

2. FUTURE CONDITIONS (2015)

2.1 Demographics

The future (2015) demographics of the Study Area, Brooklyn, and New York City are expected to increase modestly as they have in the preceding decades. Projections of future population and other demographic characteristics in the Study Area, Brooklyn, and New York City, relied on a trend analysis as well as population projections made by the New York Metropolitan Transportation Council (NYMTC). The future conditions analysis for the Study Area examines population trends, household size, and vehicle ownership in an attempt to better estimate and forecast travel behavior in the Study Area.

Population projections for 2015 and 2025 for New York City, Brooklyn, and the Study Area show a growth rate that is similar to past census decades. It is anticipated that the Study Area's population will increase at a slightly lower rate between 2000-2015 and 2015-2025 than in the previous years when the population increased by an average of six percent. Table 2.1-1 shows the population for the past two decades and projections for the Study Area, Brooklyn, and New York City. Figure 2.1-1 shows the Study Area's census tracts.

Table 2.1-1: Population of New York City, Brooklyn and the Study Area (1980-2025)

Census Year/ Geographic Unit	1980	1990	% Change ('80-'90)	2000	% Change ('90-'00)	Proj. Pop. 2015	% Change ('00-'15)	Proj. Pop. 2025	% Change ('15-'25)
New York City	7,071,639	7,322,564	3.5	8,008,278	9.4	8,224,700	6	8,446,400	6.5
Brooklyn	2,230,900	2,300,664	3.1	2,465,326	7.2	2,501,000	5.1	2,529,500	5.1
Study Area	166,490	164,560	-1.2	176,525	7.3	187,932	3.1	199,412	3.1

Figure 2.1-1: Study Area Census Tracts

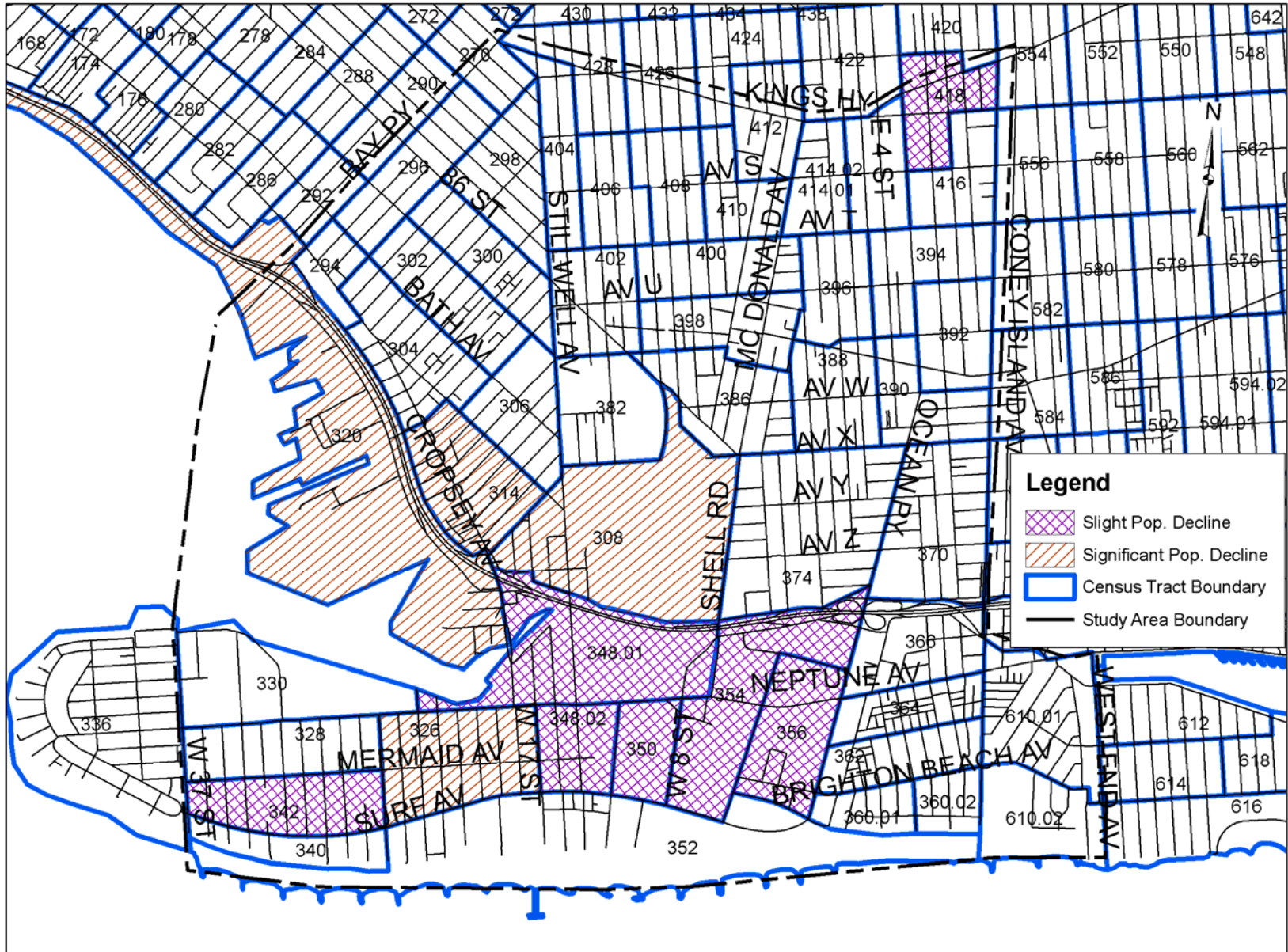


Table 2.1-2 shows the Study Area's population by Census Tract for 1980, 1990, and 2000 as well as projections for 2015 and 2025. Between 1980 and 1990, 71% of the census tracts experienced a decline in population, but between 1990 and 2000 only 17% of the census tracts experienced population decline. Of the fifty three census tracts, eleven (308, 314, 320, 342, 350, 352, 354, 356, 382, 410, and 418) experience a decrease in population between 1980 and 2000. The population decrease in these census tracts ranged from 3.8% to 65.5%.

The growth in the Study Area's population is due to natural increase as well as new developments coming to the area. This general population growth in the number of household and auto ownership translates potentially into more auto trips in the Study Area.

2.1.1 .Household Characteristics

The number of households and average household size in New York City, Brooklyn, and the Study Area is expected to increase through time. The number of households in New York City will decrease slightly even though there will be an increase in population in Brooklyn and the Study Area. However, the average household size is expected to increase. Table 2.1-3 shows the projected household characteristics in New York City, Brooklyn, and the Study Area.

Table 2.1-2: Population by Census Tract (1980-2025)

Tract No.	Portion in Study Area	1980	1990	% Change ('80-'90)	2000	% Change ('90-'00)	2015	% Change ('00-'15)	2025	% Change ('15-'25)	% Change (80-25)
270*	50%	954	1,005	5.4%	1,186	18.0%	1,334	12.5%	1,502	13.5%	57.5%
294	100%	2,046	2,237	9.3%	2,277	1.8%	2,422	6.4%	2,579	7.3%	26.1%
296	100%	4,577	4,566	-0.2%	5,343	17.0%	5,835	9.2%	6,379	10.2%	39.4%
298	100%	3,109	2,842	-8.6%	3,433	20.8%	3,670	6.9%	3,929	7.9%	26.4%
300	100%	3,272	3,089	-5.6%	3,627	17.4%	3,871	6.7%	4,136	7.7%	26.4%
302	100%	3,628	3,236	-10.8%	3,742	15.6%	3,862	3.2%	3,992	4.2%	10.0%
304	100%	3,605	3,503	-2.8%	3,966	13.2%	4,204	6.0%	4,462	7.0%	23.8%
306	100%	1,706	1,714	NA	1,893	10.4%	2,012	6.3%	2,140	9.9%	25.4%
308	100%	1,872	1,641	-12.3%	1,678	2.3%	1,606	-4.3%	1,540	-3.3%	-17.7%
314	100%	5,146	4,471	-13.1%	4,501	0.7%	4,253	-5.5%	4,031	-4.5%	-21.7%
320	100%	239	174	-27.2%	60	-65.5%	32	-45.9%	17	-44.7%	-92.9%
326	100%	6,723	8,435	25.5%	7,247	-14.1%	7,718	6.5%	8,230	7.5%	22.4%
328	100%	1,925	2,861	48.6%	3,198	11.8%	4,196	31.2%	5,497	32.0%	185.6%
330	100%	4,451	5,435	22.1%	5,288	-2.7%	5,845	10.5%	6,467	11.5%	45.3%
340	100%	2,387	2,245	-5.9%	2,641	17.6%	2,817	6.7%	3,008	7.6%	26.0%
342	100%	7,788	8,227	5.6%	7,299	-11.3%	7,147	-2.1%	7,016	-1.1%	-9.9%
348.01	100%	530	432	-18.5%	1,060	145.4%	1,746	64.7%	2,864	65.4%	440.4%
348.02	100%	760	659	-13.3%	956	45.1%	1,116	16.8%	1,303	17.7%	71.4%
350	100%	3,924	3,309	-15.7%	3,579	8.2%	3,471	-3.0%	3,375	-2.0%	-14.0%
352	100%	1,348	1,190	-11.7%	1,215	2.1%	1,165	-4.1%	1,121	-3.1%	-16.8%
354	100%	6,576	6,092	-7.4%	5,622	-7.7%	5,238	-6.8%	4,896	-5.8%	-25.5%
356	100%	9,268	9,085	-2.0%	8,164	-10.1%	7,728	-5.3%	7,338	-4.3%	-20.8%
360.01	100%	3,078	3,555	15.5%	3,464	-2.6%	3,716	7.3%	3,991	8.2%	29.7%
360.02	100%	3,815	3,951	3.6%	4,230	7.1%	4,489	6.1%	4,770	7.1%	25.0%
362	100%	3,601	3,528	-2.0%	4,977	41.1%	5,994	20.4%	7,217	21.3%	100.4%
364	100%	1,944	1,667	-14.2%	2,711	62.6%	3,393	25.1%	4,242	26.0%	118.2%
366	100%	3,510	3,952	12.6%	4,173	5.6%	4,587	9.9%	5,047	10.9%	43.8%
370	100%	3,883	3,428	-11.7%	4,062	18.5%	4,232	4.2%	4,416	5.2%	13.7%
374	100%	8,827	8,831	0.0%	9,211	4.3%	9,483	3.0%	9,781	3.9%	10.8%
382	100%	6,604	7,125	7.9%	6,161	-13.5%	6,033	-2.1%	5,923	-1.1%	-10.3%
386	100%	3,003	3,038	1.2%	3,377	11.2%	3,613	7.0%	3,869	7.9%	28.8%
388	100%	3,815	3,394	-11.0%	3,780	11.4%	3,815	0.9%	3,859	1.9%	1.2%
390	100%	2,186	2,019	-7.6%	2,248	11.3%	2,307	2.6%	2,372	3.6%	8.5%
392	100%	2,645	2,243	-15.2%	2,773	23.6%	2,912	5.0%	3,062	6.0%	15.8%
394	100%	2,512	2,168	-13.7%	2,592	19.6%	2,688	3.7%	2,793	4.7%	11.2%
396	100%	2,045	1,908	-6.7%	2,058	7.9%	2,086	1.4%	2,118	2.3%	3.6%
398	100%	2,120	1,806	-14.8%	2,452	35.8%	2,730	11.3%	3,041	12.3%	43.4%
400	100%	2,826	2,638	-6.7%	2,878	9.1%	2,935	2.0%	3,000	3.0%	6.2%
402	100%	2,236	2,016	-9.8%	2,568	27.4%	2,815	9.6%	3,087	10.5%	38.1%
404	100%	2,089	1,922	-8.0%	2,065	7.4%	2,075	0.5%	2,089	1.5%	0.0%
406	100%	2,800	2,678	-4.4%	3,160	18.0%	3,401	7.6%	3,665	8.6%	30.9%
408	100%	2,769	2,614	-5.6%	2,893	10.7%	2,989	3.3%	3,093	4.3%	11.7%
410	100%	1,819	1,652	-9.2%	1,729	4.7%	1,703	-1.5%	1,681	-0.5%	-7.6%
412*	60%	1,404	1,334	-5.0%	1,630	22.2%	1,783	9.4%	1,952	10.4%	39.0%
414.01	100%	1,371	1,348	-1.7%	1,386	2.8%	1,405	1.3%	1,426	2.3%	4.0%
414.02	100%	1,704	1,620	-4.9%	1,922	18.6%	2,069	7.7%	2,230	8.6%	30.9%
416	100%	1,727	1,628	-5.7%	2,574	58.1%	2,070	-19.6%	2,223	12.4%	28.8%
418*	75%	2,611	2,527	-3.2%	1,904	-24.7%	2,522	32.5%	2,511	3.0%	-3.8%
424*	25%	757	771	1.9%	914	18.4%	1,014	11.0%	1,126	11.9%	48.7%
426*	40%	1,306	1,385	6.0%	1,529	10.4%	1,667	9.0%	1,820	10.0%	39.3%
428*	50%	1,656	1,607	-3.0%	1,828	13.7%	1,941	6.2%	2,063	7.1%	24.6%
610.01	100%	7,497	7,442	-1%	8,519	14%	9,174	7.7%	9,890	8.6%	31.9%
610.02	100%	2,497	2,317	-7%	2,784	20%	2,987	7.3%	3,208	8.2%	28.5%
Study Area Total		166,490	164,560	-1%	176,525	7%	187,932	6.5%	199,412	6.1%	19.8%

*Partially included in the Study Area.

