Seaside Park and Community Arts Center
Chapter 9: Transportation

A. INTRODUCTION

This transportation chapter presents the findings of traffic, parking, transit, and pedestrian conditions for the proposed Seaside Park and Community Arts Center in Coney Island, Brooklyn. The proposed project includes the construction of a new publicly accessible open space with a 5,100 seat open-air amphitheater as well as the restoration and adaptive reuse of a New York City designated landmark in the Coney Island neighborhood of Brooklyn Community District 13. This amphitheater seating capacity is similar to the current temporary facility located just ~~north~~ east of the project site ~~on~~ across West 21st Street. The project site is shown in Figure 1-1 in Chapter 1, "Project Description." The project is intended to advance the City of New York's ongoing efforts to reinvigorate Coney Island by introducing a new recreational and entertainment destination on the boardwalk.

It is anticipated that the proposed amphitheater and other project components would be completed by summer 2015 and that the first full year of operation would be 2016. The proposed amphitheater would be an interim use authorized for a period of ten years. Upon completion, the amphitheater would be owned by the City of New York, under the jurisdiction of the New York City Economic Development Corporation (EDC), and would be operated jointly with a not-for-profit entity under a ten-year lease with the city. The amphitheater would serve as a venue for a variety of concerts, community events, and public gatherings, as well as the home of the popular Seaside Summer Concert Series for the next 10 years, and provide the community with additional recreational and cultural opportunities during the off-season. The Seaside Summer Concert Series has been hosted in the Coney Island area, usually on weekdays, since 1978[1], and would be the largest event held at the proposed ~~open-air~~ amphitheater, and therefore the primary generator of travel demand.

As noted above, the new amphitheater would have a total capacity of 5,100 concertgoers compared to existing typical attendance counts of approximately 4,500 - 5,500 persons. For travel demand forecasting, it is conservatively assumed that an additional 900 standing concert attendees (6,000 total) would be attracted to the amphitheater area (boardwalk, beach, proposed open space). In order to evaluate the existing transportation characteristics and arrival/exit patterns of the Seaside Concert Series at Coney Island, surveys and attendance counts were conducted at two concerts in mid-August 2012. The detailed results of the survey and attendance counts are presented in the "Seaside Amphitheater at Coney Island Transportation Survey Memorandum" dated September 20, 2012, which is included in Appendix C to this EIS document. The results of this survey were used to develop the travel demand forecast described below for the proposed project.

It should be noted that the current project site was identified as Parcel B and part of projected development site 2 in the 2009 *Coney Island Rezoning EIS*. That EIS assumed the following uses for the project site: a 60,000 sf reactivated restaurant space at the (Former) Childs Restaurant Building; approximately 223,118 sf (223 DUs) of residential uses adjacent to Childs; approximately 33,978 sf of small scale accessory retail and other enhancing uses along the boardwalk; and a mapped 1.41-acre

[1] In 2012, the Seaside Summer Concert Series was held at a vacant parking lot on Surf Avenue between West 20th and West 21st Streets.

Highland View Park along the western portion of the project site (west of West 22nd Street). Therefore, in the 2016 future without the proposed action, the project site is assumed to be redeveloped with 223 residential units, 33,978 sf retail space, 1.27 acres of public park, as well as a 60,000 sf reactivated (Former) Childs Restaurant Building with a restaurant/banquet hall/event space as per the 2009 *Coney Island Rezoning EIS*. Because ~~this~~the proposed public park and adaptive use of the (Former) Childs Restaurant Building ~~is~~ are expected in the future without the proposed project (as discussed in the 2009 *Coney Island Rezoning EIS*)[2], ~~it~~ they would not represent a new use at the project site under With-Action conditions, nor substantially increase the demand on area transportation facilities compared to the No-Action condition.

It is expected that the level of travel demand generated by off-season (generally between ~~October~~ November and ~~May~~April) uses at the amphitheater would be substantially less than the demand generated by weekday and Saturday concerts during the summer months. Additionally, overall travel demand in Coney Island is substantially lower during cooler months than during the summer concert season, when concert traffic combines with both beach demand and demand from Brooklyn Cyclones baseball games at nearby MCU Park. Consequently, the travel demand generated by any off-season recreational use of the amphitheater is not expected to result in any significant adverse transportation impacts not otherwise identified in this EIS.

Therefore, summer weekday and Saturday concerts coinciding with Brooklyn Cyclones baseball games were selected as the reasonable worst-case condition for the EIS transportation analyses. It must be noted that this reasonable worst-case scenario of a coinciding concert and baseball game is expected to occur fewer than ten times a year out of a total of approximately 40-50 concerts. As such, the analyses presented in this chapter are conservative and most impacts identified would likely not occur for the vast majority of concert events.

B. PRINCIPAL CONCLUSIONS

Traffic

Weekday pre-concert event ("pre-event") and post-concert event ("post-event") and Saturday pre-event and post-event peak hour traffic conditions were evaluated at a total of 28 intersections generally bounded by the Belt Parkway to the north, Ocean Parkway to the east, Surf Avenue to the south and West 22nd Street to the west. These 28 intersections, where project-generated trips are expected to be most concentrated, were analyzed for the reasonable worst-case scenario of a concert at the proposed project site with a coinciding baseball game at the nearby MCU Park.

The traffic impact analysis indicates that there would be a potential for significant adverse impacts at three intersections during both the weekday pre-event and post-event peak hours, four intersections during the Saturday pre-event peak hour, and five intersections during the Saturday post-event peak hour, ~~as outlined below,~~ as outlined below. Chapter 16, "Mitigation," discusses measures to mitigate these significant adverse traffic impacts.

[2] The EIS assumed that the (Former) Childs Restaurant Building would be reused under the ~~No-Build~~No-Action condition (*Coney Island Rezoning EIS* p. 1-25).

Weekday Pre-Event Peak Hour

- Shell Road and Shore Parkway westbound off-ramp – westbound left-turn movement
- Neptune Avenue and Cropsey Avenue/West 17th Street – eastbound left-turn movement and southbound through-movement
- Surf Avenue and West 17th Street – southbound right-turn movement

Weekday Post-Event Peak Hour

- Neptune Avenue and West 20th Street – northbound approach
- Neptune Avenue and Cropsey Avenue/West 17th Street – eastbound left-turn movement
- Mermaid Avenue and West 20th Street – northbound approach

Saturday Pre-Event Peak Hour

- Shore Parkway westbound off-ramp at Shell Road – westbound left-turn movement
- Neptune Avenue and Cropsey Avenue/West 17th Street – southbound through movement
- Surf Avenue and West 17th Street – southbound right-turn movement
- Surf Avenue and Stillwell Avenue – southbound approach

Saturday Post-Event Peak Hour

- Shore Parkway Eastbound Off-Ramp and On-Ramp at Cropsey Avenue/Bay 52nd Street – northbound right-turn movement
- Shore Parkway Westbound Off-Ramp and On-Ramp at Cropsey Avenue/Bay 50th Street – northbound left-turn movement
- Neptune Avenue and West 20th Street – northbound approach
- Neptune Avenue and Cropsey Avenue/West 17th Street – eastbound left-turn movement and westbound through/right movement
- Mermaid Avenue and West 20th Street – northbound approach

Transit

The proposed action would not result in any significant adverse transit impacts with respect to subways and buses, as discussed below.

Subway

Based on 2012 survey data, it is anticipated that all project-generated subway trips would essentially utilize only one subway station – the Coney Island-Stillwell Avenue (D, F, N, Q) station located approximately 0.4-mile to the east of the project site. This station is expected to experience more than 200 project-generated trips in all analysis peak hours (pre-event and post-event on a weekday and a Saturday) and would therefore have the potential to experience significant adverse impacts under *2012 City Environmental Quality Review (CEQR) Technical Manual* criteria. The results of the analysis of future conditions indicate that all stairways, ramps and fare arrays at this subway station that are likely to be used by concentrations of project-generated demand would continue to operate at acceptable levels of service in all four peak hours in the With-Action condition. The proposed action would therefore not result in significant adverse impacts at the Coney Island-Stillwell Avenue subway station.

Bus

The project area in Coney Island is currently served by five NYC Transit bus routes, with several of these routes terminating in the vicinity of the Stillwell Avenue subway station. With a relatively low level of new bus demand that would be concentrated in off-peak periods and distributed over a total of five bus routes, significant adverse bus impacts are not expected due to the proposed project. Therefore, a further detailed bus analysis is not included in this EIS.

Pedestrians

The proposed action would not result in any significant adverse impacts to sidewalks, corner reservoir areas or crosswalks. Pedestrian trips generated by the proposed action are expected to be concentrated on the boardwalk, as well as along sidewalks, corners and crosswalks closest to the project site. A total of five sidewalks, four corners and four crosswalks were selected for analysis in the four peak hours. The results of the analysis of future conditions with the proposed action indicate that all analyzed sidewalks, corner reservoir areas and crosswalks would continue to operate at acceptable levels of service in the weekday pre-event and post-event and Saturday pre-event and post-event peak hours in the With-Action condition. It should be noted that the pedestrian analysis takes into account pedestrian queuing in proximity to the main amphitheater access point and box office entrance on the Riegelmann Boardwalk.

Pedestrian and Vehicular Safety Evaluation

As shown in Section J, "Pedestrian and Vehicular Safety Evaluation," one intersection in the study area -- Neptune Avenue and Stillwell Avenue -- experienced five or more pedestrian and/or bicyclist injury crashes in one or more years from 2009-2011 and is therefore at the threshold of a high accident location as per the *CEQR Technical Manual*. This intersection is not immediately adjacent to the project site where project-generated pedestrian trips would be most concentrated. Additionally, it should be noted that crashes involving pedestrians often involve conflicts with turning vehicles. It is therefore important to note that, out of 86 and 64 project-generated vehicle trips per hour at this intersection, only 14 and 12 vph are turning movements during the weekday and Saturday pre-event peak hour, respectively, as shown in Figures 9-1A and 9-1B. Therefore, given the low project-generated traffic passing through this already signalized intersection, a significant impact on pedestrian/bicycle safety is not anticipated. However, pedestrian and bicyclist safety could potentially be improved by renewing the existing road markings for increased visibility.

Parking

The parking analysis examines the available capacity of seven off-street parking lots in the proximity of the project site in addition to on-street parking availability within a ½-mile radius of the project site. Parking surveys were conducted on both game and non-game days. In the future with the proposed project, it is proposed to operate both the MCU Park Satellite Parking Lot and the Aquarium Parking Lot as attended parking facilities on days when amphitheater events coincide with baseball games (fewer than ten times per year). With the increase in parking spaces the attended lots would provide, it is expected that project-generated parking demand would be accommodated by the off- and on-street parking capacity in the study area. Therefore, it is not expected that the proposed project would result in any significant parking impacts.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the proposed project. According to the *CEQR Technical Manual*, if the proposed project is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed project would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the number~~s~~ of person and vehicle trips by mode expected to be generated by the proposed project during weekday PM and evening and Saturday PM and evening peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are discussed below and a detailed travel demand forecast is provided.

Transportation Planning Factors

Table 9-1 shows the transportation planning factors used for the travel demand forecast generated by the proposed project in the weekday pre-event and post-event peak hours, as well as Saturday pre-event and post-event peak hours. These include trip generation rates, temporal and directional distributions, mode choice factors, and vehicle occupancy rates for each of the land uses.

Amphitheater and Publicly Accessible Open Space

As described above, ~~the amphitheater proposed as part of the project would accommodate approximately 5,100 persons but would be analyzed based on the conservative assumption that an additional 900 standing concert attendees (6,000 total) would be attracted to the amphitheater area.~~the Level 1 screening assessment assumes that the proposed amphitheater would operate at full capacity, attracting approximately 5,100 persons on event days. While the majority of trips to the open space component of the proposed project are assumed to occur well outside of the analyzed pre- and post-event peak hours, it has been conservatively assumed that an additional 900 persons would be attracted to the amphitheater area (boardwalk, beach, proposed open space) on event days. Thus, the Level 1 screening assessment analyzes a total of 6,000 persons at the proposed amphitheater and publicly accessible open space.

TABLE 9-1
Transportation Planning Factors

Land Use:	Amphitheater				Local Retail		Quality Restaurant		Residential	
Size/Units:	6,000 seat				33,978 gsf		440 seat		223 du	
Trip Generation:	(2)				(4)		(6)		(5)	
Weekday	2.0				205.0		6.0		8.075	
Saturday	2.0				240.0		5.9		9.6	
	(trips/attendee)				(trips/1000 gsf)		(trips/seat)		(trips/du)	
Temporal Distribution:	(1)				(4)		(6)		(5,6)	
Weekday Pre-Event	25.2%				10.0%		10.4%		11.0%	
Weekday Post-Event	46.8%				1.1%		3.0%		3.3%	
Saturday Pre-Event	22.5%				10.0%		12.0%		7.2%	
Saturday Post-Event	46.8%				1.1%		1.0%		3.6%	
	(1)	(3)	(1)	(3)	(5)		(7)		(5)	
Modal Splits:	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event					weekday	Saturday
Auto	42.9%	34.7%	45.3%	32.6%	15.0%		40.0%		32.0%	40.0%
Taxi	1.0%	0.9%	1.0%	0.7%	0.0%		3.0%		1.0%	1.0%
Subway	40.4%	32.7%	37.1%	26.7%	5.0%		41.0%		45.0%	50.0%
MTA Bus	6.2%	5.0%	5.4%	3.9%	10.0%		11.0%		10.0%	4.0%
Walk/Other	9.5%	26.7%	11.2%	36.1%	70.0%		5.0%		12.0%	5.0%
	100.0%	100.0%	100.0%	100.0%	100.0%		100.0%		100.0%	100.0%
	(1)	(1)			(5)		(6)			
In/Out Splits:	In	Out			In	Out	In	Out	In	Out
Weekday Pre-Event	100.0%	0.0%			55.0%	45.0%	67.0%	33.0%	70.0%	30.0%
Weekday Post-Event	0.0%	100.0%			55.0%	45.0%	10.0%	90.0%	95.0%	5.0%
Saturday Pre-Event	100.0%	0.0%			55.0%	45.0%	59.0%	41.0%	50.0%	50.0%
Saturday Post-Event	0.0%	100.0%			55.0%	45.0%	10.0%	90.0%	95.0%	5.0%
Vehicle Occupancy:	(1)	(1)	(1)	(1)	(5)		(8)		(5)	
Auto	2.50	2.90	2.50	2.90	2.00		2.00		1.18	
Taxi	1.75	1.75	1.75	1.75	2.00		2.00		1.18	
Truck Trip Generation:		(1)			(4)		(4)		(4)	
		8			0.350		0.350		0.060	
		daily			per 1,000 sf		per 1,000 sf		per du	
		(1)			(5)		(1)		(1)	
Weekday Pre-Event		0.0%			1.0%		1.0%		0.0%	
Weekday Post-Event		0.0%			0.0%		0.0%		0.0%	
Saturday Pre-Event		0.0%			1.0%		1.0%		0.0%	
Saturday Post-Event		0.0%			0.0%		0.0%		0.0%	
	In	Out			In	Out	In	Out	In	Out
Pre-Event/Post-Event	50.0%	50.0%			50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes :

(1) PHA surveys conducted at Coney Island on 8/11/12 and 8/16/12. Truck rate based on MSG event in the arena. Vehicle Occupancy based on 2013 Survey Results for Events at Barclays Center

(2) *Atlantic Yards FEIS* (2006)

(3) Increased walk share during departure period accounts for travel from event site to Coney Island amusement/dining sites, as indicated in

(4) *2012 City Environmental Quality Review (CEQR) Technical Manual*. Assumming Post-event temporal distribution reduced by 50%.

(5) *Coney Island Rezoning FEIS* (2009)

(6) Based on *ITE Trip Generation Handbook, 8th Edition* , Land Use Code (931) Qualtiy Restaurant. Based on ITE parking demand for Quality Restaurant land use during post-event time.

(7) Assuming the modal split of Theme Retail land use in Coney Island Rezoning.

(8) Travel Demand from *St. George Waterfront Redevelopment DEIS* (2013).

The amphitheater factors in Table 9-1 are based primarily on surveys of concertgoers at the August 11, 2012 "Jackson Unity Tour" (Saturday) and August 16, 2012 "Gladys Knight and the Commodores" (weekday) concerts at the Seaside Summer Concert Series at Coney Island. It should be noted that there weren't any paid events at Coney Island concert venues that could be used to develop modal split and other travel demand factors. However, the travel demand characteristics for the surveyed events are likely similar to those of paid events that typically draw visitors from a broad region. The August 2012 survey data ~~was~~ were compared to 2008 survey data from a concert at Asser Levy Park ~~(conducted as part of the 2009 Asser Levy Park EAS)~~, which drew a higher portion of local visitors. When comparing

travel demand forecast levels based on these two different sets of survey data, the number of incremental project-generated vehicle trips was found to be higher for the 2012 event in all four peak hours. The 2012 survey data were therefore used as a guide to reflect the reasonable worst-case scenario for the analysis.

A daily trip generation rate of 2.0 trips per seat, based on the *Atlantic Yards Arena and Redevelopment Project FEIS* (2006), was applied to reflect the arrival and departure of each concertgoer, as well as trips associated with event staff and performers. Although it is likely that some portion of concertgoers would travel to Coney Island for other activities (such as the beach or Luna Park) prior to attending an evening concert, it is important to note that the travel demand forecast conservatively does not take credit for these potential linked trips in the pre-event period.

The temporal distribution shown in Table 9-1 assumes that 25.2 and 22.5 percent of total daily trips (equivalent to 50.4 and 45 percent of all inbound trips) would occur in the PM peak hour prior to weekday and Saturday concerts, respectively. This is based on data from counts conducted on August 11, 2012 at the "Jackson Unity Tour" and August 16, 2012 at the "Gladys Knight and the Commodores" concerts and is generally consistent with other paid concerts[3]. The counts conducted at the Thursday concert documented the temporal distribution shown in Table 9-1, which assumes that approximately 46.8 percent of total daily trips (equivalent to 93.6 percent of all outbound trips) would occur during the post-concert weekday and Saturday evening peak hours.

The modal splits are also based on data from 2012 surveys of concertgoers at the Seaside Summer Concert Series at Coney Island. As shown, the pre-event modal splits for both days are comparable, with personal auto being the most popular choice (42.9% weekday; 45.3% Saturday) and subway close behind (40.4% weekday; 37.1% Saturday). All remaining modes (bus, walk, other non-motorized) combined totaled approximately 17% on weekdays and 18% on Saturday.

As part of the 2012 survey, concertgoers were asked whether they would be temporarily remaining in Coney Island after the concert for other purposes (restaurant, other). At the Saturday concert, approximately 28 percent of attendees stated they would remain in Coney Island after the event; at the weekday concert, approximately 19 percent of attendees stated that they would remain in Coney Island after the event. These percentages were averaged to 22% for both post-event periods on a weekday and Saturday and added to the walk trips for the respective time period since the trips would be remaining in Coney Island within walking distance of the event site. Table 9-1 shows the resulting modal splits for the Saturday and weekday post-event periods, to be used in the EIS analyses.

The number of persons per auto ~~occupancy~~ was developed from 2013 surveys conducted at the Barclays Center for paid concert events and indicates that there would be an auto occupancy of approximately 2.50 persons per auto on the weekday and 2.90 persons per auto on the Saturday. Additionally, it was determined from the 2012 survey data that there would be approximately 1.75 persons per taxi on both weekdays and Saturdays (it should be noted that not enough taxi data was collected on the Saturday so the weekday taxi data was assumed for the Saturday).

The truck trip generation rate of eight trips per day was based on events at Madison Square Garden, although it should be noted that these trips would usually take place in the early morning or during the midday, well before the trips generated by concertgoers.

[3] The Madison Square Garden Modal Split Analysis (2003) states that for surveyed concerts at MSG, 50% of all incoming trips occurred during the peak hour. This concurs with the 50% counted during the peak hour during the surveyed Thursday concert.

Local Retail

As described above, in the future without the proposed project, the project site is assumed to be redeveloped with mixed uses along the boardwalk, including 33,978 sf of retail space. The trip generation rates, temporal distribution, and truck trip generation rate for the local retail component were based on the *CEQR Technical Manual.* The modal splits, directional in/out splits, vehicle occupancy rates, and truck temporal distribution were based on the 2009 *Coney Island Rezoning FEIS.*

Quality Restaurant

The adaptive reuse of the (Former) Childs Restaurant Building is expected to be a generator of travel demand for both the future without the proposed project and the future with the proposed project, as noted above. The trip generation rates, temporal distributions and directional in/out splits for the restaurant use were based on the *ITE Trip Generation Handbook, 8th Edition*. The modal split and truck trip temporal distribution were based on the 2009 *Coney Island Rezoning FEIS.* The vehicle occupancy rate was based on the 2013 *St. George Waterfront Redevelopment DEIS*. The truck trip generation rate was based on the *CEQR Technical Manual.*

Residential

As discussed above, in the future without the proposed project, redevelopment of the project site would also includes 223 residential units. The trip generation rates, temporal distributions, modal splits, directional in/out splits and vehicle occupancy rates for this use were based on the 2009 *Coney Island Rezoning FEIS.*

Travel Demand Forecast

Table 9-2 summarizes the results of the travel demand forecast for the proposed project based on the factors shown in Table 9-1 and discussed above. Table 9-2 also shows the total number of weekday and Saturday peak hour person trips, vehicle trips and transit trips that would be generated by the proposed project in the four analysis periods.

As shown in Table 9-2, the proposed project would generate a net total of 2,302, 5,499, 1,958 and 5,481 person trips during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. Table 9-2 shows that, compared to the No-Action condition, there would be an increase of approximately 456, 815, 358 and 645 vehicle trips (auto and taxi combined) during the weekday pre-event and post-event and Saturday pre-event and post-event, respectively. Compared to the No-Action condition, the proposed project would generate approximately ~~1,118~~1,107, 1,807, 907 and 1,462 additional subway trips and 114, 269, 78 and 210 bus trips during the weekday pre-event and post-event and Saturday pre-event and post-event, respectively. Net pedestrian trips (including walk/other, subway and bus trips) would total 1,118, 3,528, 853 and 3,649 during these time periods, respectively. Of these total pedestrian trips, -103, 1,452, -132 and 1,977 would be walk-only trips during the weekday pre-event and post-event and Saturday pre-event and post-event, respectively, compared to No-Action conditions.

TABLE 9-2
Travel Demand Forecast Summary

		No-Action								With-Action						*With-Action - No-Action Increment*
Land Use:		**Quality Restaurant**		**Residential**		**Local Retail**		**No-Action Total**		**Quality Restaurant**		**Amphitheater**		**With-Action Total**		
Size/Units:		440 seat		223 du		33,978 gsf				440 seat		6,000 seat				
Peak Hour Person Trips:																
Weekday Pre-Event		273		198		522		993		273		3,024		3,297		*2,304*
Weekday Post-Event		79		59		57		196		79		5,616		5,695		*5,499*
Saturday Pre-Event		315		130		612		1,056		315		2,700		3,015		*1,959*
Saturday Post-Event		26		65		67		158		26		5,616		5,642		*5,484*
Person Trips:																
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Weekday Pre-Event	**Auto**	73	36	44	19	43	35	160	90	73	36	1,297	0	1,370	36	*1,156*
	Taxi	5	3	1	1	0	0	6	4	5	3	30	0	35	3	*28*
	Subway	75	37	62	27	14	12	151	76	75	37	1,222	0	1,297	37	*1,107*
	MTA Bus	20	10	14	6	29	24	63	40	20	10	187	0	207	10	*114*
	Walk/Other	9	5	17	7	201	165	227	177	9	5	287	0	296	5	*-103*
	Total	182	91	138	60	287	236	607	387	182	91	3,023	0	3,205	91	*2,302*
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Weekday Post-Event	**Auto**	3	28	18	1	5	4	26	33	3	28	0	1,949	3	1,977	*1,921*
	Taxi	0	2	1	0	0	0	1	2	0	2	0	51	0	53	*50*
	Subway	3	29	25	1	2	1	30	31	3	29	0	1,836	3	1,865	*1,807*
	MTA Bus	1	8	6	0	3	3	10	11	1	8	0	281	1	289	*269*
	Walk/Other	0	4	7	0	22	18	29	22	0	4	0	1,499	0	1,503	*1,452*
	Total	7	71	57	2	32	26	96	99	7	71	0	5616	7	5,687	*5,499*
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Saturday Pre-Event	**Auto**	74	52	26	26	50	41	150	119	74	52	1,223	0	1,297	52	*1,080*
	Taxi	6	4	1	1	0	0	7	5	6	4	27	0	33	4	*25*
	Subway	76	53	32	32	17	14	125	99	76	53	1,002	0	1,078	53	*907*
	MTA Bus	20	14	3	3	34	28	57	45	20	14	146	0	166	14	*78*
	Walk/Other	9	6	3	3	235	193	247	202	9	6	302	0	311	6	*-132*
	Total	185	129	65	65	336	276	586	470	185	129	2700	0	2,885	129	*1,958*
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Saturday Post-Event	**Auto**	1	9	25	1	6	5	32	15	1	9	0	1,831	1	1,840	*1,794*
	Taxi	0	1	1	0	0	0	1	1	0	1	0	39	0	40	*38*
	Subway	1	10	31	2	2	2	34	14	1	10	0	1,499	1	1,509	*1,462*
	MTA Bus	0	3	2	0	4	3	6	6	0	3	0	219	0	222	*210*
	Walk/Other	0	1	3	0	26	21	29	22	0	1	0	2,027	0	2,028	*1,977*
	Total	2	24	62	3	38	31	102	58	13	11	0	5,616	2	5,639	*5,481*
Vehicle Trips :																
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Weekday Pre-Event	**Auto (Total)**	37	18	37	16	22	18	96	52	37	18	519	0	556	18	
	Taxi Balanced	4	4	2	2	0	0	7	7	4	4	17	17	22	22	
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	41	22	39	18	22	18	103	59	41	22	536	17	578	40	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Weekday Post-Event	**Auto (Total)**	2	14	15	1	3	2	20	17	2	14	0	780	2	794	
	Taxi Balanced	1	1	1	1	0	0	2	2	1	1	29	29	30	30	
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	3	15	16	2	3	2	22	19	3	15	29	809	32	824	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Saturday Pre-Event	**Auto (Total)**	37	26	22	22	25	21	84	69	37	26	422	0	459	26	
	Taxi Balanced	4	4	2	2	0	0	7	7	4	4	15	15	20	20	
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	41	30	24	24	25	21	91	76	41	30	437	15	479	46	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
Saturday Post-Event	**Auto (Total)**	1	5	21	1	3	3	25	9	1	5	0	631	1	636	
	Taxi	0	1	1	0	0	0	1	1	0	1	0	22	0	23	
	Taxi Balanced	1	1	1	1	0	0	2	2	1	1	22	22	23	23	
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	2	6	22	2	3	3	27	11	2	6	22	653	24	659	

Vehicle Trips:		**No-Action**			**With-Action**			**With-Action - No-Action Increment**		
	Total Vehicle	In	Out	Total	In	Out	Total	**In**	**Out**	**Total**
Weekday	**Pre-event**	103	59	162	578	40	618	**475**	**-19**	**456**
	Post-event	22	19	41	32	824	856	**10**	**805**	**815**
Saturday	**Pre-event**	91	76	167	479	46	525	**388**	**-30**	**358**
	Post-event	27	11	38	24	659	683	**-3**	**648**	**645**

Note: 25% Linked trip credit applied to Local Retail

Although there would be some truck trips associated with the delivery of supplies and equipment to the proposed amphitheater (such as concession goods, sound and lighting systems, stage sets, etc.), these trips are expected to be relatively small in number as noted above, and given the time needed to set-up and breakdown before and after a concert, they are expected to occur well outside of the analyzed pre- and post-concert peak hours.

Since these numbers of peak hour ~~vehicle~~ trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit trips and pedestrian trips (including walk-only, subway and bus trips) during one or more of the peak hours, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses may be warranted.

E. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

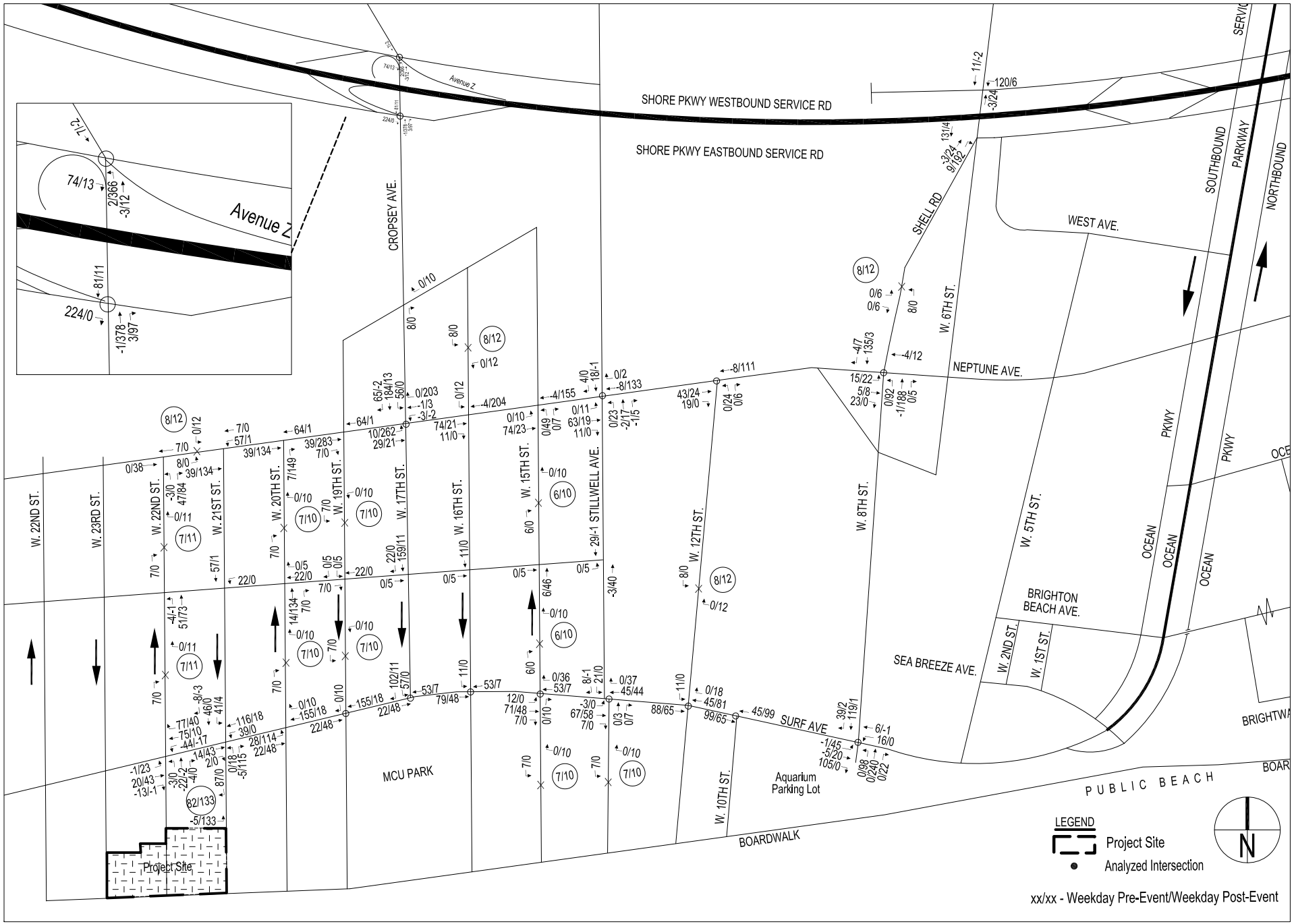
Traffic

The origins and destinations of weekday and Saturday project-generated auto and taxi trips were estimated based on zip code data collected from concertgoers surveyed at the Seaside Summer Concert Series at Coney Island in 2012 (see Appendix C). Autos were assigned to the most likely routes between these origins/destinations and on-street and off-street parking facilities within approximately ½-mile of the project site, including the approximately 350-space Aquarium parking lot south of Surf Avenue at West 8th Street and the 200-space MCU Park Satellite parking lot west of West 21st Street between the Riegelmann Boardwalk and Surf Avenue. Taxis were assigned to the most direct routes between residential origins/destinations and the project site entrances on Surf Avenue at West 22nd Street and West 21st Street. Figures 9-1A and 9-1B show the vehicle assignment diagram for the project-generated traffic, and Figure 9-2 shows the intersections that were selected for analysis in this EIS. As shown in Figures 9-1A and 9-1B, project-generated vehicle trips are expected to be most concentrated along the Neptune Avenue, Surf Avenue and West 17th Street/Cropsey Avenue corridors with many en route to and from interchanges with the Shore (Belt) Parkway located at Cropsey Avenue.

