Chapter 22: Mitigation

A. INTRODUCTION

The preceding chapters of this Final Environmental Impact Statement (FEIS) discuss the potential for significant adverse environmental impacts resulting from the proposed Coney Island Rezoning project. Such potential impacts were identified in the areas of community facilities, traffic, transit and pedestrians, air quality, and noise. Measures have been examined to minimize or eliminate these anticipated impacts. These mitigation measures are discussed below.

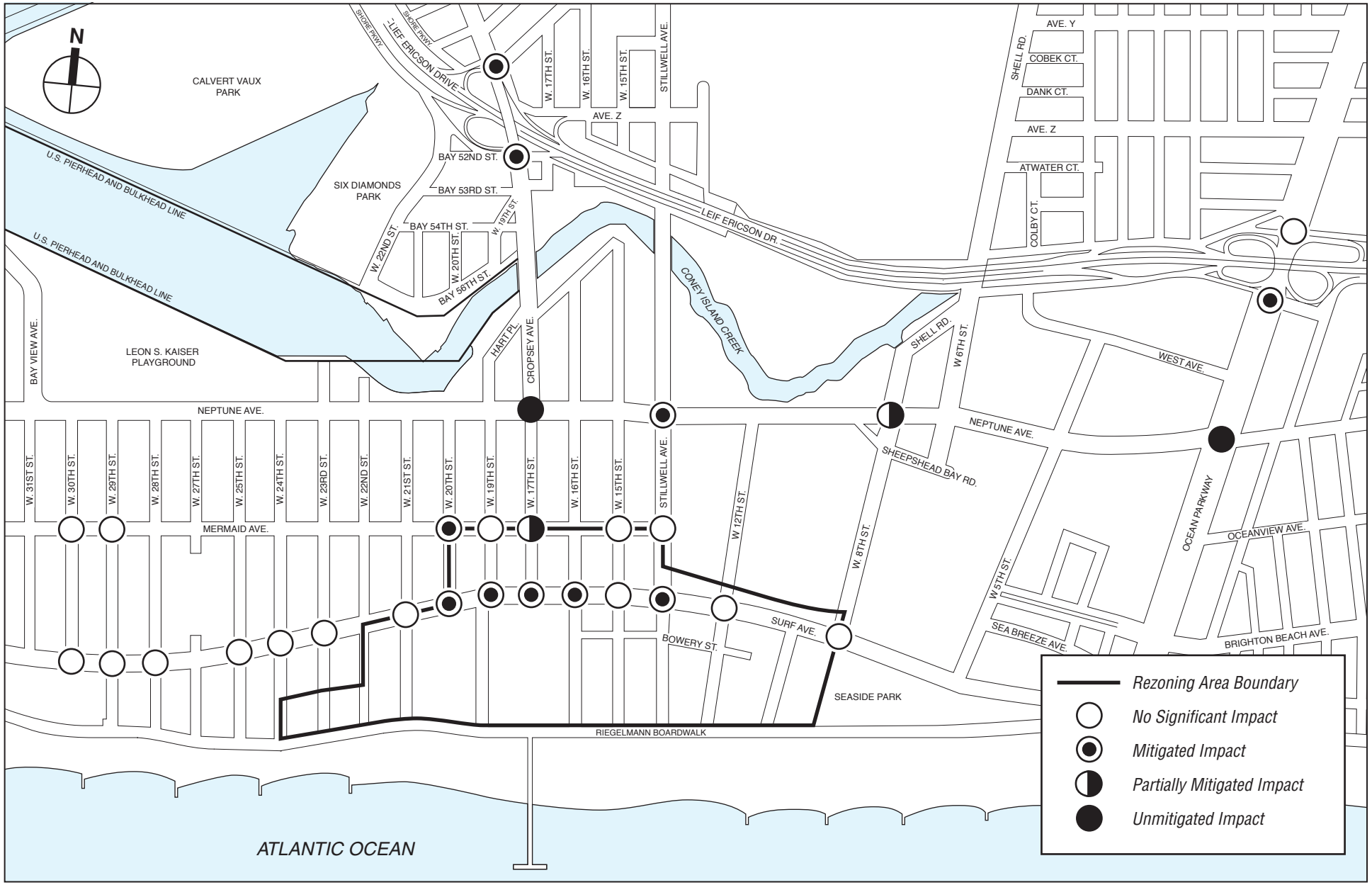
B. COMMUNITY FACILITIES

The introduction of day care eligible children associated with the reasonable worst-case development scenario (RWCDS) would cause a 43.7 percent increase in demand over the existing capacity of day care facilities in the study area. Therefore, the proposed actions would result in a significant adverse impact on publicly funded day care facilities warranting consideration of mitigation. This potential increase in demand could be offset by a number of factors. Private day care facilities and day care centers outside of the study area (e.g., closer to parent's place of work) are not included in this analysis. Some of the increased day care demand would likely be offset by parents who choose to take their children to day care centers outside of the study area (e.g., closer to work). Some of the Family Day Care Networks serve children residing in the study area and could potentially absorb some of the demand. This new demand would also be considered in future planning for contracted services. Finally, new capacity could potentially be developed as part of the New York City Administration for Children's Services' (ACS) public-private partnership initiatives. Children's Services will monitor the demand and need for additional capacity and implement change to the extent practicable.

C. TRAFFIC AND PARKING

As discussed in Chapter 16, "Traffic and Parking," the proposed actions would result in significant adverse traffic impacts at a number of locations in the traffic study area. This section describes the traffic capacity improvements needed to mitigate the significant impacts. **Table 22-1** summarizes the number of locations that would be significantly impacted and whether they could be fully or partially mitigated with the implementation of traffic improvement measures, or whether any could not be mitigated at all; **Figures 22-1** to **22-5** provide a graphic overview of this summary. Details of the intersection capacity analyses and all traffic mitigation measures (e.g., signal timing changes, parking regulation changes, lane reconfigurations, etc.) are presented in Appendix I.

