT, a subway line-haul analysis was also performed for the Saturday MD and Sunday MD peak hours during the summer season as subway service is less frequent and ridership peaks due to recreational activities at the beach. A total of one subway line, nine stairs (six platform and three street-level), three control areas, and two bus routes were included in the transit analysis.

Subway Line-Haul

A detailed subway line-haul analysis was conducted for the A train for the peak direction during the Weekday AM, Weekday PM, Saturday MD, and Sunday MD peak hours. Summary data for the peak load points on the A train for the four peak hours were provided by NYCT in April 2018. The data included the average number of passengers at the maximum load points, capacity-related information (train/cars per hour), and v/c ratios for A train service in the peak direction during the peak travel hours.

The results of the analyses presented in **Table 12-14: 2016 Existing Conditions Level of Service Analysis – Subway Line-Haul** indicate that the A train is currently operating below loading capacity in the peak directions during the four peak hours.

Table 12-14: 2016 Existing Conditions Level of Service Analysis – Subway Line-Haul

Peak Direction	Route	Maximum Load Point Station	Average Passengers Per Hour	Average Trains Per Hour	Average Cars Per Hour	Average Passengers Per Car	Guideline Passengers Per Car (2)	V/C ratio
			Week	day AM ⁽¹⁾				
Northbound	Α	Nostrand Av	17,539	16.7	134	131	175	0.75
			Week	day PM ⁽¹⁾				
Southbound	Α	Jay St-MetroTech	14,678	15.2	122	120	175	0.69
			Saturday N	1D (Summer) ⁽	4)			
Northbound	Α	Aqueduct Racetrack	1,579	8	64	24	88	0.27
			Sunday M	D (Summer) ⁽⁴)			
Northbound	Α	Aqueduct Racetrack	2,808	6	48	58	88	0.66

Notes:

Subway Stairs

Stairway analyses were conducted for two street-level stairs and four platform stairs at the Beach 60th Street station as well as one street stair and two platform stairs at the Beach 44th Street station. Counts of the vertical elements and control areas were conducted in August 2016 and January 2018 during the Weekday AM and Weekday PM peak transit periods and summarized into 15-minute intervals. Measurements were taken of the total width at the street-level and platform stairways. The effective stairway widths were calculated in accordance with *CEQR Technical* guidelines.

As shown in **Table 12-15: 2016 Existing Conditions Level of Service Analysis – Stairs**, the street-level and platform stairs at both stations operate at LOS A during both peak hours.

⁽¹⁾ Based on 2015-2016 ridership and train throughput data from NYCT.

⁽²⁾ Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.

⁽³⁾ Volume to guideline capacity ratio.

⁽⁴⁾ Based on 2012-2017 ridership and train throughput data from NYCT. The Summer Saturday and Sunday MD peak hours were included in the line haul analysis as subway service is less frequent on weekends and weekend ridership peaks due to recreational activities at the beach.

Table 12-15: 2016 Existing Conditions Level of Service Analysis - Stairs

Location	Vertical Element	ID	15-Minute Entering Volume ⁽¹⁾	15-Minute Exiting Volume (1)	Width	Number of Intermediate Handrails	Effective Width (feet)	Friction Factor ⁽³⁾	Factor (onto platform level) (3)	Surge Factor (off of platform level) (3)	Entering	15 Minute Exiting Capacity (4)	V/C ⁽⁵⁾	LOS (5)
				Weel	day AM									
	NE Stair (b/w street level and head house)	M3A, M3B, S3A, S3B	59	16	8.5	1	7.25	0.9	1	0.80	979	783	0.08	Α
	NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	87	10	8.5	1	7.25	0.9	1	0.75	979	734	0.10	Α
Beach 60 St	SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	12	8	8.0	1	6.75	0.9	1	0.75	911	683	0.03	Α
Station	NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	37	4	8.5	1	7.25	0.9	1	0.75	979	734	0.04	Α
	SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	12	11	8.0	1	6.75	0.9	1	0.75	911	683	0.03	Α
	SE Stair (b/w street level and platform level)	-	n/a	6	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.01	Α
				Weel	kday PM									
	NE Stair (b/w street level and head house)	M3A, M3B, S3A, S3B	18	76	8.5	1	7.25	0.9	1	0.80	979	783	0.11	Α
	NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	17	19	8.5	1	7.25	0.9	1	0.75	979	734	0.04	Α
Beach 60 St	SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	4	64	8.0	1	6.75	0.9	1	0.75	911	683	0.10	Α
Station	NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	5	5	8.5	1	7.25	0.9	1	0.75	979	734	0.01	Α
	SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	0	24	8.0	1	6.75	1.0	1	0.75	1013	759	0.03	Α
	SE Stair (b/w street level and platform level)	-	n/a	28	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.04	Α
D 44.51	NW Stair (b/w street level and head house)	M3A, M3B, S1A, S1B	4	3	8.0	1	6.75	0.9	1	0.80	911	729	0.01	Α
Beach 44 St - Station	SE Stair (b/w head house and platform level)	P8A, P8B, P10A, P10B	2	8	8.0	1	6.75	0.9	1	0.75	911	683	0.01	Α
Station	SW Stair (b/w head house and platform level)	P4A, P4B, P6A, P6B	0	14	8.0	1	6.75	1.0	1	0.75	1013	759	0.02	Α
	t 2016 and January 2018 field counts adjusted using seasons measured at the narrowest location.	onal adjustment factors prov	ided by NYCT t	o reflect typica	al peak monti	ı ridership.								

(4) Stair capacity based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

(5) v/c ratios and LOS ratings were calculated based on rates presented in the 2014 CEQR Technical Manual.

Control Areas

The subway control areas at the Beach 60th Street and Beach 44th Street stations were analyzed. The turnstile counts for the control area analysis were conducted simultaneous with subway stair counts. In conformance to the CEQR Technical Manual, control array capacity was based on NYCT guidelines.

For the control area elements, the quantity, volume, friction and surge factors, capacity, and calculated v/c and LOS results are shown in Table 12-16: 2016 Existing Conditions Level of Service Analysis -Control Areas. All control area elements operate at LOS A during both peak hours.

Table 12-16: 2016 Existing Conditions Level of Service Analysis - Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume (1)	15-Minute Exiting Volume ⁽¹⁾	Friction Factor ⁽²⁾	Surge Factor (onto platform) (2)	Surge Factor (off of platform) (2)	15-Minute Entering Capacity ⁽³⁾	15-Minute Exiting Capacity ⁽³⁾	V/C ⁽⁴⁾	LOS ⁽⁴⁾
					Weekd	ay AM						
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	149	33	0.9	1	0.8	1260	1935	0.15	Α
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	6	1	n/a	0.75	n/a	555	0.02	Α
					Weekd	ay PM						
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	26	112	0.9	1	0.8	1260	1935	0.10	Α
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	28	1	n/a	0.75	n/a	555	0.07	Α
Beach 44 St Station	Turnstile HEET HXT	3 0 0	3 0 0	15	38	0.9	1	0.8	1260	1935	0.04	Α

Notes:

(1) Source: August 2016 and January 2018 field counts adjusted using seasonal adjustment factors provided by NYCT to reflect typical peak month ridership.

(2) Friction and surge factors based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual .

(3) Fare array capacity based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

(4) v/c ratios and LOS ratings were calculated based on rates presented in the 2014 CEQR Technical Manual

Bus Line-Haul

Bus line-haul data was provided for the Q22 and the Q52-SBS bus routes by NYCT in March 2018. The data included the number of passengers on the Q22 and Q52-SBS at peak load points throughout the day.

The number of buses during the peak hours were derived from the current bus schedules published by MTA/NYCT.

Table 12-17: 2016 Existing Conditions Level of Service Analysis - Bus Line-Haul summarizes the results of the existing bus conditions, including the number of buses per peak hour, the peak hour passenger volumes, average passengers per bus, total route capacity, and available capacity for each of the analyzed bus routes by direction during the two peak hours. The results of the analysis indicate that the Q22 and Q52-SBS bus routes currently operate within capacity at their peak load points in both directions during both peak hours.

Table 12-17: 2016 Existing Conditions Level of Service Analysis – Bus Line-Haul

Route [Peak Direction	Maximum Load Point	Peak Hour Buses ⁽¹⁾	Peak Hour Passengers ⁽¹⁾	Average Passengers Per Bus	Total Capacity Per Bus ⁽²⁾	Available Capacity Per Bus
		Wee	kday AM				
Q22	EB	Beach Channel Dr and Beach 35 th St	8	231	29	54	25
Q22	WB	Rockaway Beach Blvd and Beach 91st St	8	251	31	54	23
Q52-SBS	NB	Woodhaven Blvd and Atlantic Ave	4	199	50	54	4
Q52-SBS	SB	Woodhaven Blvd and Jamaica Ave	4	114	29	54	26
		Wee	kday PM				
Q22	EB	Seagirt Blvd and Crest Rd	6	174	29	54	25
Q22	WB	Beach Channel Dr and Beach 36 th St	7	222	32	54	22
Q52-SBS	NB	Woodhaven Blvd and Myrtle Ave	5	111	22	54	32
Q52-SBS	SB	Woodhaven Blvd and Metropolitan Ave	5	254	51	54	3

⁽¹⁾ Based on most currently available data from NYCT.

Pedestrian Operations

The existing operations of the study area's sidewalks, corner reservoirs, and crosswalks were assessed during four peak hours (Weekday AM, Weekday MD, Weekday PM, and Saturday MD). The specific elements analyzed were selected based on meeting the criteria of a projected pedestrian volume increase of more than 200 pedestrians per hour at any sidewalk, crosswalk, or corner reservoir during at least one of the four peak hours. The existing condition analyses were performed at a total of 50 locations within the study area, comprised of 16 sidewalks, seven crosswalks, 25 corner reservoirs, and two medians (with each median analyzed as two adjacent corners).

Pedestrian (sidewalk, crosswalk, and corner reservoir) counts were conducted within the study area in August 2016 and August 2017 during the four peak periods. These counts were summarized into one-hour intervals.

Sidewalks

A total of 16 sidewalk locations within the study area were analyzed. As presented in Table 12-18: 2016 Existing Conditions Level of Service Analysis - Sidewalks, all sidewalk locations operate at LOS A for the non-platoon conditions and at LOS B or better for platoon conditions during the four peak hours.

⁽²⁾ Available capacity based on a maximum of 54 passengers per bus (40-foot standard bus).

Table 12-18: 2016 Existing Conditions Level of Service Analysis - Sidewalks

	Total	Obstruc-	Effective			ulation /p)	Space	Non-F	Platoor	n Cond	itions	Plato	on Cor	ndition	s LOS
	Width	tion Width	Width	\	Veekda	у	Sat	٧	Veekda	ıy	Sat	٧	Veekda	ıy	Sat
Location	(ft) ⁽¹⁾	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD	AM	MD	PM	MD
Beach 59th St and Arverne Blvd (E leg, N sidewalk)	5.8	3.0	2.8	332	1080	540	630	Α	Α	Α	Α	В	Α	Α	Α
Beach 59th St and Rockaway Fwy (W leg, N sidewalk)	8.0	3.0	5.0	194	275	281	307	Α	Α	Α	Α	В	В	В	В
Beach 54th St and Beach Channel Dr (W leg, N sidewalk)	7.0	3.0	4.0	422	1350	450	1350	Α	Α	Α	Α	В	Α	В	Α
Beach 54th St and Arverne Blvd (E leg, N sidewalk)	8.0	3.0	5.0	1898	1038	2700	3375	Α	Α	Α	Α	Α	Α	Α	Α
Beach 54th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	886	1454	1112	675	Α	Α	Α	Α	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (E leg, S sidewalk)	5.0	3.0	2.0	542	675	600	771	Α	Α	Α	Α	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (W leg, S sidewalk)	5.0	3.0	2.0	759	900	1800	1800	Α	Α	Α	Α	Α	Α	Α	Α
Beach 53rd St and Rockaway Beach Blvd (N leg, E sidewalk)	3.5	3.0	0.5	135	169	104	270	Α	Α	Α	Α	В	В	В	В
Beach 53rd St and Rockaway Beach Blvd (E leg, N sidewalk)	4.9	3.0	1.9	601	513	855	733	Α	Α	Α	Α	Α	В	Α	Α
Beach 50th St and Rockaway Beach Blvd (E leg, S sidewalk)	7.0	3.0	4.0	1085	5400	1800	5400	Α	Α	Α	Α	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (E leg, S sidewalk) (2)	7.8	3.0	4.8	2278		12960		Α		Α		Α		Α	
Beach 44th St and Rockaway Fwy (N leg, W sidewalk)	5.5	3.0	2.5	216	397	211	422	Α	Α	Α	Α	В	В	В	В
Beach 44th St and Rockaway Fwy (W leg, N sidewalk)	14.3	3.0	11.3	932	2347	678	2179	Α	Α	Α	Α	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	207	900	497	540	Α	Α	Α	Α	В	Α	В	Α
Beach 57th St and Arverne Blvd (E leg, N sidewalk)	10.0	3.0	7.0	900	2100	1454	1575	Α	Α	Α	A	Α	Α	Α	Α
Beach 52nd St and Beach Channel Dr (E leg, S sidewalk)	4.8	3.0	1.8	474	591	525	675	Α	Α	Α	Α	В	Α	В	Α

Notes:

Crosswalks

Seven crosswalk locations (two at signalized intersections and five at unsignalized intersections) within the study area were analyzed. As presented in Table 12-19: 2016 Existing Conditions Level of Service Analysis – Signalized Crosswalks and Table 12-20: 2016 Existing Conditions Level of Service Analysis – Unsignalized Crosswalks, all crosswalk locations operate at LOS A during the four peak hours.

Table 12-19: 2016 Existing Conditions Level of Service Analysis – Signalized Crosswalks

			Availal	ble Circula	tion Space	e (ft²/p)	Cros	swalk Ci	rculation	LOS
	Length	Width		Weekday		Sat		Weekday	1	Sat
Location	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD
Beach 54th St and Beach Channel Dr (S leg)	33.8	14.5	286	507	458	772	Α	Α	Α	Α
Beach 54th St and Arverne Blvd (N leg)	40.0	12.2	2517	2991	2979	2974	Α	Α	Α	Α

Table 12-20: 2016 Existing Conditions Level of Service Analysis – Unsignalized Crosswalks

			Ave	rage Pedes	strian Dela	y (s)	Cros	swalk Ci	rculation	LOS
	Length	Width	Weekday			Sat		Weekday	1	Sat
Location	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD
Beach 53rd St and Beach Channel Dr (S leg)	30.0	9.0	0.2	0.3	0.2	0.1	Α	Α	Α	Α
Beach 53rd St and Rockaway Beach Blvd (N leg) (1)	35.0	10.0	0.2	0.2	0.3	0.1	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (S leg)	30.0	11.3	0.3	0.2	0.2	0.5	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (N leg) (2)	40.6	12.7	0.6	0.9	0.4	0.9	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (N leg) (2)	42.0	13.6	1.6	2.5	1.2	2.5	Α	Α	Α	Α

Notes:

Corners and Medians

A total of 29 corner reservoir locations (25 corner reservoirs and two medians, with each median analyzed as two adjacent corners) was analyzed. As presented in **Table 12-21: 2016 Existing Conditions Level of Service Analysis – Corners and Medians,** all corner reservoirs and medians operate at LOS A during all four peak hours.

⁽¹⁾ The total width was measured at the narrowest point along the sidewalk.

⁽²⁾ No pedestrian volumes were observed on the south sidewalk of Rockaway Beach Blvd between Beach 47th St and Beach 44th St during the Weekday MD and Saturday MD peak hours.

⁽¹⁾ A width of 10 feet was assumed as the crosswalk is not marked.

⁽²⁾ Spot counts were performed to capture conflicting vehicles, as traffic counts were not collected at this intersection.

Table 12-21: 2016 Existing Conditions Level of Service Analysis - Corners and Medians

	Availa	able Circ (ft²	ulation (² /p)	Space	Corn	er Circ	ulation	LOS
	'	Weekday	y	Sat	V	Veekda	у	Sat
Location	AM	MD	PM	MD	AM	MD	PM	MD
Beach 59th St and Arverne Blvd (NE corner)	492	633	628	653	Α	Α	Α	Α
Beach 59th St and Arverne Blvd (SE corner)	556	682	725	764	Α	Α	Α	Α
Beach 59th St and Rockaway Fwy (NW corner)	186	303	294	410	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (NE corner)	2935	4822	3581	5015	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (SE corner)	918	1952	1744	2170	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (SW corner)	1307	1917	1247	2259	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (NW corner)	411	667	410	563	Α	Α	Α	Α
Beach 54th St and Arverne Blvd (NE corner)	1280	752	980	652	Α	Α	Α	Α
Beach 54th St and Arverne Blvd (NW corner)	4882	4623	6317	2573	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (SE corner)	553	825	510	525	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (SW corner)	1658	1851	997	1518	Α	Α	Α	Α
Beach 51st St and Beach Channel Dr (SE corner)	1355	923	692	2110	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (SW corner)	1731	4320	3846	3840	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (SE corner)	855	2567	1974	1714	Α	Α	Α	Α
Beach 44th St and Rockaway Beach Blvd (SW corner)	821	1013	1199	934	Α	Α	Α	Α
Beach 44th St and Rockaway Fwy (NW corner)	964	1848	741	2054	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (NW corner)	1493	1947	1354	1698	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (NE corner)	1118	2230	906	1377	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (SW corner) (1)	1228	1490	1225	2046	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (SE corner) (1)	765	1571	637	1247	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (NW corner)	553	2220	1010	916	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (NE corner)	1655	2414	1640	1500	Α	Α	Α	Α
Beach 56th PI and Rockaway Fwy (NW corner) (1)	1152	1440	1031	1248	Α	Α	Α	Α
Beach 56th PI and Rockaway Fwy (NE corner) (1)	762	1328	700	1326	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (NW corner)	1563	4299	1743	1842	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (NE corner)	958	3125	1042	1236	Α	Α	Α	Α

Notes: Unsignalized corners at two-way stop-controlled intersections with uncontrolled crosswalks across the major street cannot be analyzed. Therefore, the northeast and northwest corners at Beach 53rd Street and Rockaway Boulevard and the southwest corner at Beach 50th Street and Rockaway Beach Boulevard were not included in this table.

(1) Median element that was analyzed at two adjacent corners.

Parking Conditions

On-Street Parking

Existing study area on-street parking conditions were evaluated by performing a field inventory of parking regulations and utilization within a 0.25-mile radius of the Project Site. On-street parking regulations within 0.25-mile of the study area are summarized in **Figure 12-4** and **Table 12-3**. Parking spaces are largely unrestricted except for certain sanitation-related regulations.

Parking utilization surveys were conducted in the study area under typical weekday and Saturday conditions in August 2016 during the four peak hours as well as the weekday overnight condition, when residential parking demand is expected to be the greatest. Individual street capacities and an hourly assessment of on-street parking utilization were collected for each street in the study area. **Table 12-22: 2016 Existing Conditions On-Street Parking Utilization Summary** presents a summary of the survey results in terms of the average percentage of available on-street spaces utilized during each peak hour.

The results of the survey indicate that within 0.25-mile radius of the Project Site, on-street parking utilization is 68%, 57%, 57%, and 55% of available spaces during the Weekday AM, Weekday MD, Weekday PM,

and Weekday Overnight periods, respectively. The on-street parking utilization is 52% for the Saturday MD period.

Table 12-22: 2016 Existing Conditions On-Street Parking Utilization Summary

2016 Existing	Weekday AM	Weekday MD	Weekday PM	Weekday Overnight	Saturday MD
Capacity	1,622	1,622	1,668	1,668	1,668
Demand	1,098	926	957	919	875
Available Spaces	524	697	711	750	793
Utilization	68%	57%	57%	55%	52%
Note: On-street parking utilization data was collected in August 2016 and w	as adjusted to reflect n	on-summer conditions	during the Weekday Al	M period.	

Off-Street Parking

There are no off-site parking facilities within a 0.25-mile radius of the Project Site.

VII. FUTURE WITHOUT THE PROPOSED ACTIONS

The future without the Proposed Actions ("No-Action" condition) builds on the Existing Conditions analysis by incorporating background growth, other nearby projects expected to be completed by the analysis year, trips generated by the Project Site under the current zoning, and anticipated changes in the transportation network. The No-Action condition analysis focuses on conditions in 2034, when the Proposed Project is expected to be complete. The analysis of the No-Action condition serves as the baseline against which the future condition with the project will be compared to identify potential impacts.

The CEQR Technical Manual guidelines (Table 16-4) provide an annual background growth rate for this area of Queens of 0.50% for the first five years and 0.25% for the years beyond. The annual growth rates were applied, over a period of 18 years, to the 2016 Existing Conditions, volumes to develop the 2034 No-Action conditions background traffic, transit, pedestrian, and parking volumes.

Under the No-Action condition, the Project Site would remain under the existing zoning designations. Market-rate residential development, along with supporting retail space, would be feasible on the Project Site and would be constructed as-of-right in conformance to existing zoning designations. Absent the Proposed Actions, development on the Project Site would include 568 DUs, 21,659 gsf of local retail space, 800 gsf of community facility space, and 557 accessory parking spaces.

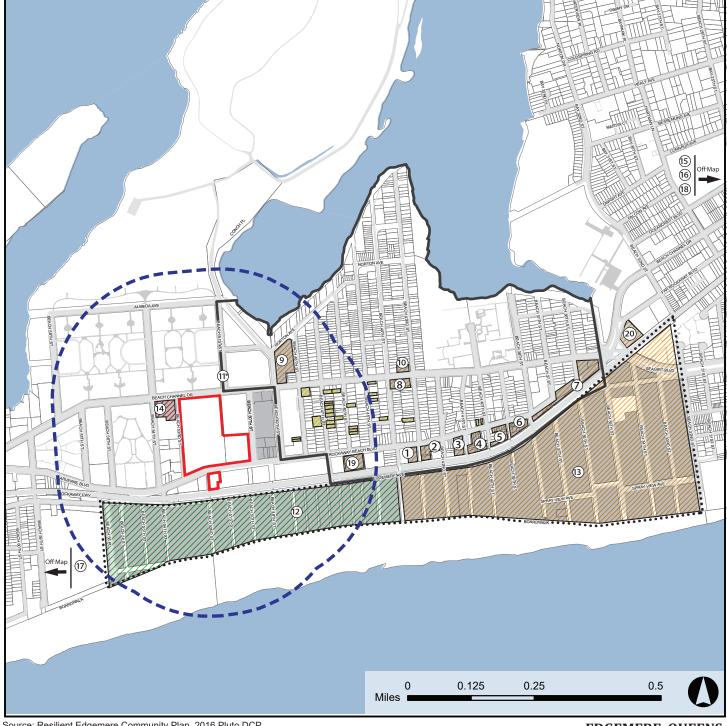
In addition to the background growth and No-Action development on the Project Site, the development projects expected to be completed by 2034 located within and adjacent to the 0.25-mile were considered to forecast the No-Action condition volumes, as shown in **Table 12-23: No-Action Projects** and **Figure 12-9: Known No-Action Sites in the Vicinity of Project Site**, and described below.

Table 12-23: No-Action Projects

Map No.	Project Name	Block-Lot	Future Use	Build Year
1	Edgemere Site #1	15852- 64, 68	Mixed-use residential and commercial development with 44 residential units, 25,911 gsf of local retail, and 44 parking spaces	2021 - 2028
2	Edgemere Site #2	15851-33, 35, 40 ,42, 44, 58, 59	Residential development with 19 residential units and 19 parking spaces	2021 - 2028
3	Edgemere Site #3	15850-6	Residential development with 16 residential units and 16 parking spaces	2021 - 2028
4	Edgemere Site #4	15849-6, 8, 9, 10, 17, 18, 19, 20, 27, 28, 29	Residential development with 24 residential units and 24 parking spaces	2021 - 2028
5	Edgemere Site #5	15848-52, 54, 55, 57, 58, 60, 62, 63, 65, 67	Residential development with 18 residential units and 18 parking spaces	2018 - 2019
6	Edgemere Site #6	15847-79, 80, 81, 82, 83, 82, 84, 85, 86, 87, 88, 89	Residential development with 18 residential units and 18 parking spaces	2018 - 2019
7	Edgemere Site #7	15845-1, 4, 8, 10, 13, 14, 15, 21, 28, 29, 30, 32, 35; 15823-1, 7, 9; 15826- 31	Mixed-use residential and commercial development with 202 residential units, 74,089 gsf of local retail, and 202 parking spaces	2021 - 2028
8	Edgemere Site #8	15834-30, 38, 42	Residential development with 18 residential units and 18 parking spaces	2019 - 2021
9	Edgemere Site #9	15973-1	Residential development with 60 residential units and 60 parking spaces	2019 - 2021
10	Edgemere Site #10	15965-115	Residential development with 7 residential units and 7 parking spaces	2019 - 2021
11	Edgemere (Small Sites)	Various	Residential development with 71 residential units and 71 parking spaces	2018 - 2028

12	Central Arverne ¹	15877-1, 15888-1	722,919 sf of open space	Unkn-own
13	Arverne East	Various	Mixed-use residential and commercial development with 1,200 residential units, 100,000 gsf of local retail, 100,000 gsf of destination retail, and 1,300 parking spaces	2021 - 2028
14	Ocean Bay Retail EAS	15890-54, 55, 58, 62, 64, 66, 69	Mixed-use commercial development 9,999 gsf of supermarket, 21,664 gsf of office space, 5,214 gsf of local retail, a 9,577 gsf community facility, and 10 parking spaces	2020
15	Downtown Far Rockaway FEIS	Various	Mixed-use residential and commercial development with 3,131 residential units, a 6,305 gsf day care center, a 36,295 gsf community center, a 20,500 gsf house of worship, a 17,847 gsf medical office building, 189,275 gsf of local retail, 30,000 gsf of open space, and a reduction of 24,680 gsf of auto repair shop	2032
16	15-20 Central Avenue Private Charter School	15537-133	500-seat PS (75,400 gsf) charter school	2019 - 2020
17	Arverne West / Arvene by the Sea Private Charter School	15905-1, 500, 501	200-seat IS charter school	2019 - 2020
18	22-06 Cornaga Avenue	15706-1	Residential development with 113 residential units and 113 parking spaces	2032
19	Beach Green Dunes Phase II	15853-40	Mixed-use residential and commercial development with 127 residential units and 3,000 gsf of local retail, 50 parking spaces	2019
20	Beach Channel Senior Residences	15950-7501	Mixed-use residential and medical facility with 154 residential units and 10,911 gsf of medical facility, 33 parking spaces	2019

¹ No-Action development site would be a native dune preserve that would not be publicly accessible. No access for recreational purposes would be allowed.



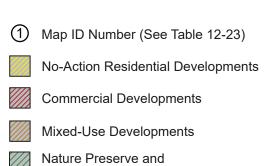
Source: Resilient Edgemere Community Plan, 2016 Pluto DCP Note: *Site 11 consits of small sites with varied Blocks and Lots

EDGEMERE, QUEENS





Arverne URA



Passive Recreation Area

KNOWN NO-ACTION SITES IN THE VICINITY OF PROJECT SITE

Figure 12-9

The background growth and trips generated by the development project under existing zoning were added to the Existing Conditions volumes to estimate No-Action conditions volumes.

Roadway Improvements

In addition to the development projects noted above, the following roadway improvements expected to be implemented by 2034 were included in the analysis:

- In response to damage sustained by Hurricane Sandy in 2012, NYCDOT is currently implementing improvements on Beach Channel Drive between Beach 116th Street and Beach 108th Street including new medians, sidewalks, and bicycle lanes. At Beach Channel Drive and Beach 116th Street, Beach Channel Drive and Rockaway Freeway, and Beach Channel Drive and Beach 108th Street, the lane widths will be narrowed to 10 feet wide. An "After Stop Right Turn on Red" sign will be added at the intersections of Beach Channel Drive with Rockaway Freeway and Beach 108th Street.
- Ten-foot left-turn lanes will be added to the northbound and southbound approaches at the intersection of Rockaway Beach Boulevard and Beach 108th Street.
- NYCDOT will be installing a northbound bicycle facility on Beach 94th Street from Beach Channel Drive to Shore Front Parkway. The Beach 94th Street service road will be restriped as a 12-foot travel lane with parking on the east curb. The Beach 94th Street main road will be restriped as13-foot travel lane with parking on the east curb. NYCDOT will be closing the northbound service road at Rockaway Freeway. Vehicles on the service road may turn right at Rockaway Freeway or merge onto the main road prior to the intersection. In conjunction with this street improvement, the intersection of Beach 92nd Street, Beach 94th Street, Cross Bay Bridge Exit Ramp, and Beach Channel Drive will be signalized and pedestrian crossings will be added.
- NYCDOT is recommending modifications on Rockaway Beach Boulevard between Beach 56th Street and Beach 74th Street and on Edgemere Avenue between Beach 32nd Street and Beach 56th Street. NYCDOT plans to close these sections of roadway to vehicular traffic and provide pedestrian and bicycle space to improve access to the A train. Rockaway Freeway will be closed to eastbound vehicular traffic east of 59th Street prior to the build year. Existing eastbound traffic volumes were diverted from Rockway Freeway and 59th Street to the surrounding intersections based on sample counts performed in October 2018. New signal timings would be implemented at the intersection of Rockaway Freeway/Rockaway Beach Boulevard and Beach 59th Street.
- NYCDOT will be installing a bus queue jump in the westbound curb lane at Rockaway Beach
 Boulevard and Beach 73rd Street to improve bus speeds and reliability for Q52-SBS buses. As a
 result, the westbound approach will operate as one left-turn bay, one through lane, and one 100foot long right-turn bay (in bus lane) instead of one left-turn bay, one through lane, and one shared
 through-right lane.
- The intersection of Beach Front Road and Beach 62nd Street will be converted from a two-way stopcontrolled intersection to an all-way stop-controlled intersection.
- A curb extension will be added to the southeast corner of Rockaway Beach Boulevard and Beach 59th Street but will not affect the northbound lane.
- NYCDOT is recommending pavement marking updates on Rockaway Beach Boulevard from Beach 54th Street to Beach 37th Street. Once Rockaway Beach Boulevard is resurfaced, NYCDOT would restripe the roadway to provide 11-foot travel lanes and 9-foot parking lanes. Existing onstreet parking would be maintained.
- The northwest corner at Rockaway Beach Boulevard and Beach 53rd Street would be repaved and the corner area would be approximately 215 square feet.

- NYCDOT will be modifying the intersection of Beach Channel Drive/Seagirt Boulevard and Beach 35th St to create a cul-de-sac at the southbound approach of Beach 35th Street, thus removing that leg of the intersection. NYCDOT will re-align the remaining four approaches of the intersection. The channelized right-turn at the southwest approach of Beach Channel Drive will be removed and the approach will be modified to include a right-turn bay and a left-through shared lane. The channelized right-turn and the median at the northbound approach of Beach 35th Street will be removed, and the approach will be modified to include one shared left-through-right lane. Crosswalks will be striped at all approaches.
- As part of the Downtown Far Rockaway Redevelopment project, mitigation measures were proposed to improve intersection operations on Beach Channel Drive between Dix Avenue and Hassock Street, as well as Cornaga Avenue between Rockaway Freeway and Beach Channel Drive:
 - At the intersections of Cornaga Avenue with Rockaway Freeway and Beach Channel Drive, one second of green time will be shifted from the northbound/southbound phase to the eastbound/westbound phase during the Weekday PM peak hour.
 - At the intersection of Beach Channel Drive and Mott Avenue, one second of green time will be shifted from the eastbound/westbound phase to the northbound/southbound phase during the Weekday MD peak hour.
 - At the intersection of Beach Channel Drive and Dix Avenue, the southbound approach will be restriped as one 11-foot wide left-through shared lane and one 100-foot long, 13.5-foot wide through-right turn bay.
 - The intersection of Birdsall Avenue and Beach Channel Drive will become signalized. In addition, Birdsall Avenue between Beach Channel Drive and Redfern Avenue will be converted to one-way westbound. The southbound approach at the intersection of Beach Channel Drive and Birdsall Avenue will be restriped to have one 12.5-foot wide through lane and one 100-foot long, 12-foot wide right-turn bay. One second of green time will be shifted from the eastbound/westbound phase to the northbound/southbound phase in the Weekday MD and Weekday PM peak hours.
 - At the intersection of Beach Channel Drive and Nameoke Street, the northbound and southbound lane widths will be narrowed to 11 feet. Three seconds of green time will be shifted from the eastbound/westbound phase to the northbound/southbound phase in the Weekday MD peak hour. One second of green time will be shifted from the eastbound/westbound phase to the northbound/southbound phase in the Saturday MD peak hour.
 - At the intersection of Beach Channel Drive and Hassock Street, the northbound approach will be restriped to have one 12.5-foot wide left-through shared lane and one 100-foot long, 12.5-foot wide through lane. The southbound approach will be restriped to have one 15-foot southbound through lane and one 70-foot long, 11-foot right-turn bay (in the bus stop). The westbound approach will be restriped to have one 12-foot wide left-turn lane and one 12-foot wide through lane. Three seconds of green time will be shifted from the eastbound/westbound phase to the northbound/southbound phase in the Weekday MD peak hour.

Traffic Operations

Figure 12-10 through **Figure 12-13** show the 2034 No-Action traffic volumes for the four peak hours. **Table 12-26**: 2034 No-Action Conditions Level of Service Analysis – Signalized Intersections presents the 2034 No-Action condition for the signalized study intersections, and **Table 12-27**: 2034 No-Action Conditions Level of Service Analysis – Unsignalized Intersections presents the 2034 No-Action condition for the unsignalized study intersections. The results of the analysis indicate that a significant number of approaches/lane groups would deteriorate compared to Existing Conditions. The signalized lane groups that would operate worse than mid-LOS D are summarized by peak hour in **Table 12-24**: **Signalized Lane Groups Operating Worse than Mid-LOS D – No-Action Conditions.** The unsignalized lane groups that would operate worse than mid-LOS D are summarized by peak hour in

Table 12-24: Signalized Lane Groups Operating Worse than Mid-LOS D - No-Action Conditions

#		Weekday AM	Weekday MD	Weekday PM	Saturday MD
#	Intersection	Peak Hour	Peak Hour	Peak Hour	Peak Hour
1	Beach Channel Drive & Beach 116th Street	WB-LTR, NB-LTR,	WB-LTR, SB-LTR	EB-LTR, WB-L, WB-	SB-LTR
_		SB-LTR	WB-LIK, 3B-LIK	TR, SB-LTR	3D-LTK
2	Newport Avenue & Beach 116th Streetreet	NB-LT	NB-LT	NB-LT	NB-LT
3	Rockaway Beach Boulevard & Beach 116th Street			WB-LTR	
4	Beach Channel Drive & Rockaway Freeway	EB-LTR, WB-LTR		EB-LTR, WB-LTR	
5	Beach Channel Drive & Beach 108th Street	WB-LT			
7	Rockaway Beach Boulevard & Beach 108th Street	EB-L, WB-TR			
		NEB(Cross Bay	NEB(Cross Bay	NEB(Cross Bay	NEB(Cross Bay
8	Beach Channel Drive & Beach 92nd Street/Beach 94th Street	Bridge Exit Ramp)-	Bridge Exit Ramp)-	Bridge Exit Ramp)-	Bridge Exit Ramp)-
		R	R	R	R
		EB-LT, WB (Beach			
		Channel Drive)-T,		EB-TR, EB-LT,	EB-LT,
15	Beach Channel Drive & Beach 62nd Street	WB (Arverne	WB(Arverne	WB(Arverne	WB(Arverne
13	beach Chainlei Drive & Beach Ozhu Street	Boulevard)-LR, SB-	•	Boulevard)-L, SB-L	,
		Boulevaruj-LR, SB-	Boulevard)-LR	Boulevaru)-L, SB-L	Boulevard)-LR
		L			
16	Rockaway Beach Boulevard & Beach 62nd Street		WB-LTR	WB-LTR	
20	Rockaway Freeway & Beach 59th Street	WB-L, SB-LTR	WB-L	WB-L	WB-L
21	Rockaway Beach Boulevard & Beach 59th Street	EB-TR, WB-LT, NB-	EB-TR, WB-LT	EB-TR, WB-LT	EB-TR, WB-LT
21	Rockaway Beach Boulevard & Beach 35th 3theet	LR	EB-IN, WD-LI	ED-IN, WD-LI	ED-IN, WD-LI
23	Arverne Boulevard & Beach 54th Street			EB-LTR	
25	Edgemers Avenue & Bosch E4th Street	EB-LTR	EB-LTR, WB-LTR,	EB-LTR, WB-LTR,	EB-LTR, SB-LTR
25	Edgemere Avenue & Beach 54th Street	ED-LIK	SB-LTR	SB-LTR	EB-LIK, SB-LIK
41	Rockaway Freeway & Beach 35th Street				WB-L
42	Rockaway Freeway & Seagirt Boulevard		EB-TR	EB-TR	
44	Rockaway Freeway & Cornaga Avenue	WB-LTR			
16	Beach Channel Drive & Mott Avenue	EB-LTR, NB-TR, SB-	NB-TR, SB-L	EB-LTR, NB-TR, SB-	NB-TR, SB-L
46	beach Chainer Drive & Wott Avenue	L	INB-TK, SB-L	L, SB-TR	INB-1K, 2B-L
47	Beach Channel Drive & Dix Avenue	NB-LTR	WB-LTR, NB-LTR	NB-LTR	
40	Beach Channel Drive & Nameoke Avenue	NB-TR, SB-L, SB-	NB-TR, SB-L, SB-	NB-TR, SB-L, SB-	ND TD CD TD
49	Deach Chainlei Drive & Nameoke Avenue	TR	TR	TR	NB-TR, SB-TR
50	Beach Channel Drive & Hassock Street	SB-T	SB-T	SB-T	SB-T
	Total Number of Lane Groups over Mid-LOS D:	29	22	31	16

Table 12-25: Unsignalized Lane Groups Operating Worse than Mid-LOS D - No-Action Conditions

#	Intersection	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour
26	Beach Channel Drive & Beach 53rd Street		NB-LR		
27	Rockaway Beach Boulevard & Beach 53rd Street			SB-LR	
	Total Number of Lane Groups over Mid-LOS D:	0	1	1	0

Lane groups that deteriorate from better than mid-LOS D to worse than mid-LOS D are detailed below.

Level of Service – Signalized Intersections

Beach Channel Drive and Beach 116th Street

- During the **Weekday AM Peak Hour**, the northbound left-through-right lane group would deteriorate within LOS D from an average delay of 43.3 seconds and a v/c ratio of 0.17 to an average delay of 45.9 seconds and a v/c ratio of 0.30.
- During the Weekday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 22.6 seconds and a v/c ratio of 0.70 to LOS D with an average delay of 54.6 seconds and a v/c ratio of 1.00.
- During the **Weekday PM Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 30.3 seconds and a v/c ratio of 0.65 to LOS D with an average delay of 48.0 seconds and a v/c ratio of 0.94.

Newport Avenue and Beach 116th Street

During the Weekday AM Peak Hour, the northbound left-turn/through lane group would deteriorate
within LOS D from an average delay of 44.4 seconds and a v/c ratio of 0.22 to an average delay of 47.1
seconds and a v/c ratio of 0.35.

Rockaway Beach Boulevard and Beach 116th Street

• During the **Weekday PM Peak Hour**, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 24.1 seconds and a v/c ratio of 0.79 to LOS D with an average delay of 54.1 seconds and a v/c ratio of 1.00.

Beach Channel Drive and Rockaway Freeway

- During the Weekday AM Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS D with an average delay of 35.1 seconds and a v/c ratio of 0.83 to LOS F with an average delay of 90.5 seconds and a v/c ratio of 1.10. The westbound left-through-right lane group would deteriorate from LOS C with an average delay of 30.0 seconds and a v/c ratio of 0.72 to LOS E with an average delay of 68.7 seconds and a v/c ratio of 1.03.
- During the Weekday PM Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 27.1 seconds and a v/c ratio of 0.63 to LOS D with an average delay of 46.2 seconds and a v/c ratio of 0.93.

Beach Channel Drive and Beach 108th Street

 During the Weekday AM Peak Hour, the westbound left-turn/through lane group would deteriorate from LOS C with an average delay of 29.1 seconds and a v/c ratio of 0.80 to LOS F with an average delay of 111.0 seconds and a v/c ratio of 1.16.

Rockaway Beach Boulevard and Beach 108th Street

During the Weekday AM Peak Hour, the eastbound left-turn lane group would deteriorate from LOS C with an average delay of 28.0 seconds and a v/c ratio of 0.59 to LOS F with an average delay of 81.6 seconds and a v/c ratio of 0.95. The westbound through/right-turn lane group would deteriorate from LOS C with an average delay of 26.5 seconds and a v/c ratio of 0.69 to LOS D with an average delay of 48.1 seconds and a v/c ratio of 0.94.

Beach Channel Drive and Beach 92nd Street/Beach 94th Street

- During the Weekday AM Peak Hour, the northeastbound right-turn lane group would deteriorate from LOS B with an average delay of 12.2 seconds and a v/c ratio of 0.28 (unsignalized) to LOS E with an average delay of 55.8 seconds and a v/c ratio of 0.79 (signalized).
- During the Weekday MD Peak Hour, the northeastbound right-turn lane group would deteriorate from LOS B with an average delay of 14.6 seconds and a v/c ratio of 0.36 (unsignalized) to LOS E with an average delay of 65.3 seconds and a v/c ratio of 0.87 (signalized).
- <u>During the Weekday PM Peak Hour</u>, the northeastbound right-turn lane group would deteriorate from LOS C with an average delay of 19.6 seconds and a v/c ratio of 0.52 (unsignalized) to LOS F with an average delay of 116.1 seconds and a v/c ratio of 0.1.10 (signalized).
- <u>During the Saturday MD Peak Hour</u>, the northeastbound right-turn lane group would deteriorate from LOS B with an average delay of 14.0 seconds and a v/c ratio of 0.36 (unsignalized) to LOS E with an average delay of 71.2 seconds and a v/c ratio of 0.91 (signalized).

Beach Channel Drive/Arverne Boulevard and Beach 62nd Street

- During the Weekday AM Peak Hour, the eastbound left-turn/through lane group would deteriorate from LOS C with an average delay of 29.1 seconds and a v/c ratio of 0.67 to LOS F with an average delay of 127.1 seconds and a v/c ratio of 1.18. The westbound (Arverne Boulevard) left-turn/right-turn lane group would deteriorate from LOS D with an average delay of 41.6 seconds and a v/c ratio of 0.60 to LOS F with an average delay of 289.2 seconds and a v/c ratio of 1.52.
- During the Weekday MD Peak Hour, the eastbound left-turn/through lane group would deteriorate from LOS C with an average delay of 29.5 seconds and a v/c ratio of 0.68 to LOS F with an average delay of 167.2 seconds and a v/c ratio of 1.28. The westbound (Arverne Boulevard) left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 31.1 seconds and a v/c ratio of 0.29 to LOS F with an average delay of 116.5 seconds and a v/c ratio of 1.11.
- During the Weekday PM Peak Hour, the eastbound left-turn/through lane group would deteriorate from LOS D with an average delay of 38.8 seconds and a v/c ratio of 0.85 to LOS F with an average delay of 377.0 seconds and a v/c ratio of 1.76. The westbound (Arverne Boulevard) left-turn lane group would deteriorate from LOS C with an average delay of 31.3 seconds and a v/c ratio of 0.31 to LOS E with an average delay of 78.2 seconds and a v/c ratio of 0.99. The southbound left-turn lane group would deteriorate within LOS D from an average delay of 39.8 seconds and a v/c ratio of 0.54 to an average delay of 48.4 seconds and a v/c ratio of 0.66.
- During the **Saturday MD Peak Hour**, the eastbound left-turn/through lane group would deteriorate from LOS C with an average delay of 26.8 seconds and a v/c ratio of 0.62 to LOS F with an average delay of 104.1 seconds and a v/c ratio of 1.13. The westbound (Arverne Boulevard) left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 32.5 seconds and a v/c ratio of 0.38 to LOS E with an average delay of 69.5 seconds and a v/c ratio of 0.95.

Rockaway Beach Boulevard and Beach 62nd Street

- During the Weekday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 25.2 seconds and a v/c ratio of 0.42 to LOS E with an average delay of 61.2 seconds and a v/c ratio of 0.99.
- During the Weekday PM Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 31.8 seconds and a v/c ratio of 0.73 to LOS F with an average delay of 333.6 seconds and a v/c ratio of 1.66.

Rockaway Freeway and Beach 59th Street

• During the **Weekday AM Peak Hour**, the southbound left-through-right lane group would deteriorate from LOS C with an average delay of 27.8 seconds and a v/c ratio of 0.45 to LOS D with an average delay of 45.4 seconds and a v/c ratio of 0.76.

Rockaway Beach Boulevard and Beach 59th Street

- During the Weekday AM Peak Hour, the eastbound through/right-turn lane group would deteriorate from LOS C with an average delay of 22.4 seconds and a v/c ratio of 0.50 to LOS <u>E</u> with an average delay of <u>69.4</u> seconds and a v/c ratio of <u>1.02</u>. The westbound left-turn/through lane group would deteriorate from LOS C with an average delay of 24.5 seconds and a v/c ratio of 0.60 to LOS <u>F</u> with an average delay of <u>100.6</u> seconds and a v/c ratio of <u>1.11</u>. The northbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 27.9 seconds and a v/c ratio of 0.37 to LOS <u>E</u> with an average delay of 58.9 seconds and a v/c ratio of 0.74.
- During the Weekday MD Peak Hour, the eastbound through/right-turn lane group would deteriorate
 from LOS C with an average delay of 23.7 seconds and a v/c ratio of 0.56 to LOS F with an average
 delay of 138.8 seconds and a v/c ratio of 1.21. The westbound left-turn/through lane group would
 deteriorate from LOS C with an average delay of 20.4 seconds and a v/c ratio of 0.41 to LOS F with an
 average delay of 115.2 seconds and a v/c ratio of 1.14.
- During the Weekday PM Peak Hour, the eastbound through/right-turn lane group would deteriorate
 from LOS C with an average delay of 30.3 seconds and a v/c ratio of 0.75 to LOS F with an average
 delay of <u>248.9</u> seconds and a v/c ratio of 1.<u>47</u>. The westbound left-turn/through lane group would
 deteriorate from LOS C with an average delay of 24.1 seconds and a v/c ratio of 0.59 to LOS F with an
 average delay of <u>285.8</u> seconds and a v/c ratio of 1.<u>55</u>.
- During the **Saturday MD Peak Hour**, the eastbound through/right-turn lane group would deteriorate from LOS C with an average delay of 22.6 seconds and a v/c ratio of 0.51 to LOS <u>F</u> with an average delay of <u>81.6</u> seconds and a v/c ratio of <u>1.06</u>. <u>The westbound left-turn/through lane group would deteriorate from LOS C with an average delay of 21.9 seconds and a v/c ratio of 0.49 to LOS E with an average delay of 61.1 seconds and a v/c ratio of 0.97.</u>

Arverne Boulevard and Beach 54th Street

• During the **Weekday PM Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 20.1 seconds and a v/c ratio of 0.38 to LOS F with an average delay of 96.6 seconds and a v/c ratio of 1.11.

Edgemere Avenue and Beach 54th Street

 During the Weekday AM Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 22.1 seconds and a v/c ratio of 0.51 to LOS F with an average delay of 420.1 seconds and a v/c ratio of 1.85.

- During the Weekday MD Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 22.5 seconds and a v/c ratio of 0.52 to LOS F with an average delay of 732.7 seconds and a v/c ratio of 2.55. The westbound left-through-right lane group would deteriorate from LOS B with an average delay of 19.4 seconds and a v/c ratio of 0.36 to LOS E with an average delay of 73.9 seconds and a v/c ratio of 1.05. The southbound left-through-right lane group would deteriorate from LOS B with an average delay of 14.6 seconds and a v/c ratio of 0.16 to LOS F with an average delay of 169.8 seconds and a v/c ratio of 1.27.
- During the Weekday PM Peak Hour, the westbound left-through-right lane group would deteriorate
 from LOS C with an average delay of 27.0 seconds and a v/c ratio of 0.71 to LOS F with an average
 delay of 153.0 seconds and a v/c ratio of 1.26. The southbound left-through-right lane group would
 deteriorate from LOS B with an average delay of 14.8 seconds and a v/c ratio of 0.18 to LOS F with an
 average delay of 165.5 seconds and a v/c ratio of 1.26.
- During the **Saturday MD Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 23.8 seconds and a v/c ratio of 0.57 to LOS F with an average delay of 581.5 seconds and a v/c ratio of 2.21. The southbound left-through-right lane group would deteriorate from LOS B with an average delay of 14.8 seconds and a v/c ratio of 0.17 to LOS F with an average delay of 84.4 seconds and a v/c ratio of 1.02.

Rockaway Freeway and Beach 35th Street

During the Saturday MD Peak Hour, the westbound left-turn lane group would deteriorate within LOS
D from an average delay of 39.0 seconds and a v/c ratio of 0.00 to an average delay of 49.0 seconds
and a v/c ratio of 0.00.

Rockaway Freeway and Cornaga Avenue

 During the Weekday AM Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 30.5 seconds and a v/c ratio of 0.65 to LOS E with an average delay of 67.8 seconds and a v/c ratio of 0.98.