As shown in Figure 9-2, a total of 28 intersections (25 signalized and three unsignalized) have been selected for detailed analysis of traffic conditions during the weekday and Saturday pre- and post-concert peak hours based on this Level 2 screening assessment. These intersections, listed below, are where traffic generated by the proposed project is expected to be most concentrated.

Traffic Analysis Locations – Weekday and Saturday:

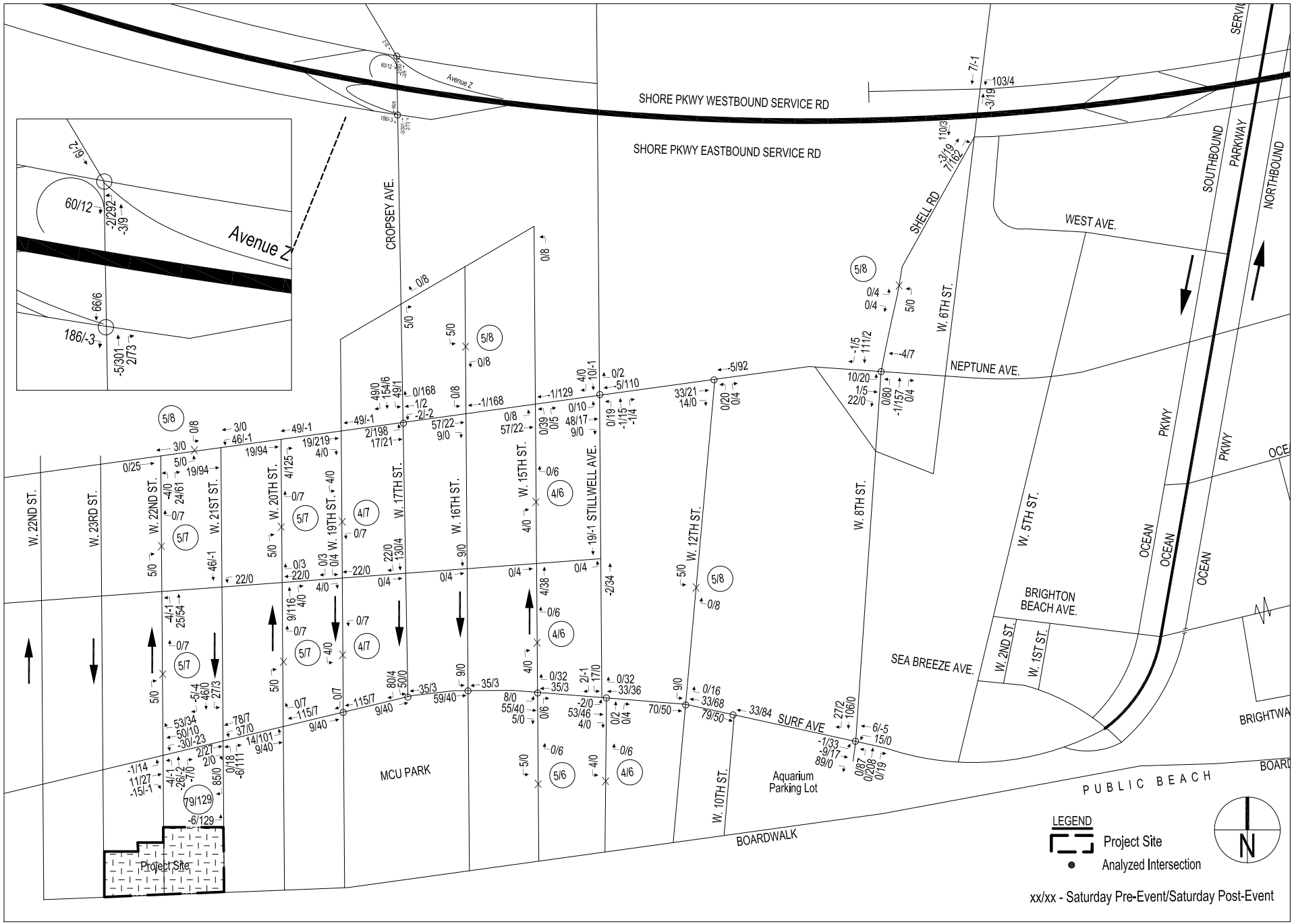
1. Shore Parkway Eastbound Off-Ramp and On-Ramp at Cropsey Avenue/Bay 52nd Street
2. Shore Parkway Westbound Off-Ramp and On-Ramp at Cropsey Avenue/Bay 50th Street
3. Shore Parkway Westbound Service Road at Shell Road
4. Shore Parkway Eastbound Service Road at Shell Road
5. Neptune Avenue at West 22nd Street
6. Neptune Avenue at West 21st Street (unsignalized)
7. Neptune Avenue at West 20th Street



Seaside Park and Community Arts Center

FIGURE 9-1A

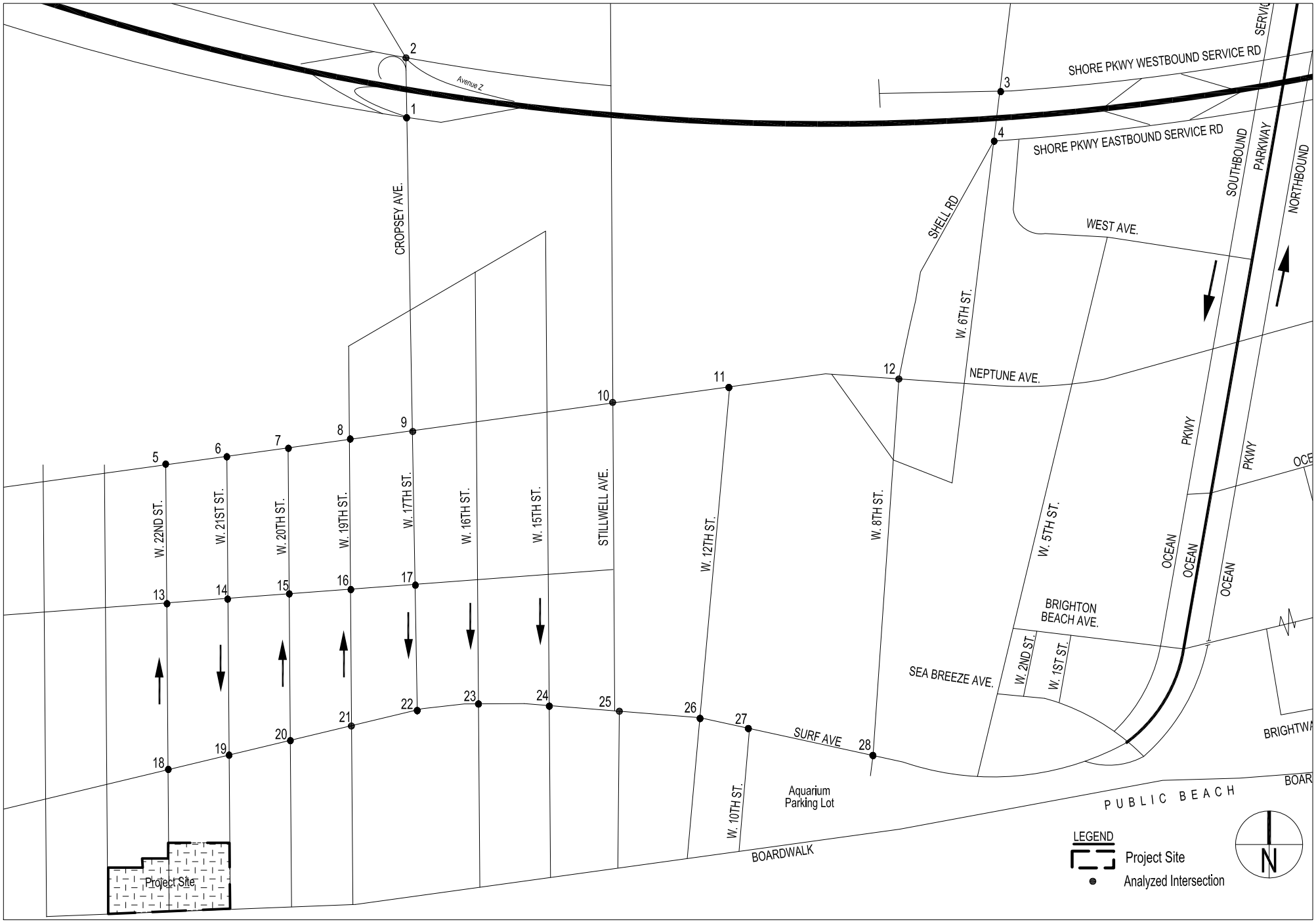
Weekday Net Project Increment Vehicle Trip Assignment



Seaside Park and Community Arts Center

FIGURE 9-1B

Saturday Net Project Increment Vehicle Trip Assignment



Seaside Park and Community Arts Center

FIGURE 9-2

Traffic Study Area and Analyzed Intersections

8. Neptune Avenue at West 19th Street
9. Neptune Avenue at Cropsey Avenue
10. Neptune Avenue at Stillwell Avenue
11. Neptune Avenue at West 12th Street
12. Neptune Avenue at West 8th Street
13. Mermaid Avenue at West 22nd Street
14. Mermaid Avenue at West 21st Street
15. Mermaid Avenue at West 20th Street
16. Mermaid Avenue at West 19th Street
17. Mermaid Avenue at West 17th Street
18. Surf Avenue at West 22nd Street (unsignalized)
19. Surf Avenue at West 21st Street
20. Surf Avenue at West 20th Street (unsignalized)
21. Surf Avenue at West 19th Street
22. Surf Avenue at West 17th Street
23. Surf Avenue at West 16th Street
24. Surf Avenue at West 15th Street
25. Surf Avenue at Stillwell Avenue
26. Surf Avenue at West 12th Street
27. Surf Avenue at West 10th Street
28. Surf Avenue at West 8th Street

Transit

Subway

Based on the 2012 surveys, it is anticipated that all project-generated subway trips would essentially utilize only one subway station, the Coney Island-Stillwell Avenue (D, F, N, Q) station, located approximately 0.4-miles to the east of the site. As shown in Table 9-2, the proposed project is expected to generate a net total of 1,107 and ~~1,797~~1,807 new subway trips in the weekday PM (pre-concert) and evening (post-concert) peak hours, respectively, and 907 and ~~1,451~~1,462 new trips during these periods, respectively on a Saturday.

Based on the peak hour subway trip assignment shown in Table 9-2, the proposed project would exceed the 200-trip *CEQR Technical Manual* analysis threshold at the station serving the project site during the weekday 6:30 – 7:30 PM and Saturday 5:30-6:30 PM (pre-concert) peak hours as well as during the weekday 10:00 – 11:00 PM and Saturday 9:00 – 10:00 PM (post-concert) peak hours. Therefore, based on this Level 2 screening assessment, a detailed analysis of the Coney Island-Stillwell Avenue station will be conducted.

LINE HAUL ANALYSIS SCREENING ASSESSMENT

Line haul demand is the volume of transit riders passing a defined point on a given transit route. As specified in the *CEQR Technical Manual*, a detailed analysis of subway line haul conditions is generally not required if a proposed action is projected to result in fewer than 200 peak-hour trips being assigned to a single line, as this level of new demand is considered unlikely to result in significant adverse impacts. As discussed above, the proposed project would generate a net total of approximately ~~1,118~~1,107, 1,807, 907 and 1,462 new subway trips in the weekday PM (pre-concert), weekday evening (post-concert), Saturday PM (pre-concert) and Saturday evening (post-concert) peak hours, respectively,

over the No-Action condition. These trips would be distributed among the four subway lines that service the Coney Island-Stillwell Avenue subway station – D, F, N and Q lines. The project-generated trips were assigned to the four subway lines at the station based on the ridership percentages documented by the surveys conducted in 2012 (see Table 9-3), while No-Action trips were distributed to each of the subway lines based on the existing count data collected as part of the 2012 count program.

TABLE 9-3
2012 Survey Subway Line Ridership Distribution

Subway Line	Weekday Percentage	Saturday Percentage
D	24%	29%
F	27%	32%
Q	14%	17%
N	35%	22%
Total	100%	100%

Source: 2012 PHA Surveys

Table 9-4 below shows the resulting net total of project-generated trips assigned to each of the four subway lines at the Coney Island-Stillwell Avenue subway station over the No-Action condition.

TABLE 9-4
Net Total Project-generated Trips by Subway Line

	Weekday Pre-Concert Increment			Weekday Post-Concert Increment			Saturday Pre-Concert Increment			Saturday Post-Concert Increment		
Subway Line	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
D	275	-11	264	-4	443	439	289	-5	284	-6	436	430
F	310	-11	299	-5	495	490	291	-24	267	-9	476	467
Q	144	-13	131	-10	250	240	153	-11	142	-9	255	246
N	417	-4	413	-8	646	638	220	-6	214	-9	328	319
Total	1146	-39	1107	-27	1834	1807	953	-46	907	-33	1495	1462

As shown in Table 9-4, during the weekday and Saturday pre-concert peak hours, the D, F and N subway lines all exceed the 200 trip threshold and, during the weekday and Saturday post-event peak hours all four subway lines – the D, F, Q and N – exceed the 200 trip threshold. It should be noted, however, that since the Coney Island-Stillwell Avenue subway station is a terminal stop on each of the lines, all inbound trips and outbound trips would travel in one direction.

While a majority of the subway lines being analyzed exceed the 200 peak hour trips per line *CEQR Technical Manual* threshold during the analyzed peak hours, it should be noted that the maximum load points for these lines typically occur closer to the river crossings into Manhattan. Approximately 62% and 59% of concert goers on a weekday and Saturday, respectively, would come from Brooklyn as indicated in the 2012 survey results. Furthermore, the pre-event and post-event peak hours being analyzed in this EIS occur after the typical commuter peak hours when line haul conditions are heaviest. Therefore, a detailed line haul analysis is not included in this EIS as significant impacts are unlikely.

Bus

As shown above in Table 9-2, the proposed project would generate a net total of 114, 269, 78 and 210 bus trips in the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. The project area in Coney Island is currently served by five NYC Transit bus routes, the B36, B64, B68, B74 and B82. The following provides a description of each route. It is noted that several of those routes terminate in the vicinity of the Stillwell Avenue subway station.

B36

The B36 provides local bus service between Coney Island and Sheepshead Bay. In Coney Island, in the vicinity of the project site, this route primarily operates on Surf Avenue and provides approximately 4 and 7 buses per hour during the weekday and Saturday pre-concert peak hours, respectively, and approximately 3 buses per hour during both the weekday and Saturday post-concert peak hours.

B64

The B64 provides local bus service between Coney Island and Bay Ridge. In Coney Island, the bus route both terminates and begins at the Mermaid Bus Loop near the Coney Island-Stillwell Avenue subway station. The bus route provides approximately 5 buses during both the weekday and Saturday pre-concert peak hours and approximately 3 and 4 buses during the weekday and Saturday post-concert peak hours, respectively.

B68

The B68 provides local bus service between Coney Island and Park Slope. In Coney Island, the bus route both terminates and begins at the Mermaid Bus Loop near the Coney Island-Stillwell Avenue subway station. The bus route provides approximately 6 and 7 buses during the weekday and Saturday pre-concert peak hours, respectively and approximately 4 buses during both the weekday and Saturday post-concert peak hours.

B74

The B74 provides local bus service between Coney Island and Sea Gate. In Coney Island, the bus route both terminates and begins at the Mermaid Bus Loop near the Coney Island-Stillwell Avenue subway station. The bus route provides approximately 6 and 7 buses during the weekday and Saturday pre-concert peak hours and approximately 3 and 4 buses during the weekday and Saturday post-concert peak hours, respectively.

B82

The B82 provides local and limited-stop bus service between Spring Creek and Coney Island. During the peak hours of the proposed project, the B82 provides local service. In Coney Island, the bus route both terminates and begins at the Mermaid Bus Loop near the Coney Island-Stillwell Avenue subway station. The bus route provides approximately 3 and 5 buses per hour during the weekday and Saturday pre-concert peak hours and approximately 4 and 5 buses per hour during the weekday and Saturday post-concert peak hours, respectively.

With the low level of new bus demand and a total of five bus routes to serve project-generated demand, significant bus impacts are not expected due to the proposed project's off-peak ridership demand. Therefore, further detailed bus analysis is not included in this EIS.

Pedestrians

According to *CEQR Technical Manual* criteria, projected pedestrian volume increases of less than 200 pedestrians per hour at any pedestrian element would not typically be considered a significant impact, since that level of increase would not generally be noticeable and therefore would not require further analysis. As shown in Table 9-2, the proposed project would generate a net total of 1,118, 3,528, 853 and 3,649 pedestrian trips (including walk-only, subway and bus trips) during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. Of these total pedestrian trips, -103, 1,452, -132 and 1,977 would be walk-only trips during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. When taking into account concert-goers walking to/from their cars in on-street parking spaces and nearby off-street parking facilities, the net total is expected to increase by approximately 471, 744, 373 and 666 pedestrian trips during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. Since the project-generated pedestrian trips would exceed the *CEQR Technical Manual* threshold for analysis during each of the peak hours, a Level 2 screening assessment is required.

Project-generated pedestrian trips were assigned to the sidewalks, corners and crosswalks where pedestrians would likely traverse to the project site. The main access points to the amphitheater would be located on the Riegelmann Boardwalk. ~~For egress, there would be an~~ An additional ~~exit~~ access point would be located on the southern end of West 22nd Street. Pedestrians coming from and walking to the subway station, which is located on the north-east corner of the intersection of Surf Avenue and Stillwell Avenue, can either walk along the Riegelmann Boardwalk or Surf Avenue. A total of four pedestrian locations have been selected for the analysis of pedestrian conditions during the weekday and Saturday pre- and post-concert peak hours. These locations, listed below, are where pedestrian trips are expected to be most concentrated (see Figure 9-3), and include the boardwalk, sidewalks, corner areas, and crosswalks providing access to entrances, and along corridors leading to the nearby subway station.

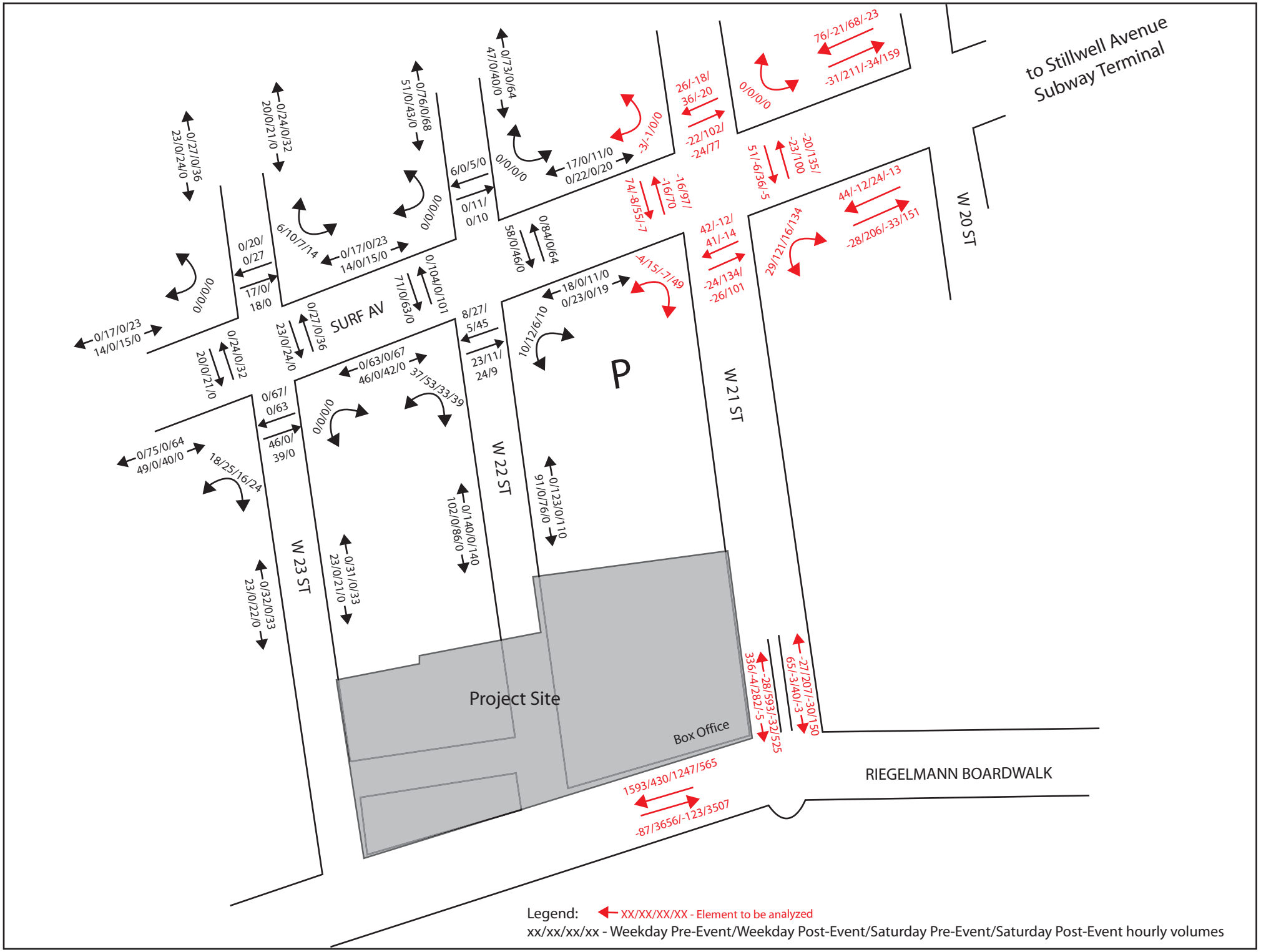
Pedestrian Analysis Locations – Weekday and Saturday

1. Surf Avenue at West 21st Street (4 crosswalks; 4 corners)
2. Surf Avenue between West 21st Street and West 20th Street (north and south sidewalks)
3. West 21st Street at the Riegelmann Boardwalk (east and west sidewalks)
4. The Riegelmann Boardwalk between West 22nd and West 21st Street (2 directions)

For analysis purposes, the Riegelmann Boardwalk is treated like a sidewalk. It must be noted that although the intersections of Surf Avenue at West 22nd Street and West 20th street are also expected to receive concentrations of project-generated pedestrians, these intersections are not analyzed in detail because they are unsignalized intersections where pedestrians have the right-of-way on all crosswalks.

Parking

As a quantitative traffic analysis is necessary based on the Level 1 and Level 2 screening assessments, analysis of both on-street and off-street parking conditions is also provided. Concert-related parking demand at these on-street locations and off-street facilities would increase on both weekdays and Saturdays as a result of the proposed project. Therefore, this EIS provides analyses of both on-street and off-street parking conditions during a weekday and Saturday concert event and a concurrent baseball game at the nearby MCU Park within an approximate ½-mile radius of the project site (see Section K, "Parking").



Seaside Park and Community Arts Center

Figure 9-3
Net Project Increment Pedestrian Trip Assignment

F. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic

Analysis Methodology

To establish the existing conditions traffic network for the study area, manual turning movement, vehicle classification, and automatic traffic recorder (ATR) counts were conducted during the weekday and Saturday pre- and post-concert peak hours in August 2012. Field surveys of parking regulations, lane configurations, and other physical and operational characteristics of the street network were undertaken in April 2013. Current signal timing plans for signalized intersections within the study area were obtained from the New York City Department of Transportation (NYCDOT). Surveys of on-street and off-street public parking capacity and utilization were also conducted in August 2012 as well as in June 2013.

Throughout the 2012 concert season, shows at the existing site typically started at 7:30 PM and ended between 10 PM and 11 PM on both weekdays and Saturdays. The peak arrival hour for concertgoers, typically precedes or brackets the start time of the concert. The EIS transportation analyses for the weekday PM (pre-event) period assesses conditions with peak project-generated demand superimposed on a 6:30 PM to 7:30 PM peak hour. This peak hour was selected for analysis since it would generally coincide with summer beach traffic and evening commuter traffic, as well as traffic arriving for a 7:00 PM Brooklyn Cyclones baseball game at nearby MCU Park. A 10:00 PM to 11:00 PM evening (post-event) peak hour was selected for weekday analysis as it would generally coincide with traffic exiting a baseball game at MCU Park, and since there is typically less overall traffic on the street network later in the evening. For the Saturday analysis, 5:30-6:30 PM and 9:00-10:00 PM were selected as the pre-event and post-event peak hours, respectively, in order to account for the earlier start and end time of weekend baseball games at MCU Park. As noted earlier, although ~~the events~~concerts at the project site would overlap with a baseball game fewer than ten times per season, this scenario ~~will be~~is considered the reasonable worst-case for conservative analysis purposes.

The capacity analyses at study area intersections are based on the methodology presented in the *Highway Capacity Manual (HCM) Software HCS+ Version 5.5*. Traffic data required for these analyses include the hourly volumes on each approach and various other physical and operational characteristics. As noted above, existing signal timing plans for signalized intersections were obtained from NYCDOT and field inventories were conducted in April 2013 to document the physical layout, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology provides a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volumes on an approach to the approach's carrying capacity. A ratio of less than 0.90 is generally considered indicative of non-congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio of between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses quality of flow in terms of level of service (LOS), which is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, with minimal delay (10 seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle).

For unsignalized intersections, the HCM methodology generally assumes that major street traffic is not affected by minor street flows. Left turns from the major street are assumed to be affected by the opposing, or oncoming major street flow. Minor street traffic is ~~obviously~~ affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. This relationship differs somewhat from the criteria used for signalized intersections, primarily because drivers expect different levels of performance from the two different kinds of transportation facilities. For unsignalized intersections, levels of service range from A, with minimal delay (10 seconds or less per vehicle), to F, which represents long delays (over 50 seconds per vehicle).

Table 9-5 shows the LOS/delay relationship for signalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers. In this study, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or above is identified as congested. For unsignalized intersections, a lane group with LOS E or F is also identified as congested.

TABLE 9-5
Intersection Level of Service Criteria

	Average Delay per Vehicle (seconds)	
Level of Service (LOS)	**Signalized Intersections**	**Unsignalized Intersections**
A	less than 10.1	less than 10.1
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	greater than 80.0	greater than 50.0
Source: *2010 Highway Capacity Manual.*		

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. According to *CEQR Technical Manual* criteria, if a lane group under the With-Action condition is within LOS A, B or C, or marginally acceptable LOS D (average control delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane group LOS deteriorates from LOS A, B, or C in the No-Action condition to worse than mid-LOS D (i.e., delay greater than 45 seconds/vehicle at signalized intersections or 30 seconds/vehicle at unsignalized intersections) or to LOS E or F under the With-Action condition, then a significant traffic impact has occurred. For a lane group operating at LOS D under the No-Action condition, an increase of five or more seconds is considered significant if the With-Action delay exceeds mid-LOS D. For a lane group operating at LOS E under the No-Action condition, an increase in projected delay of 4.0 or more seconds is considered significant, and for a lane group operating at LOS F under the No-Action condition, an increase in projected delay of 3.0 or more seconds is considered significant.

The same criteria apply to both signalized and unsignalized intersections. However, for the minor street at an unsignalized intersection to trigger significant impacts, 90 passenger-car equivalents (PCEs) must be identified in the future With-Action condition in any peak hour.

Transit

Subway

ANALYSIS METHODOLOGY

To determine existing conditions at analyzed subway station elements, subway ridership data were collected at the Stillwell Avenue-Coney Island subway station in August 2012 on a day with a baseball game at MCU Park. As with the traffic analysis, the analysis of subway station conditions focuses on the pre-event and post-event peak hours on a weekday and a Saturday.

The methodology presented in the *CEQR Technical Manual* for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways), fare control elements (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles) compares existing and projected pedestrian volumes with the element's design capacity to yield a volume-to-capacity (v/c) ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour.

The estimated v/c ratio is compared to New York City Transit (NYCT) criteria to determine a level-of-service (LOS) for the operation of an element. Table 9-6 shows the LOS and corresponding v/c ratios for all subway station elements. Six levels of service are defined with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts and LOS F depicts severe congestion and queuing.

TABLE 9-6
Subway Station Element Levels of Service Descriptions

LOS	Subway Station Element	v/c ratio
A	(Free Flow)	0.00 to 0.45
B	(Fluid Flow)	0.45 to 0.70
C	(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	(Severly congested, queued)	greater than 1.67
Source: *2012 CEQR Technical Manual*		

Stairways and Passageways

Under *CEQR Technical Manual* guidelines, the capacity of a stairway or passageway is determined based on four factors: the NYCT guideline capacity, the effective width, and surging and counter-flow factors, if applicable. NYCT guideline capacity is 10 passengers per minute per foot-width (pmf) for stairs and 15 pmf for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and for center handrails, if present. A surging factor is applied to existing pedestrian volumes to reflect conditions where pedestrian flows tend to be concentrated (or surged) during shorter periods within the 15-minute analysis interval. This factor, which is based on the size of the station and the proximity of the pedestrian element to the station platforms, can reduce the calculated capacity by up to 25 percent. Lastly, a friction (or counter-flow) factor reducing calculated capacity by 10 percent is applied where opposing pedestrian flows use the same stair or passageway. (No friction factor is applied if the flow is all or predominantly in one direction).

Escalators and Turnstiles

By contrast with stairways and passageways, under *CEQR Technical Manual* guidelines the capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent.

SIGNIFICANT IMPACT CRITERIA

Stairways and Passageways

As stated in the *CEQR Technical Manual*, the determination of significant impacts on stairways and passageways varies based on their type and use. NYCT has defined significant stairway and passageway impacts in terms of the width increment threshold (WIT) needed to bring the stair or passageway back to its No-Action v/c ratio or to bring it to a v/c ratio of 1.00, whichever is greater. Stairways and passageways that are substantially degraded in v/c, or which result in the formation of extensive queues are classified as significantly impacted. Significant impacts are typically considered to occur once the WIT listed in Table 9-7 are reached or exceeded.

TABLE 9-7
Significant Impact Criteria for Stairways and Passageways in Subway Stations

With-Action v/c	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00-1.09	8	13
1.1-1.19	7	11.5
1.20-1.29	6	10
1.3-1.39	5	8.5
1.4-1.49	4	6
1.5-1.59	3	4.5
1.6 and up	2	3

Turnstiles, Escalators, Elevators and High-Wheel Exits

According to the *CEQR Technical Manual*, proposed projects that cause a turnstile, escalator or high-wheel exit gate to increase from v/c below 1.00 to v/c of 1.00 or greater are considered to create a significant impact. Where a facility is already at a v/c of 1.00 or greater, a 0.01 change in v/c ratio is considered significant.

Bus

As discussed above, the proposed action is not expected to result in any significant adverse impacts to bus transit services and a detailed bus analysis is not provided in this EIS.

Pedestrians

Analysis Methodology

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks that would experience peak hour project-generated pedestrian volumes of 200 or greater as per the Level 2 screening analysis. As recommended in the *CEQR Technical Manual*, the same peak hours were used for

all transportation analyses. Pedestrian data were therefore collected between 6:30 – 7:30 PM (pre-event) and 10 – 11 PM (post-event) on a weekday and between 5:30 – 6:30 PM (pre-event) and 9:00 – 10:00 PM (post-event) on a Saturday. The highest 15-minute volumes within the selected peak hours were used for analysis.

Peak 15-minute pedestrian flow conditions during the weekday and Saturday peak hours are analyzed using the *2010 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk width, determining the available pedestrian capacity and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS standards for pedestrian flow, which define pedestrian traffic concentration levels qualitatively. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. Table 9-8 defines the LOS criteria for pedestrian sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

TABLE 9-8
Pedestrian Sidewalk Levels of Service Descriptions

LOS	Sidewalk	Platoon Sidewalk Criteria (pmf)
A	(Unrestricted)	≤ 0.5
B	(Slightly Restricted)	≤ 0.3
C	(Restricted but fluid)	≤ 0.6
D	(Restricted, necessary to continuously alter walking stride and direction)	≤ 0.11
E	(Severely restricted)	≤ 0.18
F	(Forward progress only by shuffling; no reverse movement possible)	> 18

Notes: Based on average conditions for 15 minutes
pmf - pedestrians per minute per foot of effective sidewalk width
Source: *2010 Highway Capacity Manual*

To be conservative, the analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. Platoon flow occurs when pedestrian volumes vary significantly within the peak 15-minute period, such as where nearby bus stops, subway stations and/or crosswalks account for much of the pedestrian volume. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

The primary performance measure to determine levels of service for street corners and crosswalks is pedestrian space, expressed as square feet per pedestrian (ft2/p). This analysis is conducted for signalized intersections and takes into account sidewalk and crosswalk pedestrian volumes, average pedestrian speed, effective street corner/crosswalk areas, volume of conflicting vehicles that turn into the crosswalk and pedestrian signal timings. Table 9-9 defines the LOS criteria for crosswalk/corner areas, as based on the Highway Capacity Manual methodology.