The traffic mitigation analysis shows that the majority locations with significant adverse impacts generated by the proposed actions in the weekday AM, midday, PM, Saturday midday, and Saturday PM peak hours could be mitigated with traffic improvement measures, including:



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SCALE

CONEY ISLAND REZONING

Traffic Mitigation Overview
Weekday AM Peak Hour
Figure 22-1

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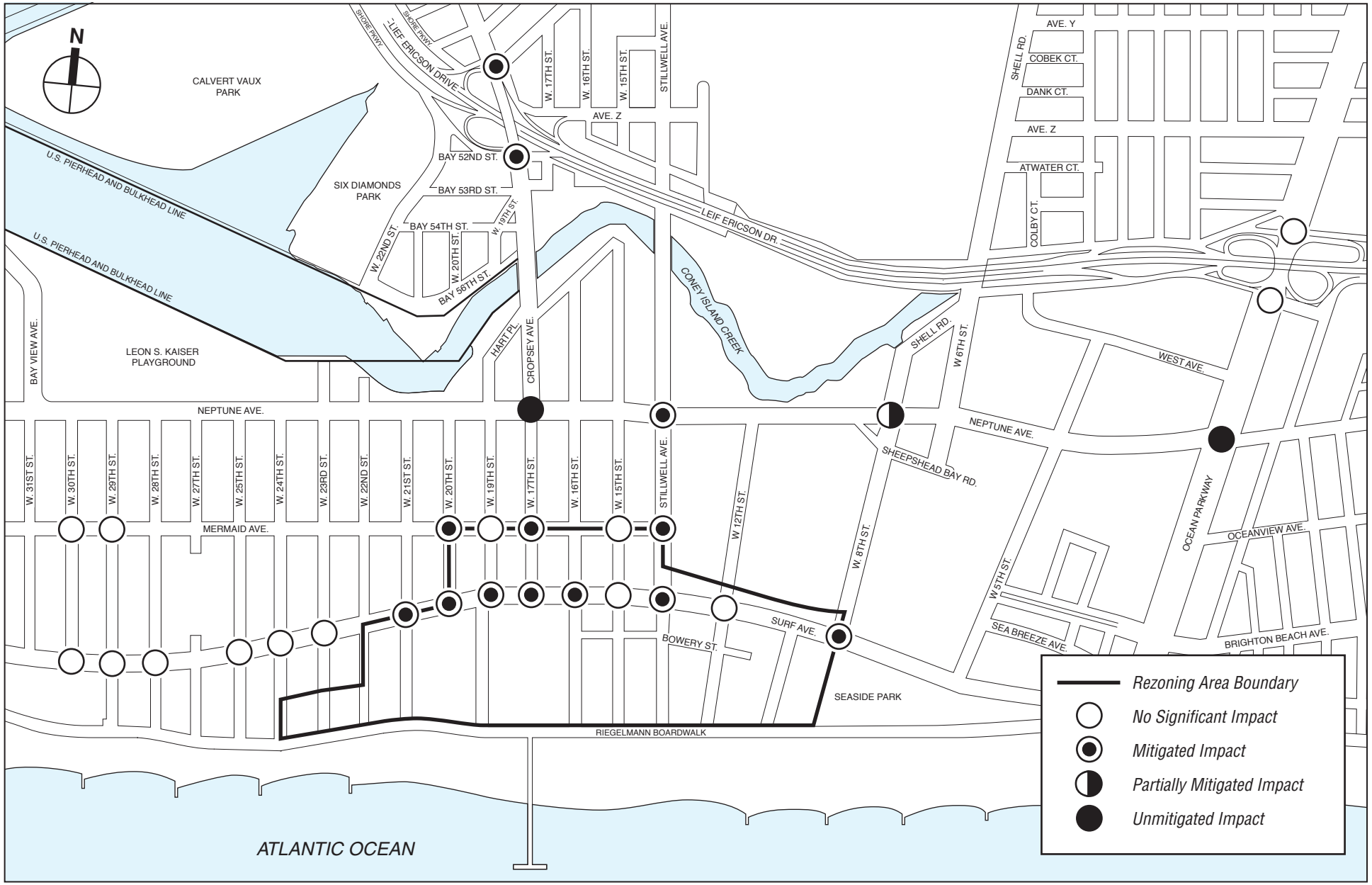

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CONEY ISLAND REZONING

Traffic Mitigation Overview
Weekday Midday Peak Hour
Figure 22-2

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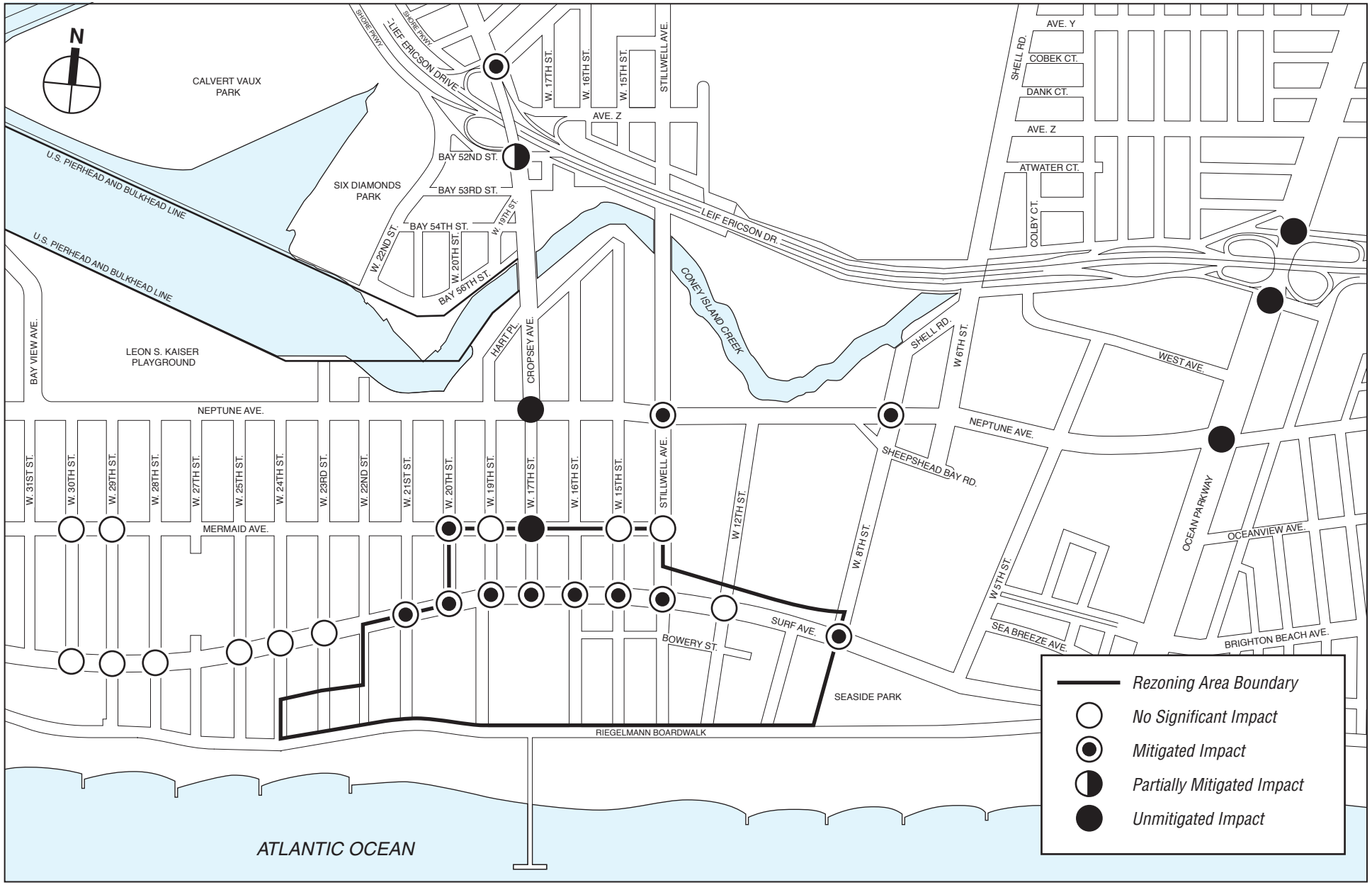