Beach Channel Drive and Mott Avenue

- During the **Weekday AM Peak Hour**, the southbound left-turn lane group would deteriorate from LOS C with an average delay of 25.2 seconds and a v/c ratio of 0.58 to LOS F with an average delay of 125.7 seconds and a v/c ratio of 1.14.
- During the Weekday MD Peak Hour, the northbound through/right-turn lane group would deteriorate
 from LOS D with an average delay of 43.9 seconds and a v/c ratio of 0.87 to LOS F with an average
 delay of 149.3 seconds and a v/c ratio of 1.24. The southbound left-turn lane group would deteriorate
 from LOS C with an average delay of 23.6 seconds and a v/c ratio of 0.57 to LOS F with an average
 delay of 134.1 seconds and a v/c ratio of 1.16.
- During the Weekday PM Peak Hour, the eastbound left-through-right lane group would deteriorate within LOS D from an average delay of 35.6 seconds and a v/c ratio of 0.72 to an average delay of 53.6 seconds and a v/c ratio of 0.89. The southbound left-turn lane group would deteriorate from LOS C with an average delay of 28.3 seconds and a v/c ratio of 0.65 to LOS F with an average delay of 235.7 seconds and a v/c ratio of 1.42. The southbound through/right-turn lane group would deteriorate from LOS C with an average delay of 23.3 seconds and a v/c ratio of 0.76 to LOS E with an average delay of 76.9 seconds and a v/c ratio of 1.09.
- During the Saturday MD Peak Hour, the southbound left-turn lane group would deteriorate from LOS
 C with an average delay of 32.9 seconds and a v/c ratio of 0.74 to LOS F with an average delay of
 207.8 seconds and a v/c ratio of 1.35.

Beach Channel Drive and Dix Avenue

- During the **Weekday AM Peak Hour**, the northbound left-through-right lane group would deteriorate from LOS D with an average delay of 35.3 seconds and a v/c ratio of 0.90 to LOS F with an average delay of 127.1 seconds and a v/c ratio of 1.21.
- During the **Weekday MD Peak Hour**, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 21.2 seconds and a v/c ratio of 0.15 to LOS D with an average delay of 47.8 seconds and a v/c ratio of 0.81. The northbound left-through-right lane group would deteriorate from LOS C with an average delay of 34.8 seconds and a v/c ratio of 0.89 to LOS F with an average delay of 96.8 seconds and a v/c ratio of 1.13.
- During the **Weekday PM Peak Hour**, the northbound left-through-right lane group would deteriorate from LOS C with an average delay of 31.4 seconds and a v/c ratio of 0.87 to LOS F with an average delay of 83.3 seconds and a v/c ratio of 1.10.

Beach Channel Drive and Nameoke Avenue

- During the Weekday AM Peak Hour, the northbound through/right-turn lane group would deteriorate from LOS B with an average delay of 19.6 seconds and a v/c ratio of 0.70 to LOS F with an average delay of 165.7 seconds and a v/c ratio of 1.30. The southbound left-turn lane group would deteriorate from LOS B with an average delay of 11.6 seconds and a v/c ratio of 0.16 to LOS D with an average delay of 52.0 seconds and a v/c ratio of 0.68. The southbound through/right-turn lane group would deteriorate from LOS C with an average delay of 27.0 seconds and a v/c ratio of 0.84 to LOS F with an average delay of 109.6 seconds and a v/c ratio of 1.17.
- During the Weekday MD Peak Hour, the northbound through/right-turn lane group would deteriorate from LOS C with an average delay of 23.6 seconds and a v/c ratio of 0.78 to LOS F with an average delay of 136.7 seconds and a v/c ratio of 1.24. The southbound left-turn lane group would deteriorate from LOS B with an average delay of 17.2 seconds and a v/c ratio of 0.38 to LOS F with an average delay of 222.8 seconds and a v/c ratio of 1.31. The southbound through/right-turn lane group would deteriorate from LOS D with an average delay of 38.0 seconds and a v/c ratio of 0.93 to LOS F with an average delay of 155.9 seconds and a v/c ratio of 1.28.
- During the Weekday PM Peak Hour, the northbound through/right-turn lane group would deteriorate from LOS B with an average delay of 19.0 seconds and a v/c ratio of 0.67 to LOS F with an average delay of 106.9 seconds and a v/c ratio of 1.16. The southbound left-turn lane group would deteriorate from LOS B with an average delay of 11.5 seconds and a v/c ratio of 0.16 to LOS F with an average delay of 95.1 seconds and a v/c ratio of 0.95. The southbound through/right-turn lane group would deteriorate from LOS D with an average delay of 35.0 seconds and a v/c ratio of 0.92 to LOS F with an average delay of 239.9 seconds and a v/c ratio of 1.47.
- During the Saturday MD Peak Hour, the northbound through/right-turn lane group would deteriorate from LOS B with an average delay of 18.0 seconds and a v/c ratio of 0.65 to LOS F with an average delay of 91.3 seconds and a v/c ratio of 1.12. The southbound through/right-turn lane group would deteriorate from LOS C with an average delay of 32.8 seconds and a v/c ratio of 0.90 to LOS F with an average delay of 139.9 seconds and a v/c ratio of 1.24.

Beach Channel Drive and Hassock Avenue

 During the Weekday AM Peak Hour, the southbound through lane group would deteriorate from LOS C with an average delay of 34.0 seconds and a v/c ratio of 0.89 to LOS D with an average delay of 45.9 seconds and a v/c ratio of 0.97. Peninsula Hospital Site Redevelopment

CEQR No: 18DCP124Q

During the Weekday MD Peak Hour, the southbound through lane group would deteriorate from LOS
D with an average delay of 40.9 seconds and a v/c ratio of 0.94 to LOS E with an average delay of 58.8
seconds and a v/c ratio of 1.03.

• During the **Weekday PM Peak Hour**, the southbound through lane group would deteriorate from LOS D with an average delay of 36.7 seconds and a v/c ratio of 0.91 to LOS F with an average delay of 132.6 seconds and a v/c ratio of 1.22.

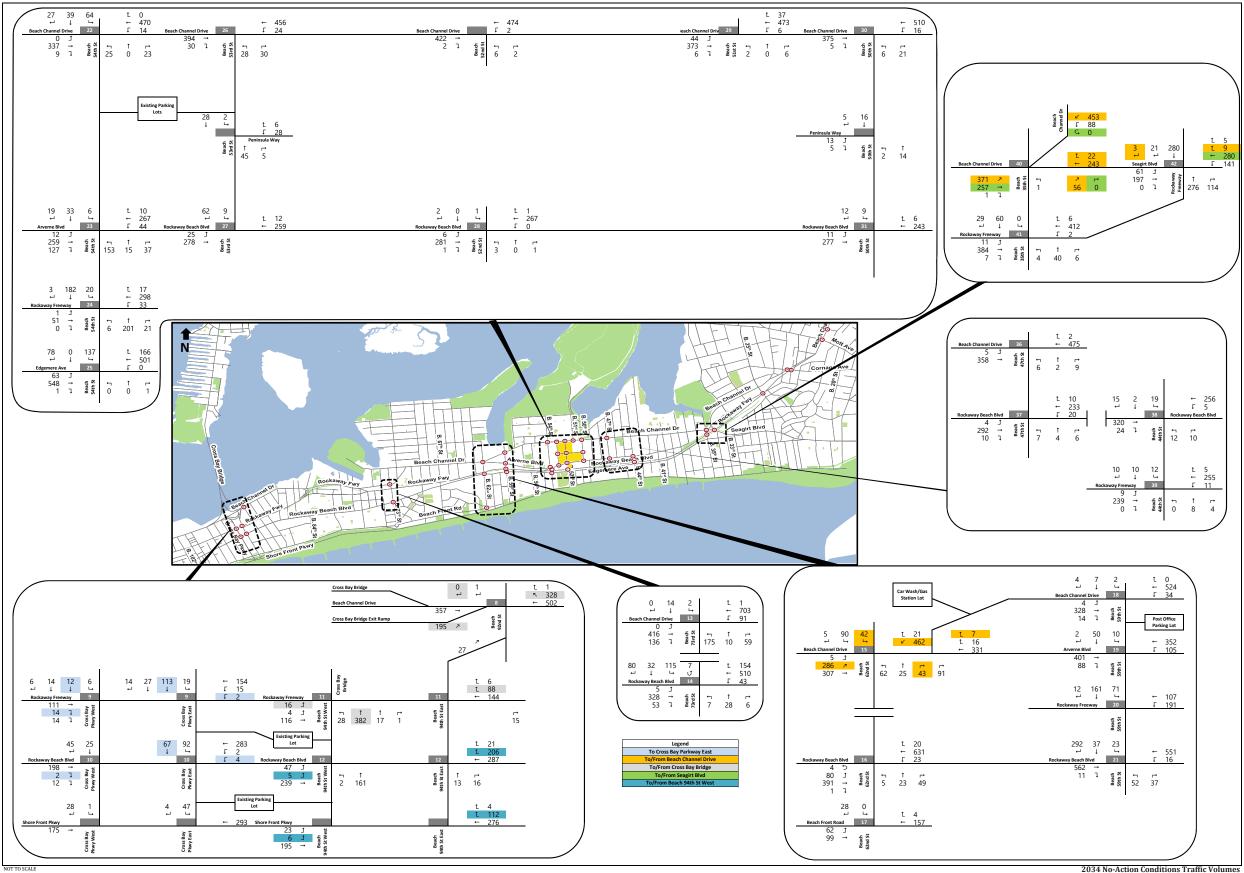
Level of Service - Unsignalized Intersections

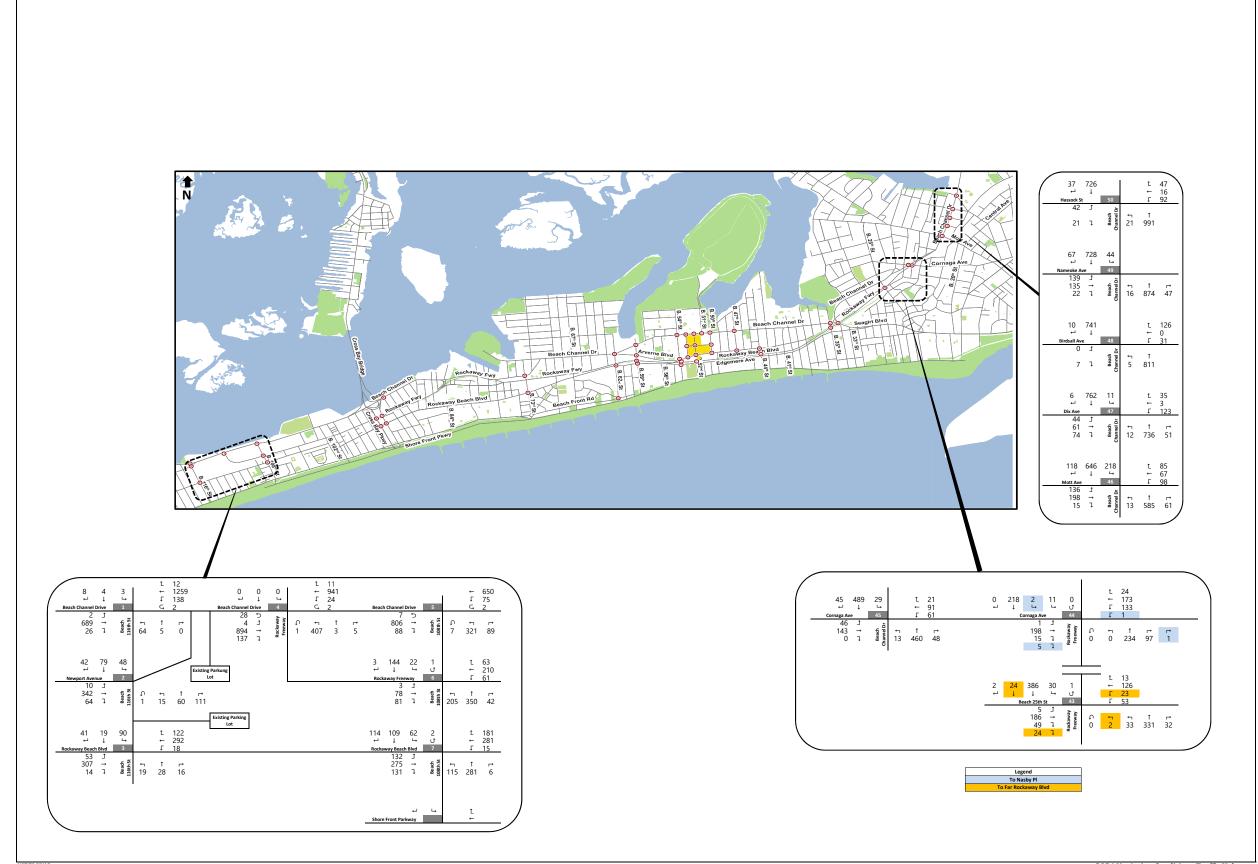
Beach Channel Drive and Beach 53rd Street

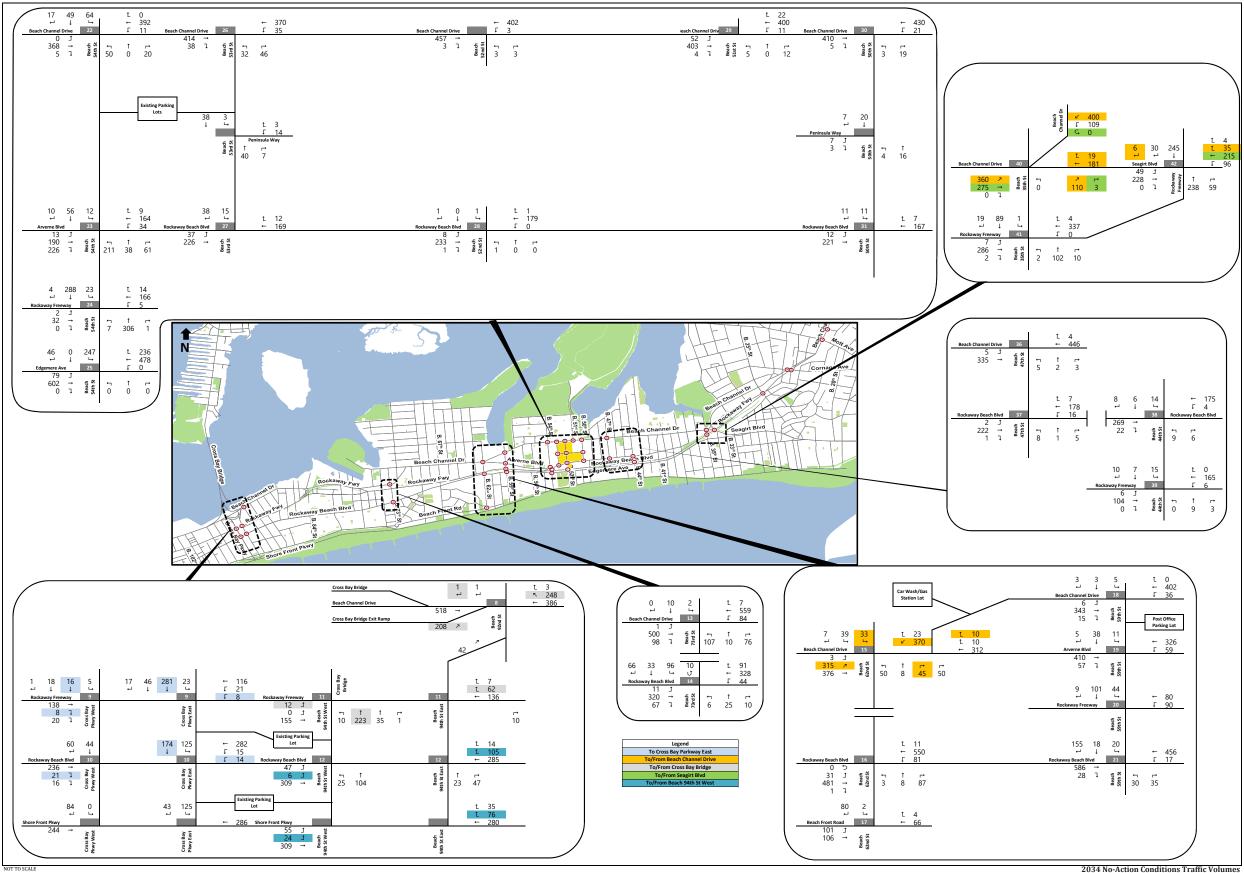
• During the **Weekday MD Peak Hour**, the northbound left-turn/right-turn lane group would deteriorate from LOS B with an average delay of 11.3 seconds and a v/c ratio of 0.03 to LOS E with an average delay of 45.8 seconds and a v/c ratio of 0.53.

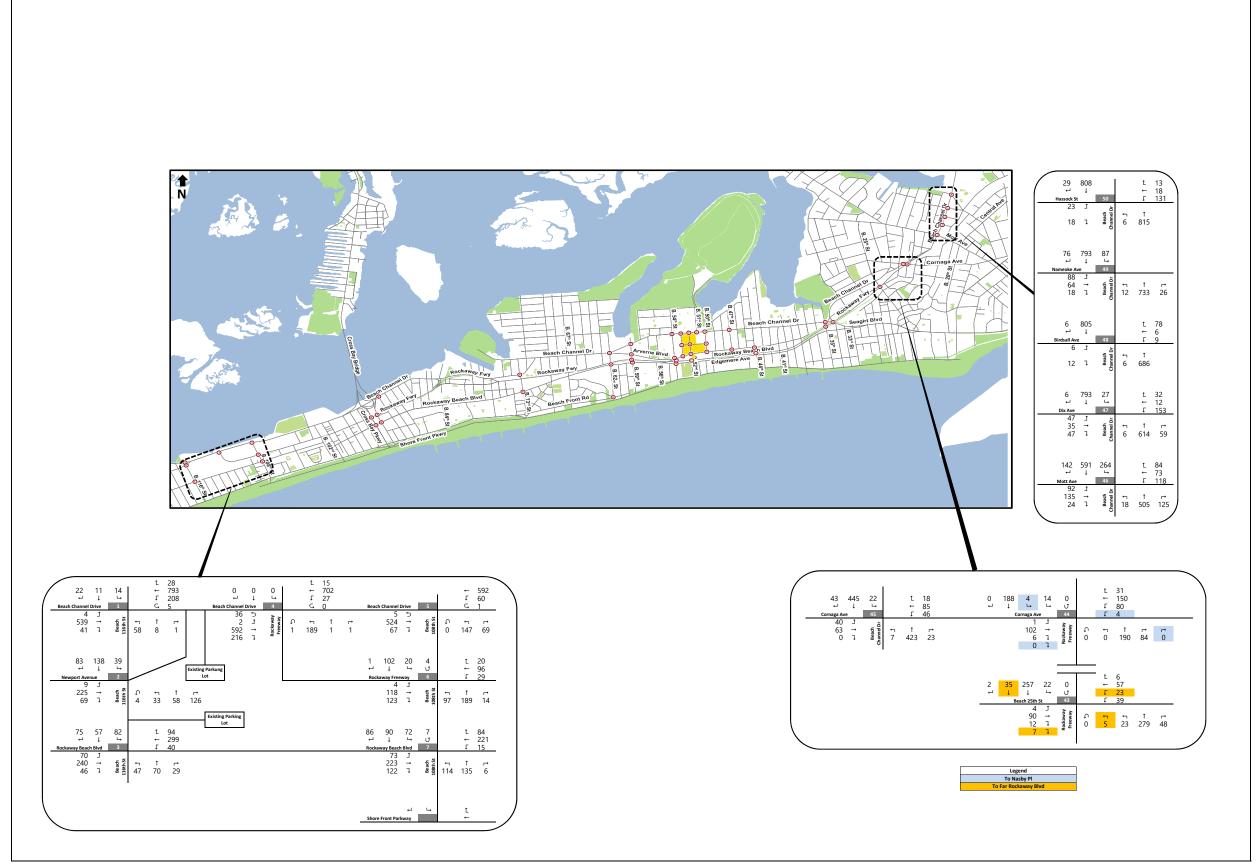
Rockaway Beach Boulevard and Beach 53rd Street

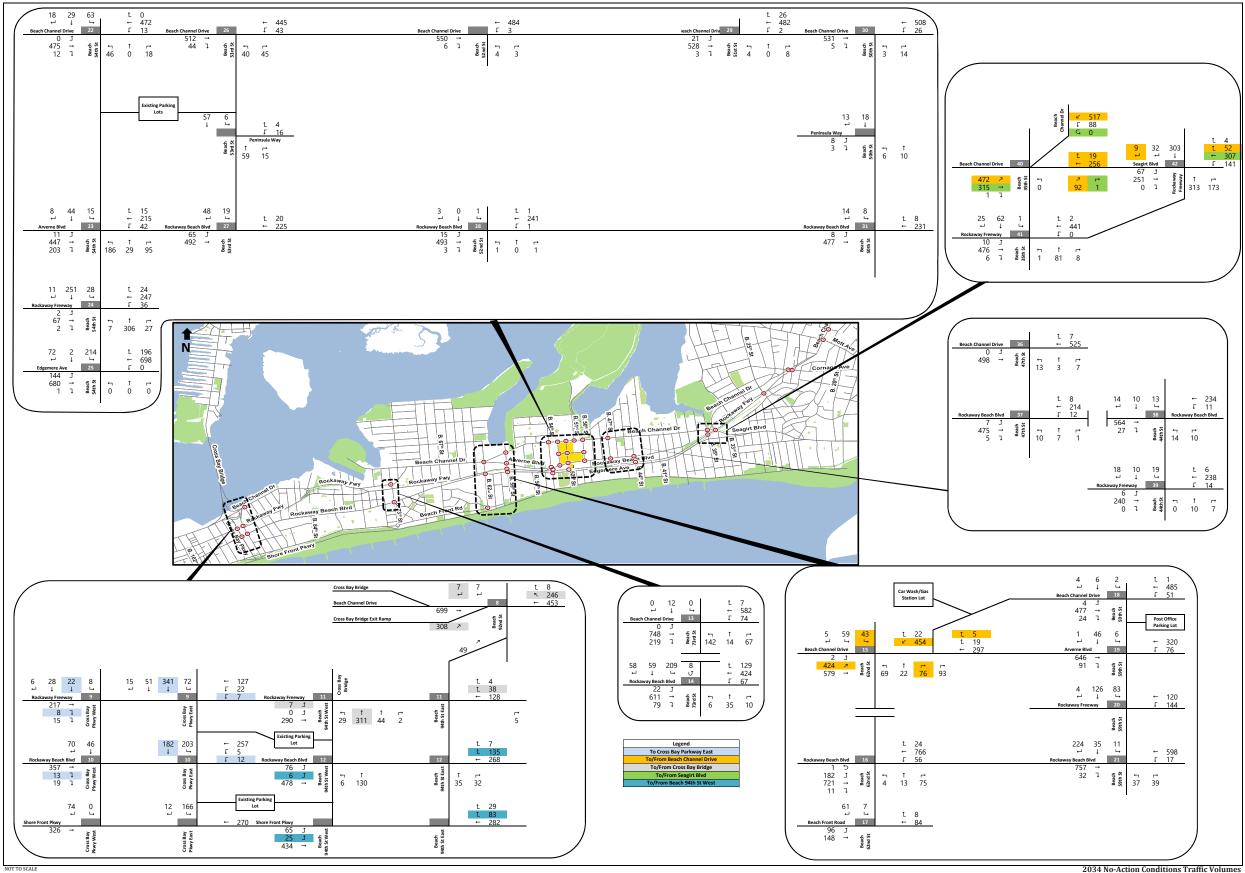
 During the Weekday PM Peak Hour, the southbound left-turn/right-turn lane group would deteriorate from LOS B with an average delay of 10.5 seconds and a v/c ratio of 0.02 to LOS D with an average delay of 32.9 seconds and a v/c ratio of 0.39.

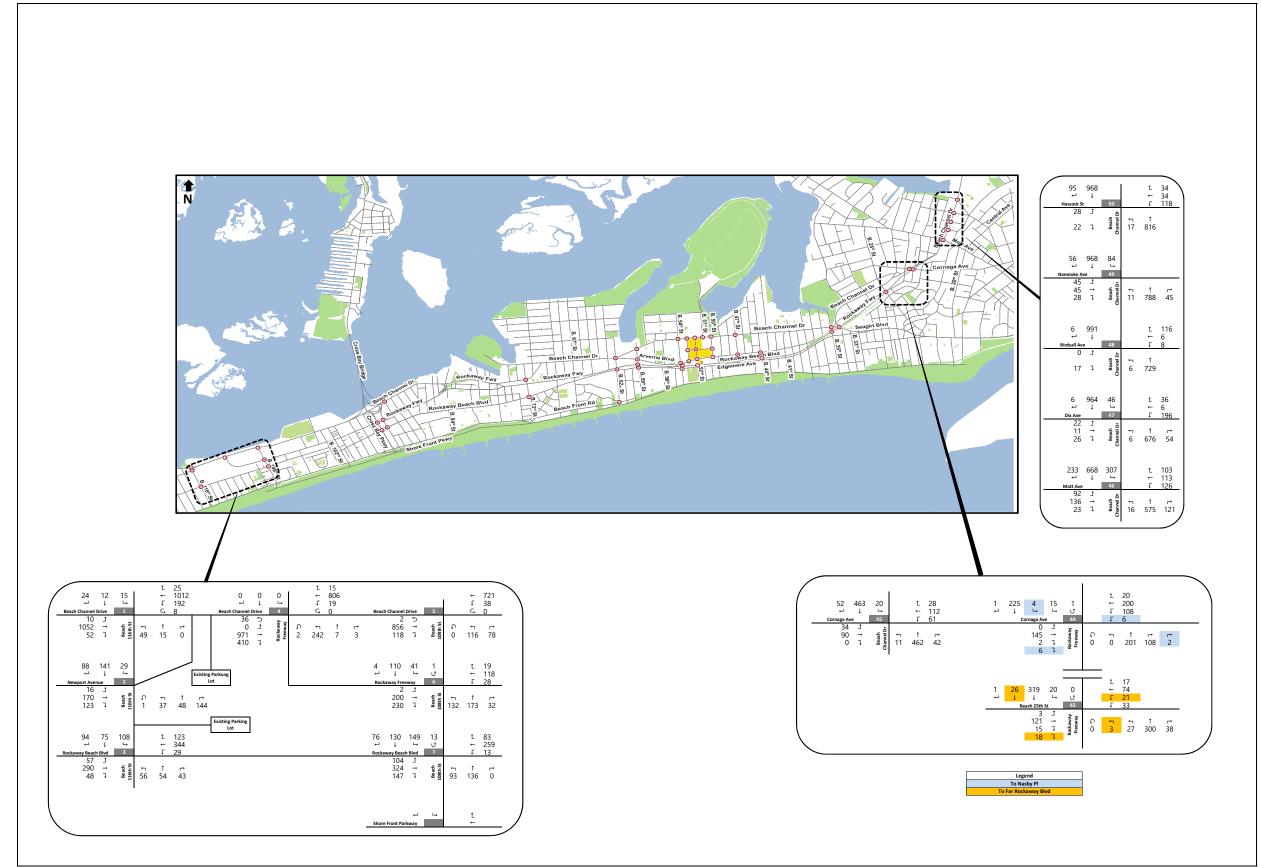


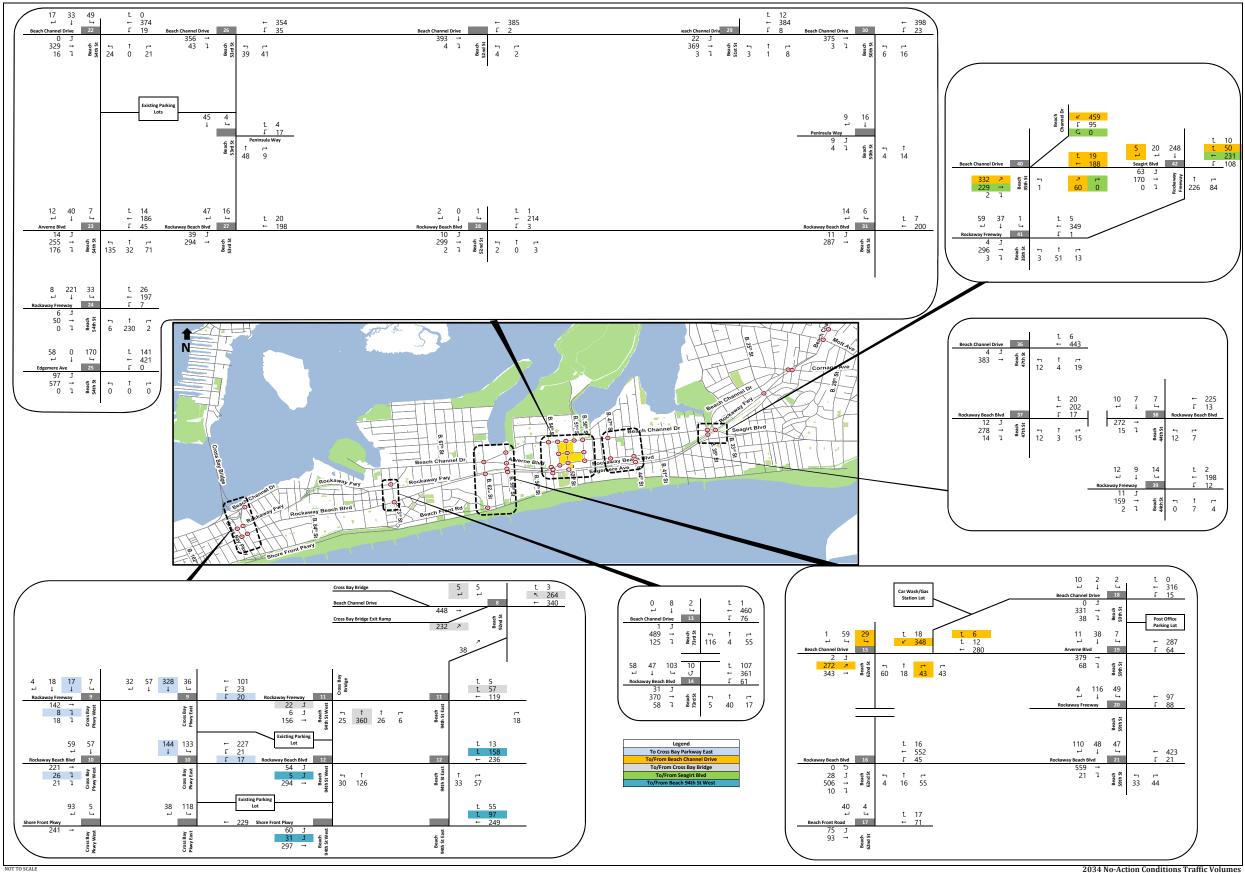












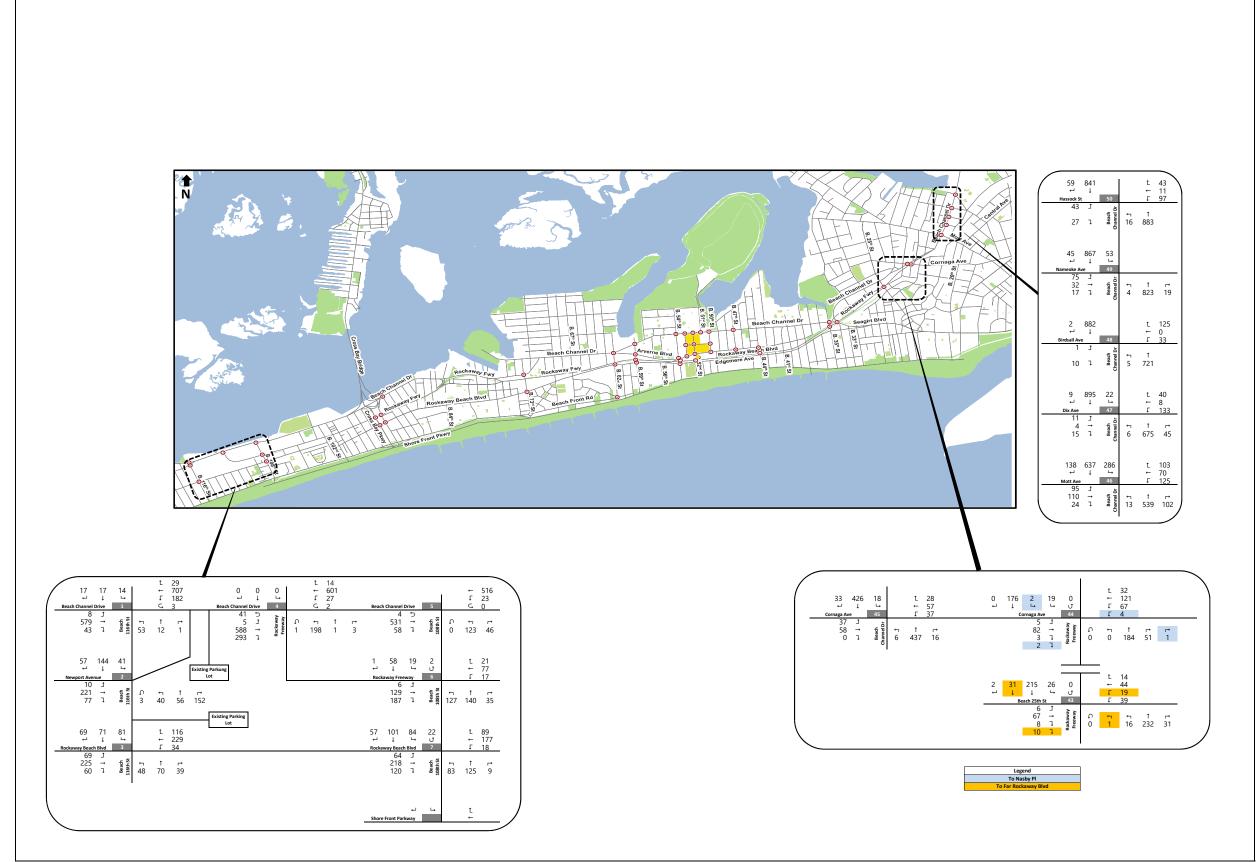


Table 12-26: 2034 No-Action Conditions Level of Service Analysis – Signalized Intersections

		Wee	kdav Al	/I Peak H	our	Wee	kdav Mi	D Peak H	our	Wee	kdav Pl	M Peak Ho	our	Sa	aturday	Peak Hou	r
		Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS
#	Intersection & Approach	Group	Ratio	(sec)	LUS	Group	Ratio	(sec)	LUS	Group	Ratio	(sec)	LUS	Group	Ratio	(sec)	LUS
	Beach Channel Drive and Beach 116th Street																
	Eastbound	LTR	0.68	31.3	C	LTR	0.56	28.4	С	LTR	0.94	48.0	D	LTR	0.57	28.6	C
	Westbound	LTR	1.44	230.9	F	LTR	1.00	54.6	D	DefL	1.07	116.2	F	LTR	0.89	33.8	С
1					_					TR	1.41	219.2	F				
	Northbound	LTR	0.30	45.9	D	LTR	0.27	44.9	D	LTR	0.25	44.5	D	LTR	0.22	43.9	D
	Southbound	LTR	0.09	45.6	D	LTR	0.24	48.2	D	LTR	0.26	48.5	D	LTR	0.24	48.1	D
		Interse	ection	154.8	F	Interse	ection	44.7	D	Interse	ection	126.7	F	Interse	ection	32.7	С
	Newport Avenue and Beach 116th Street	LTD	0.04	44.0	-	LTD	0.50	04.4		LTD	0.04	00.0	_	LTD	0.50	00.0	_
	Eastbound Northbound	LTR LT	0.81 0.35	41.6 47.1	D D	LTR LT	0.59 0.48	31.1 51.2	C D	LTR LT	0.61	32.0 49.6	C D	LTR LT	0.56 0.49	30.3 51.5	C D
2	Northbound	R	0.34	33.9	C	R	0.42	35.7	D	R	0.41	35.2	D	R	0.44	35.9	D
	Southbound	LTR	0.28	18.4	В	LTR	0.40	20.2	С	LTR	0.39	20.0	С	LTR	0.36	19.6	В
		Interse	ection	35.9	D	Interse	ection	30.8	С	Interse	ection	30.5	С	Interse	ection	30.9	С
	Rockaway Beach Boulevard and Beach 116th Street																
	Eastbound	LTR	0.67	17.5	В	LTR	0.66	17.6	В	LTR	0.66	17.2	В	LTR	0.64	16.6	В
	Westbound	LTR	0.92	36.9	D	LTR	0.91	35.1	D	LTR	1.00	54.1	D	LTR	0.72	20.2	С
3	Northbound	L TR	0.05	12.5 13.3	B B	L TR	0.18	14.0 14.3	B B	L TR	0.21	14.5 14.9	B B	L TR	0.17	13.9 14.4	B B
	Southbound	L	0.13	16.6	В	L	0.24	16.7	В	L	0.26	17.8	В	L	0.26	16.1	В
	Sattibound	TR	0.16	13.6	В	TR	0.33	15.4	В	TR	0.43	17.1	В	TR	0.33	15.3	В
		Interse		25.2	C	Interse		23.5	C	Interse		30.8	C	Interse		17.2	В
	Beach Channel Drive and Rockaway Freeway																_
	Eastbound	LTR	1.10	90.5	F	LTR	0.86	38.3	D	LTR	1.28	166.5	F	LTR	0.91	43.2	D
4	Westbound	LTR	1.03	68.7	E	LTR	0.73	30.6	С	LTR	0.93	46.2	D	LTR	0.66	28.3	C
	Northbound	LT	0.60	27.7	С	LT	0.30	21.4	С	LT	0.35	22.2	C	LT	0.28	21.0	C
		R	0.01	17.8 70.5	B E	R Interse	0.00	17.6 33.1	B C	R Interse	0.01	17.7 106.9	B F	R Interse	0.01	17.7 35.0	B C
\vdash	Beach Channel Drive and Beach 108th Street	mierse	JULIUII	10.5		milerse	JULIUII	JJ. I	U	merse	JUIUII	100.9		mierse	JULIUII	JJ.U	U
	Eastbound	TR	0.80	26.7	С	TR	0.51	19.5	В	TR	0.80	26.6	С	TR	0.53	19.6	В
-	Westbound	LT	1.16	111.0	F	LT	0.73	25.2	C	LT	0.82	29.1	C	LT	0.47	18.9	В
5	Northbound	L	0.50	20.1	С	L	0.23	16.2	В	L	0.17	15.5	В	L	0.19	15.7	В
		R	0.21	16.3	В	R	0.14	15.4	В	R	0.16	15.5	В	R	0.08	14.7	В
		Interse	ection	55.7	E	Interse	ection	21.5	С	Interse	ection	26.4	С	Interse	ection	18.8	В
	Rockaway Freeway and Beach 108th Street	LTD	0.45	45.4		LTD	0.00	45.0	-	LTD	0.04	40.7	-	1.70	0.05	40.0	
	Eastbound Westbound	LTR LTR	0.15	15.1 16.9	B B	LTR LTR	0.20 0.14	15.6 15.0	B B	LTR LTR	0.31	16.7 15.3	B B	LTR LTR	0.25 0.11	16.0 14.8	B B
6	Northbound	I	0.51	21.8	C	LIK	0.14	15.0	В	LIK	0.17	17.4	В	I	0.11	16.7	В
ľ	Northboard	TR	0.33	16.9	В	TR	0.18	15.4	В	TR	0.18	15.4	В	TR	0.16	15.2	В
	Southbound	LTR	0.35	18.1	В	LTR	0.26	16.8	В	LTR	0.31	17.3	В	LTR	0.17	15.6	В
		Interse	ection	17.7	В	Interse	ection	15.7	В	Interse	ection	16.4	В	Interse	ection	15.7	В
	Rockaway Beach Boulevard and Beach 108th Street																
	Eastbound	L	0.95	81.6	F	L	0.26	17.6	B C	L TD	0.42	21.5	C	L TR	0.21	16.6	B C
	Westbound	TR L	0.79	30.9 15.2	C B	TR L	0.64	24.1 14.8	В	TR L	0.84	33.7 15.3	C B	L	0.60	22.7 14.8	В
	Westbound	TR	0.94	48.1	D	TR	0.51	20.9	C	TR	0.64	24.1	C	TR	0.48	20.2	C
7	Northbound	L	0.40	20.2	C	L	0.34	18.6	В	L	0.31	18.2	В	L	0.24	16.8	В
		TR	0.41	18.7	В	TR	0.22	16.0	В	TR	0.20	15.8	В	TR	0.22	16.1	В
	Southbound	L	0.27	18.2	В	L	0.25	17.1	В	L	0.46	21.0	С	L	0.31	18.1	В
		TR	0.43	19.2	В	TR	0.33	17.7	В	TR	0.36	17.9	В	LTR	0.28	16.9	В
		Interse		34.9	С	Interse	ection	20.1	С	Interse	ection	24.6	С	Interse	ection	19.3	В
	Beach Channel Drive and Beach 92nd Street/Beach 9 Eastbound	#tn Stre	et 0.36	8.7	Α	Т	0.55	13.4	В	T	0.66	16.0	В	Т	0.48	12.1	В
	Northeastbound (Cross Bay Bridge Exit Ramp)	R	0.79	55.8	E	R	0.87	65.3	E	R	1.10	116.1	F	R	0.46	71.2	E
0 1.3	Northeastbound (Beach 94th St)	R	0.13	31.1	c	R	0.19	32.1	C	R	0.22	32.6	C	R	0.17	31.7	C
8 ^{1,3}	Westbound	TR	0.67	5.2	Α	TR	0.55	4.1	Α	TR	0.62	5.2	Α	TR	0.52	3.7	Α
	Northbound	R	0.08	40.6	D	R	0.17	41.9	D	R	0.21	42.5	D	R	0.21	42.2	D
	Southbound	R	0.01	39.0	D	R	0.01	37.5	D	R	0.13	39.7	D	R	0.10	39.3	D
H	Bookoway Francisco and Creek Bern Berlanes	Interse	ection	14.1	В	Interse	ection	18.4	В	Interse	ection	29.3	С	Interse	ection	19.9	В
	Rockaway Freeway and Cross Bay Parkway Eastbound	TR	0.28	20.5	С	TR	0.32	21.1	С	TR	0.42	22.7	С	TR	0.32	21.1	С
	Eastbound	TR	0.27	20.4	C	TR	0.32	20.9	C	TR	0.42	21.8	C	TR	0.32	20.9	C
١.	Westbound	L	0.01	35.7	D	L	0.05	36.2	D	L	0.05	36.2	D	L	0.13	37.6	Ď
9		T	0.21	11.0	В	T	0.17	10.6	В	T	0.18	10.7	В	T	0.16	10.5	В
	Southbound (Cross Bay Bridge Off-Ramp)	LTR	0.20	21.2	С	LTR	0.37	23.0	С	LTR	0.45	24.2	С	LTR	0.47	24.4	С
	Southbound (Beach Channel Drive Off-Ramp)	LTR	0.08	20.1	С	LTR	0.08	20.1	С	LTR	0.14	20.8	C	LTR	0.10	20.3	С
\vdash	Rockaway Beach Boulevard and Cross Bay Parkway	Interse	CUON	17.7	В	Interse	CUON	20.1	Ü	Interse	CUON	21.3	Ċ	Interse	συιυΠ	21.6	Ü
	Eastbound	TR	0.40	10.9	В	TR	0.50	12.2	В	TR	0.67	15.8	В	TR	0.50	12.1	В
4.	Westbound	LT	0.38	10.3	В	LT	0.44	10.7	В	LT	0.40	10.2	В	LT	0.35	9.6	A
10	Southbound (Cross Bay Bridge Off-Ramp)	LT	0.18	15.2	В	LT	0.33	16.5	В	LT	0.43	17.5	В	LT	0.34	16.7	В
	Southbound (Beach Channel Drive Off-Ramp)	TR	0.21	16.2	В	TR	0.27	16.8	В	TR	0.31	17.3	В	TR	0.30	17.1	В
		Interse	ection	12.1	В	Interse	ection	13.4	В	Interse	ection	15.2	В	Interse	ection	13.3	В
	Rockaway Freeway and Beach 94th Street		0.40	27.7	_	,	0.44	27.7	-		0.05	20.0	-		0.44	27.0	
	Eastbound	T	0.13 0.17	37.7 10.7	D B	L T	0.11 0.21	37.7 11.1	D B	L T	0.05	36.2 12.1	D B	L T	0.14	37.6 11.1	D B
11 ²	Westbound	TR	0.17	22.8	С	TR	0.21	21.9	C	TR	0.32	20.5	C	TR	0.22	21.3	С
	Northbound (Cross Bay Bridge On-Ramp)	LTR	0.43	23.0	C	LTR	0.26	21.7	C	LTR	0.25	22.8	C	LTR	0.40	23.4	C
		Interse	ection	20.9	С	Interse	ection	19.1	В	Interse	ection	18.7	В	Interse		20.1	Č
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL	= Defacto				Service.	- = Appr			ne recrode	ed durin						
	 Intersection was unsignalized in the Existing Condition 																
	Signalized intersection with stop-controlled approach(
	3. Due to complex geometry and per NYCDOT request,	LOS resu	lts were	calculated	d using S	Synchro 1	0, versio	n 10.2, bu	uild 0, re	vision 45 ((10,2,0,4	45).					