Table 2.1-3: Household Characteristics for New York City, Brooklyn, and the Study Area (1980-2025)

Census Year	New York City	% Change	Brooklyn	% Change	Study Area	% Change
1980						
Population	7,071,639		2,230,936		166,490	
Households	3,502,233		828,257		68,023	
Persons Per Household	2.02		2.69		2.45	
1990						
Population	7,322,564	3.55	2,300,664	3.13	164,560	-1.16
Households	2,819,401	-19.50	827,679	-0.07	67,268	-1.11
Persons Per Household	2.60	28.63	2.78	3.20	2.45	-0.05
2000						
Population	8,008,278	9.36	2,465,326	7.16	176,560	7.29
Households	3,220,442	14.22	881,006	6.44	71,927	6.93
Persons Per Household	2.49	-4.25	2.80	0.67	2.45	0.34
2015						
Population	8,224,700	2.70	2,501,000	1.45	187,932	6.44
Households	3,135,540	-2.64	909,080	3.19	74,019	2.91
Persons Per Household	2.79	12.19	2.85	1.93	2.46	0.15
2025						
Population	8,446,400	2.70	2,529,500	1.14	197,414	5.05
Households	3,052,876	-2.64	938,049	3.19	76,171	2.91
Persons Per Household	3.13	12.19	2.91	1.93	2.46	0.15

2.1.2. Auto Ownership Characteristics and Journey to Work

Vehicle ownership rate have not shown significant changes in the past and a similar trend is expected in the future. Between 2000 and 2015 the number of households in Brooklyn without a vehicle is projected to decrease slightly from 55.8% to 54.9%, and in the Study Area, it is expected also to decrease from 51.0% to 49.1%. Households with one vehicle are expected to increase slightly in Brooklyn - from 33.9% to 34.6%, but decrease in the Study Area - from 34.6% to 33.3%. The pattern for households with two or more vehicles shows an insignificant change in Brooklyn and the Study Area. Overall, the vehicle ownership rate for Brooklyn is expected to increase from 44.2% to 45.1% between 2000 and 2015, and from 49.0% to 51.1% in the Study Area. Table 2.1-4 shows the past and projected households with zero, one, two and three or more vehicles in Brooklyn and Study Area.

Table 2.1-4: Number of Vehicles per Household (Brooklyn vs. Study Area)

Area/Year	Households	Zero	One	Two	Three+	Total Vehicles Owned
Brooklyn						
1980	711,940	278,073	319,765	96,632	17,479	433,867
%	100	39.1	44.9	13.6	2.5	60.9
1990	828,199	469,817	274,581	69,814	13,987	358,382
%	100	56.7	33.2	8.4	1.7	43.3
2000	848,234	473,162	287,642	72,000	15,430	375,072
%	100	55.8	33.9	8.5	1.8	44.2
2015	860,130	476,507	300,703	74,186	16,873	391,762
%	100	54.9	34.6	8.5	1.9	45.1
2025	852,500	481,272	303,710	74,928	17	395,680
%	100	55.4	35.0	8.6	2.0	45.6
Study Area						
1980	68,023	37,513	25,442	4,480	588	30,510
%	100	55.1	37.4	6.6	0.9	44.9
1990	67,268	36,531	23,884	5,884	1,092	30,860
%	100	54.3	35.5	8.7	1.6	45.9
2000	71,927	36,680	24,881	6,005	1,237	32,123
%	100	51.0	34.6	8.3	1.7	44.7
2015	75,703	37,193	25,229	6,090	1,254	32,573
%	100	49.1	33.3	8.0	1.7	43.0
2025	76,460	37,565	25,481	6,150	1,267	32,899
%	100	49.1	33.3	8.0	1.7	43.0

The journey-to-work data for 1990 and 2000 indicated that public transportation (bus, subway, and railroad) was the most utilized mode of transportation for residents in the Study Area, Brooklyn, and New York City. Under future condition 2015 (and 2025), these mode shares are not expected to change significantly with approximately 53.5% of the Study Area’s labor force using public transportation for journey-to-work compared to 52.3% and 56.7% for New York City and Brooklyn, respectively. The mode share therefore is not expected to show any significant change under future conditions. Also, the distribution of journey-to-work trips by mode as shown in Table 2.1-5 is not expected to change significantly under the projected future condition.

Table 2.1-5: Journey to Work by Mode - New York City, Brooklyn, and the Study Area (1980-2025)

Census Year/Mode	New York City	% Share	Brooklyn	% Share	Study Area	% Share
1980						
Automobile	567,774	26.3	222,836	28.6	18,662	31.4
Bus/Streetcar	278,273	12.9	88,900	11.4	4,508	7.6
Subway/Railroad	846,047	39.1	389,983	50.0	30,882	51.9
Walk	384,393	17.8	72,149	9.3	4,518	7.6
Other	84,819	3.9	6,036	0.8	903	1.5
1990						
Automobile	1,036,654	33.4	283,765	31.3	23,761	38.0
Bus/Streetcar	411,415	13.2	107,343	11.8	5,484	8.8
Subway/Railroad	1,223,062	39.4	412,842	45.5	26,997	43.2
Walked	340,077	10.9	75,664	8.3	4,922	7.9
Other	95,061	3.1	27,396	3.0	1,313	2.1
2000						
Automobile	1,049,396	33.9	274,301	30.4	21,612	35.2
Bus/Streetcar	369,509	11.9	95,566	10.6	5,838	9.5
Subway/Railroad	1,250,367	40.3	415,496	46.1	26,978	44.0
Walked/Biked	347,288	11.2	78,933	8.8	5,148	8.4
Other	83,359	2.7	36,731	4.1	1,752	2.9
2015						
Automobile	1,077,730	26.3	278,141	30.4	21,915	35.2
Bus/Streetcar	376,899	9.2	96,904	10.6	5,920	9.5
Subway/Railroad	1,275,374	31.2	421,313	46.1	27,356	44.0
Walked/Biked	1,275,374	31.2	80,038	8.8	5,220	8.4
Other	85,610	2.1	37,245	4.1	1,777	2.9
2025						
Automobile	1,106,828	27.1	285,651	31.3	22,506	36.2
Bus/Streetcar	387,075	9.5	99,520	10.9	6,080	9.8
Subway/Railroad	1,309,809	32.0	432,688	47.4	28,094	45.2
Walked/Biked	1,309,809	32.0	82,199	9.0	5,361	8.6
Other	87,921	2.1	38,251	4.2	1,824	2.9

2.2 Land Use and Zoning

Future land use in the Study Area can vary according to the distribution of vacant lots and development opportunities. As such it is expected that land use changes in the northern portion of the Study Area will primarily be in-fill residential developments on vacant lots scattered throughout the area. On the other hand, in the southern portion of the Study Area, particularly in Coney Island, significant changes are expected with potential major urban development projects having, residential, commercial, office and recreational components.

For several decades portions of Coney Island languished in blight as demographic changes and population shifts eroded the economic base that once made it a vibrant community and destination location. Although Coney Island continued to function as a summer destination location, many residents and public officials thought that it was not living up to its full potential. Consequently, in September 2003, the Coney Island Development Corporation (CIDC) was formed to develop a strategic plan to revitalize the amusement/recreational area of Coney Island along Surf Avenue.

Based on preliminary plans released by the CIDC, Coney Island's redevelopment promises to completely change the look and feel of Coney Island. The preliminary plans include a multi-cultural center, mixed income housing, new parking options, year-round entertainment and cultural activities, a hotel/beach club/beach spa, new pedestrian streets, the reactivation of Shore Theatre and Child's Restaurant, a transit loop and ferry service, among other things. Most of the new developments associated with the work of the CIDC will occur along Surf Avenue. However, it is anticipated that the revitalization efforts will extend to other areas such as Stillwell Avenue, Mermaid Avenue, and Neptune Avenue. In recent years, revitalization efforts have been apparent with the development of residential units on vacant lots throughout Coney Island. They have also initiated improvement efforts for business entities along Mermaid Avenue. Figure 2.2-1 shows the vacant lots in the Study Area as well as the area where the Coney Island Development Corporation's urban development and revitalization program will be focused.

Figure 2.2-1: Vacant Land in the Study Area



An inventory of vacant lots in the Study Area shows that there is over 1,000,000 square feet of vacant land zoned for residential development, approximately 700,000 square feet zoned for commercial development, and approximately 200,000 square feet zoned for manufacturing. If these vacant lots are developed under existing zoning, approximately 986 residential units could be added to the Study Area. Table 2.2-1 shows a summary of vacant lots in the Study Area by community board.

Table 2.2-1: Vacant Lots by Community Boards

Community Board	Residential (sq. ft.)	Commercial (sq. ft.)	Manufacturing (sq. ft.)	Total (sq. ft.)
CB11	52,329	0	12,044	64,373
CB13	1,534,921	720,166	175,198	2,430,285
CB15	216,225	0	4,625	220,850
	1,803,475	720,166	191,867	2,715,508

It is expected that by 2015 many land use changes will occur in the Study Area resulting from developments stemming from CIDC's vision for Coney Island. The assumption is that approximately 822 residential units will be developed by 2015 and 549 by 2025. Additionally, 1,065,395 square feet of commercial floor space will be developed by 2015 and 111,307 by 2025. This is consistent with Land Use Alternatives 2 (moderate development) outlined in alternative future (development scenarios) in Technical Memo. No. 1.

2.3. Traffic and Transportation

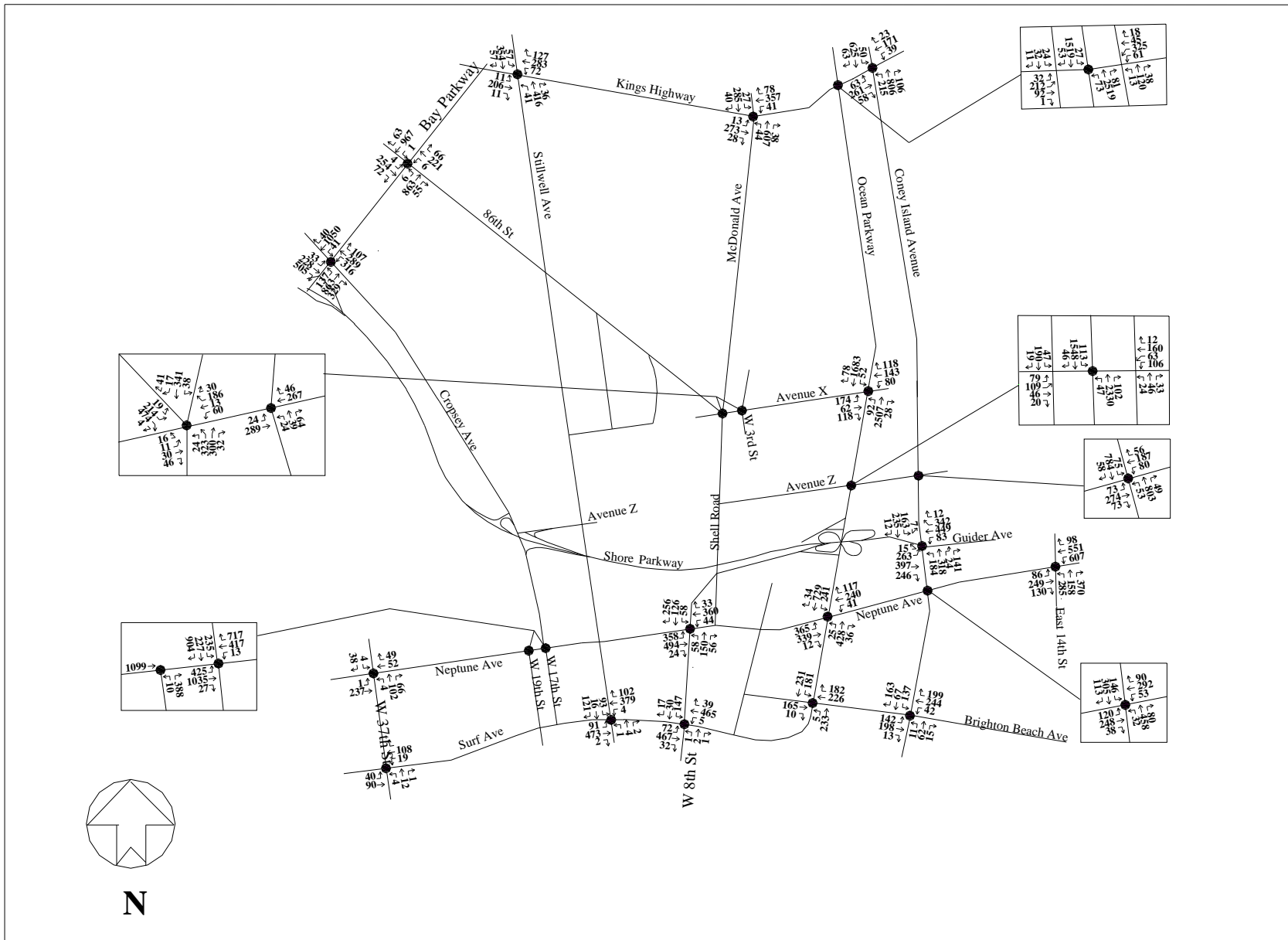
To assess the implications of the anticipated developments on the traffic and transportation systems with respect to congestion and safety the future 2015 and 2025 conditions analyzed 41 intersections in the Study Area for the AM (8:00 – 9:00), midday (1:00 – 2:00), PM (5:00 – 6:00), and Saturday (1:00 – 2:00) peak hours. Generally, the future traffic network is developed by applying a background growth, which is 1% for this area of Brooklyn, plus trips from new developments, consistent with the City Environmental Quality Review (CEQR) Technical Manual (2001). However, due to the large size of the study area and lack of specifics with respect to some planned developments, a 1.5% growth rate was applied to be conservative and to account for the background growth in traffic as well as the increase that will result from any developments in Coney Island. The 1.5% growth rate was applied to the 2002 base traffic volumes to develop the 2015 and 2025 traffic networks.