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CONEY ISLAND REZONING

Traffic Mitigation Overview
Weekday PM Peak Hour
Figure 22-3

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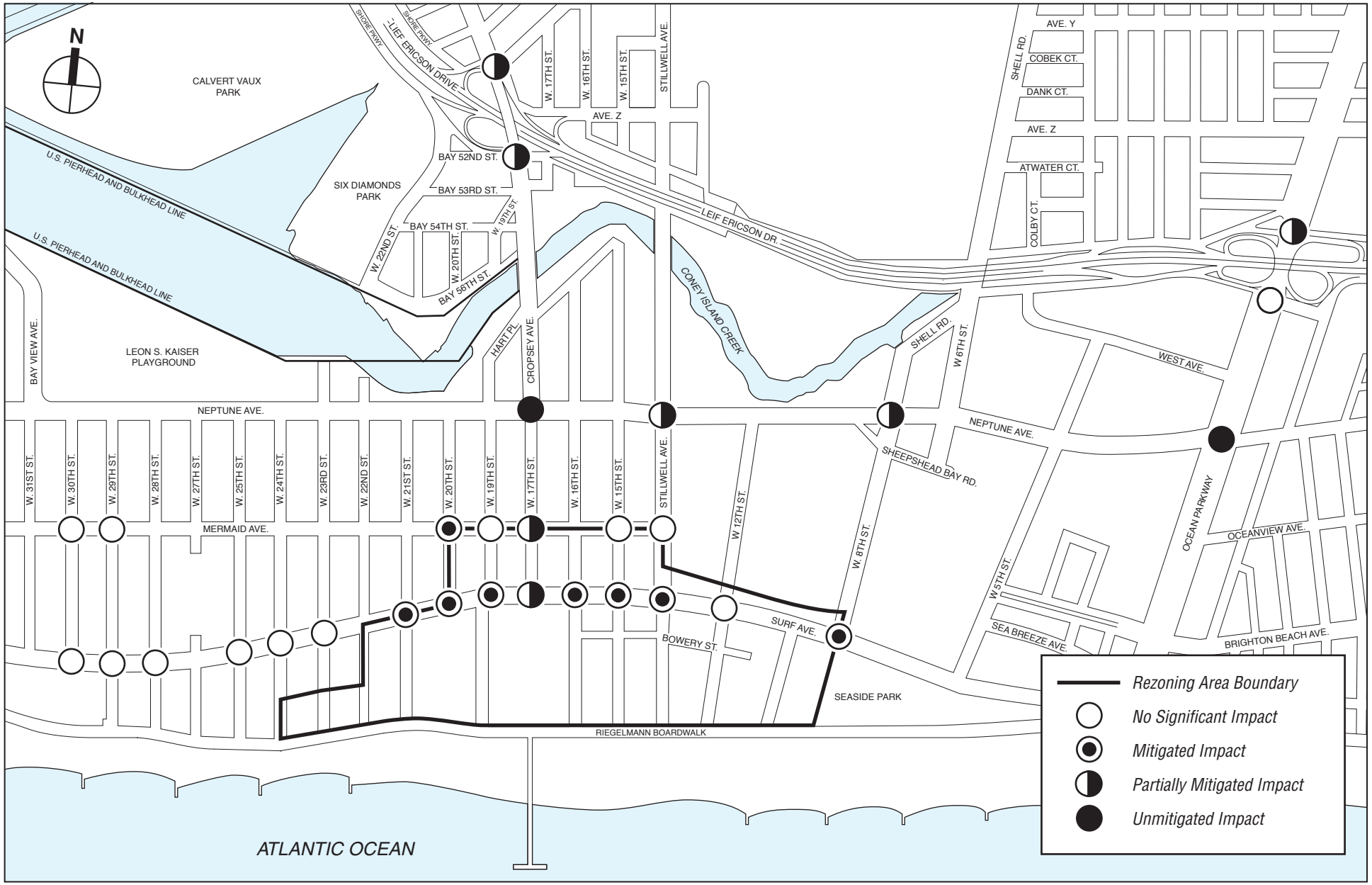

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CONEY ISLAND REZONING

Traffic Mitigation Overview
Saturday Midday Peak Hour

Figure 22-4

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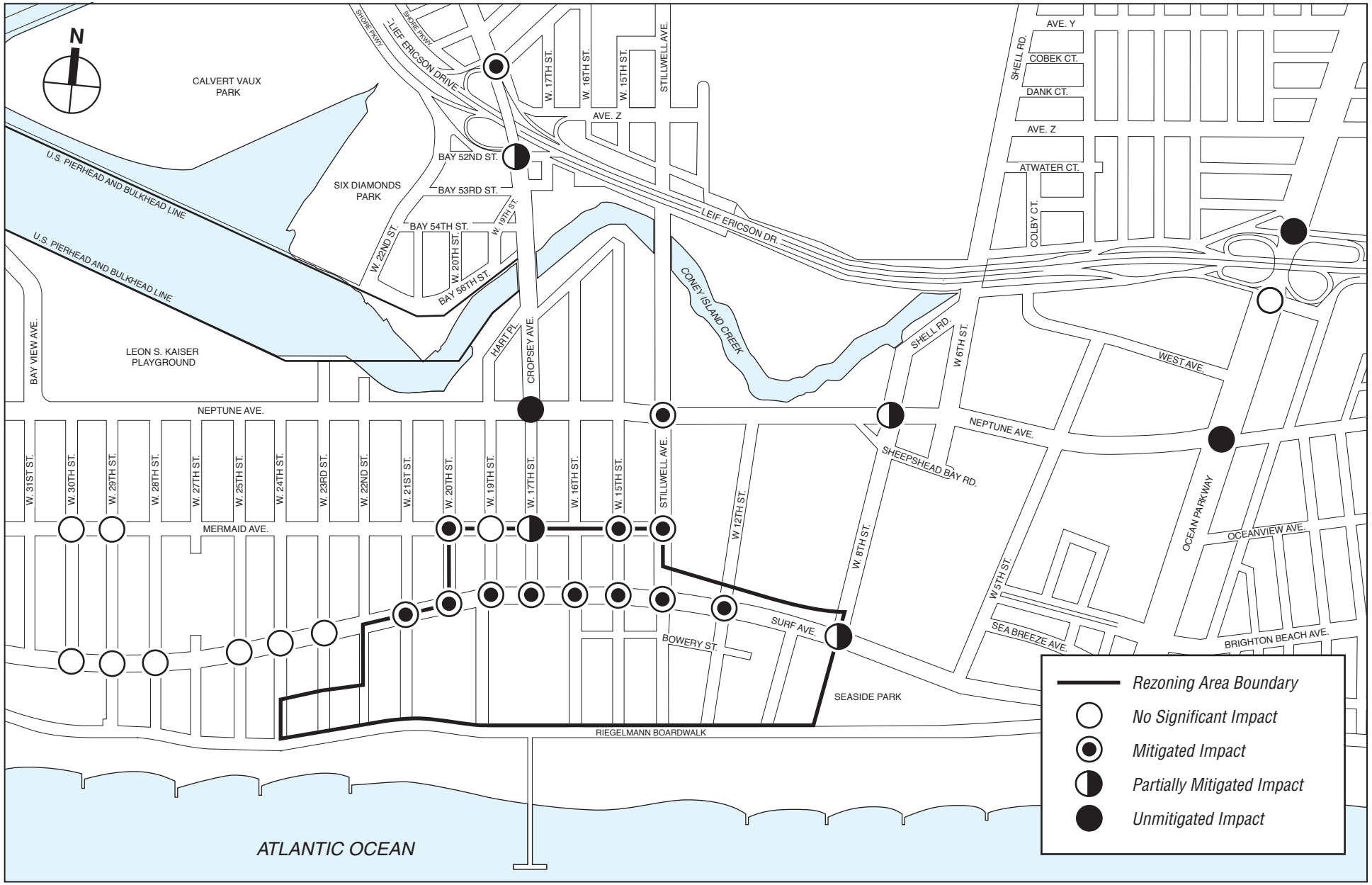