Table 12-26 (continued): 2034 No-Action Conditions Level of Service Analysis – Signalized Intersections

	Weekday AM Peak Hour Weekday MD Peak Hour										kday Di	M Peak H	our	6.	aturday	Peak Hou	
		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay	
#	Intersection & Approach	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS
	Rockaway Beach Boulevard and Beach 94th Street			(/				(/				(/				(/	
	Eastbound	LT	0.27	8.9	Α	LT	0.40	10.2	В	LT	0.53	11.6	В	LT	0.36	9.7	Α
40	Eastbound Westbound	LT	0.40	10.3	В	LT	0.47	11.0	В	LT	0.73	16.6	В	LT	0.45	10.8	В
12	Northbound (Cross Bay Bridge On-Ramp)	TR LT	0.81	21.4 17.6	C B	TR LT	0.62 0.28	14.2 16.6	B	TR LT	0.59	13.4 17.0	B B	TR LT	0.60	13.9 17.4	B B
	Northbound (Beach Channel Drive On-Ramp)	TR	0.08	14.7	В	TR	0.20	16.0	В	TR	0.17	15.6	В	TR	0.28	17.2	В
	Herrisonna (Boden Gharmer Brive Gh Hamp)	Interse		17.3	В	Interse		13.5	В	Interse		15.5	В	Interse		13.6	В
	Beach Channel Drive and Beach 73rd Street																
	Eastbound	L	0.00	9.3	A	L	0.00	9.4	A	L	0.00	9.3	A	L	0.00	9.4	A
	Westbound	T L	0.45	13.8 14.5	B B	T L	0.52 0.35	14.9 14.9	B B	T L	0.69	18.4 29.5	B C	T	0.46 0.28	13.8 13.3	B B
13 ²	Westbound	TR	0.95	40.8	D	TR	0.91	35.1	D	TR	0.91	35.3	D	TR	0.65	18.4	В
	Northbound	LT	0.44	25.5	С	LT	0.25	22.3	С	LT	0.33	23.5	С	LT	0.25	22.2	С
	Southbound	LTR	0.04	19.7	В	LTR	0.03	19.6	В	LTR	0.04	19.7	В	LTR	0.02	19.6	В
		Interse	ection	28.2	С	Interse	ection	24.9	С	Interse	ection	26.2	С	Interse	ection	16.5	В
	Rockaway Beach Boulevard and Beach 73rd Street Eastbound	LT	0.37	9.7	Α	LT	0.33	9.4	Α	LT	0.63	13.8	В	ΙT	0.42	10.4	В
	Eastbourid	R	0.10	7.5	A	R	0.33	7.6	A	R	0.03	7.7	A	R	0.42	7.4	A
	Westbound	ï	0.10	7.7	A	Ĺ	0.10	7.6	A	Ĺ	0.23	9.6	A	Ĺ	0.16	8.3	A
		Т	0.57	12.7	В	Т	0.34	9.4	Α	Т	0.47	11.1	В	Т	0.38	9.9	Α
14		R	0.24	8.7	В	R	0.15	7.9	A	R	0.19	8.3	В	R	0.17	8.0	A
	Northbound	LT	0.10	24.6	C	LT	0.09	24.4	C	LT B	0.12	24.9	C	LT R	0.12	24.9	C
	Southbound	R	0.02	30.0	C	R	0.04	23.9	C	R	0.04	23.9 40.7	D	R I	0.07	24.3	C
	Southbound	TR	0.40	31.2	C	TR	0.34	28.6	C	TR	0.41	29.9	C	TR	0.35	28.5	C
		Interse		14.5	В	Interse		13.4	В	Interse		17.1	В	Interse		13.6	В
	Beach Channel Drive/Arverne Boulevard and Beach																
	Eastbound	TR	1.00	43.8	D	TR	0.85	20.0	C	TR	1.31	159.3	F	TR	0.78	16.0	В
	Eastbound Westbound (Beach Channel Drive)	LT T	1.18	127.1 208.2	F	LT T	1.28 0.74	167.2 31.3	F C	LT T	1.76 0.79	377.0 33.1	F C	LT T	1.13 0.57	104.1 24.9	F C
	Westbound (Arverne Blvd)	LR	1.52	289.2	F	LR	1.11	116.5	F		0.79	33.1		LR	0.95	69.5	Ē
15	rrootsouna (raronno Bira)	E, (1.02	200.2				110.0		L	0.99	78.2	Е		0.00	00.0	
										R	0.02	27.4	С				
	Northbound	LTR	0.68	41.3	D	LTR	0.31	30.7	С	LTR	0.55	34.8	С	LTR	0.32	30.7	С
	Southbound	L R	0.80	61.8	E	L R	0.41	35.8 27.8	D	L R	0.66	48.4 27.5	D	L R	0.40	34.8 27.3	С
		Interse		27.5 165.4	C F	Interse		105.6	C F	Interse		199.9	C F	Interse		66.6	C E
	Rockaway Beach Boulevard and Beach 62nd Street	intoro	0000011	100.4		micoro	301.011	100.0		intorot	01.011	100.0		i iii.	501.011	00.0	
	Eastbound	L	0.25	26.7	С	L	0.09	24.4	С	L	0.49	31.3	С	L	0.08	24.3	С
16	Maratha and	TR	0.45	9.0	A	TR	0.56	10.5	В	TR	0.79	17.5	В	TR	0.55	10.3	В
	Westbound Northbound	LTR LTR	0.84	37.4 31.2	D C	LTR LTR	0.99	61.2 33.8	E C	LTR LTR	1.66 0.37	333.6 32.2	F C	LTR LTR	0.82	36.8 30.2	D C
	Horabouna	Interse		27.2	C	Interse		37.6	D	Interse		168.8	F	Interse		24.9	C
	Beach Channel Drive and Beach 59th Street													-			
	Eastbound	LT	0.46	14.2	В	LT	0.41	13.4	В	LT	0.53	15.2	В	LT	0.38	12.9	В
18		R	0.02	9.5	A	R	0.03	9.6	A	R	0.05	9.7	A	R	0.07	9.9	A
	Westbound Southbound	LTR LTR	0.68	19.2 19.6	B B	LTR LTR	0.60	17.0 19.5	B B	LTR LTR	0.77	23.1 19.5	C B	LTR LTR	0.36	12.6 19.6	B B
	Coundound	Interse		17.1	В	Interse		15.5	В	Interse		19.3	В	Interse		12.7	В
	Arverne Boulevard and Beach 59th Street													-			
	Eastbound	Т	0.49	11.2	В	Т	0.46	10.7	В	Т	0.64	13.5	В	Т	0.43	10.3	В
19	382 ** **	R	0.19	8.5	A	R	0.12	7.9	A	R	0.18	8.4	A	R	0.14	8.1	A
	Westbound Southbound	LT LTR	0.89	31.7 15.3	C B	LT LTR	0.66 0.14	15.4 15.2	B	LT LTR	0.93	39.4 15.1	D B	LT LTR	0.55 0.15	12.6 15.4	B B
	Southbound	Interse		20.3	C	Interse		13.0	В	Interse		22.7	C	Interse		11.4	В
	Rockaway Freeway and Beach 59th Street																<u> </u>
	Westbound	L	0.95	86.7	F	L	0.59	50.9	D	L	1.00	107.5	F	L	0.57	50.1	D
20		T	0.11	9.2	A	T	0.10	10.0	В	T	0.14	10.4	В	T	0.11	10.2	В
	Southbound	LTR	0.76	45.4	D	LTR	0.45	30.9	С	LTR	0.66	37.9	D	LTR	0.50	32.1	С
\vdash	Rockaway Beach Boulevard and Beach 59th Street	Interse	ECHON	52.4	D	Interse	CUON	31.3	С	Interse	CHOIL	52.4	D	Interse	CUON	30.5	С
	Eastbound	TR	1.02	69.4	Е	TR	1.21	138.8	F	TR	1.47	248.9	F	TR	1.06	81.6	F
۱,	Westbound	LT	1.11	100.6	F	LT	1.14	115.2	F	LT	1.55	285.8	F	LT	0.97	61.1	Ē
21	Northbound	LR	0.74	58.9	E	LR	0.33	30.3	С	LR	0.40	32.2	С	LR	0.35	30.2	С
	Southbound	LTR	0.81	34.5	С	LTR	0.40	19.7	В	LTR	0.47	20.5	С	LTR	0.36	18.5	В
	People Channel Drive and Beach 54th Street	Interse	ection	71.5	Е	Interse	ection	108.2	F	Interse	ection	214.0	F	Interse	ection	60.9	Е
	Beach Channel Drive and Beach 54th Street Eastbound	Т	0.46	14.2	В	Т	0.48	14.4	В	Т	0.53	15.2	В	Т	0.41	13.2	В
		R	0.40	9.5	A	R	0.01	9.4	A	R	0.03	9.6	A	R	0.03	9.6	A
22	Westbound	LT	0.75	22.8	Ĉ	LT	0.63	18.4	В	LT	0.70	20.6	Ĉ	LT	0.60	17.3	В
	Northbound	LR	0.19	22.1	С	LR	0.33	25.2	С	LR	0.26	23.4	С	LR	0.18	21.8	С
	Southbound	LTR	0.32	23.4	С	LTR	0.34	23.8	С	LTR	0.29	23.1	С	LTR	0.25	22.3	С
_	Notes: L = Left Turn, T= Through, R = Right Turn, DefL	Interse		19.8	B	Interse		18.1	B no volu	Interse		18.7	B k bour	Interse	ection	16.5	В
	1. Intersection was unsignalized in the Existing Condition		Leit IU	, LUS =	Level 0	Service.	- – Appr	oaun nas	iio voiu	me recroa	ea aurin	y uns pea	k HOUL.				
	Signalized intersection with stop-controlled approach(
	Due to complex geometry and per NYCDOT request,		ılts were	calculated	d using S	Synchro 1	0, versio	n 10.2, bi	uild 0, re	vision 45	(10,2,0,4	45).					

Table 12-26 (continued): 2034 No-Action Conditions Level of Service Analysis - Signalized Intersections

		Wer	ekday Al	M Peak H	our	Wee	ekday M	D Peak H	our	Wee	kday P	M Peak H	our	Si	aturday	Peak Hou	ur
		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay	
#	Intersection & Approach	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LO
	Arverne Boulevard and Beach 54th Street																
ı	Eastbound Westbound	LTR LTR	0.71	28.5 29.5	C	LTR LTR	0.81	34.7 23.4	C	LTR LTR	0.73	96.6 32.5	F C	LTR LTR	0.73	29.0 25.5	C
23	Northbound	LTR	0.70	15.9	В	LTR	0.51	20.7	C	LTR	0.73	18.8	В	LTR	0.58	17.0	В
ı	Southbound	LTR	0.16	23.2	C	LTR	0.22	24.1	Č	LTR	0.19	23.6	Č	LTR	0.15	23.1	C
		Inters	ection	25.8	С	Interse	ection	27.2	С	Interse	ection	60.2	Е	Interse	ection	24.7	С
	Rockaway Freeway and Beach 54th Street		0.07	10.0	-		0.05	40.4	_		0.10	40.0	-		0.00		_
ı	Eastbound Westbound	LTR	0.07	16.2 38.8	B D	LTR	0.05	16.1 36.0	B D	LTR I	0.10	16.6 39.2	B D	LTR I	0.09	16.4 36.2	E
24	Westbourid	TR	0.21	10.4	В	TR	0.03	9.5	A	TR	0.23	10.6	В	TR	0.03	9.7	7
	Northbound	LTR	0.44	27.0	С	LTR	0.62	31.0	С	LTR	0.66	32.0	С	LTR	0.50	28.2	
ŀ	Southbound	LTR	0.43	26.9	С	LTR	0.68	33.3	С	LTR	0.61	30.8	С	LTR	0.52	28.7	0
4		Interse	ection	21.2	С	Interse	ection	26.8	С	Interse	ection	25.2	С	Interse	ection	22.7	(
ı	Edgemere Avenue and Beach 54th Street Eastbound	LTR	1.85	420.1	F	LTR	2.55	732.7	F	LTR	8.79	3549.0	F	LTR	2.21	581.5	
	Westbound	LTR	0.90	39.8	D	LTR	1.05	73.9	Ė	LTR	1.26	153.0	F	LTR	0.81	31.8	
25	Northbound	LTR	0.00	21.4	С	LTR	0.00	21.4	С	LTR	0.00	21.4	С	LTR	0.00	21.4	(
ı	Southbound	LTR	0.34	15.8	В	LTR	1.27	169.8	F	LTR	1.26	165.5	F	LTR	1.02	84.4	
4		Interse	ection	194.0	F	Interse	ection	356.6	F	Interse	ection	1555.0	F	Interse	ection	281.9	
ı	Beach Channel Drive and Beach 51st Street Eastbound		0.18	11.7	В		0.19	11.7	В	L	0.08	10.3	В		0.07	10.0	
ı	Lasibound	TR	0.69	20.5	C	TR	0.65	18.9	В	TR	0.74	22.1	C	TR	0.55	16.1	H
9	Westbound	LT	0.62	17.6	В	LT	0.60	16.9	В	LT	0.57	16.2	В	LT	0.47	14.3	T
ı		R	0.07	9.9	В	R	0.04	9.7	В	R	0.05	9.7	В	R	0.02	9.5	
ı	Northbound	LTR	0.01	19.5	В	LTR	0.03	19.7	В	LTR	0.02	19.6	В	LTR	0.03	19.6	
4	Dealess Francisco de Branch 44th Obrant	Interse	ection	18.2	В	Interse	ection	17.3	В	Interse	ection	18.8	В	Interse	ection	15.0	
ŀ	Rockaway Freeway and Beach 44th Street Eastbound		0.06	36.4	D	L	0.04	36.1	D	L	0.04	36.1	D		0.07	36.6	
ı	Lasibound	TR	0.37	19.7	В	TR	0.16	17.1	В	TR	0.37	19.8	В	TR	0.07	17.9	H
9	Westbound	L	0.02	10.4	В	L	0.01	8.1	A	L	0.03	10.7	В	L	0.02	8.6	
۱,		TR	0.34	19.3	В	TR	0.23	18.0	В	TR	0.36	19.6	В	TR	0.28	18.5	
ı	Northbound	LTR	0.03	21.7	С	LTR	0.03	21.7	С	LTR	0.04	21.8	С	LTR	0.02	21.6	
ı	Southbound	LTR	0.12	22.9 19.9	С	LTR Interse	0.11	22.8	C B	LTR	0.17	23.7	C	LTR	0.11	22.6	-
4	Beach Channel Drive/Seagirt Boulevard and Beach 3	Interse		19.9	В	IIILEIS	ection	18.5	ь	Interse	CHOIT	20.0	U	Interse	ection	18.9	
ı	Eastbound	LTR	0.61	19.3	В	LTR	0.57	18.1	В	LTR	0.88dl	22.7	С	LTR	0.50	16.1	Т
ı		LTR	0.61	19.3	В	LTR	0.57	18.1	В	LTR	0.88dl	22.7	С	LTR	0.50	16.1	
	Westbound	LT	0.65	16.4	В	LT	0.50	15.1	В	LT	0.63	20.7	С	LT	0.46	12.7	
2,3	Southbound	LT	0.16	22.0	С	LT	0.20	22.4	С	LT	0.17	22.1	C	LT	0.18	22.3	4
ı	Northbound	R LTR	0.59	10.3 17.3	B B	R LTR	0.64	11.6 11.7	B B	R LTR	0.70	12.5 12.9	B B	R LTR	0.62	10.6 11.6	Н
ı	Northbound	TR	0.13	17.3	В	TR	0.22	11.7	В	TR	0.19	12.9	В	TR	0.12	11.6	т
		Interse	ection	20.1	С	Interse	ection	19.4	В	Interse	ection	22.0	С	Interse		18.3	
	Rockaway Freeway and Beach 35th Street																
ı	Eastbound	L	0.07	35.2	D	L	0.05	34.9	С	L	0.06	34.9	С	L	0.02	34.2	
ı	Weathound	TR L	0.54	22.1 40.5	C	TR	0.38	19.0	B -	TR	0.69	26.3	С	TR L	0.40	19.2	╄
3	Westbound	TR	0.01	10.2	D B	L TR	0.00	0.0 6.9	A	L TR	0.00	0.0 9.1	- A	TR	0.49	49.0 8.6	-
ı	Southbound	LTR	0.27	8.9	Ā	LTR	0.36	10.1	В	LTR	0.25	8.2	A	LTR	0.31	10.3	т
ı	Northbound	LTR	0.16	26.7	С	LTR	0.32	29.1	С	LTR	0.26	28.0	С	LTR	0.20	27.1	
		Interse	ection	16.0	В	Interse	ection	14.5	В	Interse	ection	18.6	В	Interse	ection	14.3	
ı	Rockaway Freeway and Seagirt Boulevard		0.40	00.0			0.40		-		0.04		-		0.00		_
ı	Eastbound	TR	0.19	38.8 42.3	D D	L TR	0.16 0.28	38.3 62.1	D E	TR	0.21	38.3 84.8	D F	TR	0.20	41.0 24.9	
2 3	Westbound	LTR	0.62	34.1	C	LTR	0.51	32.1	Ċ	LTR	0.71	37.1	Ď	LTR	0.56	32.9	T
1	Southbound	TR	0.55	26.7	C	TR	0.56	27.0	Ċ	TR	0.65	29.8	C	TR	0.46	24.7	
ı	Northbound	TR	0.63	12.2	В	TR	0.54	13.5	В	TR	0.94	34.5	С	TR	0.50	12.1	
_		Interse	ection	28.1	С	Interse	ection	32.4	С	Interse	ection	41.4	D	Interse	ection	25.4	
ı	Rockaway Freeway and Beach 25th Street	LTD	0.50	20.0		LTD	0.24	24.4		LTD	0.24	25.5	_	LTD	0.10	22.4	_
ļ	Eastbound Westbound	LTR LTR	0.59	30.9 33.5	C	LTR LTR	0.24	24.1 25.6	C	LTR LTR	0.34	25.5 26.2	C	LTR LTR	0.19	23.4 24.7	
, ا	Northbound	L	0.02	37.6	D	L	0.17	37.1	D	L	0.30	37.3	D	L	0.10	36.0	
3		TR	0.57	24.3	С	TR	0.58	24.5	С	TR	0.54	23.8	С	TR	0.42	21.3	
ŀ	Southbound	L	0.17	37.2	D	L	0.13	36.6	D	L	0.11	36.2	D	L	0.16	36.9	Ш
- [TR Interse	0.63 ection	25.4 28.1	C	TR Interse	0.45 ection	21.6	C	TR Interse	0.44 ection	21.4	C	TR Interse	0.34 ection	19.9 22.5	+
4	Rockaway Freeway and Cornaga Avenue	milerse	CUUII	∠ő. ĭ	l C	milerse	COUOTI	24.4	U	milerse	UIUII	24.3	U	milers	CUIUII	22.5	_
١	Eastbound	LTR	0.35	21.3	С	LTR	0.18	19.3	В	LTR	0.22	19.0	В	LTR	0.15	18.9	Т
	Westbound	LTR	0.98	67.8	Ē	LTR	0.71	32.8	С	LTR	0.86	44.4	D	LTR	0.53	25.8	
ļ	Northbound	TR	0.72	34.3	С	TR	0.59	29.8	С	TR	0.64	32.6	С	TR	0.46	26.9	
4		L	0.08	36.7	D	L	0.12	37.4	D	L	0.13	37.6	D	L	0.14	37.6	H
4	Southbound	T-0	5														
4	Southbound	TR	0.32	14.9	В	TR	0.27	14.3	В	TR	0.32	15.4	В	TR	0.24	14.0	
		Interse	ection	37.8	D	Interse	ection	26.2	С	Interse	ection	30.5	С		0.24 ection	22.7	
	Southbound Notes: L = Left Turn, T= Through, R = Right Turn, Deft. 1. Intersection was unsignalized in the Existing Condition	Interse = Defacto	ection	37.8	D	Interse	ection	26.2	С	Interse	ection	30.5	С				

Table 12-26 (continued): 2034 No-Action Conditions Level of Service Analysis – Signalized Intersections

		Wee	ekday Al	/I Peak Ho	our	Wee	kday M	D Peak Ho	our	Wee	ekday P	M Peak Ho	our	S	aturday	Peak Hou	ır
#	Intersection & Approach	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
"	Beach Channel Drive and Cornaga Avenue	o.oup	rtutio	(000)		O. oup	rtatio	(000)		Олоцр	rtatio	(000)		0.000	rtutio	(000)	
	Eastbound	LTR	0.36	21.8	С	LTR	0.19	19.4	В	LTR	0.22	19.8	В	LTR	0.18	19.4	В
	Westbound	LTR	0.42	23.2	С	LTR	0.32	21.4	С	LTR	0.45	23.6	С	LTR	0.25	20.3	С
	Northbound	L	0.07	12.8	В	L	0.04	12.4	В	L	0.06	12.6	В	L	0.02	12.1	В
45		TR	0.64	20.5	С	TR	0.57	18.9	В	TR	0.61	19.7	В	TR	0.51	17.6	В
	Southbound	L	0.17	14.4	В	L	0.14	14.1	В	L	0.10	13.2	В	L	0.07	12.7	В
		TR	0.66	21.3	С	TR	0.58	19.0	В	TR	0.61	19.6	В	TR	0.53	18.1	В
		Interse	ection	21.1	С	Interse	ection	19.2	В	Interse	ection	20.1	С	Interse	ection	18.1	В
	Beach Channel Drive and Mott Avenue																
	Eastbound	LTR	1.02	78.7	Е	LTR	0.74	37.0	D	LTR	0.89	53.6	D	LTR	0.74	36.5	D
	Westbound	LT	0.59	29.9	С	LT	0.68	34.7	С	LT	0.72	34.6	С	LT	0.63	30.4	С
		R	0.19	11.2	С	R	0.16	11.3	С	R	0.22	11.5	С	R	0.18	10.9	С
46	Northbound	L	0.20	26.3	С	L	0.28	29.0	С	L	0.25	28.5	С	L	0.20	26.3	С
		TR	1.33	188.4	F	TR	1.24	149.3	F	TR	1.41	223.3	F	TR	1.25	156.0	F
	Southbound	TR	1.14	125.7	F	L	1.16 0.85	134.1	F	L	1.42	235.7	F	L	1.35	207.8	F
			0.95	40.6	D F	TR	0.00	27.3	C F	TR Interse	1.09	76.9	E F	TR Interse	0.86	28.6	C F
	Describ Observed Defense of Discharge	Interse	ection	93.9	F	Interse	ection	75.0	E	mierse	ection	126.3	F	mierse	ection	88.4	ŀ
	Beach Channel Drive and Dix Avenue	LTR	0.59	31.5	С	LTR	0.53	30.1	С	LTR	0.23	22.8	С	LTR	0.10	20.6	С
	Eastbound Westbound	LTR	0.59	35.0	C	LTR	0.53	47.8	D	LTR	0.23	39.4	D	LTR	0.10	31.3	C
47	Westbound Northbound	LTR	1.21	127.1	F	LTR	1.13	96.8	F	LTR	1.10	83.3	F	LTR	0.60	14.4	В
	Southbound	LTR	0.55	14.8	В	LTR	0.64	16.5	В	LTR	0.74	19.0	В	LTR	0.67	17.0	В
	Couribound	Interse		64.3	Ē	Interse		50.6	D	Interse		44.6	D	Interse		17.6	В
	Beach Channel Drive and Birdsall Avenue	IIICIO	JOHOTT	04.0		interse	Cuon	00.0	D	IIICIO	COHOIT	44.0		IIICIO	COLIOIT	17.0	
	Eastbound	LR	0.02	19.6	В	LR	0.05	20.6	С	LR	0.05	20.6	С	LR	0.03	19.7	В
	Westbound	LTR	0.40	24.8	Č	LTR	0.22	22.7	č	LTR	0.35	24.7	Č	LTR	0.42	25.4	C
8 ¹	Northbound	LT	0.90	31.6	Ċ	LT	0.84	25.3	Č	LT	0.80	22.7	Ċ	LT	0.80	23.2	Č
	Southbound	T	0.79	22.5	Ċ	T	0.87	26.9	Č	T	0.98	43.0	D	T	0.90	30.7	C
		Ř	0.02	9.5	Ā	Ř	0.01	9.0	Ā	R	0.01	9.0	Ā	Ř	0.00	9.4	A
		Interse	ection	26.8	С	Interse	ection	25.8	С	Interse	ection	33.2	С	Interse	ection	27.0	С
	Beach Channel Drive and Nameoke Avenue													=			
	Eastbound	LTR	0.77	38.5	D	LTR	0.53	30.8	С	LTR	0.36	24.4	С	LTR	0.35	24.9	С
	Northbound	L	0.20	15.0	В	L	0.19	14.1	В	L	0.17	15.0	В	L	0.06	10.7	В
49		TR	1.30	165.7	F	TR	1.24	136.7	F	TR	1.16	106.9	F	TR	1.12	91.3	F
	Southbound	L	0.68	52.0	D	L	1.31	222.8	F	L	0.95	95.1	F	L	0.66	43.2	D
		TR	1.17	109.6	F	TR	1.28	155.9	F	TR	1.47	239.9	F	TR	1.24	139.9	F
		Interse	ection	121.1	F	Interse	ection	138.8	F	Interse	ection	164.9	F	Interse	ection	107.4	F
	Beach Channel Drive and Hassock Avenue																
	Eastbound	LR	0.17	19.3	В	LR	0.13	21.0	С	LR	0.13	18.8	В	LR	0.18	19.5	В
	Westbound	L	0.22	20.0	С	L	0.34	23.9	С	L	0.30	21.3	С	L	0.23	20.1	С
50		TR	0.16	19.2	В	TR	0.08	20.3	С	TR	0.17	19.4	В	TR	0.13	18.8	В
	Northbound	LT	0.88	29.1	С	LT	0.71	17.6	В	LT	0.88	30.0	C	LT	0.92	33.4	С
	Southbound	T R	0.97	45.9	D B	T R	1.03	58.8	E	T R	1.22	132.6	F B	T R	1.10	83.6 12.0	F
				11.5	_		0.00	9.7	A		0.19	12.6			0.13		В
	Notice I I A Town T. Thomash D. District	Interse		33.8	C	Interse		35.4	D	Interse		74.8	Е	Interse	ection	51.6	D
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = 1. Intersection was unsignalized in the Existing Conditions		Leπ ium	, LUS = L	evel of S	ervice =	Approa	un nas no	volume	recroaed	auring tr	iis peak ho	ouf.				
	Signalized intersection with stop-controlled approach(es																
	Due to complex geometry and per NYCDOT request, Li		e were or	alculated :	icina Cia	ochro 10	version 1	0.2 Prilled	0 rovisi	ion 45 (10	2 0 4E						
	o. Dao to complex geometry and per 141 ODOT request, Et	o o result		uuutou t	.c.rig Oyi		. 5151011	J.Z, Dullu	U, 10 VISI	5.7 70 (10	,_,∪,¬∪).						

Table 12-27: 2034 No-Action Conditions Level of Service Analysis – Unsignalized Intersections

		Wee	ekday Al	/I Peak Ho	our	Wee	kday M	D Peak Ho	our	Wee	ekday Pl	M Peak He	our	S	aturday	Peak Hou	ir
#	Intersection & Approach	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
12	Rockaway Freeway and Beach 94th Street				•										-		
11 "	Northbound	T	0.05	9.2	Α	T	0.06	9.3	Α	T	0.07	9.3	Α	T	0.07	9.3	Α
	Beach Channel Drive and Beach 73rd Street																
13 ¹	Eastbound	R	0.14	9.1	Α	R	0.10	8.8	Α	R	0.26	9.7	Α	R	0.15	9.1	Α
	Northbound	R	0.12	12.0	В	R	0.17	12.9	В	R	0.21	16.5	С	R	0.12	12.2	В
	Beach Front Road and Beach 62nd Street																
17	Eastbound	LT	0.25	11.1	В	LT	0.32	11.8	В	LT	0.39	12.7	В	LT	0.27	11.6	В
l ''	Westbound	TR	0.20	10.3	В	TR	0.11	10.3	В	TR	0.14	10.4	В	TR	0.13	10.1	В
	Southbound	LTR	0.00	7.2	Α	LTR	0.00	7.3	Α	LTR	0.01	7.3	Α	LTR	0.00	7.5	Α
	Beach Channel Drive and Beach 53rd Street																
26	Westbound	LT	0.04	9.9	Α	LT	0.07	11.3	В	LT	0.05	9.4	Α	LT	0.04	8.4	Α
	Northbound	LR	0.33	29.3	D	LR	0.53	45.8	E	LR	0.42	29.3	D	LR	0.25	17.2	С
	Rockaway Beach Boulevard and Beach 53rd Street																
27	Eastbound	LT	0.04	9.4	Α	LT	0.06	10.3	В	LT	0.11	10.4	В	LT	0.06	10.0	Α
	Southbound	LR	0.20	15.5	С	LR	0.21	21.6	С	LR	0.39	32.9	D	LR	0.25	20.3	С
	Rockaway Beach Boulevard and Beach 52nd Street																
	Eastbound	LTR	0.01	8.5	Α	LTR	0.01	9.3	Α	LTR	0.02	9.0	Α	LTR	0.01	9.0	Α
28	Westbound	LTR	0.00	8.1	Α	LTR	0.00	8.4	Α	LTR	0.00	9.0	Α	LTR	0.00	8.6	Α
	Northbound	LR	0.01	16.0	С	LR	0.00	22.9	С	LR	0.01	21.7	С	LR	0.02	18.1	С
	Southbound	LTR	0.01	14.4	В	LTR	0.01	26.7	D	LTR	0.02	21.1	С	LTR	0.01	20.7	С
	Beach Channel Drive and Beach 50th Street																
30	Westbound	LT	0.02	8.9	Α	LT	0.03	9.5	Α	LT	0.04	10.0	Α	LT	0.03	9.3	Α
	Northbound	LR	0.09	16.0	С	LR	0.07	15.3	С	LR	0.07	17.9	С	LR	0.07	16.1	С
	Rockaway Beach Boulevard and Beach 50th Street																
31	Eastbound	LT	0.01	8.3	Α	LT	0.01	8.2	Α	LT	0.01	8.2	Α	LT	0.01	8.2	Α
	Southbound	LR	0.05	12.3	В	LR	0.06	13.3	В	LR	0.06	14.1	В	LR	0.05	13.1	В
	Beach Channel Drive and Beach 47th Street																
36	Eastbound	LT	0.01	9.1	Α	LT	0.01	9.0	Α	LT	0.00	8.9	Α	LT	0.00	8.6	Α
	Northbound	LTR	0.06	16.8	С	LTR	0.04	18.1	С	LTR	0.12	23.9	С	LTR	0.13	18.2	С
	Arverne Boulevard/Rockaway Beach Boulevard and B																
37	Eastbound	LTR	0.00	7.9	Α	LTR	0.00	7.9	Α	LTR	0.01	8.1	Α	LTR	0.01	8.0	Α
	Westbound	LTR	0.03	8.9	Α	LTR	0.02	10.4	В	LTR	0.02	10.6	В	LTR	0.03	9.8	Α
	Northbound	LTR	0.05	15.1	С	LTR	0.07	22.6	С	LTR	0.12	27.5	D	LTR	0.13	20.6	С
	Rockaway Beach Boulevard and Beach 44th Street																
38	Westbound	LT	0.01	8.5	A	LT	0.00	8.1	A	LT	0.01	9.1	A	LT	0.01	8.0	A
1	Northbound	LR	0.08	16.7	С	LR	0.08	22.0	С	LR	0.16	29.8	D	LR	0.08	19.5	С
	Southbound	LTR	0.13	17.1	С	LTR	0.10	16.5	С	LTR	0.19	23.5	С	LTR	0.08	15.6	С
40 ^{1,3}	Beach Channel Drive and Seagirt Boulevard	_						10.0				10.0				10.0	
Ë	Westbound	R	0.03	11.9	В	R	0.09	12.3	В	R	0.15	13.8	В	R	0.12	12.0	В
	Notes: L = Left Turn, T= Through, R = Right Turn, Deft. 1. Signalized intersection with stop-controlled approa. 2. The northbound through movement was signalized. 3. Due to complex geometry and per NYCDOT request	ch(es). in the Ex	isting Co	onditions								Ū	s peak h	our.			

^{3.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45

Transit Operations

The future No-Action subway and bus volumes reflect annual background growth rates of 0.50% per year from 2016 to 2021 and 0.25% per year from 2021 to 2034, as recommended in the *CEQR Technical Manual*, as well as increases in volumes associated with No-Action projects and the as-of-right development plan for the Project Site under current zoning.

Subway Line-Haul

The average passengers per hour, trains/cars per hour, capacity per car, and v/c ratios under No-Action condition is shown in **Table 12-28**: **2034 No-Action Condition Level of Service Analysis – Subway Line-Haul** for the A train at the max load points. As indicated in **Table 12-28**, the A train would operate within capacity during the four peak hours in the No-Action condition.

Table 12-28: 2034 No-Action Condition Level of Service Analysis - Subway Line-Haul

Peak Direction	Route	Maximum Load Point Station	Average Passengers Per Hour ⁽¹⁾	Average Trains Per Hour	Average Cars Per Hour	Average Passengers Per Car	Guideline Passengers Per Car ⁽³⁾	V/C ratio
			W	eekday AM ⁽²⁾				
Northbound	Α	Nostrand Av	19,541	16.7	134	146	175	0.83
			W	eekday PM ⁽²⁾				
Southbound	Α	Jay St-MetroTech	16,643	15.2	122	136	175	0.78
			Saturda	y MD (Summe	er) ⁽⁵⁾			
Northbound	Α	Aqueduct Racetrack	2,271	8	64	35	88	0.40
			Sunday	y MD (Summe	r) ⁽⁵⁾			
Northbound	Α	Aqueduct Racetrack	3,572	6	48	74	88	0.85

Notes:

- (1) Hourly A-Train volumes associated with general background growth and No-Action Projects were distributed proportionally based on existing ridership. (2) Based on 2015-2016 ridership and train throughput data from NYCT.
- (3) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service. (4) Volume to guideline capacity ratio.
- (5) Based on 2012-2017 ridership and train throughput data from NYCT. The Summer Saturday and Sunday MD peak hours were included in the line haul analysis as subway service is less frequent on weekends and weekend ridership peaks due to recreational activities at the beach.

Subway Stairs

As shown in Table 12-29: 2034 No-Action Condition Level of Service Analysis - Stairs, the street-level and platform stairs would operate at LOS A during both peak hours in the No-Action condition.

Table 12-29: 2034 No-Action Condition Level of Service Analysis - Stairs

Vertical Element	ID	Entering	Exiting Volume (1)	Width (feet) ⁽²⁾	Number of Intermediate Handrails	Effective Width (feet)	Friction Factor ⁽³⁾	Factor (onto platform level) (3)	Factor (off of platform level) (3)	Entering	Exiting	V/C ⁽⁵⁾	LOS ⁽⁵⁾
					1			1					Α
NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	109	11	8.5	1	7.25	0.9	1	0.75	979	734	0.13	Α
SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	13	11	8.0	1	6.75	0.9	1	0.75	911	683	0.03	Α
NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	56	5	8.5	1	7.25	0.9	1	0.75	979	734	0.06	Α
SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	14	13	8.0	1	6.75	0.9	1	0.75	911	683	0.03	Α
SE Stair (b/w street level and platform level)		n/a	18	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.02	Α
			Weel	kday PM									
NE Stair (b/w street level and head house)	M3A, M3B, S3A, S3B	52	95	8.5	1	7.25	0.9	1	0.80	979	783	0.18	Α
NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	30	25	8.5	1	7.25	0.9	1	0.75	979	734	0.06	Α
SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	9	71	8.0	1	6.75	0.9	1	0.75	911	683	0.11	Α
NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	18	10	8.5	1	7.25	0.9	1	0.75	979	734	0.03	Α
SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	5	28	8.0	1	6.75	0.9	1	0.75	911	683	0.05	Α
SE Stair (b/w street level and platform level)	-	n/a	61	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.08	Α
NW Stair (b/w street level and head house)	M3A, M3B, S1A, S1B	58	91	8.0	1	6.75	0.9	1	0.80	911	729	0.19	Α
SE Stair (b/w head house and platform level)	P8A, P8B, P10A, P10B	15	25	8.0	1	6.75	0.9	1	0.75	911	683	0.05	Α
SW Stair (b/w head house and platform level)	P4A, P4B, P6A, P6B	13	31	8.0	1	6.75	0.9	1	0.75	911	683	0.06	Α
	NE Stair (b/w street level and head house) NE Stair (b/w head house and platform level) SE Stair (b/w head house and platform level) SE Stair (b/w head house and platform level) SW Stair (b/w head house and platform level) SE Stair (b/w head house and platform level) SE Stair (b/w street level and platform level) NE Stair (b/w street level and head house) NE Stair (b/w head house and platform level) SE Stair (b/w head house and platform level) SW Stair (b/w head house and platform level) SW Stair (b/w head house and platform level) SE Stair (b/w street level and head house) SE Stair (b/w street level and head house) SE Stair (b/w bread house and platform level)	NE Stair (b/w street level and head house) NE Stair (b/w head house and platform level) SE Stair (b/w head house and platform level) PFA, P7B, P9A, P9B PFA, P9B, P9A	NE Stair (b/w krreet level and head house) M3A, M3B, S3A, S3B 98 NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 109 SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B 13 NW Stair (b/w head house and platform level) P6A, P6B, P8A, P8B 13 SE Stair (b/w head house and platform level) P1A, P1B, P3A, P3B 56 SE Stair (b/w street level and platform level) P2A, P2B, P4A, P4B 14 NE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 52 NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 30 SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B 9 NW Stair (b/w head house and platform level) P1A, P1B, P3A, P3B 18 SE Stair (b/w street level and platform level) P1A, P1B, P3A, P3B 18 SE Stair (b/w street level and platform level) P1A, P1B, P3A, P3B 18 SE Stair (b/w street level and platform level) P1A, P1B, P3A, P3B 18 SE Stair (b/w street level and platform level) P1A, P1B, P3A, P3B 18 SE Stair (b/w street level and platform level) P3A, P3B, P3A, P3B 5 SE Stair (b/w street level and head house) P3A, P3B, P3A, P3B 18 SE Stair (b/w street level and platform level) P3A, P3B, P3A, P3B 18 SE Stair (b/w street level and platform level) P3A, P3B, P3A, P3B 18 SE Stair (b/w street level and head house) P3A, P3B, P3A, P3B 18 SE Stair (b/w street level and head house) P3A, P3B, P3A, P3B 18	Vertical Element ID Entering Volume (1) Exiting (1) Weel NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 109 11 22 NW Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 109 11 NW Stair (b/w head house and platform level) P1A, P1B, P3A, P3B 56 5 SW Stair (b/w head house and platform level) P2A, P2B, P4A, P4B 14 13 SE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 52 95 NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 30 25 SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B 9 71 NW Stair (b/w head house and platform level) P1A, P1B, P3A, P3B 18 10 SW Stair (b/w street level and platform level) P2A, P2B, P4A, P4B 5 28 SE Stair (b/w head house and platform level) P1B, P3A, P3B 18 10 SW Stair (b/w street level and platform level) P4A, P2B,	Vertical Element ID Volume (t) Volume (t) (feet) (t) NE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 98 22 8.5 NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 109 11 8.5 SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B 13 11 8.0 NW Stair (b/w head house and platform level) P1A, P1B, P3A, P3B 56 5 8.5 SW Stair (b/w head house and platform level) P2A, P2B, P4A, P4B 14 13 8.0 SE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 52 95 8.5 NE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 52 95 8.5 NE Stair (b/w street level and platform level) P7A, P7B, P9A, P9B 30 25 8.5 NE Stair (b/w head house and platform level) P7A, P7B, P9A, P9B 30 25 8.5 SE Stair (b/w head house and platform level) P7A, P7B, P3A, P3B 18 10 8.5 SW Stair (b/w head house and platform level) P1A, P1B, P3A, P3B	NE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 98 22 8.5 1	NE Stair (b/w street level and head house) M3A, M3B, S3A, S3B 98 22 8.5 1 7.25	NE Stair (b/w street level and head house PTA, PTB, PPA, PPB PTA, PTB, PPA, PPB TA PTA, PTB, PPA, PPB PTA, PTB, PPA, PPB TA PTA, PT	Ne Stair (b/w street level and head house PAA, PBA, PBA, PBA, PBA, PBA, PBA, PBA,	NE Stair (b/w street level and head house M3A, M3B, S3A, S3B S2 S2 S4 S4 S4 S4 S4 S4	NE Stair (b/w street level and head house and platform level) P2A, P2B, P4A, P4B SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB SB SE Stair (b/w head house and platform level) P6A, P6B, P8A, P8B SB	New New	Part Part

(1) New stairway volumes associated with the general background growth were distributed proportionally based on the existing counts.

(2) Vertical elements measured at the narrowest location.
(3) Friction and surge factors based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual. Note, friction factors may change due to increase in opposing passenger flow between Existing and No-Action conditions.
(4) Stair capacity based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

(5) v/c ratios and LOS ratings were calculated based on rates presented in the 2014 CEQR Technical Man

Control Areas

For the control area elements, the quantity, volume, friction and surge factors, capacity, and calculated v/c and LOS results under No-Action condition is shown in Table 12-30: 2034 No-Action Condition Level of Service Analysis - Control Areas. As shown in Table 12-30, all control area elements would operate at LOS A during both peak hours in the No-Action condition.

Table 12-30: 2034 No-Action Condition Level of Service Analysis - Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume (1)	15-Minute Exiting Volume ⁽¹⁾	Friction Factor ⁽²⁾	Surge Factor (onto platform)	Surge Factor (off of platform)	15-Minute Entering Capacity ⁽³⁾	15-Minute Exiting Capacity (3)	V/C ⁽⁴⁾	LOS ⁽⁴⁾
					Weekda	ay AM						
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	193	40	0.9	1	0.8	1260	1935	0.20	Α
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	18	1	n/a	0.75	n/a	555	0.04	Α
					Weekd	ay PM						
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	62	133	0.9	1	0.8	1260	1935	0.15	Α
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	61	1	n/a	0.75	n/a	555	0.15	Α
Beach 44 St Station	Turnstile HEET HXT	3 0 0	3 0 0	70	128	0.9	1	0.8	1260	1935	0.15	Α

Notes:

Bus Line-Haul

Table 12-31: 2034 No-Action Condition Level of Service Analysis – Bus Line-Haul summarizes the bus line-haul under No-Action condition, including the number of buses during the peak hour, the peak hour passengers, average passengers per bus, total capacity, and available capacity for the Q22 and the Q52-SBS bus routes.

As presented in **Table 12-31**, the Q22 and Q52-SBS buses would operate within capacity except where noted below:

The Q22 bus in the westbound direction during the Weekday AM peak hour

Table 12-31: 2034 No-Action Condition Level of Service Analysis - Bus Line-Haul

					Average	Total	Available
	Peak		Peak Hour	Peak Hour	Passengers	Capacity Per	Capacity Per
Route	Direction	Maximum Load Point	Buses (1)	Passengers (2)	Per Bus	Bus ⁽³⁾	Bus
Weekday AM							
Q22	EB	Beach Channel Dr and Beach 35 th St	8	308	39	54	15
Q22	WB	Rockaway Beach Blvd and Beach 91 st St	8	506	63	54	-9
Q52-SBS	NB	Woodhaven Blvd and Atlantic Ave	5	242	48	85	37
Q52-SBS	SB	Woodhaven Blvd and Jamaica Ave	4	139	35	85	50
Weekday PM							
Q22	EB	Seagirt Blvd and Crest Rd	6	261	43	54	11
Q22	WB	Beach Channel Dr and Beach 36 th St	7	327	47	54	7
Q52-SBS	NB	Woodhaven Blvd and Myrtle Ave	4	154	38	85	47
Q52-SBS	SB	Woodhaven Blvd and Metropolitan Ave	4	313	78	85	7
		·					

Notes:

⁽¹⁾ New turnstile volumes associated with the general background growth were distributed proportionally based on the existing counts.

⁽²⁾ Friction and surge factors based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

⁽³⁾ Fare array capacity based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

⁽⁴⁾ v/c ratios and LOS ratings were calculated based on rates presented in the 2014 CEQR Technical Manual

⁽¹⁾ NYCT provided updated peak hour bus numbers for the future condition.

⁽²⁾ Bus volumes associated with general background growth were distributed proportionally based on existing ridership.

⁽³⁾ Available capacity based on a maximum of 54 passengers per bus (40-foot standard bus) for Q22 buses and 85 passengers per bus (60-foot articulated bus) for Q52-SBS buses.

Pedestrian Operations

Pedestrian volumes for the No-Action conditions were developed by increasing existing volumes by 0.50% per year from 2016 and 2021 and 0.25% per year from 2021 to 2034 to account for background growth, plus the addition of pedestrian trips generated by development projects planned for 2034. The No-Action condition analyses were performed at a total of 50 locations within the study area, comprised of 16 sidewalks, seven crosswalks, 25 corner reservoirs, and two medians (with each median analyzed as two adjacent corners).

Sidewalks

As presented in **Table 12-32**: **2034 No-Action Condition Level of Service Analysis – Sidewalks**, the majority of sidewalk locations included in the transportation analysis are projected to operate at LOS C <u>or</u> better for both non-platoon and platoon conditions during the four peak hours in the No-Action condition except at the following locations:

Non-Platoon Conditions

- The east sidewalk on the north leg of Beach 53rd Street and Rockaway Beach Boulevard would operate at LOS D during the Weekday AM peak hour.
- The north sidewalk on the east leg of Beach 53rd Street and Rockaway Beach Boulevard would operate at LOS D during the Weekday MD peak hour.

Platoon Conditions

- The south sidewalk on the west leg of Beach 53rd Street and Beach Channel Drive would operate at LOS D during the Saturday MD peak hour.
- The east sidewalk on the north leg of Beach 53rd Street and Rockaway Beach Boulevard would operate at LOS E during the Weekday AM peak hour and at LOS D during the Weekday MD, Weekday PM, and Saturday MD peak hours.
- The north sidewalk on the east leg of Beach 53rd Street and Rockaway Beach Boulevard would operate at LOS D during the Weekday MD and Saturday MD peak hours.

Table 12-32: 2034 No-Action Condition Level of Service Analysis – Sidewalks

				Availa	ble Circ		Space	Non-F			itions				
	Total	Obstruc-	Effective		(ft²				LC				on Con		
		tion Width	Width	١	Veekda	у	Sat	٧	/eekda	ıy	Sat	٧	Veekda	ıy	Sat
Location	(ft) ⁽¹⁾	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD	AM	MD	PM	MD
Beach 59th St and Arverne Blvd (E leg, N sidewalk)	5.8	3.0	2.8	110	87	77	77	Α	Α	Α	Α	В	С	С	С
Beach 59th St and Rockaway Fwy (W leg, N sidewalk)	8.0	3.0	5.0	121	138	122	143	Α	Α	Α	Α	В	В	В	В
Beach 54th St and Beach Channel Dr (W leg, N sidewalk)	7.0	3.0	4.0	174	222	168	133	Α	Α	Α	Α	В	В	В	В
Beach 54th St and Arverne Blvd (E leg, N sidewalk)	8.0	3.0	5.0	136	69	102	56	Α	Α	Α	В	В	C	В	С
Beach 54th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	168	113	118	94	Α	Α	Α	Α	В	В	В	В
Beach 53rd St and Beach Channel Dr (E leg, S sidewalk)	5.0	3.0	2.0	119	62	83	58	Α	Α	Α	В	В	С	С	С
Beach 53rd St and Beach Channel Dr (W leg, S sidewalk)	10.0	3.0	7.0	79	51	66	37	Α	В	Α	С	С	С	С	D
Beach 53rd St and Rockaway Beach Blvd (N leg, E sidewalk)	3.5	3.0	0.5	22	26	25	33	D	С	С	С	E	D	D	D
Beach 53rd St and Rockaway Beach Blvd (E leg, N sidewalk)	4.9	3.0	1.9	44	24	45	39	В	О	В	C	С	D	C	D
Beach 50th St and Rockaway Beach Blvd (E leg, S sidewalk)	7.0	3.0	4.0	150	72	87	75	Α	Α	Α	Α	В	C	C	С
Beach 47th St and Rockaway Beach Blvd (E leg, S sidewalk)	7.8	3.0	4.8	124	106	74	129	Α	Α	Α	Α	В	В	С	В
Beach 44th St and Rockaway Fwy (N leg, W sidewalk)	5.5	3.0	2.5	97	75	45	94	Α	Α	В	Α	В	С	С	В
Beach 44th St and Rockaway Fwy (W leg, N sidewalk)	14.3	3.0	11.3	238	178	95	306	Α	Α	Α	Α	В	В	В	В
Beach 56th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	84	162	155	130	Α	Α	Α	Α	C	В	В	В
Beach 57th St and Arverne Blvd (E leg, N sidewalk)	10.0	3.0	7.0	232	219	238	233	Α	Α	Α	Α	В	В	В	В
Beach 52nd St and Beach Channel Dr (E leg, S sidewalk)	4.8	3.0	1.8	124	61	84	56	Α	Α	Α	В	В	С	С	С

Notes:

The total width was measured at the narrowest point along the sidewalk.

Crosswalks

As presented in **Table 12-33: 2034 No-Action Condition Level of Service Analysis – Signalized Crosswalks**, the signalized crosswalks included in the transportation analysis are projected to operate at LOS C or better during the No-Action condition for all peak hours. As presented in **Table 12-34: 2034 No-Action Condition Level of Service Analysis – Unsignalized Crosswalks**, the unsignalized crosswalks included in the transportation analysis are projected to operate at LOS A in the four peak hours in the No-Action condition for all peak hours.

Table 12-33: 2034 No-Action Condition Level of Service Analysis – Signalized Crosswalks

			Availal	ole Circula	tion Space	e (ft²/p)	Cros	swalk Ci	rculation	LOS
	Length	Width		Weekday		Sat		Weekday	,	Sat
Location	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD
Beach 54th St and Beach Channel Dr (S leg)	33.8	14.5	66	37	30	37	Α	С	С	С
Beach 54th St and Arverne Blvd (N leg)	40.0	12.2	103	49	43	49	Α	В	В	В

Table 12-34: 2034 No-Action Condition Level of Service Analysis – Unsignalized Crosswalks

			Ave	rage Pedes	strian Dela	ıy (s)	Cros	swalk Ci	rculation	LOS
	Length	Width		Weekday		Sat		Weekday	1	Sat
Location	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD
Beach 53rd St and Beach Channel Dr (S leg)	30.0	9.0	1.2	1.6	1.7	1.6	Α	Α	Α	Α
Beach 53rd St and Rockaway Beach Blvd (N leg) (1)	35.0	10.0	1.8	1.3	1.7	1.6	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (S leg)	30.0	11.3	0.3	0.3	0.3	0.6	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (N leg) (2)	40.6	12.7	0.6	0.9	0.4	0.9	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (N leg) (2)	42.0	13.6	1.6	2.5	1.2	2.5	Α	Α	Α	Α

Notes:

⁽¹⁾ A width of 10 feet was assumed as the crosswalk is not marked.

⁽²⁾ Spot counts were performed to capture conflicting vehicles, as traffic counts were not collected at this intersection.

Corners and Medians

As presented in Table 12-35: 2034 No-Action Condition Level of Service Analysis – Corner and Medians, the corner reservoirs are projected to operate at LOS $\underline{\underline{B}}$ or better in the No-Action condition for all peak hours.

Table 12-35: 2034 No-Action Condition Level of Service Analysis - Corner and Medians

	Availa		ulation (Space	Corn	er Circ	ulation	LOS
	1	Weekday	/	Sat	V	Veekda	у	Sat
Location	AM	MD	PM	MD	AM	MD	PM	MD
Beach 59th St and Arverne Blvd (NE corner)	260	145	216	206	Α	Α	Α	Α
Beach 59th St and Arverne Blvd (SE corner)	293	220	274	265	Α	Α	Α	Α
Beach 59th St and Rockaway Fwy (NW corner)	134	167	172	232	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (NE corner)	1127	1247	1024	876	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (SE corner)	288	168	168	166	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (SW corner)	515	349	274	348	Α	Α	Α	Α
Beach 54th St and Beach Channel Dr (NW corner)	190	208	155	175	Α	Α	Α	Α
Beach 54th St and Arverne Blvd (NE corner)	113	53	49	55	Α	В	В	В
Beach 54th St and Arverne Blvd (NW corner)	352	160	148	146	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (SE corner)	97	70	69	78	Α	Α	Α	Α
Beach 53rd St and Beach Channel Dr (SW corner)	146	90	90	109	Α	Α	Α	Α
Beach 51st St and Beach Channel Dr (SE corner)	276	201	205	275	Α	Α	Α	Α
Beach 47th St and Rockaway Beach Blvd (SW corner)	188	58	92	96	Α	В	Α	Α
Beach 47th St and Rockaway Beach Blvd (SE corner)	132	43	67	70	Α	В	Α	Α
Beach 44th St and Rockaway Beach Blvd (SW corner)	276	106	134	134	Α	Α	Α	Α
Beach 44th St and Rockaway Fwy (NW corner)	126	136	77	262	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (NW corner)	306	160	143	232	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (NE corner)	259	135	130	220	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (SW corner) (1)	354	152	178	175	Α	Α	Α	Α
Beach 56th PI and Arverne Blvd (SE corner) (1)	254	109	145	146	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (NW corner)	296	278	230	267	Α	Α	Α	Α
Beach 56th St and Arverne Blvd (NE corner)	473	273	250	299	Α	Α	Α	Α
Beach 56th Pl and Rockaway Fwy (NW corner) (1)	520	597	282	431	Α	Α	Α	Α
Beach 56th PI and Rockaway Fwy (NE corner) (1)	694	990	619	1031	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (NW corner)	484	318	283	254	Α	Α	Α	Α
Beach 57th St and Arverne Blvd (NE corner)	369	272	232	214	Α	Α	Α	Α

Notes: Unsignalized corners at two-way stop-controlled intersections with uncontrolled crosswalks across the major street cannot be analyzed. Therefore, the northeast and northwest corners at Beach 53rd Street and Rockaway Boulevard and the southwest corner at Beach 50th Street and Rockaway Beach Boulevard were not included in this table.