TABLE 9-9
Pedestrian Corner/Crosswalk
Levels of Service Criteria

LOS A	> 60 ft^2/p
LOS B	> 40 - 60 ft^2/p
LOS C	> 24 - 40 ft^2/p
LOS D	> 15 - 24 ft^2/p
LOS E	> 8 - 15 ft^2/p
LOS F	≤ 8 ft^2/p

Significant Impact Criteria

Since the proposed project site is not located within a Central Business District (CBD), *CEQR Technical Manual* criteria defines a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian flow rate under the No-Action condition is less than 3.5 pedestrians per minute per foot width (pmf) of effective sidewalk width, and the average flow rate under the With-Action condition is greater than 6.0 pmf (LOS D or worse). If the average flow rate under the With-Action condition is less than or equal to 6.0 pmf (LOS C or better), the impact should not be considered significant. If the No-Action pedestrian flow rate is between 3.5 and 19 pmf, an increase in average flow rate under the With-Action condition should be considered significant based on the criteria in Table 9-10, which shows a sliding-scale that identifies what increase is considered a significant impact. If the average pedestrian flow rate under the No-Action condition is greater than 19 pmf, then an increase in pedestrian flow rate greater than or equal to 0.6 pmf should be considered significant.

For corners and crosswalks in non-CBD areas, average pedestrian space under the With-Action condition with a LOS C or better should not be considered a significant impact. 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 D or worse) should be considered a significant impact. If the pedestrian space under the With-Action condition is greater than 24.0 ft2/p (LOS C or better), the impact should not be considered significant. If the pedestrian space under the No-Action condition is between 5.1 and 26.6 ft2/p, then the determination of whether the impact is considered significant is based on Table 9-11, which shows a sliding scale that varies with the No-Action pedestrian space. 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.

Pedestrian and Vehicular Safety Evaluation

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high accident locations. These are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where

appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with NYCDOT.

TABLE 9-10
Significant Impact Criteria for Sidewalks with Platooned Flow in a Non-CBD Location

No-Action Condtion Ped Flow (ped/min/ft)	With-Action Condition Ped Flow Increment to be Considered Significant Imapct (ped/min/ft)
< 3.5	With-Action Condition > 6.0
3.5 to 3.8	Increment ≥ 2.6
3.9 to 4.6	Increment ≥ 2.5
4.7 to 5.4	Increment ≥ 2.4
5.5 to 6.2	Increment ≥ 2.3
6.3 to 7.0	Increment ≥ 2.2
7.1 to 7.8	Increment ≥ 2.1
7.9 to 8.6	Increment ≥ 2.0
8.7 to 9.4	Increment ≥ 1.9
9.5 to 10.2	Increment ≥ 1.8
10.3 to 11.0	Increment ≥ 1.7
11.1 to 11.8	Increment ≥ 1.6
11.9 to 12.6	Increment ≥ 1.5
12.7 to 13.4	Increment ≥ 1.4
13.5 to 14.2	Increment ≥ 1.3
14.3 to 15.0	Increment ≥ 1.2
15.1 to 15.8	Increment ≥ 1.1
15.9 to 16.6	Increment ≥ 1.0
16.7 to 17.4	Increment ≥ 0.9
17.5 to 18.2	Increment ≥ 0.8
18.3 to 19.0	Increment ≥ 0.7
> 19.0	Increment ≥ 0.6

TABLE 9-11
Significant Impact Criteria for Corners and Crosswalks with Platooned Flow in a Non-CBD Location

No-Action Condition Ped Space (sf/ped)	With-Action Condition Ped Space Reduction to be Considered Significant Impact
> 26.6	With-Action Condition ≤ 24.0
25.8 to 26.6	Reduction ≥ 2.6
24.9 to 25.7	Reduction ≥ 2.5
24.0 to 24.8	Reduction ≥ 2.4
23.1 to 23.9	Reduction ≥ 2.3
22.2 to 23.0	Reduction ≥ 2.2
21.3 to 22.1	Reduction ≥ 2.1
20.4 to 21.2	Reduction ≥ 2.0
19.5 to 20.3	Reduction ≥ 1.9
18.6 to 19.4	Reduction ≥ 1.8
17.7 to 18.5	Reduction ≥ 1.7
16.8 to 17.6	Reduction ≥ 1.6
15.9 to 16.7	Reduction ≥ 1.5
15.0 to 15.8	Reduction ≥ 1.4
14.1 to 14.9	Reduction ≥ 1.3
13.2 to 14.0	Reduction ≥ 1.2
12.3 to 13.1	Reduction ≥ 1.1
11.4 to 12.2	Reduction ≥ 1.0
10.5 to 11.3	Reduction ≥ 0.9
9.6 to 10.4	Reduction ≥ 0.8
8.7 to 9.5	Reduction ≥ 0.7
7.8 to 8.6	Reduction ≥ 0.6
6.9 to 7.7	Reduction ≥ 0.5
6.0 to 6.8	Reduction ≥ 0.4
5.1 to 5.9	Reduction ≥ 0.3
< 5.1	Reduction ≥ 0.2

Parking

Analysis Methodology

The parking analysis identifies the supply of both on-street and off-street public parking in proximity to a project site and the extent to which both are utilized under existing conditions and conditions in the future both with and without the proposed action. A ½-mile radius around the project site is assumed for both the on-street and off-street parking inventory given the size of the parking demand. Further, on days when amphitheater concerts coincide with baseball games at MCU Park, the Applicant would provide a free shuttle service to the New York Aquarium parking lot. The Applicant has had discussions with the NY Aquarium, which has agreed to provide their Aquarium parking lot during events. This measure would help patrons park within the ½ mile radius of the project site by providing assured parking and transportation to the project site. ~~it is expected that there would be a shuttle provided to more remote parking as needed, for those times when the concert and an adjacent baseball game are occurring on the same evening.~~

Significant Impact Criteria

The *CEQR Technical Manual* provides different significant impact criteria based on whether the project site is located in Parking Zones 1 and 2. Coney Island is not located in Parking Zones 1 and 2. Therefore, for a proposed project located in areas not designated as Parking Zones 1 and 2, a project's parking shortfall that exceeds more than half of the available parking spaces within ¼-mile of the site can be considered significant. Additional factors to be considered in determining whether such a shortfall is significant include: the availability and extent of transit in the area and the proximity of the project to such transit; aspects of the project that may be considered trip reduction or travel demand management (TDM) measures; the travel modes of customers of area commercial businesses; and patterns of automobile usage by area residents. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

G. TRAFFIC

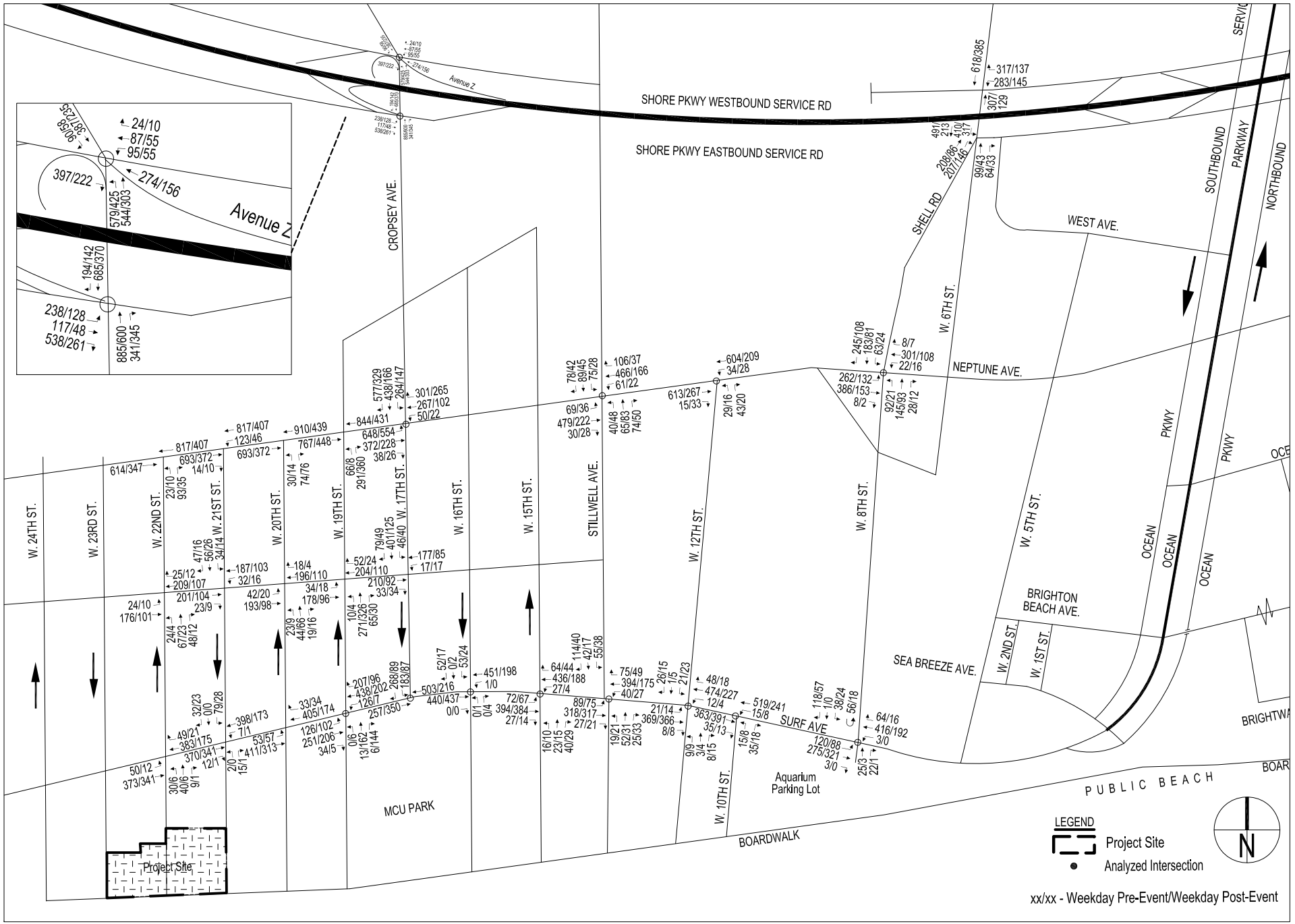
Existing Conditions

Study Area Network

The roadway network around the project site is a grid network comprised of east-west principal streets: Surf Avenue, Mermaid Avenue, Neptune Avenue, and north-south numbered local streets. The Belt Parkway is located approximately ½-mile north of the project site and can be accessed via Cropsey Avenue, Stillwell Avenue, Shell Road, and Ocean Parkway. These roadways are the key roadways that provide regional access to and from the Coney Island neighborhood. Figures 9-4A and 9-4B show existing 2012 peak hour traffic volumes on the study area street network during the weekday and Saturday pre-event and post-event peak hours, respectively. These volumes represent conditions with a baseball game at the MCU Park, without a concert.

Surf Avenue extends east-west between Sea Breeze Avenue and West 37th Street, transitioning into Ocean Parkway at Sea Breeze Avenue. Surf Avenue provides access to the amusement and entertainment center of Coney Island – MCU Park, the Coney Island amusement area and New York Aquarium. During baseball games at MCU Park, Surf Avenue carries heavier traffic volumes due to vehicles accessing parking facilities along side streets. Along this corridor, the heaviest two-way traffic volume is approximately 1,000 vehicles per hour (vph) during the Saturday game day post-event analysis period. Surf Avenue generally consists of two travel lanes in each direction with curbside parking allowed on both sides. There are additional parking prohibitions during the summer on the south curb on Surf Avenue near the amusement and entertainment facilities. Surf Avenue is also characterized by an 11-foot-wide striped median. Three NYCT bus routes operate along Surf Avenue: the B36 local route between Coney Island and Sheepshead Bay, and the X28 and X38 express routes between Sea Gate and Midtown, Manhattan. The express routes only operate on weekdays with limited hours while the local bus operates daily, including overnight operations.

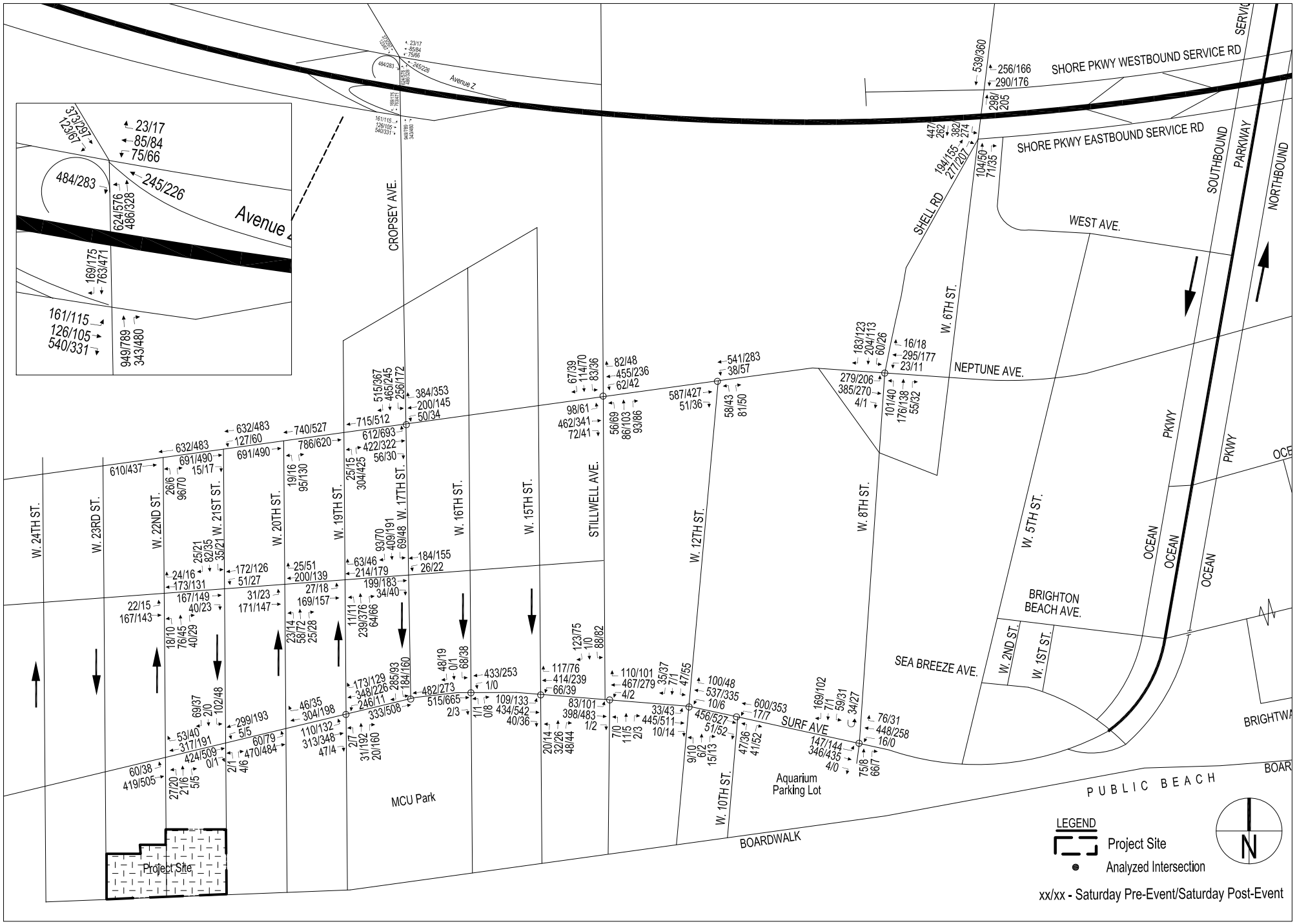
Neptune Avenue travels east-west between Shore Boulevard and West 37th Street, transitioning into Emmons Avenue at Shore Boulevard. Neptune Avenue is an important commuter route on the Coney Island peninsula and is designated as a New York City local truck route between Cropsey Avenue/West 17th Street and Coney Island Avenue. The highest two-way traffic volume, which occurs during the



Seaside Park and Community Arts Center

FIGURE 9-4A

2012 Existing Weekday Peak Hour Traffic Volumes



Seaside Park and Community Arts Center

FIGURE 9-4B

2012 Existing Saturday Peak Hour Traffic Volumes

weekday pre-event peak period, is approximately 1,300 vph. Neptune Avenue generally consists of two travel lanes with parking on both sides. Class II bike lanes[4] are also provided in both directions along segments of Neptune Avenue between Ocean Parkway and West 32nd Street, and only in the eastbound direction from West 37th Street to West 32nd Street. The NYCT B68 local bus route, which provides daily service between Coney Island and Park Slope, operates along Neptune Avenue between Stillwell Avenue and West 5th Street.

Mermaid Avenue extends east-west between Stillwell Avenue and West 37th Street. At the eastern end, Mermaid Avenue leads to an MTA bus terminal under the Stillwell Avenue-Coney Island subway station. Mermaid Avenue is characterized by a mixed-use area of commercial and residential land uses. It consists of one travel lane in each direction with curbside parking on both sides. Peak two-way traffic volumes do not typically exceed 400 vehicles per hour on Mermaid Avenue. The B74 local NYCT bus route operates along Mermaid Avenue between Sea Gate and the Stillwell Avenue-Coney Island subway station.

Cropsey Avenue traverses north-south between 14th Avenue at the Dyker Beach Golf Course and Neptune Avenue. Within the study area, Cropsey Avenue typically consists of three travel lanes in each direction compared to two travel lanes outside the study area. The additional travel lane accommodates access to the Belt Parkway and large retail stores along Cropsey Avenue at Coney Island Creek. This is a key access corridor to Coney Island and experiences heavy traffic under peak conditions with a two-way traffic volume of up to 2,400 vph in both travel directions between the Belt Parkway and Neptune Avenue. South of Neptune Avenue, Cropsey Avenue becomes West 17th Street with one to two southbound travel lanes and on-street parking on the east curb only. Three NYCT bus routes operate along Cropsey Avenue: the B82 local route between the Stillwell Avenue-Coney Island subway station and Spring Creek, and the X28 and X38 express routes between Sea Gate and Midtown, Manhattan. The B82 operates daily, including overnight operations, while the express routes provide limited weekday service as noted above.

Ocean Parkway is also a key north-south commuter route between Church Avenue, where it transitions into the Prospect Expressway, and Sea Breeze Avenue, where it transitions into Surf Avenue. Ocean Parkway has service roads that travel alongside the mainline terminating further north at Fort Hamilton Parkway. Ocean Parkway provides highway access for central Brooklyn neighborhoods. The two-way traffic volume under peak conditions is approximately 1,500 vph. The mainline consists of three travel lanes in each direction with left turn bays at key intersections. The service roads generally consist of one travel lane in each direction with parking on one or both sides of the roadway.

Stillwell Avenue travels north-south between Avenue P and the boardwalk. Stillwell Avenue generally consists of two travel lanes in each direction with parking on both sides. Between Neptune Avenue and Surf Avenue, Stillwell Avenue narrows into two southbound and one northbound lane near the Stillwell Avenue-Coney Island subway station. Stillwell Avenue is characterized by low traffic volumes that are typically less than 100 vph in each direction but experiences heavy pedestrian volumes and livery car double parking activities associated with the subway station near Surf Avenue. The NYCT B64 local bus route, which provides daily service between Coney Island and Bay Ridge, operates along Stillwell Avenue between Surf Avenue and Harway Avenue.

[4] Class I Bikeway: Provides a completely separated right-of-way designated for the exclusive use of bicycles; Class II Bikeway: Provides a travel lane designated for the exclusive use of bicycles; Class III Bikeway: Provides a route designated by signs or permanent markings and shared with pedestrians or motorists.

Shell Road extends north-south between 86th Street/Avenue X and Neptune Avenue. Shell Road transitions into McDonald Avenue at the northern end and into West 8th Street at the southern end. Shell Road is designated as a New York City local truck route. It generally consists of two travel lanes with parking in each direction and a raised central median.

The grid roadway network which encompasses the remainder of the project site surrounding area is mostly one lane, one way north-south streets with curbside parking on both sides of the roadway. This grid network is characterized by residential and commercial uses with some underutilized or vacant parcels. It should be noted that West 23rd Street and West 22nd Street comprise a one-way loop south of Surf Avenue with vehicles going south on West 23rd Street, turning left on Highland View Avenue and returning to Surf Avenue on northbound West 22nd Street. With the elimination of Highland View Avenue, this loop would be eliminated under both No-Action and With-Action conditions, as shown in Figure 1-~~1~~4 in Chapter 1, "Project Description." This was taken into consideration in the analyses. Additionally taken into consideration in the analysis is the reversal of West 19th Street from a northbound one-way to a southbound one-way, as discussed below in more detail. West 19th Street currently serves as a major northbound connector between Surf and Neptune Avenues, providing vehicles with access to the Cropsey Avenue corridor. After the reversal of West 19th Street, West 20th Street will be maintained as the northbound connector between Surf and Neptune Avenues, which is reflected in the analyses.

The overall traffic study area addressed in this Environmental Impact Statement encompasses 28 intersections generally bounded by the Belt Parkway to the north, Ocean Parkway to the east, Surf Avenue to the south, and West 22nd Street to the west. The specific 28 traffic analysis locations are shown in Figure 9-2.

Intersection Capacity Analysis

Table 9-12 shows the existing lane group levels of service during the weekday pre-event and post-event, and Saturday pre-event and post-event peak hours. During both the weekday pre-event and post-event peak hours, one lane group operates at LOS E and none operate at LOS F. During the Saturday pre-event peak hour, two individual lane groups operate at LOS E and one operates at LOS F. One traffic movement operates at LOS E and ~~two~~ one operates at LOS F during the Saturday post-event peak hour. These LOS E/F lane groups are at the intersections of Shore Parkway Westbound Off-Ramp and On-Ramp at Cropsey Avenue/Bay 50th Street, Shore Parkway Eastbound Service Road at Shell Road, Neptune Avenue at West 19th Street and Neptune Avenue at Cropsey Avenue/West 17th Street, as discussed below.

TABLE 9-12
Existing Lane Group Level of Service Summary

	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Overall LOS A/B/C	111	115	108	114
Overall LOS D	5	1	6	2
Overall LOS E	1	1	2	1
Overall LOS F	0	0	1	1
No. of movements at LOS E or F of approximately 117 movements analyzed	1	1	3	2

Table 9-13 shows the detailed volume-to-capacity ratios, delays and levels of service by movement at each of the 28 analyzed intersections in each peak hour, and identifies those movements that are considered congested in one or more peak hours (i.e., movements operating at LOS E or F and/or with a high v/c ratio – 0.90 and above). These congested locations are discussed in more detail below.

SHORE PARKWAY WESTBOUND OFF-RAMP AND ON-RAMP AT CROPSEY AVENUE/BAY 50TH STREET

As shown in Table 9-13, during the Saturday pre-event peak hour, the northbound left movement is operating with a v/c ratio of 1.05 (LOS E) and 73.5 seconds of delay.

SHORE PARKWAY EASTBOUND SERVICE ROAD AT SHELL ROAD

During the Saturday pre-event peak hour, the southbound left movement operates with a v/c ratio of 0.95 (LOS E) and 58.3 seconds of delay.

NEPTUNE AVENUE AT WEST 19TH STREET

During the weekday post-event peak hour, the northbound right-turn movement operates with a v/c ratio of 1.00 (LOS E) and 75.1 seconds of delay, while this movement operates with a v/c ratio of 0.99 (LOS E) and 71.0 seconds of delay during the Saturday post-event peak hour.

NEPTUNE AVENUE AT CROPSEY AVENUE/ WEST 17TH STREET

During the weekday pre-event peak hour, the eastbound left movement operates with a v/c ratio of 1.03 (LOS E) and 79.7 seconds of delay. During the Saturday pre-event peak hour, the eastbound left movement is also congested and operates with a v/c ratio of 1.04 (LOS F) and 81.9 seconds of delay, while during the Saturday post-event peak hour, the eastbound left movement operates with a v/c ratio of 1.05 (LOS F) and 83.5 seconds of delay. This eastbound left-turn, with two operating lanes, is the main egress route from much of Coney Island and is often congested.

The Future without the Proposed Project (No-Action)

Between 2012 and 2016, it is expected that traffic demand in the study area would increase due to general background growth and demand from two No-Action developments in the vicinity of the project site -- Ocean Dreams (bounded by Surf Avenue, West 35th and West 37th Streets, and Coney Island Beach), and Coney Island Commons (parcel on block bounded by Mermaid Avenue, West 29th and West 30th Streets, and Surf Avenue) which are noted in Chapter 2, "Land Use, Zoning and Public Policy." Ocean Dreams is a planned mixed-use development, which is expected to include 415 units of market-rate housing, up to 24,750 sf of commercial (retail) floor area, and 418 parking spaces. Coney Island Commons is also a planned mixed-use development, expected to include a total of 195 housing units, a new community center that includes a gymnasium, pool, physical fitness facility, and youth programming to be operated by the YMCA of Greater New York, and a 76-space, parking garage, with a landscaped roof terrace dedicated to recreational use for the tenants. Total No-Action condition traffic volumes were developed by applying the annual background growth rates recommended in the *CEQR Technical Manual* to existing volumes and assigning the trips generated by the two identified No-Action developments and by the residential units, retail space and reactivated (Former) Childs Restaurant Building with a restaurant/banquet hall/event space, which would be developed on the project site in the future without the proposed project, as discussed in Section A, "Introduction," to the network. An annual compounded background growth rate of 0.50 percent per year for years 2012 through 2016 was

TABLE 9-13
2012 Existing Conditions
Level of Service at Analyzed Intersections

Signalized Intersection	Lane Group	Weekday Pre Event V/C Ratio	Delay (sec/veh)	LOS	Weekday Post Event V/C Ratio	Delay (sec/veh)	LOS	Saturday Pre Event V/C Ratio	Delay (sec/veh)	LOS	Saturday Post Event V/C Ratio	Delay (sec/veh)	LOS
Shore Parkway EB Ramps / Bay 52nd St (E-W) @	EB-L	0.34	17.5	B	0.19	15.7	B	0.22	16.0	B	0.18	15.5	B
Cropsey Avenue (N-S)	EB-TR	0.45	19.4	B	0.20	15.9	B	0.46	19.6	B	0.32	17.4	B
	EB-R	0.61	22.7	C	0.26	16.6	B	0.47	19.7	B	0.42	19.1	B
	NB-TR	0.47	18.3	B	0.29	16.3	B	0.46	18.2	B	0.41	17.5	B
	NB-R	0.65	24.3	C	0.63	23.5	C	0.56	21.7	C	0.81	32.0	C
	SB-T	0.47	18.7	B	0.27	16.2	B	0.51	19.2	B	0.33	16.8	B
	SB-R	0.35	17.8	B	0.26	16.6	B	0.30	17.2	B	0.32	17.3	B
Bay 50th St / Shore Parkway WB Off Ramp[1] (E-W) @	*EB-R*	*0.54*	*14.5*	*B*	*0.31*	*11.4*	*B*	*0.67*	*17.9*	*C*	*0.44*	*13.0*	*B*
Cropsey Avenue / Avenue Z (N-S)	WB-LTR	0.57	32.2	C	0.32	26.9	C	0.46	29.6	C	0.45	29.3	C
	NB-L	0.63	20.6	C	0.38	11.5	B	1.05	73.5	E *	0.63	22.8	C
	NB-LT	0.58	12.7	B	0.31	9.3	A	0.28	9.0	A	0.33	9.8	A
	NB-T (Av Z)	0.29	9.4	A	0.17	8.4	A	0.27	9.2	A	0.25	9.0	A
[1] Off Ramp (EB-R) is unsignalized	SB-TR	0.30	18.8	B	0.19	17.8	B	0.31	19.0	B	0.26	18.4	B
Shore Parkway WB Off-Ramp[2] (E-W) @	WB-L	0.74	38.6	D	0.38	27.9	C	0.67	35.4	D	0.46	29.4	C
Shell Road (N-S)	*WB-R*	*0.46*	*12.6*	*B*	*0.21*	*10.6*	*B*	*0.38*	*12.6*	*B*	*0.25*	*10.8*	*B*
	NB-T	0.16	8.5	A	0.08	8.0	A	0.16	8.5	A	0.13	8.3	A
	SB-T	0.31	9.6	A	0.23	9.0	A	0.29	9.5	A	0.18	8.7	A
[2] Off Ramp (WB-R) is unsignalized													
Shore Parkway EB Service Road / W 6th St (E-W) @	WB-TR	0.49	30.1	C	0.24	25.1	C	0.53	31.0	C	0.24	25.2	C
Shell Road (N-S)	NB-TR	0.45	22.2	C	0.24	19.6	B	0.51	23.2	C	0.38	21.4	C
	SB-L	0.86	28.7	C	0.63	15.0	B	0.95	58.3	E *	0.57	14.2	B
	SB-T	0.27	9.4	A	0.13	8.4	A	0.28	9.5	A	0.15	8.5	A
Neptune Avenue (E-W) @	EB-LT	0.36	12.2	B	0.24	11.1	B	0.38	12.4	B	0.25	11.2	B
West 22nd Street (N-S)	WB-TR	0.51	13.9	B	0.28	11.4	B	0.39	12.5	B	0.34	12.0	B
	NB-LTR	0.27	22.6	C	0.10	20.4	C	0.26	22.4	C	0.18	21.4	C
	SB-LR	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B
Neptune Avenue (E-W) @	*WB-LT*	*0.17*	*9.9*	*A*	*0.05*	*8.4*	*A*	*0.17*	*9.8*	*A*	*0.07*	*8.8*	*A*
West 21st Street (N-S)													
(unsignalized)													
Neptune Avenue (E-W) @	EB-T	0.39	10.4	B	0.21	8.9	A	0.40	10.6	B	0.27	9.4	A
West 20th Street (N-S)	WB-T	0.53	12.2	B	0.27	9.5	A	0.43	10.9	B	0.32	9.9	A
	NB-LR	0.28	25.6	C	0.25	25.1	C	0.29	25.8	C	0.40	27.7	C
Neptune Avenue (E-W) @	EB-T	0.43	11.0	B	0.26	9.3	A	0.46	11.3	B	0.34	10.0	B
West 19th Street (N-S)	WB-T	0.50	11.8	B	0.28	9.5	A	0.43	10.9	B	0.32	9.8	A
	NB-LR	0.22	24.9	C	0.02	22.3	C	0.06	22.6	C	0.04	22.5	C
	NB-R	0.75	40.5	D	1.00	75.1	E *	0.77	40.9	D	0.99	71.0	E *
Neptune Avenue (E-W) @	EB-L	1.03	79.7	E *	0.89	51.9	D	1.04	81.9	F *	1.05	83.5	F *
West 17th Street / Cropsey Avenue (N-S)	EB-TR	0.24	10.1	B	0.15	9.4	A	0.30	10.6	B	0.20	9.8	A
	WB-L	0.24	25.2	C	0.09	22.5	C	0.26	25.7	C	0.15	23.5	C
	WB-TR	0.72	32.5	C	0.53	28.0	C	0.73	32.8	C	0.71	32.3	C
	SB-L	0.62	31.0	C	0.33	24.8	C	0.58	29.9	C	0.34	24.9	C
	SB-T	0.77	36.1	D	0.30	24.2	C	0.76	35.9	D	0.43	26.1	C
	SB-R	0.48	12.4	B	0.24	9.8	A	0.35	10.7	B	0.27	9.9	A
Neptune Avenue (E-W) @	EB-LTR	0.63	22.3	C	0.29	16.5	B	0.79	28.2	C	0.42	18.2	B
Stillwell Avenue (N-S)	WB-LTR	0.63	22.0	C	0.21	15.7	B	0.63	21.9	C	0.34	17.1	B
	NB-LTR	0.20	15.7	B	0.19	15.6	B	0.28	16.5	B	0.29	16.6	B
	SB-LTR	0.30	16.8	B	0.13	15.0	B	0.33	17.1	B	0.16	15.3	B
Neptune Avenue (E-W) @	EB-T	0.41	13.2	B	0.17	11.0	B	0.34	12.5	B	0.27	11.8	B
West 12th Street (N-S)	EB-R	0.03	10.0	A	0.05	10.2	B	0.08	10.5	B	0.06	10.3	B
	WB-LT	0.47	14.1	B	0.19	11.2	B	0.43	13.7	B	0.31	12.3	B
	NB-LR	0.15	20.3	C	0.08	19.5	B	0.31	22.5	C	0.20	20.9	C