2.3.1. Traffic Analysis

Figures 2.3-1 to 2.3-4 and Figures 2.3-5 to 2.3-8 show the future 2015 and 2025 traffic volumes for the AM, midday, PM, and Saturday peak hours, respectively. These maps contain an abbreviated number of the intersections analyzed (volume maps with all the intersections analyzed are found in Appendix A. Table 2.3-1 shows the level of service (LOS) criteria for signalized intersections.

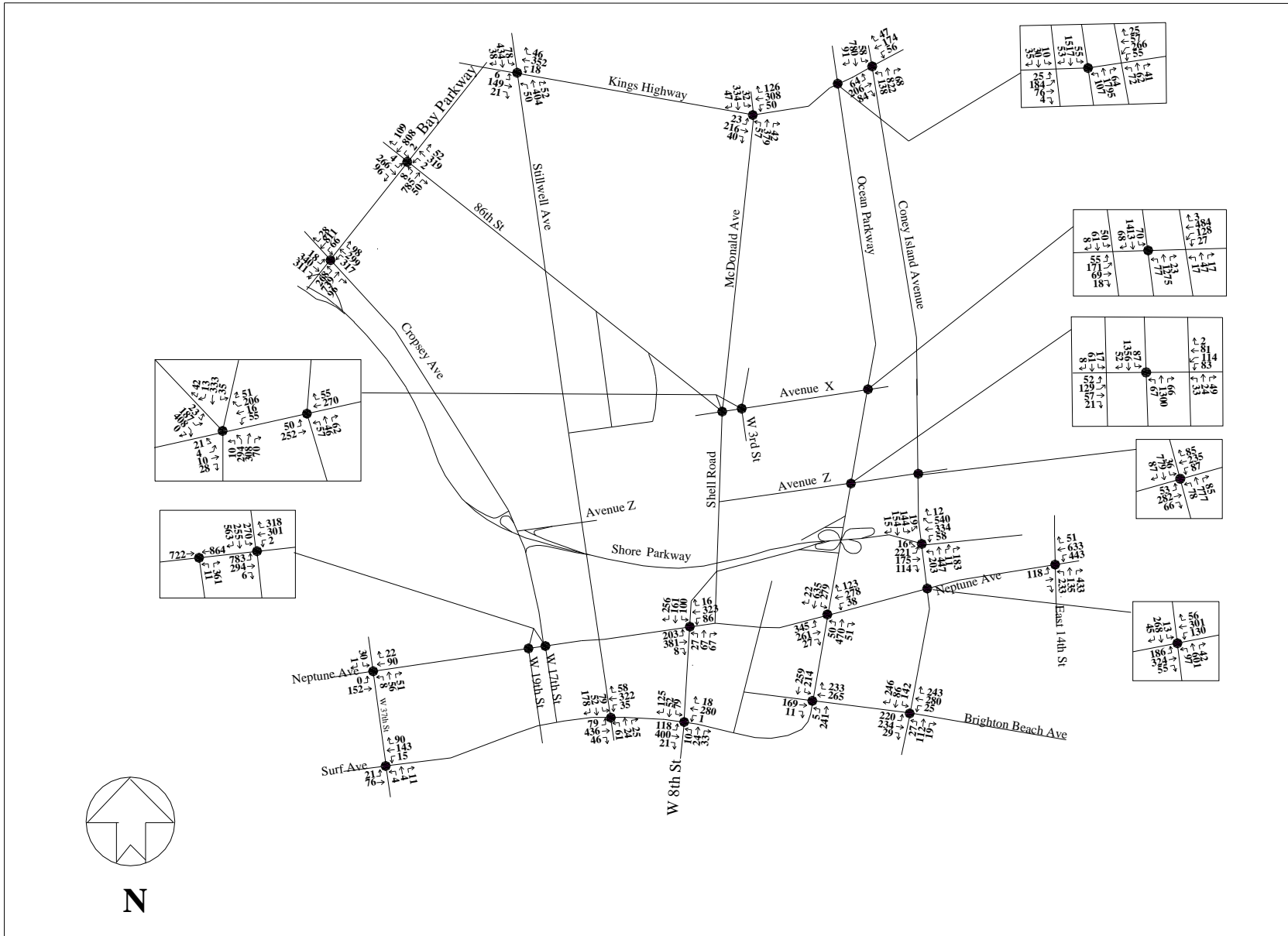
The capacity and LOS analyses for both future conditions show that in 2015, 22 of the 41 intersections analyzed are projected to have unacceptable LOS during at least one of the peak hours and 13 intersections will have an unacceptable LOS during all weekday peak hours. All, but three, of the 14 intersections analyzed for the weekend peak hour of operation had unacceptable LOS E or F. The three intersections expected to operate at acceptable LOS during the weekend peak hour are Kings Highway/Ocean Parkway, Kings Highway/Coney Island Avenue, and Surf Avenue/Stillwell Avenue. In 2025, 25 of the 41 intersections are projected to operate at an unacceptable LOS during at least one of the peak hours and 17 intersections are projected to have an unacceptable LOS during all weekday peak hours.

Figure 2-3.1: Future 2015 AM Peak Hour Volume*



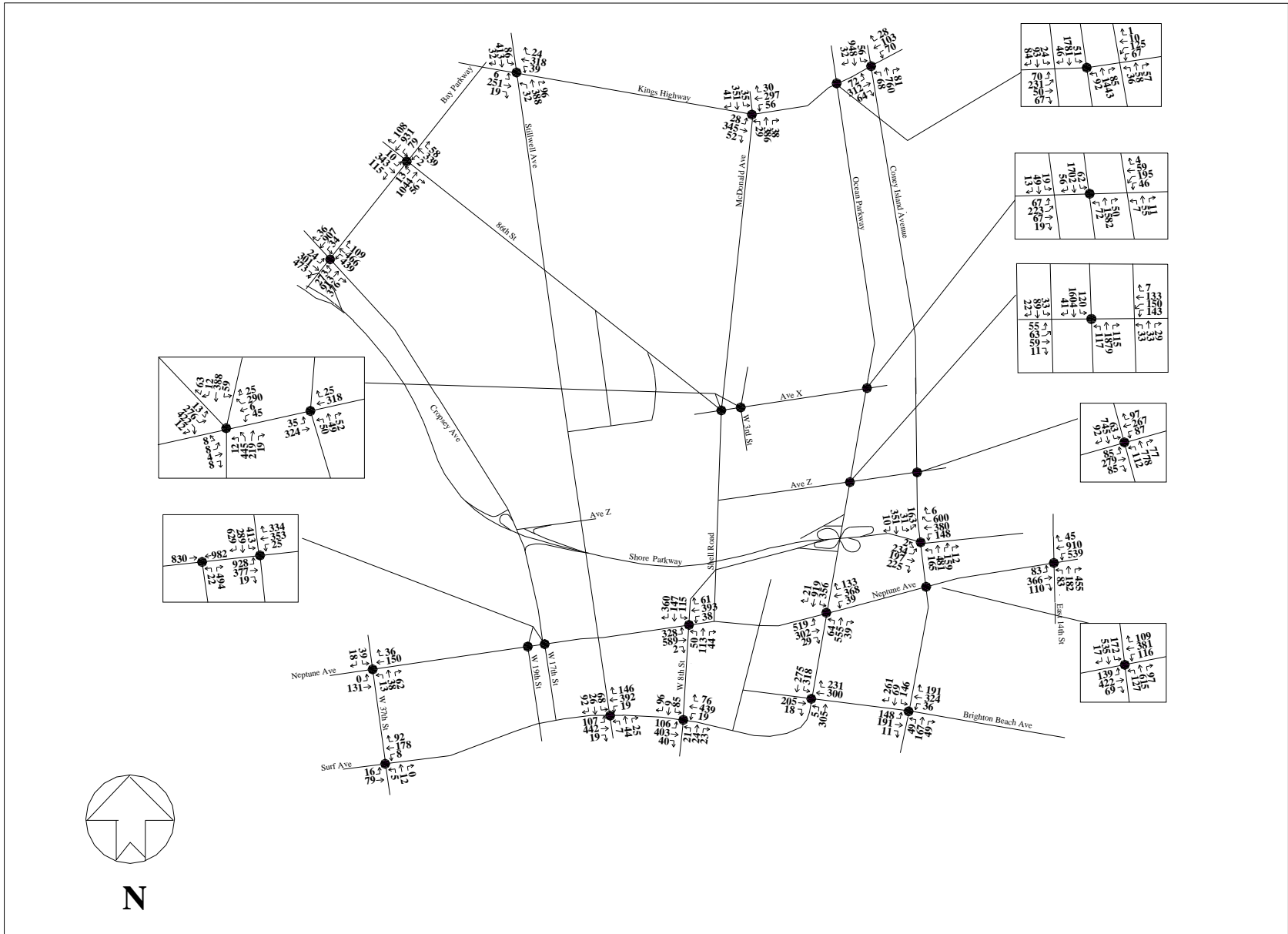
*See Appendix A for map with all intersections analyzed.

Figure 2.3-2: Future 2015 Midday Peak Hour Volume*



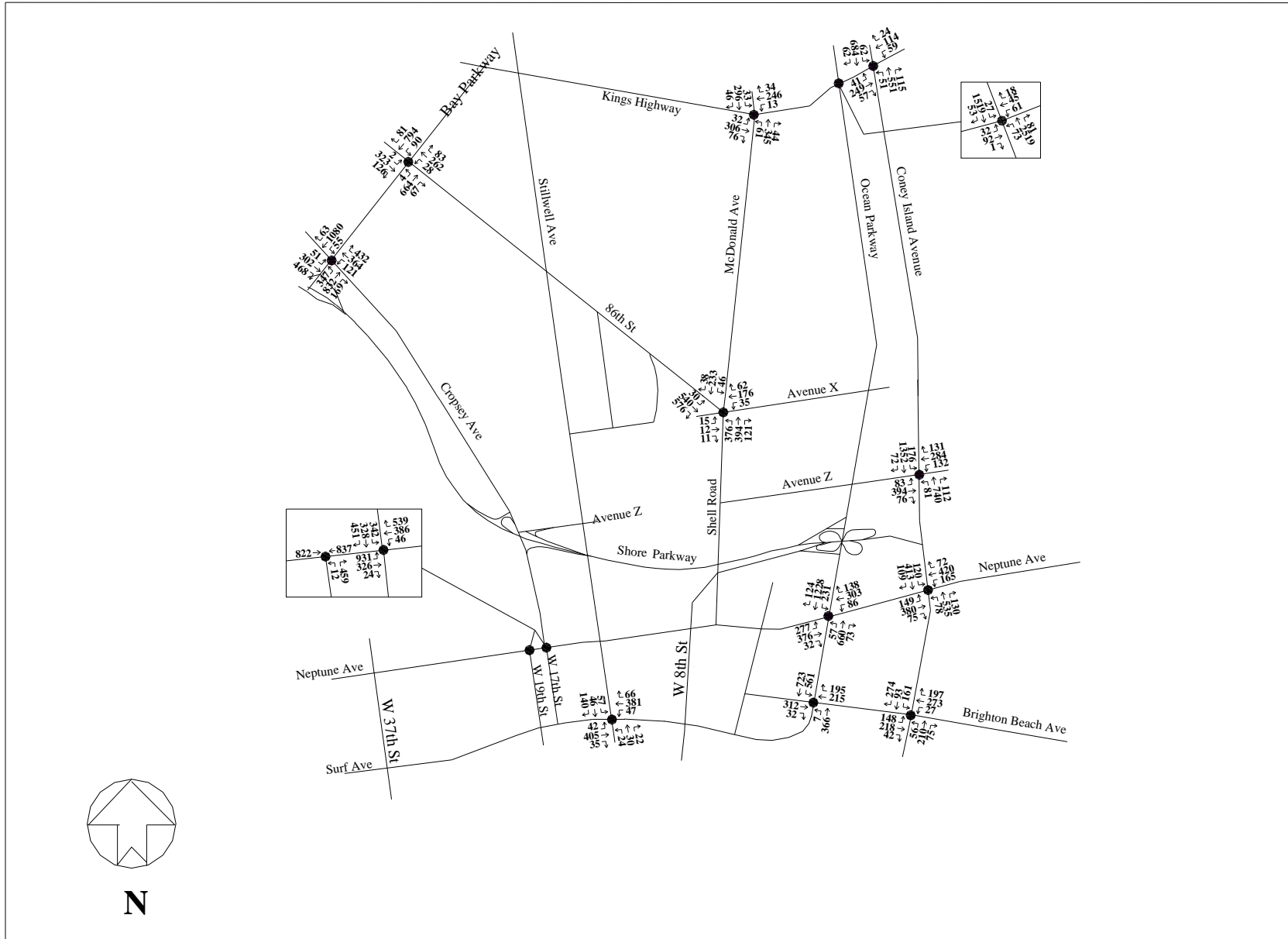
*See Appendix A for map with all intersections analyzed.