(1) Median element that was analyzed at two adjacent corners.

Parking Supply and Utilization

The utilization of on-street parking facilities in the study area is expected to increase due to the area's background growth by an annual growth rate of 0.50% between 2016 and 2021, and 0.25% per year between 2021 and 2034. All No-Action projects within a 0.25-mile radius of the Project Site, with the exception of Edgemere Site 1 (local retail land use), Edgemere Site 7 (local retail land use), the *Ocean View EIS*, and Beach Green Dunes (No-Action site 19), are assumed to provide on-site parking to meet their respective parking demands. Therefore, the projected peak hour parking demands for these three projects were included as additional demands for on-street parking spaces. The as-of-right development of the Project Site is not expected to generate on-street parking demand as up to 557 parking spaces would be provided, accommodating the demand generated by the site.

On-Street Parking

Table 12-36: 2034 No-Action Condition On-Street Parking Utilization Summary presents the expected on-street parking utilization in 2034. The results indicate that within 0.25-mile radius of the Project Site, on-street parking utilization is expected to increase to <u>72</u>%, <u>63</u>%, 62%, and 59% during the Weekday AM, Weekday MD, Weekday PM, and Weekday Overnight periods, respectively. The on-street parking utilization is expected to increase to 59% for the Saturday MD period.

Table 12-36: 2034 No-Action Condition On-Street Parking Utilization Summary

2034 No-Action	Weekday AM	Weekday MD	Weekday PM	Weekday Overnight	Saturday MD
Capacity					
Existing Capacity	1,622	1,622	1,668	1,668	1,668
Net Change in No-Action On-Street Parking Supply (1)	0	0	0	0	0
Total No-Action On-Street Capacity	1,622	1,622	1,668	1,668	1,668
Demand					
2016 Existing Demand	1,098	926	957	919	875
Background Growth Increment (2)	65	55	57	54	52
As-of-Right On-Street Parking Demand Generated by the Project Site (3)	0	0	0	0	0
No-Action On-Street Parking Demand Generated by Other No-Action Projects ⁽⁴⁾	12	41	21	7	51
Total No-Action On-Street Demand	1,175	1,021	1,035	979	977
Utilization					
Available Spaces	447	601	633	689	691
No-Action Utilization	72%	63%	62%	59%	59%

Notes:

1. No loss or addition of on-street parking was identified due to No-Action Projects and/or roadway improvements

^{2.} Reflects annual background growth rates of 0.50 percent for the first five years (2016-2021) and 0.25 percent for the years beyond (2021-2034) (CEQR Technical Manual, Table 16-4).

3. All of the No-Action/As-of-Right demand generated by the Project Site would be accommodated on-site.

Considers only on-street parking demand that would not be accommodated on-site

VIII. DESCRIPTION OF THE PROPOSED PROJECT

The Proposed Project would result in the redevelopment of the former Peninsula Hospital Center in the Rockaway Beach neighborhood of Queens, New York. As shown on <u>Figure 1-1</u> in Chapter 1, "Project Description," the North Parcel of the Project Site is bounded by Beach Channel Drive to the north, Rockaway Beach Boulevard to the south, Beach 53rd Street to the west, and Beach 50th Street to the east and would be occupied by buildings A1, A2, B1, B2, C1, C2, D1, D2, E1, and E2. The South Parcel of the Project Site is bounded by Rockaway Beach Boulevard to the north, Rockaway Freeway to the south, and Beach 52nd Street to the west and would be occupied by Building F1. The project would include the creating of a new street grid and the extension of Beach 52nd Street to Rockaway Freeway, as described in Chapter 1, "Project Description."

The Proposed Project would include the following land uses:

- 2,200 DUs
- 40,000 gsf of local retail space
- 13,000 gsf of destination retail space
- 19,000 gsf of supermarket space
- 77,000 gsf of medical office space
- 24,000 sf (0.55 acres) of open space

In the absence of the Proposed Project, 568 residential DUs, 21,659 sf of local retail space, and 800 sf of medical office space can be built as-of-right under existing zoning for the Project Site. Therefore, the total increment analyzed for the Proposed Project would include:

- 1,632 DUs
- 18,341 gsf of local retail space
- 13,000 gsf of destination retail space
- 19,000 gsf of supermarket space
- 76,200 gsf of medical office space
- 24,000 sf (0.55 acres) of open space

Analysis Scenarios

The trip generation and assignment estimates were prepared for four peak hours:

- Weekday AM peak hour: 7:30 AM to 8:30 AM (non-summer)
- Weekday MD peak hour: 1:00 PM to 2:00 PM (summer)
- Weekday PM peak hour: 5:00 PM to 6:00 PM (summer)
- Saturday MD peak hour: 2:30 PM to 3:30 PM (summer)

Trip Generation

The following section describes the assumptions used to develop the trip generation and trip distribution characteristics of the Proposed Project, which are described in greater detail in the Transportation Demand

Factors Memo<u>randum (TDF Memorandum)</u>, included in **Appendix** <u>C of the Final Scope of Work (Final Scope)</u>.

Local Retail

The Proposed Project would include 18,341 gsf of local retail use. The daily trip generation rates, temporal distribution, daily truck trip generation rates, truck temporal distribution, and truck directional distribution were obtained from the *CEQR Technical Manual*, Table 16-2. Modal split percentages, auto and taxi vehicle occupancy, and directional distribution were obtained from the *Downtown Far Rockaway Rezoning FEIS* (2017), Table 14-6, for the Local Retail land use.

Destination Retail

The Proposed Project would include 13,000 gsf of destination retail use. The daily trip generation rates and temporal distribution were obtained from the *CEQR Technical Manual*, Table 16-2. The modal split percentages, directional distribution, daily truck generation rates, truck temporal distribution, and truck directional distribution were obtained from the *Coney Island Rezoning FEIS* (2009), Tables 16-12 and 16-14, for the Destination Retail land use. The auto and taxi vehicle occupancy were obtained from the *Gateway Estates II FEIS* (2009), Table 16-16.

Supermarket

The Proposed Project would include 19,000 gsf of supermarket use. The daily trip generation rates and temporal distribution were obtained from the *CEQR Technical Manual*, Table 16-2. The taxi, subway, and bus modal split percentages, auto and taxi vehicle occupancy, directional distribution, daily truck generation rates, truck temporal distribution, and truck directional distribution were obtained from the *East New York Rezoning Proposal FEIS (2016)*, Table 13-8, for the Food Retail Expansion to Support Health (Supermarket) land use. The auto and walk modal split percentages were obtained from information provided by NYCDOT for a project adjacent to the Project Site.

Medical Office

The Proposed Project would include 76,200 gsf of medical office use. The daily truck generation rates, truck temporal distribution, directional distribution and truck directional distribution were obtained from the *Downtown Far Rockaway Rezoning FEIS* (2017), Table 14-6, for the Medical Office land use. The daily trip generation rates, modal split, Saturday auto and taxi vehicle occupancy, and temporal distribution were obtained from information provided by NYCDOT and based on a survey performed at three comparable medical office sites located in Queens. The weekday auto and taxi vehicle occupancy was obtained from information provided by NYCDOT.

Active Open Space

The Proposed Project would include 24,000 sf, or 0.55 acres, of open space, which was conservatively analyzed as active open space. The daily trip generation rates and temporal distribution were obtained from the *CEQR Technical Manual*, Table 16-2. Modal split, auto and taxi vehicle occupancy, and directional distribution were obtained from the *Arverne Urban Renewal Area/Arverne By the Sea FEIS (2003)*, Table 2.13-13, for the Passive Parkland land use. The daily truck trip generation rate, truck temporal distribution, and truck directional distribution were obtained from the *Brooklyn Bridge Park FEIS (2005)*, Table 14-6, for the Park Land use.

Residential

The Proposed Project would include 1,632 residential DUs. The daily trip generation rates, temporal distribution, daily truck trip generation rates, truck temporal distribution, and truck directional distribution

were obtained from the *CEQR Technical Manual*, Table 16-2. Modal split and auto vehicle occupancy were calculated from the 2011-2015 American Community Survey (ACS) 5-year estimates: Sex of Workers by Means of Transportation to Work (Table 08006) for average of census tracts 964, 972.02, 972.03, 972.04, and 992 in Queens. The directional distribution and taxi vehicle occupancy were obtained from the *Downtown Far Rockaway Rezoning FEIS* (2017), Table 14-6, for the Residential land use. Due to the recent implementation of city ferry service between the Rockaways, Sunset Park, and Lower Manhattan, the ferry mode share is not yet captured by the latest census data. Furthermore, while New York City Economic Development Corporation (NYCEDC) has started to survey ferry riders, no survey results are currently available. However, NYCEDC has indicated that because a ferry shuttle bus is provided for the Rockaway ferry stop, this ferry location does draw ridership beyond the walk radius. It was assumed that five percent of the residents would travel by ferry, and that those residents would shift from the subway (three percent) and auto (two percent). It was conservatively assumed that residents traveling by ferry would use the Q22 bus route, rather than the existing free shuttle service to travel from the Project Site to the Rockaway ferry landing located at Beach 108th Street and Beach Channel Drive.

Linked Trips

Linked trips are those that have multiple destinations within the Project Site and are typical of sites that include multiple uses. Based on *CEQR Technical Manual*, a 25% linked trip reduction was applied to the trip generation for the local retail land use to account for trips generated by the medical office, residential, destination retail, supermarket, and open space uses that would visit the local retail use without leaving the Project Site.

Trip Generation Results

The estimated number of vehicle, subway, bus, bike/walk, ferry, and total pedestrian trips that would be generated by the Proposed Project during the four peak hours are summarized in **Table 12-37: Peninsula Hospital Site – Proposed Project Trip Generation Estimate Summary** for the Proposed Development. Complete transportation demand factors are shown in **Table 12-38: Peninsula Hospital Site – Transportation Demand Factors**, with detailed trip generation estimates shown in **Table 12-39: Peninsula Hospital Site – Proposed Project Detailed Trip Generation Estimates** for the Proposed Project.

Table 12-37: Peninsula Hospital Site – Proposed Project Trip Generation Estimate Summary

Peak Hour	Vehicle (Auto + Taxi + Truck)	Subway	Bus	Bike/Walk Only	Ferry	Total Pedestrian
Weekday AM	879	501	356	455	67	1,379
Weekday MD	747	342	292	794	36	1,464
Weekday PM	950	570	390	676	72	1,708
Saturday MD	827	473	296	601	66	1,436

Trip Assignment

Vehicular trips were assigned to the study area along main streets and arterials. Additional information regarding the vehicular trip assignments are provided in the $\underline{\text{TDF}}$ Memorandum, included in **Appendix** $\underline{\underline{\textbf{C}}}$ of the Final Scope.

Figure 12-14 through Figure 12-17 show the trips generated by the Proposed Project for each peak hour.

Parking Accumulation

Table 12-40: 2034 With-Action Condition Weekday Project Parking Accumulation and Table 12-41: 2034 With-Action Condition Saturday Project Parking Accumulation show the parking accumulation for a typical Weekday and a typical Saturday for the Proposed Project. The total parking demand during a typical weekday would peak at 886 spaces at 8:00 PM. The parking demand during a typical Saturday would peak at 967 spaces at 3:00 PM. The parking demand generated by the Proposed Project would be accommodated by a combination of the 973 proposed on-site parking spaces and available on-street parking.

Table 12-38: Peninsula Hospital Site – Transportation Demand Factors

	Land Use	Local	Retail	Destination	on Retail	Superi	market	Medica	l Office	Active Op	en Space	Resid	ential
	Size	18,3	341	13,0	000	19,	000	76,	200	0.	55	1,6	32
	Unit	gs	sf	gs	sf	g	sf	g:	sf	ac	re	Dwellin	g Units
		(1)	(1		(-	1)	(6		(1)	(1)
Daily Person Trip	Weekday	205	5.0	78		17	5.0	10:			9.0		75
Generation	Saturday	240	0.0	92	.5	23	1.0	51	.3	19	6.0	9.6	00
	Unit	per 1,0	00 gsf	per 1,0	00 gsf	per 1,0	000 gsf	per 1,0	000 gsf	per	acre	per dwe	lling unit
		(1)	(3	3)		4)	(2	2)	. (8	B)	. (1)
Daily Truck Trip	Weekday	0.3	85	0.7	70	0.	35	0.3	29	0.	01	0.	06
Generation	Saturday	0.0)4	0.0	04	0.0	04	0.2	29	0.	01	0.	02
	Unit	per 1,0	00 gsf	per 1,0	00 gsf	per 1,0	000 gsf	per 1,0	000 gsf	per	acre	per dwe	lling unit
		Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday	AM/PM	MD / Saturday
		(2)	(3	3)	(4,	. 5)	(6	3)	(9	9)	(1	
	Auto	11.0%	8.0%	59.0%	59.0%	30.0%	30.0%	47.0%	82.0%	33.0%	43.0%	36.6%	36.6%
	Taxi	0.0%	0.0%	3.0%	5.0%	3.0%	3.0%	7.0%	6.0%	2.0%	2.0%	2.0%	2.0%
Modal Split	Subway	9.0%	7.0%	15.0%	13.0%	5.0%	5.0%	6.0%	1.0%	2.0%	2.0%	32.8%	32.8%
	Bus	5.0%	5.0%	18.0%	18.0%	5.0%	5.0%	14.0%	6.0%	3.0%	3.0%	17.2%	17.2%
	Walk/Other	75.0%	80.0%	5.0%	5.0%	57.0%	57.0%	26.0%	5.0%	60.0%	50.0%	6.4%	6.4%
	Ferry (via Q22 Bus)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	5.0%
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		(2		(1			4)	(6,		(9		(2,	
Vehicle Occupancy	Auto	2.00	2.00	1.40	1.72	1.65	1.65	1.50	1.60	1.60	1.60	1.08	1.08
	Taxi	2.00	2.00	1.65	1.75	1.40	1.40	1.50	1.60	1.60	1.60	1.40	1.30
Linked Trips (1)		25%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		(1		(1		((6		((-	
Temporal	AM	3.0		3.0			0%		3%		0%		0%
Distribution	MD	19.0		9.0			0%	11.			0%	5.0	
	PM	10.0		9.0		10.		8.6			0%		0%
	Sat MD	10.0		11.0		9.0	4)	8.8		6.0	3% B)	8.0)% I)
	АМ	8.0		7.7		10.		3.0			o) 0%		0%
Truck Temporal	MD	11.0		11.0		8.0		11.			0%	9.0	
Distribution	PM	2.0		1.0			0%	1.0			0%	2.0	
	Sat MD	11.0		11.0			0%	0.0			0%	9.0	
		ln	Out	In	Out	In .c.	Out	In In	Out	In	Out	In	Out
		(2)	(3	3)	(4	4)	(2	2)	(9	9)	(2	2)
Directional	AM	50.0%	50.0%	61.0%	39.0%	45.0%	55.0%	89.0%	11.0%	70.0%	30.0%	15.0%	85.0%
Distribution	MD	50.0%	50.0%	55.0%	45.0%	46.0%	54.0%	51.0%	49.0%	60.0%	40.0%	50.0%	50.0%
	PM	50.0%	50.0%	47.0%	53.0%	47.0%	53.0%	48.0%	52.0%	40.0%	60.0%	70.0%	30.0%
	Sat MD	55.0%	45.0%	55.0%	45.0%	46.0%	54.0%	51.0%	49.0%	60.0%	40.0%	50.0%	50.0%
		(1		(3			4)	(2			B)	(
Truck Directional	AM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Distribution	MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
	Sat MD	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
1 CEOD Technical Manus	al (March 2014). Table 16-	2											

[.] CEQR Technical Manual (March 2014), Table 16-2.

Downtown Far Rockaway Rezoning FEIS (2017), Table 14-6.
 Consequence of the Conse the Peninsula Hospital site).

^{6.} Daily person trip generation rates, modal split, Saturday vehicle occupancy, and temporal distribution provided by NYCDOT via e-mail in October 2017 and based on a survey peformed at three omparable medical office sites located in Queen

Weekday vehicle occupancy provided by NYCDOT via conference call in October 2017.

Brooklyn Bridge Park FEIS, Table 14-6, Park land use.

^{9.} Arverne Urban Renewal Area/Arverne By the Sea FEIS (CEQR 02HPD004Q), Table 2.13-13. Assumed WMD directional distribution same as SMD.

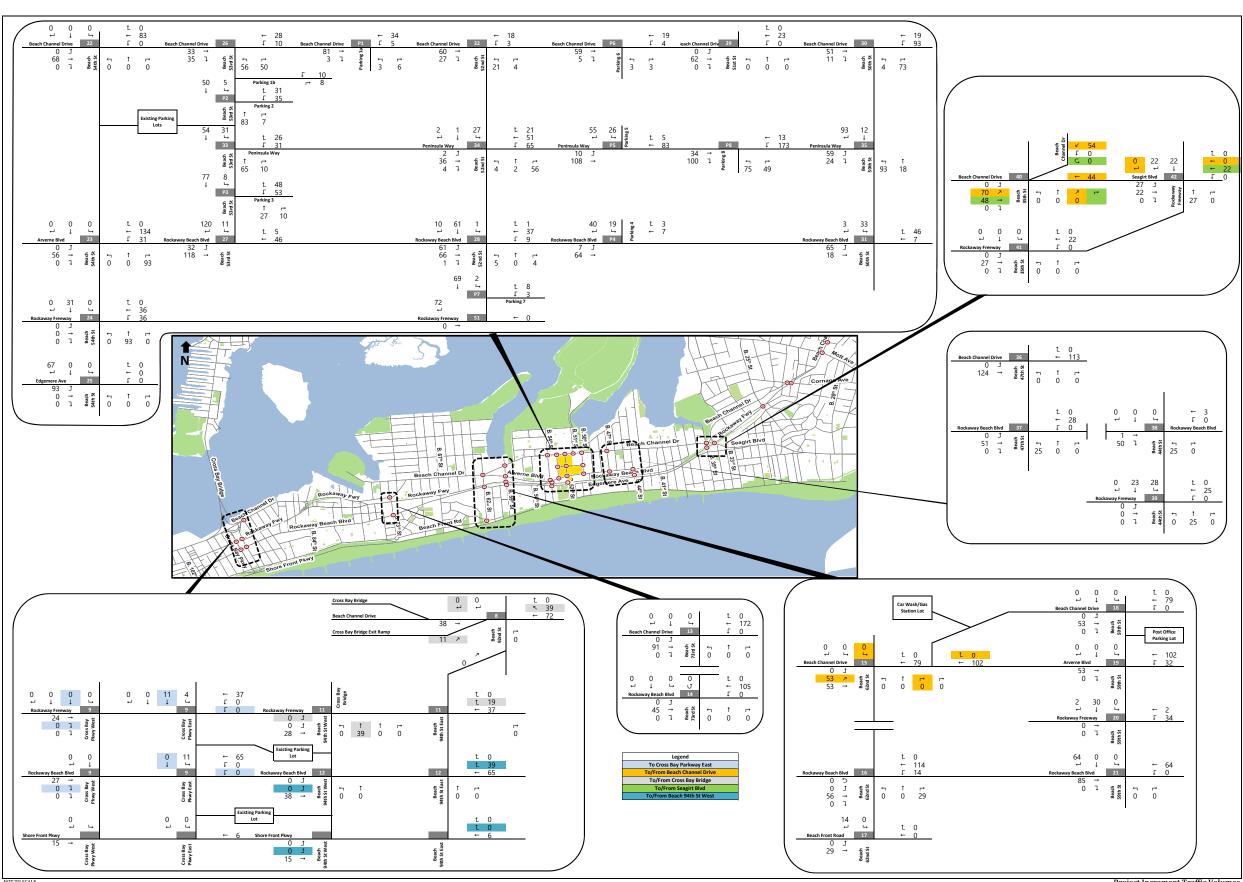
10. U.S. Census Data. 2011-2015 American Community Survey. Table 08006: Sex of workers by means of transportation to work. Queens census tracts 964, 972.02, 972.03, 972.04, and 992. Ferry mode share assumed to detract from subway mode share by 3 percent and from auto mode share by 2 percent. 11. Gateway Estates II FEIS (2009), Table 16-16.

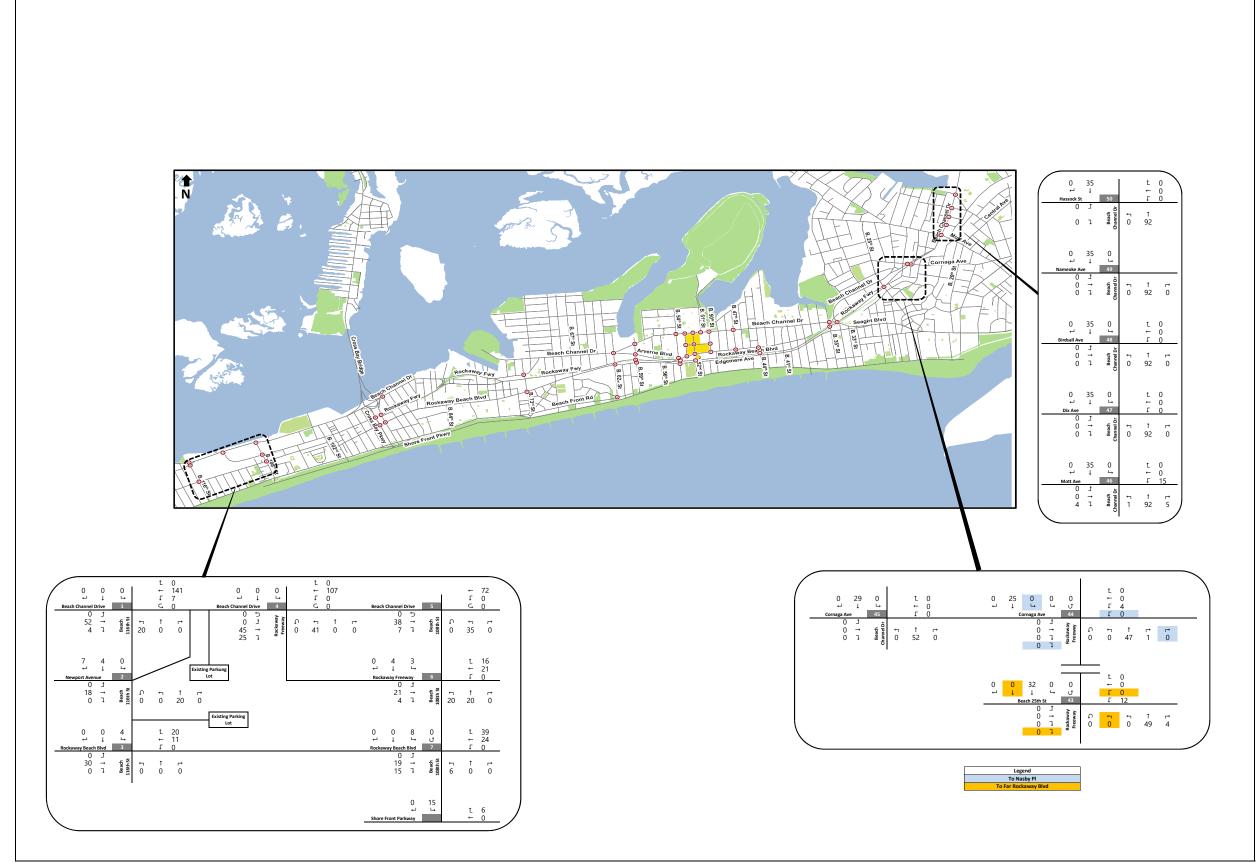
Table 12-39: Peninsula Hospital Site – Proposed Project Detailed Trip Generation Estimates

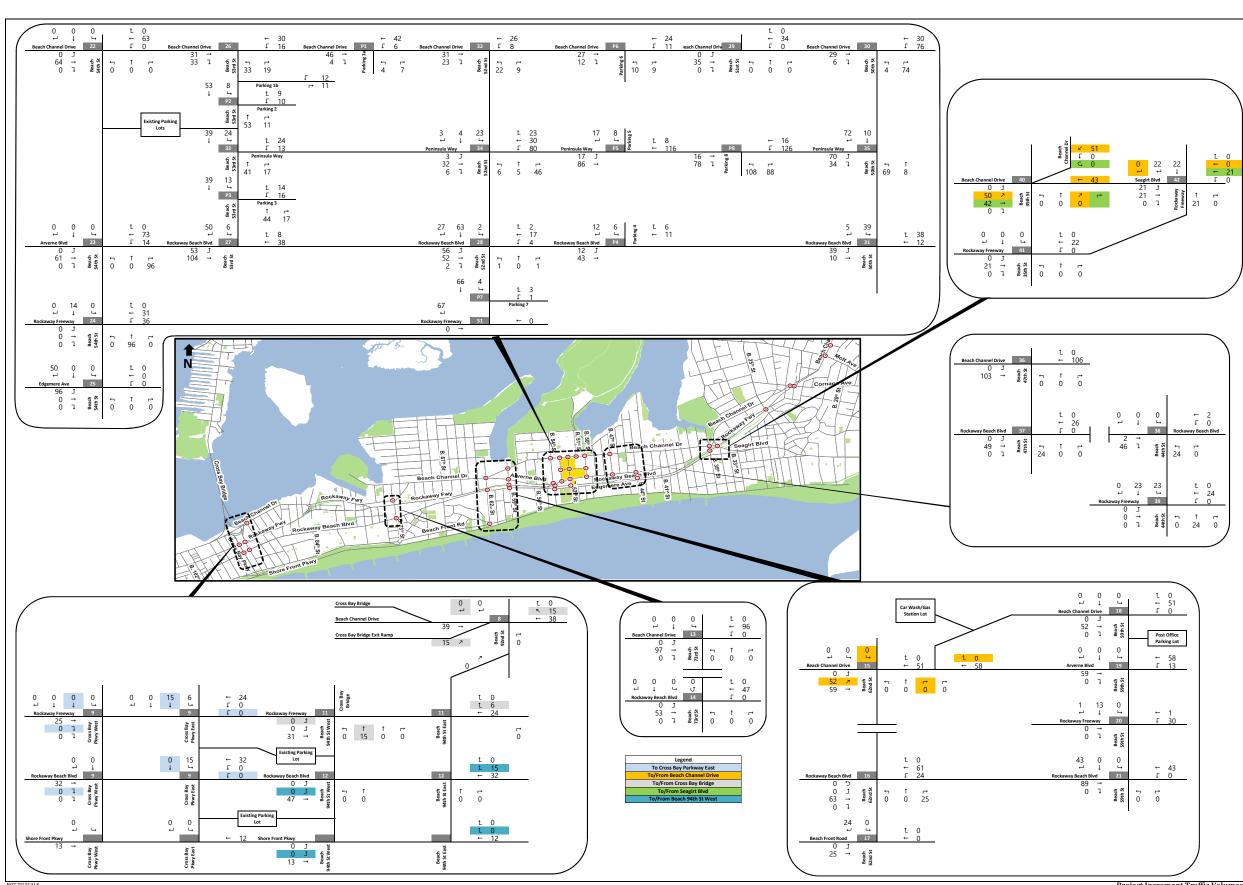
		Loca	I Retail	Destinat	ion Retail	Super	market	Medica	I Office	Active Op	en Space	Resid	dential	TO.	ΤΔΙ	
B. W. T. L.	Weekday	2	,819	1,	017	3,0	325	7,8	371	7	76	13,	179	28,		
Daily Trips	Saturday	3	,301	1,	203	4,	389	3,9	909	1	08	15,	667	28,	577	
								_								
Peak Hour Trips	AM MD		85 536		31 92		66 00		11 97		4 4	1,0	31 <i>7</i> 60	2,4 2,3		
reak flour fripa	PM		281		92		33		77		4		449	2,8		
	Sat MD		331		32		95		44		8		252		162	
		In	Out	In	Out	In	Out	ln	Out	In	Out	In	Out	In	Out	тоти
	Auto	5	5	11	7	22	27	339	42	0	0	74	410	451	491	942
	Taxi	0 4	0 4	1 3	0	2	3	50 43	6 6	0	0	1 64	21 366	54 118	30 383	84 501
AM	Subway Bus	1	1	3	2	4	5 5	101	12	0	0	34	193	118	383 213	356
	Walk/Other	32	32	1	1	43	52	187	23	0	0	12	72	275	180	455
	Ferry (via Q22 Bus)	0	0	ö	Ö	0	0	0	0	0	0	10	57	10	57	67
	Total	42	42	19	12	75	92	720	89	0	0	195	1119	1,051	1,354	2,40
														.,,	.,	
	Auto	29	29	30	24	28	32	215	206	0	0	123	123	425	414	839
	Taxi	0	0	2	1	3	3	32	31	0	0	8	8	45	43	88
MD	Subway	24	24	8	6	5	5	27	27	0	0	108	108	172	170	342
IIID	Bus	13	13	9	7	5	5	64	62	0	0	57	57	148	144	292
	Walk/Other	200	200	3	2	52	62	119	114	0	0	21	21	395	399	794
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	18	18	18	18	36
	Total	266	266	52	40	93	107	457	440	0	0	335	335	1,203	1,188	2,39
	Auto	16	16	26	29	47	53	152	165	0	0	374	160	615	423	1.03
	Taxi	0	0	1	1	5	5	23	25	ō	ō	20	9	49	40	89
PM	Subway	13	13	6	7	8	9	19	21	0	0	332	142	378	192	570
PIVI	Bus	7	7	8	9	8	9	46	50	0	0	172	74	241	149	390
	Walk/Other	106	106	2	2	89	101	85	92	0	0	64	29	346	330	676
	Ferry (via Q22 Bus)	0	0	0	0	0	0	0	0	0	0	51	21	51	21	72
	Total	142	142	43	48	157	177	325	353	0	0	1013	435	1,680	1,155	2,83
	Auto	15	11	43	35	55	64	144	138	0	0	229	229	486	477	963
	Taxi	0	0	43	3	5	6	10	10	0	0	12	12	31	31	62
	Subway	13	11	9	8	9	11	2	2	0	0	204	204	237	236	473
SAT MD	Bus	9	7	13	11	9	11	10	10	0	0	108	108	149	147	296
	Walk/Other	147	120	4	3	104	122	9	8	4	0	40	40	308	293	601
	Ferry (via Q22 Bus)	0	0	o o	0	0	0	Ö	0	o .	0	33	33	33	33	66
	Total	184	149	73	60	182	214	175	168	4	0	626	626	1,244	1,217	2,46

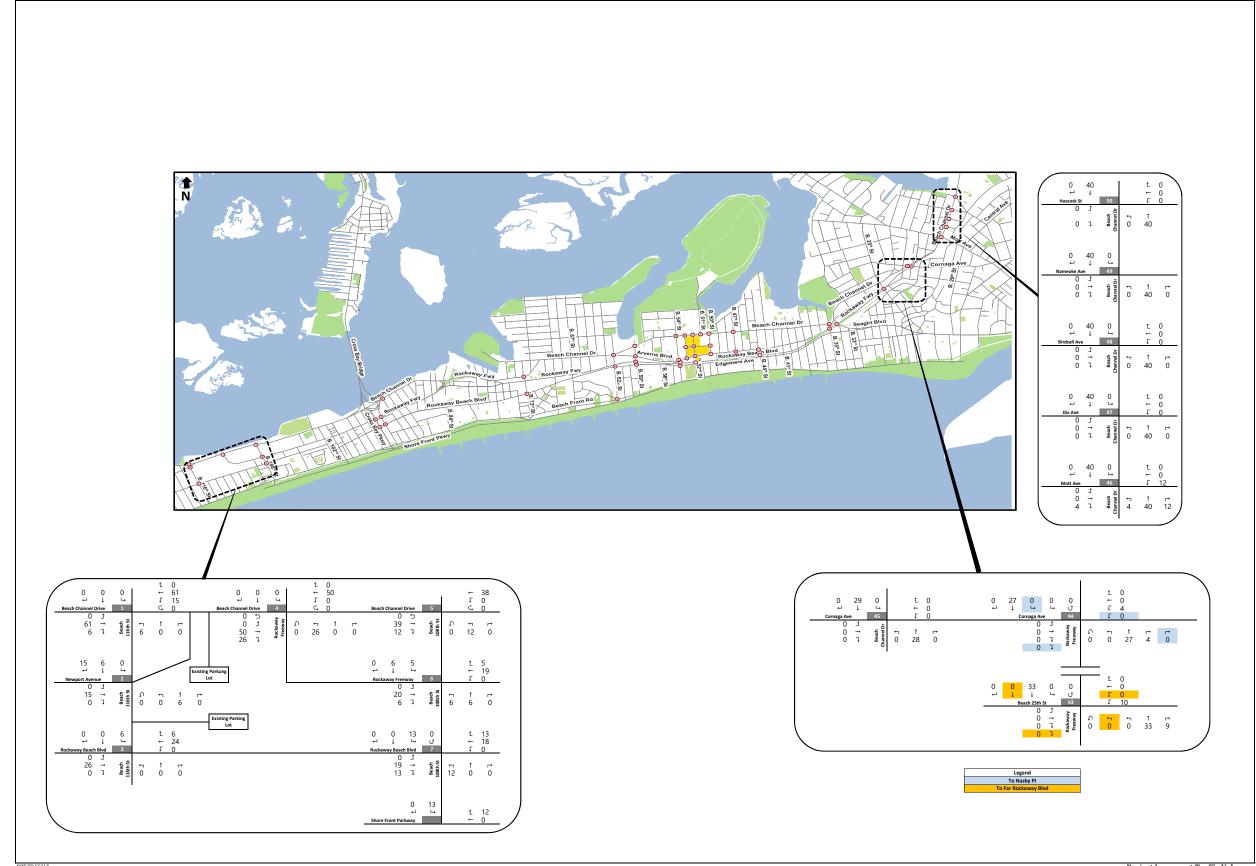
		Local	Retail	Destinat	ion Retail	Super	market	Medica	I Office	Active Op	en Space	Resid	ential	тот	TA1	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In IO	Out	тс
	Auto	5	5	8	5	13	16	226	28	0	0	67	378	319	432	Ι.
	Taxi	0	0	1	0	1	2	33	4	0	0	1	13	36	19	
AM	Taxi (Balanced)	ō	ō	1	1	3	3	37	37	ō	ō	14	14	55	55	
	Truck	0	0	0	0	o	0	2	2	o	0	7	7	9	9	
	Total	5	5	9	6	16	19	265	67	0	0	88	399	383	496	
																1
	Auto	16	16	21	17	17	19	144	137	0	0	113	113	311	302	
MD	Taxi	0	0	1	1	2	2	21	21	0	0	8	8	32	32	
MD	Taxi (Balanced) ¹	0	0	2	2	4	4	42	42	0	0	16	16	64	64	
	Truck	0	0	1	1	0	0	0	0	0	0	2	2	3	3	
	Total	16	16	24	20	21	23	186	179	0	0	131	131	378	369	1
	Auto	9	9	19	21	28	32	102	110	0	0	345	149	503	321	
PM	Taxi	0	0	1	1	4	4	15	17	0	0	12	9	32	31	
FIW	Taxi (Balanced) ¹	0	0	2	2	8	8	32	32	0	0	21	21	63	63	
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	9	9	21	23	36	40	134	142	0	0	366	170	566	384	
								1						1		1
	Auto	9	7	25	20	33	39	90	86	0	0	211	211	368	363	1
Sat MD	Taxi	0	0	2	2	4	4	6	6	0	0	12	12	24	24	1
	Taxi (Balanced) ¹	0	0	4	4	8	8	12	12	0	0	24	24	48	48	1
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	_
	Total	9	7	29	24	41	47	102	98	0	0	235	235	416	411	

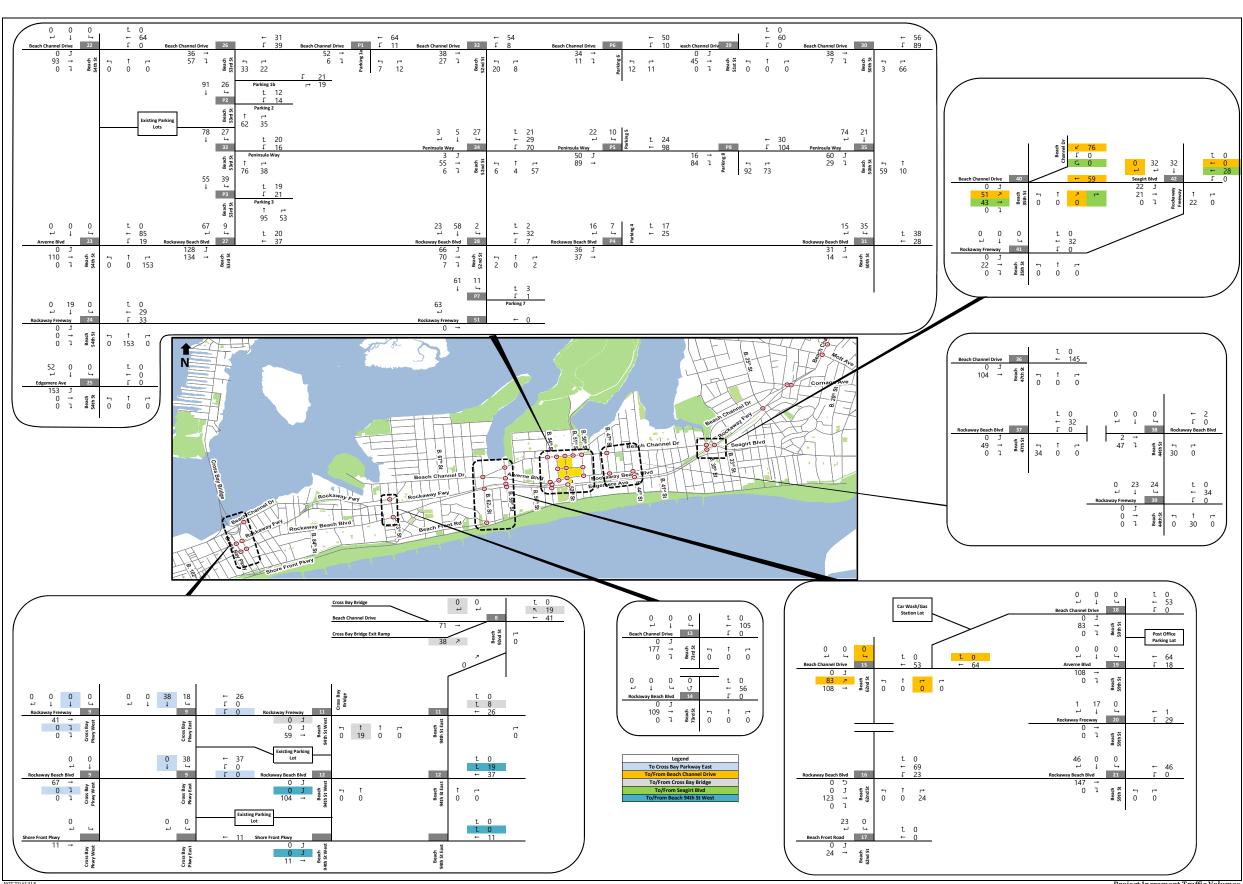
		Local	Retail	Destinat	ion Retail	Superi	market	Medica	I Office	Active O	oen Space	Resid	dential	тот	FAI	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In IO	Out	TOTAL
AM	Total Walk Trips ¹	37	37	7	5	51	62	331	41	0	0	120	688	546	833	1,379
MD	Total Walk Trips ¹	237	237	20	15	62	72	210	203	0	0	204	204	733	731	1,464
PM	Total Walk Trips ¹	126	126	16	18	105	119	150	163	0	0	619	266	1,016	692	1,708
SAT MD	Total Walk Trips ¹	169	138	26	22	122	144	21	20	4	0	385	385	727	709	1,436

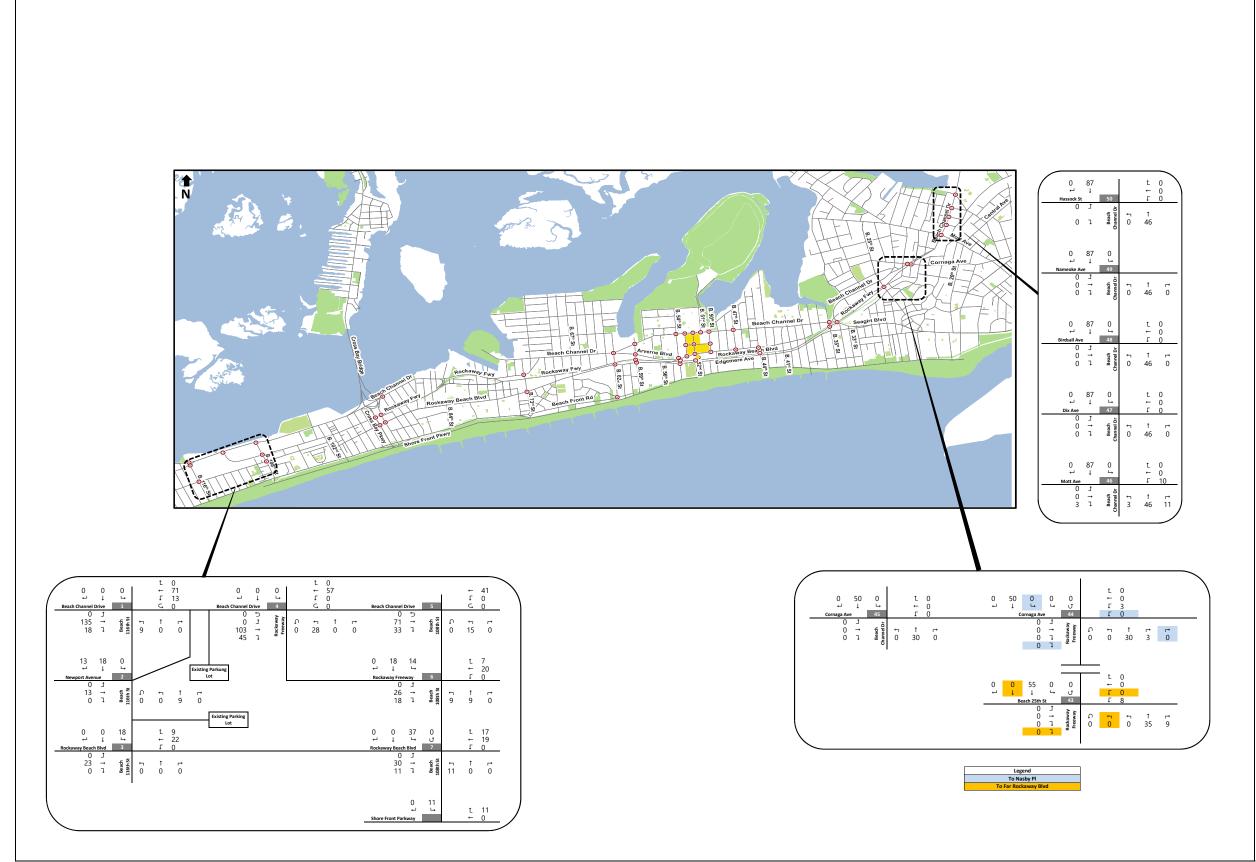


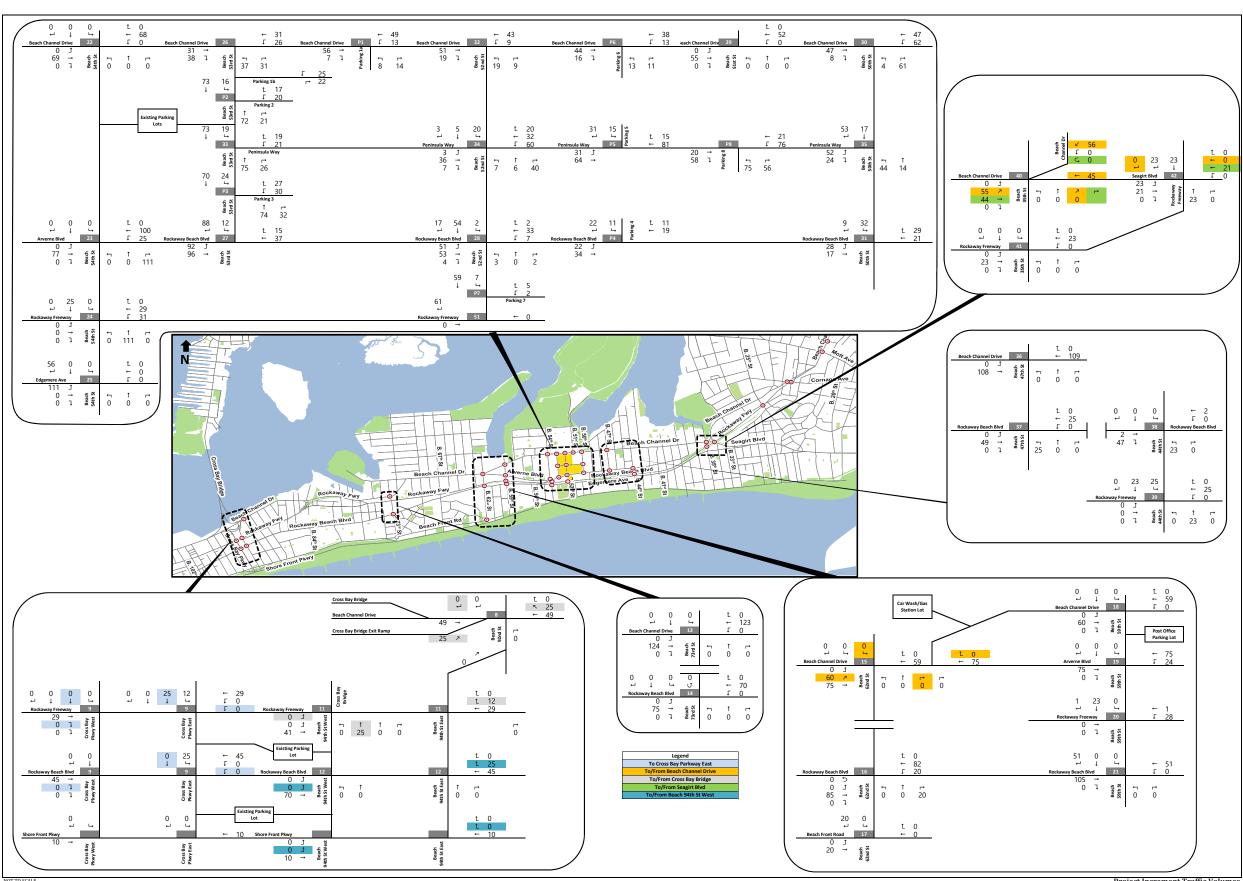












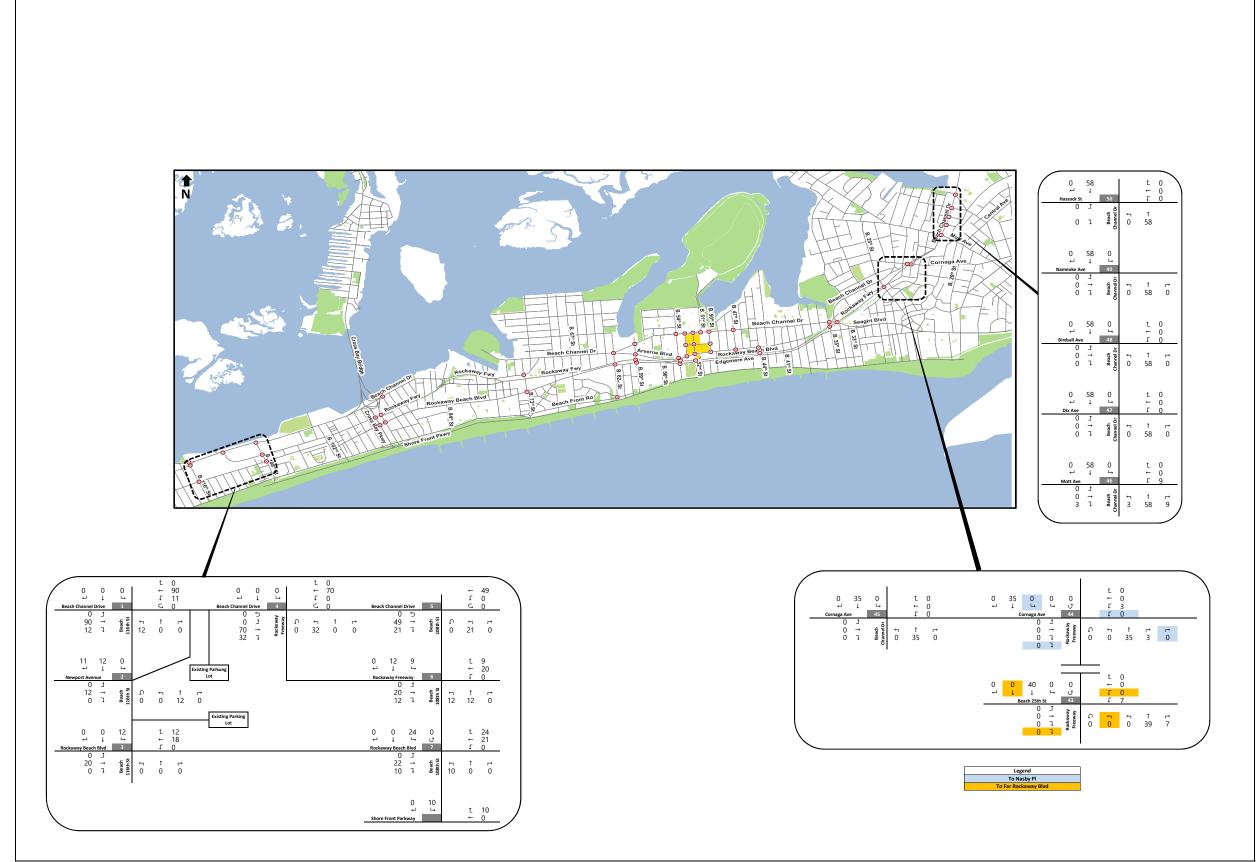


Table 12-40: 2034 With-Action Condition Weekday Project Parking Accumulation

		Loc	al Retail		Destina	ation Retail		Sup	ermarket		Medi	cal Office	Α	ctive	Open Space		Res	sidential			Total
Hour	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation
Before 12																		818			818
12-1 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39	818	39	39	818
1-2 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	18	818	18	18	818
2-3 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	11	818	11	11	818
3-4 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	818	7	7	818
4-5 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	818	7	7	818
5-6 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	818	7	7	818
6-7 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	21	804	7	21	804
7-8 AM	0	0	0	0	0	0	14	11	3	0	0	0	0	0	0	32	137	699	46	148	702
8-9 AM	5	5	0	8	5	3	13	16	0	226	28	198	0	0	0	67	378	388	319	432	589
9-10 AM	1	1	0	15	15	3	15	8	7	65	64	199	0	0	0	69	189	268	165	277	477
10-11 AM	3	3	0	17	15	5	11	10	8	103	106	196	4	4	0	89	132	225	227	270	434
11-12 PM	6	6	0	17	19	3	16	13	11	139	156	179	4	4	0	99	99	225	281	297	418
12-1 PM	11	11	0	17	17	3	18	18	11	79	93	165	0	0	0	96	92	229	221	231	408
1-2 PM	16	16	0	21	17	7	17	19	9	144	137	172	0	0	0	113	113	229	311	302	417
2-3 PM	8	8	0	17	18	6	22	20	11	108	131	149	0	0	0	95	94	230	250	271	396
3-4 PM	6	6	0	21	21	6	28	26	13	120	102	167	0	0	0	144	96	278	319	251	464
4-5 PM	8	8	0	20	22	4	29	24	18	142	174	135	0	0	0	210	102	386	409	330	543
5-6 PM	9	9	0	19	21	2	28	32	14	102	110	127	0	0	0	345	149	582	503	321	725
6-7 PM	5	5	0	17	19	0	31	23	22	6	133	0	0	0	0	270	136	716	329	316	738
7-8 PM	1	1	0	12	12	0	26	29	19	0	0	0	0	0	0	237	129	824	276	171	843
8-9 PM	0	0	0	9	8	1	15	22	12	0	0	0	0	0	0	110	61	873	134	91	886
9-10 PM	0	0	0	4	5	0	10	15	7	0	0	0	0	0	0	34	96	811	48	116	818
10-11 PM	0	0	0	0	0	0	6	11	2	0	0	0	0	0	0	74	73	812	80	84	814
11-12 PM	0	0	0	0	0	0	3	5	0	0	0	0	0	0	0	53	47	818	56	52	818

Sources:

Local Retail Flushing Commons FEIS (2005), Tables 14-37 and 14-38
Destination Retail Flushing Commons FEIS (2005), Tables 14-37 and 14-38
Supermarket Domino Sugar Rezoning FEIS (2010), Table 17-19.