TABLE 9-13 (continued)
2012 Existing Conditions
Level of Service at Analyzed Intersections

Neptune Avenue (E-W) @	EB-DefL	0.57	20.2	C	0.23	13.2	B	0.66	23.2	C	0.40	15.7	B
West 8th Street (N-S)	EB-TR	0.40	14.7	B	0.16	12.1	B	0.42	14.9	B	0.27	13.1	B
	WB-LTR	0.26	12.8	B	0.12	11.6	B	0.27	12.9	B	0.18	12.1	B
	NB-L	0.40	25.2	C	0.07	18.3	B	0.40	24.3	C	0.14	19.2	B
	NB-TR	0.16	18.9	B	0.11	18.3	B	0.25	19.8	B	0.18	19.0	B
	SB-L	0.21	20.1	C	0.08	18.3	B	0.22	20.5	C	0.08	18.4	B
	SB-TR	0.46	22.4	C	0.21	19.3	B	0.35	20.9	C	0.23	19.6	B
Mermaid Avenue (E-W) @	EB-LT	0.25	8.7	A	0.13	7.8	A	0.23	8.6	A	0.21	8.4	A
West 22nd Street (N-S)	WB-TR	0.28	9.0	A	0.17	8.1	A	0.26	8.8	A	0.17	8.1	A
	NB-LTR	0.35	17.7	B	0.10	14.9	B	0.32	17.3	B	0.21	15.9	B
Mermaid Avenue (E-W) @	EB-TR	0.33	9.5	A	0.15	8.0	A	0.30	9.3	A	0.25	8.8	A
West 21st Street (N-S)	WB-LT	0.31	9.3	A	0.17	8.1	A	0.36	9.9	A	0.23	8.7	A
	SB-LTR	0.38	18.3	B	0.15	15.4	B	0.37	18.0	B	0.21	16.0	B
Mermaid Avenue (E-W) @	EB-LT	0.38	11.3	B	0.19	9.4	A	0.33	10.7	B	0.27	10.1	B
West 20th Street (N-S)	WB-TR	0.32	10.5	B	0.17	9.2	A	0.34	10.8	B	0.30	10.4	B
	NB-LTR	0.20	14.5	B	0.21	14.6	B	0.23	14.8	B	0.28	15.3	B
Mermaid Avenue (E-W) @	EB-LT	0.31	9.4	A	0.17	8.2	A	0.31	9.4	A	0.26	8.9	A
West 19th Street (N-S)	WB-TR	0.36	9.8	A	0.20	8.3	A	0.41	10.4	B	0.33	9.5	A
	NB-LTR	0.46	18.0	B	0.48	18.1	B	0.38	17.1	B	0.60	20.1	C
Mermaid Avenue (E-W) @	EB-TR	0.41	14.2	B	0.21	11.9	B	0.39	13.9	B	0.41	14.2	B
West 17th Street (N-S)	WB-LT	0.33	13.1	B	0.19	11.8	B	0.34	13.3	B	0.32	13.1	B
	SB-LTR	0.49	14.2	B	0.22	11.7	B	0.52	14.7	B	0.30	12.4	B
Surf Avenue (E-W) @	*EB-LT*	*0.06*	*8.8*	*A*	*0.01*	*7.9*	*A*	*0.07*	*8.8*	*A*	*0.04*	*8.3*	*A*
West 22nd Street (N-S)	*NB-LTR*	*0.37*	*26.9*	*D*	*0.04*	*13.9*	*B*	*0.27*	*25.1*	*D*	*0.14*	*20.6*	*C*
(unsignalized)													
Surf Avenue (E-W) @	EB-TR	0.23	9.5	A	0.23	9.5	A	0.23	9.6	A	0.32	10.3	B
West 21st Street (N-S)	WB-LT	0.27	9.9	A	0.12	8.7	A	0.19	9.3	A	0.15	8.9	A
	NB-LR	0.06	22.0	C	0.00	21.4	C	0.02	21.6	C	0.02	21.6	C
	SB-LTR	0.30	25.3	C	0.12	22.7	C	0.47	28.6	C	0.23	24.2	C
Surf Avenue (E-W) @	*EB-LT*	*0.08*	*9.8*	*A*	*0.07*	*8.6*	*A*	*0.10*	*10.1*	*B*	*0.10*	*9.2*	*A*
West 20th Street (N-S)													
(unsignalized)													
Surf Avenue (E-W) @	EB-L	0.49	18.0	B	0.24	11.8	B	0.35	13.9	B	0.36	13.8	B
West 19th Street (N-S)	EB-TR	0.17	10.5	B	0.12	10.1	B	0.22	10.9	B	0.25	11.1	B
	WB-L	0.31	12.7	B	0.03	9.7	A	0.69	24.5	C	0.04	9.7	A
	WB-TR	0.45	13.3	B	0.21	10.8	B	0.34	12.0	B	0.27	11.4	B
	NB-LTR	0.02	19.5	B	0.34	22.7	C	0.06	19.8	B	0.42	23.8	C
Surf Avenue (E-W) @	EB-T	0.14	8.9	A	0.18	9.2	A	0.17	9.1	A	0.30	10.1	B
West 17th Street (N-S)	WB-T	0.31	10.2	B	0.12	8.8	A	0.27	9.9	A	0.18	9.2	A
	SB-L	0.56	31.7	C	0.28	25.2	C	0.49	29.4	C	0.43	28.0	C
	SB-R	0.84	47.4	D	0.29	25.5	C	0.77	41.3	D	0.26	24.9	C
Surf Avenue (E-W) @	EB-TR	0.25	10.1	B	0.23	10.0	A	0.28	10.4	B	0.40	11.5	B
West 16th Street (N-S)	WB-LT	0.29	10.5	B	0.13	9.2	A	0.26	10.3	B	0.17	9.6	A
	NB-LR	0.00	20.7	C	0.02	20.9	C	0.00	20.7	C	0.03	21.0	C
	SB-LTR	0.32	25.1	C	0.13	22.2	C	0.37	26.1	C	0.18	22.9	C
Surf Avenue (E-W) @	EB-L	0.30	13.7	B	0.15	10.8	B	0.48	18.3	B	0.48	17.3	B
West 15th Street (N-S)	EB-TR	0.27	11.3	B	0.22	10.9	B	0.28	11.5	B	0.38	12.4	B
	WB-LTR	0.43	13.1	B	0.18	10.6	B	0.56	15.4	B	0.37	12.5	B
	NB-LTR	0.16	21.0	C	0.11	20.5	C	0.20	21.4	C	0.17	21.1	C
Surf Avenue (E-W) @	EB-L	0.26	8.6	A	0.14	7.1	A	0.26	8.9	A	0.27	8.7	A
Stillwell Avenue (N-S)	EB-TR	0.19	7.1	A	0.21	7.2	A	0.20	7.1	A	0.30	7.8	A
	WB-L	0.09	6.8	A	0.06	6.4	A	0.01	6.1	A	0.00	6.1	A
	WB-TR	0.29	7.8	A	0.14	6.8	A	0.34	8.2	A	0.27	7.6	A
	NB-LTR	0.18	26.8	C	0.15	26.4	C	0.04	25.3	C	0.02	25.1	C
	SB-DefL	--	--	--	--	--	--	--	--	--	0.59	44.0	D
	SB-TR	--	--	--	--	--	--	--	--	--	0.45	35.3	D
	SB-LTR	0.52	33.1	C	0.20	27.0	C	0.65	38.7	D			

TABLE 9-13 (continued)
2012 Existing Conditions
Level of Service at Analyzed Intersections

Surf Avenue (E-W) @	EB-L	0.10	9.3	A	0.03	8.3	A	0.15	9.8	A	0.16	9.8	A
West 12th Street (N-S)	EB-TR	0.23	9.6	A	0.24	9.6	A	0.26	9.8	A	0.33	10.4	B
	WB-L	0.04	8.4	A	0.01	8.1	A	0.03	8.4	A	0.02	8.3	A
	WB-TR	0.34	10.5	B	0.16	9.0	A	0.42	11.4	B	0.27	9.9	A
	NB-LTR	0.07	22.2	C	0.08	22.2	C	0.13	23.1	C	0.10	22.8	C
	SB-LTR	0.18	23.9	C	0.13	22.8	C	0.44	30.2	C	0.44	30.2	C
West 10th Street (N-S)	EB-TR	0.26	10.2	B	0.26	10.3	B	0.32	10.8	B	0.40	11.6	B
	WB-L	0.05	8.9	A	0.02	8.7	A	0.07	9.2	A	0.03	8.8	A
	WB-T	0.66	17.4	B	0.33	11.4	B	0.76	21.1	C	0.49	13.6	B
	NB-LR	0.15	22.4	C	0.07	21.5	C	0.25	23.8	C	0.25	23.9	C
Surf Avenue (E-W) @	EB-L	0.39	14.9	B	0.37	15.3	B	0.63	23.8	C	0.60	22.6	C
West 8th Street (N-S)	EB-TR	0.18	10.6	B	0.19	10.6	B	0.21	10.8	B	0.31	11.7	B
	WB-L	0.01	9.4	A	0.00	9.3	A	0.05	9.8	A	0.00	9.3	A
	WB-TR	0.33	11.9	B	0.15	10.4	B	0.37	12.4	B	0.22	11.0	B
	NB-LTR	0.11	20.5	C	0.01	19.4	B	0.32	23.4	C	0.04	19.7	B
	SB-L	0.33	24.4	C	0.08	19.4	B	0.40	26.7	C	0.19	21.9	C
	SB-TR	0.27	22.6	C	0.08	20.0	C	0.23	21.7	C	0.13	20.5	C

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
* -Denotes Congested Location in the 2012 Existing Condition
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.5).

applied to existing travel demand as specified in the *CEQR Technical Manual*. This background growth rate is applied to account for smaller projects and general increases in travel demand not attributable to specific development projects in proximity to the study area.

Changes to the Study Area Street Network

In addition to anticipated increases in traffic demand, the analysis of future No-Action traffic conditions also reflects anticipated changes to the study area street system, including the conversion of West 19th Street from one-way northbound to one-way southbound operation which ~~would be~~were implemented by NYCDOT ~~by~~ in September 2013. This plan ~~would~~included the following elements:

- Permit parking along West 19th Street on both sides
- Prohibit parking on Neptune Avenue between West 19th Street and West 17th Street
- Convert the bike lane on Neptune Avenue between West 20th Street and West 19th Street to a shared lane to be consistent with the block east of West 19th Street and to provide an additional moving lane
- Prohibit westbound left-turns from Neptune Avenue onto southbound West 19th Street

For traffic analysis purposes, nearly all vehicles that use West 19th Street as a northbound connector to Cropsey Avenue under Existing conditions can be expected to divert onto northbound West 20th Street under future No-Action and With-Action conditions as it provides the most direct path to the intersection of Neptune Avenue and Cropsey Avenue/West 17th Street.

As discussed earlier and as shown in Figure 1-~~14~~14 in Chapter 1, "Project Description," the loop composed of West 23rd Street, Highland View Avenue and West 22nd Street south of Surf Avenue will be eliminated

in the future, resulting in two-way operations on both West 23rd Street and West 22nd Street. The traffic networks have been adjusted accordingly.

Intersection Capacity Analysis

Figures 9-5A and 9-5B show the expected No-Action weekday and Saturday pre-event and post-event peak hours traffic volumes, respectively, at analyzed intersections within the study area, while Table 9-14 below shows a summary comparison of the individual lane group levels of service for existing and future No-Action conditions. As shown in Table 9-14, all analyzed movements would operate at LOS D or better during the weekday pre-event and post-event, and Saturday pre-event and post-event peak hours with the following exceptions. One individual traffic movement would operate at LOS E and three would operate at LOS F during the weekday pre-event peak hour, one individual traffic movement would operate at LOS E and one would operate at LOS F during the weekday post-event peak hour, one individual traffic movement would operate at LOS E and four would operate at LOS F during the Saturday pre-event peak hour and three individual traffic movements would operate at LOS F during the Saturday post-event peak hour under No-Action conditions.

TABLE 9-14
Lane Group Level of Service Summary Comparison
Existing vs. No-Action

	Existing				No-Action			
	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Overall LOS A/B/C	111	115	108	114	109	114	107	112
Overall LOS D	5	1	6	2	4	1	5	3
Overall LOS E	1	1	2	1	1	1	1	0
Overall LOS F	0	0	1	1	3	1	4	3
No. of movements at LOS E or F of approximately 117 movements analyzed	1	1	3	2	4	2	5	3

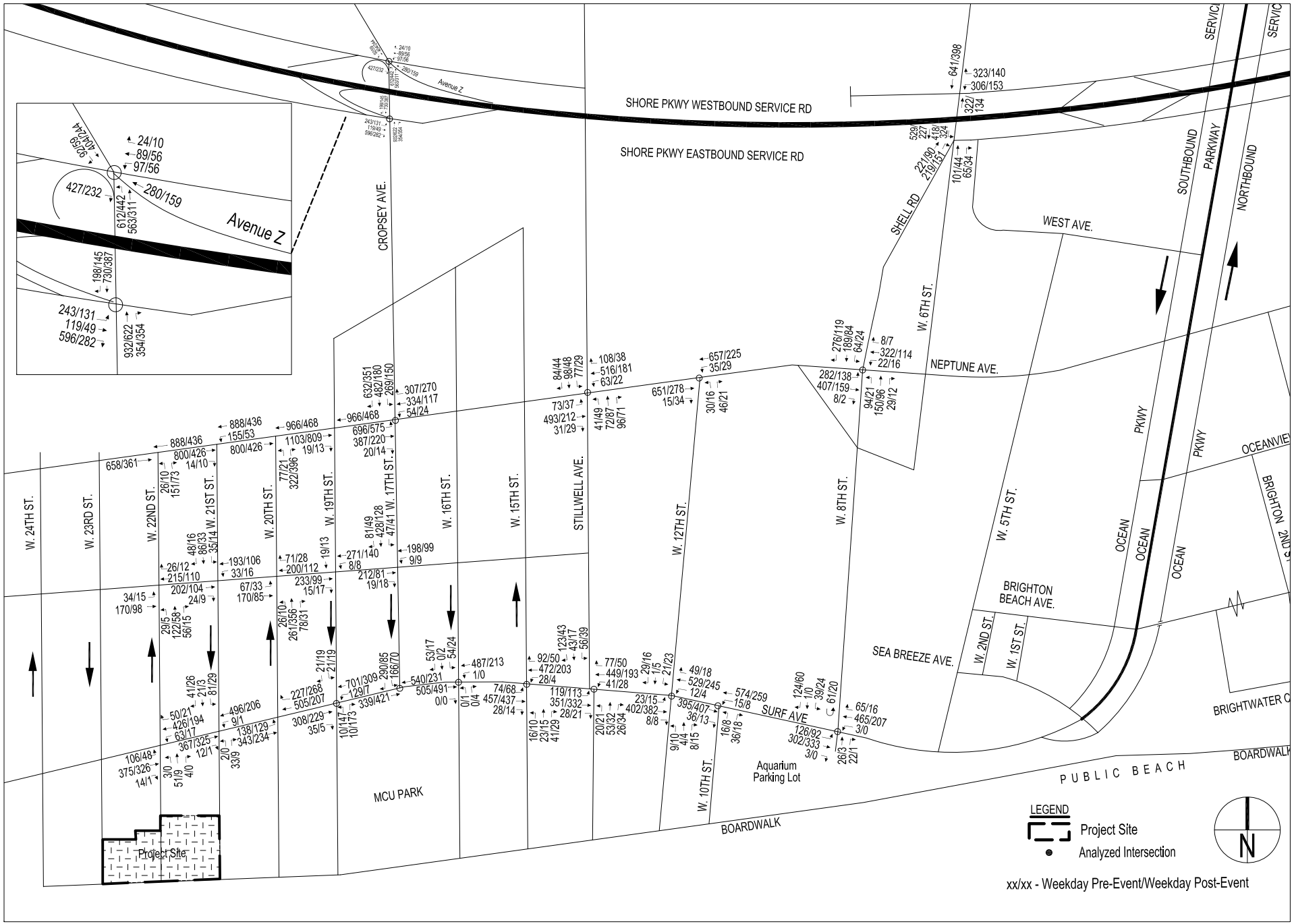
Table 9-15 shows the detailed volume-to-capacity ratios, delays and levels of service by movement at each analyzed intersection in each peak hour in the No-Action condition and identifies those movements that are considered congested in one or more peak hours. The congested intersections are discussed in more detail below. As shown in Table 9-15, some intersections that were congested under existing conditions would worsen during one or more of the analyzed peak hours by 2016 under No-Action conditions.

SHORE PARKWAY WESTBOUND OFF-RAMP AND ON-RAMP AT CROPSEY AVENUE/BAY 50TH STREET

As shown in Table 9-15, during Saturday pre-event peak hour, the northbound left-turn movement would continue to be congested under No-Action conditions with a v/c ratio of 1.22 (LOS F) and 136.5 seconds of delay.

SHORE PARKWAY EASTBOUND SERVICE ROAD AT SHELL ROAD

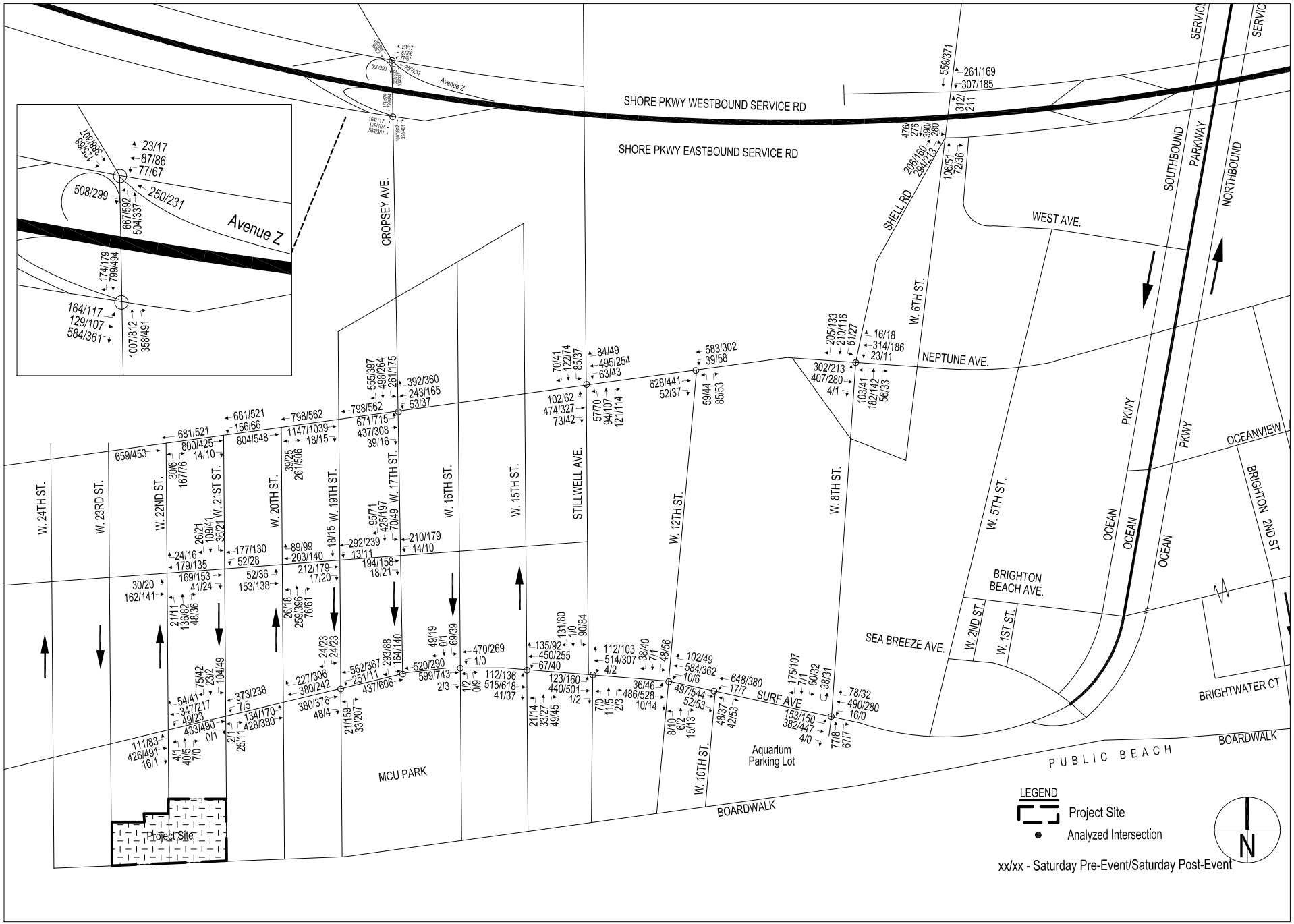
During the weekday pre-event peak-hour the southbound left-turn movement would become congested with a v/c ratio of 0.90 (LOS D) and 45.2 seconds of delay, while during the Saturday pre-event peak hour, this movement would operate with a v/c ratio of 1.00 (LOS E) and 74.1 seconds of delay.



Seaside Park and Community Arts Center

FIGURE 9-5A

2016 No-Action Weekday Peak Hour Traffic Volumes



Seaside Park and Community Arts Center

FIGURE 9-5B

2016 No-Action Saturday Peak Hour Traffic Volumes

TABLE 9-15
2016 Future No-Action Conditions
Level of Service at Analyzed Intersections

		Weekday Pre-Event						Weekday Post-Event						Saturday Pre-Event						Saturday Post-Event					
		EXISTING			NO-ACTION			EXISTING			NO-ACTION			EXISTING			NO-ACTION			EXISTING			NO-ACTION		
Signalized Intersection	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
Shore Parkway EB Ramps / Bay 52nd St (E-W) @	EB-L	0.34	17.5	B	0.34	17.5	B	0.19	15.7	B	0.20	15.8	B	0.22	16.0	B	0.22	16.1	B	0.18	15.5	B	0.18	15.6	B
Cropsey Avenue (N-S)	EB-TR	0.45	19.4	B	0.48	20.0	B	0.20	15.9	B	0.21	16.0	B	0.46	19.6	B	0.49	20.1	C	0.32	17.4	B	0.34	17.6	B
	EB-R	0.61	22.7	C	0.67	24.7	C	0.26	16.6	B	0.28	16.8	B	0.47	19.7	B	0.51	20.4	C	0.42	19.1	B	0.46	19.9	B
	NB-TR	0.47	18.3	B	0.50	18.6	B	0.29	16.3	B	0.30	16.4	B	0.46	18.2	B	0.49	18.6	B	0.41	17.5	B	0.42	17.7	B
	NB-R	0.65	24.3	C	0.67	25.1	C	0.63	23.5	C	0.64	24.0	C	0.56	21.7	C	0.58	22.3	C	0.81	32.0	C	0.83	33.4	C
	SB-T	0.47	18.7	B	0.51	19.1	B	0.27	16.2	B	0.28	16.3	B	0.51	19.2	B	0.54	19.6	B	0.33	16.8	B	0.35	17.0	B
	SB-R	0.35	17.8	B	0.36	17.9	B	0.26	16.6	B	0.26	16.6	B	0.30	17.2	B	0.31	17.3	B	0.32	17.3	B	0.32	17.4	B
Bay 50th St / Shore Parkway WB Off Ramp[1] (E-W) @	*EB-R*	*0.54*	*14.5*	*B*	*0.59*	*15.7*	*C*	*0.31*	*11.4*	*B*	*0.33*	*11.6*	*B*	*0.67*	*17.9*	*C*	*0.71*	*19.6*	*C*	*0.44*	*13.0*	*B*	*0.46*	*13.5*	*B*
Cropsey Avenue / Avenue Z[2] (N-S)	WB-LTR	0.57	32.2	C	0.57	32.4	C	0.32	26.9	C	0.33	27.0	C	0.46	29.6	C	0.48	29.8	C	0.45	29.3	C	0.46	29.5	C
	NB-L	0.63	20.6	C	0.68	23.0	C	0.38	11.5	B	0.39	11.9	B	1.05	73.5	E *	1.22	136.5	F *	0.63	22.8	C	0.65	24.0	C
	NB-LT	0.58	12.7	B	0.61	13.2	B	0.31	9.3	A	0.32	9.4	A	0.28	9.0	A	0.29	9.1	A	0.33	9.8	A	0.34	9.9	A
	NB-T (Av Z)	0.29	9.4	A	0.30	9.5	A	0.17	8.4	A	0.18	8.4	A	0.27	9.2	A	0.27	9.2	A	0.25	9.0	A	0.26	9.1	A
[1] *Off Ramp (EB-R) is unsignalized*	SB-TR	0.30	18.8	B	0.31	18.9	B	0.19	17.8	B	0.20	17.8	B	0.31	19.0	B	0.32	19.1	B	0.26	18.4	B	0.27	18.5	B
Shore Parkway WB Off-Ramp[2] (E-W) @	WB-L	0.74	38.6	D	0.80	42.3	D	0.38	27.9	C	0.40	28.3	C	0.67	35.4	D	0.71	37.2	D	0.46	29.4	C	0.49	29.9	C
Shell Road (N-S)	*WB-R*	*0.46*	*12.6*	*B*	*0.53*	*14.8*	*B*	*0.21*	*10.6*	*B*	*0.22*	*10.7*	*B*	*0.38*	*12.6*	*B*	*0.34*	*11.4*	*B*	*0.25*	*10.8*	*B*	*0.26*	*10.9*	*B*
	NB-T	0.16	8.5	A	0.17	8.6	A	0.08	8.0	A	0.08	8.0	A	0.16	8.5	A	0.17	8.6	A	0.13	8.3	A	0.13	8.3	A
[2] *Off Ramp (WB-R) is unsignalized*	SB-T	0.31	9.6	A	0.32	9.7	A	0.23	9.0	A	0.23	9.0	A	0.29	9.5	A	0.30	9.6	A	0.18	8.7	A	0.19	8.7	A
Shore Parkway EB Service Road / W 6th St (E-W) @	WB-TR	0.49	30.1	C	0.50	30.3	C	0.24	25.1	C	0.24	25.2	C	0.53	31.0	C	0.54	31.2	C	0.24	25.2	C	0.24	25.5	C
Shell Road (N-S)	NB-TR	0.45	22.2	C	0.47	22.6	C	0.24	19.6	B	0.24	19.7	B	0.51	23.2	C	0.54	23.7	C	0.38	21.4	C	0.40	21.5	C
	SB-L	0.86	28.7	C	0.90	45.2	D *	0.63	15.0	B	0.65	15.6	B	0.95	58.3	E *	1.00	74.1	E *	0.57	14.2	B	0.58	14.7	B
	SB-T	0.27	9.4	A	0.29	9.6	A	0.13	8.4	A	0.14	8.5	A	0.28	9.5	A	0.30	9.6	A	0.15	8.5	A	0.16	8.6	A
Neptune Avenue (E-W) @	EB-LT	0.36	12.2	B	0.39	12.5	B	0.24	11.1	B	0.25	11.1	B	0.38	12.4	B	0.41	12.7	B	0.26	11.3	B	0.26	11.3	B
West 22nd Street (N-S)	WB-TR	0.51	13.9	B	0.55	14.5	B	0.28	11.4	B	0.30	11.6	B	0.39	12.5	B	0.43	12.9	B	0.37	12.2	B	0.37	12.2	B
	NB-LTR	0.27	22.6	C	0.41	25.0	C	0.10	20.4	C	0.18	21.4	C	0.26	22.4	C	0.41	24.9	C	0.20	21.6	C	0.20	21.6	C
	SB-LR	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B	0.00	19.3	B
Neptune Avenue (E-W) @ West 21st Street (N-S) *(unsignalized)*	*WB-LT*	*0.17*	*9.9*	*A*	*0.14*	*7.9*	*A*	*0.05*	*8.4*	*A*	*0.06*	*8.6*	*A*	*0.17*	*9.8*	*A*	*0.24*	*10.9*	*B*	*0.09*	*9.1*	*A*	*0.09*	*9.1*	*A*
Neptune Avenue (E-W) @	EB-T	0.39	10.4	B	0.44	11.1	B	0.21	8.9	A	0.24	9.2	A	0.40	10.6	B	0.47	11.3	B	0.27	9.4	A	0.30	9.6	A
West 20th Street (N-S)	WB-T	0.53	12.2	B	0.57	12.7	B	0.27	9.5	A	0.30	9.7	A	0.43	10.9	B	0.47	11.3	B	0.32	9.9	A	0.35	10.0	A
	NB-LR	0.28	25.6	C	1.08	96.9	F *	0.25	25.1	C	1.17	131.0	F *	0.29	25.8	C	1.04	83.5	F *	0.40	27.7	C	1.48	257.8	F *
Neptune Avenue (E-W) @	EB-T	0.43	11.0	B	--	--	--	0.26	9.3	A	--	--	--	0.46	11.3	B	--	--	--	0.34	10.0	B	--	--	--
West 19th Street (N-S)	EB-TR	--	--	--	0.44	10.8	B	--	--	--	0.32	9.7	A	--	--	--	0.47	11.1	B	--	--	--	0.40	10.4	B
	WB-T	0.50	11.8	B	0.58	12.8	B	0.28	9.5	A	0.31	9.7	A	0.43	10.9	B	0.48	11.5	B	0.32	9.8	A	0.35	10.1	B
	NB-LR	0.22	24.9	C	--	--	--	0.02	22.3	C	--	--	--	0.06	22.6	C	--	--	--	0.04	22.5	C	--	--	--
	NB-R	0.75	40.5	D	--	--	--	1.00	75.1	E *	--	--	--	0.77	40.9	D	--	--	--	0.99	71.0	E *	--	--	--
Neptune Avenue (E-W) @	EB-L	1.03	79.7	E *	1.11	104.8	F *	0.89	51.9	D	0.93	56.3	E *	1.04	81.9	F *	1.14	116.8	F *	1.05	83.5	F *	1.08	94.4	F *
West 17th Street / Cropsey Avenue (N-S)	EB-TR	0.24	10.1	B	0.23	10.0	B	0.15	9.4	A	0.14	9.3	A	0.30	10.6	B	0.29	10.5	B	0.20	9.8	A	0.18	9.6	A
	WB-L	0.24	25.2	C	0.26	25.5	C	0.09	22.5	C	0.09	22.6	C	0.26	25.7	C	0.27	26.1	C	0.15	23.5	C	0.16	23.7	C
	WB-TR	0.72	32.5	C	0.80	35.8	D	0.53	28.0	C	0.56	28.5	C	0.73	32.8	C	0.79	35.2	D	0.71	32.3	C	0.75	33.5	C
	SB-L	0.62	31.0	C	0.63	31.4	C	0.33	24.8	C	0.32	24.6	C	0.58	29.9	C	0.59	30.2	C	0.34	24.9	C	0.35	25.0	C
	SB-T	0.77	36.1	D	0.84	41.5	D	0.30	24.2	C	0.35	24.8	C	0.76	35.9	D	0.82	39.3	D	0.43	26.1	C	0.46	26.7	C
	SB-R	0.48	12.4	B	0.53	13.1	B	0.24	9.8	A	0.29	10.2	B	0.35	10.7	B	0.38	11.0	B	0.27	9.9	A	0.29	10.1	B
Neptune Avenue (E-W) @	EB-LTR	0.63	22.3	C	0.60	23.9	C	0.29	16.5	B	0.28	16.5	B	0.79	28.2	C	0.84	31.7	C	0.42	18.2	B	0.42	18.2	B
Stillwell Avenue (N-S)	WB-LTR	0.63	22.0	C	0.69	23.6	C	0.21	15.7	B	0.23	15.8	B	0.63	21.9	C	0.67	23.2	C	0.34	17.1	B	0.36	17.4	B
	NB-LTR	0.20	15.7	B	0.24	16.1	B	0.19	15.6	B	0.20	15.6	B	0.28	16.5	B	0.32	17.0	B	0.29	16.6	B	0.32	17.0	B
	SB-LTR	0.30	16.8	B	0.33	17.1	B	0.13	15.0	B	0.14	15.1	B	0.33	17.1	B	0.34	17.4	B	0.16	15.3	B	0.17	15.4	B

TABLE 9-15 (continued)
2016 Future No-Action Conditions
Level of Service at Analyzed Intersections