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CONEY ISLAND REZONING

Traffic Mitigation Overview
Saturday PM Peak Hour
Figure 22-5

Table 22-1
Traffic Impact Mitigation Summary

Intersections	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Midday Peak Hour	Saturday PM Peak Hour
No significant impact	16	14	12	13	10
Fully mitigated impact	10	13	12	8	13
Partially mitigated impact	2	1	1	7	4
Unmitigated impact	2	2	5	2	3

- Signal phasing and/or timing changes
- Parking regulation changes to gain a travel lane at key intersections
- Intersection or street channelization improvements
- Lane markings and signage
- Installation of traffic signal at one currently unsignalized intersection

These measures represent the standard range of traffic capacity improvements that are typically implemented by the New York City Department of Transportation (NYCDOT).

Significant adverse traffic impacts that would result from the proposed actions could not be fully mitigated at several locations. The intersections of Surf Avenue with West 17th Street and with West 8th Street could only be partially mitigated during the Saturday midday and Saturday PM peak hours, respectively. The intersection of Mermaid Avenue and West 17th Street could only be partially mitigated during the weekday AM peak hour and the Saturday midday and PM peak hours, and could not be mitigated at all during the weekday PM peak hour. Along Neptune Avenue, the intersection with Stillwell Avenue could only be partially mitigated during the Saturday midday peak hour, and the intersection with West 8th Street/Shell Road could only be partially mitigated during the weekday AM and midday peak hours and the Saturday midday and PM peak hours. The intersection of Cropsey Avenue with Bay 50th Street could only be partially mitigated during the Saturday midday peak hour, and the intersection of Cropsey Avenue with Bay 52nd Street could only be partially mitigated during the weekday PM peak hour and the Saturday midday and PM peak hours. The intersection of Ocean Parkway with Shore Parkway South could not be mitigated at all during the weekday PM peak hour, and the intersection of Ocean Parkway with Shore Parkway North could not be mitigated at all during the weekday PM and Saturday PM peak hours (and could only be partially mitigated during the Saturday midday peak hour). The intersections of Neptune Avenue and Cropsey Avenue/West 17th Street, and Ocean Parkway and Neptune Avenue, could not be mitigated at all for all peak hours analyzed.

The traffic mitigation measures needed for each intersection are detailed below.

SURF AVENUE CORRIDOR

As mentioned in Chapter 16, "Traffic and Parking", the type of facility (Class II or Class III) for the potential bike route along Surf Avenue has not yet been determined. For analysis purposes, a combination of Class II and Class III facilities was assumed in the No Build and Build analyses. The detailed assessments of traffic capacity improvements needed to mitigate significant traffic impacts indicates that a Class II bike facility would need to be replaced by a Class III facility at several locations in order to provide sufficient general traffic capacity for those locations as part of an overall mitigation plan for the corridor including other measures such as lane re-striping and alignment improvements, signal phasing and/or timing modifications, and curb parking prohibitions. Detailed intersection-by-intersection measures are described below. The mitigation

measures for the Coney Island Rezoning EIS are based on these assumptions. However, because full development of the proposed actions will not occur until 2019, NYCDOT may need to revisit its bicycle planning program and may alter it as needed as development proceeds.

Of the 15 intersections analyzed along Surf Avenue, five would be significantly impacted during the weekday AM peak hour, seven would be significantly impacted during the weekday midday peak hour, eight would be significantly impacted during the weekday PM and Saturday midday peak hours, and nine would be significantly impacted during the Saturday PM peak hour. Each of these impacts could be fully mitigated with traffic capacity improvements with the exception of Surf Avenue and West 17th Street, and Surf Avenue and West 8th Street, which could only be partially mitigated during the Saturday midday and Saturday PM peak hours, respectively.

Significant impacts are not expected during any of the analysis periods for the intersections of Surf Avenue with West 30th Street, West 29th Street, West 28th Street, West 25th Street, West 24th Street, and West 23rd Street. However, modifications to the signal timing plan would be needed at each of these intersections to coordinate with the signal phasing and timing changes proposed as mitigation along the Surf Avenue corridor. Also, the cycle length at all these intersections would be modified to 120 seconds for the Saturday PM peak period to maintain a consistent cycle length along the corridor.

SURF AVENUE AND WEST 21ST STREET

Significant impacts would occur during all peak hours analyzed except the weekday AM peak hour and could be fully mitigated by the following measures: (1) restriping westbound Surf Avenue as one shared left-through lane, one through lane, one bike lane, and a curb parking lane; (2) installing "No Standing 11 AM–2 PM Mon–Fri, 4–7 PM Saturday" regulations (approximately four parking spaces lost) along the west side of southbound West 21st Street for 75 feet to provide an additional moving lane during the weekday midday and Saturday PM peak periods; (3) restriping the southbound approach for one travel lane, a curb parking lane which would serve as a travel lane during the weekday AM and Saturday PM peak periods (and as a parking lane during other times), and a curb parking lane on the other side of the street; (4) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (5) modifying the signal phasing and timing plan. There would be no significant impacts in the weekday AM peak hour, but changes in signal phasing and timing and striping would be in effect during all time periods.