Medical Office Parking temporal rates based on data from New York City Department of Transportation (NYCDOT).

Active Open Space St. George Redevelopment FEIS (2013), Table 14-45 and 14-46.

Overnight parking based 2015 American Community Survey 5-year estimates. Table B08201: Household size by vehicles, Queens census tracts 972.03. Temporal and directional distribution based on Flushing Commons FEIS (2005),

Residential Tables 14-37 and 14-38.

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Table 12-41: 2034 With-Action Condition Saturday Project Parking Accumulation

		Loc	al Retail		Destina	ation Retail		Sup	ermarket		Medi	cal Office	Α	ctive	Open Space		Res	sidential			Гotal
Hour	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation	IN	OUT	Accumulation
Before 12																		818			818
12-1 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	43	849	74	43	849
1-2 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	33	872	56	33	872
2-3 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	29	886	43	29	886
3-4 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	18	901	33	18	901
4-5 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	11	929	39	11	929
5-6 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	18	944	33	18	944
6-7 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	56	949	61	56	949
7-8 AM	0	0	0	0	0	0	9	4	5	0	0	0	0	0	0	77	89	937	86	93	942
8-9 AM	0	0	0	6	6	0	16	12	9	71	9	62	0	0	0	77	180	834	170	207	905
9-10 AM	0	0	0	9	9	0	16	15	10	134	66	130	0	0	0	123	166	791	282	256	931
10-11 AM	1	1	0	14	12	2	25	19	16	114	86	158	0	0	0	145	162	774	299	280	950
11-12 PM	5	5	0	18	18	2	24	24	16	113	127	144	4	4	0	162	172	764	326	350	926
12-1 PM	8	8	0	19	18	3	26	31	11	65	75	134	4	4	0	166	166	764	288	302	912
1-2 PM	12	12	0	20	21	2	39	36	14	112	108	138	0	0	0	178	166	776	361	343	930
2-3 PM	9	7	2	25	20	7	33	39	8	90	86	142	0	0	0	211	211	776	368	363	935
3-4 PM	11	13	0	21	20	8	29	19	18	98	102	138	0	0	0	193	166	803	352	320	967
4-5 PM	10	10	0	19	21	6	35	35	18	115	130	123	4	4	0	172	156	819	355	356	966
5-6 PM	8	8	0	19	16	9	34	35	17	82	137	68	4	4	0	145	151	813	292	351	907
6-7 PM	3	3	0	15	17	7	31	30	18	7	75	0	0	0	0	140	151	802	196	276	827
7-8 PM	0	0	0	10	12	5	29	30	17	0	0	0	0	0	0	129	131	800	168	173	822
8-9 PM	0	0	0	7	8	4	24	26	15	0	0	0	0	0	0	118	131	787	149	165	806
9-10 PM	0	0	0	4	8	0	15	24	6	0	0	0	0	0	0	107	129	765	126	161	771
10-11 PM	0	0	0	0	0	0	10	12	4	0	0	0	0	0	0	85	67	783	95	79	787
11-12 PM	0	0	0	0	0	0	4	8	0	0	0	0	0	0	0	85	50	818	89	58	818

Sources:

Local Retail Flushing Commons FEIS (2005), Tables 14-37 and 14-38 **Destination Retail** Flushing Commons FEIS (2005), Tables 14-37 and 14-38 Supermarket Domino Sugar Rezoning FEIS (2010), Table 17-19.

Medical Office Parking temporal rates based on data from New York City Department of Transportation (NYCDOT).

Active Open Space St. George Redevelopment FEIS (2013), Table 14-45 and 14-46.

Overnight parking based 2015 American Community Survey 5-year estimates. Table B08201: Household size by vehicles, Queens census tracts 972.03. Temporal and directional distribution based on Flushing Commons FEIS (2005),

Tables 14-37 and 14-38. Residential

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IX. FUTURE WITH THE PROPOSED ACTIONS

The No-Action Conditions analysis forms the future baseline to which projected trip increments associated with the Proposed Project are added to formulate the "With-Action" conditions. The *CEQR Technical Manual* defines how impacts to traffic, pedestrians, safety, and parking are to be determined. Furthermore, the *CEQR Technical Manual* indicates that if the analysis results show that the Proposed Project would result in significant transportation-related impacts, then mitigation measures should be advanced to the greatest extent practicable to address these impacts.

Traffic Conditions

Figure 12-18 through Figure 12-21 show the 2034 With-Action condition traffic volumes for the four peak hours. Table 12-44: 2034 No-Action and With-Action Conditions Level of Service Analysis – Signalized Intersections presents a comparison of No-Action and With-Action conditions for the signalized study intersections, and Table 12-45: 2034 No-Action and With-Action Conditions Level of Service Analysis – Unsignalized Intersections presents a comparison of No-Action and With-Action conditions for the unsignalized study intersections. Based on the significance criteria described in the CEQR Technical Manual, the lane groups at which significant adverse impacts would occur are summarized in Table 12-42: Significantly Impacted Lane Groups at Signalized Intersections for the signalized intersections and Table 12-43: Significantly Impacted Lane Groups at Unsignalized Intersections for the unsignalized intersections.

Table 12-42: Significantly Impacted Lane Groups at Signalized Intersections

#	Intersection	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour
1	Beach Channel Drive & Beach 116th Street	WB-LTR	WB-LTR	EB-LTR, WB-L, WB-	WB-LTR
3	Rockaway Beach Boulevard & Beach 116th Street	WB-LTR	WB-LTR	WB-LTR	
4	Beach Channel Drive & Rockaway Freeway	EB-LTR, WB-LTR	EB-LTR	EB-LTR, WB-LTR	EB-LTR
5	Beach Channel Drive & Beach 108th Street	WB-LT			
7	Rockaway Beach Boulevard & Beach 108th Street	EB-L, WB-TR			
8	Beach Channel Drive & Beach 92nd Street/Beach 94th Street	NEB(Cross Bay Bridge Exit Ramp)- R	NEB(Cross Bay Bridge Exit Ramp)- R	NEB(Cross Bay Bridge Exit Ramp)- R	NEB(Cross Bay Bridge Exit Ramp)- R
13	Beach Channel Drive & Beach 73rd Street	WB-TR	WB-TR	WB-L, WB-TR	
15	Beach Channel Drive & Beach 62nd Street	EB-LT, WB (Beach Channel Drive)-T, WB (Arverne Boulevard)-LR	EB-LT, WB (Arverne Boulevard)-LR	EB-LT, WB (Arverne Boulevard)-L	EB-LT, WB (Arverne Boulevard)-LR
16	Rockaway Beach Boulevard & Beach 62nd Street	WB-LTR	WB-LTR	WB-LTR	WB-LTR
19	Arverne Boulevard & Beach 59th Street	WB-LT		WB-LT	
20	Rockaway Freeway & Beach 59th Street	WB-L, SB-LTR	WB-L	WB-L	WB-L
21	Rockaway Beach Boulevard & Beach 59th Street	EB-TR, WB-LT, NB- LR, SB-LTR	EB-TR, WB-LT	EB-TR, WB-LT	EB-TR, WB-LT
23	Arverne Boulevard & Beach 54th Street	WB-LTR	EB-LTR	EB-LTR, WB-LTR	WB-LTR
24	Rockaway Freeway & Beach 54th Street			NB-LTR	
25	Edgemere Avenue & Beach 54th Street	EB-LTR	EB-LTR, SB-LTR	EB-LTR, SB-LTR	EB-LTR, SB-LTR
42	Rockaway Freeway & Seagirt Boulevard	EB-TR	EB-TR		
44	Rockaway Freeway & Cornaga Avenue	WB-LTR			
46	Beach Channel Drive & Mott Avenue	EB-LTR, NB-TR, SB- TR	NB-TR	EB-LTR, NB-TR, SB- TR	NB-TR
47	Beach Channel Drive & Dix Avenue	NB-LTR	NB-LTR	NB-LTR	
48	Beach Channel Drive & Birdsall Avenue	NB-LT		SB-T	
49	Beach Channel Drive & Nameoke Avenue	NB-TR, SB-TR	NB-TR, SB-L, SB- TR	NB-TR, SB-L, SB- TR	NB-TR, SB-L, SB- TR
50	Beach Channel Drive & Hassock Street	NB-LT, SB-T	SB-T	SB-T	NB-LT, SB-T
	Total Number of Impacted Lane Groups:	33	21	30	18
	Total Number of Impacted Intersections:	21	16	18	12

Table 12-43: Significantly Impacted Lane Groups at Unsignalized Intersections

#	Intersection	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour
26	Beach Channel Drive & Beach 53rd Street	NB-LR	NB-LR	WB-LT, NB-LR	NB-LR
27	Rockaway Beach Boulevard & Beach 53rd Street	SB-LR	SB-LR	EB-LT, SB-LR	SB-LR
28	Rockaway Beach Boulevard & Beach 52nd Street		SB-LTR		
30	Beach Channel Drive & Beach 50th Street		NB-LR		
Р8	Parking Garage 8 driveway, via Peninsula Way	NB-LR	NB-LR	NB-LR	
	Total Number of Impacted Lane Groups:	3	5	5	2
	Total Number of Impacted Intersections:	3	5	3	2

Significantly impacted lane groups are denoted with a "+" sign in the **Table 12-44** and **Table 12-45** and are detailed below.

Level of Service - Signalized Intersections

Traffic Impacts

Beach Channel Drive and Beach 116th Street

- During the Weekday AM Peak Hour, the westbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 230.9 seconds and a v/c ratio of 1.44 to an average delay of
 313.2 seconds and a v/c ratio of 1.63.
- During the Weekday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS D with an average delay of 54.6 seconds and a v/c ratio of 1.00 to LOS F with an average delay of 89.1 seconds and a v/c ratio of 1.11.
- During the **Weekday PM Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS D with an average delay of 48.0 seconds and a v/c ratio of 0.94 to LOS F with an average delay of 82.4 seconds and a v/c ratio of 1.07. The westbound defacto-left-turn lane group would deteriorate within LOS F from an average delay of 116.2 seconds and a v/c ratio of 1.07 to an average delay of 143.0 seconds and a v/c ratio of 1.15. The westbound through/right-turn lane group would deteriorate within LOS F from an average delay of 219.2 seconds and a v/c ratio of 1.41 to an average delay of 261.9 seconds and a v/c ratio of 1.51.
- During the Saturday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 33.8 seconds and a v/c ratio of 0.89 to LOS E with an average delay of 60.2 seconds and a v/c ratio of 1.02.

Rockaway Beach Boulevard and Beach 116th Street

- During the **Weekday AM Peak Hour**, the westbound left-through-right lane group would deteriorate within LOS D from an average delay of 36.9 seconds and a v/c ratio of 0.92 to an average delay of 51.5 seconds and a v/c ratio of 0.99.
- During the **Weekday MD Peak Hour**, the westbound left-through-right lane group would deteriorate within LOS D from an average delay of 35.1 seconds and a v/c ratio of 0.91 to an average delay of 45.6 seconds and a v/c ratio of 0.97.
- During the Weekday PM Peak Hour, the westbound left-through-right lane group would deteriorate from LOS D with an average delay of 54.1 seconds and a v/c ratio of 1.00 to LOS E with an average delay of 71.8 seconds and a v/c ratio of 1.07.

Beach Channel Drive and Rockaway Freeway

- During the Weekday AM Peak Hour, the eastbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 90.5 seconds and a v/c ratio of 1.10 to an average delay of
 148.7 seconds and a v/c ratio of 1.24. The westbound left-through-right lane group would deteriorate
 from LOS E with an average delay of 68.7 seconds and a v/c ratio of 1.03 to LOS F with an average
 delay of 123.9 seconds and a v/c ratio of 1.18.
- During the Weekday MD Peak Hour, the eastbound left-through-right lane group would deteriorate
 within LOS D from an average delay of 38.3 seconds and a v/c ratio of 0.86 to an average delay of 51.7
 seconds and a v/c ratio of 0.96.
- During the Weekday PM Peak Hour, the eastbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 166.5 seconds and a v/c ratio of 1.28 to an average delay of
 245.6 seconds and a v/c ratio of 1.46. The westbound left-through-right lane group would deteriorate

- from LOS D with an average delay of 46.2 seconds and a v/c ratio of 0.93 to LOS F with an average delay of 87.7 seconds and a v/c ratio of 1.09.
- During the **Saturday MD Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS D with an average delay of 43.2 seconds and a v/c ratio of 0.91 to LOS E with an average delay of 73.9 seconds and a v/c ratio of 1.05.

Beach Channel Drive and Beach 108th Street

During the Weekday AM Peak Hour, the westbound left-turn/through lane group would deteriorate
within LOS F from an average delay of 111.0 seconds and a v/c ratio of 1.16 to an average delay of
166.1 seconds and a v/c ratio of 1.29.

Rockaway Beach Boulevard and Beach 108th Street

During the Weekday AM Peak Hour, the eastbound left-turn lane group would deteriorate within LOS
 F from an average delay of 81.6 seconds and a v/c ratio of 0.95 to an average delay of 212.4 seconds
 and a v/c ratio of 1.31. The westbound through/right-turn lane group would deteriorate from LOS D with
 an average delay of 48.1 seconds and a v/c ratio of 0.94 to LOS F with an average delay of 82.4
 seconds and a v/c ratio of 1.07.

Beach Channel Drive and Beach 92nd Street/Beach 94th Street

- During the Weekday AM Peak Hour, the <u>northeastbound (Cross Bay Bridge Exit Ramp) right-turn lane</u> group would deteriorate within LOS <u>E</u> from an average delay of <u>55.8</u> seconds and a v/c ratio of <u>0.79</u> to an average delay of <u>60.6</u> seconds and a v/c ratio of <u>0.83</u>.
- During the **Weekday MD Peak Hour**, the <u>northeastbound (Cross Bay Bridge Exit Ramp) right-turn lane</u> group would deteriorate within LOS <u>E</u> from an average delay of <u>65.3</u> seconds and a v/c ratio of 0.<u>87</u> to an average delay of <u>76.0</u> seconds and a v/c ratio of 0.<u>94</u>.
- During the Weekday PM Peak Hour, the <u>northeastbound (Cross Bay Bridge Exit Ramp) right-turn lane</u> group would deteriorate within LOS F from an average delay of <u>116.1</u> seconds and a v/c ratio of 1.<u>10</u> to an average delay of <u>163.6</u> seconds and a v/c ratio of 1.<u>23</u>.
- During the Saturday MD Peak Hour, the <u>northeastbound (Cross Bay Bridge Exit Ramp) right-turn lane</u> group would deteriorate <u>from LOS E with an average delay of 71.2</u> seconds and a v/c ratio of <u>0.91</u> to an average delay of <u>92.6</u> seconds and a v/c ratio of 1.<u>01</u>.

Beach Channel Drive and Beach 73rd Street

- During the Weekday AM Peak Hour, the westbound through/right-turn lane group would deteriorate from LOS D with an average delay of 40.8 seconds and a v/c ratio of 0.95 to LOS F with an average delay of 113.3 seconds and a v/c ratio of 1.18.
- During the **Weekday MD Peak Hour**, the westbound through/right-turn lane group would deteriorate from LOS D with an average delay of 35.1 seconds and a v/c ratio of 0.91 to LOS E with an average delay of 70.8 seconds and a v/c ratio of 1.06.
- During the Weekday PM Peak Hour, the westbound left-turn lane group would deteriorate from LOS C with an average delay of 29.5 seconds and a v/c ratio of 0.59 to LOS F with an average delay of 154.9 seconds and a v/c ratio of 1.11. The westbound through/right-turn lane group would deteriorate from LOS D with an average delay of 35.3 seconds and a v/c ratio of 0.91 to LOS E with an average delay of 74.6 seconds and a v/c ratio of 1.07.

Beach Channel Drive/Arverne Boulevard and Beach 62nd Street

- During the Weekday AM Peak Hour, the eastbound left-turn/through lane group would deteriorate within LOS F from an average delay of 127.1 seconds and a v/c ratio of 1.18 to an average delay of 215.2 seconds and a v/c ratio of 1.39. The westbound (Beach Channel Drive) through lane group would deteriorate within LOS F from an average delay of 208.2 seconds and a v/c ratio of 1.37 to an average delay of 305.2 seconds and a v/c ratio of 1.59. The westbound (Arverne Boulevard) left-turn/right-turn lane group would deteriorate within LOS F from an average delay of 289.2 seconds and a v/c ratio of 1.52 to an average delay of 477.7 seconds and a v/c ratio of 1.95.
- During the **Weekday MD Peak Hour**, the eastbound left-turn/through lane group would deteriorate within LOS F from an average delay of 167.2 seconds and a v/c ratio of 1.28 to an average delay of 255.9 seconds and a v/c ratio of 1.49. The westbound (Arverne Boulevard) left-turn/right-turn lane group would deteriorate within LOS F from an average delay of 116.5 seconds and a v/c ratio of 1.11 to an average delay of 191.6 seconds and a v/c ratio of 1.31.
- During the Weekday PM Peak Hour, the eastbound left-turn/through lane group would deteriorate
 within LOS F from an average delay of 377.0 seconds and a v/c ratio of 1.76 to an average delay of
 527.1 seconds and a v/c ratio of 2.10. The westbound (Arverne Boulevard) left-turn lane group would
 deteriorate from LOS E with an average delay of 78.2 seconds and a v/c ratio of 0.99 to LOS F with an
 average delay of 143.4 seconds and a v/c ratio of 1.19.
- During the Saturday MD Peak Hour, the eastbound left-turn/through lane group would deteriorate
 within LOS F from an average delay of 104.1 seconds and a v/c ratio of 1.13 to an average delay of
 205.3 seconds and a v/c ratio of 1.37. The westbound (Arverne Boulevard) left-turn/right-turn lane group
 would deteriorate from LOS E with an average delay of 69.5 seconds and a v/c ratio of 0.95 to LOS F
 with an average delay of 144.4 seconds and a v/c ratio of 1.19.

Rockaway Beach Boulevard and Beach 62nd Street

- During the Weekday AM Peak Hour, the westbound left-through-right lane group would deteriorate from LOS D with an average delay of 37.4 seconds and a v/c ratio of 0.84 to LOS E with an average delay of 78.0 seconds and a v/c ratio of 1.06.
- During the Weekday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS E with an average delay of 61.2 seconds and a v/c ratio of 0.99 to LOS F with an average delay of 149.1 seconds and a v/c ratio of 1.23.
- During the Weekday PM Peak Hour, the westbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 333.6 seconds and a v/c ratio of 1.66 to an average delay of
 544.9 seconds and a v/c ratio of 2.13.
- During the Saturday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS D with an average delay of 36.8 seconds and a v/c ratio of 0.82 to LOS F with an average delay of 116.0 seconds and a v/c ratio of 1.15.

Arverne Boulevard and Beach 59th Street

- During the Weekday AM Peak Hour, the westbound left-turn/through lane group would deteriorate from LOS <u>C</u> with an average delay of <u>31</u>.7 seconds and a v/c ratio of 0.89 to LOS F with an average delay of <u>190.6</u> seconds and a v/c ratio of 1.36.
- During the Weekday PM Peak Hour, the westbound left-turn/through lane group would deteriorate from LOS D with an average delay of <u>39.4</u> seconds and a v/c ratio of 0.<u>93</u> to LOS F with an average delay of <u>199.0</u> seconds and a v/c ratio of 1.<u>38</u>.

Rockaway Freeway and Beach 59th Street

- During the Weekday AM Peak Hour, the westbound left-turn lane group would deteriorate within LOS F from an average delay of <u>86.7</u> seconds and a v/c ratio of <u>0.95</u> to an average delay of <u>133.5</u> seconds and a v/c ratio of 1.<u>11</u>. The southbound left-through-right lane group would deteriorate within LOS D from an average delay of 45.4 seconds and a v/c ratio of 0.76 to an average delay of 54.9 seconds and a v/c ratio of 0.86.
- During the Weekday MD Peak Hour, the westbound left-turn lane group would deteriorate from LOS
 D with an average delay of 50.9 seconds and a v/c ratio of 0.59 to LOS E with an average delay of 65.9
 seconds and a v/c ratio of 0.78.
- During the Weekday PM Peak Hour, the westbound left-turn lane group would deteriorate within LOS
 F from an average delay of 107.5 seconds and a v/c ratio of 1.00 to an average delay of 172.3 seconds
 and a v/c ratio of 1.20.
- During the **Saturday MD Peak Hour**, the westbound left-turn lane group would deteriorate from LOS D with an average delay of 50.1 seconds and a v/c ratio of 0.57 to LOS E with an average delay of 63.0 seconds and a v/c ratio of 0.75.

Rockaway Beach Boulevard and Beach 59th Street

- During the **Weekday AM Peak Hour**, the eastbound through/right-turn lane group would deteriorate from LOS <u>E</u> with an average delay of <u>69.4</u> seconds and a v/c ratio of <u>1.02</u> to LOS F with an average delay of <u>120.6</u> seconds and a v/c ratio of 1.<u>17</u>. The westbound left-turn/through lane group would deteriorate <u>within LOS F from</u> an average delay of <u>100.6</u> seconds and a v/c ratio of <u>1.11</u> to an average delay of <u>200</u>.5 seconds and a v/c ratio of 1.<u>36</u>. The northbound left-turn/right-turn lane group would deteriorate from LOS E with an average delay of 58.9 seconds and a v/c ratio of 0.74 to LOS F with an average delay of 84.3 seconds and a v/c ratio of 0.87. The southbound left-through-right lane group would deteriorate from LOS C with an average delay of 34.5 seconds and a v/c ratio of 0.81 to LOS E with an average delay of 60.0 seconds and a v/c ratio of 0.98.
- During the Weekday MD Peak Hour, the eastbound through/right-turn lane group would deteriorate
 within LOS F from an average delay of <u>138.8</u> seconds and a v/c ratio of 1.<u>21</u> to an average delay of
 <u>222.0</u> seconds and a v/c ratio of 1.<u>41</u>. The westbound left-turn/through lane group would deteriorate
 within LOS F from an average delay of <u>115.2</u> seconds and a v/c ratio of <u>1.14</u> to an average delay of
 <u>151.0</u> seconds and a v/c ratio of <u>1.23</u>.
- During the Weekday PM Peak Hour, the eastbound through/right-turn lane group would deteriorate within LOS F from an average delay of <u>248.9</u> seconds and a v/c ratio of 1.<u>47</u> to an average delay of <u>367.9</u> seconds and a v/c ratio of 1.<u>74</u>. The westbound left-turn/through lane group would deteriorate within LOS F from an average delay of <u>285.8</u> seconds and a v/c ratio of 1.<u>55</u> to an average delay of <u>522.0</u> seconds and a v/c ratio of <u>2.08</u>.
- During the Saturday MD Peak Hour, the eastbound through/right-turn lane group would deteriorate within LOS F from an average delay of 81.6 seconds and a v/c ratio of 1.06 to an average delay of 154.7 seconds and a v/c ratio of 1.25. The westbound left-turn/through lane group would deteriorate from LOS E with an average delay of 61.1 seconds and a v/c ratio of 0.97 to LOS F with an average delay of 150.6 seconds and a v/c ratio of 1.23.

Arverne Boulevard and Beach 54th Street

- During the Weekday AM Peak Hour, the westbound left-through-right lane group would deteriorate
 from LOS C with an average delay of <u>29.5</u> seconds and a v/c ratio of 0.<u>70</u> to LOS <u>F</u> with an average
 delay of <u>148.5</u> seconds and a v/c ratio of 1.<u>23</u>.
- During the **Weekday MD Peak Hour**, the eastbound left-through-right lane group would deteriorate from LOS C with an average delay of 34.7 seconds and a v/c ratio of 0.81 to LOS D with an average delay of 45.3 seconds and a v/c ratio of 0.92.
- During the Weekday PM Peak Hour, the eastbound left-through-right lane group would deteriorate within LOS F from an average delay of 96.6 seconds and a v/c ratio of 1.11 to an average delay of 165.3 seconds and a v/c ratio of 1.28. The westbound left-through-right lane group would deteriorate from LOS C with an average delay of 32.5 seconds and a v/c ratio of 0.73 to LOS F with an average delay of 157.7 seconds and a v/c ratio of 1.24.
- During the Saturday MD Peak Hour, the westbound left-through-right lane group would deteriorate from LOS C with an average delay of 25.5 seconds and a v/c ratio of 0.58 to LOS F with an average delay of 76.7 seconds and a v/c ratio of 1.02.

Rockaway Freeway and Beach 54th Street

 During the Weekday PM Peak Hour, the northbound left-through-right lane group would deteriorate from LOS C with an average delay of 32.0 seconds and a v/c ratio of 0.66 to LOS D with an average delay of 53.5 seconds and a v/c ratio of 0.94.

Edgemere Avenue and Beach 54th Street

- During the **Weekday AM Peak Hour**, the eastbound left-through-right lane group would deteriorate within LOS F from an average delay of 420.1 seconds and a v/c ratio of 1.85 to an average delay of 1182 seconds and a v/c ratio of 3.54.
- During the Weekday MD Peak Hour, the eastbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 732.7 seconds and a v/c ratio of 2.55 to an average delay of
 1589 seconds and a v/c ratio of 4.45. The southbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 169.8 seconds and a v/c ratio of 1.27 to an average delay of
 316.0 seconds and a v/c ratio of 1.61.
- During the Weekday PM Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS F with an average delay of 3549 seconds and a v/c ratio of 8.79 to a delay and/or v/c ratio that exceeds the maximum reportable delay and/or v/c ratio in the analysis software, but it is expected that the delay would exceed what was reported for the No-Action Weekday PM peak hour condition. The southbound left-through-right lane group would deteriorate within LOS F from an average delay of 165.5 seconds and a v/c ratio of 1.26 to an average delay of 305.2 seconds and a v/c ratio of 1.59.
- During the Saturday MD Peak Hour, the eastbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 581.5 seconds and a v/c ratio of 2.21 to an average delay of
 1158 seconds and a v/c ratio of 3.49. The southbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 84.4 seconds and a v/c ratio of 1.02 to an average delay of
 194.2 seconds and a v/c ratio of 1.32.

Rockaway Freeway and Seagirt Boulevard

- During the Weekday AM Peak Hour, the eastbound through/right-turn lane group would deteriorate from LOS D with an average delay of 42.3 seconds and a v/c ratio of 0.23 to LOS E with an average delay of 75.9 seconds and a v/c ratio of 0.25.
- During the Weekday MD Peak Hour, the eastbound through/right-turn lane group would deteriorate from LOS E with an average delay of 62.1 seconds and a v/c ratio of 0.28 to LOS F with an average delay of 83.8 seconds and a v/c ratio of 0.31.

Rockaway Freeway and Cornaga Avenue

• During the **Weekday AM Peak Hour**, the westbound left-through-right lane group would deteriorate within LOS E from an average delay of 67.8 seconds and a v/c ratio of 0.98 to an average delay of 72.2 seconds and a v/c ratio of 1.00.

Beach Channel Drive and Mott Avenue

- During the Weekday AM Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS E with an average delay of 78.7 seconds and a v/c ratio of 1.02 to LOS F with an average delay of 94.3 seconds and a v/c ratio of 1.07. The northbound through/right-turn lane group would deteriorate within LOS F from an average delay of 188.4 seconds and a v/c ratio of 1.33 to an average delay of 272.4 seconds and a v/c ratio of 1.52. The southbound through/right-turn lane group would deteriorate within LOS D from an average delay of 40.6 seconds and a v/c ratio of 0.95 to an average delay of 49.8 seconds and a v/c ratio of 1.00.
- During the Weekday MD Peak Hour, the northbound through/right-turn lane group would deteriorate
 within LOS F from an average delay of 149.3 seconds and a v/c ratio of 1.24 to an average delay of
 193.6 seconds and a v/c ratio of 1.34.
- During the Weekday PM Peak Hour, the eastbound left-through-right lane group would deteriorate from LOS D with an average delay of 53.6 seconds and a v/c ratio of 0.89 to LOS E with an average delay of 58.7 seconds and a v/c ratio of 0.91. The northbound through/right-turn lane group would deteriorate within LOS F from an average delay of 223.3 seconds and a v/c ratio of 1.41 to an average delay of 273.7 seconds and a v/c ratio of 1.52. The southbound through/right-turn lane group would deteriorate from LOS E with an average delay of 76.9 seconds and a v/c ratio of 1.09 to LOS F with an average delay of 114.1 seconds and a v/c ratio of 1.18.
- During the Saturday MD Peak Hour, the northbound through/right-turn lane group would deteriorate
 within LOS F from an average delay of 156.0 seconds and a v/c ratio of 1.25 to an average delay of
 211.7 seconds and a v/c ratio of 1.38.

Beach Channel Drive and Dix Avenue

- During the **Weekday AM Peak Hour**, the northbound left-through-right lane group would deteriorate within LOS F from an average delay of 127.1 seconds and a v/c ratio of 1.21 to an average delay of 184.5 seconds and a v/c ratio of 1.34.
- During the **Weekday MD Peak Hour**, the northbound left-through-right lane group would deteriorate within LOS F from an average delay of 96.8 seconds and a v/c ratio of 1.13 to an average delay of 122.1 seconds and a v/c ratio of 1.19.
- During the Weekday PM Peak Hour, the northbound left-through-right lane group would deteriorate
 within LOS F from an average delay of 83.3 seconds and a v/c ratio of 1.10 to an average delay of
 109.0 seconds and a v/c ratio of 1.16.

Beach Channel Drive and Birdsall Avenue

- During the Weekday AM Peak Hour, the northbound left-turn/through lane group would deteriorate from LOS C with an average delay of 31.6 seconds and a v/c ratio of 0.90 to LOS D with an average delay of 50.3 seconds and a v/c ratio of 1.00.
- During the Weekday PM Peak Hour, the southbound through lane group would deteriorate from LOS
 D with an average delay of 43.0 seconds and a v/c ratio of 0.98 to LOS E with an average delay of 67.3
 seconds and a v/c ratio of 1.07.

Beach Channel Drive and Nameoke Avenue

- During the Weekday AM Peak Hour, the northbound through/right-turn lane group would deteriorate
 within LOS F from an average delay of 165.7 seconds and a v/c ratio of 1.30 to an average delay of
 220.9 seconds and a v/c ratio of 1.43. The southbound through/right-turn lane group would deteriorate
 within LOS F from an average delay of 109.6 seconds and a v/c ratio of 1.17 to an average delay of
 129.8 seconds and a v/c ratio of 1.22.
- During the Weekday MD Peak Hour, the northbound through/right-turn lane group would deteriorate within LOS F from an average delay of 136.7 seconds and a v/c ratio of 1.24 to an average delay of 164.5 seconds and a v/c ratio of 1.30. The southbound left-turn lane group would deteriorate within LOS F from an average delay of 222.8 seconds and a v/c ratio of 1.31 to an average delay of 243.6 seconds and a v/c ratio of 1.36. The southbound through/right-turn lane group would deteriorate within LOS F from an average delay of 155.9 seconds and a v/c ratio of 1.28 to an average delay of 181.7 seconds and a v/c ratio of 1.34.
- During the Weekday PM Peak Hour, the northbound through/right-turn lane group would deteriorate within LOS F from an average delay of 106.9 seconds and a v/c ratio of 1.16 to an average delay of 131.6 seconds and a v/c ratio of 1.22. The southbound left-turn lane group would deteriorate within LOS F from an average delay of 95.1 seconds and a v/c ratio of 0.95 to an average delay of 202.5 seconds and a v/c ratio of 1.25. The southbound through/right-turn lane group would deteriorate within LOS F from an average delay of 239.9 seconds and a v/c ratio of 1.47 to an average delay of 294.3 seconds and a v/c ratio of 1.59.
- During the Saturday MD Peak Hour, the northbound through/right-turn lane group would deteriorate within LOS F from an average delay of 91.3 seconds and a v/c ratio of 1.12 to an average delay of 122.6 seconds and a v/c ratio of 1.20. The southbound left-turn lane group would deteriorate from LOS D with an average delay of 43.2 seconds and a v/c ratio of 0.66 to LOS E with an average delay of 74.0 seconds and a v/c ratio of 0.81. The southbound through/right-turn lane group would deteriorate within LOS F from an average delay of 139.9 seconds and a v/c ratio of 1.24 to an average delay of 172.8 seconds and a v/c ratio of 1.32.

Beach Channel Drive and Hassock Avenue

- During the Weekday AM Peak Hour, the northbound left-turn/through lane group would deteriorate
 from LOS C with an average delay of 29.1 seconds and a v/c ratio of 0.88 to LOS D with an average
 delay of 49.2 seconds and a v/c ratio of 1.00. The southbound through lane group would deteriorate
 from LOS D with an average delay of 45.9 seconds and a v/c ratio of 0.97 to LOS E with an average
 delay of 57.3 seconds and a v/c ratio of 1.02.
- During the **Weekday MD Peak Hour**, the southbound through lane group would deteriorate within LOS E from an average delay of 58.8 seconds and a v/c ratio of 1.03 to an average delay of 75.5 seconds and a v/c ratio of 1.08.

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- During the Weekday PM Peak Hour, the southbound through lane group would deteriorate within LOS
 F from an average delay of 132.6 seconds and a v/c ratio of 1.22 to an average delay of 179.8 seconds
 and a v/c ratio of 1.33.
- During the Saturday MD Peak Hour, the northbound left-turn/through lane group would deteriorate
 from LOS C with an average delay of 33.4 seconds and a v/c ratio of 0.92 to LOS E with an average
 delay of 59.8 seconds and a v/c ratio of 1.04. The southbound through lane group would deteriorate
 within LOS F from an average delay of 83.6 seconds and a v/c ratio of 1.10 to an average delay of
 113.1 seconds and a v/c ratio of 1.17.

Level of Service - Unsignalized Intersections

Traffic Impacts

Beach Channel Drive and Beach 53rd Street

- During the Weekday AM Peak Hour, the northbound left-turn/right-turn lane group would deteriorate from LOS D with an average delay of 29.3 seconds and a v/c ratio of 0.33 to LOS F with an average delay of 1381.0 seconds and a v/c ratio of 3.73.
- During the Weekday MD Peak Hour, the northbound left-turn/right-turn lane group would deteriorate from LOS E with an average delay of 45.8 seconds and a v/c ratio of 0.53 to LOS F with an average delay of 1740.0 seconds and a v/c ratio of 4.38.
- During the Weekday PM Peak Hour, the westbound left-turn/through lane group would deteriorate
 from LOS A with an average delay of 9.4 seconds and a v/c ratio of 0.05 to LOS F with an average
 delay of 58.7 seconds and a v/c ratio of 0.57. The northbound left-turn/right-turn lane group would
 deteriorate from LOS D with an average delay of 29.3 seconds and a v/c ratio of 0.42 to LOS F with an
 average delay of 9057.0 seconds and a v/c ratio of 19.33.
- During the Saturday MD Peak Hour, the northbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 17.2 seconds and a v/c ratio of 0.25 to LOS F with an average delay of 1609.0 seconds and a v/c ratio of 4.16.

Rockaway Beach Boulevard and Beach 53rd Street

- During the Weekday AM Peak Hour, the southbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 15.5 seconds and a v/c ratio of 0.20 to LOS F with an average delay of 612.2 seconds and a v/c ratio of 2.16.
- During the Weekday MD Peak Hour, the southbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 21.6 seconds and a v/c ratio of 0.21 to LOS F with an average delay of 449.5 seconds and a v/c ratio of 1.65.
- During the Weekday PM Peak Hour, the eastbound left-turn/through lane group would deteriorate from LOS B with an average delay of 10.4 seconds and a v/c ratio of 0.11 to LOS F with an average delay of 127.6 seconds and a v/c ratio of 1.08. The southbound left-turn/right-turn lane group would deteriorate from LOS D with an average delay of 23.9 seconds and a v/c ratio of 0.39 to a delay and/or v/c ratio that exceeds the maximum reportable delay and/or v/c ratio in the analysis software but it is expected that the delay would exceed what was reported for the With-Action Saturday MD peak hour condition.
- During the **Saturday MD Peak Hour**, the southbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 20.3 seconds and a v/c ratio of 0.25 to LOS F with an average delay of 1209.0 seconds and a v/c ratio of 3.37.

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Rockaway Beach Boulevard and Beach 52nd Street

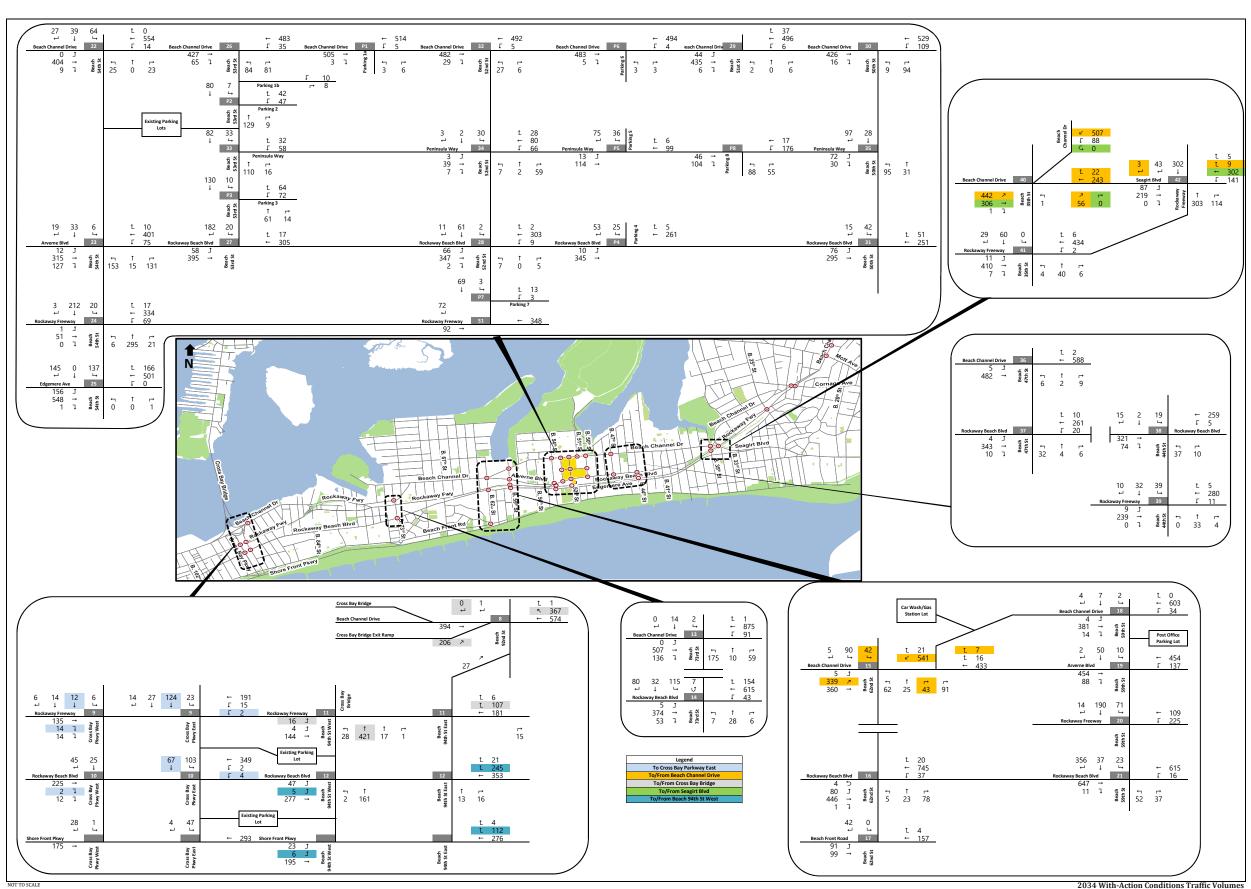
• During the **Weekday MD Peak Hour**, the southbound left-through-right lane group would deteriorate from LOS D with an average delay of <u>26.7</u> seconds and a v/c ratio of 0.01 to LOS F with an average delay of <u>406.5</u> seconds and a v/c ratio of 1.<u>53</u>.

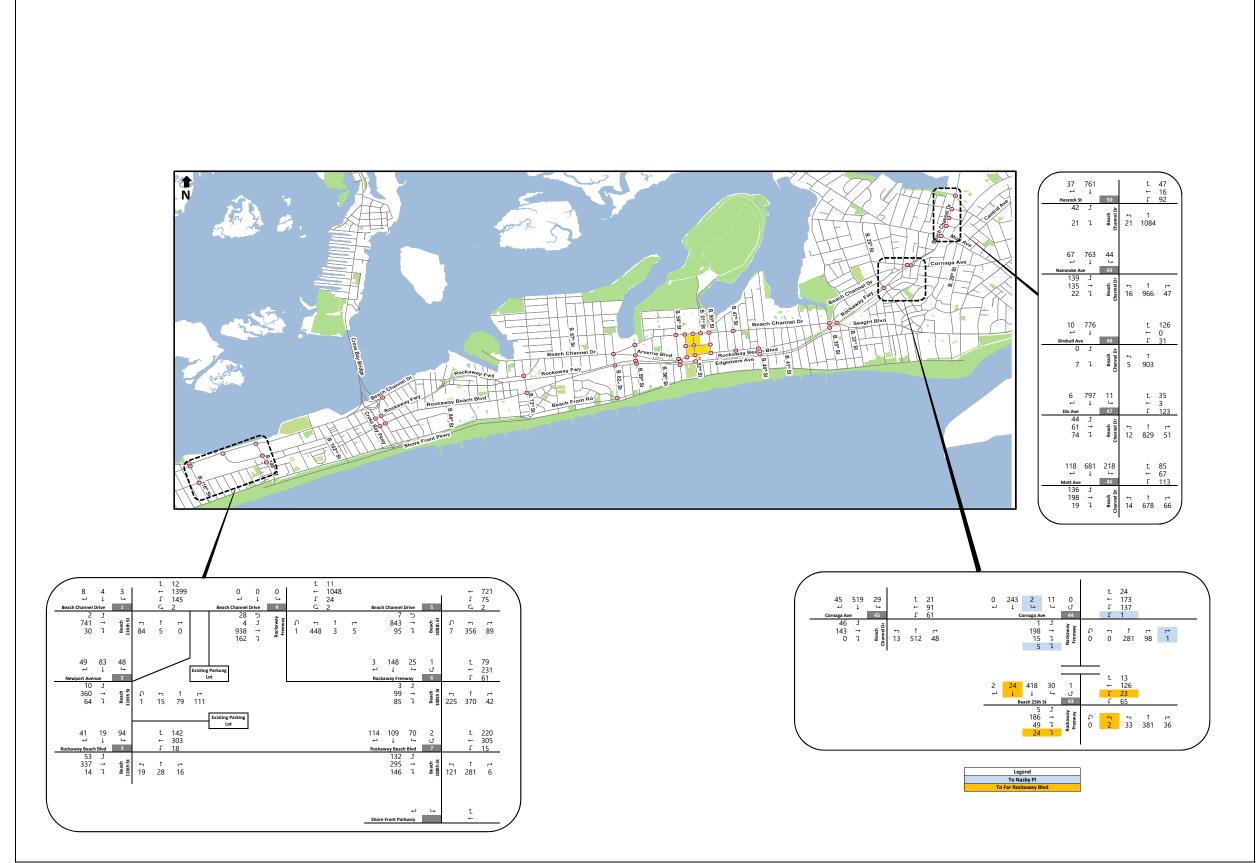
Beach Channel Drive and Beach 50th Street

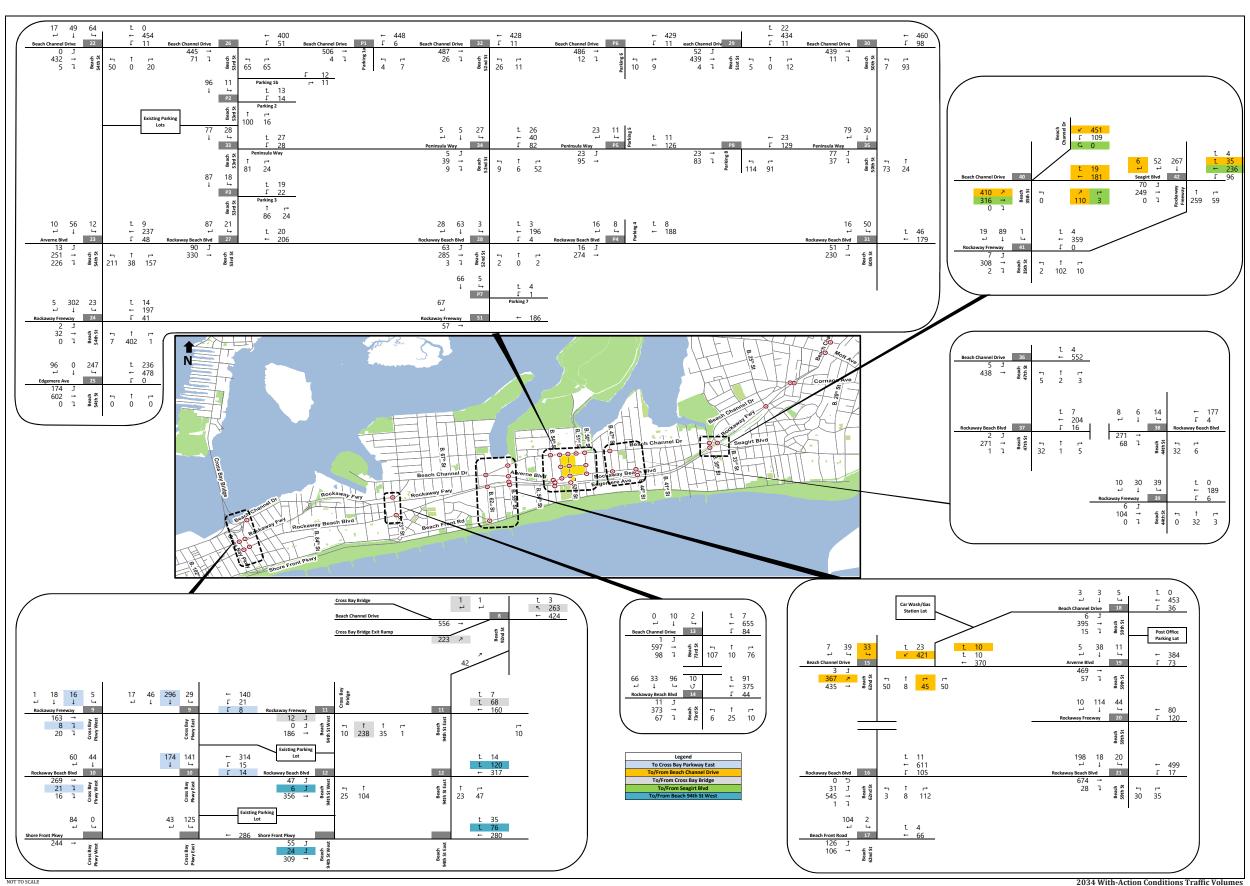
• During the **Weekday MD Peak Hour**, the northbound left-turn/right-turn lane group would deteriorate from LOS C with an average delay of 15.3 seconds and a v/c ratio of 0.07 to LOS D with an average delay of 31.4 seconds and a v/c ratio of 0.48.