Neptune Avenue (E-W) @	EB-T	0.41	13.2	B	0.43	13.5	B	0.17	11.0	B	0.18	11.0	B	0.34	12.5	B	0.37	12.7	B	0.27	11.8	B	0.27	11.8	B
West 12th Street (N-S)	EB-R	0.03	10.0	A	0.03	10.0	A	0.05	10.2	B	0.05	10.2	B	0.08	10.5	B	0.09	10.5	B	0.06	10.3	B	0.06	10.3	B
	WB-LT	0.47	14.1	B	0.51	14.7	B	0.19	11.2	B	0.21	11.3	B	0.43	13.7	B	0.47	14.1	B	0.31	12.3	B	0.33	12.5	B
	NB-LR	0.15	20.3	C	0.16	20.4	C	0.08	19.5	B	0.08	19.5	B	0.31	22.5	C	0.33	22.7	C	0.20	20.9	C	0.20	21.0	C
Neptune Avenue (E-W) @	EB-DefL	0.57	20.2	C	0.64	22.5	C	0.23	13.2	B	0.25	13.3	B	0.66	23.2	C	0.73	27.1	C	0.40	15.7	B	0.41	16.0	B
West 8th Street (N-S)	EB-TR	0.40	14.7	B	0.42	15.0	B	0.16	12.1	B	0.17	12.1	B	0.42	14.9	B	0.44	15.2	B	0.27	13.1	B	0.28	13.3	B
	WB-LTR	0.26	12.8	B	0.27	13.0	B	0.12	11.6	B	0.12	11.6	B	0.27	12.9	B	0.28	13.1	B	0.18	12.1	B	0.18	12.2	B
	NB-L	0.40	25.2	C	0.44	26.9	C	0.07	18.3	B	0.07	18.3	B	0.40	24.3	C	0.43	25.3	C	0.14	19.2	B	0.14	19.3	B
	NB-TR	0.16	18.9	B	0.17	18.9	B	0.11	18.3	B	0.11	18.4	B	0.25	19.8	B	0.26	19.9	B	0.18	19.0	B	0.19	19.1	B
	SB-L	0.21	20.1	C	0.21	20.2	C	0.08	18.3	B	0.08	18.3	B	0.22	20.5	C	0.23	20.6	C	0.08	18.4	B	0.09	18.5	B
	SB-TR	0.46	22.4	C	0.50	23.0	C	0.21	19.3	B	0.22	19.5	B	0.35	20.9	C	0.38	21.3	C	0.23	19.6	B	0.25	19.7	B
Mermaid Avenue (E-W) @	EB-LT	0.25	8.7	A	0.27	9.0	A	0.13	7.8	A	0.14	7.9	A	0.23	8.6	A	0.24	8.7	A	0.21	8.4	A	0.22	8.5	A
West 22nd Street (N-S)	WB-TR	0.28	9.0	A	0.31	9.3	A	0.17	8.1	A	0.17	8.1	A	0.26	8.8	A	0.27	8.9	A	0.17	8.1	A	0.18	8.2	A
	NB-LTR	0.35	17.7	B	0.46	19.4	B	0.10	14.9	B	0.20	15.8	B	0.32	17.3	B	0.49	19.8	B	0.21	15.9	B	0.31	17.1	B
Mermaid Avenue (E-W) @	EB-TR	0.33	9.5	A	0.33	9.5	A	0.15	8.0	A	0.15	8.0	A	0.30	9.3	A	0.30	9.3	A	0.25	8.8	A	0.26	8.8	A
West 21st Street (N-S)	WB-LT	0.31	9.3	A	0.32	9.4	A	0.17	8.1	A	0.17	8.2	A	0.36	9.9	A	0.37	10.0	B	0.23	8.7	A	0.24	8.7	A
	SB-LTR	0.38	18.3	B	0.46	19.7	B	0.15	15.4	B	0.17	15.6	B	0.37	18.0	B	0.44	19.1	B	0.21	16.0	B	0.22	16.2	B
Mermaid Avenue (E-W) @	EB-LT	0.38	11.3	B	0.43	12.2	B	0.19	9.4	A	0.21	9.6	A	0.33	10.7	B	0.36	11.1	B	0.27	10.1	B	0.29	10.4	B
West 20th Street (N-S)	WB-TR	0.32	10.5	B	0.43	12.0	B	0.17	9.2	A	0.20	9.5	A	0.34	10.8	B	0.47	12.6	B	0.30	10.4	B	0.40	11.6	B
	NB-LTR	0.20	14.5	B	0.82	31.4	C	0.21	14.6	B	0.89	37.6	D	0.23	14.8	B	0.78	27.9	C	0.28	15.3	B	1.11	90.8	F *
Mermaid Avenue (E-W) @	EB-LT	0.31	9.4	A	--	--	--	0.17	8.2	A	--	--	--	0.31	9.4	A	--	--	--	0.26	8.9	A	--	--	--
West 19th Street (N-S)	EB-TR	--	--	--	0.33	9.5	A	--	--	--	0.17	8.1	A	--	--	--	0.33	9.5	A	--	--	--	0.29	9.1	A
	WB-TR	0.36	9.8	A	--	--	--	0.20	8.3	A	--	--	--	0.41	10.4	B	--	--	--	0.33	9.5	A	--	--	--
	WB-LT	--	--	--	0.36	9.9	A	--	--	--	0.21	8.5	A	--	--	--	0.44	10.7	B	--	--	--	0.35	9.7	A
	NB-LTR	0.46	18.0	B	--	--	--	0.48	18.1	B	--	--	--	0.38	17.1	B	--	--	--	0.60	20.1	C	--	--	--
	SB-LTR	--	--	--	0.05	14.4	B	--	--	--	0.03	14.3	B	--	--	--	0.05	14.4	B	--	--	--	0.04	14.3	B
Mermaid Avenue (E-W) @	EB-TR	0.41	14.2	B	0.38	13.8	B	0.21	11.9	B	0.16	11.4	B	0.39	13.9	B	0.35	13.3	B	0.41	14.2	B	0.32	13.0	B
West 17th Street (N-S)	WB-LT	0.33	13.1	B	0.34	13.2	B	0.19	11.8	B	0.20	11.8	B	0.34	13.3	B	0.34	13.3	B	0.32	13.1	B	0.33	13.1	B
	SB-LTR	0.49	14.2	B	0.51	14.5	B	0.22	11.7	B	0.23	11.7	B	0.52	14.7	B	0.54	14.9	B	0.30	12.4	B	0.31	12.4	B
Surf Avenue (E-W) @	*EB-LT*	*0.06*	*8.8*	*A*	*0.14*	*9.3*	*A*	*0.01*	*7.9*	*A*	*0.05*	*8.1*	*A*	*0.07*	*8.8*	*A*	*0.14*	*9.3*	*A*	*0.04*	*8.3*	*A*	*0.09*	*8.6*	*A*
West 22nd Street (N-S)	*WB-LT*	--	--	--	*0.07*	*8.6*	*A*	--	--	--	*0.02*	*8.1*	*A*	--	--	--	*0.06*	*8.7*	*A*	--	--	--	*0.03*	*9.1*	*A*
(unsignalized)	*NB-LTR*	*0.37*	*26.9*	*D*	*0.65*	*87.2*	*F* *	*0.04*	*13.9*	*B*	*0.04*	*18.6*	*C*	*0.27*	*25.1*	*D*	*0.53*	*66.2*	*F* *	*0.14*	*20.6*	*C*	*0.05*	*33.3*	*D*
Surf Avenue (E-W) @	EB-TR	0.23	9.5	A	0.23	9.5	A	0.23	9.5	A	0.22	9.5	A	0.23	9.6	A	0.24	9.6	A	0.32	10.3	B	0.31	10.2	B
West 21st Street (N-S)	WB-LT	0.27	9.9	A	0.34	10.5	B	0.12	8.7	A	0.14	8.9	A	0.19	9.3	A	0.24	9.6	A	0.15	8.9	A	0.18	9.2	A
	NB-LR	0.06	22.0	C	0.12	22.8	C	0.00	21.4	C	0.03	21.7	C	0.02	21.6	C	0.09	22.5	C	0.02	21.6	C	0.04	21.8	C
	SB-LTR	0.30	25.3	C	0.38	26.6	C	0.12	22.7	C	0.14	23.0	C	0.47	28.6	C	0.55	30.5	C	0.23	24.2	C	0.25	24.5	C
Surf Avenue (E-W) @	*EB-LT*	*0.08*	*9.8*	*A*	*0.29*	*13.3*	*B*	*0.07*	*8.6*	*A*	*0.20*	*10.5*	*B*	*0.10*	*10.1*	*B*	*0.28*	*13.4*	*B*	*0.10*	*9.2*	*A*	*0.31*	*12.6*	*B*
West 20th Street (N-S)																									
(unsignalized)																									
Surf Avenue (E-W) @	EB-L	0.49	18.0	B	--	--	--	0.24	11.8	B	--	--	--	0.35	13.9	B	--	--	--	0.36	13.8	B	--	--	--
West 19th Street (N-S)	EB-TR	0.17	10.5	B	0.15	10.3	B	0.12	10.1	B	0.09	9.9	A	0.22	10.9	B	0.18	10.5	B	0.25	11.1	B	0.18	10.5	B
	WB-L	0.31	12.7	B	0.34	13.4	B	0.03	9.7	A	0.03	9.7	A	0.69	24.5	C	0.75	28.7	C	0.04	9.7	A	0.04	9.7	A
	WB-T	--	--	--	0.45	13.2	B	--	--	--	0.20	10.7	B	--	--	--	0.33	11.9	B	--	--	--	0.26	11.2	B
	WB-TR	0.45	13.3	B	--	--	--	0.21	10.8	B	--	--	--	0.34	12.0	B	--	--	--	0.27	11.4	B	--	--	--
	NB-LTR	0.02	19.5	B	--	--	--	0.34	22.7	C	--	--	--	0.06	19.8	B	--	--	--	0.42	23.8	C	--	--	--
	NB-L	--	--	--	0.03	19.7	B	--	--	--	0.47	27.0	C	--	--	--	0.06	20.0	B	--	--	--	0.46	26.6	C
	NB-R	--	--	--	0.02	19.6	B	--	--	--	0.42	25.0	C	--	--	--	0.10	20.5	C	--	--	--	0.61	30.7	C
	SB-LTR	--	--	--	0.12	20.8	C	--	--	--	0.12	20.7	C	--	--	--	0.15	21.2	C	--	--	--	0.15	21.2	C

TABLE 9-15 (continued)
2016 Future No-Action Conditions
Level of Service at Analyzed Intersections

Surf Avenue (E-W) @	EB-T	0.14	8.9	A	0.19	9.2	A	0.18	9.2	A	0.22	9.5	A	0.17	9.1	A	0.23	9.5	A	0.30	10.1	B	0.36	10.6	B
West 17th Street (N-S)	WB-T	0.31	10.2	B	0.33	10.4	B	0.12	8.8	A	0.14	8.9	A	0.27	9.9	A	0.30	10.1	B	0.18	9.2	A	0.19	9.2	A
	SB-L	0.56	31.7	C	0.51	30.2	C	0.28	25.2	C	0.22	24.3	C	0.49	29.4	C	0.43	28.1	C	0.43	28.0	C	0.38	26.9	C
	SB-R	0.84	47.4	D	0.90	56.2	E *	0.29	25.5	C	0.28	25.3	C	0.77	41.3	D	0.79	42.9	D	0.26	24.9	C	0.25	24.7	C
Surf Avenue (E-W) @	EB-TR	0.25	10.1	B	0.29	10.5	B	0.23	10.0	A	0.26	10.2	B	0.28	10.4	B	0.32	10.8	B	0.40	11.5	B	0.44	12.0	B
West 16th Street (N-S)	WB-LT	0.29	10.5	B	0.31	10.8	B	0.13	9.2	A	0.14	9.3	A	0.26	10.3	B	0.28	10.5	B	0.17	9.6	A	0.18	9.6	A
	NB-LR	0.00	20.7	C	0.00	20.7	C	0.02	20.9	C	0.02	20.9	C	0.00	20.7	C	0.00	20.7	C	0.03	21.0	C	0.04	21.1	C
	SB-LTR	0.32	25.1	C	0.33	25.2	C	0.13	22.2	C	0.13	22.2	C	0.37	26.1	C	0.38	26.2	C	0.18	22.9	C	0.19	23.0	C
Surf Avenue (E-W) @	EB-L	0.30	13.7	B	0.33	14.6	B	0.15	10.8	B	0.16	10.8	B	0.48	18.3	B	0.53	20.4	C	0.48	17.3	B	0.50	18.1	B
West 15th Street (N-S)	EB-TR	0.27	11.3	B	0.30	11.6	B	0.22	10.9	B	0.25	11.2	B	0.28	11.5	B	0.33	11.9	B	0.38	12.4	B	0.43	12.9	B
	WB-LTR	0.43	13.1	B	0.50	14.1	B	0.18	10.6	B	0.19	10.7	B	0.56	15.4	B	0.63	16.8	B	0.37	12.5	B	0.41	13.1	B
	NB-LTR	0.16	21.0	C	0.16	21.0	C	0.11	20.5	C	0.11	20.5	C	0.20	21.4	C	0.20	21.5	C	0.17	21.1	C	0.17	21.2	C
Surf Avenue (E-W) @	EB-L	0.26	8.6	A	0.37	10.4	B	0.14	7.1	A	0.22	7.8	A	0.26	8.9	A	0.41	11.6	B	0.27	8.7	A	0.45	11.6	B
Stillwell Avenue (N-S)	EB-TR	0.19	7.1	A	0.21	7.2	A	0.21	7.2	A	0.22	7.2	A	0.20	7.1	A	0.22	7.3	A	0.30	7.8	A	0.31	7.9	A
	WB-L	0.09	6.8	A	0.10	6.8	A	0.06	6.4	A	0.06	6.5	A	0.01	6.1	A	0.01	6.1	A	0.00	6.1	A	0.01	6.1	A
	WB-TR	0.29	7.8	A	0.32	8.0	A	0.14	6.8	A	0.15	6.8	A	0.34	8.2	A	0.36	8.4	A	0.27	7.6	A	0.29	7.8	A
	NB-LTR	0.18	26.8	C	0.19	26.9	C	0.15	26.4	C	0.16	26.4	C	0.04	25.3	C	0.04	25.3	C	0.02	25.1	C	0.02	25.1	C
	SB-DefL													--	--	--	--	--	--	0.59	44.0	D	0.61	45.2	D
	SB-TR													--	--	--	--	--	--	0.45	35.3	D	0.48	36.4	D
	SB-LTR	0.52	33.1	C	0.55	33.8	C	0.20	27.0	C	0.21	27.1	C	0.65	38.7	D	0.68	40.0	D						
Surf Avenue (E-W) @	EB-L	0.10	9.3	A	0.12	9.6	A	0.03	8.3	A	0.03	8.3	A	0.15	9.8	A	0.17	10.2	B	0.16	9.8	A	0.17	10.0	A
West 12th Street (N-S)	EB-TR	0.23	9.6	A	0.25	9.7	A	0.24	9.6	A	0.25	9.7	A	0.26	9.8	A	0.28	10.0	A	0.33	10.4	B	0.34	10.5	B
	WB-L	0.04	8.4	A	0.04	8.4	A	0.01	8.1	A	0.01	8.1	A	0.03	8.4	A	0.04	8.4	A	0.02	8.3	A	0.02	8.3	A
	WB-TR	0.34	10.5	B	0.37	10.8	B	0.16	9.0	A	0.17	9.1	A	0.42	11.4	B	0.45	11.7	B	0.27	9.9	A	0.29	10.1	B
	NB-LTR	0.07	22.2	C	0.07	22.2	C	0.08	22.2	C	0.08	22.3	C	0.13	23.1	C	0.12	23.0	C	0.10	22.8	C	0.10	22.8	C
	SB-LTR	0.18	23.9	C	0.20	24.1	C	0.13	22.8	C	0.13	22.8	C	0.44	30.2	C	0.46	30.9	C	0.44	30.2	C	0.45	30.7	C
West 10th Street (N-S)	EB-TR	0.26	10.2	B	0.28	10.4	B	0.26	10.3	B	0.27	10.4	B	0.32	10.8	B	0.34	11.0	B	0.40	11.6	B	0.41	11.7	B
	WB-L	0.05	8.9	A	0.05	8.9	A	0.02	8.7	A	0.02	8.7	A	0.07	9.2	A	0.07	9.2	A	0.03	8.8	A	0.03	8.8	A
	WB-T	0.66	17.4	B	0.73	19.8	B	0.33	11.4	B	0.35	11.7	B	0.76	21.1	C	0.82	24.5	C	0.49	13.6	B	0.53	14.2	B
	NB-LR	0.15	22.4	C	0.15	22.4	C	0.07	21.5	C	0.07	21.5	C	0.25	23.8	C	0.25	23.9	C	0.25	23.9	C	0.26	23.9	C
Surf Avenue (E-W) @	EB-L	0.39	14.9	B	0.44	16.2	B	0.37	15.3	B	0.39	15.6	B	0.63	23.8	C	0.68	27.1	C	0.60	22.6	C	0.63	23.8	C
West 8th Street (N-S)	EB-TR	0.18	10.6	B	0.20	10.7	B	0.19	10.6	B	0.20	10.7	B	0.21	10.8	B	0.23	11.0	B	0.31	11.7	B	0.32	11.8	B
	WB-L	0.01	9.4	A	0.01	9.4	A	0.00	9.3	A	0.00	9.3	A	0.05	9.8	A	0.05	9.8	A	0.00	9.3	A	0.00	9.3	A
	WB-TR	0.33	11.9	B	0.36	12.2	B	0.15	10.4	B	0.16	10.5	B	0.37	12.4	B	0.40	12.7	B	0.22	11	B	0.24	11.1	B
	NB-LTR	0.11	20.5	C	0.12	20.6	C	0.01	19.4	B	0.01	19.4	B	0.32	23.4	C	0.33	23.5	C	0.04	19.7	B	0.04	19.7	B
	SB-L	0.33	24.4	C	0.36	24.9	C	0.08	19.4	B	0.14	21.1	C	0.40	26.7	C	0.43	27.4	C	0.19	21.9	C	0.21	22.1	C
	SB-TR	0.27	22.6	C	0.29	22.8	C	0.08	20.0	C	0.08	20.1	C	0.23	21.7	C	0.24	21.8	C	0.13	20.5	C	0.13	20.5	C

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
* -Denotes Congested Location
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.5).

NEPTUNE AVENUE AT WEST 20TH STREET

As a consequence of the ~~planned~~ reversal of West 19th Street to a south-bound one-way street and the resulting diversions of vehicles onto West 20th Street, the northbound approach at Neptune Avenue and West 20th Street would become congested in all four analysis peak hours. During the weekday pre-event peak hour, the northbound left-turn/right-turn movement would become congested with a v/c ratio of 1.08 (LOS F) and 96.9 seconds of delay, while during the weekday post-event peak hour, this movement would operate with a v/c ratio of 1.17 (LOS F) and 131.0 seconds of delay. During the Saturday pre-event peak hour, the northbound left-turn/right-turn movement would operate with a v/c ratio of 1.04 (LOS F) and 83.5 seconds of delay, while during the Saturday post-event peak hour, this movement would operate with a v/c ratio of 1.48 (LOS F) and 257.8 seconds of delay.

NEPTUNE AVENUE AT CROPSEY AVENUE/ WEST 17TH STREET

During the weekday pre-event peak hour, the eastbound left-turn movement would operate with a v/c ratio of 1.11 (LOS F) and 104.8 seconds of delay. During the weekday post-event hour, the eastbound left-turn movement would also be congested and operate with a v/c ratio of 0.93 (LOS E) and 56.3 seconds of delay. The eastbound left-turn movement would operate with a v/c ratio of 1.14 (LOS F) and 116.8 seconds of delay during the Saturday pre-event peak hour, while during the Saturday post-event peak hour, this movement would operate with a v/c ratio of 1.08 (LOS F) and 94.4 seconds of delay.

MERMAID AVENUE AT WEST 20TH STREET

As a result of the reversal of West 19th Street, as discussed above, during the Saturday post-event peak hour, the northbound approach would become congested with a v/c ratio of 1.11 (LOS F) and 90.8 seconds of delay. Surf Avenue at West 22nd Street (unsignalized)

Due to the conversion of this unsignalized intersection from a northbound one-way to a two-way street and the addition of the westbound left-turn movement, the northbound approach would become congested during the weekday pre-event peak hour with a v/c ratio of 0.65 (LOS F) and 87.2 seconds of delay, while it would operate with a v/c ratio of 0.53 (LOS F) and 66.2 seconds of delay during the Saturday pre-event peak hour.

SURF AVENUE AT WEST 17TH STREET

The southbound right-turn movement would operate with a v/c ratio of 0.90 (LOS E) and 56.2 seconds of delay during the weekday pre-event condition.

The Future with the Proposed ~~Action~~ Project (With-Action Condition)

As discussed earlier, the proposed action would result in the development of a 2.41-acre publicly accessible open space that would include a 5,100-seat open-air amphitheater as well as a 60,000 sf reactivated (Former) Childs Restaurant Building with a restaurant/banquet hall/event space as per the 2009 Coney Island Rezoning EIS. As noted previously, for traffic analysis purposes, it is conservatively assumed that an additional 900 standing concert attendees (6,000 total) would be attracted to the amphitheater area (boardwalk, beach, proposed open space). The proposed project is anticipated to be completed by summer 2015, and the first full year of operation would be 2016. As discussed above in Section E, "Level 2 Screening Assessment," auto and taxi trips generated by this ~~projected~~ proposed development were assigned to the project site, while truck trips are assumed to occur well outside of the analyzed pre- and post-concert peak hours. The assignment of projected increment vehicle trips

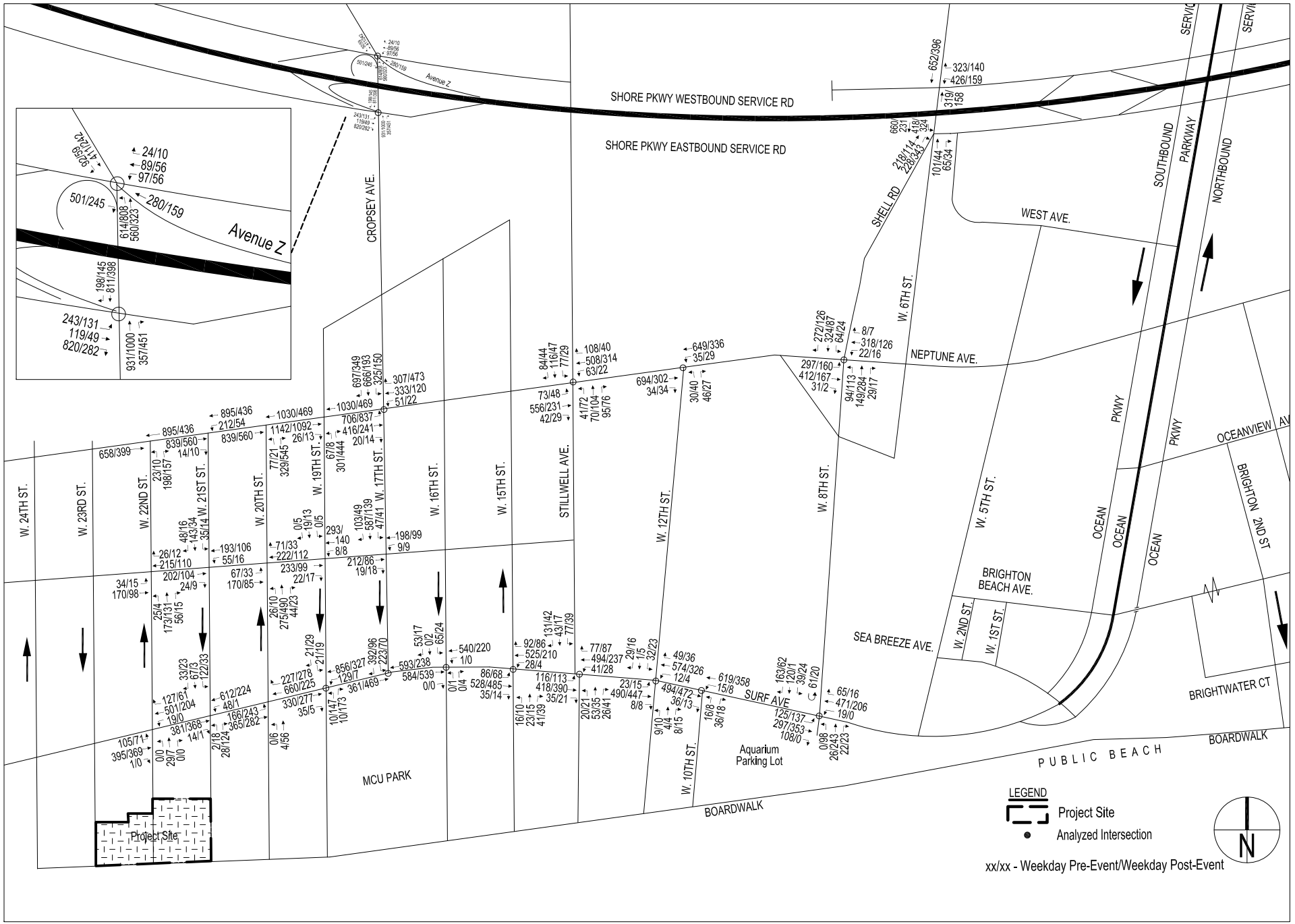
(including auto and taxi trips) generated by the proposed development during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours is shown in Figures 9-1A and 9-1B. It should be noted that, as previously discussed for the No-Action conditions, West 22nd and West 23rd Streets would become dead-end streets as a consequence of the closure of Highland View Avenue. West 21st is also currently a dead-end street and would not be modified in the future. Due to these narrow roadways, on all concert days ~~with a coinciding game at MCU Park~~, West 21st and West 22nd Streets would be partially closed to vehicular traffic during the pre- and post-event hours (from approximately 6 PM to 12 AM)~~for two hours prior to and after the event~~, providing access primarily to residents and vehicles parking in the MCU Satellite lot.~~,~~ ~~while~~ West 23rd Street is not expected to be used by concert-related demand. These controls are typical as they ensure that fire truck access is maintained. ~~The exact location and number of~~ Up to two traffic enforcement agents (TEAs) would be required at each intersection ~~for these traffic management measures will be specified in a commitment letter that will be provided by the applicant between DEIS and FEIS~~. These operating details have been discussed with the New York City Police Department (NYPD). The Applicant would coordinate with NYPD (as needed) to ensure the enforcement of the proposed operating details during the pre- and post-event periods. The Applicant would be responsible for all costs associated with the deployment of TEAs by the NYPD for regulating traffic flows, as needed for the purpose of mitigation. These details are outlined in a Memorandum of Understanding (MOU) between the Applicant and NYPD and would be refined over time based on actual operation conditions once the facility has opened.

Intersection Capacity Analysis

Figures 9-6A and 9-6B show the weekday pre-event and post-event and Saturday pre-event and post-event peak hour traffic network volumes in the 2016 future with the proposed action. The volumes shown are the combination of the net incremental traffic generated by the proposed project and the No-Action traffic network. No physical or operational changes to the study area street network are planned as part of the proposed action ~~with the exception of the previously discussed reversal of West 19th Street from northbound to southbound and associated changes on a section of Neptune Avenue between West 20th Street and West 17th Street, and the conversion of West 22nd Street from a northbound one-way to a two-way street south of Surf Avenue.~~other than those already described in the No-Action section above.

Table 9-16 shows a summary comparison of the individual lane group levels of service for future No-Action and With-Action conditions. As shown in Table 9-16, all analyzed movements would continue to operate at LOS D or better during all analyzed peak hours with the following exceptions. Six movements would operate at LOS F during the weekday pre-event peak hour. During the weekday post-event hour, no movement would operate at LOS E and three would operate at LOS F, while in the Saturday pre-event peak hour four individual traffic movements would operate at LOS E and five at LOS F. During the Saturday post-event hour, one movement would operate at LOS E and three would operate at LOS F.

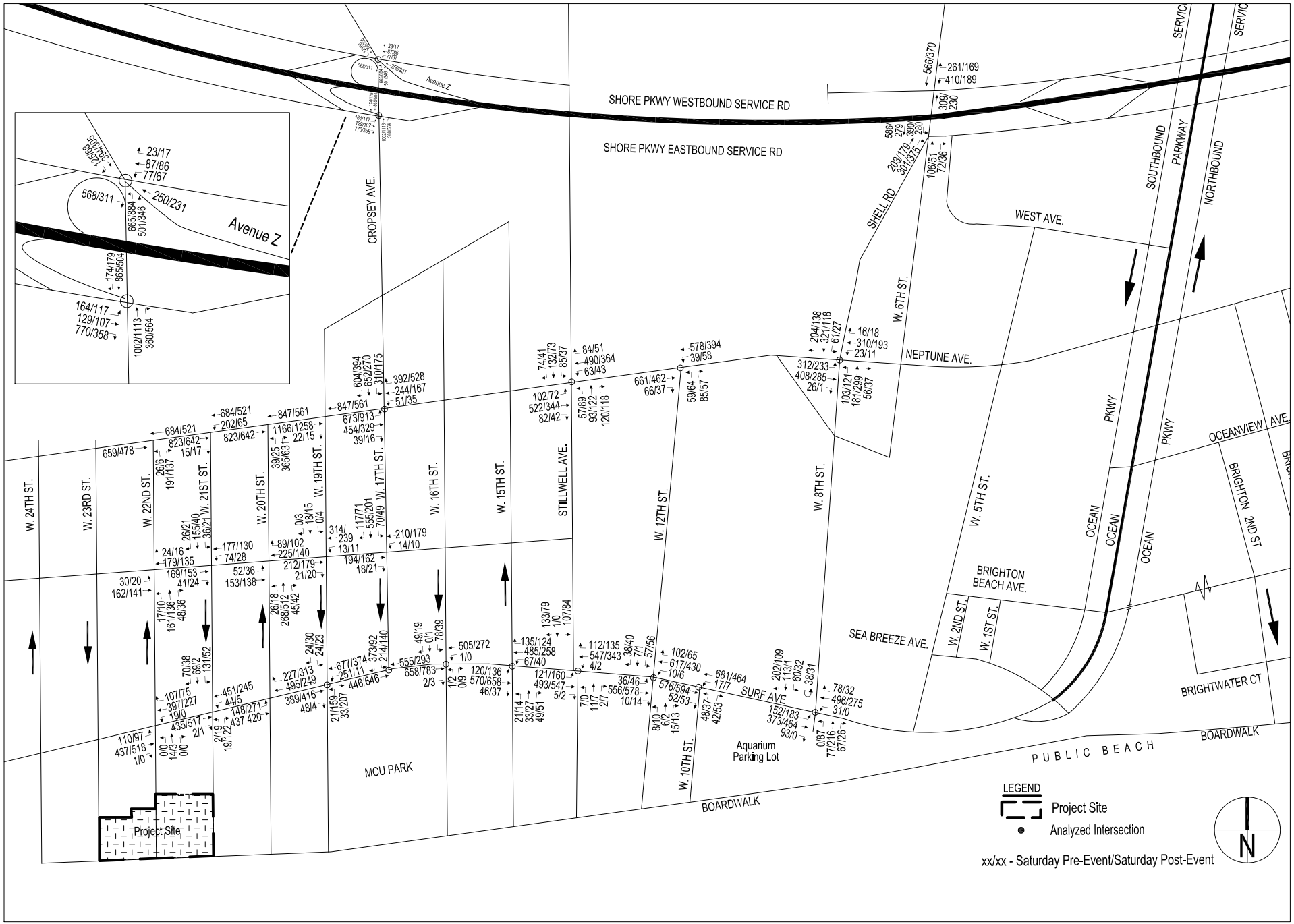
Table 9-17 shows the detailed volume-to-capacity ratios, delays and levels of service by movement at each analyzed intersection in each peak hour in the With-Action condition, and identifies those movements that are considered impacted in one or more peak hours. As shown in Table 9-17 and discussed below, one or more approaches or lane groups at a total of eight of the 28 analyzed intersections would be significantly adversely impacted in one or more peak hours with the proposed project. Three intersections would be significantly adversely impacted in the weekday pre-event peak hour, three intersections would be significantly adversely impacted in the weekday post-event peak hour, while four intersections would be significantly adversely impacted during the Saturday pre-event peak hour and five intersections would be significantly adversely impacted during the Saturday post-



Seaside Park and Community Arts Center

FIGURE 9-6A

2016 With-Action Weekday Peak Hour Traffic Volumes



Seaside Park and Community Arts Center

FIGURE 9-6B

2016 With-Action Saturday Peak Hour Traffic Volumes

event peak hour. Potential measures to mitigate these significant adverse traffic impacts are discussed in Chapter 16, "Mitigation."