SURF AVENUE AND WEST 20TH STREET (UNSIGNALIZED)

Significant impacts are expected during all peak analysis hours and could be fully mitigated by the following measures: (1) installing a traffic signal (90 second cycle at all times except for the Saturday PM peak period which would operate on a 120 second cycle); (2) restriping the eastbound Surf Avenue approach as one through lane, one shared left-through lane, one bike lane, and a curb parking lane; (3) installing a "No Standing Anytime" regulation (approximately 10 parking spaces lost) along the north side of westbound Surf Avenue for the entire block to provide for three moving lanes; (4) shifting the westbound approach centerline one foot to the south and restriping the approach as one left-through lane, one through lane and one exclusive right turn lane; and (5) providing a hatched median along the westbound approach which would taper from the centerline at the intersection and widen to six feet at the adjacent intersection of Surf Avenue and West 19th Street. A detailed signal warrant analysis will be performed between

certification of the Draft and Final EISs. Should that analysis show that a signal is not warranted, unmitigated or partially mitigated impacts may result if other mitigation is not identified.

SURF AVENUE AND WEST 19TH STREET

Significant impacts are expected for all peak hours analyzed and could be fully mitigated by the following measures: (1) providing a six-foot wide median along eastbound Surf Avenue tapered back to the centerline at the adjacent intersection of Surf Avenue and West 20th Street; (2) restriping the eastbound approach as one through lane, one shared through-right lane and a curb parking lane; (3) installing a "No Standing Anytime" regulation (approximately nine parking spaces lost) along the north side of westbound Surf Avenue for the entire block to provide four moving lanes; (4) restriping the westbound approach as one exclusive left turn lane and three through lanes; (5) installing "No Standing 7 - 10 AM Mon - Fri, 11 AM - 7 PM Saturday" regulations (approximately 10 parking spaces lost) along the east side of northbound West 19th Street for 250 feet to provide an additional moving lane during the weekday AM peak period and the Saturday midday and PM peak periods; (6) restriping the northbound approach as one travel lane and an additional lane which would serve as a travel lane during the weekday AM peak period and the Saturday midday and PM peak periods (and as a curb parking lane during other times); (7) installing a "No Standing 11 AM - 7 PM Except Sunday" regulation (approximately 10 parking spaces lost) along the west side of southbound West 19th Street for 250 feet to provide an additional moving lane during the weekday midday and PM peak periods, and the Saturday midday and PM peak periods; (8) restriping the southbound approach as one travel lane, an additional lane which would serve as a travel lane during the weekday AM peak period (and as a parking lane during other times), and a curb parking lane on the other side of the street; (9) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (10) modifying the signal phasing and timing plan.

SURF AVENUE AND WEST 17TH STREET

Significant impacts could be fully mitigated during all peak hours analyzed except the Saturday midday peak hour; significant impacts during the Saturday midday peak hour could only be partially mitigated. The following mitigation measures are needed: (1) installing a "No Standing Anytime" regulation (approximately nine parking spaces lost) along the south side of eastbound Surf Avenue for the entire block to provide three moving lanes; (2) restriping the eastbound approach as one exclusive left turn lane and two through lanes; (3) installing a "No Standing Anytime" regulation (approximately nine parking spaces lost) along the north side of westbound Surf Avenue for the entire block to provide four moving lanes; (4) shifting the westbound Surf Avenue approach centerline two feet to the south and restriping the approach as three through lanes and one shared through-right lane; (5) installing signage at the upstream intersection to inform motorists that there is a westbound left turn lane; (6) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (7) modifying the signal phasing and timing plan.

SURF AVENUE AND WEST 16TH STREET

Significant impacts during all peak hours analyzed could be fully mitigated by the following measures: (1) installing a "No Standing Anytime" regulation (approximately ten parking spaces lost) along the south side of eastbound Surf Avenue for the entire block to provide three moving lanes; (2) shifting the eastbound Surf Avenue approach centerline six feet to the south and restriping the approach as two through lanes and one shared through-right lane; (3) installing "No Standing 11 AM - 2 PM Saturday, 4 – 7 PM Except Sunday" regulations (approximately

nine parking spaces lost) along westbound Surf Avenue for the entire block to provide an additional moving lane during the weekday PM, Saturday midday, and Saturday PM peak periods; (4) shifting the westbound approach centerline six feet to the south and restriping the approach as one shared left-through lane, two through lanes and an additional lane which would serve as a travel lane during the weekday PM, Saturday midday, and Saturday PM peak periods (and as a curb parking lane during other times); (5) installing "No Standing 11 AM–2 PM, 4–7 PM Except Sunday" regulations (approximately 12 parking spaces lost) along the east side of the southbound approach for 250 feet to provide an additional moving lane during the weekday and Saturday midday and PM peak periods; (6) restriping southbound West 16th Street as one travel lane, an additional lane which would serve as a travel lane during the weekday midday and PM peak periods, and Saturday midday and PM peak periods (and as a curb parking lane during other times), and a curb parking lane on the other side of the street; (7) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (8) modifying the signal phasing and timing plan.

SURF AVENUE AND WEST 15TH STREET

Significant impacts would occur during all peak hours analyzed except the weekday AM and midday peak hours and could be fully mitigated by the following measures: (1) installing a "No Standing Anytime" regulation (approximately nine parking spaces lost) along the south side of eastbound Surf Avenue to provide for three moving lanes; (2) shifting the eastbound approach centerline five feet to the north and restriping the approach as one exclusive left turn lane and three through lanes; (3) installing "No Standing 11 AM–2 PM Saturday, 4–7 PM Except Sunday" regulations (approximately nine parking spaces lost) along the north side of the westbound approach for the entire block to provide an additional moving lane during the weekday PM, Saturday midday, and Saturday PM peak periods; (4) restriping westbound Surf Avenue as two through lanes and an additional lane which would serve as a travel lane during the weekday PM peak period, and Saturday midday and PM peak periods (and as a curb parking lane during other times); (5) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (6) modifying the signal phasing and timing plan. There would be no significant impacts for the weekday AM peak period but changes in lane striping and signal phasing and timing would be in effect during all time periods.

SURF AVENUE AND STILLWELL AVENUE

Significant impacts during all peak hours analyzed could be fully mitigated by the following measures**:** (1) installing a "No Standing Anytime" regulation (approximately nine parking spaces lost) along the south side of eastbound Surf Avenue to provide four moving lanes; (2) restriping the eastbound approach as one exclusive left turn lane, two through lanes and one exclusive right turn lane; (3) installing "No Standing 11 AM – 2 PM Saturday, 4 – 7 PM Except Sunday" regulations (approximately five parking spaces lost) along the north side of westbound Surf Avenue for 250 feet to provide an additional moving lane during the weekday PM, Saturday midday, and Saturday PM peak periods; (4) restriping the westbound approach as one exclusive left turn lane, two through lanes and an additional lane which would serve as a travel lane during the weekday PM peak period, and Saturday midday and PM peak periods (and as a curb parking lane during other times); (5) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (6) modifying the signal phasing and timing plan.