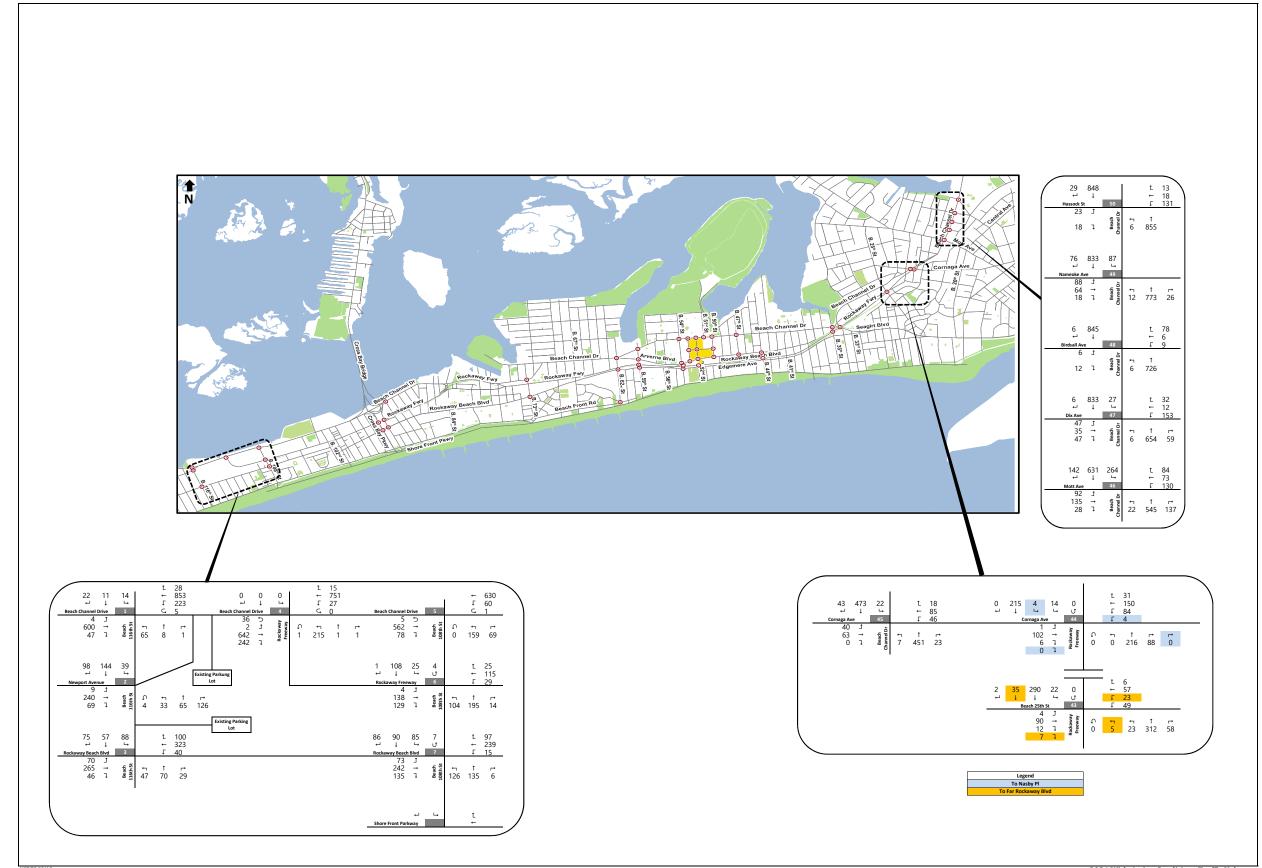
Parking Garage 8 driveway, via Peninsula Way

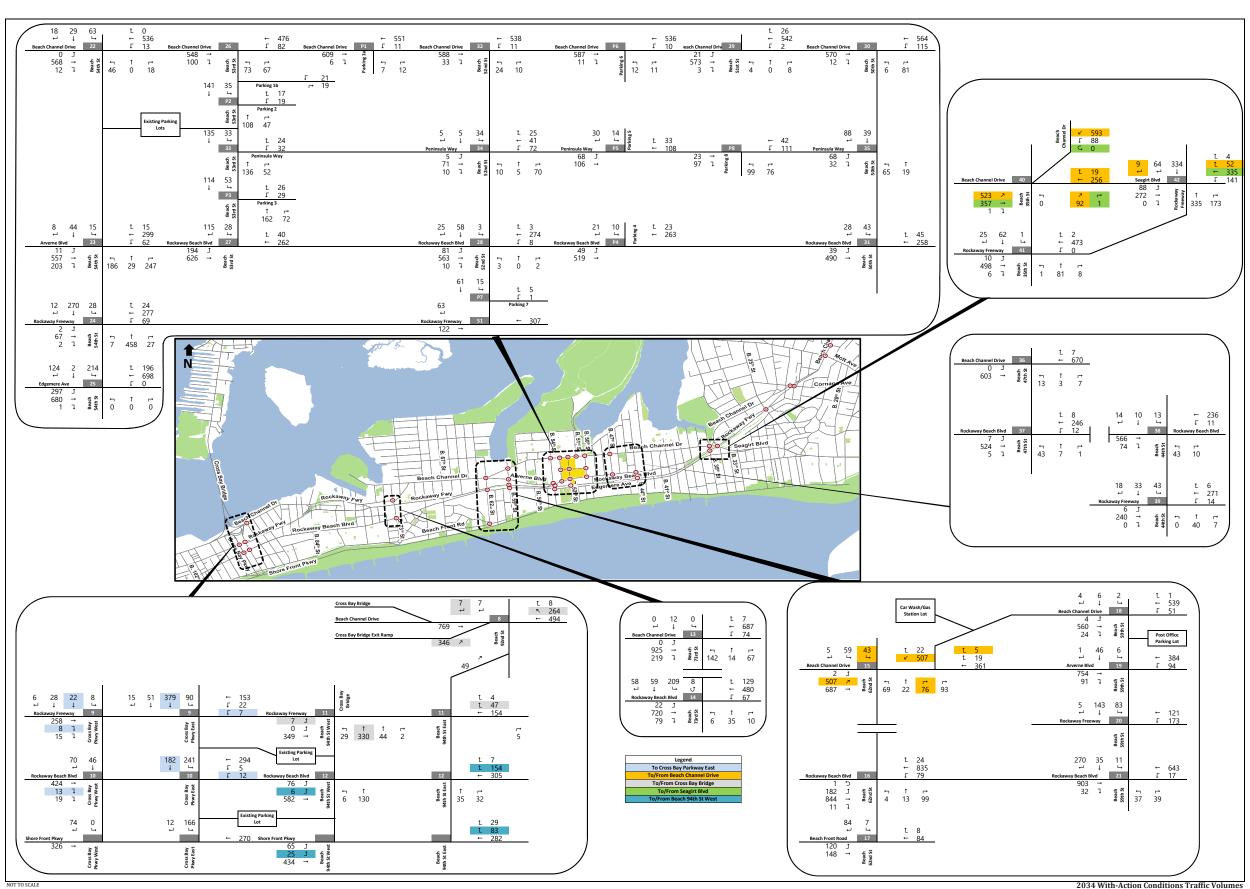
- During the **Weekday AM Peak Hour**, the northbound left-turn/right-turn lane group would experience LOS F with an average delay of 71.8 seconds and a v/c ratio of 0.80.
- During the **Weekday MD Peak Hour**, the northbound left-turn/right-turn lane group would experience LOS F with an average delay of 259.4 seconds and a v/c ratio of 1.38.
- During the **Weekday PM Peak Hour**, the northbound left-turn/right-turn lane group would experience LOS F with an average delay of 88.4 seconds and a v/c ratio of 0.91.

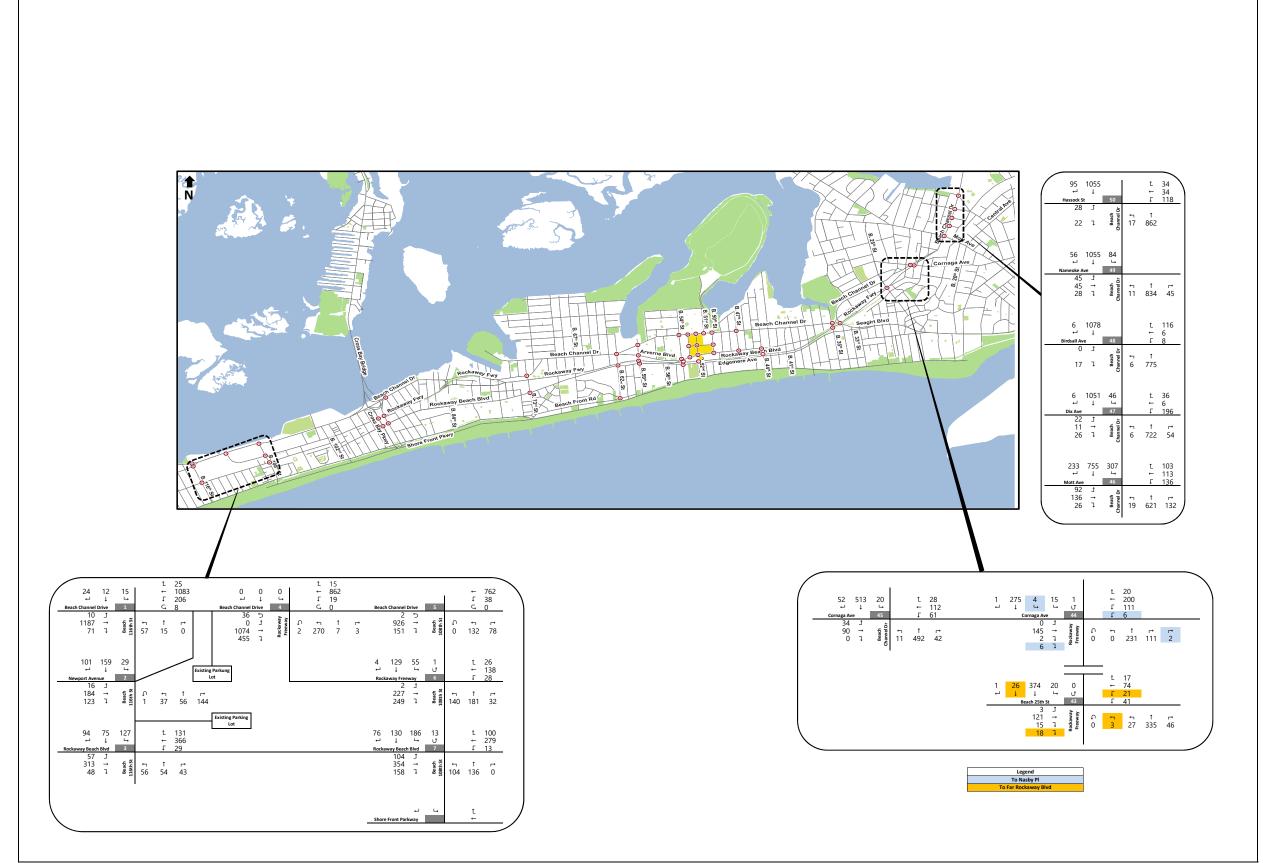


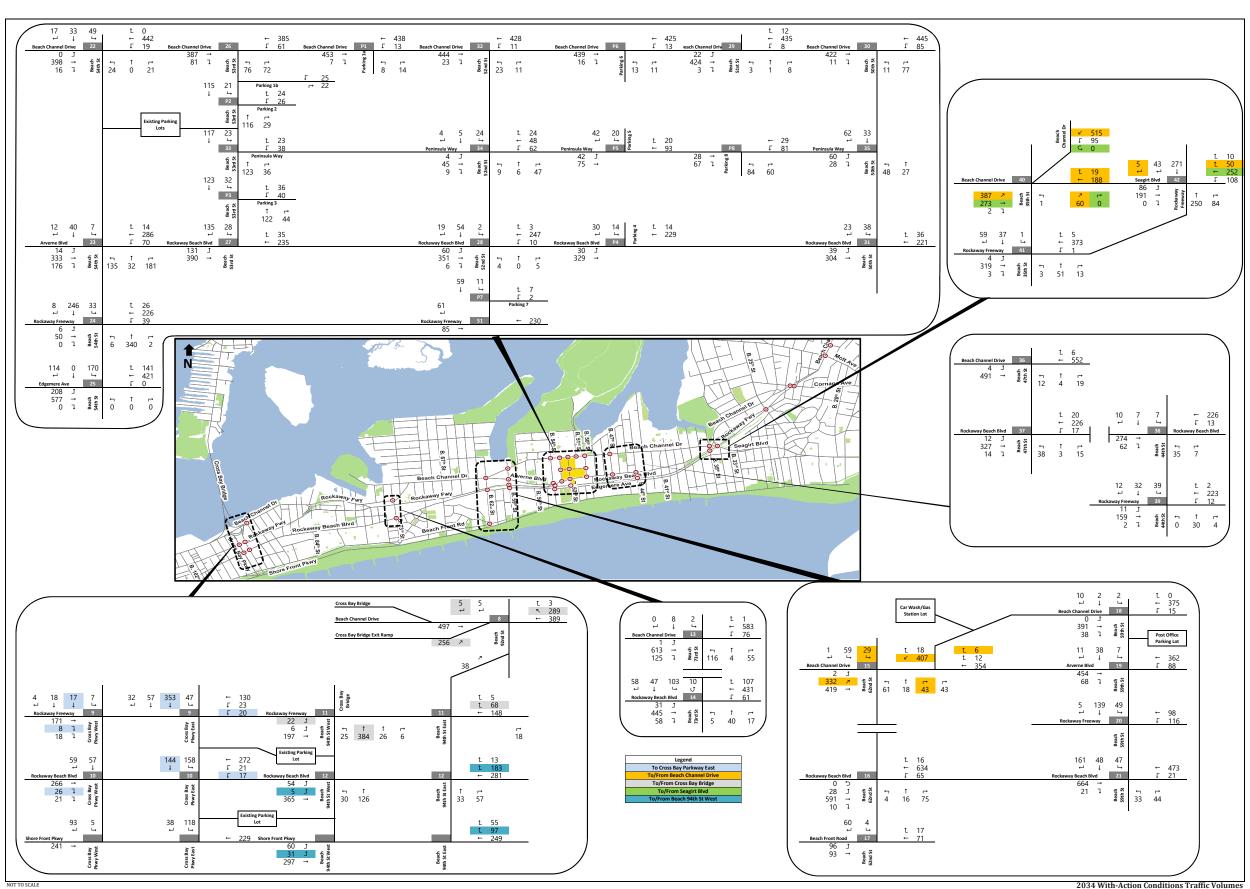


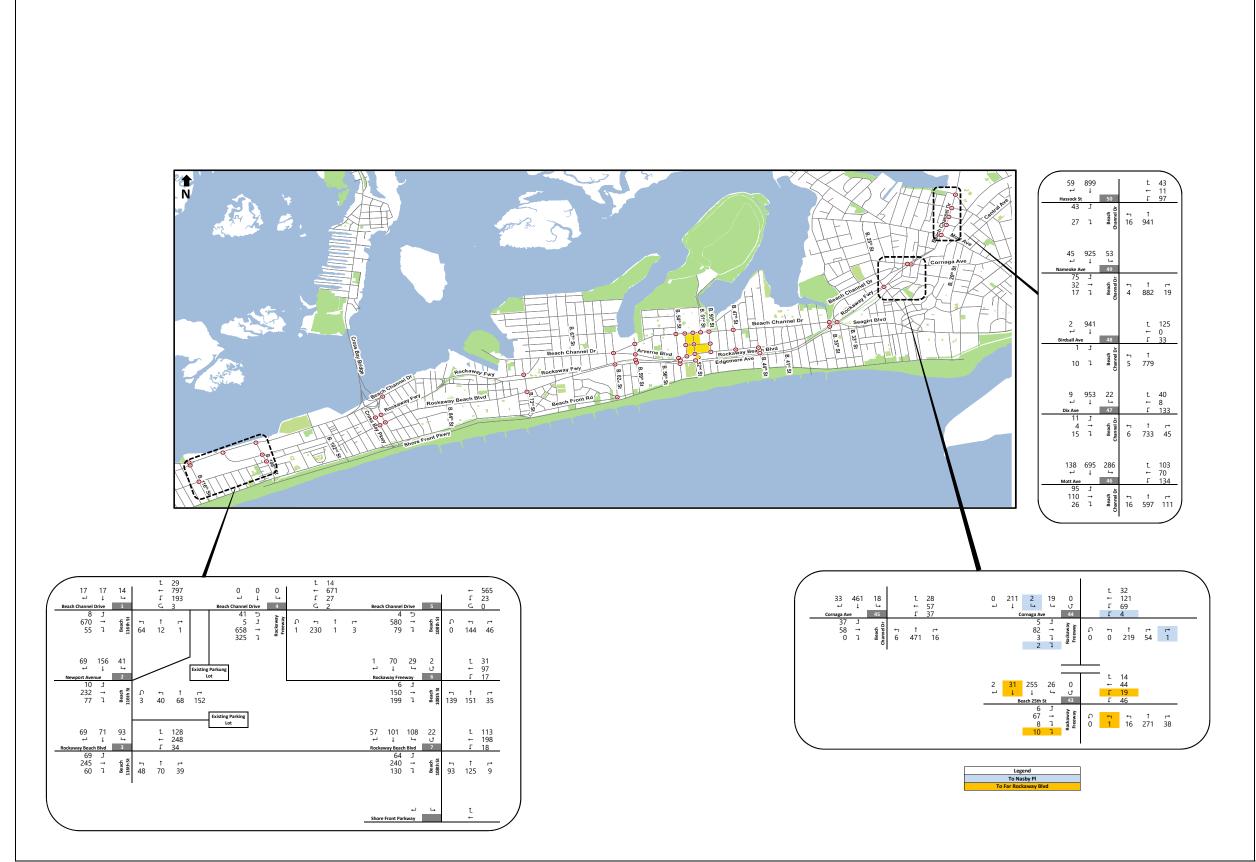












Peninsula Hospital Site EIS CEQR No: 18DCP124Q

Table 12-44: 2034 No-Action and With-Action Conditions Level of Service Analysis - Signalized Intersections

				Wee	ekday A	M Peak I	lour					We	ekday M	D Peak H	our			I			We	ekday P	M Peak H	our						Satu	rday MD	Peak Ho	our		$\overline{}$
			2034 N	lo-Action			2034 Wi	th-Action			2034	lo-Action			2034 W	ith-Action				2034 N	o-Action			2034 Witl	h-Action			2	2034 No-A	Action		2	2034 With-	Action	
#	Intersection & Approach	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	La Gr	ne v/c	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane		Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		ane roup		Delay (sec)	LOS	Lane Group		Delay (sec)	LOS
<u> </u>		Group	Natio	(Sec)		Group	Natio	(Sec)		Gi	Jup Kalic	(Sec)		Group	Natio	(Sec)			Group	Katio	(Sec)		Group	Natio	(Sec)		G	oup	Natio	(Sec)		Group	Natio	(Sec)	-+
	Beach Channel Drive and Beach 116th Street Eastbound	LTR	0.60	31.3	С	LTR	0.73	33.1	С	+	TR 0.56	28.4	C	LTR	0.62	29.9	С		LTD	0.04	48.0	D	LTR	1.07	82.4	F	+ [TD	0.57	28.6	С	LTR	0.66	30.9	С
	Westbound	LTR	1.44	230.9	F	LTR	1.63	313.2	F ·		ΓR 1.00	54.6	D	LTR	1.11	89.1	F	+	LIIV	0.34	40.0	D	LIIX	1.07	02.4	_				33.8		LTR		60.2	E +
	Woolboana	LIIX	1.11	200.0		LIIV	1.00	010.2			1.00	01.0		LIIX		00.1		_	DefL	1.07	116.2	F	DefL	1.15	143.0	F	+	-111	0.00	00.0		LIIV	1.02	00.2	
1																			TR		219.2	F	TR	1.51	261.9	F	+								
	Northbound	LTR	0.30	45.9	D	LTR	0.40	48.1	D	L	ΓR 0.27	44.9	D	LTR	0.29	45.4	D		LTR	0.25	44.5	D	LTR	0.28	45.1	D	L	TR	0.22	43.9	D	LTR	0.26	44.6	D
	Southbound	LTR	0.09	45.6	D	LTR	0.09	45.6	D	L.	ΓR 0.24	48.2	D	LTR	0.24	48.2	D		LTR	0.26	48.5	D	LTR	0.26	48.5	D	L	.TR	0.24	48.1	D	LTR	0.24	48.1	D
		Interse	ection	154.8	F	Inters	ection	206.7	F	Ir	itersection	44.7	D	Interse	ection	64.5	E		Inter	section	126.7	F	Interse	ection	159.8	F		Intersec	ction	32.7	С	Interse	ction	47.5	D
	Newport Avenue and Beach 116th Street						T																						1			1			
	Eastbound Northbound	LTR LT		41.6 47.1	D D	LTR LT	0.84	44.4 49.2	D D		TR 0.59 T 0.48	31.1	C D	LTR	0.62	32.0	C		LTR LT	0.61	32.0 49.6	C D	LTR LT	0.64	32.9 50.8	C		TR LT		30.3 51.5	С	LTR		30.9 53.3	С
2	Northbound	R	0.35	33.9	C	R	0.43	33.9	С	_	T 0.48	51.2 35.7	D	R	0.51	52.3 35.7	D D	-+	R	0.43	35.2	D	R	0.47	35.2	D D		R		35.9	D D	LT R		35.9	D D
	Southbound	LTR		18.4	В	LTR	0.34	18.9	В		TR 0.40	20.2	C	LTR	0.42	20.9	С		LTR		20.0	C	LTR		21.0	C		TR		19.6	В	LTR		20.4	C
	Couribouria	Interse		35.9	D		ection	38.0	D	_	tersection	30.8	C	Interse		31.4	C	t		section	30.5	C	Interse		31.2	C		Intersec		30.9	C	Interse		31.6	C
	Rockaway Beach Boulevard and Beach 116th Street							55.0	-	+ "		. 50.0						- t			. 50.0				↓ <u>∠</u>					50.0	J				一十
	Eastbound	LTR	0.67	17.5	В	LTR	0.72	19.3	В	Ľ	TR 0.66	17.6	В	LTR	0.71	19.2	В	一十	LTR	0.66	17.2	В	LTR	0.70	18.4	В	ı	TR	0.64	16.6	В	LTR	0.67	17.5	В
I	Westbound	LTR	0.92	36.9	D	LTR	0.99	51.5	D ·	⊦ L'	ΓR 0.91	35.1	D	LTR	0.97	45.6	D	+	LTR	1.00	54.1	D	LTR	1.07	71.8	Е	+ L	TR	0.72	20.2	С	LTR	0.77	23.0	С
3	Northbound	L	0.05	12.5	В	L	0.05	12.5	В		L 0.18	14.0	В	L	0.18	14.0	В		L	0.21	14.5	В	L	0.21	14.5	В				13.9	В	L		13.9	В
ľ		TR	0.13	13.3	В	TR	0.13	13.3	В	_	R 0.24	14.3	В	TR	0.24	14.3	В		TR	_	14.9	В	TR	0.28	14.9	В				14.4	В	TR		14.4	В
	Southbound	L	0.34	16.6	В	L	0.36	16.9	В	_		16.7	В	L	0.36	17.2	В	_	L	0.39	17.8	В	L	0.46	19.4	В				16.1	В	L		16.9	В
		TR Interse		13.6 25.2	B C	TR Inters	0.16	13.6 32.1	B C	_	R 0.33	15.4 23.5	B C	TR Interse	0.33	15.4 28.2	B C		TR	0.43 section	17.1 30.8	B C	TR Interse	0.43	17.1 38.1	B D		TR Intersec		15.3 17.2	B B	TR Interse		15.3 18.5	B B
	Beach Channel Drive and Rockaway Freeway	IIILEIS	ection	25.2	C	IIILEIS	ection	32.1	C		itersection	23.5	C	IIILEISE	ection	20.2	C	-+	IIILEI	SECTION	30.6	U	IIILEISE	CLIOIT	30.1	U		intersec	Clion	17.2	Ь	interse	SHOTT	10.5	
	Eastbound	LTR	1.10	90.5	I F	LTR	1.24	148.7	F ·	F 1	TR 0.86	38.3	D	LTR	0.96	51.7	D	+	LTR	1.28	166.5	F	LTR	1 46	245.6	F	+ 1	TR	0.91	43.2	D	LTR	1.05	73.9	E +
1 .	Westbound	LTR		68.7	Ė	LTR	1.18	123.9	F	_	TR 0.73	30.6	Ċ	LTR	0.81	34.2	Ċ		LTR	_	46.2	D	LTR	1.09	87.7	F		TR		28.3	C	LTR		32.3	C
4	Northbound	LT	0.60	27.7	С	LT	0.66	29.6	С	L	T 0.30	21.4	С	LT	0.34	22.0	С		LT	0.35	22.2	С	LT	0.39	22.9	С		LT	0.28	21.0	С	LT		21.7	С
		R	0.01	17.8	В	R	0.01	17.8	В		₹ 0.00	17.6	В	R	0.00	17.6	В		R	0.01	17.7	В	R	0.01	17.7	В		R	0.01	17.7	В	R	0.01	17.7	В
		Interse	ection	70.5	E	Inters	ection	117.1	F	lr	itersection	33.1	С	Interse	ection	40.8	D		Inter	section	106.9	F	Interse	ection	165.1	F		Intersec	ction	35.0	С	Interse	ction	52.1	D
	Beach Channel Drive and Beach 108th Street	TD	0.00	00.7	1 0	TD	0.04	00.0	_	_	D 1 0 54	T 40.5	T 5	TD	0.50	00.0	_	_		0.00	00.0		TD	0.00	00.4	_		TO 1	0.50	10.0	-	TD	0.50	00.0	
	Eastbound Westbound	IR	0.80 1.16	26.7 111.0	C	TR LT	0.84 1.29	28.9 166.1	C	_	R 0.51	19.5 25.2	В	TR	0.56	20.3	C		TR LT	0.80	26.6 29.1	C	TR LT	0.89	32.4 37.4	C D		TR LT	0.53	19.6 18.9	В	TR LT		20.8 19.6	C B
5	Northbound		0.50	20.1	C		0.55	21.2	C		L 0.73	16.2	В		0.79	16.4	В		L	0.82	15.5	В	L	0.91	15.7	В				15.7	В	L		16.1	В
	1101111204114	R		16.3	В	R	0.21	16.3	В		R 0.14	15.4	В		0.14	15.4	В	t	R		15.5		R	0.16	15.5	В		R		14.7	В	R		14.7	В
		Interse	ection	55.7	E	Inters	ection	77.8	E	lr	tersection	21.5	С	Interse	ection	22.9	С		Inter	section	26.4	С	Interse	ection	32.6	С		Intersec	ction	18.8	В	Interse	ction	19.6	В
	Rockaway Freeway and Beach 108th Street																																		
	Eastbound	LTR		15.1		LTR	0.17	15.3	В	_	ΓR 0.20		В	LTR	0.22		В		LTR	_	16.7	В	LTR	0.34	17.1	В		.TR		16.0	В	LTR		16.3	В
	Westbound	LTR	0.33	16.9	В	LTR	0.36	17.4	В	Ľ		15.0	В	LTR	0.16	15.2	В	_	LTR		15.3	В	LTR	0.20	15.6	В	L			14.8	В	LTR		15.0	В
6	Northbound	TR	0.51	21.8 16.9	C B	L TR	0.57	23.4 17.1	C B	+-	L 0.18	15.9 15.4	B B	TR	0.20	16.1 15.4	B B		L TR	0.29	17.4 15.4	B B		0.33	18.1 15.5	B B		L TR	0.25	16.7 15.2	B B	TR		17.1 15.3	B B
	Southbound	LTR		18.1		LTR		18.4	В	_	TR 0.16	16.8	В	LTR	0.19	17.2	В		LTR	_	17.3	В	LTR		18.6	В		TR		15.6		LTR		16.2	В
	Coundound	Interse		17.7	В		ection	18.2	В		tersection	15.7	В	Interse		15.9	В			section	16.4	В	Interse		16.9	В		Intersec		15.7	В	Interse		16.0	В
	Rockaway Beach Boulevard and Beach 108th Street									1																									-
	Eastbound	L	0.95	81.6	F	L	1.31	212.4	F	+	L 0.26	17.6	В	L	0.28	18.2	В		L	0.42	21.5	С	L	0.48	23.7	С		L	0.21	16.6	В	L	0.24	17.2	В
		TR	0.79	30.9	С	TR	0.86	36.5	D	T	R 0.64	24.1	С	TR	0.70	26.2	С		TR		33.7	С	TR	0.91	41.6	D				22.7	С	TR		24.4	С
	Westbound	L	0.09	15.2	В	L	0.10	15.6	В	_	L 0.07	14.8	В	L	0.08	15.0	В		L	0.09	15.3	В	L	0.10	15.9	В				14.8	В	L		15.0	В
7	N a while a consider	TR	0.94	48.1	D	TR	1.07	82.4	F	+ 1	R 0.51	20.9	C	TR	0.56	22.1	С		TR	0.64	24.1	C	TR	0.71	26.6	С	_			20.2	С	TR		22.1	С
	Northbound	TR	0.40	20.2 18.7	C B	TR	0.42	20.7 18.7	В	+-	R 0.22	18.6 16.0	B	TR	0.37	19.3 16.0	B B	-+	TR	0.31	18.2 15.8	B B	TR	0.34	18.8 15.8	B B			0.24	16.8 16.1	В	TR		17.3 16.1	B B
	Southbound	I	0.41	18.2	В	I	0.41	18.9	В	+-'	L 0.25	17.1	B	1	0.22	17.8	B		1	0.46	21.0	C	I	0.20	23.9	C				18.1	B	I	0.22	19.4	В
		TR		19.2		TR	0.43	19.2	В	1	R 0.33	17.7	В	TR	0.33	17.7	В		TR		17.9	B	TR	0.36	17.9	В		_	0.28	16.9	В	LTR	0.28	16.9	В
		Interse		34.9	_		ection	56.4	E	_	itersection	20.1	С	Interse	ection	21.2	С			section	24.6	_		ection	28.3	C		Intersec		19.3		Interse	ction	20.5	С
	Beach Channel Drive and Beach 92nd Street/Beach 94th S																																		
1	Eastbound		0.36		_					_	T 0.55			T						_	16.0			0.72	18.4	В			0.48		В	T			В
	Northeastbound (Cross Bay Bridge Exit Ramp)	R		55.8	E	R	0.83	60.6	E .	_	R 0.87				0.94			+	R		116.1			1.23	163.6	F				71.2	E	R			F +
8 ³	Northeastbound (Beach 94th St) Westbound	R	0.13	31.1 5.2	_	R TR	-	31.1 7.9		_	R 0.19			R TR			C A	\dashv	R		32.6 5.2				32.6 6.3	C A			0.17			R TR			C A
1	Northbound	R		40.6		R		40.6	D		R 0.55			R			D	-+	R	_	-				42.5	D		R		42.2		R		42.2	D
	Southbound		0.00		_	R				_	R 0.01			R			D	一十			39.7			0.13	39.7	D		R		39.3		R		39.3	D
L		Interse		14.1		Inters		15.9	В	_	tersection	18.4	_	Interse		20.6	C			section	29.3	_			39.2	D		Intersec		19.9	В	Interse		24.0	C
	Notes: L = Left Turn. T= Through. R = Right Turn. DefL = De			•	_																		•						•						

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. - = Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

1. Stop-controlled approach at signalized intersection.

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^{2.} Future intersection created as part of the Proposed Project.

^{3.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

4. The With-Action Weekday PM peak hour delay cannot be reported for the EB-LTR approach due to limitations in the analysis software, however it can be assumed to be greater than the 3549.0 seconds of delay calculated in the No-Action Weekday PM peak hour.

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Table 12-44 (continued): 2034 No-Action and With-Action Conditions Level of Service Analysis – Signalized Intersections

				We	ekdav A	M Peak I	Hour			Т			Weekd	av MD) Peak H	our						w	eekday F	PM Peak	(Hour			1				Saturo	day MD I	Peak Ho	our			$\overline{}$
			2034 N	lo-Action			2034 Wi	ith-Action			2034	No-Act	ion	Ť	- 1	2034 Wi	th-Action				2034 N	o-Actior	<u> </u>		2034 V	Vith-Acti	on	-	1	203	4 No-Act		ŤT		2034 Wit	h-Actic	n	一
		Lane	v/c	Delay		Lane	v/c	Delay		L	ane v/		lav		Lane	v/c	Delay			Lane	v/c	Delay		Lane	_	Dela	v	_	Lane			lav		Lane	v/c	Delay	,	
#	Intersection & Approach	Group	Ratio	(sec)	LOS	Group	Ratio	(sec)	LOS	Gı	roup Rat		* I L	.os	Group	Ratio	(sec)	LOS		Group	Ratio	(sec)	LOS	Grou	ıp Ratio			S	Grou	p Rat		-	LOS	Group	Ratio	(sec)	"	os
	Rockaway Freeway and Cross Bay Parkway															•															•				•			工
	Eastbound	TR			С	TR	0.31		С		TR 0.3	1 20	0.9	С	TR	0.35	21.6	С		TR	0.37	•	С	TR	0.43			;	TR	0.3			С	TR	0.36	21.7	_	С
	Westbound	L	0.01	35.7	D	L	0.01	35.7	D	4	L 0.0		_	D	L	0.05	36.2	D		<u> </u>	0.05	36.2	D	L	0.05	36.2	_	_	L	0.1			D	L	0.13	37.6	_	D
9	Country of (Const. Dec. Dec. Dec. Off Document)	- TD	0.21	11.0	В	1 TD	0.26	11.5	В	-	T 0.1	_	0.6	В	I I I	0.20	10.9	В	\vdash	170	0.18	10.7	В	175	0.21	11.0			1.70	0.1	-		В	1 70	0.19	10.9 25.0		В
	Southbound (Cross Bay Bridge Off-Ramp) Southbound (Beach Channel Drive Off-Ramp)	LTR LTR		21.2	C	LTR LTR	0.22	21.4	C	_	TR 0.3	7 23 8 20		C	LTR LTR	0.38	23.2 20.1	C		LTR	0.45	24.2 20.8		LTR	R 0.50	_		_	LTR	0.4	_	1.4		LTR LTR	0.50	20.3	_	C C
	Goddibodild (Beach Ghannel Brive On-Italip)	Interse		17.7	_	Inters		17.9	В		ntersection	_		C	Interse	ection	20.1	C		Inters	0.17	21.3	_		ersection	21.9				rsection				Interse		21.9		C
	Rockaway Beach Boulevard and Cross Bay Parkway									1																												一
	Eastbound	TR	0.40	10.9	В	TR	0.46	11.8	В		TR 0.5	0 12	2.2	В	TR	0.56	13.3	В		TR	0.67	15.8	В	TR	0.78	20.4	l C)	TR	0.5	50 12	2.1	В	TR	0.58	13.7		В
10	Westbound	LT	0.38	10.1	В	LT	0.47	11.2	В		LT 0.4	_	_	В	LT	0.48	11.3	В		LT	0.40	10.2	В	LT		_			LT	_		.6	A	LT	0.41	10.3	_	В
	Southbound (Cross Bay Bridge Off-Ramp)	LT		15.2	В	LT	0.19	15.3	В	_	LT 0.3			В	LT	0.36	16.7	В	\vdash	LT	0.43	17.5		LT						0.3				LT	0.38	17.1	_	В
	Southbound (Beach Channel Drive Off-Ramp)	Interse	0.21	16.2 12.1	B B	TR	0.21 section	16.2 12.7	B B		TR 0.2		,.0	В	TR Interse	0.27	16.8 13.9	В	\vdash	TR Inters		17.3 15.2	_	TR	0.31 ersection	17.3 17.3				0.3		7.1	B B	TR Interse	0.30	17.1 14.1		B B
	Rockaway Freeway and Beach 94th Street	IIICISC	CCHOIT	12.1	Ь	IIIICI	Section	12.7	В	+	intersection	13	0.4	Ь	IIIICISC	CLIOIT	13.9	ь	\vdash	intere	SECTION	13.2	Ь	IIILE	i section	17.	ГБ		inter	Section	1 13	5.5	Ь	interse	Cuon	14.1		'
	Eastbound	L	0.13	37.7	D	L	0.13	37.7	D		L 0.1	1 37	7.7	D	L	0.11	37.7	D		L	0.05	36.2	D	L	0.05	36.2	2 D)	L	0.1	14 37	7.6	D	L	0.14	37.6		D
2.1		T	0.17	10.7	В	Т	0.21	11.0	В		T 0.2			В	T	0.25	11.5	В		Т	0.32	12.1	В	Т	0.38		_	3	Т	0.2			В	Т	0.27	11.6	_	В
111	Westbound	TR		22.8	С	TR	0.54	24.9	С	_	TR 0.3			С		0.43	22.8	С		TR	0.28	20.5						_		0.3				TR	0.41	22.5	_	С
1	Northbound (Cross Bay Bridge On-Ramp)	LTR		23.0	С	LTR	0.40	23.4	С		TR 0.2			С	LTR	0.27	21.9	С		LTR	0.35	22.8		LTR						0.4			_	LTR	0.42	23.7		С
\vdash	Rockaway Beach Boulevard and Beach 94th Street	Interse	ection	20.9	С	Inters	section	21.7	С	+	ntersection	19).1	В	Interse	ection	19.4	В	\vdash	inters	ection	18.7	В	Inte	ersection	18.9) B	5	Inter	rsectior	1 20).1	С	interse	ction	20.4		С
	Eastbound	LT	0.40	10.3	B	IТ	0.46	11.3	R	+	LT 0.4	7 11	.0	В	ΙT	0.53	11.9	R	\vdash	LT	0.73	16.6	В	LT	0.80	26.4	1 C	<u>. </u>	LT	0.4	15 10	1.8	R	IT	0.53	12.0	_	В
l	Westbound	TR	0.40	21.4	C	TR	0.46	40.5	D		TR 0.6		.0	В	TR	0.69	16.1	В	$\vdash \vdash$	TR	0.73	13.4	В	TR	0.00	_			TR			3.9	В	TR	0.53	16.8		В
12	Northbound (Cross Bay Bridge On-Ramp)	LT		17.6	В	LT	0.35	17.6	В	_	LT 0.2	_	6.6	В	LT	0.28	16.6	В		LT	0.31	17.0	В	LT		_	_	3		0.3			В	LT	0.34	17.4	_	В
	Northbound (Beach Channel Drive On-Ramp)	TR	0.08	14.7	В	TR	0.08	14.7	В		TR 0.2	0 16	6.0	В	TR	0.20	16.0	В		TR	0.17	15.6	В	TR	0.17	15.6	6 B	3	TR	0.2	28 17	7.2	В	TR	0.28	17.2		В
		Interse	ection	17.3	В	Inters	section	28.1	С		ntersection	13	3.5	В	Interse	ection	14.5	В		Inters	section	15.5	В	Inte	ersection	21.1	I C		Inter	rsectior	າ 13	3.6	В	Interse	ction	15.1		В
	Beach Channel Drive and Beach 73rd Street		0.00	0.0			0.00			_		0 0				0.04			\vdash		0.00				1 0 00			_	-	100	20 1 0				0.00			_
	Eastbound	-	0.00	9.3 13.8	A B	-	0.00	9.3 15.4	A	+	L 0.0		.9	A B	<u> </u>	0.01	9.4 16.9	A	\vdash	L T	0.00	9.3 18.4	A	+ +	0.00	9.3	A C	`	╅	0.0		.4 3.8	A R	÷	0.00	9.4 15.8	_	A B
Ι.	Westbound	i	0.45	14.5	В	i	0.44	17.7	В	+	L 0.3	_		B	i	0.02	19.5	B		- 	0.59	29.5	C	i	1.11			+	†	0.2			B	i	0.39	16.8		В
13 ¹	T S S S S S S S S S S S S S S S S S S S	TR	0.95	40.8	D	TR	1.18	113.3	F -		TR 0.9	_		D	TR	1.06	70.8	E	+	TR	0.91	35.3	_	TR		_		+	TR	_			В	TR	0.82	25.8	_	C
	Northbound	LT	0.44	25.5	С	LT	0.44	25.5	С		LT 0.2	5 22	2.3	С	LT	0.25	22.3	С		LT	0.33	23.5	С	LT	0.33	23.5	5 C	;	LT	0.2	25 22	2.2	С	LT	0.25	22.2		С
	Southbound	LTR	•	19.7	В	LTR	0.04	19.7	В	_	.TR 0.0			В	LTR	0.03	19.6	В		LTR	0.04	19.7		LTR					LTR					LTR	0.02	19.6	_	В
		Interse	ection	28.2	С	Inters	section	65.2	Е	'	ntersection	24	.9	С	Interse	ection	42.7	D	_	Inters	ection	26.2	С	Inte	ersection	50.6	6 D)	Inter	rsectior	n 16	3.5	В	Interse	ction	20.7		С
	Rockaway Beach Boulevard and Beach 73rd Street Eastbound	LT	0.37	9.7	Α .	LT	0.42	10.3	В	-	LT 0.3	3 9.	4	۸	I.T.	0.20	9.9	Λ.	\vdash	LT	0.63	13.8	В	1.7	0.7/	16.8) D		LT	0.4	10 1 10		В	1.7	0.50	11.5		
	Easibound	R	0.10	7.5	A	R	0.42	7.5	A		R 0.1	_		A	R	0.39	7.6	A	\vdash	R	0.03	7.7	A	R	0.72	7.7			R	0.0	19 7	.4	A	R	0.09	7.4	_	A
	Westbound	Ĺ	0.10	7.7	A	L	0.11	7.8	A		L 0.1	_		Α	L	0.11	7.7	A		L	0.23	9.6	A	L	0.31	_			L	0.1			Α	L	0.19	8.8	_	A
		T	0.57	12.7	В	Т	0.69	15.5	В		T 0.3	4 9.	.4	Α	T	0.39	10.0	Α		Т	0.47	11.1	В	Т	0.54	12.0) B	3	Т	0.3	38 9.	.9	Α	T	0.46	10.8		В
14		R			В		0.24	8.7	В	_	R 0.1			Α	R	0.15	7.9	Α		R	0.19	8.3						_	R	_				R	0.17	8.0	_	В
	Northbound	LT	0.10	24.6	С	LT	0.10	24.6	С		LT 0.0			С	LT	0.09	24.4	C	\vdash	LT	0.12	24.9	_	LT		_			LT	_			С	LT	0.12	24.9		С
	Southbound	R	0.02	23.8 30.0	C	R	0.02	23.8 30.0	C	+	R 0.0			C	R	0.04	23.9 29.5	C	\vdash	R	0.04	23.9 40.7		R	0.04				R	0.0			C	R	0.07	24.3 29.1		C C
	Coundound	TR	-	31.2	C	TR	0.44	31.2	C	+	TR 0.3			C	TR	0.34	28.6	C		TR		29.9	C	TR				_	TR	0.3			C	TR	0.35	28.5	_	C
		Interse	_	14.5	В	-	section	15.5	В	_	ntersection			В	Interse	ection	13.4	В			ection	17.1	_		ersection	18.2			_	rsection			В	Interse		13.9	_	В
	Beach Channel Drive/Arverne Boulevard and Beach 62nd																																					工
1	Eastbound	LT			F	LT	1.39	215.2	F -	-	LT 1.2		7.2	F	LT	1.49	255.9	F	+	LT	1.76	377.0		Ţ				+	LT				F	Ī	1.37	205.3		
1	Westbound (Beach Channel Drive)	ID	1.37	208.2 289.2	F F	LR	1.59 1.95	305.2	F -	-	T 0.7 LR 1.1	4 31		C F	l D	0.84	37.5 191.6	D F	_	Г	0.79	33.1	С	T	0.87	40.0) D	,	T	0.5			С	T LR	0.66	27.5 144.4		C F +
1	Westbound (Arverne Boulevard)	LR	1.52	269.2	<u> </u>	LK	1.95	477.7	·		LR 1.1	1 110	0.5	_	LR	1.31	191.0	Г		1	0.99	78.2	F		1 10	143.	4 =	_	LR	0.9	90 09	9.0	E	LΚ	1.19	144.4		_
15														-						R	0.02	27.4		R	1.10			: -									_	
	Northbound	LTR	0.68	41.3	D	LTR			D		TR 0.3	1 30).7	С	LTR	0.31	30.7	С		LTR	0.55	34.8		LTR		_		;	LTR	0.3	32 30	0.7	С	LTR	0.32	30.7		С
1	Southbound			61.8					Е								35.8			Ĺ	0.66	48.4		L	0.66)	L		10 34		С	L	0.40			С
1							0.02	27.5	С		R 0.0																				00 27						_	
-	Rockaway Beach Boulevard and Beach 62nd Street	Interse	ection	165.4	<u>F</u>	inters	section	258.2	F	╀	ntersection	10	ხ.ნ	F	interse	ection	159.5	F	\vdash	inters	ection	199.9	F	Inte	ersection	280.	4 F	-	Inte	rsection	n 66	0.6	Ł	interse	ction	122.5)	+
1	Eastbound		0.25	26.7	С	ı	0.25	26.7	С	+	L 0.0	9 24	.4	С		0.09	24 4	С	\vdash	1	0.49	31.3	С	-	0.49	31.3	3 C	: -		0.0	08 24	1.3	С	L	0.08	24.3		-
1	Lastbourid		0.45					9.9			TR 0.5			_	TR		12.0				0.79			_	0.93	_					55 10			TR		12.0	_	В
16	Westbound	LTR						78.0			TR 0.9	9 61	.2	Е	LTR	1.23													LTR				D				_	
1	Northbound	LTR					0.44		С	_	TR 0.4				LTR		37.0				0.37	•		_	0.46	_					27 30		С			31.6	_	С
<u></u>		Interse	ection	27.2	С	Inters	section	50.5	D		ntersection	37	'.6	D	Interse	ection	81.2	F	Щ	Inters	section	168.8	F	Inte	ersection	268.	8 F		Inter	rsectior	າ 24	1.9	С	Interse	ction	64.2		E
1	Beach Channel Drive and Beach 59th Street	17	0.40	140	1 5		0.54	15.5	В	+	IT A	4 1 40		D I	1.7	0.47	14.4	Б	$\vdash \vdash$	1.7	0.50	45.0		1	0.00	17/		+		100	00 1 40	0 O I	В	17 7	0.45	40.0		+
1	Eastbound	R R	•	-			0.54	15.5 9.5			LT 0.4 R 0.0				LT R			B A	_		0.53			_	0.62						38 12 07 9.		B A	LT R		13.8 9.9	_	B A
18	Westbound		_						C		TR 0.6		_									_			R 0.88						36 12							
	Southbound		-				0.02				TR 0.0				LTR		19.5				0.02				R 0.02					0.0			В			19.6	_	В
		Interse	•	-	-	Inters	_	19.8			ntersection	15	5.5	В	Interse	ection	16.9		_		ection				ersection				_	rsection			В			13.6	_	В
	Notes: L = Left Turn. T= Through. R = Right Turn. DefL = De	facto Loft	Turnella	06 - 1 0/0	of Con	ioo - /	Approach	haa na wa		مما ماري	ring this no	alc baue	1/0				Alexander	15		-1-1- :	41	oio ooftu	oro "." o	lonotoo	ojanifican	t adverce	impact											

lotes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. - = Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

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[.] Stop-controlled approach at signalized intersection.

[.] Future intersection created as part of the Proposed Project.

^{3.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

4. The With-Action Weekday PM peak hour delay cannot be reported for the EB-LTR approach due to limitations in the analysis software, however it can be assumed to be greater than the 3549.0 seconds of delay calculated in the No-Action Weekday PM peak hour.