TABLE 9-16
Lane Group Level of Service Summary Comparison No-Action vs. With-Action

	No-Action				With-Action			
	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Overall LOS A/B/C	109	114	107	112	104	112	104	108
Overall LOS D	4	1	5	3	7	2	6	6
Overall LOS E	1	1	1	0	0	0	4	1
Overall LOS F	3	1	4	3	6	3	5	3
Number of intersections with significant impact	---	---	---	---	3	3	4	5
No. of movements at LOS E or F of approximately 117 movements analyzed	4	2	5	3	6	3	9	4

SHORE PARKWAY EASTBOUND OFF-RAMP AND ON-RAMP AT CROPSEY AVENUE/BAY 52ND STREET

As shown in Table 9-17, the northbound right-turn movement on Cropsey Avenue would be significantly adversely impacted in the Saturday post-event peak hour. In the With-Action condition, this movement would operate at LOS D with 49.3 seconds of delay, an increase of 15.9 seconds compared to the No-Action condition.

SHORE PARKWAY WESTBOUND OFF-RAMP AND ON-RAMP AT CROPSEY AVENUE/BAY 50TH STREET

The northbound left-turn movement would be significantly adversely impacted in the Saturday post-event peak hour. In the With-Action condition, this movement would operate at LOS D with 49.8 seconds of delay, an increase of 25.8 seconds compared to the No-Action condition.

SHORE PARKWAY WESTBOUND SERVICE ROAD AT SHELL ROAD

The westbound left-turn movement at Shell Road would be significantly adversely impacted in the weekday and Saturday pre-event peak hours. In the With-Action condition, this movement would operate at LOS F in the weekday pre-event peak hour and LOS E in the Saturday pre-event peak hour with 106.0 and 61.7 seconds of delay, respectively. Increases in delay compared to the No-Action condition would total 63.7 and 24.5 seconds in the weekday and Saturday pre-event peak hours, respectively.

MERMAID AVENUE AT WEST 20TH STREET

The northbound approach at Mermaid Avenue would be significantly adversely impacted in both the weekday and Saturday post-event peak hours. In the With-Action condition, this movement would operate at LOS F in both the weekday and Saturday post-event peak hours with 120.3 and 195.0 seconds of delay, respectively. Increases in delay compared to the No-Action condition would total 82.7 and 104.2 seconds in the weekday and Saturday post-event peak hours, respectively.

NEPTUNE AVENUE AT WEST 20TH STREET

The northbound left-turn/right-turn movement at Neptune Avenue would be significantly adversely impacted in both the weekday and Saturday post-event peak hours. In the With-Action condition, this

TABLE 9-17
2016 Future With-Action Conditions
Level of Service at Analyzed Intersections

		Weekday Pre-Event							Weekday Post-Event							Saturday Pre-Event							Saturday Post-Event						
		NO-ACTION			WITH-ACTION				NO-ACTION			WITH-ACTION				NO-ACTION			WITH-ACTION				NO-ACTION			WITH-ACTION			
Signalized Intersection	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	
Shore Parkway EB Ramps / Bay 52nd St (E-W) @	EB-L	0.34	17.5	B	0.34	17.5	B		0.20	15.8	B	0.20	15.8	B		0.22	16.1	B	0.22	16.1	B		0.18	15.6	B	0.18	15.6	B	
Cropsey Avenue (N-S)	EB-TR	0.48	20.0	B	0.61	22.9	C		0.21	16.0	B	0.21	16.0	B		0.49	20.1	C	0.59	22.5	C		0.34	17.6	B	0.34	17.6	B	
	EB-R	0.67	24.7	C	0.92	42.9	D		0.28	16.8	B	0.28	16.8	B		0.51	20.4	C	0.67	24.5	C		0.46	19.9	B	0.45	19.8	B	
	NB-TR	0.50	18.6	B	0.50	18.6	B		0.30	16.4	B	0.48	18.5	B		0.49	18.6	B	0.49	18.5	B		0.42	17.7	B	0.57	19.7	B	
	NB-R	0.67	25.1	C	0.68	25.3	C		0.64	24.0	C	0.82	32.3	C		0.58	22.3	C	0.59	22.4	C		0.83	33.4	C	**0.96**	**49.3**	**D**	*
	SB-T	0.51	19.1	B	0.56	20.0	B		0.28	16.3	B	0.29	16.4	B		0.54	19.6	B	0.58	20.3	C		0.35	17.0	B	0.35	17.1	B	
	SB-R	0.36	17.9	B	0.36	17.9	B		0.26	16.6	B	0.26	16.6	B		0.31	17.3	B	0.31	17.3	B		0.32	17.4	B	0.32	17.4	B	
Bay 50th St / Shore Parkway WB Off Ramp[1] (E-W) @	*EB-R*	*0.59*	*15.7*	*C*	*0.61*	*14.9*	*B*		*0.33*	*11.6*	*B*	*0.35*	*11.7*	*B*		*0.71*	*19.6*	*C*	*0.80*	*24.6*	*C*		*0.46*	*13.5*	*B*	*0.48*	*13.7*	*B*	
Cropsey Avenue / Avenue Z[2] (N-S)	WB-LTR	0.57	32.4	C	0.57	32.5	C		0.33	27.0	C	0.33	27.0	C		0.48	29.8	C	0.48	29.8	C		0.46	29.5	C	0.46	29.5	C	
	NB-L	0.68	23.0	C	0.68	23.3	C		0.39	11.9	B	0.81	28.1	C		1.22	136.5	F	1.22	137.0	F		0.65	24.0	C	**0.97**	**49.8**	**D**	*
	NB-LT	0.61	13.2	B	0.61	13.2	B		0.32	9.4	A	0.32	9.7	A		0.29	9.1	A	0.29	9.1	A		0.34	9.9	A	0.34	10.0	A	
	NB-T (Av Z)	0.30	9.5	A	0.29	9.4	A		0.18	8.4	A	0.18	8.4	A		0.27	9.2	A	0.27	9.2	A		0.26	9.1	A	0.26	9.1	A	
[1] *Off Ramp (EB-R) is unsignalized*	SB-TR	0.31	18.9	B	0.31	19.0	B		0.20	17.8	B	0.20	17.8	B		0.32	19.1	B	0.32	19.1	B		0.27	18.5	B	0.26	18.5	B	
Shore Parkway WB Off-Ramp[2] (E-W) @	WB-L	0.80	42.3	D	**1.11**	**106.0**	**F**	*	0.40	28.3	C	0.42	28.7	C		0.71	37.2	D	**0.95**	**61.7**	**E**	*	0.49	29.9	C	0.50	30.2	C	
Shell Road (N-S)	*WB-R*	*0.53*	*14.8*	*B*	*0.53*	*14.8*	*B*		*0.22*	*10.7*	*B*	*0.21*	*10.4*	*B*		*0.34*	*11.4*	*B*	*0.34*	*11.4*	*B*		*0.26*	*10.9*	*B*	*0.26*	*11.0*	*B*	
	NB-T	0.17	8.6	A	0.17	8.6	A		0.08	8.0	A	0.10	8.1	A		0.17	8.6	A	0.17	8.6	A		0.13	8.3	A	0.14	8.4	A	
[2] *Off Ramp (WB-R) is unsignalized*	SB-T	0.32	9.7	A	0.32	9.8	A		0.23	9.0	A	0.23	9.0	A		0.30	9.6	A	0.31	9.6	A		0.19	8.7	A	0.19	8.7	A	
Shore Parkway EB Service Road / W 6th St (E-W) @	WB-TR	0.50	30.3	C	0.50	30.3	C		0.24	25.2	C	0.24	25.2	C		0.54	31.2	C	0.54	31.2	C		0.24	25.5	C	0.24	25.2	C	
Shell Road (N-S)	NB-TR	0.47	22.6	C	0.48	22.7	C		0.24	19.7	B	0.47	22.6	C		0.54	23.7	C	0.54	23.8	C		0.40	21.5	C	0.60	24.9	C	
	SB-L	0.90	45.2	D	0.91	46.8	D		0.65	15.6	B	0.81	24.5	C		1.00	74.1	E	1.01	76.1	E		0.58	14.7	B	0.71	20.5	C	
	SB-T	0.29	9.6	A	0.37	10.2	B		0.14	8.5	A	0.14	8.5	A		0.30	9.6	A	0.37	10.3	B		0.16	8.6	A	0.16	8.6	A	
Neptune Avenue (E-W) @	EB-LT	0.39	12.5	B	0.39	12.5	B		0.25	11.1	B	0.28	11.4	B		0.41	12.7	B	0.41	12.7	B		0.26	11.3	B	0.28	11.4	B	
West 22nd Street (N-S)	WB-TR	0.55	14.5	B	0.55	14.6	B		0.30	11.6	B	0.30	11.6	B		0.43	12.9	B	0.43	12.9	B		0.37	12.2	B	0.37	12.2	B	
	NB-LTR	0.41	25.0	C	0.53	27.6	C		0.18	21.4	C	0.35	24.0	C		0.41	24.9	C	0.44	25.5	C		0.20	21.6	C	0.43	25.4	C	
	SB-LR	0.00	19.3	B	0.00	19.3	B		0.00	19.3	B	0.00	19.3	B		0.00	19.3	B	0.00	19.3	B		0.00	19.3	B	0.00	19.3	B	
Neptune Avenue (E-W) @	*WB-LT*	*0.14*	*7.9*	*A*	*0.34*	*12.1*	*B*		*0.06*	*8.6*	*A*	*0.07*	*9.2*	*A*		*0.24*	*10.9*	*B*	*0.32*	*11.7*	*B*		*0.09*	*9.1*	*A*	*0.09*	*9.5*	*A*	
West 21st Street (N-S)																													
(unsignalized)																													
Neptune Avenue (E-W) @	EB-T	0.44	11.1	B	0.47	11.3	B		0.24	9.2	A	0.31	9.8	A		0.47	11.3	B	0.48	11.4	B		0.30	9.6	A	0.35	10.1	B	
West 20th Street (N-S)	WB-T	0.57	12.7	B	0.60	13.2	B		0.30	9.7	A	0.30	9.7	A		0.47	11.3	B	0.50	11.7	B		0.35	10.0	A	0.35	10.0	B	
	NB-LR	1.08	96.9	F	**1.09**	**99.1**	**F**		1.17	131.0	F	**1.59**	**308.5**	**F**	*	1.04	83.5	F	**1.04**	**86.1**	**F**		1.48	257.8	F	**1.83**	**412.0**	**F**	*
Neptune Avenue (E-W) @	EB-TR	0.44	10.8	B	0.46	10.9	B		0.32	9.7	A	0.43	10.7	B		0.47	11.1	B	0.48	11.2	B		0.40	10.4	B	0.48	11.3	B	
West 19th Street (N-S)	WB-T	0.58	12.8	B	0.62	13.5	B		0.31	9.7	A	0.31	9.7	A		0.48	11.5	B	0.51	11.8	B		0.35	10.1	B	0.35	10.1	B	
Neptune Avenue (E-W) @	EB-L	1.11	104.8	F	**1.12**	**110.4**	**F**	*	0.93	56.3	E	**1.35**	**202.2**	**F**	*	1.14	116.8	F	1.14	118.0	F		1.08	94.4	F	**1.38**	**216.1**	**F**	*
West 17th Street / Cropsey Avenue (N-S)	EB-TR	0.23	10.0	B	0.25	10.2	B		0.14	9.3	A	0.15	9.4	A		0.29	10.5	B	0.30	10.6	B		0.18	9.6	A	0.19	9.7	A	
	WB-L	0.26	25.5	C	0.25	25.5	C		0.09	22.6	C	0.09	22.5	C		0.27	26.1	C	0.27	26.0	C		0.16	23.7	C	0.16	23.6	C	
	WB-TR	0.80	35.8	D	0.80	35.8	D		0.56	28.5	C	0.88	41.9	D		0.79	35.2	D	0.79	35.3	D		0.75	33.5	C	**1.00**	**62.4**	**E**	*
	SB-L	0.63	31.4	C	0.76	37.0	D		0.32	24.6	C	0.32	24.6	C		0.59	30.2	C	0.70	34.0	C		0.35	25.0	C	0.35	25.0	C	
	SB-T	0.84	41.5	D	**1.17**	**121.5**	**F**	*	0.35	24.8	C	0.37	25.2	C		0.82	39.3	D	**1.07**	**86.9**	**F**	*	0.46	26.7	C	0.47	26.9	C	
	SB-R	0.53	13.1	B	0.59	14.0	B		0.29	10.2	B	0.29	10.2	B		0.38	11.0	B	0.41	11.4	B		0.29	10.1	B	0.29	10.1	B	
Neptune Avenue (E-W) @	EB-LTR	0.60	23.9	C	0.75	26.1	C		0.28	16.5	B	0.33	17.1	B		0.84	31.7	C	0.90	36.8	D		0.42	18.2	B	0.48	19.3	B	
Stillwell Avenue (N-S)	WB-LTR	0.69	23.6	C	0.71	24.3	C		0.23	15.8	B	0.34	17.1	B		0.67	23.2	C	0.69	23.8	C		0.36	17.4	B	0.46	18.7	B	
	NB-LTR	0.24	16.1	B	0.24	16.0	B		0.20	15.6	B	0.28	16.5	B		0.32	17.0	B	0.32	17.0	B		0.32	17.0	B	0.37	17.7	B	
	SB-LTR	0.33	17.1	B	0.35	17.4	B		0.14	15.1	B	0.14	15.1	B		0.34	17.4	B	0.36	17.5	B		0.17	15.4	B	0.17	15.4	B	

TABLE 9-17 (continued)
2016 Future With-Action Conditions
Level of Service at Analyzed Intersections

Neptune Avenue (E-W) @	EB-LTR	0.43	13.5	B	0.46	13.8	B	0.18	11.0	B	0.20	11.2	B	0.37	12.7	B	0.38	12.9	B	0.27	11.8	B	0.29	12.0	B
West 12th Street (N-S)	WB-LTR	0.03	10.0	A	0.06	10.2	B	0.05	10.2	B	0.05	10.2	B	0.09	10.5	B	0.11	10.7	B	0.06	10.3	B	0.06	10.3	B
	NB-LTR	0.51	14.7	B	0.51	14.7	B	0.21	11.3	B	0.29	12.1	B	0.47	14.1	B	0.47	14.1	B	0.33	12.5	B	0.40	13.3	B
	SB-LTR	0.16	20.4	C	0.16	20.4	C	0.08	19.5	B	0.14	20.2	C	0.33	22.7	C	0.33	22.7	C	0.20	21.0	C	0.25	21.6	C
Neptune Avenue (E-W) @	EB-DefL	0.64	22.5	C	0.66	23.6	C	0.25	13.3	B	0.29	13.9	B	0.73	27.1	C	0.75	28.1	C	0.41	16.0	B	0.46	16.9	B
West 8th Street (N-S)	EB-TR	0.42	15.0	B	0.46	15.6	B	0.17	12.1	B	0.18	12.2	B	0.44	15.2	B	0.47	15.7	B	0.28	13.3	B	0.29	13.3	B
	WB-LTR	0.27	13.0	B	0.27	13.0	B	0.12	11.6	B	0.13	11.7	B	0.28	13.1	B	0.28	13.0	B	0.18	12.2	B	0.19	12.2	B
	NB-L	0.44	26.9	C	0.60	37.1	D	0.07	18.3	B	0.39	23.7	C	0.43	25.3	C	0.52	29.5	C	0.14	19.3	B	0.43	24.7	C
	NB-TR	0.17	18.9	B	0.17	18.9	B	0.11	18.4	B	0.30	20.3	C	0.26	19.9	B	0.26	19.9	B	0.19	19.1	B	0.35	20.9	C
	SB-L	0.21	20.2	C	0.21	20.2	C	0.08	18.3	B	0.10	18.7	B	0.23	20.6	C	0.23	20.6	C	0.09	18.5	B	0.12	19.0	B
	SB-TR	0.50	23.0	C	0.62	25.3	C	0.22	19.5	B	0.23	19.6	B	0.38	21.3	C	0.47	22.5	C	0.25	19.7	B	0.26	19.8	B
Mermaid Avenue (E-W) @	EB-LT	0.27	9.0	A	0.27	9.0	A	0.14	7.9	A	0.14	7.9	A	0.24	8.7	A	0.24	8.7	A	0.22	8.5	A	0.22	8.5	A
West 22nd Street (N-S)	WB-TR	0.31	9.3	A	0.31	9.3	A	0.17	8.1	A	0.17	8.1	A	0.27	8.9	A	0.27	8.9	A	0.18	8.2	A	0.18	8.2	A
	NB-LTR	0.46	19.4	B	0.55	21.2	C	0.20	15.8	B	0.38	18.1	B	0.49	19.8	B	0.53	20.6	C	0.31	17.1	B	0.43	18.8	B
Mermaid Avenue (E-W) @	EB-TR	0.33	9.5	A	0.33	9.5	A	0.15	8.0	A	0.15	8.0	A	0.30	9.3	A	0.30	9.3	A	0.26	8.8	A	0.26	8.8	A
West 21st Street (N-S)	WB-LT	0.32	9.4	A	0.38	10.1	B	0.17	8.2	A	0.17	8.2	A	0.37	10.0	B	0.43	10.8	B	0.24	8.7	A	0.24	8.7	A
	SB-LTR	0.46	19.7	B	0.60	23.0	C	0.17	15.6	B	0.17	15.6	B	0.44	19.1	B	0.55	21.2	C	0.22	16.2	B	0.22	16.1	B
Mermaid Avenue (E-W) @	EB-LT	0.43	12.2	B	0.43	12.2	B	0.21	9.6	A	0.21	9.6	A	0.36	11.1	B	0.36	11.2	B	0.29	10.4	B	0.29	10.4	B
West 20th Street (N-S)	WB-TR	0.43	12.0	B	0.46	12.4	B	0.20	9.5	A	0.21	9.6	A	0.47	12.6	B	0.51	13.0	B	0.40	11.6	B	0.41	11.6	B
	NB-LTR	0.82	31.4	C	0.87	35.7	D	0.89	37.6	D	**1.19**	**120.3**	**F** *	0.78	27.9	C	0.81	29.8	C	1.11	90.8	F	**0.71**	**195.0**	**F** *
Mermaid Avenue (E-W) @	EB-TR	0.33	9.5	A	0.34	9.6	A	0.17	8.1	A	0.17	8.1	A	0.33	9.5	A	0.34	9.6	A	0.29	9.1	A	0.29	9.1	A
West 19th Street (N-S)	WB-LT	0.36	9.9	A	0.39	10.2	B	0.21	8.5	A	0.21	8.4	A	0.44	10.7	B	0.47	11.1	B	0.35	9.7	A	0.35	9.7	A
	SB-LTR	0.05	14.4	B	0.05	14.4	B	0.03	14.3	B	0.06	14.5	B	0.05	14.4	B	0.05	14.4	B	0.04	14.3	B	0.06	14.5	B
Mermaid Avenue (E-W) @	EB-TR	0.38	13.8	B	0.38	14.3	B	0.16	11.4	B	0.17	11.5	B	0.35	13.3	B	0.35	13.3	B	0.32	13.0	B	0.33	13.1	B
West 17th Street (N-S)	WB-LT	0.34	13.2	B	0.34	13.2	B	0.20	11.8	B	0.20	11.8	B	0.34	13.3	B	0.34	13.3	B	0.33	13.1	B	0.33	13.1	B
	SB-LTR	0.51	14.5	B	0.67	17.1	B	0.23	11.7	B	0.24	11.8	B	0.54	14.9	B	0.66	16.9	B	0.31	12.4	B	0.31	12.4	B
Surf Avenue (E-W) @	*EB-LT*	*0.14*	*9.3*	*A*	*0.16*	*10.2*	*B*	*0.05*	*8.1*	*A*	*0.07*	*8.3*	*A*	*0.14*	*9.3*	*A*	*0.15*	*9.8*	*A*	*0.09*	*8.6*	*A*	*0.11*	*8.8*	*A*
West 22nd Street (N-S)	*WB-LT*	*0.07*	*8.6*	*A*	*0.02*	*8.4*	*A*	*0.02*	*8.1*	*A*	*0.00*	*8.2*	*A*	*0.06*	*8.7*	*A*	*0.02*	*8.6*	*A*	*0.03*	*9.1*	*A*	*0.00*	*9.1*	*A*
(unsignalized)	*NB-LTR*	*0.65*	*87.2*	*F*	*0.40*	*68.4*	*F*	*0.04*	*18.6*	*C*	*0.03*	*21.1*	*C*	*0.53*	*66.2*	*F*	*0.18*	*50.4*	*F*	*0.05*	*33.3*	*D*	*0.03*	*36.6*	*D*
Surf Avenue (E-W) @	EB-TR	0.23	9.5	A	0.24	9.6	A	0.22	9.5	A	0.25	9.7	A	0.24	9.6	A	0.24	9.6	A	0.31	10.2	B	0.33	10.4	B
West 21st Street (N-S)	WB-LT	0.34	10.5	B	0.48	12.1	B	0.14	8.9	A	0.15	9.0	A	0.24	9.6	A	0.34	10.6	B	0.18	9.2	A	0.18	9.2	A
	NB-LR	0.12	22.8	C	0.10	22.6	C	0.03	21.7	C	0.48	29.5	C	0.09	22.5	C	0.07	22.3	C	0.04	21.8	C	0.48	29.6	C
	SB-LTR	0.38	26.6	C	0.58	31.2	C	0.14	23.0	C	0.14	22.9	C	0.55	30.5	C	0.72	36.5	D	0.25	24.5	C	0.25	24.4	C
Surf Avenue (E-W) @	*EB-LT*	*0.29*	*13.3*	*B*	*0.40*	*16.5*	*C*	*0.20*	*10.5*	*B*	*0.38*	*12.2*	*B*	*0.28*	*13.4*	*B*	*0.35*	*15.4*	*C*	*0.31*	*12.6*	*B*	*0.50*	*15.5*	*B*
West 20th Street (N-S)																									
(unsignalized)																									
Surf Avenue (E-W) @	EB-TR	0.15	10.3	B	0.16	10.3	B	0.09	9.9	A	0.11	10.0	B	0.18	10.5	B	0.18	10.5	B	0.18	10.5	B	0.20	10.7	B
West 19th Street (N-S)	WB-L	0.34	13.4	B	0.35	13.5	B	0.03	9.7	A	0.03	9.8	A	0.75	28.7	C	0.86	40.3	D	0.04	9.7	A	0.04	9.8	A
	WB-T	0.45	13.2	B	0.55	14.6	B	0.20	10.7	B	0.21	10.8	B	0.33	11.9	B	0.40	12.6	B	0.26	11.2	B	0.26	11.3	B
	NB-L	0.03	19.7	B	0.03	19.7	B	0.47	27.0	C	0.47	27.1	C	0.06	20.0	B	0.06	20.0	C	0.46	26.6	C	0.47	26.7	C
	NB-R	0.02	19.6	B	0.02	19.6	B	0.42	25.0	C	0.42	25.0	C	0.10	20.5	C	0.10	20.5	C	0.61	30.7	C	0.61	30.7	C
	SB-LTR	0.12	20.8	C	0.12	20.7	C	0.12	20.7	C	0.15	21.1	C	0.15	21.2	C	0.15	21.2	C	0.15	21.2	C	0.16	21.4	C
		0.00																							
Surf Avenue (E-W) @	EB-T	0.19	9.2	A	0.20	9.3	A	0.22	9.5	A	0.25	9.7	A	0.23	9.5	A	0.23	9.5	A	0.36	10.6	B	0.38	10.9	B
West 17th Street (N-S)	WB-T	0.33	10.4	B	0.36	10.7	B	0.14	8.9	A	0.15	8.9	A	0.30	10.1	B	0.32	10.2	B	0.19	9.2	A	0.19	9.3	A
	SB-L	0.51	30.2	C	0.59	32.1	C	0.22	24.3	C	0.18	23.6	C	0.43	28.1	C	0.51	29.7	C	0.38	26.9	C	0.35	26.0	C
	SB-R	0.90	56.2	E	**1.23**	**152.6**	**F** *	0.28	25.3	C	0.31	25.9	C	0.79	42.9	D	**1.00**	**77.1**	**E** *	0.25	24.7	C	0.26	24.9	C

TABLE 9-17 (continued)
2016 Future With-Action Conditions
Level of Service at Analyzed Intersections

Surf Avenue (E-W) @	EB-TR	0.29	10.5	B	0.33	10.9	B	0.26	10.2	B	0.28	10.4	B	0.32	10.8	B	0.35	11.0	B	0.44	12.0	B	0.47	12.3	B
West 16th Street (N-S)	WB-LT	0.31	10.8	B	0.35	11.1	B	0.14	9.3	A	0.14	9.3	A	0.28	10.5	B	0.31	10.7	B	0.18	9.6	A	0.18	9.7	A
	NB-LR	0.00	20.7	C	0.00	20.7	C	0.02	20.9	C	0.02	20.9	C	0.00	20.7	C	0.00	20.7	C	0.04	21.1	C	0.04	21.1	C
	SB-LTR	0.33	25.2	C	0.36	25.9	C	0.13	22.2	C	0.13	22.2	C	0.38	26.2	C	0.40	26.8	C	0.19	23.0	C	0.19	23.0	C
Surf Avenue (E-W) @	EB-L	0.33	14.6	B	0.41	16.7	B	0.16	10.8	B	0.16	10.9	B	0.53	20.4	C	0.59	23.3	C	0.50	18.1	B	0.52	18.8	B
West 15th Street (N-S)	EB-TR	0.30	11.6	B	0.35	12.1	B	0.25	11.2	B	0.28	11.4	B	0.33	11.9	B	0.37	12.3	B	0.43	12.9	B	0.46	13.2	B
	WB-LTR	0.50	14.1	B	0.54	14.7	B	0.19	10.7	B	0.23	11.0	B	0.63	16.8	B	0.66	17.5	B	0.41	13.1	B	0.46	13.8	B
	NB-LTR	0.16	21.0	C	0.16	21.0	C	0.11	20.5	C	0.13	20.7	C	0.20	21.5	C	0.20	21.5	C	0.17	21.2	C	0.19	21.3	C
Surf Avenue (E-W) @	EB-L	0.37	10.4	B	0.37	10.7	B	0.22	7.8	A	0.24	8.1	A	0.41	11.6	B	0.42	11.9	B	0.45	11.6	B	0.48	12.7	B
Stillwell Avenue (N-S)	EB-TR	0.21	7.2	A	0.25	7.5	A	0.22	7.2	A	0.25	7.5	A	0.22	7.3	A	0.25	7.5	A	0.31	7.9	A	0.33	8.1	A
	WB-L	0.10	6.8	A	0.10	6.9	A	0.06	6.5	A	0.07	6.6	A	0.01	6.1	A	0.01	6.1	A	0.01	6.1	A	0.01	6.1	A
	WB-TR	0.32	8.0	A	0.34	8.2	A	0.15	6.8	A	0.20	7.2	A	0.36	8.4	A	0.38	8.6	A	0.29	7.8	A	0.34	8.2	A
	NB-LTR	0.19	26.9	C	0.19	26.9	C	0.16	26.4	C	0.17	26.6	C	0.04	25.3	C	0.04	25.3	C	0.02	25.1	C	0.03	25.2	C
	SB-DefL													--	--	--	0.78	59.8	E	0.61	45.2	D	0.60	44.9	D
	SB-TR													--	--	--	0.69	47.3	D	0.48	36.4	D	0.48	36.2	D
	SB-LTR	0.55	33.8	C	0.65	37.2	D	0.21	27.1	C	0.21	27.1	C	0.68	40.0	D		**53.3**	**D**	*	--	--	--			
Surf Avenue (E-W) @	EB-L	0.12	9.6	A	0.13	9.8	A	0.03	8.3	A	0.04	8.3	A	0.17	10.2	B	0.18	10.4	B	0.17	10.0	A	0.19	10.3	B
West 12th Street (N-S)	EB-TR	0.25	9.7	A	0.30	10.2	B	0.25	9.7	A	0.29	10.1	B	0.28	10.0	A	0.32	10.3	B	0.34	10.5	B	0.38	10.8	B
	WB-L	0.04	8.4	A	0.04	8.4	A	0.01	8.1	A	0.01	8.1	A	0.04	8.4	A	0.04	8.4	A	0.02	8.3	A	0.02	8.3	A
	WB-TR	0.37	10.8	B	0.40	11.1	B	0.17	9.1	A	0.23	9.6	A	0.45	11.7	B	0.47	11.9	B	0.29	10.1	B	0.36	10.7	B
	NB-LTR	0.07	22.2	C	0.07	22.2	C	0.08	22.3	C	0.08	22.3	C	0.12	23.0	C	0.12	23.0	C	0.10	22.8	C	0.10	22.8	C
	SB-LTR	0.20	24.1	C	0.24	25.0	C	0.13	22.8	C	0.13	22.8	C	0.46	30.9	C	0.51	33.0	C	0.45	30.7	C	0.45	30.7	C
Surf Avenue (E-W) @	EB-TR	0.28	10.4	B	0.34	11.0	B	0.27	10.4	B	0.32	10.7	B	0.34	11.0	B	0.39	11.5	B	0.41	11.7	B	0.44	12.0	B
West 10th Street (N-S)	WB-L	0.05	8.9	A	0.06	9.0	A	0.02	8.7	A	0.03	8.7	A	0.07	9.2	A	0.07	9.3	A	0.03	8.8	A	0.04	8.9	A
	WB-T	0.73	19.8	B	0.79	22.4	C	0.35	11.7	B	0.48	13.6	B	0.82	24.5	C	0.86	27.7	C	0.53	14.2	B	0.64	16.8	B
	NB-LR	0.15	22.4	C	0.15	22.4	C	0.07	21.5	C	0.07	21.5	C	0.25	23.9	C	0.25	23.9	C	0.26	23.9	C	0.26	23.9	C
Surf Avenue (E-W) @	EB-L	0.44	16.2	B	0.44	16.2	B	0.39	15.6	B	0.57	21.4	C	0.68	27.1	C	0.68	27.3	C	0.63	23.8	C	0.77	33.0	C
West 8th Street (N-S)	EB-TR	0.20	10.7	B	0.30	11.7	B	0.20	10.7	B	0.21	10.8	B	0.23	11.0	B	0.33	11.9	B	0.32	11.8	B	0.33	11.9	B
	WB-L	0.01	9.4	A	0.06	9.9	A	0.00	9.3	A	0.00	9.3	A	0.05	9.8	A	0.11	10.5	B	0.00	9.3	A	0.00	9.3	A
	WB-TR	0.36	12.2	B	0.36	12.2	B	0.16	10.5	B	0.16	10.5	B	0.40	12.7	B	0.40	12.7	B	0.24	11.1	B	0.24	11.1	B
	NB-LTR	0.12	20.6	C	0.11	20.5	C	0.01	19.4	B	0.81	39.1	D	0.33	23.5	C	0.33	23.5	C	0.04	19.7	B	0.78	37.7	D
	SB-L	0.36	24.9	C	0.36	24.8	C	0.14	21.1	C	0.23	23.4	C	0.43	27.4	C	0.43	27.4	C	0.21	22.1	C	0.33	25.6	C
	SB-TR	0.29	22.8	C	0.46	24.9	C	0.08	20.1	C	0.08	20.1	C	0.24	21.8	C	0.39	23.6	C	0.13	20.5	C	0.13	20.6	C

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
* -Denotes Impacted Location
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.5).

movement would operate at LOS F in both the weekday and Saturday post-event peak hours with 308.5 and 412.0 seconds of delay, respectively. Increases in delay compared to the No-Action condition would total 177.5 and 154.2 seconds in the weekday and Saturday post-event peak hours, respectively.

NEPTUNE AVENUE AT CROPSEY AVENUE/ WEST 17TH STREET

The eastbound left turn movement on Neptune Avenue would be significantly adversely impacted in the weekday pre-event and post-event and the Saturday post-event peak hours~~,~~ The westbound through-right movement would be significantly adversely impacted in the Saturday post-event peak hour, while the southbound through movement on Cropsey Avenue would be significantly adversely impacted in the weekday and Saturday pre-event hours. In the With-Action condition, the eastbound left-turn movement would operate at LOS F in the weekday pre-event and post-event and Saturday post-event peak hours with 110.4, 202.2 and 216.1 seconds of delay, respectively, while increases in delay compared to the No-Action condition for this movement would total 5.6, 145.9 and 121.7 seconds, respectively. The southbound through movement would operate at LOS F in both the weekday and Saturday pre-event peak hours with 121.5 and 86.9 seconds of delay, respectively, in the With-Action condition. Compared to the No-Action condition, delays would increase by 80 and 47.6 seconds in the weekday and Saturday pre-event peak hours, respectively. The westbound through-right movement would also be significantly adversely impacted in the Saturday post-event peak hour. In the With-Action condition, this movement would operate at LOS E with ~~60.7~~ 62.4 seconds of delay, an increase of ~~27.4~~28.9 seconds compared to the No-Action condition.