SURF AVENUE AND WEST 12TH STREET

Significant impacts would occur during the Saturday PM peak hour and could be fully mitigated by the following measures: (1) installing "No Standing 4 PM – 7 PM Saturday" regulations (approximately seven parking spaces lost) along the south side of eastbound Surf Avenue for 250 feet to reduce friction from parking during the Saturday PM peak period; (2) installing "No Standing 4 PM – 7 PM Saturday" regulations (approximately seven parking spaces lost) along the north side of westbound Surf Avenue for 200 feet to provide an additional moving lane during the Saturday PM peak period; (3) restriping westbound Surf Avenue as two through lanes and an additional lane which would serve as a travel lane during the Saturday PM peak period (and as a curb parking lane during other times); (4) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (5) modifying the signal timing plan. There would be no significant impacts during all other peak hours, but changes in lane striping and signal timing would be in effect during all time periods.

SURF AVENUE AND WEST 8TH STREET

Significant impacts would occur during all peak hours analyzed except the weekday AM peak hour. Significant impacts could be fully mitigated for the weekday midday, PM, and the Saturday midday peak hours, and could be partially mitigated during the Saturday PM peak hour by the following measures: (1) shifting the northbound approach centerline eight feet to the west and restriping northbound West 8th Street as one shared left-through lane and one shared through-right lane; (2) restriping the southbound West 8th Street receiving side as two travel lanes; (3) modifying the cycle length to 120 seconds for the Saturday PM peak period; and (4) modifying the signal phasing and timing plan. There would be no significant impacts for the weekday AM peak hour but changes in lane striping and signal phasing and timing would be in effect during all time periods.

MERMAID AVENUE CORRIDOR

Two of the seven intersections analyzed along Mermaid Avenue would be significantly impacted during the weekday AM, PM, and Saturday midday peak hours, three intersections would be significantly impacted during the weekday midday peak hour, and four intersections would be significantly impacted during the Saturday PM peak hour. Each of these impacts could be fully mitigated with traffic capacity improvements with the exception of the intersection of Mermaid Avenue and West 17th Street. This intersection could only be partially mitigated during the weekday AM, Saturday midday, and Saturday PM peak hours, and could not be mitigated at all during the weekday PM peak hour.

Significant impacts are not expected during any of the analysis periods for the intersections of Mermaid Avenue with West 30th Street, West 29th Street, and West 19th Street.

MERMAID AVENUE AND WEST 20TH STREET

Significant impacts would occur during all peak hours analyzed and could be fully mitigated by: (1) installing a "No Standing Anytime" regulation (approximately eight parking spaces lost) along the east side of northbound West 20th Street for 250 feet from the intersection, and restripe the approach to gain an exclusive right turn lane; and (2) modifying the signal timing plan.

MERMAID AVENUE AND WEST 17TH STREET

Significant impacts would occur during all five peak hours and could be fully mitigated during the weekday midday peak hour, partially mitigated during the weekday AM, Saturday midday, and Saturday PM peak hours, and could not be mitigated at all during the weekday PM peak hour. The following measures are needed to mitigate the impacts: (1) installing "No Standing Anytime" regulations on the south side of eastbound Mermaid Avenue and the north side of westbound Mermaid Avenue for the entire block (approximately 18 parking spaces lost); (2) restriping eastbound Mermaid Avenue as one exclusive left turn lane and one shared through-right lane; (3) restriping westbound Mermaid Avenue as one shared left-through lane and one exclusive right turn lane; (4) installing signage to inform motorists of the eastbound left turn lane; and (5) modifying the signal timing plan.

MERMAID AVENUE AND WEST 15TH STREET

Significant impacts would occur during the Saturday PM peak hour and could be fully mitigated by modifying the signal timing plan. Even though significant impacts are not expected in other peak hours, signal timing changes would be in place to provide a consistent bandwidth along Mermaid Avenue for better vehicular progression**.**

MERMAID AVENUE AND STILLWELL AVENUE

Significant impacts would occur during the weekday midday, and Saturday PM peak hours, and could be fully mitigated by: (1) restriping the eastbound Mermaid Avenue approach as one shared left-through lane and one exclusive right turn lane; and (2) modifying the signal timing plan. Even though significant impacts are not expected in the weekday PM and Saturday midday peak hours, the signal timing and striping changes would be in place during these peak hours.

NEPTUNE AVENUE CORRIDOR

All three intersections analyzed along Neptune Avenue would be significantly impacted during the five peak hours analyzed.

NEPTUNE AVENUE AND CROPSEY AVENUE/WEST 17TH STREET

Significant impacts could not be mitigated during all five peak hours analyzed.

NEPTUNE AVENUE AND STILLWELL AVENUE

Significant impacts expected during all peak hours could be fully mitigated except during the Saturday midday peak hour when they could only be partially mitigated. The following measures are needed: (1) shifting the eastbound Stillwell Avenue approach centerline six feet to the north and restriping the approach as one exclusive left turn lane, one through lane, one through-right lane, a bike lane with a striped buffer, and a curb parking lane; (2) eliminating the westbound Neptune Avenue approach buffer for 75 feet from the stop bar; (3) shifting the westbound Neptune Avenue centerline four feet to the south and restriping the approach as one exclusive left turn lane, one through lane, one shared through-right lane, one bike lane and a curb parking lane; (4) converting the westbound Neptune Avenue receiving side from its existing perpendicular parking to parallel parking (approximately three parking spaces lost); and (5) modifying the signal phasing and timing plan.

NEPTUNE AVENUE AND WEST 8TH STREET/SHELL ROAD

Significant impacts could be fully mitigated during the weekday PM peak hour and partially mitigated during all other peak hours by the following measures: (1) eliminating the hatched median along the eastbound Neptune Avenue approach and restriping it as one exclusive left turn lane, one through lane, and one shared through-right lane; (2) restriping the southbound Shell Road approach as one exclusive left turn lane, one through lane, one exclusive right turn lane, and a curb parking lane; and (3) modifying the signal phasing and timing plan.

CROPSEY AVENUE CORRIDOR

Significant impacts would occur at the two intersections analyzed along Cropsey Avenue during all peak analysis hours.

CROPSEY AVENUE AND BAY 50TH STREET

Significant traffic impacts could be fully mitigated during the weekday AM, midday, PM, and Saturday PM peak hours, and partially mitigated during the Saturday midday peak hour by: (1) bulbing out the west curb along the receiving side of southbound Cropsey Avenue eight feet to the east to facilitate vehicular traffic exiting from the westbound Belt Parkway off-ramp; and (2) modifying the signal timing plan.

CROPSEY AVENUE AND BAY 52ND STREET

Significant impacts could be fully mitigated during the weekday AM and midday peak hours, and could only be partially mitigated during the other peak hours by: (1) restriping the northbound Cropsey approach as three through lanes and one shared through-right lane; (2) installing signage along northbound Cropsey Avenue informing motorists that the curb lane is for buses and right turns only; and (3) modifying the signal phasing and timing plan.