Figure 2.3-3: Future 2015 PM Peak Hour Volume*



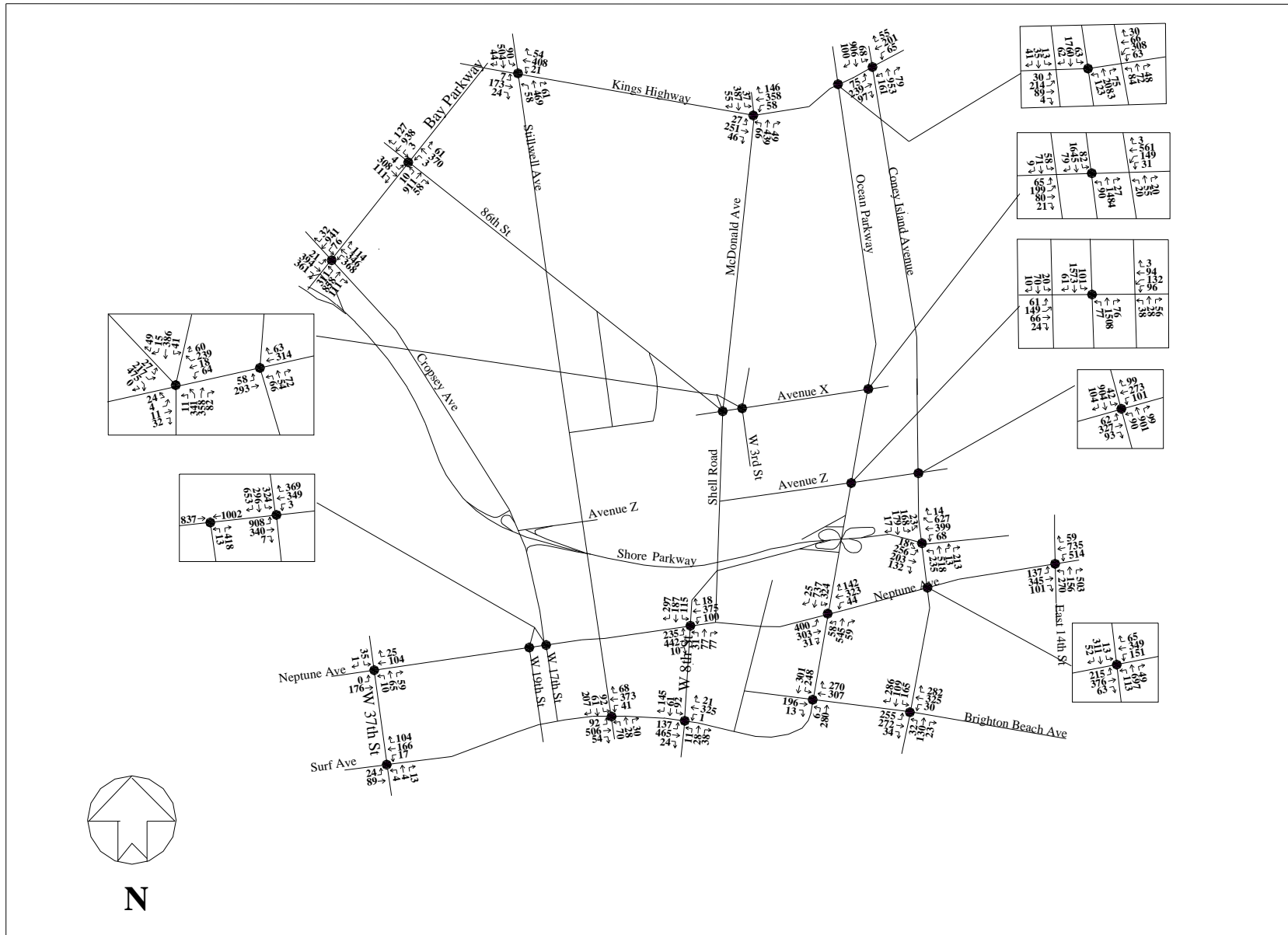
*See Appendix A for map with all intersections analyzed.

Figure 2.3-4: Future 2015 Saturday Midday Peak Hour Volume*



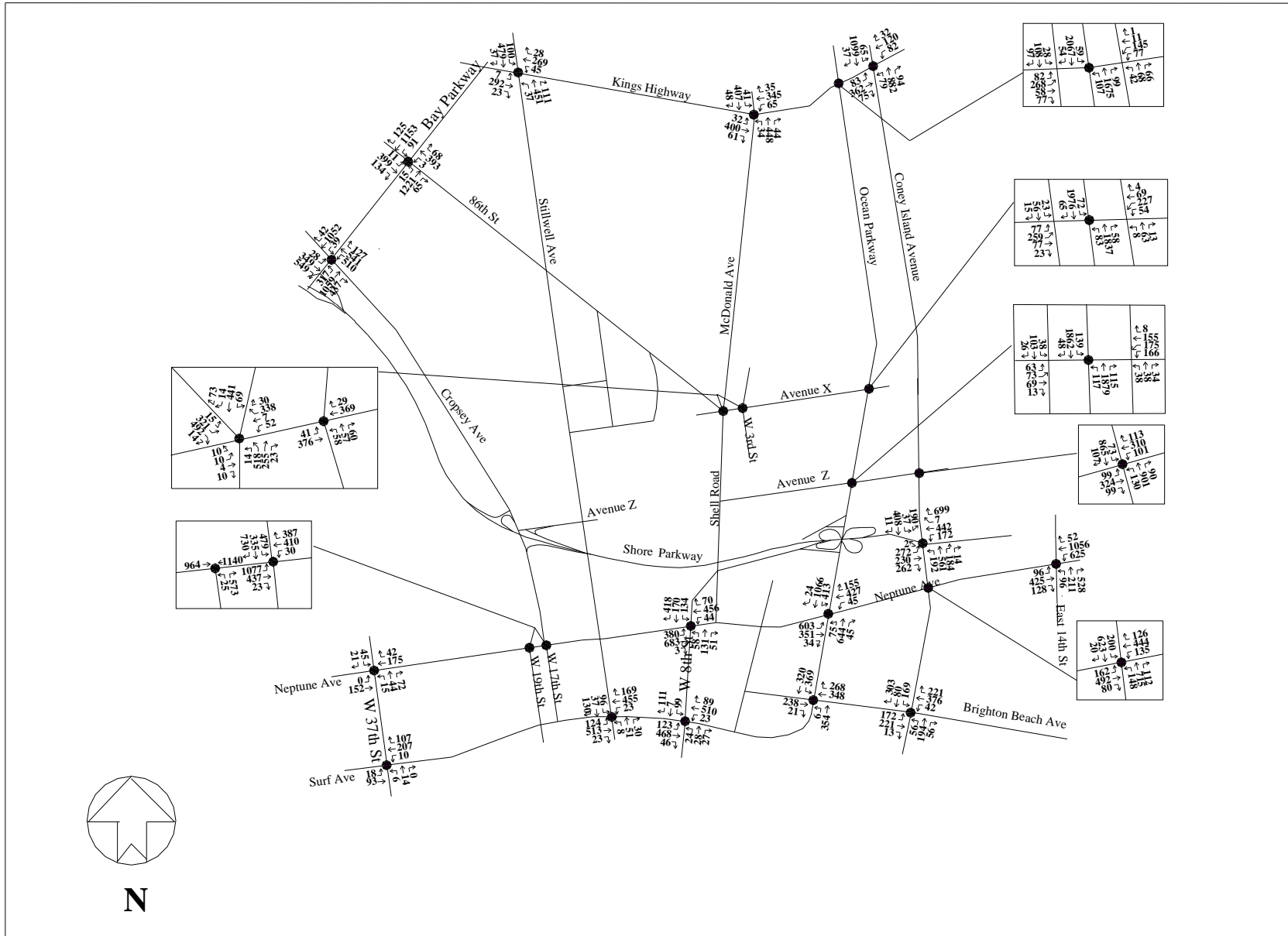
*See Appendix A for map with all intersections analyzed.

Figure 2.3-6: Future 2025 Midday Peak Hour Volume*



*See Appendix A for map with all intersections analyzed.

Figure 2.3-7: Future 2025 PM Peak Hour Volume*



*See Appendix A for map with all intersections analyzed.

Table 2.3-1: Signalized Intersection Level of Service

Level of Service (LOS)	Control Delay Per Vehicle	Description of Traffic Condition
A	< 10.0	Describe operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	10.1 to 20.0	Describes operations with control delay greater than 10 and up to 20 sec. per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	20.1 to 35.0	Describes operations with control delay greater than 20 and up to 35 sec. per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35.1 to 55.0	Describes operations with control delay greater than 35 and up to 55 sec. per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 to 80.0	Describes operations with control delay greater than 55 and up to 80 sec. per vehicle. This level of service is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	> 80	Describes operations with control delay in excess of 80 sec. per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factor to such delay levels.

Sources: Highway Capacity Manual, Special Report 209, Third Edition, Transportation Research Board, National Research Council, Washington, D.C. 1998.

Tables 2.3-2 and 2.3-3 show a summary of the level of service (LOS), delays, and volume to capacity (v/c) ratios for the future AM, midday, PM, and Saturday peak hours for 2015 and 2025, respectively. Below is a listing of the intersections operating at LOS D, E, and F for various peak hours for the 2015 future conditions. This information is also shown in Figures 2.3-9 to 2.3-12.

Intersections with LOS D (2015)

1. Kings Highway @ Ocean Parkway (midday, PM)
2. Kings Highway @ Coney Island Avenue (midday, PM)
3. Kings Highway @ Stillwell Avenue (AM)
4. Ocean Parkway @ Avenue W (midday, PM)
5. Ocean Parkway @ Avenue Z (midday, PM)
6. Shell Road/ West 8th St @ Neptune Avenue (AM, PM)
7. Cropsey Avenue @ Neptune Avenue & West 17th Street (midday, PM)
8. Coney Island Avenue @ Guider Street (midday)
9. Bay Parkway @ Cropsey Avenue (midday)

Intersections with LOS E (2015)

1. Kings Highway @ McDonald Avenue (SAT)
2. Kings Highway @ Coney Island Avenue (AM)
3. Kings Highway @ Stillwell Avenue (PM)
4. Bay Parkway @ 86th Street (SAT)
5. 84th Street @ 23rd Avenue (AM, PM)
6. Bay 32nd Street @ Benson Avenue (PM)
7. Bay 35th Street @ Bath Avenue (AM)
8. Avenue X @ West 3rd Street (midday, PM)
9. Ocean Parkway @ Avenue X (PM)
10. Coney Island Avenue @ Neptune Avenue (SAT)
11. Cropsey Avenue @ Neptune Avenue & West 17th Street (AM)
12. Coney Island Avenue @ Guider Street (PM)
13. Brighton Beach @ Ocean Parkway (SAT)
14. Neptune Avenue @ Ocean Parkway (SAT)

15. Coney Island Avenue @ Avenue Z (SAT)

Intersections with LOS F (2015)

1. Kings Highway @ Ocean Parkway (AM)
2. Kings Highway @ McDonald Avenue (AM, midday, PM)
3. Kings Highway @ Stillwell Avenue (midday)
4. 84th Street @ 23rd Avenue (midday)
5. West 5th Street @ Avenue T (AM)
6. Ocean Parkway @ Avenue W (AM)
7. McDonald Avenue @ 86th Street & Avenue X (AM, midday, PM, SAT)
8. Ocean Parkway @ Avenue X (AM, midday)
9. Ocean Parkway @ Avenue Z (AM)
10. Coney Island Avenue @ Neptune Avenue (AM, PM)
11. Cropsey Avenue @ Neptune Avenue & West 17th Street (SAT)
12. Coney Island Avenue @ Guider Avenue (AM, SAT)
13. Brighton Beach @ Coney Island Avenue (AM, midday, PM, SAT)
14. Neptune Avenue @ Ocean Parkway (AM, midday, PM)
15. Bay Parkway @ Cropsey Avenue (PM, SAT)