Table 12-44 (continued): 2034 No-Action and With-Action Conditions Level of Service Analysis – Signalized Intersections

		1			Wool	kdov All	M Peak	Hour						Wo	kday M	D Peak H	lour							Wookdo	, DM D	eak Hour				1 .	aturday N	AD Book	Hour		
		-	202	1 No-A		kuay Ai	vi Peak		ith-Action				2024 No	-Action	ekuay ivi	D Peak F		/ith-Action				202	No-Ac		y PIVI P		With-Actio		₩	2034 No-Actio		ID Pear	2034 With	Action	_
		-	_					_	_	1							_		1		-				-			_	╂—			-			
#	Intersection & Approach	Lane			Delay	LOS	Lane		Delay	LOS		Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS		La	-		elay LO	18	ane v		1108		Lane v/c Dela	1108	Lan		Delay	Los
#		Grou	p Rat	10 ((sec)		Group	Ratio	(sec)			Group	Ratio	(sec)		Group	Ratio	(sec)			Gro	up Rat	10 (S	ec)	G	roup Ra	tio (sec)		┡	Group Ratio (sec)	Grou	p Ratio	(sec)	
	Arverne Boulevard and Beach 59th Street		- 0.4	10. [44.0	- Б	_	٥.٢٢	10.4	- Б	-	- 1	0.40	40.7	_ n	_	0.50	14.0			-		4 1 4	0 F D		T 10	7.5 4.0.0		1	T 0.40 40.4	. I D	T =	0.50	44.4	-
	Eastbound	a I R	0.4		11.2	В	R	0.55		В			0.46	10.7 7 9	B		0.52	_	В		-	0.6		3.5 B		T 0.	_		₩	T 0.43 10.3			0.52		В
19	Westbound	d LT	Ų.,		8.5 31.7	A C	LT	0.21 1.36	190.6	F A	H . H	R LT	0.12 0.66	15.4	В	R LT	0.12	27.6	A C		L.	0.1		9.4 D		R 0.	10 0.0		+					0.2	A C
	Southbound	d LTR			15.3	В	LTR		15.4	В	+	LTR	0.00	15.4	В	LTR	0.07	15.3	В		LT		0	5.1 B		_TR 0.			-	LTR 0.15 15.4		_			В
	Southbound	_	rsection		20.3	С		section	98.4			Interse		13.0	В	-		19.1	В			tersection				Intersectio			1	Intersection 11.4			rsection		В
-	Rockaway Freeway and Beach 59th Street	into	10000101	•	20.0	U	into	COCHOIT	30.4			Intoroo	ouom	10.0		IIItoro	COLIOIT	10.1			-"	1010001101		2.7		microcolio	00.0		1	11:-		iiicc	1000001	10.0	-
	Westbound	d I	0.9	95	86.7	F		1.11	133.5	F	+		0.59	50.9	D		0.78	65.9	F	+		. 1.0	0 10	7.5 F	:	L 1.	20 172.3	l F	+	L 0.57 50.	D		0.75	63.0	F +
20	Woodboand	T			9.2	A	Ť	0.11		A		Ť	0.10	10.0	В	Ť	0.10		В		Ī	0.1			3	T 0.			t	T 0.11 10.2		Ť			В
	Southbound	d LTR	_		45.4	D	LTR		54.9	_	+	LTR	0.45	30.9	C	LTR			C			R 0.6	_	7.9 D		TR 0.			1	LTR 0.50 32.					С
		_	rsection		52.4	D		section	74.9	E		Interse		31.3	C			38.2	D			tersection		2.4 D		Intersectio			1	Intersection 30.					D
	Rockaway Beach Boulevard and Beach 59th Street																																•		$\neg \neg$
	Eastbound	d TR	1.0)2	69.4	Е	TR	1.17	120.6	F	+	TR	1.21	138.8	F	TR	1.41	222.0	F	+	TI	R 1.4	7 24	l8.9 F		TR 1.	74 367.9) F	+	TR 1.06 81.6	F	TR	1.25	154.7	F +
21	Westbound	d LT	1.1		100.6	F	LT	1.36	200.5	F	+	LT	1.14	115.2	F	LT	1.23	151.0	F	+	Ľ		55 28	85.8 F		LT 2.			+	LT 0.97 61.	E	LT		150.6	F +
21	Northbound	d LR			58.9	Е	LR		84.3	F	+	LR	0.33	30.3	С	LR	0.32		С			R 0.4		2.2 C		LR 0.				LR 0.35 30.2				31.4	С
	Southbound	d LTR			34.5	С	LTR			Е	+	LTR	0.40	19.7	В	LTR	0.44		С		LT		_			LTR 0.				LTR 0.36 18.5					С
		Inte	rsectior	1	71.5	Е	Inter	section	131.5	F		Interse	ction	108.2	F	Inters	ection	158.9	F		In	tersection	21	14.0 F		Intersectio	n 345.1	F		Intersection 60.9) E	Inte	rsection	122.2	F
	Beach Channel Drive and Beach 54th Street																																		
	Eastbound	d T	0.4		14.2	В	Т	0.55	15.9	В	Ш	Т	0.48	14.4	В	Т	0.57	16.0	В	Ш	T	0.5		5.2 B	3	T 0.			1	T 0.41 13.2		Т	0.49	14.5	В
		R			9.5	Α	R	0.02	9.5	Α		R	0.01	9.4	Α	R	0.01	9.5	Α			0.0		9.6 A		R 0.				R 0.03 9.6					Α
22	Westbound	d LT			22.8	С	LT		32.4	С		LT	0.63	18.4	В		0.73		С			T 0.7				LT 0.		_		LT 0.60 17.3	_				С
	Northbound	d LR	_	-	22.1	С				С		LR	0.33	25.2	С	LR	0.38	27.1	С			R 0.2				LR 0.			┡	LR 0.18 21.8					С
	Southbound	d LTR	0.3		23.4		LTR		24.8	C	-	LTR Interse	0.34	23.8	C	LTR	0.39	25.1	С			R 0.2 tersection		3.1 C	_	_TR 0.			1	LTR 0.25 22.3					С
	A service Bandana de Banda 54th Otana	inte	rsection	1	19.8	В	inter	section	25.0	С		interse	cuon	18.1	В	Inters	ection	20.2	С		ın	tersection	1	8.7 B	3	intersectio	1 21.5	С	₩	Intersection 16.8	БВ	inte	rsection	18.4	В
	Arverne Boulevard and Beach 54th Street Eastbound	d LTR	0.7	71	28.5	C	LTR	0.81	34.0	С		LTR	0.81	34.7	С	LTR	0.92	45.3	D	_	LT	R 1.1	1 0	6.6 F		TR 1.	28 165.3	B F	-	LTR 0.73 29.0) C	LTF	0.84	35.9	D
	Westbound	d LTR			29.5	C	LTR		148.5	F	+	LTR	0.51	23.4	C	LTR	0.92	_		т	LT			2.5 C		TR 1.			+	LTR 0.73 29.0					E +
23	Northbound	d LTR			15.9	В	LTR			В		LTR	0.58	20.7	Č				C			R 0.5				TR 0.	_		t	LTR 0.41 17.0					C
	Southbound	d LTR	_	_	23.2	C	LTR		23.3	C		LTR	0.22	24.1	Č	LTR	0.23	24.2	Ċ		LT		_	3.6 C		TR 0.			1	LTR 0.15 23.	_	_			C
			rsection		25.8	C		section	72.4	Ē		Interse		27.2	C	Inters		35.7	D			tersection		0.2 E		Intersectio			1	Intersection 24.					D
	Rockaway Freeway and Beach 54th Street												•						•											•					
	Eastbound	d LTR	0.0)7	16.2	В	LTR	0.07	16.2	В		LTR	0.05	16.1	В	LTR	0.05	16.1	В		LT	R 0.1	0 1	6.6 B	3 I	LTR 0.	10 16.6	В		LTR 0.09 16.4	I В	LTF	0.09	16.4	В
	Westbound	d L	0.2		38.8	D	L	0.44	44.3	D		L	0.03	36.0	D	L	0.26	39.8	D		L	. 0.2		9.2 D		L 0.	14 44.3	D		L 0.05 36.2	2 D	L	0.25	39.6	D
24		TR			10.4	В	TR		10.7	В		TR	0.21	9.5	Α		0.24		Α			R 0.3		0.6 B		TR 0.	35 10.9			TR 0.23 9.7					Α
	Northbound	d LTR	_		27.0	С	LTR		31.0	С		LTR	0.62	31.0	С	LTR	0.81		D		LT		_	_		LTR 0.			+	LTR 0.50 28.2					D
	Southbound	d LTR	_	_	26.9		LTR		28.2	С		LTR	0.68	33.3	С	LTR			D			R 0.6	_			TR 0.			_	LTR 0.52 28.					С
		Inte	rsectior	1	21.2	С	Inter	section	24.4	С		Interse	ction	26.8	С	Inters	ection	31.5	С		In	tersection	1 2	5.2 C	;	Intersectio	n 36.3	D		Intersection 22.1	' C	Inte	rsection	27.2	С
	Edgemere Avenue and Beach 54th Street			- I	100.1	_		0.54	1400.0	-			0 ==	700 7	-			4500.0	_			-		100 5		T		_	₩	1.TD 0.04 504	- 1 -			4450.0	
	Eastbound Westbound	d LTR			420.1 39.8	-	LTR				+	LTR LTR	2.55	732.7 73.9	F	LTR	4.45 1.05		F	+	LT LT			49.0 F			~ ~~ 26 153.0	~~	+	LTR 2.21 581.		LTF		1158.0 31.8	F +
25 ⁴	Westbound Northbound	d LTR d LTR			21.4	D C	LTR LTR		39.8 21.4	D C		LTR	1.05 0.00	21.4	C	LTR LTR	0.00		C	H		R 0.0				_TR 1. _TR 0.			1	LTR 0.81 31.8 LTR 0.00 21.4		LTF LTF			C
	Southbound	d LTR		_	15.8		LTR			В		LTR	1.27	169.8	F	LTR	1.61		F	+	LT		_	65.5 F		TR 1.			+		_				F +
	Southbound		rsection		194.0	F		section	529.8	F		Interse		356.6	Ė	Inters		762.8				tersection		55.0 F		Intersectio		~~	÷	Intersection 281.				586.0	:
-	Beach Channel Drive and Beach 51st Street	into	10000101		134.0	-	into	COCHOIT	020.0			Intoroo	ouom	000.0	<u> </u>	intoro	COLIOIT	702.0	'			1010001101	10	00.0		miorocolio	· .		1	intereconon 201	J 1	iiic	1000001	500.0	
	Eastbound	d L	0.1	8	11.7	В	L	0.19	11.9	В		L	0.19	11.7	В	L	0.21	12.1	В			0.0	8 1	0.3 B	3	L 0.	09 10.5	В	1	L 0.07 10.0) В	L	0.07	10.1	В
		TR	0.6	69	20.5	C	TR	0.80	26.1	C		TR	0.65	18.9	В	TR	0.71	20.9	C		T	R 0.7	4 2	2.1 C	;	TR 0.	30 25.5	C		TR 0.55 16.	В	TR	0.63	18.2	В
29	Westbound	d LT	_	_	17.6	В	LT					LT	0.60	16.9	В		0.64		В			T 0.5				LT 0.	_			LT 0.47 14.3		_			В
		R	0.0)7	9.9	В	R	0.07	9.9	В		R	0.04	9.7	В	R	0.04	9.7	В		F	R 0.0	5 9	9.7 B	3	R 0.	05 9.7	В	1	R 0.02 9.5	В	R	0.02	9.5	В
	Northbound	d LTR	0.0)1	19.5	В	LTR	0.02	19.5	В		LTR	0.03	19.7	В	LTR	0.04	19.7	В		LT	R 0.0	1	9.6 B	3	LTR 0.	03 19.6	В		LTR 0.03 19.0	в В	LTF	0.03	19.6	В
		Inte	rsectior	ì	18.2	В	Inter	section	21.3	С		Interse	ction	17.3	В	Inters	ection	18.9	В		In	tersection	1	8.8 B	3	Intersectio	າ 21.2	С		Intersection 15.0) B	Inte	rsection	16.5	В
	Rockaway Freeway and Beach 44th Street																																		
	Eastbound	d L	0.0		36.4	D	L	0.06	36.4	D		L	0.04	36.1	D	L	0.04	36.1	D		L	. 0.0		6.1 D		L 0.				L 0.07 36.0		L	0.07		D
		TR	_		19.7	В	TR		19.7	В		TR	0.16	17.1	В	TR	0.16		В			R 0.3		9.8 B		TR 0.				TR 0.23 17.9					В
39	Westbound	d L	0.0		10.4	В	L	0.02	10.4	В		L	0.01	8.1	Α	L	0.01	8.1	Α		L			0.7 B		L 0.			_	L 0.02 8.6			0.02		A
1		TR		_	19.3		TR	_		В	lacksquare	TR	0.23	18.0	В		0.27		В	Ш	TI			-		TR 0.			1	TR 0.28 18.5	_				В
	Northbound	d LTR	_		21.7	С	LTR			C		LTR	0.03	21.7	C		0.08	22.2	С	Ш	LŢ			1.8 C		_TR 0.			1	LTR 0.02 21.0					C
	Southbound	d LTR			22.9	С	LTR		26.5	C	ш	LTR	0.11	22.8	С	LTR	0.29	25.5	С	Ш		R 0.1		3.7 C	_	LTR 0.	DO LIL	_	1	LTR 0.11 22.0				24.9	C
			rsection		19.9	В		section	20.9	С		Interse		18.5	В	Inters		19.9	В			tersection	_	0.0 C		Intersectio			1	Intersection 18.9) B	inte	rsection	20.0	С
1	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Def	efacto I a	aff Turn	· I OS ·	- I aval (of Sanii	- 00	Annroad	hae no vo	luma rac	habro	during thi	a naak h	OUR	vila ratio	or dolay	avaaad	a tha mavir	aum limit	ronor	rtable	in the on	alveie e	attware "+"	" denot	es signific:	nt adverse	impact							

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. - = Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

1. Stop-controlled approach at signalized intersection.

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^{2.} Future intersection created as part of the Proposed Project.

^{3.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

4. The With-Action Weekday PM peak hour delay cannot be reported for the EB-LTR approach due to limitations in the analysis software, however it can be assumed to be greater than the 3549.0 seconds of delay calculated in the No-Action Weekday PM peak hour.

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Table 12-44 (continued): 2034 No-Action and With-Action Conditions Level of Service Analysis – Signalized Intersections

				Wee	ekday Al	M Peak Ho	our					We	ekday M	D Peak H	lour						Wee	ekday Pi	M Peak H	our						Satu	day ME) Peak I	Hour			\Box
			2034 N	o-Action		2	2034 With	-Action			2034 No	o-Action			2034 Wi	th-Action				2034 No	-Action			2034 Wi	th-Action			2034	4 No-A	ction			2034 W	ith-Acti	on	
		Lane	v/c	Delay	LOS	Lane	v/c	Delay	Los	Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS		Lane	v/c	Delay	LOS	Lane	v/c	Delay	LOS	La	ane v/	с [Delay	108	Lane	-	Dela	ıy ,	os
#	Intersection & Approach	Group	Ratio	(sec)	L03	Group	Ratio	(sec)	203	Group	Ratio	(sec)	L03	Group	Ratio	(sec)	LOS	(Group	Ratio	(sec)	L03	Group	Ratio	(sec)	L03	Gr	oup Rat	tio ((sec)	LOS	Group	Ratio	(sec	<u>.) </u>	03
	Beach Channel Drive/Seagirt Boulevard and Beach 35th S																																_			
	Eastbound	LTR		19.3	В	LTR	1.01dl	24.0	С	LTR	0.57	18.1	В	LTR	0.66	22.3	С			0.88dl	22.7	С	LTR	1.01dl	32.1	C		TR 0.5		16.1	В	LTR	0.59	18.7	_	В
401.5	Westbound	LT LT	0.65 0.16	16.4 22.0	B C	LT LT	0.75 0.16	23.5	C	LT LT	0.50	15.1 22.4	C	LI	0.58	19.1 22.4	В		LT LT	0.63	20.7	C	LT LT	0.75	30.2 22.1	C		LT 0.4 LT 0.1		12.7 22.3	B C	LT LT	0.54	17.8 22.3		B C
40 ^{1,3}	Southbound	R	0.16	10.3	В	R	0.16		В	R	0.20	11.6	B	LT R	0.20	14.7	C B		R	0.17 0.70	12.5	В	R	0.17	17.3	В		R 0.6		10.6	В	R	0.18	12.5	_	В
	Northbound	LTR		17.3	В	LTR	0.00	17.2	В	LTR	0.22	11.7	B	LTR	0.72	11.6	B		LTR		12.9	В	LTR		12.9	В		TR 0.1	_	11.6	B	LTR		11.5		В
	Horabound	Interse		20.1	C	Interse		22.5	C	Interse		19.4	В	Inters		21.8	C		Interse		22.0	C	Interse		27.4	C		ntersection	_	18.3	В		section	19.7	_	В
	Rockaway Freeway and Beach 35th Street										ľ																									
	Eastbound	L	0.07	35.2	D	L	0.07	35.2	D	L	0.05	34.9	С	L	0.05	34.9	С		L	0.06	34.9	С	L	0.06	34.9	С		L 0.0)2	34.2	С	L	0.02	34.2	2	С
		TR	0.54	22.1	С	TR	0.58	22.9	С	TR	0.38	19.0	В	TR	0.41	19.5	В		TR	0.69	26.3	С	TR	0.72	27.8	С	_	ΓR 0.4	10	19.2	В	TR	0.43	19.7	7	В
41 ³	Westbound	L	0.01	40.5	D	L	0.01	41.0	D	L	0.00	0.0	-	L	0.00	0.0	-		L	0.00	0.0	-	L	0.00	0.0	-		L 0.0		49.0	D	L	0.00	49.0	_	D
17'		TR	0.61	10.2	В	TR	0.64	10.4	В	TR	0.47	6.9	Α	TR	0.50	7.0	Α		TR	0.58	9.1	Α	TR	0.63	10.6	В		ΓR 0.4		8.6	Α	TR	0.52	8.7	_	Α
	Southbound	LTR		8.9	A	LTR	0.27		A	LTR	0.36	10.1	В		0.36	10.1	В			0.25	8.2	A	LTR		8.2	A		TR 0.3		10.3	В	LTR		10.3		В
	Northbound	LTR Interse		26.7	С	LTR Interse	0.16	26.7	С	LTR	0.32	29.1	C B	LTR		29.1	C B		LTR Interse	0.26	28.0	<u> </u>	LTR		28.0	С		TR 0.2	_	27.1	С	LTR	_	27.1		С
-	Rockaway Freeway and Seagirt Boulevard	interse	ะบนป1	16.0	В	mierse	CHUII	16.4	В	Interse	JUIUII	14.5	В	Inters	CCIIOII	14.6	В	\vdash	merse	oction!	18.6	В	Interse	CUUII	19.7	В		nersectior		14.3	В	milers	section	14.5		В
	Eastbound		0.19	38.8	D	1	0.28	41.3	D	-	0.16	38.3	D	1	0.23	39.4	D	\vdash		0.21	38.3	D	1	0.28	40.6	D		L 0.2	20 1	41.0	D	1	0.28	43.4	4 —	D
1	Lasibound	TR	0.23	42.3	D	TR	0.25	75.9	E +	TR	0.18	62.1	Ē	TR	0.23	83.8	F	+	TR	0.24	84.8	F	TR	0.26	85.5	F	-	ΓR 0.1	_	24.9	C	TR	0.19	32.1		C
42 ³	Westbound	LTR	0.62	34.1	С	LTR	0.66	35.2	D	LTR	0.51	32.1	C	LTR	0.54	32.6	C	_		0.71	37.1	D	LTR	0.75	39.3	D		TR 0.5		32.9	C	LTR		33.4	_	C
-	Southbound	TR		26.7	С	TR	0.66	29.9	С	TR	0.56	27.0	С	TR	0.67	31.0	С			0.65	29.8	С	TR	0.81	39.2	D		ΓR 0.4		24.7	С	TR	_	27.5	5	С
	Northbound	TR	0.63	12.2	В	TR	0.67	13.1	В	TR	0.54	13.5	В	TR	0.58	13.7	В		TR	0.94	34.5	С	TR	0.98	42.4	D		TR 0.5	50	12.1	В	TR	0.54	12.2	2	В
		Interse	ection	28.1	С	Interse	ction	34.5	С	Interse	ection	32.4	С	Inters	ection	37.9	D		Interse	ection	41.4	D	Interse	ection	46.6	D	li li	ntersectior	1	25.4	С	Inters	section	27.5	5	С
	Rockaway Freeway and Beach 25th Street																																			
	Eastbound	LTR		30.9	С	LTR	0.59	30.9	С	LTR		24.1	C	LTR		24.1	С		LTR		25.5		LTR		25.5	С		TR 0.1	_	23.4	C	LTR		23.4	_	С
	Westbound Northbound	LTR	0.62	33.5 37.6	C D	LTR	0.70	38.3 37.6	D D	LTR	0.33	25.6	C	LTR	0.36	26.2 37.1	C D	-	LTR	0.36	26.2 37.3	C D	LTR	0.40	26.9 37.3	C D		TR 0.2 L 0.1	_	24.7 36.0	C D	LTR	0.30	25.1 36.0	_	C D
43	Nottribourid	TR	0.20	24.3	C	TR	0.20	26.6	C	TR	0.17	24.5	C	TR	0.17	26.7	C		TR	0.16	23.8	С	TR	0.16	25.5	С		ΓR 0.4		21.3	C	TR	0.10	22.7		C
	Southbound	111	0.17	37.2	D	L	0.03		D	L	0.38	36.6	D	1	0.03	36.6	D			0.34	36.2	D	1	0.01	36.2	D		L 0.4	_	36.9	D	1	0.16	36.9	_	D
	03411234114	TR		25.4	C	TR	0.68	26.9	C	TR	0.45	21.6	C	TR	0.50	22.5	C			0.44	21.4	C	TR	0.52	22.7	C		ΓR 0.3	-	19.9	В	TR		20.7	_	C
		Interse	ection	28.1	С	Interse	ction	29.8	С	Interse	ection	24.4	С	Inters	ection	25.5	С		Interse	ection	24.3	С	Interse	ection	25.3	С	li li	ntersection	1	22.5	С	Inters	section	23.2	2	С
	Rockaway Freeway and Cornaga Avenue							•												-																
	Eastbound	LTR		21.3	С	LTR	0.35	21.3	С	LTR	0.18	19.3	В	LTR	0.18	19.3	В		LTR	0.22	19.0	В	LTR	0.22	19.0	В		TR 0.1		18.9	В	LTR	0.15	18.9		В
١	Westbound	LTR		67.8	E	LTR	1.00	72.2	E +	LTR	0.71	32.8	С	LTR	0.72	33.6	С			0.86	44.4	D	LTR	0.87	45.8	D		TR 0.5	_	25.8	С	LTR	0.54	26.0	_	С
44	Northbound	TR	0.72	34.3	С	TR	0.81	40.0	D	TR	0.59	29.8	C	TR	0.65	31.7	С	_	TR	0.64	32.6	С	TR	0.71	35.0	D	_	ΓR 0.4	_	26.9	С	TR	0.53	28.4	_	С
	Southbound	TR	0.08	36.7 14.9	D B	TR	0.08	36.7 15.4	D B	TR	0.12 0.27	37.4 14.3	D B	TR	0.12	37.4 14.8	D B			0.13	37.6 15.4	D B	TR	0.13	37.6 16.4	D B	-	L 0.1 FR 0.2	_	37.6 14.0	D B	TR	0.14	37.6 14.6	_	D B
		Interse		37.8	D	Interse			D	Interse		26.2	С	Inters		27.0	С		Interse		30.5	С	Interse		31.2	С		ntersection	_	22.7	С		section	23.2	_	С
	Beach Channel Drive and Cornaga Avenue		001.011	01.0			0011	10.1				20.2	Ŭ			21.0	Ť		toroc	, o.i.o.i.	00.0	<u> </u>			01.2					22.1				20.2	ــــــــــــــــــــــــــــــــــــــ	Ť
	Eastbound	LTR	0.36	21.8	С	LTR	0.36	21.8	С	LTR	0.19	19.4	В	LTR	0.19	19.4	В		LTR	0.22	19.8	В	LTR	0.22	19.8	В	L	TR 0.1	18	19.4	В	LTR	0.18	19.4	4	В
	Westbound	LTR	0.42	23.2	С	LTR	0.42	23.2	С	LTR	0.32	21.4	С	LTR	0.32	21.4	С		LTR	0.45	23.6	С	LTR	0.45	23.6	С	L	TR 0.2	25	20.3	С	LTR	0.25	20.3	3	С
45	Northbound	L	0.07	12.8	В	L	0.08		В	L	0.04	12.4	В	L	0.05	12.5	В		L	0.06	12.6	В	L	0.07	12.9	В		L 0.0		12.1	В	L	0.03	12.1		В
-3		TR	0.64	20.5	С	TR	0.70	22.4	С	TR	0.57	18.9	В	TR	0.60	19.6	В	oxdot	TR	0.61	19.7	В	TR	0.64	20.6	С		TR 0.5		17.6	В	TR	0.55	18.3		В
	Southbound	L	0.17	14.4	В	L TD	0.21		В	L	0.14	14.1	В	L	0.15	14.5	В	\vdash		0.10	13.2	В	L	0.11	13.5	В	⊢-	L 0.0	_	12.7	В	L	0.08	12.8	_	В
		TR Interse		21.3 21.1	C	TR Interse	0.70	22.4	C	TR Interse	0.58	19.0 19.2	B B	TR Inters	0.61	19.8 19.7	B B	\vdash	TR Interse	0.61	19.6 20.1	B C	TR Interse	0.66	21.1 21.0	C		TR 0.5	_	18.1 18.1	B B	TR	0.57 section	18.9 18.7	_	В
	Beach Channel Drive and Mott Avenue	iiileise	COUOII	∠1.1	C	milerse	Odon	LL.L	U	iiileisi	JUIUII	19.2	В	inters	COUUII	19.7	B	\vdash	micist	JULIUIT	∠U. I	C	interse	COLIUII	Z1.U	U		incise CliOI	<u>. </u>	10.1	D	mileis	occuUII	18.7	<u> </u>	В
	Eastbound	LTR	1.02	78.7	F	LTR	1.07	94.3	F +	LTR	0.74	37.0	D	LTR	0.78	39.9	D	\vdash	LTR	0.89	53.6	D	LTR	0.91	58.7	F	+ 1	TR 0.7	74	36.5	D	LTR	0.76	38.3	3 T	D
	Westbound	LT	0.59	29.9	C	LT	0.69	35.1	D	LT	0.68	34.7	C	LT	0.74	38.5	D	_	LT	0.72	34.6	C	LT	0.76	37.9	D		LT 0.6	_	30.4	C	LT	0.66	32.2		C
1		R	0.19	11.2	C	R	0.19	11.2	С	R	0.16	11.3	C	R	0.16	11.3	С		R	0.22	11.5	C	R	0.22	11.5	C		R 0.1	_	10.9	C	R	0.18	10.9	_	С
46	Northbound	L	0.20	26.3	С	L	0.21	26.8	С	L	0.28	29.0	С	L	0.34	32.3	С		L	0.25	28.5	С	L	0.30	30.9	С		L 0.2	20	26.3	C	L	0.25	28.5	5	С
I		TR	1.33	188.4		TR		272.4		TR						193.6								1.52				ΓR 1.2				TR				F +
I	Southbound							125.7								134.1									235.7			L 1.3			F			207.		F
1			0.95		_			49.8														_	TR					TR 0.8	_							С
-	Development Drive and Division of Division	Interse	ection	93.9	F	Interse	ction	127.1	F	Interse	ection	75.0	E	Inters	ection	90.4	F	L.	Interse	ection	126.3	F	Interse	ection	154.5	F		ntersectior	1	88.4	F	Inters	section	107.	1	F
1	Beach Channel Drive and Dix Avenue Eastbound	LTR	0.50	24 E		LTD	0.50	31.5	<u> </u>	LTD	0.52	20.4		LTD	0.52	30.1	C	\vdash	LTD	0.00	22.0		LTR	0.00	22.8	С		TR 0.1	10	20.6		LTD	0.10	20.6		С
						LTR			_							47.8									39.4	D		TR 0.1					0.10	_		C
47		LTR																							109.0								0.56		1	
	Southbound	LTR						15.2															LTR			С		TR 0.6							0	
	Sattibound	Interse		64.3		Interse			F	Interse				Inters		60.5			Interse		44.6			•	54.8	D		ntersection	_	17.6	В			18.3	_	В
	Notes: L = Left Turn. T= Through. R = Right Turn. DefL = De												_	-		•																				

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. - = Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

1. Stop-controlled approach at signalized intersection.

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^{2.} Future intersection created as part of the Proposed Project.

^{3.} Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

1. The With-Action Weekday PM peak hour delay cannot be reported for the EB-LTR approach due to limitations in the analysis software, however it can be assumed to be greater than the 3549.0 seconds of delay calculated in the No-Action Weekday PM peak hour.

Table 12-44 (continued): 2034 No-Action and With-Action Conditions Level of Service Analysis – Signalized Intersections

				Wee	ekday A	M Peak H	lour						Wee	kday M	D Peak H	lour						Wee	kday PN	l Peak H	our					Sa	turday M	D Peak H	lour		$\overline{}$
			2034 N	o-Action			2034 Wit	h-Action				2034 No	-Action			2034 Wi	h-Action				2034 No-	-Action			2034 Wit	h-Action			2034	No-Action			2034 Witl	h-Action	
#	Intersection & Approach	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	La Gro	ne v/ up Rat		LOS	Lane Group		Delay (sec)	LOS
	Beach Channel Drive and Birdsall Avenue		•										` '				` '					•													
	Eastbound	LR	0.02	19.6	В	LR	0.02	19.6	В		LR	0.05	20.6	С	LR	0.05	20.6	С		LR	0.05	20.6	С	LR	0.05	20.6	С	L	R 0.0	3 19.7	В	LR	0.03	19.7	В
	Westbound	LTR	0.40	24.8	С	LTR	0.40	24.8	С		LTR	0.22	22.7	С	LTR	0.22	22.7	С		LTR	0.35	24.7	С	LTR	0.35	24.6	С	L7	R 0.4	2 25.4	С	LTR	0.42	25.4	С
48	Northbound	LT	0.90	31.6	С	LT	1.00	50.3	D	+	LT	0.84	25.3	С	LT	0.89	29.3	С		LT	0.80	22.7	С	LT	0.85	26.0	С	L	Г 0.8	0 23.2	С	LT	0.86	27.4	С
	Southbound	Т	0.79	22.5	С	Т	0.83	24.6	С		Т	0.87	26.9	С	Т	0.91	31.2	С		Т	0.98	43.0	D	Т	1.07	67.3	Е	+	0.9	0 30.7	С	Т	0.96	39.7	D
		R	0.02	9.5	Α	R	0.02	9.5	Α		R	0.01	9.0	Α	R	0.01	9.0	Α		R	0.01	9.0	Α	R	0.01	9.0	Α	F	0.0	0 9.4	Α	R	0.00	9.4	Α
		Inters	section	26.8	С	Inters	ection	36.6	D		Interse	ction	25.8	С	Inters	ection	29.7	С		Interse	ection	33.2	С	Inters	ection	47.3	D	In	ersection	27.0	С	Inters	ection	33.1	С
	Beach Channel Drive and Nameoke Avenue																																		
	Eastbound	LTR	0.77	38.5	D	LTR	0.77	38.5	D		LTR	0.53	30.8	С	LTR	0.53	30.8	С		LTR	0.36	24.4	С	LTR	0.36	24.4	С	L1	R 0.3	5 24.9	С	LTR	0.35	24.9	С
	Northbound	L	0.20	15.0	В	L	0.25	18.2	В		L	0.19	14.1	В	L	0.19	14.1	В		L	0.17	15.0	В	L	0.17	15.0	В	l	0.0	6 10.7	В	L	0.06	10.7	В
49		TR	1.30	165.7	F	TR	1.43	220.9	F	+	TR	1.24	136.7	F	TR	1.30	164.5	F	+	TR	1.16	106.9	F	TR	1.22	131.6	F	+ T	₹ 1.1	2 91.3	F	TR	1.20	122.6	F +
	Southbound	L	0.68	52.0	D	L	0.68	52.0	D		L	1.31	222.8	F	L	1.36	243.6	F	+	L	0.95	95.1	F	L	1.25	202.5	F	+ [0.6	6 43.2	D	L	0.81	74.0	E +
		IR	1.17	109.6	<u> </u>	IR	1.22	129.8	F -	+	TR	1.28	155.9	F -	IR	1.34	181.7	F	+	IR	1.47	239.9	F -	IR	1.59	294.3	F -	+ 1	R 1.2		<u> </u>	IR	1.32	172.8	F +
		Inters	section	121.1	F	inters	ection	155.2	F		Interse	ction	138.8	F	Inters	ection	163.0	F		Interse	ection	164.9	F	Inters	ection	208.0	F	ın	ersection	107.4	F	Inters	ection	137.8	<u> </u>
	Beach Channel Drive and Hassock Avenue Eastbound	LD	0.17	10.2	В	LD	0.17	10.2	D	-	LD	0.12	24.0		LD	0.12	24.0	-		LD	0.12	10.0	В	LD	0.12	10.0	D		2 0 1	0 10 5	В	LD	0.10	19.5	В
	Westbound	LK	0.17	20.0	C	LK	0.17	20.0	<u> </u>		LK	0.13	23.0	C	LK	0.13	23.9	C		LK	0.13	21.3	<u> </u>	LR I	0.13	21.2	<u> </u>	-	0.1	3 20.1	C	LK	0.18	20.1	C
	Westbound	TP	0.22	10.0	B	TP	0.22	10.0	В	-	TD	0.34	20.9	C	TP	0.34	20.3	C		TP	0.30	10.7	B	TD	0.30	10.4	B	<u> </u>	0.2	3 18.8	B	TP	0.23	18.8	В
50	Northbound	LT	0.10	20.1	0	LT	1.00	40.2	D	+	LT	0.00	17.6	B	LT	0.00	20.3	C		LT	0.17	30.0	C	LT	0.17	35.5	D		T 0.	2 33.4	C	IT.	1.04	59.8	E +
	Southbound	+	0.00	45.9	Ď	T	1.00	57.3	F	+	T	1.03	58.8	F	Ť	1.08	75.5	F	+	T	1 22	132.6	F		1.33	179.8	F	+ -	1 1 1	0 83.6	F		1.04	113.1	F +
	Couribound	R	0.08	11.5	B	R	0.08	11.5	B		R	0.05	9.7	Ā	R	0.05	9.7	A		R	0.19	12.6	B	R	0.19	12.6	B	F	0.1	3 12.0	В	R	0.13	12.0	В
		Inters		33.8	C	Inters	ection	48.1	D		Interse		35.4	D	Inters		43.8	D		Interse	ection	74.8	E	Inters	0	100.3	F	- In	ersection	0 .2.0	D	Inters		75.9	E

Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. -= Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

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[.] Stop-controlled approach at signalized intersection.

^{2.} Future intersection created as part of the Proposed Project.

3. Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

4. The With-Action Weekday PM peak hour delay cannot be reported for the EB-LTR approach due to limitations in the analysis software, however it can be assumed to be greater than the 3549.0 seconds of delay calculated in the No-Action Weekday PM peak hour.

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Table 12-45: 2034 No-Action and With-Action Conditions Level of Service Analysis – Unsignalized Intersections

				Wee	kdav Al	M Peak H	lour		1	1		Week	kdav MI	D Peak Ho	our			1			Wee	kdav PN	1 Peak H	our					Sati	urday MD) Peak H	our		\top
			2034 No	o-Action			2034 Wit	h-Action			2034 No-				034 With	-Action		_		2034 No				2034 Wit	n-Action			2034 No	-Action	1		2034 With	-Action	十
1		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay .		1	Lane	v/c	Delav		Lane	v/c	Delay		Lane	v/c	Delay		Lane	v/c	Delay	
	between the O. Annual and	Group		(sec)	LOS	Group		(sec)	LOS		Ratio	(sec)	LOS			(sec)	LOS			Ratio	(sec)	LOS		Ratio	(sec)	LOS	Group		(sec)	LOS	Group		(sec) LO	S
#	Intersection & Approach Rockaway Freeway and Beach 94th Street			(/				()				()				(/		-			(/				(/		+ + - ' '		(/				(,	-
11 ¹	Northbound	Т	0.05	9.2	Α	Т	0.05	9.2	Α	т	0.06	9.3	Α	Т	0.06	9.3	Δ		т	0.07	9.3	Α	т	0.07	9.3	Α	T	0.07	9.3	Α	т	0.07	9.3 A	+
	Beach Channel Drive and Beach 73rd Street		0.00	0.2		<u> </u>	0.00	0.2		 	0.00	0.0	,,		0.00	0.0		-		0.07	0.0	, · ·		0.01	0.0		tt	0.01	0.0	Λ,		0.07	0.0 /	+
13 ¹	Eastbound	R	0.14	9.1	Α	R	0.14	9.1	Α	R	0.10	8.8	Α	R	0.10	8.8	Α		R	0.26	9.7	Α	R	0.26	9.7	Α	R	0.15	9.1	Α	R	0.15	9.0 A	
	Northbound	R	0.12	12.0	В	R	0.13	13.2	В	R	0.17	12.9	В	R	0.20	14.4	В		R	0.21	16.5	С	R	0.29	22.6	С	R	0.12	12.2	В	R	0.14	13.8 B	
	Beach Front Road and Beach 62nd Street									_	T T						_	_									L					T		_
17	Eastbound Westbound		0.25		B B			11.8 10.5	B B	TR	0.32	11.8 10.3	B B				B B		LT TR	0.39	12.7 10.4	B B		0.44	13.5 10.6	B B	LT TR		11.6 10.1	B B	LT TR	0.32	12.2 B 10.3 B	
	Southbound		0.20		A	LTR		7.2	A	LTR		7.3	A				A		LTR	0.14	7.3	A	LTR	0.14	7.3	A	LTR		7.5		LTR		7.5 A	
	Beach Channel Drive and Beach 53rd Street	LIIX	0.00	7.2	,,	LIII	0.00	1.2			0.00	7.0	, ·	LIIV	0.00	7.0				0.01	1.0		LIII	0.01	7.0			0.00	1.0		LIII	0.00	7.0	+
26	Westbound	LT	0.04	9.9	Α	LT	0.13	17.9	С	LT	0.07	11.3	В	LT	0.26	25.4	D		LT	0.05	9.4	Α	LT	0.57	58.7	F	+ LT	0.04	8.4	Α	LT	0.28	23.5 C	
	Northbound	LR	0.33	29.3	D	LR	3.73	1381.0	F +	LR	0.53	45.8	Е	LR	4.38	1740.0	F -	+	LR	0.42	29.3	D	LR	19.33	9057.0	F	+ LR	0.25	17.2	С	LR	4.16	1609.0 F	+
_	Rockaway Beach Boulevard and Beach 53rd Street																													*				
27 ⁶	Eastbound			9.4			0.21		С		0.06			LT													+ LT							
_	Southbound Rockaway Beach Boulevard and Beach 52nd Street	LR	0.20	15.5	С	LR	2.16	612.2	+ +	LR	0.21	21.6	C	LR	1.65	449.5	Η .	+	LR	0.39	32.9	D	LR	~~	~~	~~	+ LR	0.25	20.3	С	LR	3.37	1209.0 F	+
	Eastbound	LTR	0.01	8.5	Α	LTR	0.11	11.1	В	LTR	0.01	9.3	Δ	LTR	0.13	13.0	В	-	LTR	0.02	9.0	Α	LTR	0.17	13.3	В	LTR	0.01	9.0	Α	LTR	0.11	11.7 B	+
28 ⁷	Westbound		0.00		A			8.6	A		0.00	8.4	A				A		LTR	0.02	9.0	A	LTR		9.9	A		0.00			LTR		9.2 A	
l	Northbound		0.00	16.0	C	LR	0.21	86.0	F 5		0.00	22.9	C	LR	~~				LR	0.01	21.7	C	LR	~~	~~	~~	5 LR	0.00	18.1	C	LR	0.0.	239.8 F	
	Southbound	LTR	0.01	14.4	В	LTR	0.91	157.4	F 5	LTR	0.01	26.7	D	LTR	1.53	406.5	F -	+ [LTR	0.02	21.1	С	LTR	3.10	1223.0	F	5 LTR	0.01	20.7	С	LTR	1.13	247.1 F	5
	Beach Channel Drive and Beach 50th Street																																	
30	Westbound		0.02		Α			10.6	В	LT			Α			12.0				0.04	10.0	Α			13.1	В			9.3		LT		11.1 B	
	Northbound	LR	0.09	16.0	С	LR	0.46	28.5	D	LR	0.07	15.3	С	LR	0.48	31.4	D -	+	LR	0.07	17.9	С	LR	0.52	39.6	Е	5 LR	0.07	16.1	С	LR	0.40	26.8 D	
24	Rockaway Beach Boulevard and Beach 50th Street Eastbound	I.T.	0.01	8.3	Α	LT	0.09	9.0	Α	1.7	0.01	8.2	Α	LT	0.07	9.0	Α		LT	0.01	8.2	Α	LT	0.05	8.9	Α	LT	0.01	8.2	Α	I.T.	0.05	8.8 A	-
31	Southbound		0.01		B	LR	0.09	20.5	C	LR	0.01	13.3	В				C		LR	0.01	14.1	R	LR	0.05	27.4	D	LR	0.01	13.1	B	LR	0.03	21.6 C	
	Beach Channel Drive and Beach 52nd Street	LIV	0.00	12.0		LIX	0.20	20.0		LIX	0.00	10.0		LIX	0.27	21.7			LIX	0.00	17.1		LIX	0.00	21.7		LIX	0.00	10.1		LIX	0.20	21.0 0	+
32 ²	Westbound					LT	0.01	9.9	Α					LT	0.02	11.1	В						LT	0.02	11.9	В					LT	0.02	10.9 B	1
	Northbound					LR	0.20	30.8	D 5					LR	0.25	36.4	Ε :	5					LR	0.33	53.5	F	5				LR	0.13	20.7 C	
	Peninsula Way and Beach 53rd Street																																	
33 ²	Westbound						0.23	15.8	С						0.12		В							0.19	19.0	С							16.3 C	
_	Southbound					LT	0.04	9.0	Α					LT	0.03	8.7	Α	_					LT	0.05	10.0	В					LT	0.03	9.3 A	_
	Peninsula Way and Beach 52nd Street Eastbound					LTR	0.00	8.8	Α					LTR	0.01	10.1	В	_					LTR	0.01	9.7	Α					LTR	0.00	9.4 A	_
34 ²	Westbound					LTR		9.0	A								В							0.01	10.4	В					LTR	0.00	9.4 A	
J	Northbound					LTR		29.6	D									5						1.02	187.0	F	5				LTR		81.9 F	
	Southbound					LTR	0.49	90.9	F 5					LTR	5.57	3080.0	F {	5					LTR	3.07	1450.0	F	5				LTR	0.95	294.0 F	5
	Peninsula Way and Beach 50th Street																																	丌
35 ²	Eastbound						0.21		В						0.24		В							0.19	13.0	В						0.14		
-	Northbound					LI	0.09	8.4	Α					LT	0.07	8.6	Α	_					LI	0.06	8.4	Α					LI	0.04	8.0 A	+
36	Beach Channel Drive and Beach 47th Street Eastbound	ΙT	0.01	9.1	Α	ΙT	0.01	9.6	Α	ΙT	0.01	9.0	Δ	LT	0.01	9.4	Δ	┿	IT I	0.00	8.9	Α	LT	0.00	9.5	Δ	IΤ	0.00	8.6	Α	LT	0.00	8.9 A	+
1	Northbound		0.01			LTR		22.1			0.01	18.1				22.7			LTR	0.00	23.9	C				D					LTR		23.3 C	
	Arverne Boulevard/Rockaway Beach Boulevard and Beac						0.00			1	0.0.		Ţ		00					J	_0.0	Ŭ		00	50.0		1	55		ŭ		J		十
37	Eastbound			7.9	Α	LTR	0.00	8.1	Α	LTR	0.00	7.9	Α	LTR	0.00	8.3	Α		LTR	0.01	8.1	Α	LTR	0.01	8.4	Α	LTR	0.01	8.0	Α	LTR	0.01	8.2 A	
31	Westbound		0.03	8.9	Α	LTR	0.03	10.1	В	LTR	0.00	10.4	В	LTR			В		LTR	0.02	10.6	В	LTR	0.03	13.0	В	LTR	0.00	9.8		LTR		12.3 B	
	Northbound	LTR	0.05	15.1	С	LTR	0.22	25.2	D	LTR	0.07	22.6	С	LTR	0.41	58.7	F 5	5 I	LTR	0.12	27.5	D	LTR	0.57	75.9	F	5 LTR	0.13	20.6	С	LTR	0.53	61.3 F	5
	Rockaway Beach Boulevard and Beach 44th Street	1.7	0.04	0.5			0.04	0.7	_	1	0.00	0.4	, 1	1 - 1	0.00	0.0	_		17 1	0.04	0.4			0.00	0.0	^		0.04	0.0			0.04	001.	\dashv
38	Westbound Northbound	LT LR		8.5 16.7	A C	LT LR	0.01	8.7 23.7	A C	LT	0.00	8.1 22.0	A C	LT LR			A D 5		LT LR	0.01	9.1 29.8	A D	LT LR	0.02	9.3 60.2	A F	LT 5 LR	0.01	8.0 19.5	A C	LT LR		8.2 A 28.1 D	
	Southbound		0.08		C			18.4	C		0.08	16.5			0.27	-	C			0.10	23.5	С			26.0	D	5 LR LTR				LTR		16.5 C	_
12	Beach Channel Drive and Seagirt Boulevard	LIIX	0.10	17.1		LIIX	0.17	10.7	Ť	2111	0.10	10.0	J	LIIN	0.11	11.0	Ŭ	+	\	0.10	20.0	J	LIIX	V.£ I	20.0			0.00	10.0	J	LIIX	0.00		+
40 ^{1,3}	Westbound	R	0.03	11.9	В	R	0.03	12.7	В	R	0.09	12.3	В	R	0.10	12.9	В		R	0.15	13.8	В	R	0.16	14.6	В	R	0.12	12.0	В	R	0.13	12.8 B	\top
F4 2	Rockaway Freeway and Beach 52nd Street																	▆																工
51 -	Southbound					R	0.12	11.1	В					R	0.09	9.7	Α						R	0.10	10.6	В					R	0.08	10.0 A	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Def	facto Left	Turn: LC	0.5 = 1 evel	of Servi	ice -= A	nnroach h	nas no volu	me record	ed during	this neak h	our ~~ = \	//c ratio	or delay e	vceeds th	e mavimur	n limit re	anortak	hlo in th	e analyci	e coftware	o "+" do	notes sin	nificant a	dverse imn	act								

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[.] Stop-controlled approach at signalized intersection.

[.] Future intersection created as part of the Proposed Project.

B. Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

E. Future driveway to parking garage/parking lot created due to project development.

[.] Minor approach has fewer than 90 PCEs.

^{5.} The With-Action Weekday PM peak hour delay cannot be reported for the SB-LR approach due to limitations in the analysis software, however it can be assumed to be greater than the 1209.0 seconds of delay calculated in the With-Action Saturday MD peak hour.

7. The With-Action Weekday MD and Weekday PM peak hour delays cannot be reported for the NB-LR approach due to limitations in the analysis software, however they can be assumed to be greater than the 239.8 seconds of delay calculated in the With-Action Saturday MD peak hour.