OCEAN PARKWAY CORRIDOR

Two intersections analyzed along Ocean Parkway would be significantly impacted during the weekday AM, Saturday midday and Saturday PM peak hours. One intersection would be significantly impacted during the weekday midday peak hour, and all three intersections analyzed would be significantly impacted during the weekday PM peak hour.

OCEAN PARKWAY AND NEPTUNE AVENUE

Significant impacts could not be mitigated during all five peak hours analyzed.

OCEAN PARKWAY AND SHORE PARKWAY SOUTH

Significant impacts are not expected during the weekday midday, Saturday midday, and Saturday PM peak hours. Significant impacts during the weekday AM peak hour could be fully mitigated by restriping the northbound Ocean Parkway service road as one through lane and one exclusive right turn lane for 150 feet from the stop bar. Even though significant impacts are not expected in the weekday midday, Saturday midday, and Saturday PM peak hours, the same restriping measures would be in place during these peak hours. Significant impacts during the weekday PM peak hour could not be mitigated.

OCEAN PARKWAY AND SHORE PARKWAY NORTH

Significant impacts are not expected during the weekday AM and midday peak hours. Significant impacts during the weekday and Saturday PM peak hours could not be mitigated. Modifying the signal timing plan could only partially mitigate significant impacts at this intersection during the Saturday midday peak hour.

IMPLEMENTATION

Each of the traffic capacity improvements described above fall within the jurisdiction of NYCDOT for implementation. The implementation of these measures would result in the loss of approximately 101 to 148 parking or "standing" spaces during various times of the day and days of the week, including approximately 27 to 55 metered parking spaces. Surf Avenue would lose approximately 46 to 83 spaces (including 9 to 37 meters) between West 21st Street and West 12th Street, Mermaid Avenue would lose about 18 metered spaces, and Neptune Avenue would lose about 3 spaces between West 15th Street and Stillwell Avenue. Along the side streets south of Mermaid Avenue between West 21st Street and West 16th Street, approximately 18 to 44 parking spaces would be lost. No designated truck loading/unloading zones or bus layover space would be affected by the proposed parking modifications for mitigation.

Of the traffic mitigation measures discussed in this chapter, one new traffic signal is proposed at the unsignalized intersection of Surf Avenue and West 20th Street and would be implemented by NYCDOT. Also, traffic signal equipment upgrades would be required along Surf Avenue, Mermaid Avenue, Neptune Avenue and Cropsey Avenue to accommodate variable signal phase green times during the five analysis time periods, and would also fall under the jurisdiction of NYCDOT.

NYCDOT is considering and evaluating the potential one-way pairing of West 15th, West 16th, West 17th, and West 19th Streets within the Coney Island area. This pairing, if implemented, is expected to improve traffic conditions at intersections along these streets. However, since plans have not been finalized and since traffic flow conditions would be improved overall, the FEIS has not incorporated these improvements into the traffic analyses. Thus the analyses above for specific intersections are conservative.

D. TRANSIT AND PEDESTRIANS

As discussed in Chapter 17, "Transit and Pedestrians," the proposed actions would result in significant adverse impacts to the B36, B68, B74, B82, and X38 bus routes during weekday analysis peak periods and to the B36 bus route during Saturday analysis peak periods. Significant adverse impacts were also identified for the east and west crosswalks at the Stillwell Avenue and Surf Avenue intersection during the weekday and Saturday analysis peak periods. Potential measures to mitigate these impacts are described below.

BUS LINE HAUL OPERATIONS

Impacts to bus line haul levels are considered significant if additional ridership associated with a proposed action is anticipated to result in operating levels above guideline capacities. Based on the analysis results presented in Chapter 17, "Transit and Pedestrians," the proposed actions would result in significant adverse impacts to study area bus routes during the weekday and Saturday analysis peak periods. These impacts and the number of additional buses required to mitigate the projected impacts are described below. **Table 22-2** provides a comparison of the existing service of the impacted bus routes to the number of buses required to fully mitigate the

identified significant adverse line-haul impacts, as well as, the number of buses required to accommodate the projected ridership levels at guideline capacities.

Table 22-2
2017 Mitigated Build Condition: Bus Line Haul Levels

Route	Peak Period	Eastbound/Northbound Buses per Hour			Westbound/Southbound Buses per Hour		
			Mitigated Build Condition			Mitigated Build Condition	
		Existing	To No Build Levels	To Within Guideline Capacities	Existing	To No Build Levels	To Within Guideline Capacities
Weekday							
B36	AM	18	20	22	15	16	20
	PM	9	11	12	8	--	13
B68	AM	8	9	10	11	12	13
	PM	9	--	10	8	9	10
B74	AM				7	8	9
	PM				9	10	12
B82	AM	13	--	15	Not impacted		
	PM	13	--	14	10	11	12
X38	AM	9	--	10			
	PM				Not impacted		
Saturday							
B36	MD	5	--	9	5	--	6
	PM	5	--	6	5	--	9

Notes: Local buses operate with a guideline capacity of 54 passengers per bus; express buses operate with a guideline capacity of 55 passengers per bus.

WEEKDAY ANALYSIS PERIODS

- During the AM peak period, the eastbound B36 would require 2 additional or 20 total buses to operate at No Build levels and 4 additional or 22 total buses to operate within guideline capacity. The westbound B36 would require 1 additional bus or 16 total buses to operate at No Build levels and 5 additional or 20 total buses to operate within guideline capacity.

  During the PM peak period, the eastbound B36 would require 2 additional or 11 total buses to operate at No Build levels and 3 additional or 12 total buses to operate within guideline capacity. The westbound B36 would require 5 additional or 13 total buses to operate within guideline capacity.
- During the AM peak period, the eastbound B68 would require 1 additional bus or 9 total buses to operate at No Build levels and 2 additional or 10 total buses to operate within guideline capacity. The westbound B68 would require 1 additional bus or 12 total buses to operate at No Build levels and 2 additional or 13 total buses to operate within guideline capacity.
- During the PM peak period, the eastbound B68 would require 1 additional bus or 10 total buses to operate within guideline capacity. The westbound B68 would require 1 additional bus or 9 total buses to operate at No Build levels and 2 additional or 10 total buses to operate within guideline capacity.
- During the AM peak period, the westbound B74 would require 1 additional bus or 8 total buses to operate at No Build levels and 2 additional or 9 total buses to operate within guideline capacity.

During the PM peak period, the westbound B74 would require 1 additional bus or 10 total buses to operate at No Build levels and 3 additional or 12 total buses to operate within guideline capacity.

- During the AM peak period, the northbound B82 would require 2 additional or 15 total buses to operate within guideline capacity.

  During the PM peak period, the northbound B82 would require 1 additional bus or 14 total buses to operate within guideline capacity. The southbound B82 would require 1 additional bus or 11 total buses to operate at No Build levels and 2 additional or 12 total buses to operate within guideline capacity.
- During the AM peak period, the northbound X38 would require 1 additional bus or 10 total buses to operate within guideline capacity.