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Kings Hwy @ Ocean Pkwy	EB	LTR	1.30	194.90	F	1.02	91.00	F	1.02	88.40	F	0.63	41.20	D
	WB	LTR	1.27	179.70	F	1.11	119.50	F	0.69	46.90	D	0.73	46.50	D
	NB	L	0.33	40.70	D	0.49	48.30	D	0.38	46.10	D	0.42	42.30	D
		TR	1.25	149.40	F	0.99	49.60	D	0.77	29.90	C	0.67	27.10	C
	SB	L	0.13	44.40	D	0.40	48.60	D	0.21	34.80	C	0.27	32.70	C
Overall LOS		TR	0.77	29.70	C	0.84	32.50	C	0.92	38.00	D	0.71	28.00	C
			F			D			D			C		
Kings Hwy @ McDonald Ave	EB	LTR	0.41	13.10	B	0.44	11.50	B	0.59	16.70	B	0.70	17.30	B
	WB	LTR	0.66	18.90	B	0.80	22.00	C	0.62	17.90	B	0.44	11.40	B
	NB	LTR	1.27	177.10	F	1.28	174.40	F	1.28	183.80	F	1.12	113.50	F
	SB	LTR	1.28	185.60	F	1.37	213.60	F	1.36	219.90	F	1.17	131.80	F
Overall LOS			F			F			F			E		
Kings Hwy @ Coney Island Ave	EB	LTR	1.18	140.00	F	0.83	37.40	D	1.02	81.20	F	0.72	29.90	C
	WB	LTR	0.77	45.70	D	0.70	30.10	C	0.86	58.70	E	0.51	23.60	C
	NB	L	1.27	163.30	F	1.19	157.90	F	0.63	39.00	D	0.32	18.90	B
	NB	TR	0.72	24.00	C	0.71	21.80	C	0.60	20.80	C	0.55	18.20	B
	SB	LTR	0.87	33.90	C	1.06	70.10	E	0.96	45.20	D	0.90	33.90	C
Overall LOS			E			D			D			C		
Kings Hwy @ Stillwell Ave	EB	LTR	0.30	11.60	B	0.22	8.80	A	0.36	12.30	B	N/A		
	WB	LTR	0.77	23.90	C	0.59	14.20	B	0.57	16.40	B			
	NB	LTR	0.93	62.50	E	1.23	150.70	F	0.93	64.30	E			
	SB	LTR	0.99	77.90	E	1.24	157.10	F	1.23	158.80	F			
Overall LOS			D			F			E					
Bay Pkwy @ 86th St	EB	LTR	0.42	30.40	C	0.50	25.40	C	0.53	32.50	C	0.56	26.30	C
	WB	LTR	0.39	29.90	C	0.48	25.10	C	0.51	32.10	C	0.83	37.60	D
	NB	LTR	0.74	23.00	C	0.59	15.50	B	0.77	24.20	C	0.60	15.60	B
	SB	LTR	0.85	28.20	C	0.64	16.40	B	0.83	27.10	C	1.27	151.90	F
Overall LOS			C			B			C			E		
84th St @ 23rd Ave	WB	LTR	0.37	17.60	B	0.48	19.60	B	0.57	21.40	C	N/A		
	NB	LT	1.28	163.60	F	1.28	163.40	F	1.27	160.70	F			
	SB	TR	0.32	9.00	A	0.27	8.50	A	0.41	9.90	A			
Overall LOS			E			F			E					
Bay 32nd St @ Benson Ave	EB	TR	0.34	9.30	A	0.40	9.90	A	0.48	10.90	B			
	WB	LT	0.39	10.20	B	0.43	10.70	B	1.27	156.00	F			
	SB	LTR	0.47	19.80	B	0.45	19.30	B	0.53	21.20	C			
Overall LOS			B			B			E					
Bay 35th St @ Bath Ave	EB	LT	1.28	159.30	F	0.33	9.20	A	0.52	11.40	B			
	WB	TR	0.50	11.10	B	0.38	9.60	A	0.57	12.10	B			
	NB	LTR	0.38	17.90	B	0.31	16.80	B	0.35	17.40	B			
Overall LOS			E			B			B					

N/A – Not analyzed.

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
86th St @ Stillwell Ave	EB	LTR	0.20	13.10	B	0.28	10.30	B	0.27	13.80	B	N/A		
	WB	LTR	0.33	14.50	B	0.33	10.70	B	0.67	19.80	B			
	NB	LTR	0.48	24.00	C	0.61	22.00	C	0.60	26.50	C			
	SB	Def	L	0.66	36.80	D	0.57	27.80	C	0.66	36.80		D	
		TR	L											
	SB	LTR	0.60	27.20	C	0.59	22.10	C	0.57	27.80	C			
Overall LOS			C			B			C					
Bay 48th St @ Cropsey Ave	EB	LTR	0.49	11.70	B	0.55	12.50	B	0.52	11.90	B			
	WB	LTR	0.57	12.90	B	0.55	12.70	B	0.55	12.60	B			
	NB	LTR	0.40	28.40	C	0.56	32.10	C	0.30	26.70	C			
	Overall LOS			B			B			B				
Bay 49th St @ Stillwell Ave	EB	LR	0.58	20.40	C	0.56	19.70	B	0.51	18.50	B			
	NB	T	0.26	7.40	A	0.25	7.40	A	0.24	7.30	A			
	SB	T	0.29	7.60	A	0.27	7.50	A	0.28	7.60	A			
		T	A	0.27	7.50	A	0.27	7.50	A	0.28	7.60	A		
Overall LOS			B			B			A					
Harway Ave @ Stillwell Ave	EB	LR	0.35	17.30	B	0.25	16.10	B	0.30	16.60	B			
	NB	LT	0.46	10.00	A	0.37	9.10	A	0.29	8.40	A			
	SB	TR	0.27	8.20	A	0.40	9.20	A	0.25	8.00	A			
	Overall LOS			B			A			A				
Bay 54th St @ Cropsey Ave	EB	L	0.30	23.20	C	0.11	19.90	B	0.12	20.80	C			
		LR	0.15	21.30	C	0.08	19.60	B	0.07	20.40	C			
	NB	L	0.68	46.30	D	0.10	10.60	B	0.12	12.30	B			
		T	0.50	13.70	B	0.43	12.10	B	0.50	13.70	B			
	NB	TR	0.60	15.20	B	0.47	12.60	B	0.55	14.30	B			
	Overall LOS			B			B			B				
West 9th St @ Avenue T	EB	LT	0.38	9.70	A	0.39	9.80	A	0.69	15.40	B			
	WB	TR	0.36	9.50	A	0.38	9.70	A	0.63	13.70	B			
	NB	LTR	0.46	19.30	B	0.46	19.40	B	0.49	20.10	C			
	Overall LOS			B			B			B				
West 5th St @ Avenue T	EB	LT	1.28	160.70	F	0.57	12.60	B	0.63	14.00	B			
	WB	TR	0.37	9.60	A	0.38	9.70	A	0.55	12.10	B			
	NB	LTR	0.33	17.20	B	0.34	17.40	B	0.38	17.90	B			
	Overall LOS			F			B			B				
West 7th St @ Avenue U	EB	LT	0.51	11.60	B	0.52	11.80	B	0.57	12.60	B			
	WB	TR	0.48	10.90	B	0.52	11.50	B	0.58	12.60	B			
	NB	LTR	0.23	15.70	B	0.26	16.20	B	0.29	16.40	B			
	Overall LOS			B			B			B				

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT					
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS			
West 11th St @ Avenue U	EB	LT	0.37	9.70	A	0.48	14.80	B	0.38	9.70	A	N/A					
	WB	TR	0.53	11.80	B	0.58	16.70	B	0.65	14.50	B						
	NB	LTR	0.37	17.70	B	0.31	12.50	B	0.44	18.90	B						
	Overall LOS		B			B			B								
Ocean Pkwy @ Avenue W	EB	LTR	0.97	95.00	F	1.11	119.80	F	0.93	68.00	E						
	WB	LTR	1.28	189.20	F	0.74	53.30	D	0.72	46.80	D						
	NB	L	0.22	27.80	C	0.14	30.30	C	0.20	40.40	D						
		TR	1.26	146.40	F	0.74	28.90	C	0.80	30.90	C						
	SB	L	0.44	50.60	D	0.23	34.70	C	0.49	47.70	D						
		TR	0.68	21.50	C	0.74	28.80	C	0.93	38.80	D						
Overall LOS		F			D			D									
McDonald Ave @ 86th St & Avenue X	EB	LTR	0.74	66.80	E	0.40	33.50	C	0.28	44.90	D				0.25	29.40	C
	WB	LTR	1.28	198.50	F	1.28	179.50	F	1.27	189.20	F				0.78	46.20	D
	NB	Def L	1.84	431.50	F	2.50	727.40	F	2.38	674.00	F	1.27	170.40	F			
		TR	0.78	43.80	D	0.97	67.80	E	0.52	32.80	C	1.27	167.10	F			
	SB	LTR	1.02	81.90	F	1.28	171.90	F	1.28	179.10	F	1.24	165.40	F			
		L	LTR	0.98	69.00	E	0.92	50.20	D	1.02	78.10	E	1.28	163.30	F		
	Overall LOS		F			F			F			F					
Avenue X @ West 3rd St	EB	LTR	0.49	11.20	B	1.28	163.70	F	1.27	155.80	F	N/A					
	WB	LTR	0.49	11.10	B	0.51	11.40	B	0.53	11.70	B						
	NB	LTR	0.37	17.60	B	0.47	19.40	B	0.43	18.70	B						
	Overall LOS		B			E			E								
Ocean Pkwy @ Avenue X	EB	LTR	1.28	186.60	F	2.19	591.10	F	1.36	220.60	F						
	WB	LTR	1.28	184.60	F	1.94	473.30	F	1.04	97.50	F						
	NB	L	0.42	45.30	D	0.33	42.30	D	0.34	43.20	D						
		TR	1.28	161.00	F	0.84	32.70	C	0.85	33.00	C						
	SB	L	0.20	44.70	D	0.24	38.20	D	0.27	39.80	D						
		TR	0.86	33.50	C	0.85	33.30	C	0.88	34.90	C						
	Overall LOS		F			F			E								
Ocean Pkwy @ Avenue Z	EB	LTR	1.16	147.40	F	0.95	78.20	E	1.10	122.20	F						
	WB	LTR	1.28	188.90	F	1.21	165.20	F	1.27	183.40	F						
	NB	L	0.27	28.00	C	0.35	33.60	C	0.57	51.60	D						
		TR	1.14	94.10	F	0.59	22.40	C	0.67	21.10	C						
	SB	L	0.61	62.10	E	0.36	30.50	C	0.58	48.90	D						
		TR	0.63	20.40	C	0.64	23.30	C	0.71	22.10	C						
Overall LOS		F			D			D									
Shell Road @ Avenue Z	WB	LR	0.55	21.40	C	0.68	24.90	C	0.79	30.90	C	N/A					
	NB	TR	0.51	11.20	B	0.49	11.10	B	0.52	11.40	B						
	SB	LT	0.85	21.30	C	0.90	26.30	C	0.97	37.30	D						
	Overall LOS		B			C			C								

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Shell Road/West 8th St @ Neptune Ave	EB	Def L	1.12	103.90	F				1.08	93.80	F			
		TR	0.90	38.10	D				1.00	56.70	E			
		LTR				0.69	18.80	B						
	WB	LTR	0.44	15.60	B	0.57	15.90	B	0.53	17.00	B			
	NB	LTR	0.29	19.50	B	0.14	15.80	B						
		Def L							0.27	21.60	C			
		TR							0.19	18.50	B			
Overall LOS	SB	LTR	0.42	21.00	C	0.47	19.40	B	0.57	23.50	C			
			D			B			D			N/A		
Coney Island Ave @ Neptune Ave	EB	L	1.88	490.30	F	0.97	78.60	E	1.27	218.50	F	1.14	142.50	F
		TR	0.93	74.10	E	0.79	34.40	C	1.28	182.90	F	1.00	64.80	E
	WB	L	0.50	47.20	D	0.57	30.10	C	1.28	222.40	F	1.28	190.90	F
		TR	1.27	186.60	F	0.82	36.40	D	1.28	184.50	F	1.03	71.20	E
	NB	LTR	0.38	11.30	B	0.76	24.10	C	0.65	16.10	B	0.87	30.70	C
	SB	LTR	0.58	14.70	B	0.28	14.70	B				0.90	36.10	D
		Def L							0.71	27.30	C			
Overall LOS		TR						0.69	18.50	B				
			F			C			F			E		
West 12th St @ Neptune Ave	EB	TR	0.64	16.50	B	0.38	12.70	B	0.67	17.10	B			
	WB	LT	0.60	16.10	B	0.49	14.20	B	0.91	30.80	C			
	NB	LR	0.37	24.90	C	0.32	24.10	C	0.32	24.00	C			
Overall LOS			B			B			C			N/A		
Neptune Ave @ Cropsey Ave & West 17th St	EB	L	0.45	36.10	D	0.86	51.50	D	0.87	52.50	D	1.02	80.70	F
		TR	0.57	14.60	B	0.18	10.40	B	0.25	10.90	B	0.22	10.70	B
	WB	L	0.13	24.20	C	0.01	20.90	C	0.10	22.20	C	0.22	24.10	C
		TR	1.17	119.00	F	0.78	34.30	C	0.86	39.20	D	1.24	149.10	F
	SB	L	0.63	16.40	B	0.55	15.10	B	0.65	16.80	B	0.58	15.50	B
		T	0.40	25.10	C	0.45	26.00	C	0.51	27.20	C	0.69	32.30	C
		R	0.68	16.50	B	0.42	12.30	B	0.47	12.90	B	0.33	11.30	B
Overall LOS			E			D			D			F		
Mermaid Ave @ Stillwell Ave	EB	LR	0.55	16.20	B	0.66	19.10	B	0.40	13.60	B			
	NB	LT	0.35	13.00	B	0.45	14.80	B	0.55	16.30	B			
	SB	TR	0.19	11.00	B	0.23	11.10	B	0.19	10.90	B			
Overall LOS			B			B			B			N/A		