Table 12-45 (continued): 2034 No-Action and With-Action Conditions Level of Service Analysis – Unsignalized Intersections

				Wee	ekday A	M Peak F	lour			Т		١	Veekday I	/ID Peak I	Hour						We	ekday P	M Peak H	lour					Sa	urday M	D Peak	Hour		$\overline{}$
			2034 No	o-Action			2034 W	ith-Action			203	4 No-Actio	n		2034 W	ith-Action				2034 No	-Action			2034 Wi	th-Action			20	34 No-Action				ith-Actio	n .
.	Intersection & Approach	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS		ane v		. 1 102	Lane Group	v/c Ratio	Delay (sec)	LOS		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lar Gro	ie v	v/c Delay atio (sec)	LOS	Lane Grou		Delay (sec)	LOS
-#-	Parking Lot 1 driveway, via Beach Channel Drive			` '				` '	4				<u> </u>	4		` '					, ,		<u>. </u>		` '				, ,				<u> </u>	
D4-	Parking Lot 1 driveway, via Beach Channel Drive Westbound					1.7	0.01	12.0	В					1.7	0.02	14.4	В						LT	0.04	17.7	C					I T	0.04	15.6	С
Рта	Northbound					I R	0.01	21.9	С					LR	0.02	29.2	D						LR	0.04	43.6		5				LR	0.04		
	Parking Lot 1 driveway, via Beach 53rd Street					LIX	0.04	21.3	C	_				LIX	0.07	25.2	D	_					LIX	0.10	45.0		J				LIX	0.10	34.2	<u> </u>
P1b	1					LR	0.03	14.4	В					LR	0.03	14.0	В						LR	0.07	17 7	С					LR	0.07	15.6	С
l	Southbound					LT	0.00	9.1	A					LT	0.00	8.9	A						LT	0.00	9.6	A					IT	0.00	9.2	A
	Parking Garage 2 driveway, via Beach 53rd Street						0.00	0		-					0.00	0.0								0.00	0.0				_			0.00		
P2 4	Westbound					LR	0.20	14.5	В					LR	0.06	13.0	В						LR	0.11	16.6	С					LR	0.13	14.8	В
1 -	Southbound					LT	0.01	8.8	Α					LT	0.01	8.8	Α						LT	0.05	9.7	Α					LT	0.02	9.1	Α
	Parking Garage 3 driveway, via Beach 53rd Street					_						•	•	_											•				•				<u> </u>	
P3 ⁴	Westbound					LR	0.34	17.3	С					LR	0.09	12.8	В						LR	0.23	23.0	С					LR	0.24	19.0	С
	Southbound					LT	0.01	9.0	Α					LT	0.02	8.7	Α						LT	0.09	11.0	В					LT	0.04	9.8	Α
	Parking Garage 4 driveway, via Rockaway Beach Bouleva	rd																																
P4 4	Eastbound					LT	0.01	9.4	Α					LT	0.03	10.8	В						LT	0.08	10.9	В					LT	0.04	10.1	В
	Southbound					LR	0.24	18.8	С					LR	0.10	20.3	С						LR	0.15	25.5	D					LR	0.16	19.7	С
	Parking Garage 5 driveway, via Peninsula Way																																	
P5 ⁴	Eastbound				_	LT	0.01	7.9	Α					LT	0.02	8.4	Α						LT	0.07	8.4	Α					LT	0.04	8.2	A
	Southbound					LR	0.17	11.2	В					LR	0.06	11.7	В						LR	0.08	12.0	В					LR	0.10	11.4	В
4	Parking Lot 6 driveway, via Beach Channel Drive						0.01	104						1.7	0.00	40.0								0.00	40.0	-			_			0.00	T 44 =	
P6 "	Westbound				-	LI	0.01	10.1	В	_	_		_	LI	0.02	12.0	В	-				-	LI	0.02	12.6	В	-	_		-	LI	0.03	11.7	В
-	Northbound					LR	0.03	23.2	С					LR	0.13	33.8	D	5					LR	0.22	46.6	E	5				LR	0.17	33.7	D 5
P7 4	Parking Garage 7 driveway, via Beach 52nd Street Westbound					LD	0.00	0.5		_				LD	0.00	0.5	_						LD	0.04	0.5	Λ.					LD	0.04	0.5	
100	Southbound					LK	0.02	7.2	Α Λ	_		_		LR	0.00	7.2	Α Λ					1	LR IT	0.01	7.2	A				1	LK	0.01	7.2	A
-	Parking Garage 8 driveway, via Peninsula Way					LI	0.00	1.2	А	_				LI	0.00	1.2	A						LI	0.01	1.2	А					LI	0.01	1.2	
P8 ⁴	Westbound					IТ	0.28	12.3	В					LIT	0.27	14.4	В						I IT	0.20	12.5	В					IТ	0.11	10.0	I A
1 -0	Northbound					LR	0.80	71.8	F	+				LR	1.38	259.4	F	+					LR	0.20	88.4	F	+				LR			
1	Nottibould					LI	0.00	11.0							1.00	200.4							LI\	0.01	UU. T						_i\	0.40	20.9	

lotes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. - = Approach has no volume recorded during this peak hour. ~~ = v/c ratio or delay exceeds the maximum limit reportable in the analysis software. "+" denotes significant adverse impact.

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[.] Stop-controlled approach at signalized intersection.

[.] Future intersection created as part of the Proposed Project.

Due to complex geometry and per NYCDOT request, LOS results were calculated using Synchro 10, version 10.2, build 0, revision 45 (10,2,0,45).

[.] Future driveway to parking garage/parking lot created due to project development.

^{4.} Future driveway to parking garage/parking for created due to project development.
5. Minor approach has fewer than 90 PCEs.
6. The With-Action Weekday PM peak hour delay cannot be reported for the SB-LR approach due to limitations in the analysis software, however it can be assumed to be greater than the 1209.0 seconds of delay calculated in the With-Action Saturday MD peak hour.
7. The With-Action Weekday MD and Weekday PM peak hour delays cannot be reported for the NB-LR approach due to limitations in the analysis software, however they can be assumed to be greater than the 239.8 seconds of delay calculated in the With-Action Saturday MD peak hour.

Transit Conditions

Trips generated by the Proposed Project were added to the No-Action transit volumes to estimate With-Action peak hour volumes for the Weekday AM and PM peak hours for all transit study elements, as well as the Saturday MD and Sunday MD peak hours for the subway line-haul analysis.

Subway Line-Haul

The average passengers per hour, trains/cars per hour, capacity per car, and v/c ratios under the 2034 With-Action condition are shown in **Table 12-46**: **2034 With-Action Condition Level of Service Analysis** – **Subway Line-Haul** for the A train at the max load points. As indicated in **Table 12-46**, the A train would operate below the loading guideline capacity in both directions during the four peak hours. According to the significance criteria defined for subway line-haul in the *CEQR Technical Manual*, no significant adverse impacts are expected.

Table 12-46: 2034 With-Action Condition Level of Service Analysis – Subway Line-Haul

Peak Direction	Route	Maximum Load Point Station	Average Passengers Per Hour ⁽¹⁾	Average Trains Per Hour	Average Cars Per Hour	Average Passengers Per Car	Guideline Passengers Per Car ⁽³⁾		Impact ⁽⁵⁾
				Weekday A	M ⁽²⁾				
Northbound	Α	Nostrand Av	19,840	16.7	134	148	175	0.85	No
				Weekday Pl	M ⁽²⁾				
Southbound	Α	Jay St-MetroTech	16,927	15.2	122	139	175	0.79	No
			Sat	turday MD (Su	mmer) ⁽⁵⁾				
Northbound	Α	Aqueduct Racetrack	2,406	8	64	38	88	0.43	No
·			Sı	ınday MD (Sur	nmer) ⁽⁵⁾	•	•		
Northbound	Α	Aqueduct Racetrack	3,708	6	48	77	88	0.88	No

Notes:

Subway Stairs

As shown in **Table 12-47: 2034 With-Action Condition Level of Service Analysis – Stairs**, the street-level and platform stairs would operate at LOS A during both peak hours in the 2034 With-Action condition. According to the significance criteria defined for subway stairs in the *CEQR Technical Manual*, no significant adverse impacts are expected.

⁽¹⁾ Hourly A-Train volumes generated by the Proposed Project were distributed based on trip assignment assumptions described in the TDF Memorandum. Sunday MD volumes were assumed to be equal to Saturday MD volumes.

⁽²⁾ Based on 2015-2016 ridership and train throughput data from NYCT.

⁽³⁾ Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.

⁽⁴⁾ Volume to guideline capacity ratio.

⁽⁵⁾ Based on 2012-2017 ridership and train throughput data from NYCT. The Summer Saturday and Sunday MD peak hours were included in the line haul analysis as subway service is less frequent on weekends and weekend ridership peaks due to recreational activities at the beach.

Table 12-47: 2034 With-Action Condition Level of Service Analysis - Stairs

			Entering	15-Minute Exiting	Width	Number of Intermediate	Effective Width	Friction	Surge Factor (onto platform	Surge Factor (off of platform	Entering	15 Minute Exiting	4-1		
Location	Vertical Element	ID	Volume (1)		(feet) ⁽²⁾	Handrails	(feet)	Factor (3)	level) ⁽³⁾	level) (3)	Capacity (4)	Capacity (4)	V/C (5)	LOS (5)	Impact ⁽⁶⁾
					Weekday Af	И									
	NE Stair (b/w street level and head house)	M3A, M3B, S3A, S3B	191	29	8.5	1	7.25	0.9	1	0.80	979	783	0.23	Α	No
	NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	156	11	8.5	1	7.25	0.9	1	0.75	979	734	0.18	Α	No
Beach 60 St	SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	13	14	8.0	1	6.75	0.9	1	0.75	911	683	0.04	Α	No
Station	NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	103	5	8.5	1	7.25	1.0	1	0.75	1088	816	0.10	Α	No
	SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	14	17	8.0	1	6.75	0.9	1	0.75	911	683	0.04	Α	No
	SE Stair (b/w street level and platform level)		n/a	32	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.04	Α	No
					Weekday PN	1									
	NE Stair (b/w street level and head house)	M3A, M3B, S3A, S3B	94	123	8.5	1	7.25	0.9	1	0.8	979	783	0.25	Α	No
	NE Stair (b/w head house and platform level)	P7A, P7B, P9A, P9B	51	25	8.5	1	7.25	0.9	1	0.75	979	734	0.09	Α	No
Beach 60 St	SE Stair (b/w head house and platform level)	P6A, P6B, P8A, P8B	9	85	8.0	1	6.75	0.9	1	0.75	911	683	0.13	Α	No
Station	NW Stair (b/w head house and platform level)	P1A, P1B, P3A, P3B	39	10	8.5	1	7.25	0.9	1	0.75	979	734	0.05	Α	No
	SW Stair (b/w head house and platform level)	P2A, P2B, P4A, P4B	5	41	8.0	1	6.75	0.9	1	0.75	911	683	0.07	Α	No
	SE Stair (b/w street level and platform level)		n/a	116	8.0	1	6.75	1.0	n/a	0.75	n/a	759	0.15	Α	No
Beach 44 St	NW Stair (b/w street level and head house)	M3A, M3B, S1A, S1B	77	126	8.0	1	6.75	0.9	1	0.8	911	729	0.26	Α	No
Station	SE Stair (b/w head house and platform level)	P8A, P8B, P10A, P10B	24	28	8.0	1	6.75	0.9	1	0.75	911	683	0.07	Α	No
Station	SW Stair (b/w head house and platform level)	P4A, P4B, P6A, P6B	23	34	8.0	1	6.75	0.9	1	0.75	911	683	0.07	Α	No
(2) Vertical elements (3) Friction and surge (4) Stair capacity bas (5) v/c ratios and LO	lumes associated with the Proposed Project were distribs smeasured at the narrowest location. e factors based on NYCT guidelines in accordance with the sed on NYCT guidelines in accordance with the 2014 ECQ 5 ratings were calculated based on rates presented in the risgnificant impacts based on NYCT guidelines in accorda	e 2014 CEQR Technical Mar R Technical Manual . 2 2014 CEQR Technical Man	nual . Note, frio	ction factors n			opposing pas	ssenger flow	oetween No-A	ction and Wit	h-Action cond	itions.			

Control Areas

For the control area elements, the quantity, volume, friction and surge factors, capacity, and calculated v/c and LOS results in the 2034 With-Action condition are shown in **Table 12-48: 2034 With-Action Condition Level of Service Analysis – Control Areas**. As shown in the table, all control area elements would operate at LOS A during both peak hours. According to the significance criteria defined for subway control areas in the *CEQR Technical Manual*, no significant adverse impacts are expected.

Table 12-48: 2034 With-Action Condition Level of Service Analysis – Control Areas

Station	Station Elements	Quantity (Entry)	Quantity (Exit)	15-Minute Entering Volume ⁽¹⁾	15-Minute Exiting Volume (1)	Friction Factor ⁽²⁾	Surge Factor (onto platform)	Surge Factor (off of platform)	15-Minute Entering Capacity ⁽³⁾	15-Minute Exiting Capacity ⁽³⁾	V/C ⁽⁴⁾	LOS ⁽⁴⁾	Impact ⁽⁵⁾
					W	eekday AM							
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	286	61	0.9	1	0.8	1260	1935	0.30	A	No
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	32	1	n/a	0.75	0	555	0.08	Α	No
					W	eekday PM							
Beach 60 St Station (head house)	Turnstile HEET HXT	3 0 0	3 0 0	103	216	0.9	1	0.8	1260	1935	0.25	Α	No
Beach 60 St Station (southbound platform)	Turnstile HEET HXT	0 0 0	0 0 1	n/a	116	1	n/a	0.75	0	555	0.28	Α	No
Beach 44 St Station	Turnstile HEET HXT	3 0 0	3 0 0	88	163	0.9	1	0.8	1260	1935	0.19	Α	No

Notes:

⁽¹⁾ New turnstiles volumes associated with the Proposed Project were distributed based on trip assignment assumptions described in the TDF Memorandum.

⁽²⁾ Friction and surge factors based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual .

⁽³⁾ Fare array capacity based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.
(4) v/c ratios and LOS ratings were calculated based on rates presented in the 2014 CEQR Technical Manual.

⁽⁵⁾ Determination of significant impacts based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual

Bus Line-Haul

Table 12-49: 2034 With-Action Condition Level of Service Analysis – Bus Line-Haul summarizes the bus line-haul in the 2034 With-Action condition, including the number of buses during the peak hour, the peak hour passengers, average passengers per bus, total capacity, and available capacity for the Q22 and the Q52-SBS bus routes.

As presented in **Table 12-49**, the Q22 and Q52-SBS buses would operate within capacity except where noted below:

- The Q22 bus in the westbound direction in the Weekday AM and Weekday PM peak hours
- The Q52-SBS bus in the southbound direction in the Weekday PM peak hour

Table 12-49: 2034 With-Action Condition Level of Service Analysis – Bus Line-Haul

Route	Peak Direction	Maximum Load Point	Peak Hour Buses ⁽¹⁾	Peak Hour Passengers ⁽²⁾	Average Passengers Per Bus	Total Capacity Per Bus ⁽³⁾	Available Capacity Per Bus ⁽³⁾	Impact
			Weekday AN	1				
Q22	EB	Beach Channel Dr and Beach 35 th St	8	353	44	54	10	No
Q22	WB	Rockaway Beach Blvd and Beach 91st St	8	607	76	54	-22	Yes
Q52-SBS	NB	Woodhaven Blvd and Atlantic Ave	5	327	65	85	20	No
Q52-SBS	SB	Woodhaven Blvd and Jamaica Ave	4	199	50	85	35	No
			Weekday PN	1				
Q22	EB	Seagirt Blvd and Crest Rd	6	302	50	54	4	No
Q22	WB	Beach Channel Dr and Beach 36 th St	7	382	55	54	-1	Yes
Q52-SBS	NB	Woodhaven Blvd and Myrtle Ave	4	221	55	85	30	No
Q52-SBS	SB	Woodhaven Blvd and Metropolitan Ave	4	410	102	85	-17	Yes

Notes:

Pedestrian Conditions

Pedestrian trips generated by the Proposed Project were added to the No-Action pedestrian network to develop With-Action peak hour volumes for the four peak hours. The With-Action condition analyses were performed at a total of 86 locations within the study area, comprised of 30 sidewalks (including 14 proposed sidewalks), 16 crosswalks (including nine proposed crosswalks), 38 corner reservoirs (including 13 proposed corners), and two medians.

Sidewalks

The 2034 With-Action condition results for the sidewalk locations were compared with the No-Action condition results for all four peak hours. **Table 12-50: Significant Adverse Impacts at Existing and Proposed Sidewalks (Platoon Conditions)** summarizes the existing and proposed sidewalks that would experience significant adverse impacts in the analysis year based on Platoon Conditions.

⁽¹⁾ NYCT provided updated peak hour bus numbers for the future condition.

⁽²⁾ Based on most currently available data from NYCT. Bus volumes generated by the Proposed Project were distributed based on trip assignment assumptions described in the TDF Memorandum.

⁽³⁾ Available capacity based on a maximum of 54 passengers per bus (40-foot standard bus) for Q22 buses and 85 passengers per bus (60-foot articulated bus) for Q52-SBS buses.

⁽⁴⁾ Determination of significant impacts based on NYCT guidelines in accordance with the 2014 CEQR Technical Manual.

Table 12-50: Significant Adverse Impacts at Existing and Proposed Sidewalks (Platoon Conditions)

	Weekday AM	Weekday MD	Weekday PM	Saturday MD
	Peak Hour	Peak Hour	Peak Hour	Peak Hour
Beach 59th St and Arverne Blvd (E leg, N sidewalk)				
Beach 59th St and Rockaway Fwy (W leg, N sidewalk)				
Beach 54th St and Beach Channel Dr (W leg, N sidewalk)				
Beach 54th St and Arverne Blvd (E leg, N sidewalk)		Х	Х	Х
Beach 54th St and Arverne Blvd (W leg, N sidewalk)				
Beach 53rd St and Beach Channel Dr (E leg, S sidewalk)				
Beach 53rd St and Beach Channel Dr (W leg, S sidewalk)	Х	Х	Х	Х
Beach 53rd St and Rockaway Beach Blvd (N leg, E sidewalk)				
Beach 53rd St and Rockaway Beach Blvd (E leg, N sidewalk)				
Beach 50th St and Rockaway Beach Blvd (E leg, S sidewalk)				
Beach 47th St and Rockaway Beach Blvd (E leg, S sidewalk)				
Beach 44th St and Rockaway Fwy (N leg, W sidewalk)			Х	
Beach 44th St and Rockaway Fwy (W leg, N sidewalk)				
Beach 56th St and Arverne Blvd (W leg, N sidewalk)	Х			
Beach 57th St and Arverne Blvd (E leg, N sidewalk)				
Beach 52nd St and Beach Channel Dr (E leg, S sidewalk)				
Beach 53rd St and Peninsula Way (N leg, E sidewalk)				
Beach 52nd St and Peninsula Way (N leg, W sidewalk)				
Beach 52nd St and Peninsula Way (W leg, N sidewalk)				
Beach 52nd St and Peninsula Way (N leg, E sidewalk)				
Beach 52nd St and Peninsula Way (E leg, N sidewalk)				
Beach 52nd St and Peninsula Way (S leg, E sidewalk)				
Beach 52nd St and Peninsula Way (E leg, S sidewalk)				
Beach 52nd St and Peninsula Way (S leg, W sidewalk)				
Beach 52nd St and Peninsula Way (W leg, S sidewalk)				
Beach 50th St and Peninsula Way (W leg, S sidewalk)				
Beach 50th St and Peninsula Way (S leg, W sidewalk)				
Beach 52nd St and Rockaway Beach Blvd (E leg, N sidewalk)				
Beach 52nd St and Rockaway Beach Blvd (E leg, S sidewalk)				
Beach 51st St and Rockaway Beach Blvd (N leg, E sidewalk)				
Total Number of Impacted Sidewalks	2	2	3	2

X - denotes sidewalks significantly impacted in peak hour during Platoon Conditions.

As shown in **Table 12-51: 2034 With-Action Condition Level of Service Analysis – Existing Sidewalks**, the following sidewalks would experience a significant adverse impact based on the significance criteria and are denoted with a "+" sign in the table below:

Non-Platoon Conditions

 The south sidewalk on the west leg of Beach 53rd Street and Beach Channel Drive in the Saturday MD peak hour.

Platoon Conditions

- o The north sidewalk on the east leg of the intersection of Beach 54th Street and Arverne Boulevard in the Weekday MD, Weekday PM, and Saturday MD peak hours.
- The south sidewalk on the west leg of Beach 53rd Street and Beach Channel Drive in the Weekday AM, Weekday MD, Weekday PM, and Saturday MD peak hours.
- The west sidewalk on the north leg of Beach 44th Street and Rockaway Freeway in the Weekday PM peak hour.

The north sidewalk on the west leg of Beach 56th Street and Arverne Boulevard in the Weekday AM peak hour.

Table 12-51: 2034 With-Action Condition Level of Service Analysis – Existing Sidewalks

				Availa	ole Circ	ulation	Space															
	Total	Obstruc-	Effective		(ft ²	/p)			Non	-Platoo	n Con	dition	s LOS			P	latoor	Con	dition	s LOS	3	
	Width	tion Width	Width		Veekda	у	Sat			Weekd	lay			Sat			Weel	day			Sat	t
Location	(ft) ⁽¹⁾	(ft)	(ft)	AM	MD	PM	MD	ΑN	1	MD		PM		MD	Α	И	M	D	PΝ	Λ	MD)
Beach 59th St and Arverne Blvd (E leg, N sidewalk)	5.8	3.0	2.8	49	60	44	48	В		В		3	Е		С		O		O		C	
Beach 59th St and Rockaway Fwy (W leg, N sidewalk)	8.0	3.0	5.0	66	94	69	85	Α		Α		4	A		С		В		С		С	
Beach 54th St and Beach Channel Dr (W leg, N sidewalk)	7.0	3.0	4.0	73	103	89	61	Α		Α		À	F		С		В		C		O	
Beach 54th St and Arverne Blvd (E leg, N sidewalk)	8.0	3.0	5.0	42	37	39	25	В		С			0		С		D	+	D	+	D	+
Beach 54th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	63	68	55	51	Α		Α		3	E		С		С		С		С	1
Beach 53rd St and Beach Channel Dr (E leg, S sidewalk)	18.3 ⁽²⁾	3.0	15.3	260	197	216	148	Α		Α		4	F		В		В		В		В	
Beach 53rd St and Beach Channel Dr (W leg, S sidewalk)	10.0	3.0	7.0	35	33	40	24	С		С			[+	D	+	D	+	D	+	D	+
Beach 53rd St and Rockaway Beach Blvd (N leg, E sidewalk)	6.5 ⁽²⁾	3.5	3.0	40	59	49	59	В		В		3	E		С		O		O		С	
Beach 53rd St and Rockaway Beach Blvd (E leg, N sidewalk)	9.0 (2)	3.5	5.5	40	39	56	60	В		С		3	E		С		D		С		С	
Beach 50th St and Rockaway Beach Blvd (E leg, S sidewalk)	7.0	3.0	4.0	65	48	49	42	Α		В	- 1	3	E		С		С		С		С	
Beach 47th St and Rockaway Beach Blvd (E leg, S sidewalk)	7.8	3.0	4.8	68	77	47	83	Α		Α		3	F		С		O		С		С	
Beach 44th St and Rockaway Fwy (N leg, W sidewalk)	5.5	3.0	2.5	61	41	25	51	Α		В			Е		С		O		D	+	C	
Beach 44th St and Rockaway Fwy (W leg, N sidewalk)	14.3	3.0	11.3	183	131	72	188	Α		Α		4	F		В		В		С		В	
Beach 56th St and Arverne Blvd (W leg, N sidewalk)	10.0	3.0	7.0	38	104	85	76	С		Α		4	F		D	+	В		C		O	L
Beach 57th St and Arverne Blvd (E leg, N sidewalk)	10.0	3.0	7.0	92	144	130	139	Α		Α		À	F		В		В		В		В	
Beach 52nd St and Beach Channel Dr (E leg, S sidewalk)	10.5	5.5	5.0	136	84	107	71	Α		Α		١.	F		В		O		В		С	

In addition to the sidewalks analyzed above, 14 proposed sidewalks that would be created as part of the Proposed Project for internal pedestrian circulation were also analyzed. The widths of proposed sidewalks were measured from the site plan at the narrowest point along the sidewalks. As shown in Table 12-52: 2034 With-Action Condition Level of Service Analysis - Proposed Sidewalks, all proposed sidewalks would operate at mid-LOS D or better during the four peak hours in the 2034 With-Action Condition.

Table 12-52: 2034 With-Action Condition Level of Service Analysis – Proposed Sidewalks

		Obstruc-		Availal	ole Circ	ulation	Space								
	Total	tion	Effective		(ft ²	²/p)		Nor	-Platoon C	onditions	LOS	F	latoon Con	ditions LO	s
	Width	Width	Width	٧	Veekda	y	Sat		Weekday		Sat		Weekday		Sat
Location	(ft) ⁽¹⁾	(ft)	(ft)	AM	MD	PM	MD	AM	MD	PM	MD	AM	MD	PM	MD
Beach 53rd St and Peninsula Way (N leg, E sidewalk)	6.0	3.5	2.5	41	45	50	61	В	В	В	Α	С	С	С	С
Beach 52nd St and Peninsula Way (N leg, W sidewalk)	6.5	3.5	3.0	98	53	62	63	Α	В	Α	Α	В	O	С	С
Beach 52nd St and Peninsula Way (W leg, N sidewalk)	6.5	3.5	3.0	132	117	105	125	Α	Α	Α	Α	В	В	В	В
Beach 52nd St and Peninsula Way (N leg, E sidewalk)	6.0	3.5	2.5	62	40	43	45	Α	С	В	В	С	D	С	С
Beach 52nd St and Peninsula Way (E leg, N sidewalk)	5.0	3.5	1.5	160	91	105	113	Α	Α	Α	Α	В	В	В	В
Beach 52nd St and Peninsula Way (S leg, E sidewalk)	8.0	3.5	4.5	166	80	101	100	Α	Α	Α	Α	В	O	В	В
Beach 52nd St and Peninsula Way (E leg, S sidewalk)	14.5	3.5	11.0	303	216	241	299	Α	Α	Α	Α	В	В	В	В
Beach 52nd St and Peninsula Way (S leg, W sidewalk)	8.5	3.5	5.0	126	72	81	80	Α	Α	Α	Α	В	С	С	С
Beach 52nd St and Peninsula Way (W leg, S sidewalk)	5.0	3.5	1.5	72	42	49	54	Α	В	В	В	С	С	С	С
Beach 50th St and Peninsula Way (W leg, S sidewalk)	5.5	3.5	2.0	49	36	41	58	В	С	В	В	С	D	С	С
Beach 50th St and Peninsula Way (S leg, W sidewalk)	6.0	3.5	2.5	396	279	287	299	Α	Α	Α	Α	В	В	В	В
Beach 52nd St and Rockaway Beach Blvd (E leg, N sidewalk)	10.0	3.5	6.5	67	58	57	77	Α	В	В	Α	С	С	С	С
Beach 52nd St and Rockaway Beach Blvd (E leg, S sidewalk)	21.0	3.0	18.0	775	703	918	296	Α	A	A	A	Α	Α	Α	В
Beach 51st St and Rockaway Beach Blvd (N leg, E sidewalk)	25.0	3.0	22.0	748	546	591	736	A	A	Α	Α	Α	A	A	À
N-t															

⁽¹⁾ The total width of future sidewalks was measured from the site plan at narrowest point along the sidewalk

Crosswalks

The 2034 With-Action condition results for the crosswalk locations were compared with the No-Action condition results for all four peak hours. Table 12-53: Significant Adverse Impacts at Existing Signalized Crosswalks summarizes the existing signalized crosswalks that would experience significant adverse traffic impacts in the analysis year. None of the existing or proposed unsignalized crosswalks would experience significant adverse traffic impacts in the analysis year.

Table 12-53: Significant Adverse Impacts at Existing Signalized Crosswalks

	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday MD Peak Hour
Beach 54th St and Beach Channel Dr (S leg)		Х	Χ	Х
Beach 54th St and Arverne Blvd (N leg)			Х	Х
Total Number of Impacted Signalized Crosswalks	0	1	2	2

X - denotes crosswalks significantly impacted in peak hour.

As shown in **Table 12-54: 2034 With-Action Condition Level of Service Analysis – Existing Signalized Crosswalks**, the following crosswalks would experience a significant adverse impact based on the significance criteria and are denoted with a "+" sign in the table below:

- The south crosswalk at Beach 54th Street and Beach Channel Drive during the Weekday MD, Weekday PM, and Saturday MD peak hours.
- The north crosswalk at Beach 54th Street and Arverne Boulevard during the Weekday PM and Saturday MD peak hours.

Table 12-54: 2034 With-Action Condition Level of Service Analysis – Existing Signalized Crosswalks

			Availa	ble Circula	tion Space	e (ft²/p)		Cr	osswa	lk Ci	rculati	on L	os	
	Length	Width	AM MD PM MD AM MD PM 30 22 16 21 C D + D							Sa	ıt			
Location	(ft)	(ft)	AM	Weekday Sat AM MD PM MD 30 22 16 21					MI	0	PI	VI	MI	D
Beach 54th St and Beach Channel Dr (S leg)	33.8	14.5	30	21	С		D	+	D	+	D	+		
Beach 54th St and Arverne Blvd (N leg)	40.0	12.2	29	25	15	22	С		С		D	+	D	+

Notes:

As shown in **Table 12-55: 2034 With-Action Condition Level of Service Analysis – Existing Unsignalized Crosswalks**, all unsignalized crosswalks would operate at LOS B or better during the four peak hours in the 2034 With-Action condition. As a result, the Proposed Project would not cause a significant adverse impact any of the unsignalized crosswalk locations.

Table 12-55: 2034 With-Action Condition Level of Service Analysis – Existing Unsignalized Crosswalks

			Ave	rage Pedes	strian Dela	ıy (s)		Cros	swalk	Circula	tion L	os	
	Length	Width		Weekday		Sat		٧	/eekd	ay		Sa	at
Location	(ft)	(ft)	AM	MD	PM	MD	AM		MD		PM	M	D
Beach 53rd St and Beach Channel Dr (S leg) (1)	30.0	10.0	3.7	2.8	3.0	3.3	Α		Α	А		Α	
Beach 53rd St and Rockaway Beach Blvd (N leg) (1)	35.0	12.0	6.1	2.9	4.0	4.7	В		Α	А		Α	
Beach 47th St and Rockaway Beach Blvd (S leg)	30.0	11.3	0.8	0.7	1.0	1.1	Α		Α	Α		Α	
Beach 56th St and Arverne Blvd (N leg) (2)	40.6	12.7	0.6	0.9	0.4	0.9	Α		Α	Α		Α	
Beach 57th St and Arverne Blvd (N leg) (2)	42.0	13.6	1.6	2.5	1.2	2.5	Α		Α	Α		Α	

[&]quot;+" denotes significant adverse impact.

In addition to the existing crosswalks analyzed above, nine proposed crosswalks that would be created as a part of the Proposed Project (all of them at unsignalized intersections) were also analyzed. As shown in **Table 12-56: 2034 With-Action Condition Level of Service Analysis – Proposed Unsignalized Crosswalks**, all proposed unsignalized crosswalks would operate at LOS C or better during the four peak hours in the 2034 With-Action condition. Therefore, the Proposed Project would not cause a significant adverse impact any of the proposed unsignalized crosswalk locations.

[&]quot;+" denotes significant adverse impact.

⁽¹⁾ Measured from the Proposed Project site plan.

⁽²⁾ Spot counts were performed to capture conflicting vehicles, as traffic counts were not collected at this intersection.

Table 12-56: 2034 With-Action Condition Level of Service Analysis – Proposed Unsignalized Crosswalks

			Ave	rage Pede:	strian Dela	ıy (s)	Cr	osswalk Ci	rculation L	os
	Length	Width		Weekday		Sat		Weekday		Sat
Location	(ft) ⁽¹⁾	(ft) ⁽¹⁾	AM	MD	PM	MD	AM	MD	PM	MD
Beach 52nd St and Beach Channel Dr (S leg)	23.0	10.0	0.4	0.5	0.5	0.4	Α	Α	Α	Α
Beach 53rd St and Peninsula Way (E leg)	23.0	10.0	10.4	8.6	12.1	8.6	С	В	С	В
Beach 52nd St and Peninsula Way (N leg)	23.0	10.0	0.4	0.5	0.6	0.4	Α	Α	Α	Α
Beach 52nd St and Peninsula Way (E leg)	23.0	10.0	2.6	2.2	2.0	1.9	Α	Α	Α	Α
Beach 52nd St and Peninsula Way (S leg)	23.0	10.0	0.9	0.9	1.2	0.8	Α	Α	Α	Α
Beach 52nd St and Peninsula Way (W leg)	23.0	10.0	0.7	0.7	1.2	0.8	Α	Α	Α	Α
Beach 50th St and Peninsula Way (W leg)	23.0	10.0	1.4	1.6	1.4	1.2	Α	Α	Α	Α
Beach 52nd St and Rockaway Beach Blvd (N leg)	23.0	10.0	1.0	1.3	1.2	1.0	Α	Α	Α	Α
Beach 52nd St and Rockaway Beach Blvd (E leg)	40.0	12.0	14.5	7.9	12.5	10.9	С	В	С	С

Notes:
(1) Measured from the Proposed Project site plan.

Corners and Medians

The 2034 With-Action condition results for the corner reservoir locations were compared with the No-Action conditions results for all four peak hours. Table 12-57: Significant Adverse Impacts at Existing and Proposed Corners and Medians summarizes the corners that would experience significant adverse traffic impacts in the analysis year.

Table 12-57: Significant Adverse Impacts at Existing and Proposed Corners and Medians

	Weekday AM	Weekday MD	Weekday PM	Saturday MD
	Peak Hour	Peak Hour	Peak Hour	Peak Hour
Beach 59th St and Arverne Blvd (NE corner)				
Beach 59th St and Arverne Blvd (SE corner)				
Beach 59th St and Rockaway Fwy (NW corner)				
Beach 54th St and Beach Channel Dr (NE corner)				
Beach 54th St and Beach Channel Dr (SE corner)				
Beach 54th St and Beach Channel Dr (SW corner)				
Beach 54th St and Beach Channel Dr (NW corner)				
Beach 54th St and Arverne Blvd (NE corner)			Х	Х
Beach 54th St and Arverne Blvd (NW corner)				
Beach 53rd St and Beach Channel Dr (SE corner)				
Beach 53rd St and Beach Channel Dr (SW corner)				
Beach 51st St and Beach Channel Dr (SE corner)				
Beach 47th St and Rockaway Beach Blvd (SW corner)				
Beach 47th St and Rockaway Beach Blvd (SE corner)				
Beach 44th St and Rockaway Beach Blvd (SW corner)				
Beach 44th St and Rockaway Fwy (NW corner)				
Beach 56th PI and Arverne Blvd (NW corner)				
Beach 56th Pl and Arverne Blvd (NE corner)				
Beach 56th Pl and Arverne Blvd (SW corner)				
Beach 56th Pl and Arverne Blvd (SE corner)				
Beach 56th St and Arverne Blvd (NW corner)				
Beach 56th St and Arverne Blvd (NE corner)				
Beach 56th Pl and Rockaway Fwy (NW corner)				
Beach 56th Pl and Rockaway Fwy (NE corner)				
Beach 57th St and Arverne Blvd (NW corner)				
Beach 57th St and Arverne Blvd (NE corner)				
Beach 52nd St and Beach Channel Dr (SE corner)				
Beach 52nd St and Beach Channel Dr (SW corner)				
Beach 53rd St and Peninsula Way (NE corner)				
Beach 53rd St and Peninsula Way (SE corner)				
Beach 50th St and Peninsula Way (NW corner)				
Beach 50th St and Peninsula Way (SW corner)				
Beach 52nd St and Rockaway Beach Blvd (NW corner)				
Total Number of Impacted Corners		0	1	1

Notes: Unsignalized corners at two-way stop-controlled intersections with uncontrolled crosswalks across the major street cannot be analyzed. Therefore, the northeast and northwest corners at Beach 53rd Street and Rockaway Boulevard, the southwest corner at Beach 50th Street and Rockaway Beach Boulevard, the northeast, northwest, southeast, and southwest corners at Beach 52nd Street and Peninsula Way, and the northeast and southeast corners at Beach 52nd Street and Rockaway Beach Boulevard were not included in this table.

As shown in **Table 12-58: 2034 With-Action Condition Level of Service Analysis – Existing Corners and Medians**, the following corner would experience a significant adverse impact based on the significance criteria and are denoted with a "+" sign in the table below:

 The northeast corner at Beach 54th Street and Arverne Boulevard during the Weekday PM and Saturday MD peak hours

Table 12-58: 2034 With-Action Condition Level of Service Analysis – Existing Corners and Medians

	Availa	able Circ (ft ²	ulation (/p)	Space		(Corner	Circ	ulation	LOS	3	
		Weekday	/	Sat			Week	day			Sa	ıt
Location	AM	MD	PM	MD	AIV	1	ME)	PΝ	1	ME	<u> </u>
Beach 59th St and Arverne Blvd (NE corner)	138	104	143	142	Α		Α		Α		Α	
Beach 59th St and Arverne Blvd (SE corner)	147	151	161	171	Α		Α		Α		Α	
Beach 59th St and Rockaway Fwy (NW corner)	84	117	111	150	Α		Α		Α		Α	
Beach 54th St and Beach Channel Dr (NE corner)	485	692	555	483	Α		Α		Α		Α	
Beach 54th St and Beach Channel Dr (SE corner)	136	111	97	101	Α		Α		Α		Α	
Beach 54th St and Beach Channel Dr (SW corner)	252	214	155	204	Α		Α		Α		Α	
Beach 54th St and Beach Channel Dr (NW corner)	81	107	80	91	Α		Α		Α		Α	
Beach 54th St and Arverne Blvd (NE corner)	27	25	16	23	С		С		D	+	D	+
Beach 54th St and Arverne Blvd (NW corner)	114	85	54	70	Α		Α		В		Α	
Beach 53rd St and Beach Channel Dr (SE corner)	135	143	122	152	Α		Α		Α		Α	
Beach 53rd St and Beach Channel Dr (SW corner)	43	42	38	50	В		В		С		В	
Beach 51st St and Beach Channel Dr (SE corner)	87	93	96	117	Α		Α		Α		Α	
Beach 47th St and Rockaway Beach Blvd (SW corner)	88	40	52	57	Α		В		В		В	
Beach 47th St and Rockaway Beach Blvd (SE corner)	64	30	38	42	Α		С		С		В	
Beach 44th St and Rockaway Beach Blvd (SW corner)	190	83	92	94	Α		Α		Α		Α	
Beach 44th St and Rockaway Fwy (NW corner)	111	112	62	181	Α		Α		Α		Α	
Beach 56th Pl and Arverne Blvd (NW corner)	110	87	55	115	Α		Α		В		Α	
Beach 56th PI and Arverne Blvd (NE corner)	84	70	54	114	Α		Α		В		Α	
Beach 56th PI and Arverne Blvd (SW corner) (1)	151	84	67	81	Α		Α		Α		Α	
Beach 56th PI and Arverne Blvd (SE corner) (1)	111	60	64	74	Α		В		Α		Α	
Beach 56th St and Arverne Blvd (NW corner)	156	171	117	161	Α		Α		Α		Α	
Beach 56th St and Arverne Blvd (NE corner)	192	166	121	169	Α		Α		Α		Α	
Beach 56th Pl and Rockaway Fwy (NW corner) (1)	293	369	123	234	Α		Α		Α		Α	
Beach 56th PI and Rockaway Fwy (NE corner) (1)	610	739	538	784	Α		Α		Α		Α	
Beach 57th St and Arverne Blvd (NW corner)	210	215	164	161	Α		Α		Α		Α	
Beach 57th St and Arverne Blvd (NE corner) Notes: Unsignalized corners at two-way stop-controlled intersec	167	182	135	135	Α		Α		Α		Α	

the northeast and northwest corners at Beach 53rd Street and Rockaway Boulevard and the southwest corner at Beach 50th Street and Rockaway Beach Boulevard were not included in this table.

In addition to the existing corners analyzed above, 13 proposed corners would be created as part of the Proposed Project. As shown in **Table 12-59: 2034 With-Action Condition Level of Service Analysis – Proposed Corners**, all proposed corners would operate at LOS <u>A</u> during the four peak hours in the 2034 With-Action condition. Therefore, the Proposed Project would not cause a significant adverse impact any of the proposed corner locations.

Table 12-59: 2034 With-Action Condition Level of Service Analysis - Proposed Corners

	Availa		ulation (/p)	Space	(Corner Circ	ulation LO	6
	,	Weekday	/	Sat		Weekday		Sat
Location	AM	MD	PM	MD	AM	MD	PM	MD
Beach 52nd St and Beach Channel Dr (SE corner)	673	438	436	443	Α	Α	Α	Α
Beach 52nd St and Beach Channel Dr (SW corner)	1179	773	754	779	Α	Α	Α	Α
Beach 53rd St and Peninsula Way (NE corner)	168	189	184	210	Α	Α	Α	Α
Beach 53rd St and Peninsula Way (SE corner)	178	203	196	221	Α	Α	Α	Α
Beach 50th St and Peninsula Way (NW corner)	1078	775	920	1370	Α	Α	Α	Α
Beach 50th St and Peninsula Way (SW corner)	769	573	661	910	Α	Α	Α	Α

Notes: Unsignalized corners at two-way stop-controlled intersections with uncontrolled crosswalks across the major street cannot be analyzed. Therefore, the northeast, northwest, southeast, and southwest corners at Beach 52nd Street and Peninsula Way and the northeast, northwest, and southeast corners at Beach 52nd Street and Rockaway Beach Boulevard were not included in this table.

[&]quot;+" denotes significant adverse impact.

⁽¹⁾ Median element that was analyzed at two adjacent corners.

Parking Occupancy and Utilization

Of the total 973 parking space provided as part of the Proposed Project, 902 on-site parking spaces would be provided in off-street parking facilities, including 744 parking spaces for the residential use, 83 parking spaces for the local retail, destination retail, and supermarket uses, and 75 parking spaces for the medical office use, with approximately 55 of the 75 medical office designated spaces in building E parking garage available overnight for residential use. Signage in building E parking garage would be installed to specify which parking spaces would be designated for overnight residential parking use and during which hours. An additional 71 parking spaces will be provided on-street within the development site for general use. Auto trips were assigned to on-site parking facilities based on their respective uses. The parking demand that would not be accommodated on-site in off-street parking facilities was assigned to on-street parking spaces (125, 97, 85, 432, and 371 parking spaces during the Weekday AM, Weekday MD, Weekday PM, Weekday Overnight, and Saturday MD peak hours, respectively). As a result, the utilization of on-street parking spaces in the study area is expected to increase due to the auto trips generated by the Proposed Project.

Table 12-60: 2034 With-Action Condition On-Street Parking Utilization Summary shows the results of the With-Action Condition parking utilization analysis. The on-street parking utilization would increase to 77%, 66%, 64%, and 81% during the Weekday AM, Weekday MD, Weekday PM, and Weekday Overnight peak hours, respectively. The parking utilization for the Saturday MD peak hour would increase to 78%.

As shown in Table 12-61: 2034 With-Action Utilization of Available On-Street Parking Spaces, the onstreet parking demand would represent less than half of the available on-street parking spaces for all peak hours, with the exception of the Weekday Overnight. However, approximately 55 non-residential parking spaces in building E parking garage would be available to residents for overnight parking; therefore, there would be no significant adverse parking impacts.

Table 12-60: 2034 With-Action Condition On-Street Parking Utilization Summary

2034 With-Action	Weekday AM	Weekday MD	Weekday PM	Weekday Overnight	Saturday MD
Capacity					
No Action Capacity	1,622	1,622	1,668	1,668	1,668
Net Change in With-Action On-Street Parking Supply (1)	71	71	71	71	71
Total With-Action On-Street Capacity	1,693	1,693	1,739	1,739	1,739
Demand					
Total No Action Demand	1,175	1,021	1,035	979	977
With-Action Demand ⁽²⁾	125	97	85	432	371
Total With-Action On-Street Demand	1,300	1,118	1,119	1,411	1,348
Utilization					
Available Spaces	393	575	620	328	391
With-Action Utilization	77%	66%	64%	81%	78%

^{1.} Reflects 71 on-street parking spaces from the With-Action Condition at the Project Development Site.

Table 12-61: 2034 With-Action Utilization of Available On-Street Parking Spaces

2034 With-Action Available Parking Spaces Utilization	Weekday AM	Weekday MD	Weekday PM	Weekday Overnight	Saturday MD
Available Parking Spaces					
No-Action On-Street Available Parking Spaces ⁽¹⁾	447	601	633	689	691
Net Change in With-Action On-Street Parking Supply (2)	71	71	71	71	71
Total Available With-Action On-Street Parking Spaces	518	672	704	760	762
Demand					
With-Action Demand ⁽³⁾	125	97	85	432	371
Utilization		·	·		
Utilization of Available On-Street Parking Spaces by With-Action Demand	24%	14%	12%	57%	49%

^{2.} Project generated (including as-of-right development) parking demand that would not be accommodated in on-site, off-street parking facilities.

^{2.} Reflects 71 on-street parking spaces from the With-Action Condition at the Project Development Site

^{3.} Project generated (including as-of-right development) parking demand that would not be accomondated in on-site, off-street parking facilities

X. SAFETY ASSESSMENT

Crash data for the study area intersections and pedestrian element locations were obtained from NYCDOT for the three-year time period between January 1, 2014 and December 31, 2016 and quantify the total number of reportable crashes (involving fatality, injury, or more than \$1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related crashes at each location. According to the *CEQR Technical Manual*, a high-crash location is one with more than 48 total reportable and non-reportable crashes or five or more pedestrian/bicycle injury crashes during any consecutive 12 months of the most recent three-year period for which data is available.

During this three-year period, 203 total crashes, including 21 pedestrian-related crashes and four bicycle-related crashes, occurred at the study area intersections. Based on crash data, the intersection of Beach Channel Drive and Mott Avenue would be classified as a high-crash location per the *CEQR Technical Manual*, as there were seven and five pedestrian/bicycle injury crashes in 2015 and 2016, respectively. **Table 12-62: Crash Data** depicts total crashes by intersection during the three-year period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

Beach Channel Drive and Mott Avenue

This intersection was identified as a Priority Intersection in the *Vision Zero Queens Pedestrian Safety Action Plan*. Beach Channel Drive and Mott Avenue are both major corridors in the Downtown Far Rockaway area, and this intersection experiences a high volume of vehicular traffic. In addition, it is one block away from the Far Rockaway/Mott Avenue Subway station, with close proximity to several bus stops and restaurants, and therefore experiences a high volume of pedestrians. There are also northbound and southbound Class II bike lanes on Beach Channel Drive.

A total of zero, seven, and five pedestrian/bike crashes occurred at this intersection in 2014, 2015, and 2016, respectively. While additional information is required to understand the specific nature of these crashes, steps can be taken to improve the safety conditions at this intersection.

In addition to being identified at a Priority Intersection in the *Vision Zero Queens Pedestrian Safety Action Plan*, this intersection is included in the Downtown Far Rockaway Urban Design and Streetscape Reconstruction Project, which is expected to be completed by 2019. As part of this project, sidewalks are expected to be widened, which would increase pedestrian space at corners, and high visibility crosswalks will be installed. From the *Vision Zero Queens Pedestrian Safety Action Plan*, increased enforcement is expected at this intersection. As safety measures identified as part of these studies are expected to be completed by 2019 at Beach Channel Drive and Mott Avenue that are expected to address the safety issues at these intersections, no additional safety measures are recommended at this time.

Table 12-62: Crash Data

Intersection Beach Channel Dr & Beach 116th St Newport Ave and Beach 116th St Rockaway Beach Blvd and Beach 116th St Beach Channel Dr and Rockaway Fwy	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2046
Newport Ave and Beach 116th St Rockaway Beach Blvd and Beach 116th St							-	2013	2010	1	2013	2016
Rockaway Beach Blvd and Beach 116th St		4	4	0	0	0	0	0	0	0	0	0
,	0	0	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr and Rockaway Fwy	1	1	3	0	0	1	1	0	0	1	0	1
	0	0	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr and Beach 108th St	1	2	2	0	0	0	0	0	0	0	0	0
Rockaway Fwy and Beach 108th St	2	2	1	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd and Beach 108th St	0	3	5	0	0	2	0	0	0	0	0	2
Beach Channel Dr & Beach 92nd St	1	0	2	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Cross Bay Pwky	0	0	1	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Cross Bay Pkwy	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Beach 94th St	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 94th St	2	0	2	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 73rd St	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 73rd St	1	1	4	0	0	1	0	0	0	0	0	1
Beach Channel Dr & Beach 62nd St	1	0	2	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 62nd St	0	0	3	0	0	0	0	0	0	0	0	0
Beach Front Rd & Beach 62nd St	0	0	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 59th St	1	3	0	0	0	0	0	0	0	0	0	0
Arverne Blvd & Beach 59th St	1	0	1	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Beach 59th St	0	1	2	0	0	1	0	0	0	0	0	1
Rockaway Beach Blvd & Beach 59th St	1	0	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 54th St	0	2	1	0	0	0	0	0	0	0	0	0
Arverne Blvd & Beach 54th St	0	2	1	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Beach 54th St	0	4	6	0	0	0	0	0	0	0	0	0
Edgemere Ave & Beach 54th St	0	0	2	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 53rd St	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 53rd St	0	0	1	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 52nd St	1	0	1	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 51st St	0	3	1	0	1	0	0	0	0	0	1	0
Beach Channel Dr & Beach 50th St	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 50th St	0	0	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Beach 47th St	0	0	1	0	0	0	0	0	0	0	0	0
Arverne Blvd/Rockaway Beach Blvd & Beach 47th St	0	2	0	0	0	0	0	0	0	0	0	0
Rockaway Beach Blvd & Beach 44th St	0	2	0	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Beach 44th St	0	1	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr/Seagirt Blvd & Beach 35th St	0	0	0	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Beach 35th St	1	2	2	0	0	0	0	0	0	0	0	0
Rockaway Fwy & Seagirt Blvd	0	4	4	0	0	0	0	0	0	0	0	0
Rockaway Fwy and Beach 25th St	0	1	2	0	0	1	0	0	0	0	0	1
Rockaway Fwy and Cornaga Ave	1	4	1	0	0	0	0	0	0	0	0	0
Beach Channel Dr and Cornaga Ave	0	4	0	0	0	0	0	0	0	0	0	0
Beach Channel Dr & Mott Ave	3	17	18	0	6	4	0	1	1	0	7	5
Dix Ave and Beach Channel Dr	1	3	4	0	1	0	0	1	0	0	2	0
Birdsall Ave and Beach Channel Dr	0	2	3	0	0	0	0	0	0	0	0	0
Nameoke Ave and Beach Channel Dr	1	3	2	0	0	0	0	0	0	0	0	0
Hassock St and Beach Channel Dr	3	3	14	0	1	2	0	0	0	0	1	2
Arverne Blvd & Beach 57th St	0	1	0	0	0	0	0	0	0	0	0	0
	0	1	1	0	0	0	0	0	0	0	0	0
Arverne Blvd & Beach 56th Pl	_		0				0			0	0	0
Arverne Blvd & Beach 56th St Rockaway Fwy & Beach 56th Pl	0	0	0	0	0	0	0	0	0	0	0	0

Note: Intersections that are bolded reflect the occurrence of 48 or more total reportable and non-reportable crashes and/or five or more pedestrian/bicyclists injury crashes in a twelve-month period.
Source: NYSDMV/DOT January 1, 2014 to December 31, 2016 crash data.