SURF AVENUE AT WEST 17TH STREET

The southbound right-turn movement on West 17th Street would be significantly adversely impacted in the weekday and Saturday pre-event hours. In the With-Action condition, this movement would operate at LOS F in ~~both~~ the weekday pre-event peak hour and at LOS E in the Saturday pre-event peak hour~~s~~ with 152.6 and 77.1 seconds of delay, respectively. Compared to the No-Action condition, delays would increase by 96.4 and 34.2 seconds in the weekday and Saturday pre-event peak hours, respectively.

SURF AVENUE AT STILLWELL AVENUE

The southbound approach on Stillwell Avenue would be significantly adversely impacted in the Saturday pre-event peak hour. In the With-Action condition, this approach would operate at a LOS D with 53.3 seconds of delay, an increase of 13.3 seconds compared to the No-Action condition.

H. TRANSIT

As shown earlier in Table 9-2, the proposed project is expected to generate a net total of ~~1,118~~1,107 and 1,807 new subway trips in the weekday PM (pre-concert) and evening (post-concert) peak hours, respectively, and 907 and 1,462 new trips during the Saturday PM (pre-event) and evening (post-event~~s~~), respectively. As discussed above, it is anticipated that all project-generated subway trips would utilize the Coney Island-Stillwell Avenue (D, F, N, Q) station located approximately 0.4-miles to the east of the site.

Because the station being analyzed has multiple entrances and control areas, quantified analyses were limited to the elements that would be most heavily used by trips to and from the proposed project site. At the Stillwell Avenue Station, the control area accessible from Surf Avenue and all the station

stairways and ramps leading to the platforms were analyzed. The Surf Avenue control area includes nine turnstiles, two high entrance/exit gates, and two service gates, as shown in Figure 9-7.

Existing Conditions

Table 9-18 summarizes the existing weekday pre-event, weekday post-event, Saturday pre-event and Saturday post-event operating conditions and the results of the capacity analysis for the Coney Island-Stillwell Avenue subway station turnstiles, high entry/exit gates and service gates at the Surf Avenue control area, while Table 9-19 illustrates the peak period operating conditions for the vertical circulation elements (stairways and ramps). Existing service levels for the station elements were determined using the peak 15-minute volumes developed from the August 2012 station counts. The results show that the control area elements, stairways and ramps currently all operate at LOS A during the analysis peak hours. These good levels of service reflect the station's design as well as the off-peak nature of the proposed project.

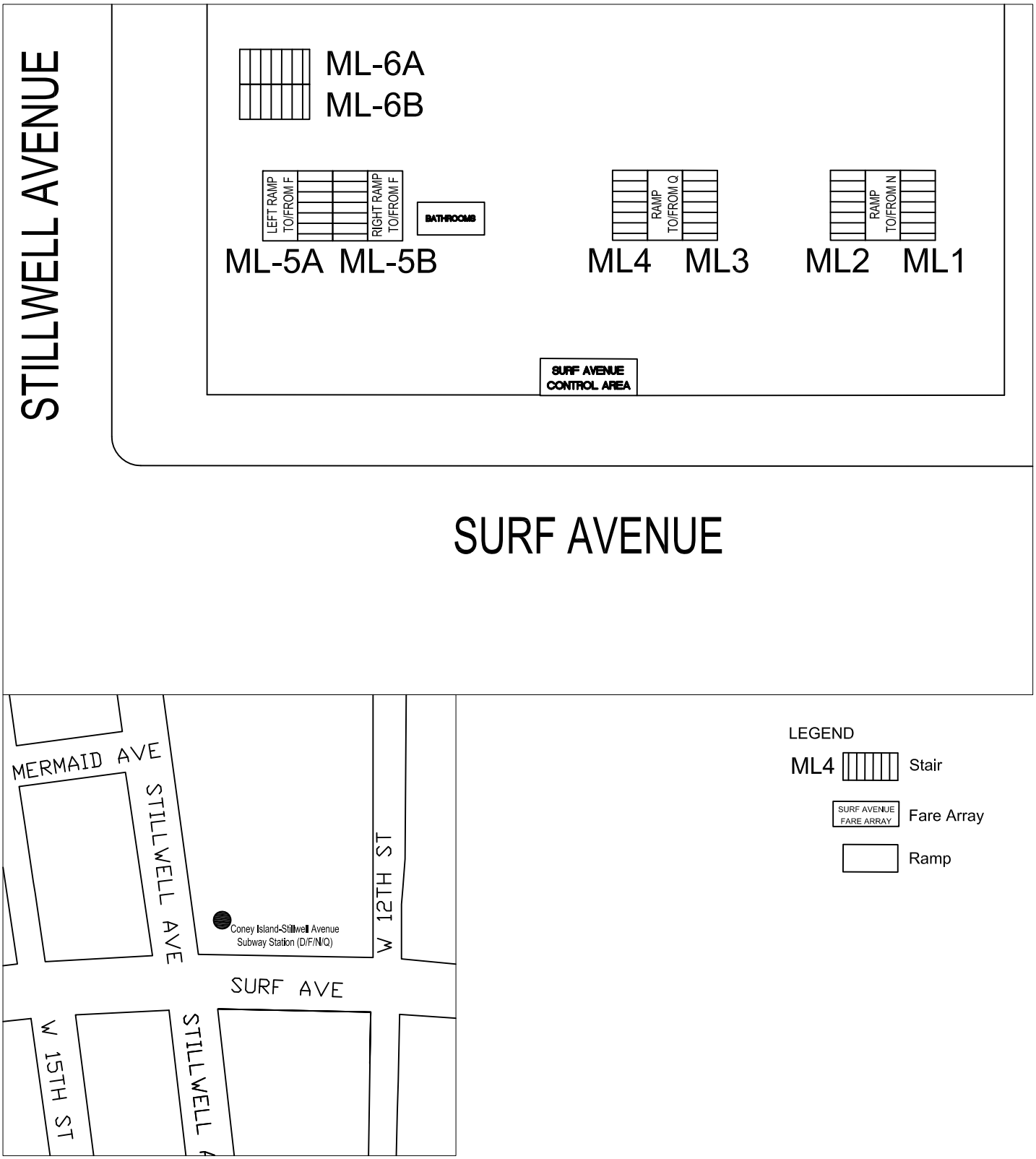
TABLE 9-18
2012 Existing Conditions: Subway Station Control Area Analysis

Peak Period	Location	Control Element	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
				In	Out				
Weekday Pre-Event	Surf Avenue Control Area	Turnstile	9	233	275	0.90	0.90	0.10	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Weekday Post-Event	Surf Avenue Control Area	Turnstile	9	358	62	0.90	0.90	0.10	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Pre-Event	Surf Avenue Control Area	Turnstile	9	342	398	0.90	0.90	0.15	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Post-Event	Surf Avenue Control Area	Turnstile	9	423	133	0.90	0.90	0.13	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines

The Future without the Proposed ~~Action~~ Project (No-Action Condition)

The same subway station control area and vertical circulation elements analyzed for ~~the~~ existing conditions ~~analyses~~ were again evaluated to determine how these elements would function in the 2016 future under No-Action conditions. The No-Action analysis includes the subway trips generated by the No-Build sites in the project area and on the development site. As shown in Table 9-20 and Table 9-21, all subway station elements would operate at acceptable LOS B or better during the analysis peak period – all control areas would remain at LOS A and one stairway location (ML-5) would decline from LOS A to LOS B. All other stairways and ramps would continue to operate at LOS A.



LEGEND

ML4 Stair

SURF AVENUE FARE ARRAY Fare Array

Ramp

Seaside Park and Community Arts Center

FIGURE 9-7

Analyzed Subway Station Elements at the Coney Island-Stillwell Avenue (D/F/N/Q) Subway Station

TABLE 9-19
2012 Existing Conditions: Subway Station Stairway and Ramp Analysis

Peak Period	Stairway/Ramp		Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
					Down	Up				
Weekday Pre-Event	ML-1	Stair to N Train	5.3	4.3	32	31	0.75	0.9	0.13	A
	ML-2	Stair to N Train	5.3	4.3	87	48	0.75	0.9	0.28	A
	ML-3	Stair to Q Train	5.3	4.3	51	93	0.75	0.9	0.28	A
	ML-4	Stair to Q Train	5.3	4.3	37	19	0.75	0.9	0.12	A
	ML-5	Stair to F Train	9.0	7.0	106	212	0.75	0.9	0.37	A
	ML-6	Stair to D Train	11.6	10.6	168	184	0.75	0.9	0.29	A
	Ramp 1	Ramp to N Train	9.8	8.8	103	25	0.75	0.9	0.09	A
	Ramp 2	Ramp to Q Train	10.0	9.0	79	43	0.75	0.9	0.08	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	51	23	0.75	0.9	0.09	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	62	14	0.75	0.9	0.10	A
Weekday Post-Event	ML-1	Stair to N Train	5.3	4.3	1	45	0.75	0.9	0.08	A
	ML-2	Stair to N Train	5.3	4.3	49	37	0.75	0.9	0.18	A
	ML-3	Stair to Q Train	5.3	4.3	5	105	0.75	0.9	0.19	A
	ML-4	Stair to Q Train	5.3	4.3	18	27	0.75	0.9	0.09	A
	ML-5	Stair to F Train	9.0	7.0	18	119	0.75	0.9	0.15	A
	ML-6	Stair to D Train	11.6	10.6	35	47	0.75	0.9	0.07	A
	Ramp 1	Ramp to N Train	9.8	8.8	28	28	0.75	0.9	0.04	A
	Ramp 2	Ramp to Q Train	10.0	9.0	28	32	0.75	0.9	0.04	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	16	5	0.75	0.9	0.03	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	8	6	0.75	0.9	0.02	A
Saturday Pre-Event	ML-1	Stair to N Train	5.3	4.3	9	44	0.75	0.9	0.10	A
	ML-2	Stair to N Train	5.3	4.3	25	96	0.75	0.9	0.22	A
	ML-3	Stair to Q Train	5.3	4.3	59	88	0.75	0.9	0.29	A
	ML-4	Stair to Q Train	5.3	4.3	35	26	0.75	0.9	0.13	A
	ML-5	Stair to F Train	9.0	7.0	71	328	0.75	0.9	0.45	A
	ML-6	Stair to D Train	11.6	10.6	213	217	0.75	0.9	0.35	A
	Ramp 1	Ramp to N Train	9.8	8.8	82	53	0.75	0.9	0.09	A
	Ramp 2	Ramp to Q Train	10.0	9.0	152	37	0.75	0.9	0.13	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	140	29	0.75	0.9	0.21	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	236	24	0.75	0.9	0.33	A
Saturday Post-Event	ML-1	Stair to N Train	5.3	4.3	15	29	0.75	0.9	0.08	A
	ML-2	Stair to N Train	5.3	4.3	32	117	0.75	0.9	0.28	A
	ML-3	Stair to Q Train	5.3	4.3	9	164	0.75	0.9	0.30	A
	ML-4	Stair to Q Train	5.3	4.3	18	13	0.75	0.9	0.06	A
	ML-5	Stair to F Train	9.0	7.0	89	168	0.75	0.9	0.30	A
	ML-6	Stair to D Train	11.6	10.6	58	95	0.75	0.9	0.12	A
	Ramp 1	Ramp to N Train	9.8	8.8	36	81	0.75	0.9	0.07	A
	Ramp 2	Ramp to Q Train	10.0	9.0	42	69	0.75	0.9	0.07	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	23	31	0.75	0.9	0.06	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	20	53	0.75	0.9	0.08	A

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines

TABLE 9-20
2016 No-Action Conditions: Subway Station Control Area Analysis

Peak Period	Location	Control Element	Quantity	No-Action 15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
				In	Out				
Weekday Pre-Event	Surf Avenue Control Area	Turnstile	9	288	386	0.90	0.90	0.13	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Weekday Post-Event	Surf Avenue Control Area	Turnstile	9	378	94	0.90	0.90	0.11	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Pre-Event	Surf Avenue Control Area	Turnstile	9	413	476	0.90	0.90	0.18	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Post-Event	Surf Avenue Control Area	Turnstile	9	440	181	0.90	0.90	0.14	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines

TABLE 9-21
2016 No-Action Conditions: Subway Station Stairway and Ramp Analysis

Peak Period	Stairway		Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
					Down	Up				
Weekday Pre-Event	ML-1	Stair to N Train	5.3	4.3	37	35	0.75	0.9	0.15	A
	ML-2	Stair to N Train	5.3	4.3	100	53	0.75	0.9	0.32	A
	ML-3	Stair to Q Train	5.3	4.3	60	102	0.75	0.9	0.31	A
	ML-4	Stair to Q Train	5.3	4.3	44	21	0.75	0.9	0.14	A
	ML-5	Stair to F Train	9.0	7.0	122	228	0.75	0.9	0.41	A
	ML-6	Stair to D Train	11.6	10.6	196	202	0.75	0.9	0.32	A
	Ramp 1	Ramp to N Train	9.8	8.8	117	29	0.75	0.9	0.10	A
	Ramp 2	Ramp to Q Train	10.0	9.0	93	47	0.75	0.9	0.09	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	60	24	0.75	0.9	0.10	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	68	15	0.75	0.9	0.10	A
Weekday Post-Event	ML-1	Stair to N Train	5.3	4.3	2	47	0.75	0.9	0.09	A
	ML-2	Stair to N Train	5.3	4.3	55	39	0.75	0.9	0.19	A
	ML-3	Stair to Q Train	5.3	4.3	8	110	0.75	0.9	0.21	A
	ML-4	Stair to Q Train	5.3	4.3	20	29	0.75	0.9	0.10	A
	ML-5	Stair to F Train	9.0	7.0	21	124	0.75	0.9	0.16	A
	ML-6	Stair to D Train	11.6	10.6	41	50	0.75	0.9	0.07	A
	Ramp 1	Ramp to N Train	9.8	8.8	32	30	0.75	0.9	0.04	A
	Ramp 2	Ramp to Q Train	10.0	9.0	34	34	0.75	0.9	0.04	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	17	5	0.75	0.9	0.03	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	11	6	0.75	0.9	0.02	A
Saturday Pre-Event	ML-1	Stair to N Train	5.3	4.3	11	48	0.75	0.9	0.11	A
	ML-2	Stair to N Train	5.3	4.3	29	103	0.75	0.9	0.24	A
	ML-3	Stair to Q Train	5.3	4.3	63	97	0.75	0.9	0.31	A
	ML-4	Stair to Q Train	5.3	4.3	39	29	0.75	0.9	0.14	A
	ML-5	Stair to F Train	9.0	7.0	80	357	0.75	0.9	0.49	B
	ML-6	Stair to D Train	11.6	10.6	230	234	0.75	0.9	0.38	A
	Ramp 1	Ramp to N Train	9.8	8.8	84	58	0.75	0.9	0.10	A
	Ramp 2	Ramp to Q Train	10.0	9.0	166	41	0.75	0.9	0.14	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	153	33	0.75	0.9	0.23	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	245	26	0.75	0.9	0.35	A
Saturday Post-Event	ML-1	Stair to N Train	5.3	4.3	17	30	0.75	0.9	0.09	A
	ML-2	Stair to N Train	5.3	4.3	38	120	0.75	0.9	0.29	A
	ML-3	Stair to Q Train	5.3	4.3	12	169	0.75	0.9	0.32	A
	ML-4	Stair to Q Train	5.3	4.3	20	13	0.75	0.9	0.07	A
	ML-5	Stair to F Train	9.0	7.0	97	173	0.75	0.9	0.32	A
	ML-6	Stair to D Train	11.6	10.6	67	98	0.75	0.9	0.13	A
	Ramp 1	Ramp to N Train	9.8	8.8	43	84	0.75	0.9	0.08	A
	Ramp 2	Ramp to Q Train	10.0	9.0	50	70	0.75	0.9	0.07	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	26	33	0.75	0.9	0.07	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	23	54	0.75	0.9	0.08	A

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines

The Future with the Proposed ~~Action~~ Project (With-Action Condition)

As discussed previously in this chapter, the proposed project would generate an incremental demand of approximately ~~of 1,118~~1,107 and 1,807 new subway trips in the weekday PM (pre-concert) and evening (post-concert) peak hours, respectively, and 907 and 1,462 new trips during the Saturday PM (pre-event) and evening (post-events), respectively, at the Coney Island-Stillwell Avenue (D, F, N, Q) subway station. These incremental hourly trips were assigned to analyzed stairs, ramps and fare arrays, translated into peak 15 minute volumes, and added to the 2016 No-Action demand to determine future conditions with the proposed project. Table 9-22 and Table 9-23 show the results of the operational analyses for the various station elements. As shown in Table 9-22, all elements of the Surf Avenue fare array would continue to operate at LOS A during each of the analyzed peak hours. Table 9-23 shows that all of the analyzed stairs and ramps would continue to operate at LOS B or better during each of the analyzed peak hours under With-Action conditions. As based on the *CEQR Technical Manual* criteria, there would be no significant transit impacts due to the proposed project.

TABLE 9-22
2016 With-Action Conditions: Subway Station Control Area Analysis

Peak Period	Location	Control Element	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
				In	Out				
Weekday Pre-Event	Surf Avenue Control Area	Turnstile	9	276	744	0.90	0.90	0.19	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Weekday Post-Event	Surf Avenue Control Area	Turnstile	9	951	86	0.90	0.90	0.26	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Pre-Event	Surf Avenue Control Area	Turnstile	9	399	774	0.90	0.90	0.22	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						
Saturday Post-Event	Surf Avenue Control Area	Turnstile	9	907	171	0.90	0.90	0.26	A
		High Entry/Exit Turnstile	2						
		High Exit Turnstile	2						

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines

TABLE 9-23
2016 With-Action Conditions: Subway Station Stairway and Ramp Analysis

Peak Period	Stairway		Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
					Down	Up				
Weekday Pre-Event	ML-1	Stair to N Train	5.3	4.3	57	35	0.75	0.9	0.19	A
	ML-2	Stair to N Train	5.3	4.3	152	52	0.75	0.9	0.44	A
	ML-3	Stair to Q Train	5.3	4.3	74	99	0.75	0.9	0.34	A
	ML-4	Stair to Q Train	5.3	4.3	55	20	0.75	0.9	0.16	A
	ML-5	Stair to F Train	9.0	7.0	170	225	0.75	0.9	0.48	B
	ML-6	Stair to D Train	11.6	10.6	282	198	0.75	0.9	0.40	A
	Ramp 1	Ramp to N Train	9.8	8.8	175	29	0.75	0.9	0.15	A
	Ramp 2	Ramp to Q Train	10.0	9.0	113	46	0.75	0.9	0.11	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	90	24	0.75	0.9	0.14	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	87	15	0.75	0.9	0.13	A
Weekday Post-Event	ML-1	Stair to N Train	5.3	4.3	2	97	0.75	0.9	0.17	A
	ML-2	Stair to N Train	5.3	4.3	54	128	0.75	0.9	0.34	A
	ML-3	Stair to Q Train	5.3	4.3	7	158	0.75	0.9	0.29	A
	ML-4	Stair to Q Train	5.3	4.3	19	42	0.75	0.9	0.12	A
	ML-5	Stair to F Train	9.0	7.0	20	266	0.75	0.9	0.31	A
	ML-6	Stair to D Train	11.6	10.6	40	188	0.75	0.9	0.17	A
	Ramp 1	Ramp to N Train	9.8	8.8	31	93	0.75	0.9	0.08	A
	Ramp 2	Ramp to Q Train	10.0	9.0	32	51	0.75	0.9	0.05	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	17	13	0.75	0.9	0.04	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	10	11	0.75	0.9	0.02	A
Saturday Pre-Event	ML-1	Stair to N Train	5.3	4.3	21	48	0.75	0.9	0.13	A
	ML-2	Stair to N Train	5.3	4.3	51	102	0.75	0.9	0.29	A
	ML-3	Stair to Q Train	5.3	4.3	73	95	0.75	0.9	0.33	A
	ML-4	Stair to Q Train	5.3	4.3	47	28	0.75	0.9	0.16	A
	ML-5	Stair to F Train	9.0	7.0	104	350	0.75	0.9	0.52	B
	ML-6	Stair to D Train	11.6	10.6	320	232	0.75	0.9	0.46	B
	Ramp 1	Ramp to N Train	9.8	8.8	126	57	0.75	0.9	0.13	A
	Ramp 2	Ramp to Q Train	10.0	9.0	196	40	0.75	0.9	0.17	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	193	32	0.75	0.9	0.29	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	271	25	0.75	0.9	0.38	A
Saturday Post-Event	ML-1	Stair to N Train	5.3	4.3	16	46	0.75	0.9	0.12	A
	ML-2	Stair to N Train	5.3	4.3	37	170	0.75	0.9	0.38	A
	ML-3	Stair to Q Train	5.3	4.3	11	219	0.75	0.9	0.40	A
	ML-4	Stair to Q Train	5.3	4.3	19	20	0.75	0.9	0.08	A
	ML-5	Stair to F Train	9.0	7.0	95	287	0.75	0.9	0.44	A
	ML-6	Stair to D Train	11.6	10.6	65	234	0.75	0.9	0.22	A
	Ramp 1	Ramp to N Train	9.8	8.8	42	121	0.75	0.9	0.10	A
	Ramp 2	Ramp to Q Train	10.0	9.0	48	93	0.75	0.9	0.09	A
	Ramp 3	Ramp to F Train (Right)	6.0	5.0	25	55	0.75	0.9	0.09	A
	Ramp 4	Ramp to F Train (Left)	6.0	5.0	22	67	0.75	0.9	0.10	A

Notes:
Methodology based on 2012 CEQR Technical Manual guidelines
Surging factors applied only to exiting volumes

I. PEDESTRIANS

Existing Conditions

As discussed previously above in Section E, "Level 2 Screening Assessment," a total of four pedestrian locations where project-generated pedestrian trips are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours have been selected for analysis. The analyzed pedestrian elements, which include sidewalks, corners and crosswalks, are located along Surf Avenue and the Riegelmann Boardwalk in proximity to the project site. Figure 9-8 shows the analyzed elements and their Existing peak hour volumes. Existing peak hour pedestrian flow volumes, flow rates and levels of service along the analyzed sidewalks during the weekday pre-event and post-event, and Saturday pre-event and post-event peak hours are shown in Table 9-24, while Table 9-25 shows the peak hour volumes, average pedestrian space (in square feet per pedestrian or SFP) and levels of service at analyzed crosswalks. Peak hour volumes, average pedestrian space (in SFP) and levels of service at analyzed corner areas are shown in Table 9-26.

TABLE 9-24
Existing Conditions Sidewalk Analysis

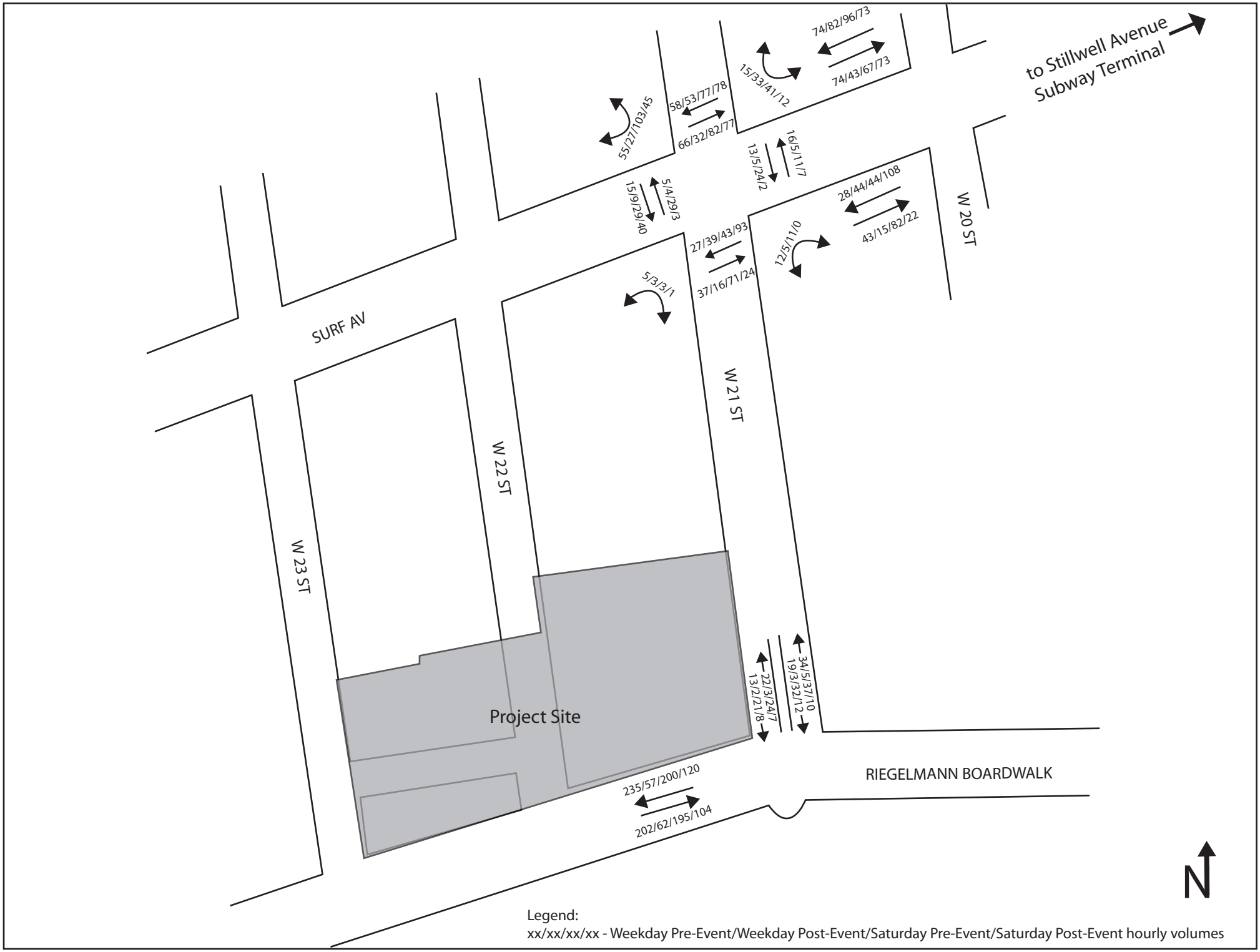
Location	Effective Width (feet)	Peak Hour Volumes				Flow Rate (PMF)				Platoon-Adjusted Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue between W 21st & W 20th Streets (north)	16.3	148	59	163	146	0.2	0.2	0.2	0.2	A	A	A	A
Surf Avenue between W21st & W 20th Streets (south)	14.8	71	125	126	130	0.1	0.1	0.2	0.2	A	A	A	A
Riegelmann Boardwalk between W 22nd and W 21st Street	46.0	437	119	395	224	0.2	0.1	0.2	0.1	A	A	A	A
West 21st Street between Surf Avenue and Riegelmann Boardwalk (east)	9.0	53	8	68	7	0.1	0.0	0.2	0.1	A	A	A	A
West 21st Street between Surf Avenue and Riegelmann Boardwalk (west)	8.5	35	5	46	8	0.2	0.0	0.1	0.1	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
PMF - persons per minute per foot of effective width

TABLE 9-25
Existing Conditions Crosswalk Analysis

Intersection	Crosswalk	Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	North	124	85	159	155	393.7	570.2	385.1	348.8	A	A	A	A
	South	64	55	114	117	669.1	803.3	468.6	355.4	A	A	A	A
	East	29	10	35	9	151.6	833.3	117.3	515.3	A	A	A	A
	West	20	13	58	43	272.0	333.1	138.7	149.1	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person



Seaside Park and Community Arts Center

Figure 9-8
2012 Existing Pedestrian Volumes

TABLE 9-26
Existing Conditions Corner Analysis

Intersection	Corner	Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	NE	15	33	41	12	915.2	1312.0	741.6	1051.2	A	A	A	A
	NW	55	27	103	45	995.5	1434.6	733.7	842.0	A	A	A	A
	SE	12	5	11	0	1378.1	2328.8	954.9	-	A	A	A	-
	SW	5	3	3	1	1630.4	1928.6	1078.0	922.5	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person

As shown in Tables 9-24, 9-25 and 9-26, all analyzed pedestrian elements are currently operating at LOS A in all analyzed peak hours. As noted in Table 9-24, the Riegelmann Boardwalk has an effective width of 46 feet and therefore has the capacity to accommodate large pedestrian flows. It should also be noted that this part of Coney Island west of MCU Park typically receives less foot traffic than those parts closer to attractions like ~~the~~ Luna Park, which is located east of the project site, bounded by Surf Avenue, West 12th and West 10th Streets, and the Riegelmann Boardwalk. Therefore, this good level of service is attributable to the project location as well as the off-peak periods being analyzed.

The Future without the Proposed ~~Action~~ Project (No-Action Condition)

Estimates of peak hour trips on the analyzed sidewalks, crosswalks and corners in the No-Action condition were developed by applying the annual background growth rates recommended in the *CEQR Technical Manual* to the existing volumes. An annual compounded background growth rate of 0.50 percent per year for years 2012 through 2016 was applied to existing travel demand as specified in the *CEQR Technical Manual*. Additionally, pedestrian trips generated by the No-Build ~~land uses~~developments in the project area and on the project site were assigned to the analyzed pedestrian elements.

Table 9-27 shows the forecasted No-Action peak hour pedestrian flow volumes, flow rates and levels of service along the analyzed sidewalks during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in the table, all sidewalks would continue to operate at LOS A during each of the analyzed peak hours, with the exception of the ~~west~~ east sidewalk of West 21st Street that would operate at LOS B during the weekday ~~and Saturday~~ pre-event peak hour~~s~~.

Table 9-28 shows the forecasted No-Action peak hour pedestrian flow volumes, the average square footage per pedestrian and levels of service for each of the analyzed crosswalks during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in Table 9-28, most analyzed crosswalks would continue to operate at LOS A, while ~~two~~ one crosswalk~~s that~~ would operate at LOS B during the weekday and Saturday pre-event peak hours. ~~and one crosswalk that would operate at LOS C during the Saturday pre-event peak hour.~~

Table 9-29 shows the forecasted No-Action average square footage per pedestrian and levels of service for each of the corners analyzed during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in Table 9-29, all analyzed corners would continue to operate at LOS A under No-Action conditions.

TABLE 9-27
No-Action Conditions Sidewalk Analysis

Location	Effective Width (feet)	No-Action Peak Hour Volumes				Flow Rate (PMF)				Platoon-Adjusted Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue between W 21st & W 20th Streets (north)	16.3	251	153	247	174	0.3	0.3	0.3	0.2	A	A	A	A
Surf Avenue between W21st & W 20th Streets (south)	14.8	158	77	215	150	0.2	0.1	0.3	0.2	A	A	A	A
Riegelmann Boardwalk between W 22nd and W 21st Street	46.0	898	171	931	287	0.4	0.1	0.4	0.2	A	A	A	A
West 21st Street between Surf Avenue and Riegelmann Boardwalk (east)	9.0	133	20	156	26	0.5	0.1	0.5	0.1	B	A	A	A
West 21st Street between Surf Avenue and Riegelmann Boardwalk (west)	8.5	109	15	134	29	0.4	0.0	0.4	0.1	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
PMF - persons per minute per foot of effective width

TABLE 9-28
No-Action Conditions Crosswalk Analysis

Intersection	Crosswalk	No-Action Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	North	205	108	223	181	237.9	450.5	273.7	293.8	A	A	A	A
	South	140	72	181	137	297.1	616.4	293.5	303.0	A	A	A	A
	East	79	18	87	16	52.4	461.8	46.1	253.2	B	A	B	A
	West	86	25	123	54	61.3	272.5	64.8	124.2	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person

TABLE 9-29
No-Action Conditions Corner Analysis

Intersection	Corner	No-Action Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	NE	15	34	42	12	478.5	1054.3	457.4	834.1	A	A	A	A
	NW	59	29	105	46	506.9	1176.7	513.5	725.5	A	A	A	A
	SE	37	7	41	3	538.6	1681.9	430.2	917.1	A	A	A	A
	SW	25	5	27	3	538.4	1483.7	528.6	763.8	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person

The Future with the Proposed ~~Action~~ Project (With-Action Condition)

The proposed project would generate new pedestrian demand on analyzed sidewalks, crosswalks and corners by 2016. This new demand would include trips made solely by walking, as well as pedestrian trips en route to and from the Coney Island-Stillwell Avenue subway station and bus stops located in the study area. Pedestrian trips generated by the proposed project are expected to be concentrated on the boardwalk, as well as sidewalks, corners and crosswalks closest to the project site.