SATURDAY ANALYSIS PERIODS

- During the midday peak period, the eastbound B36 would require 4 additional or 9 total buses to operate within guideline capacity. The westbound B36 would require 1 additional bus or 6 total buses to operate within guideline capacity.

  During the PM peak period, the eastbound B36 would require 1 additional bus or 6 total buses to operate at guideline capacity. The westbound B36 would require 4 additional or 9 total buses to operate within guideline capacity.

While the MTA and NYCT routinely monitors changes in bus ridership and would make the necessary service adjustments where warranted, these service adjustments are subject to the agencies' fiscal and operational constraints and, if implemented, are expected to take place over time.

STREET-LEVEL PEDESTRIAN OPERATIONS

Significant adverse pedestrian impacts were identified for the east and west crosswalks at the Stillwell Avenue and Surf Avenue, as outlined below.

STILLWELL AVENUE AND SURF AVENUE

- The east crosswalk at this intersection would deteriorate from LOS C (25.0 SFP) to LOS D (17.9 SFP) during the weekday midday peak period. It would deteriorate from LOS D (22.2 SFP) to LOS E (14.3 SF) during the weekday PM peak period and within LOS F during the weekend midday (6.4 SFP to 5.1 SFP) and weekend PM (4.7 SFP to 4.0 SFP) peak periods.
- The west crosswalk would deteriorate from LOS C (34.6 SFP) to LOS D (17.0 SFP) during the weekday PM peak period. It would deteriorate from LOS C (29.1 SFP) to LOS D (15.7 SFP) during the weekend midday peak period and from LOS D (22.2 SFP) to LOS E (14.1 SFP) during the weekend PM peak period.

The proposed traffic mitigation measures at this intersection would provide additional crossing time for the east and west crosswalks but reduce the crossing time currently available at the north crosswalk. As detailed in Appendix I, "Mitigation," during the weekday analysis peak periods, the crossing time per signal cycle for the east and west crosswalks would be increased by approximately 9 seconds while the crossing time per signal cycle for the north crosswalk would be reduced by approximately 20 seconds. During the Saturday midday peak period, the crossing time per cycle increase and reduction for the east/west and north crosswalks would be approximately 11 and 22 seconds, respectively. During the Saturday PM peak period, the signal

cycle would be extended from 90 to 120 seconds, with the crossing time per signal cycle for the east and west crosswalks increasing by approximately 17 seconds and the crossing time per signal cycle for the north crosswalk remaining approximately unchanged. In addition, the bulb-out proposed at the southeast corner of the intersection along Surf Avenue would effectively reduce the crossing distance of the east crosswalk by approximately 8 feet. As a result, the pedestrian impacts identified for the east and west crosswalks would be mitigated with the implementation of the proposed traffic mitigation measures. But the shortened crossing time at the north crosswalk would result in a new significant adverse crosswalk impact at this location. Restriping the width of the north crosswalk from its existing width of 16 to 18.5 feet would mitigate this projected significant adverse crosswalk impact.

E. AIR QUALITY

EFFECTS OF TRAFFIC MITIGATION MEASURES ON AIR QUALITY

Chapter 18, "Air Quality," reported the maximum predicted carbon monoxide (CO) and particulate matter (PM_{10} and $PM_{2.5}$) concentrations from mobile sources (traffic) that would be generated by the proposed actions, and concluded that there would be no potential for any significant adverse air quality impacts. Therefore, no air quality mitigation is required.

As presented above, a variety of traffic mitigation measures have been highlighted for many of the 30 intersections with identified adverse traffic impacts. **Table 22-3** summarizes the maximum CO concentrations for the 2019 analysis year without the proposed actions and with the proposed actions and traffic mitigation measures for receptor site 2 (there would be no changes at receptor 1). The results show that with the proposed traffic mitigation measures, as with the build condition, future concentrations of CO with the proposed actions would be below the National Ambient Air Quality Standards (NAAQS) and would not result in any significant adverse air quality impacts using the *de minimis* criteria for CO impacts.

Table 22-3
Future (2019) Maximum Predicted 8-Hour Average
No Build and Build with Traffic Mitigation CO Concentrations

Receptor Site	Location	Time Period	8-Hour Concentration (ppm)		
			No Build	Build	Build with Mitigation
2	Stillwell Avenue and Surf Avenue	Weekday PM	3.2	3.5	3.6
		Weekend Midday	3.2	3.6	3.5
Note: 8-hour standard is 9 ppm.					

F. NOISE

The proposed actions would result in a significant adverse noise impacts at two receptor locations—at receptor site 6 outside of the rezoning area on West 17th Street between Neptune Avenue and Mermaid Avenue, and at receptor site 11 within the Coney East subdistrict on Stillwell Avenue between Surf Avenue and the Boardwalk.

At receptor site 6, the proposed actions would result in increases in noise levels between the No Build and Build conditions of more than 3 dBA for the weekday midday peak period at 38 residential buildings, three church convent buildings, and one commercial building on West 17th

Street between Mermaid and Neptune Avenues, which would exceed the CEQR threshold for a significant adverse impact. The exceedance of the 3 dBA CEQR impact criteria would be due principally to noise generated by the large incremental traffic volumes on West 17th Street. Potential significant adverse impacts at buildings at additional receptor sites A1 to A5 and A8 could be mitigated with acoustical treatments such as sealing and caulking of windows, double-glazed or storm windows with good sealing properties, and air-conditioning units. At the locations where significant adverse impacts are predicted to occur, the City would make these measures available, at no cost, to owners of properties where these measures do not currently exist. With these mitigation measures in place, there would be no significant adverse noise impacts at receptor site 6. However, absent the implementation of such measures the proposed actions would result in significant unmitigated noise impacts at this location.

At receptor site 11, which is located within the Coney East subdistrict, the proposed actions would result in increases in noise levels between the No Build and Build conditions of more than 10 dBA for all analysis peak periods, except for the weekday AM peak period. This increase in noise levels would exceed the CEQR impact criteria and would constitute a significant adverse noise impact. The exceedances of the CEQR impact criteria at this receptor site would be due principally to noise generated by the activities in the proposed amusement park. However, no existing noise-sensitive uses were identified in the vicinity of this receptor site, the increase in noise levels at this location would only impact pedestrians at ground level within the proposed 27-acre entertainment and amusement district, and noise levels within this area would be in the range typically expected in an entertainment and amusement area. There are no feasible mitigation measures that could be implemented to eliminate the significant noise impact for pedestrians at this location and, therefore, the significant noise impact is identified as an unavoidable adverse impact (see Chapter 24, "Unavoidable Significant Adverse Impacts"). While amusement noise would significantly increase ambient noise levels at this location within the proposed entertainment and amusement district, it is not expected to result in noise impacts to residential areas and other noise-sensitive uses outside of the Coney East subdistrict. ✷