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Surf Ave @ Stillwell Ave	EB	LTR	0.55	9.60	A	0.41	7.90	A	0.46	8.60	A	0.37	7.50	A
	WB	LTR	0.39	7.70	A	0.29	6.90	A	0.38	7.50	A	0.40	7.80	A
	NB	LTR	0.07	28.30	C	1.09	142.00	F	0.30	31.80	C	0.73	53.60	D
	SB	Def L	0.75	51.50	D									
		TR	0.63	43.20	D									
		LTR				0.92	62.90	E	0.62	38.20	D	0.80	49.50	D
Overall LOS			B			C			B			B		
West 8th St @ Surf Ave	EB	L	0.17	6.60	A	0.22	6.90	A	0.26	7.60	A	N/A		
	EB	TR	0.32	7.00	A	0.24	6.50	A	0.26	6.60	A			
	WB	L	0.02	5.40	A	0.01	5.20	A	0.09	5.90	A			
	WB	TR	0.28	6.70	A	0.18	6.10	A	0.32	7.00	A			
	NB	LTR	0.01	27.50	C	0.31	31.60	C	0.54	36.70	D			
	SB	L	0.94	79.00	E	0.48	39.00	D	0.67	54.50	D			
	SB	TR	0.11	28.50	C	0.51	33.80	C	0.25	30.00	C			
Overall LOS			B			B			B					
West 17th St @ Mermaid Ave	EB	LTR	0.70	19.70	B	0.55	15.70	B	0.64	18.90	B			
	WB	LTR	0.37	12.90	B	0.36	12.80	B	0.48	14.30	B			
	SB	LTR	0.27	11.50	B	0.26	11.50	B	0.31	11.90	B			
Overall LOS			B			B			B					
Coney Island Ave @ Guider Ave	EB	LTR	1.15	118.90	F	0.93	44.70	D	1.15	122.60	F	0.52	22.50	C
	WB	LTR	1.15	120.20	F	0.93	38.30	D	1.14	115.70	F	0.68	24.60	C
	NB	LTR	0.50	16.00	B	0.79	24.60	C	0.64	18.90	B	1.02	89.70	F
		Def L										1.13	99.80	F
		TR										1.13	99.80	F
	SB	Def L	0.66	26.40	C	1.14	133.50	F	0.81	42.70	D	0.99	78.10	E
		TR	0.37	14.60	B	0.32	15.90	B	0.47	16.20	B	2.19	567.00	F
Overall LOS			F			D			E			F		
Brighton Beach @ Ocean Parkway	EB	TR	0.34	42.60	D	0.35	42.80	D	0.44	44.40	D	0.69	50.5	D
	WB	TR	0.53	35.20	D	0.53	29.10	C	0.63	37.40	D	0.44	27.4	C
	NB	L	0.01	10.50	B	0.01	14.90	B	0.01	10.70	B	0.02	21.9	C
	NB	T	0.15	21.90	C	0.20	30.20	C	0.24	26.10	C	0.3	31.5	C
	SB	L	0.32	14.60	B	0.42	21.70	C	0.49	20.00	C	1.21	145.7	F
	SB	T	0.16	22.00	C	0.23	30.60	C	0.20	25.70	C	0.64	37.5	D
Overall LOS			C			C			C			E		

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Brighton Beach Ave @ Coney Island Ave	EB	L	1.29	218.90	F	1.28	187.50	F	1.56	330.50	F	0.75	47.90	D
		TR	0.75	51.70	D	0.88	55.40	E	0.47	38.80	D	0.77	43.40	D
	WB	LTR	1.03	89.20	F	0.96	57.90	E	0.74	45.10	D	0.88	46.50	D
	NB	LTR	0.21	25.60	C	0.62	37.10	D	0.70	39.50	D	1.27	175.20	F
	SB	Def L							0.58	36.50	D	1.13	139.50	F
		TR							1.94	478.30	F	1.27	173.70	F
		SB	LTR	1.27	179.60	F	1.27	171.80	F					
Overall LOS			F			F			F			F		
Neptune Ave @ Ocean Parkway	EB	L	1.56	317.40	F	1.53	300.80	F	2.60	782.40	F	0.89	74.7	E
		T	0.48	27.90	C	0.33	23.90	C	0.38	26.00	C	0.41	25.3	C
		R	0.04	30.60	C	0.08	29.20	C	0.10	31.50	C	0.11	29.6	C
	WB	LTR	1.27	180.20	F	1.27	180.70	F	1.27	178.70	F	1.28	179.2	F
	NB	L	0.08	21.50	C	0.15	22.80	C	0.22	28.60	C	0.21	40.9	D
	NB	TR	0.34	29.30	C	0.40	31.50	C	0.45	32.30	C	0.53	33.6	C
	SB	L	0.56	31.60	C	0.70	41.80	D	0.89	60.30	E	0.73	48.7	D
	SB	TR	0.47	31.40	C	0.43	31.9	C	0.61	35.1	D	0.99	60.7	E
Overall LOS			F			F			F			E		
Bay Parkway @ Cropsey Ave	EB	L	0.26	37.20	D	0.26	31.70	C	0.32	47.90	D	0.76	67.10	E
		T	0.52	41.00	D	0.52	34.10	C	0.62	44.20	D	0.90	57.50	E
		R	0.68	41.20	D	0.84	46.60	D	0.90	60.30	E	1.28	172.10	F
	WB	L	0.29	24.60	C	0.26	20.20	C	0.47	28.50	C	0.56	29.00	C
		TR	0.5	27.30	C	0.75	28.90	C	1.28	165.20	F	0.84	32.50	C
	NB	L	0.16	28.70	C	0.99	81.50	F	1.30	208.10	F	1.27	181.90	F
		TR	0.23	17.30	B	0.53	16.60	B	0.64	24.10	C	0.73	20.70	C
	SB	L	0.14	24.90	C	0.35	27.00	C	0.53	46.00	D	1.16	179.50	F
	TR	0.74	36.40	D	0.9	39.30	D	1.16	120.40	F	1.15	108.90	F	
Overall LOS			C			D			F			F		
Brighton Beach Ave @ Brighton 11th St.	EB	T	0.58	17.20	B	0.56	16.80	B	0.48	15.20	B	N/A		
	WB	TR	0.37	12.60	B	0.37	12.50	B	0.28	11.60	B			
	SB	LR	0.5	26.50	C	0.32	23.40	C	0.56	28.90	C			
Overall LOS			B			B			B					
Neptune Ave @ Brighton 10th St.	EB	T	0.66	18.80	B	0.65	18.4	B	0.65	18.2	B			
	WB	T	0.52	15.40	B	0.54	15.9	B	0.7	19.9	B			
	NB	LR	0.08	20.50	C	0.19	21.8	C	0.08	20.4	C			
	SB	L	0.57	26.40	C	0.47	24.7	C	0.55	26	C			
	SB	R	0.16	21.50	C	0.21	22.2	C	0.14	21.2	C			
Overall LOS			C			C			C					

Table 2.3-2: Future 2015 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane		AM			MID			PM			SAT		
	Group		V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Neptune/Emmons Avenue @ E 14th St./Shore Blvd	EB	L	0.50	27.30	C	0.51	29.50	C	0.70	48.70	D	N/A		
		TR	0.39	19.40	B	0.38	21.70	C	0.44	22.60	C			
	WB	L	1.02	60.90	E	0.74	26.30	C	0.93	46.90	D			
		TR	0.47	9.60	A	0.41	11.10	B	0.56	13.00	B			
	NB	L	0.86	50.80	D	0.65	39.40	D	0.59	37.40	D			
		T	0.56	33.20	C	0.36	31.60	C	0.47	33.70	C			
		R	0.73	29.80	C	0.87	43.60	D	0.89	46.60	D			
Overall LOS			C						C					
Brighton Beach @ Brighton 4th Street	EB	TR	0.14	6.60	A	0.17	6.80	A	0.22	7.10	A			
	WB	LT	0.22	7.10	A	0.26	7.40	A	0.46	9.40	A			
	SB	LTR	0.29	29.50	C	0.32	30.00	C	0.84	53.10	D			
Overall LOS			B						B					
Coney Island Avenue @ Avenue Z	EB	LTR	0.86	57.20	E	0.65	30.6	C	0.76	43.5	D		1.26	161.0
	WB	LTR	0.84	57.60	E	0.73	33.8	C	0.88	54.5	D	1.17	126.8	F
	NB	L	0.28	16.50	B	0.56	28.8	C	0.55	32.6	C	1.33	234.3	F
	NB	TR	0.36	15.10	B	0.49	18.7	B	0.46	22.5	C	0.49	18.6	B
	SB	L	0.2	13.10	B	0.12	13.9	B	0.22	20.6	C	0.6	29.0	C
	SB	TR	0.35	9.90	A	0.38	11.2	B	0.34	12.9	B	0.6	13.9	B
Overall LOS			C						C			E		

Figure 2.3-9: Intersections with LOS D, E, and F (AM Peak Hour 2015)



Figure 2.3-10: Intersections with LOS D, E, and F (Midday Peak Hour 2015)

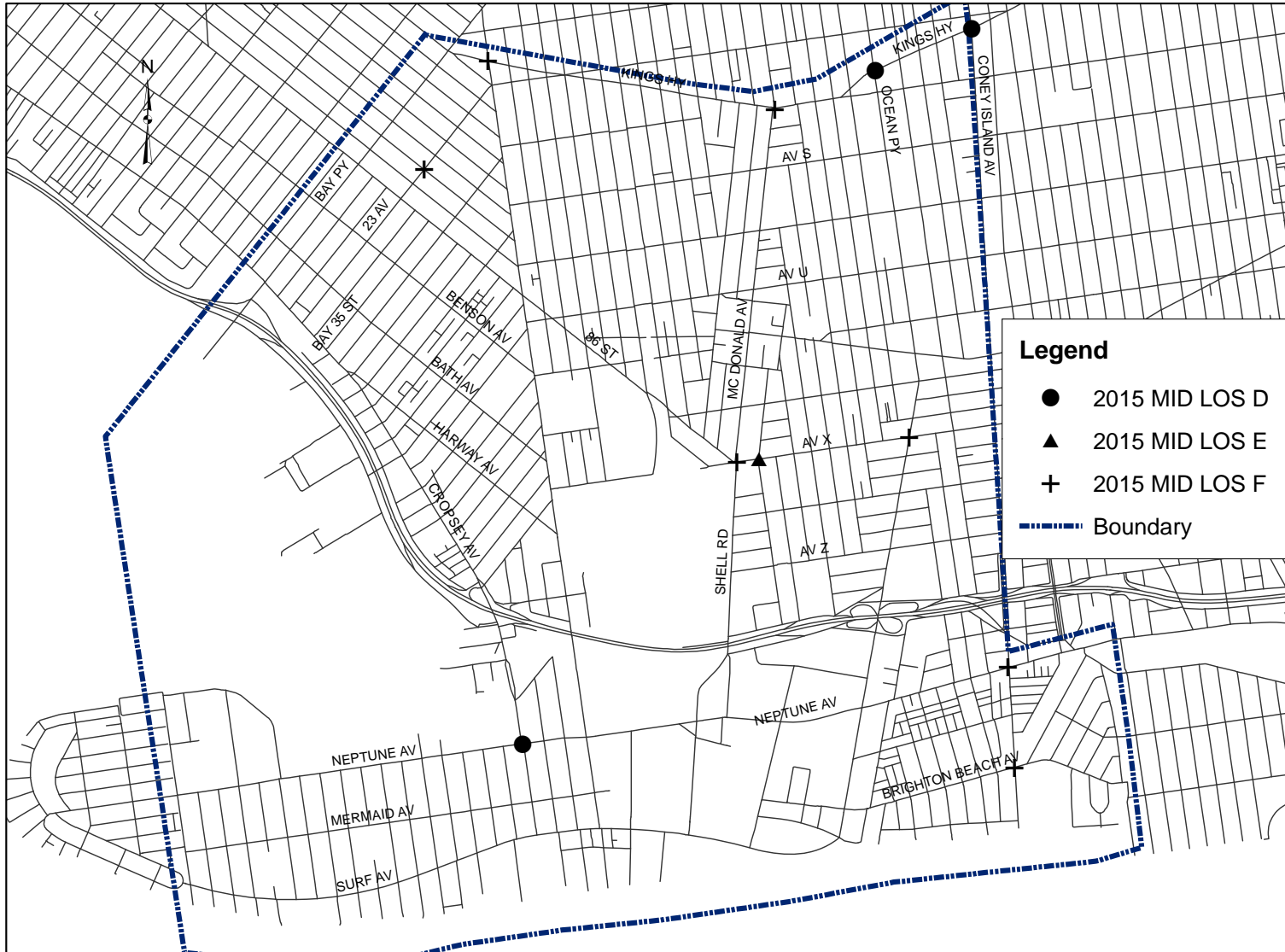


Figure 2.3-11: Intersections with LOS D, E, and F (PM Peak Hour 2015)