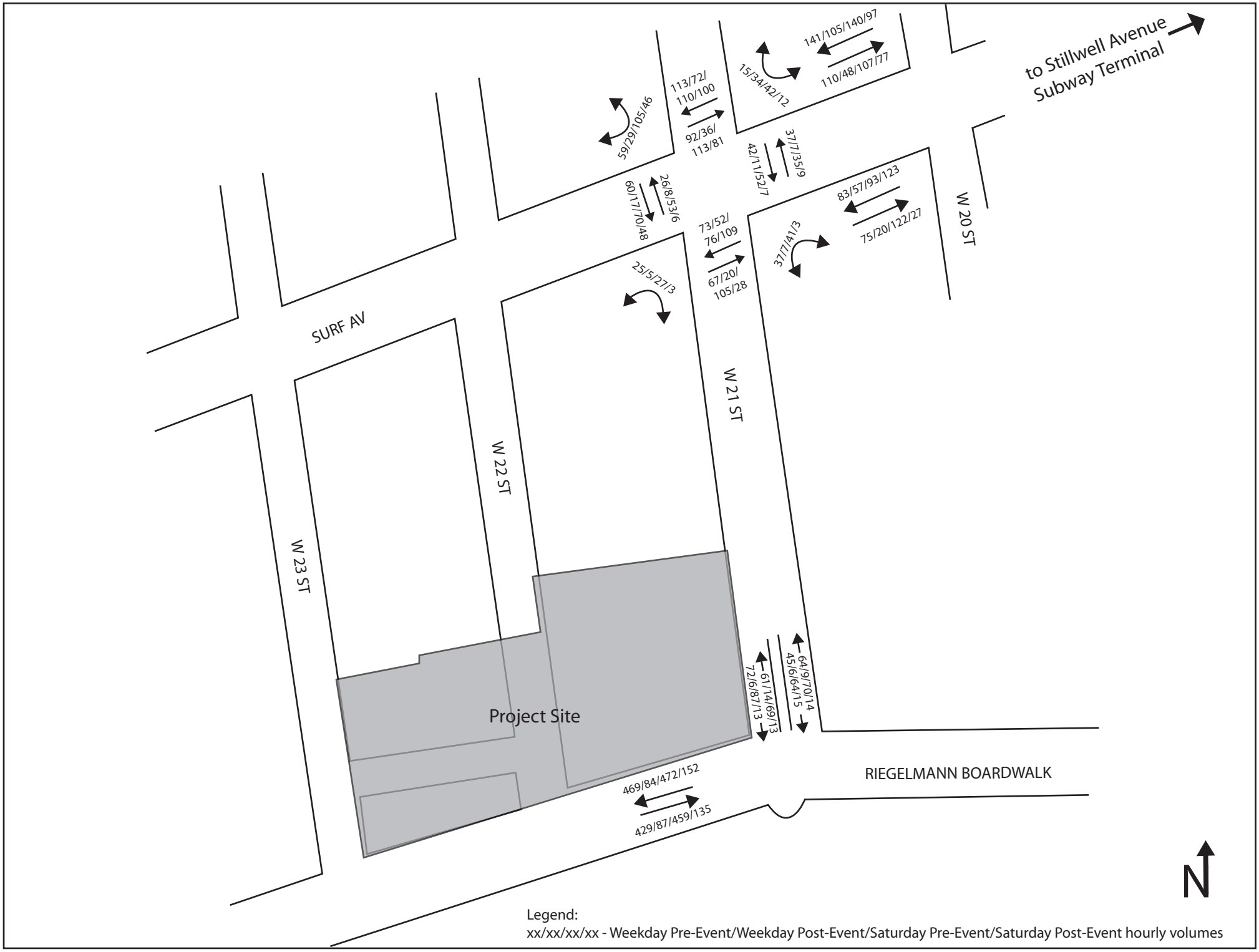
As ~~shown~~ discussed above in Section E, "Level 2 Screening Assessment,"~~in Table 9-2 above,~~ compared to No-Action conditions, the proposed project is expected to generate a net total of ~~1,118~~1,589, ~~3,528~~4,272, ~~853~~ 1,226 and ~~3,649~~4,315 pedestrian trips (including walk-only, subway and bus trips and trips to/from parking facilities) during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. Of these total pedestrian trips, -103, 1,452, -132 and 1,977 would be walk-only trips during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours, respectively. The assignment of these trips to the analyzed pedestrian elements in each peak hour is shown above in Figure 9-3 in "Section E, Level 2 Screening Assessment." Based on the peak hour project-generated pedestrian trips presented in Figure 9-3, peak 15-minute incremental pedestrian volumes were developed. These pedestrian volumes were added to the projected No-Action volumes (see Figure 9-9) to generate the With-Action pedestrian volumes for analysis. Figure 9-10 shows the With-Action pedestrian volumes.

Table 9-30 shows the forecasted With-Action peak hour pedestrian flow volumes, flow rates and levels of service along the analyzed sidewalks during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in the table, all sidewalks would operate at LOS B or better during each of the analyzed peak hours. It should be noted that the boardwalk is anticipated to attract the majority of new pedestrian demand, as the main amphitheater entry/ticketing is located there. The box office would be located at the southwest corner of the (Former) Child's Restaurant Building (see Chapter 1, "Project Description"). As such, the effective width of the boardwalk has been reduced by an additional 20 feet to account for any queuing and interference/conflicts with pedestrian flows. Even after accounting for this condition, the boardwalk would continue to operate at LOS B or better during each of the analyzed peak hours. It should be noted that concert staff would be present to ~~both~~ direct people to ~~the~~ access points ~~and control~~ along the boardwalk and control ~~ensure that~~ pedestrian~~s~~ queuing in proximity to the box office.~~would stay in the dedicated queuing areas.~~ The box office would be located at the southwest corner of the (Former) Childs Restaurant Building and would be directly accessible from the boardwalk. Guest relations staff members would be present on the boardwalk to direct patrons and control pedestrian queuing in proximity to the box office. The Applicant would be responsible for costs associated with the deployment of guest relations staff members for regulating pedestrian queuing along the boardwalk. The specifics of the operating plan would be refined over time based on actual operation conditions once the facility has opened.~~Specifications regarding staff operations will be stated in a commitment letter that will be provided by the applicant between DEIS and FEIS.~~

TABLE 9-30
With-Action Conditions Sidewalk Analysis

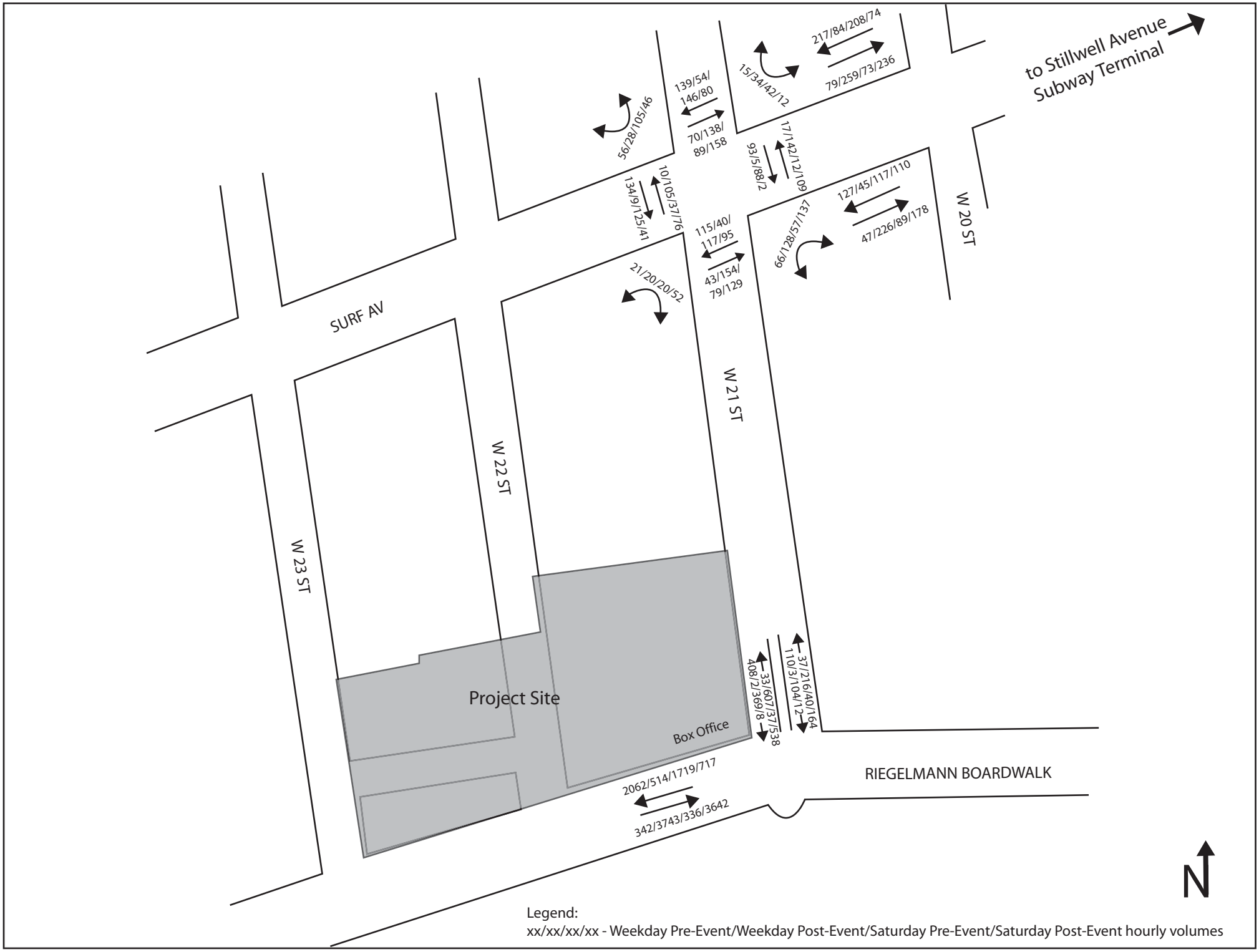
Location	Effective Width (feet)	No-Action Peak Hour Volumes				With-Action Peak Hour Volumes				Flow Rate (PMF)				Platoon-Adjusted Level of Service			
		Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue between W 21st & W 20th Streets (north)	16.3	251	153	247	174	296	343	281	310	0.3	0.6	0.3	0.4	A	B	A	A
Surf Avenue between W21st & W 20th Streets (south)	14.8	158	77	215	150	174	271	206	288	0.3	0.4	0.3	0.5	A	A	A	A
Riegelmann Boardwalk between W 22nd and W 21st Street	51.5*	898	171	931	287	2404	4086	2055	4359	0.9	2.6	0.7	2.1	B	B	B	B
West 21st Street between Surf Avenue and Riegelmann Boardwalk (east)	9.0	133	20	156	26	147	219	144	176	0.5	0.6	0.4	0.6	B	B	A	B
West 21st Street between Surf Avenue and Riegelmann Boardwalk (west)	8.5	109	15	134	29	441	609	406	546	1.7	1.8	1.2	1.8	B	B	B	B

Notes: Methodology based on *CEQR Technical Manual* guidelines
*Includes 20 ft for queuing pedestrians
PMF - persons per minute per foot of effective width



Seaside Park and Community Arts Center

Figure 9-9
2016 No-Action Pedestrian Volumes



Seaside Park and Community Arts Center

Figure 9-10
2016 With-Action Pedestrian Volumes

Table 9-31 shows the forecasted With-Action peak hour pedestrian flow volumes, the average square footage per pedestrian and levels of service for each of the analyzed crosswalks during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in Table 9-31, all analyzed crosswalks would operate at LOS C or better during each of the analyzed peak hours.

TABLE 9-31
With-Action Conditions Crosswalk Analysis

		No-Action Peak Hour Volumes				With-Action Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
Intersection	Crosswalk	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	North	205	108	223	181	209	227	235	238	234.2	211.3	259.0	238.2	A	A	A	A
	South	140	72	181	137	158	194	196	224	249.9	183.3	268.3	191.4	A	A	A	A
	East	79	18	87	16	110	147	100	111	31.8	52.8	39.3	44.6	C	A	C	B
	West	86	25	123	54	144	114	162	117	34.5	27.4	49.3	44.7	C	C	B	B

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person

Table 9-32 shows the forecasted With-Action average square footage per pedestrian and levels of service for each of the corners analyzed during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. As shown in Table 9-32, all analyzed corners would continue to operate at LOS A.

TABLE 9-32
With-Action Conditions Corner Analysis

		No-Action Peak Hour Volumes				With-Action Peak Hour Volumes				Avg. Pedestrian Space (SFP)				Level of Service			
Intersection	Corner	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event	Weekday Pre-Event	Weekday Post-Event	Saturday Pre-Event	Saturday Post-Event
Surf Avenue at West 21st St	NE	15	34	42	12	15	34	42	12	380.7	411.4	415.8	452.8	A	A	A	A
	NW	59	29	105	46	56	28	105	46	400.5	370.6	457.1	466.4	A	A	A	A
	SE	37	7	41	3	66	128	57	137	383.4	279.4	365.9	215.8	A	A	A	A
	SW	25	5	27	3	21	20	20	52	396.4	279.2	477.5	296.3	A	A	A	A

Notes: Methodology based on *CEQR Technical Manual* guidelines
SFP - square feet per person

Overall, all analyzed pedestrian elements would operate at acceptable LOS C or better during the weekday pre-event and post-event and Saturday pre-event and post-event peak hours. These good levels of service reflect the off-peak nature of the proposed project. Based on the pedestrian analyses results discussed above, the proposed project would not result in any significant adverse pedestrian impacts.

J. PEDESTRIAN AND VEHICULAR SAFETY EVALUATION

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high accident locations. These are defined as locations where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. (Reportable accidents are defined as those involving injuries, fatalities, and/or $1,000 or more in property damage.)

Table 9-33 shows summary accident data for the years 2009 through 2011 that were obtained from NYCDOT. This is the most recent three-year period for which data are available. The table shows the total number of crashes each year and the numbers of crashes each year involving pedestrians and cyclists at intersections in proximity to the project site where the majority of new vehicular and pedestrian trips would be concentrated. As shown in Table 9-33, no intersections were found to have experienced a total of 48 or more crashes in any one year, the threshold for high accident location for

vehicles. The maximum was 21 crashes in 2009 at the intersection of Bay 50th Street and Cropsey Avenue. However, there is one intersection, Neptune Avenue and Stillwell Avenue, that experienced five or more pedestrian and/or bicyclist injury crashes in one or more years and is therefore considered a high accident location for pedestrians/bicycles with five pedestrian/bicyclist injury crashes in 2010. At all other locations in the study area, the number of pedestrian/bicyclist injury crashes per year totaled four or fewer during the 2009 through 2011 period. A major reason why this intersection has pedestrian accidents is its density of pedestrian flows to/from the Stillwell Avenue subway station and the two-way nature of both intersecting streets.

It should be noted that this high accident location is not immediately adjacent to the project site where project-generated pedestrian trips are ~~the~~ highest. It should also be noted that the proposed project generates a low number of vehicle trips at this intersection. Under Existing conditions, 1,632 and 1,730 vph use this intersection during the weekday and Saturday pre-event peak hours, respectively, when pedestrian traffic is typically highest and therefore relevant for a safety evaluation. With net project-generated vehicle trips of 86 and 64 vph during the weekday and Saturday pre-event peak hours, respectively, the vehicular traffic volumes at this intersection would only increase by 5% and 4%, respectively. Furthermore, it should be noted that crashes involving pedestrians often involve conflicts with turning vehicles. It is therefore important to note that, out of the 86 and 64 project-generated vehicle trips per hour at this intersection, only 14 and 12 vph are turning movements during the weekday and Saturday peak hour, respectively, as shown in Figures 9-1A and 9-1B. Additionally, in both 2009 and in 2011 the number of pedestrian/bicyclist injury crashes was lower with three and two crashes, respectively, than in 2010. The average of 3.3 pedestrian/bicyclist injury crashes per year over the course of the three analyzed years also indicates that this intersection is typically a safe location for pedestrians and bicyclists. Although this intersection is equipped with marked crosswalks and pedestrian signals at all four pedestrian crossings, as well as with markings for the bike lane along Neptune Avenue, pedestrian and bicyclist safety could potentially be improved by renewing the existing road markings for increased visibility.

It should also be noted that truck entrance/exit maneuvers at the loading docks for the proposed project at the south end of West 22nd Street would potentially require the use of a portion of the park, depending on the size of the truck. ~~Staff would be present to oversee these maneuvers at move in/out (typically in the overnight period) to avoid vehicular and/or pedestrian conflicts.~~ Two staff members (Production Manager & Security Chief) would be present for all truck arrivals to ensure pedestrian and vehicular safety. The two staff members would oversee two critical maneuvers, which would typically occur in the overnight period: 1) the forward entrance into the park and 2) backing the trucks into the loading dock bays. The Applicant would be responsible for costs associated with the deployment of staff members for maneuvering trucks at the loading docks. The specifics of the operating plan would be refined over time based on actual operation conditions once the facility has opened~~Staffing and operational details will be stated in a commitment letter, that will be provided by the applicant between DEIS and FEIS.~~ It is anticipated that parking regulations along West 22nd Street in the vicinity of the loading docks would have to be modified in coordination with NYCDOT to facilitate the truck maneuvers.

TABLE 9-33
Summary Motor Vehicle Accident Data 2009-2011

Intersection		Pedestrian Injury Accidents			Bicycle Injury Accidents			Total Pedestrian/Bicyclist Injury Accidents			Total Accidents (Reportable + Non-Reportable)		
East-West Roadway	North-South Roadway	2009	2010	2011	2009	2010	2011	2009	2010	2011	2009	2010	2011
Bay 52nd Street	Cropsey Avenue	0	0	0	0	0	0	0	0	0	1	5	4
Bay 50th Street	Cropsey Avenue	0	1	3	0	0	1	0	1	4	21	13	17
Shore Parkway WB Service Road	Shell Road	0	0	0	0	0	0	0	0	0	1	0	3
Shore Parkway EB Service Road	Shell Road	0	0	0	0	0	0	0	0	0	0	0	1
Neptune Avenue	W. 22nd Street	0	0	0	0	0	0	0	0	0	1	1	0
	W. 21st Street	0	0	0	0	0	0	0	0	0	2	6	4
	W. 20th Street	0	0	0	0	0	0	0	0	0	2	2	4
	W. 19th Street	0	0	0	0	0	0	0	0	0	2	1	4
	Cropsey Avenue	2	0	0	2	0	2	4	0	2	11	10	13
	Stillwell Avenue	1	4	2	2	1	0	3	5	2	13	16	11
	W. 12th Street	0	3	1	0	0	0	0	3	1	3	8	5
	W. 8th Street	0	0	1	0	0	1	0	0	2	10	11	8
Mermaid Avenue	W. 22nd Street	0	0	0	0	0	0	0	0	0	0	1	1
	W. 21st Street	0	0	0	0	0	0	0	0	0	0	1	0
	W. 20th Street	0	0	0	0	0	0	0	0	0	2	1	0
	W. 19th Street	0	0	0	0	1	1	0	1	1	1	2	2
	W. 17th Street	1	3	4	0	0	0	1	3	4	4	4	3
Surf Avenue	W. 22nd Street	0	0	0	0	0	0	0	0	0	0	3	2
	W. 21st Street	1	0	1	2	1	0	3	1	1	6	2	3
	W. 20th Street	1	0	1	0	0	0	1	0	1	2	0	1
	W. 19th Street	0	0	1	0	2	0	0	2	1	0	3	1
	W. 17th Street	0	0	1	0	0	1	0	0	2	3	0	2
	W. 16th Street	0	2	0	0	0	0	0	2	0	0	2	0
	W. 15th Street	0	0	0	0	0	0	0	0	0	4	1	0
	Stillwell Avenue	0	0	3	0	0	0	0	0	3	5	2	4
	W. 12th Street	0	0	3	0	0	0	0	0	3	1	1	2
	W. 10th Street	1	0	0	0	0	0	1	0	0	2	1	0
	W. 8th Street	0	0	4	0	0	0	0	0	4	3	2	6

K. PARKING

Existing Conditions

Off-Street

As shown in Figure 9-11 and Table 9-34, seven off-street parking lots[5] in proximity to the project site were considered, including the 750-space MCU Park main parking lot directly adjacent to the project site, located south of Surf Avenue with its entrance and exit located at West 19th Street. Once this main parking lot is full, drivers are typically directed by traffic enforcement agents to its 200-space Satellite lot located one block farther east between West 22nd Street and West 21st Street south of Surf Avenue. Other off-street parking facilities include a 300-space privately owned lot north of Surf Avenue between West 17th Street and West 16th Street, the 132-space Gargiulo's Restaurant's lot on West 15th Street north of Surf Avenue, the 26-space Nathan's parking lot on West 15th Street south of Surf Avenue and a

[5] Parking fees for these off-street parking facilities range from $10 to $13.

Seaside Park and Community Arts Center

Figure 9-11

On-Street Zones and Regulations & Off-Street Parking Facilities

150-space privately owned lot on West 12th Street north of Surf Avenue. The 350-space Aquarium parking lot is located approximately 0.6 miles east of the project site, south of Surf Avenue at West 8th Street. As shown in Table 9-34, there is a significant difference in off-street parking utilization between game day and non-game day, with 80% utilization and approximately 378 available off-street parking spaces on a Saturday game day at MCU Park, 79% utilization rate and approximately 406 available off-street parking spaces on a weekday game day at MCU park and only 21% utilization resulting in approximately 1,502 available off-street parking spaces on a weekday when no game is going on. The concurrent game at MCU Park scenario is used for analysis, although as noted earlier, this condition would occur fewer than ten times per year.

TABLE 9-34
Existing Off-Street Parking Facilities

No.	Location	Capacity	Thursday 6/20/13* (6:30 PM - 7:00 PM) Occupancy		Thursday 6/27/13 (6:30 PM - 7:00 PM) Occupancy		Saturday 6/29/13* (5:30 PM - 6:00 PM) Occupancy		Available Spaces
1	MCU Park Satellite Parking Lot [1]	200	200	100%	0	0%	150	75%	50
2	MCU Park Main Parking Lot	750	750	100%	63	8%	750	100%	0
3	Lot North of surf Ave at W. 17th St.	300	300	100%	85	28%	294	98%	6
4	Nathan's Lot on W. 15th St.	26	23	88%	22	85%	26	100%	0
5	Commercial Lots at W. 12th St.	150	132	88%	132	88%	145	97%	5
6	Gargiulo Restaurant Lot [2]	132	60	45%	50	38%	102	77%	30
7	Aquarium Lot [3]	350	37	11%	54	15%	63	18%	287
	Total	1908	1502	79%	406	21%	1530	80%	378

Notes:

* - Denotes game day at MCU Park.

[1] MCU Park Satellite Parking Lot opens once Main Parking Lot is full.

[2] 2/3 of 198-space Gargiulo Restaurant Parking Lot are open to the public.

[3] Aquarium Lot open for night parking until 2 AM.

On-Street

Under *CEQR Technical Manual* guidelines, on-street parking within a ½-mile radius of the project site was inventoried to determine the capacity and approximate utilization during the weekday and Saturday pre-event peak hours. The on-street parking inventory focuses on six zones. As shown in Figure 9-11, Zone 1 and Zone 6 are located north of Neptune Avenue and divided by Stillwell Avenue. Zones 2 and 3 are located west of Stillwell Avenue and divided by Mermaid Avenue. Zone 4 is located south of Surf Avenue while Zone 5 is located north of Surf Avenue and east of Stillwell Avenue. It should be noted that, although Zone 6 in its entirety is located outside the ½-mile radius, as shown in Figure 9-11, concert-goers are expected to park in the south-western portion of the zone, so that the walking distance would minimally exceed 0.5 miles. As shown in Figure 9-11 and Table 9-35, on-street parking in the analyzed parking zones is generally governed by alternate-side-of-the-street parking regulations to facilitate street cleaning. It should be noted that these regulations are typically in effect before the analyzed pre-event peak hours. Accounting for curbside regulations and curb cuts, fire hydrants and other obstructions to curbside parking, there are a total of approximately 2,230 legal on-street parking spaces within the six zones, as shown in Table 9-36.

TABLE 9-35
On-Street Parking Regulations

	No Standing
1	Anytime
2	Anytime Except Authorized Vehicles
3	Anytime June 15 – Sept. 15
4	Bus Stop
5	Except Trucks Loading & Unloading 7 AM – 7 PM except Sunday
6	6 AM – 2 PM Except Sunday
7	7 AM – 4 PM School Days
8	9 AM – 7 PM Mon – Fri Except Authorized Vehicles
	No Parking
9	Anytime
10	7 AM – 4 PM School Days
11	7 AM – 7 PM Except Sunday
12	7:30 – 8 AM Monday & Thursday
13	7:30 – 8 AM Tuesday & Friday
14	7:30 – 8 AM Except Sunday
15	7:30 – 8 AM Mon Tues Thurs Fri
16	8 – 8:30 AM except Sunday
17	8 – 9 AM Monday & Thursday
18	8 – 9 AM Tuesday & Friday
19	8 – 9 AM Except Sunday
20	8 – 9:30 AM Monday & Thursday
21	8 – 9:30 AM Tuesday & Friday
22	8 AM – 6 PM Monday through Friday
23	8 AM – 8 PM Monday through Friday
24	9 – 10:30 AM Monday & Thursday
25	9 – 10:30 AM Tuesday & Friday
26	9:30 – 11 AM Tuesday
27	9:30 – 11 AM Thursday
28	9:30 – 11 AM Monday & Thursday
29	9:30 – 11 AM Tuesday & Friday
30	11:30 AM – 1 PM Thursday
31	11:30 AM – 1 PM Friday
	Parking Requirements
32	Back-in 60 Degree Parking Only
33	Back-in 90 Degree Parking Only
	Parking Meter Regulations
34	2-Hour Muni-Meter Parking 8 AM – 7 PM Except Sunday
35	2-Hour Muni-Meter Parking 8:30 AM – 10:00 PM Except Sunday
36	2-Hour Parking June – August 8:30 AM – Midnight Except Sunday
37	2-Hour Parking September – May 8:30 AM – 7 PM Except Sunday
38	P Muni-Meter Pay & Display in Vehicle

During the weekday pre-event, field observations indicate that on-street parking is approximately 83% occupied, with approximately 371 curbside parking spaces available. During the Saturday pre-event period when overall demand is greater due to recreational weekend visitors, on-street parking is approximately 89% utilized with approximately 250 curbside parking spaces available. It should be noted that West 15th Street south of Surf Avenue has a capacity of approximately 55 on-street parking spaces; however, this portion of roadway is currently under construction and, therefore, is not included in the existing parking capacity numbers.

TABLE 9-36
Existing On-Street Parking Conditions by Zone

Parking Zone	Capacity	Thursday 6/20/13* (6:30 PM - 7:00 PM)		Saturday 6/29/13* (5:30 PM - 6:00 PM)	
		Occupied Spaces	Available Spaces	Occupied Spaces	Available Spaces
Zone 1	251	203	48	218	33
Zone 2	550	477	73	477	73
Zone 3	531	444	87	472	59
Zone 4	375	298	77	318	57
Zone 5	295	244	51	277	18
Zone 6	228	193	35	206	22
Total	2230	1859	371	1968	262

Notes:
* - Denotes game day at MCU Park

Table 9-37 shows the combined on-street and off-street existing parking conditions in the parking study area. As shown in Table 9-37, under existing conditions, parking utilization is approximately 81% and 85% during the weekday and Saturday, respectively.

TABLE 9-37
Existing Parking Conditions in ½-Mile Radius

Location	Capacity	Weekday*		Saturday*	
		Utilization	Available space	Utilization	Available space
On-Street Parking	2,230	1,859	371	1,968	262
Off-Street Parking	1,908	1,502	406	1,530	378
Total	4,138	3,361	777	3,498	640
Existing Parking Percentages		81%	19%	85%	15%

Notes:
* - Denotes game day at MCU Park.

The Future without the Proposed ~~Action~~ Project (No-Action Condition)

Background growth in the study area is expected to increase the demand for on-street and off-street parking under the No-Action conditions. A background growth rate of 0.5 percent per year was applied to the existing parking volumes as per the *CEQR Technical Manua*l. Table 9-38 shows that, under No-Action conditions, there would be a total of approximately 2,285 legal on-street parking spaces within the six analyzed parking zones and approximately 1,908 off-street parking spaces. The increase of approximately 55 spaces in the on-street parking spaces is due to the completion of construction on West 15th Street south of Surf Avenue. Parking demand associated with the No-Action development scenario for the project site would be fully accommodated on site, as specified in the 2009 *Coney Island Rezoning FEIS*. The total parking utilization on game days would increase to approximately 83% and 86% with approximately 728 and 587 available parking spaces on a weekday and Saturday, respectively.

TABLE 9-38
No-Action Parking Conditions in ½-Mile Radius

Location	Capacity	Weekday		Saturday	
		Utilization	Available space	Utilization	Available space
On-Street Parking	2,285	1,887	398	1,998	287
Off-Street Parking	1,908	1,525	406	1,553	355
Demand from Child Restaurant	--	53	--	55	--
Total	4,193	3,465	728	3,606	587
No-Action Parking Percentages		83%	17%	86%	14%

Notes:
Additional 55 on-street parking spaces would be available on W.15th Street south of Surf Avenue
Background growth of 0.5% per year added to existing demand.
Child Restaurant demand is added to utilization volumes.

The Future with the Proposed ~~Action~~ Project (With-Action Condition)

The proposed action with a concert-generated demand of 6,000 at the amphitheater would generate a parking demand of approximately 1,030 and 937 parking spaces on a weekday and Saturday, respectively, based on the auto share and vehicle occupancy rates shown in Table 9-1. It should be noted that this demand could be accommodated by the existing off-street parking facilities shown in Table 9-34 when no baseball game is going on at MCU Park, while the demand on a game day would exceed the number of available parking spaces, as discussed below.

As discussed above and shown in Table 9-38, approximately 728 and 587 combined on-street and off-street parking spaces would be available during the weekday and Saturday, respectively. It is proposed that, on days when a concert at the project site and a baseball game at ~~the~~ MCU Park would happen simultaneously (fewer than ten times per year), the MCU Park Satellite lot and the Aquarium Parking lot would be operated as attended parking facilities, increasing their combined capacity by 355 spaces. This would increase the combined on-street and off-street parking availability to approximately 1,136 and 942 spaces during the weekday and Saturday, respectively, compared to the expected demand of 1,030 and 937 spaces respectively. As shown in Table 9-39, approximately 53 and 5 combined on-street and off-street parking spaces would be available under With-Action conditions.

As noted earlier, the Aquarium parking lot is located approximately 0.6 miles east of the project site, which exceeds the typically acceptable walking distance. Therefore, as ~~P~~part of the proposed action, on days when a concert at the development site and a baseball game at MCU Park would occur simultaneously, ~~is therefore~~ a free shuttle service ~~that~~ would operate on Surf Avenue between the Aquarium parking lot and the project site. The Applicant has had discussions with the NY Aquarium, which has agreed to provide their Aquarium parking lot during events. The shuttle service would operate with a frequency of approximately 10 minutes and a capacity of approximately 40 to 45 persons per bus, which is the typical capacity of a school bus. The shuttle service would operate during the pre-event and post-event hours from approximately 6 PM to 12 AM. The Applicant would be responsible for all costs associated with the operation of shuttle service. The specifics of the operating plan would be refined over time based on actual operation conditions once the facility has opened. This measure would help patrons park within an approximate 0.6-mile radius of the project site by providing assured

parking and transportation to the project site. ~~Specifications regarding the shuttle operations. will be stated in a commitment letter that will be provided by the applicant between DEIS and FEIS.~~

With these proposed measures in place, the parking demand of 1,030 and 937 spaces during the weekday and Saturday, respectively, would be accommodated. Therefore, it is not expected that the proposed action would result in any significant adverse parking impacts.

TABLE 9-39
With-Action Parking Conditions in ½-Mile Radius

Location	Capacity	Weekday		Saturday	
		Utilization	Available space	Utilization	Available space
On-Street Parking	2,285	1,887	398	1,998	287
Off-Street Parking	1,908	1,525	383	1,553	355
Demand from Project & Child Restaurant	--	1,083	--	992	--
Additional capacity from attended parking in Lot 1 &7	355				
Total	4,548	4,495	53	4,543	5
With-Action Parking Percentages		99%	1%	100%	0%