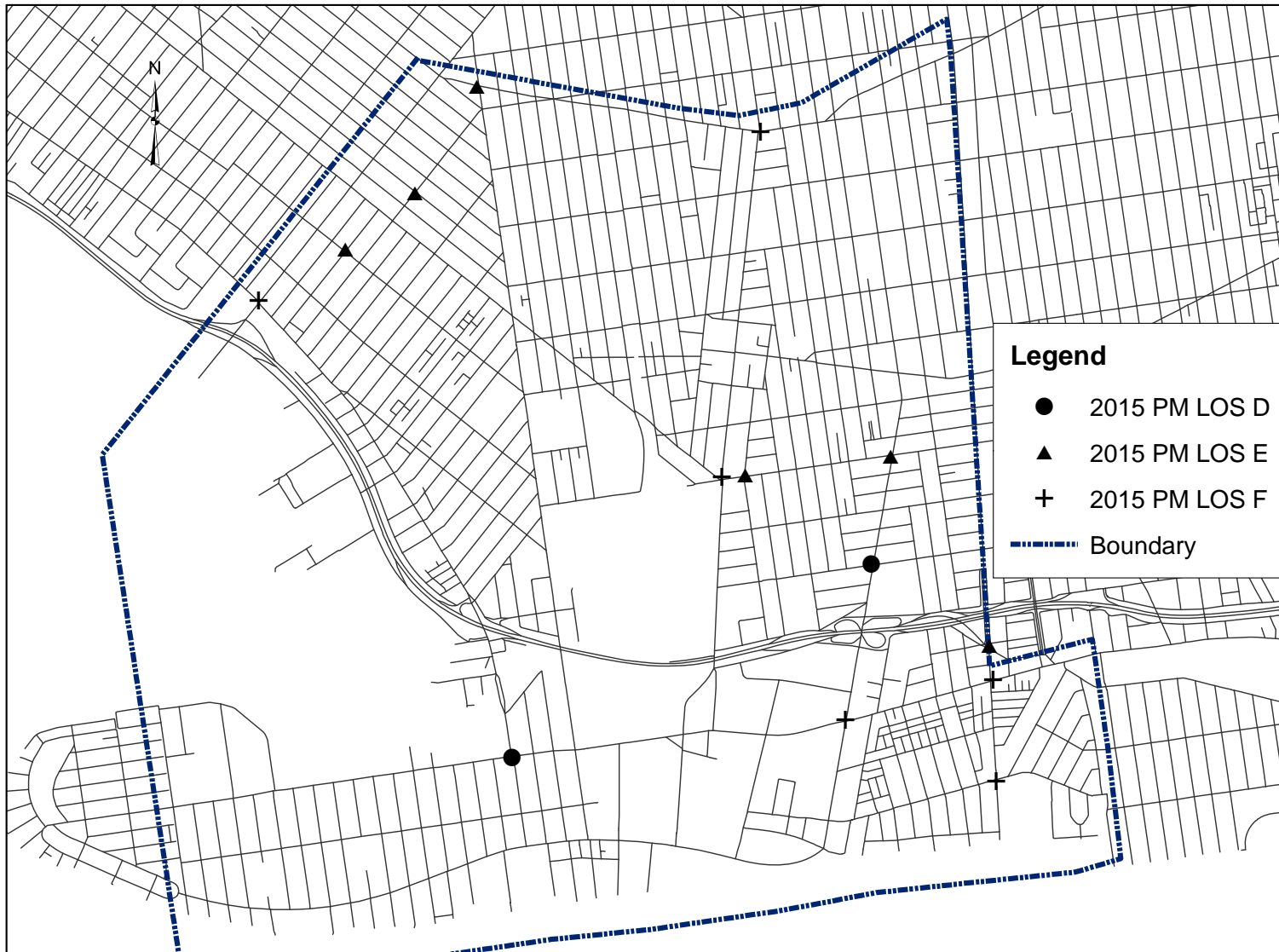


Figure 2.3-12: Intersections with LOS D, E, and F (Saturday Midday Peak Hour 2015)



Under the 2025 future condition, as is to be expected, there are more intersections that have deteriorated LOS. For example, there are five more intersections with LOS F than under the 2015 conditions. Table 2.3-3 show a summary of the level of service (LOS), delays, and volume to capacity (v/c) ratios for the future AM, midday, PM, and Saturday peak hours for 2025. The intersections operating at LOS D, E, and F for various peak hours are listed below and are also shown in Figures 2.3-13 to 2.3-16.

Intersections with LOS D (2025)

1. Kings Highway @ Ocean Parkway (Sat.)
2. Bay Parkway @ 86th Street (PM)
3. Ocean Parkway @ Avenue W (midday)
4. Coney Island Avenue @ Avenue Z (PM)
5. Neptune Avenue @ Shore Boulevard (midday, PM)
6. Bay Parkway @ Cropsey Avenue (AM, midday)

Intersections with LOS E (2025)

1. Kings Highway @ Ocean Parkway (PM)
2. Kings Highway @ McDonald Avenue (SAT)
3. Ocean Parkway @ Avenue W (PM)
4. Ocean Parkway @ Avenue Z (midday, PM)
5. Shell Road/West 8th Street @ Neptune Avenue (AM, PM)
6. Neptune Avenue @ Coney Island Avenue (midday)
7. Kings Highway @ Stillwell Avenue (PM)
8. West 12th Street @ Neptune Avenue (PM)
9. Surf Avenue @ Stillwell Avenue (midday)
10. Neptune Avenue @ Shore Boulevard (AM)

Intersections with LOS F (2025)

1. Kings Highway @ Ocean Parkway (AM, midday)
2. Kings Highway @ McDonald Avenue (AM, midday, PM, SAT)

3. Kings Highway @ Stillwell Avenue (AM, midday, PM)
4. Bay Parkway @ 86th Street (SAT)
5. 84th Street @ 23rd Avenue (AM, midday, PM)
6. Bay 32nd Street @ Benson Avenue (PM)
7. Bay 35th Street @ Bath Avenue (AM)
8. West 5th Street @ Avenue T (AM)
9. Ocean Parkway @ Avenue W (AM)
10. McDonald Avenue @ 86th Street & Avenue X (AM, midday, PM, SAT)
11. Avenue X @ West 3rd Street (midday, PM)
12. Ocean Parkway @ Avenue X (AM, midday, PM)
13. Ocean Parkway @ Avenue Z (AM)
14. Coney Island Avenue @ Neptune Avenue (AM, PM, SAT)
15. Cropsey Avenue @ Neptune Avenue & West 17th Street (AM, midday, PM, SAT)
16. Coney Island Avenue @ Guider Avenue (AM, midday, PM, SAT)
17. Brighton Beach Avenue @ Coney Island Avenue (AM, midday, PM, SAT)
18. Neptune Avenue @ Ocean Parkway (AM, midday, PM, SAT)
19. Bay Parkway @ Cropsey Avenue (PM, SAT)
20. Coney Island Avenue @ Avenue Z (SAT)

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections

INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Kings Hwy @ Ocean Pkwy	EB	LTR	1.63	339.40	F	1.28	187.70	F	1.22	157.10	F	0.77	49.10	D
	WB	LTR	1.48	266.30	F	1.37	222.10	F	0.90	70.50	E	0.90	64.80	E
	NB	L	0.38	45.60	D	0.56	53.80	D	0.44	50.70	D	0.50	48.70	D
		TR	1.45	238.50	F	1.15	106.30	F	0.90	36.10	D	0.78	30.30	C
	SB	L	0.15	44.70	D	0.46	51.20	D	0.24	40.70	D	0.33	41.10	D
		TR	0.89	35.60	D	0.97	45.30	D	1.07	72.10	E	0.82	31.80	C
				F			F			E			D	
Kings Hwy @ McDonald Avenue	EB	LTR	0.47	14.30	B	0.52	12.90	B	0.69	19.70	B	0.82	23.20	C
	WB	LTR	0.77	23.90	C	0.94	36.40	D	0.75	22.60	C	0.51	12.60	B
	NB	LTR	1.48	265.60	F	1.48	260.20	F	1.48	271.50	F	1.30	183.50	F
	SB	LTR	1.48	272.50	F	1.64	333.40	F	1.72	377.60	F	1.44	245.20	F
	Overall LOS			F			F			F			F	
Kings Hwy @ Coney Island Ave	EB	LTR	1.43	244.30	F	1.00	66.00	E	1.20	146.50	F	0.85	38.60	D
	WB	LTR	0.97	75.10	E	0.87	44.40	D	1.12	126.30	F	0.64	28.20	C
	NB	L	1.48	250.40	F	2.05	526.30	F	1.09	145.90	F	0.51	28.70	C
	NB	TR	0.83	28.90	C	0.83	26.10	C	0.69	23.20	C	0.63	19.80	B
	SB	LTR	1.12	97.60	F	1.39	205.60	F	1.24	141.80	F	1.15	102.50	F
	Overall LOS			F			F			F			E	
Kings Hwy @ Stillwell Avenue	EB	LTR	0.35	12.30	B	0.25	9.10	A	0.42	13.20	B	N/A		
	WB	LTR	0.91	36.00	D	0.69	16.90	B	0.67	19.30	B			
	NB	LTR	1.20	146.40	F	1.62	321.80	F	1.22	157.80	F			
	SB	LTR	1.28	182.90	F	1.57	298.60	F	1.53	288.00	F			
	Overall LOS			F			F			F				
Bay Pkwy @ 86th Street	EB	LTR	0.48	31.70	C	0.58	27.00	C	0.61	34.50	C	0.65	28.40	C
	WB	LTR	0.45	31.00	C	0.56	26.60	C	0.59	34.00	C	1.05	78.00	E
	NB	LTR	0.86	28.70	C	0.69	17.60	B	0.98	45.10	D	0.69	17.60	B
	SB	LTR	0.98	45.00	D	0.75	19.20	B	0.99	46.50	D	1.58	287.40	F
	Overall LOS			D			C			D			F	
84th Street @ 23rd Avenue	WB	LTR	0.43	18.60	B	0.56	21.40	C	0.66	24.20	C	N/A		
	NB	LT	1.48	247.30	F	1.49	249.50	F	1.47	246.30	F			
	SB	TR	0.37	9.50	A	0.32	8.90	A	0.47	10.70	B			
	Overall LOS			F			F			F				
Bay 32 nd Street @ Benson Avenue	EB	TR	0.40	10.00	A	0.46	10.70	B	0.55	12.10	B	N/A		
	WB	LT	0.46	11.20	B	0.50	11.90	B	1.48	242.10	F			
	SB	LTR	0.54	21.50	C	0.51	20.70	C	0.62	23.70	C			
	Overall LOS			B			B			F				
Bay 35 th Street @ Bath Avenue	EB	LT	1.49	247.80	F	0.39	9.80	A	0.61	13.10	B	N/A		
	WB	TR	0.58	12.50	B	0.44	10.30	B	0.66	14.10	B			
	NB	LTR	0.45	19.10	B	0.36	17.50	B	0.40	18.20	B			
	Overall LOS			F			B			B				

N/A – Not analyzed

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
86th Street @ Stillwell Avenue	EB	LTR	0.23	13.40	B	0.33	10.70	B	0.32	14.40	B	N/A		
	WB	LTR	0.38	15.10	B	0.38	11.20	B	0.78	23.20	C			
	NB	LTR	0.57	25.80	C	0.74	26.10	C	0.73	30.20	C			
	SB	Def L							0.91	68.90	E			
		TR							0.67	30.90	C			
	SB	LTR	0.73	31.90	C	0.72	26.40	C						
Overall LOS			C			B			C					
Bay 48 th Street @ Cropsey Avenue	EB	LTR	0.59	13.10	B	0.66	14.40	B	0.60	13.20	B			
	WB	LTR	0.70	15.80	B	0.71	16.20	B	0.68	15.10	B			
	NB	LTR	0.47	29.80	C	0.65	35.10	D	0.36	27.60	C			
Overall LOS			B			B			B					
Bay 49 th Street @ Stillwell Avenue	EB	LR	0.68	23.60	C	0.65	22.40	C	0.59	20.50	C			
	NB	T	0.30	7.70	A	0.29	7.60	A	0.28	7.50	A			
	SB	T	0.33	7.90	A	0.32	7.80	A	0.33	7.90	A			
Overall LOS			B			B			B					
Harway Avenue @ Stillwell Avenue	EB	LR	0.41	18.10	B	0.30	16.60	B	0.34	17.20	B			
	NB	LT	0.55	11.10	B	0.45	9.80	A	0.35	8.80	A			
	SB	TR	0.31	8.50	A	0.47	9.80	A	0.29	8.30	A			
Overall LOS			B			B			A					
Bay 54 th Street @ Cropsey Avenue	EB	L	0.35	23.90	C	0.12	20.10	C	0.13	21.00	C			
		LR	0.17	21.60	C	0.09	19.80	B	0.09	20.60	C			
	NB	L	0.99	117.60	F	0.15	12.30	B	0.20	15.90	B			
		T	0.58	14.80	B	0.49	12.90	B	0.58	14.70	B			
	NB	TR	0.70	16.90	B	0.55	13.60	B	0.64	15.70	B			
Overall LOS			B			B			B					
West 9 th Street @ Avenue T	EB	LT	0.44	10.50	B	0.46	10.70	B	0.66	14.50	B			
	WB	TR	0.41	10.10	B	0.45	10.50	B	0.61	13.10	B			
	NB	LTR	0.53	20.90	C	0.54	21.10	C	0.47	19.60	B			
Overall LOS			B			B			B					
West 5 th Street @ Avenue T	EB	LT	1.49	247.50	F	0.66	14.80	B	0.74	17.40	B			
	WB	TR	0.43	10.30	B	0.44	10.40	B	0.64	13.90	B			
	NB	LTR	0.39	18.30	B	0.39	18.20	B	0.44	19.10	B			
Overall LOS			F			B			B					
West 7 th Street @ Avenue U	EB	LT	0.60	13.20	B	0.62	13.80	B	0.67	15.00	B			
	WB	TR	0.55	12.10	B	0.60	13.00	B	0.67	14.70	B			
	NB	LTR	0.26	16.10	B	0.31	16.80	B	0.34	17.20	B			
Overall LOS			B			B			B					

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT			
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	
West 11th Street @ Avenue U	EB	LT	0.43	10.50	B	0.56	16.30	B	0.44	10.50	B	N/A			
	WB	TR	0.61	13.50	B	0.67	19.10	B	0.76	18.10	B				
	NB	LTR	0.43	18.60	B	0.36	13.10	B	0.50	20.20	C				
Overall LOS			B			B			B						
Ocean Pkwy @ Avenue W	EB	LTR	1.12	139.90	F	1.32	200.40	F	1.15	130.80	F				
	WB	LTR	1.48	275.10	F	0.97	93.30	F	0.90	67.60	E				
	NB	L	0.26	35.90	D	0.16	36.00	D	0.23	46.00	D				
		TR	1.46	236.60	F	0.86	33.60	C	0.93	38.70	D				
	SB	L	0.51	52.80	D	0.26	40.10	D	0.57	53.10	D				
		TR	0.79	24.60	C	0.85	33.40	C	1.07	75.20	E				
Overall LOS			F			D			E						
McDonald Avenue & Shell Rd @ 86th Street & Avenue X	EB	LTR	0.88	86.10	F	0.48	36.40	D	0.38	48.40	D		0.31	30.70	C
	WB	LTR	1.48	281.60	F	1.49	267.30	F	1.48	278.70	F		0.91	60.80	E
	NB	Def L	2.48	719.70	F	3.67	1253.00	F	3.22	1051.00	F		1.48	258.50	F
	NB	TR	0.91	56.50	E	1.13	114.90	F	0.60	35.50	D		1.48	257.50	F
	SB	LTR	1.28	181.00	F	1.48	259.80	F	1.48	265.60	F	0.92	56.70	E	
	NW L	LTR	1.14	119.50	F	1.07	85.90	F	1.18	135.80	F	1.48	253.70	F	
Overall LOS			F			F			F			F			
Avenue X @ West 3rd Street	EB	LTR	0.57	12.60	B	1.48	249.60	F	1.47	242.60	F	N/A			
	WB	LTR	0.56	12.40	B	0.59	12.80	B	0.61	13.40	B				
	NB	LTR	0.43	18.60	B	0.55	21.10	C	0.50	20.00	B				
Overall LOS			B			F			F						
Ocean Pkwy @ Avenue X	EB	LTR	1.48	271.70	F	1.64	340.30	F	1.69	362.60	F				
	WB	LTR	1.48	271.80	F	1.44	254.00	F	1.30	193.80	F				
	NB	L	0.49	50.20	D	0.38	47.20	D	0.39	48.20	D				
	NB	TR	1.48	252.00	F	0.98	45.90	D	0.98	47.60	D				
	SB	L	0.24	45.30	D	0.28	44.10	D	0.32	45.40	D				
	SB	TR	0.99	50.20	D	0.99	48.90	D	1.02	56.80	E				
Overall LOS			F			F			F						
Ocean Pkwy @ Avenue Z	EB	LTR	1.40	243.70	F	1.14	134.30	F	1.30	201.60	F				
	WB	LTR	1.48	276.30	F	1.48	280.50	F	1.48	271.20	F				
	NB	L	0.35	40.10	D	0.45	44.50	D	0.66	59.90	E				
	NB	TR	1.32	173.70	F	0.69	24.50	C	0.78	24.10	C				
	SB	L	0.71	68.40	E	0.47	42.90	D	0.71	63.40	E				
	SB	TR	0.74	22.90	C	0.74	25.90	C	0.82	25.80	C				
Overall LOS			F			E			E						
Shell Road @ Avenue Z	WB	LR	0.64	24.10	C	0.79	30.50	C	0.92	44.40	D				
	NB	TR	0.59	12.30	B	0.57	12.10	B	0.60	12.50	B				
	SB	LT	1.10	73.30	E	1.12	81.20	F	1.20	116.60	F				
Overall LOS			D			D			E						

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Shell Road/West 8th St @ Neptune Ave	EB	Def L	1.47	247.80	F	0.74	29.10	C	1.45	244.10	F	N/A		
		TR	1.05	70.30	E	0.79	24.40	C	1.17	111.60	F			
		LTR												
	WB	LTR	0.53	17.00	B	0.62	16.60	B	0.67	20.00	C			
	NB	LTR				0.16	16.00	B						
		Def L	0.35	23.00	C				0.37	25.20	C			
		TR	0.31	19.80	B				0.22	18.80	B			
	SB	LTR	0.48	22.00	C	0.55	20.60	C	0.67	25.60	C			
Overall LOS			E			C			E					
Coney Island Ave @ Neptune Avenue	EB	L	2.52	772.10	F	1.40	238.60	F	1.48	299.40	F	2.23	616.80	F
		TR	1.07	111.10	F	0.92	47.80	D	1.48	270.70	F	1.16	117.60	F
	WB	L	0.75	75.70	E	0.83	55.60	E	1.48	302.00	F	2.26	623.10	F
		TR	1.48	272.60	F	0.95	53.50	D	1.48	272.80	F	1.19	128.30	F
	NB	LTR	0.46	12.30	B	0.91	34.60	C	0.80	21.40	C	1.10	85.90	F
	SB	LTR	0.70	18.20	B	0.33	15.30	B				1.14	99.90	F
		Def L							1.02	82.30	F			
		TR							0.80	23.50	C			
Overall LOS			F			E			F			F		
West 12th Street @ Neptune Avenue	EB	TR	0.74	19.00	B	0.44	13.40	B	0.78	20.10	C	N/A		
	WB	LT	0.77	21.00	C	0.58	15.60	B	1.18	112.40	F			
	NB	LR	0.43	26.10	C	0.37	25.00	C	0.37	25.00	C			
	Overall LOS			C			B			E				
Neptune Ave @ Cropsey Ave & West 17th St	EB	L	0.52	37.30	D	0.99	73.60	E	1.01	76.60	E	1.19	137.70	F
		TR	0.66	16.30	B	0.21	10.60	B	0.29	11.30	B	0.26	11.00	B
	WB	L	0.21	28.30	C	0.01	20.90	C	0.13	22.80	C	0.28	25.30	C
		TR	1.36	199.80	F	0.90	43.40	D	1.00	59.90	E	1.44	235.40	F
	SB	L	0.43	25.8	C	0.38	27.6	C	0.34	31.90	C	0.41	33.4	CDD
		T	0.46	26.30	C	0.52	27.40	C	0.59	29.10	C	0.80	37.70	D
		R	0.78	19.80	B	0.49	13.10	B	0.55	14.00	B	0.39	11.90	B
Overall LOS			F			F			F			F		
Mermaid Avenue @ Stillwell Avenue	EB	LR	0.64	18.30	B	0.77	23.60	C	0.46	14.50	B	N/A		
	NB	LT	0.42	14.10	B	0.58	18.20	B	0.67	19.90	B			
	SB	TR	0.22	11.20	B	0.27	11.40	B	0.22	11.20	B			
	Overall LOS			B			B			B				

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Surf Avenue @ Stillwell Avenue	EB	LTR	0.68	12.00	B	0.49	8.80	A	0.57	10.20	B	0.44	8.20	A
	WB	LTR	0.45	8.30	A	0.35	7.40	A	0.44	8.20	A	0.48	8.70	A
	NB	LTR	0.08	28.40	C	1.53	316.10	F	0.35	32.80	C	1.02	111.50	F
	SB	Def L	0.87	66.20	E									
		TR	0.73	49.70	D									
		LTR				1.07	100.40	F	0.72	42.40	D	0.93	66.30	E
Overall LOS			B			E			B			C		
West 8 th Street @ Surf Avenue	EB	L	0.22	7.20	A	0.27	7.50	A	0.34	9.00	A	N/A		
	EB	TR	0.37	7.40	A	0.28	6.70	A	0.30	6.90	A			
	WB	L	0.03	5.40	A	0.01	5.20	A	0.12	6.20	A			
	WB	TR	0.33	7.10	A	0.21	6.30	A	0.37	7.40	A			
	NB	LTR	0.01	27.50	C	0.37	32.60	C	0.63	40.00	D			
	SB	L	1.08	117.90	F	0.59	44.90	D	0.86	82.30	F			
	SB	TR	0.13	28.70	C	0.60	35.70	D	0.28	30.40	C			
Overall LOS			C			B			B					
West 17th Street @ Mermaid Avenue	EB	LTR	0.84	27.30	C	0.64	17.90	B	0.81	28.10	C			
	WB	LTR	0.43	13.60	B	0.41	13.40	B	0.55	15.60	B			
	SB	LTR	0.31	11.90	B	0.31	11.90	B	0.36	12.30	B			
Overall LOS			B			B			C					
Coney Island Ave @ Guider Avenue	EB	LTR	1.33	197.20	F	1.07	81.70	F	1.33	199.50	F	0.61	24.50	C
	WB	LTR	1.33	197.60	F	1.08	76.80	E	1.33	194.60	F	0.79	28.20	C
	NB	LTR	0.60	17.80	B	0.92	34.70	C	0.77	23.00	C			
		Def L										1.55	296.10	F
		TR										1.31	174.30	F
	SB	Def L	0.91	55.60	E	1.87	443.50	F	1.20	150.80	F	1.44	247.50	F
		TR	0.44	15.70	B	0.37	16.60	B	0.54	17.70	B	2.54	723.50	F
Overall LOS			F			F			F			F		
Brighton Beach Ave @ Ocean Parkway	EB	TR	0.39	43.50	D	0.41	43.70	D	0.52	45.80	D	0.8	55.8	E
	WB	TR	0.62	37.20	D	0.61	31.00	C	0.73	40.60	D	0.51	28.7	C
	NB	L	0.01	10.50	B	0.01	15.40	B	0.01	11.10	B	0.02	24.3	C
	NB	T	0.17	22.20	C	0.23	30.60	C	0.28	26.60	C	0.35	32.2	C
	SB	L	0.38	15.80	B	0.50	24.60	C	0.60	25.30	C	1.47	258.2	F
	SB	T	0.18	22.30	C	0.27	31.10	C	0.24	26.10	C	0.75	40.5	D
Overall LOS			C			C			C			F		

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Brighton Beach Ave@ Coney Island Ave	EB	L	1.92	491.70	F	1.48	272.50	F	2.39	699.70	F	0.87	61.90	E
		TR	0.86	63.10	E	1.02	85.00	F	0.55	40.70	D	0.90	56.70	E
	WB	LTR	1.28	185.00	F	1.24	152.50	F	0.92	60.40	E	1.12	106.60	F
	NB	LTR	0.24	26.20	C	0.86	58.50	E	0.89	58.20	E	1.48	261.50	F
	SB	Def L							0.73	45.40	D	1.52	297.30	F
		TR							2.26	617.70	F	1.47	260.20	F
	SB	LTR	1.48	266.30	F	1.48	260.80	F						
Overall LOS			F			F			F			F		
Neptune Avenue @ Ocean Parkway	EB	L	1.48	275.70	F	1.48	279.50	F	1.47	269.80	F	1.06	115.2	F
		T	0.55	29.50	C	0.38	24.80	C	0.45	27.10	C	0.48	26.5	C
		R	0.05	30.80	C	0.09	29.30	C	0.11	31.70	C	0.13	29.9	C
	WB	LTR	1.47	267.30	F	1.48	266.80	F	1.48	267.80	F	1.48	268.3	F
	NB	L	0.10	24.00	C	0.19	25.50	C	0.27	34.90	C	0.24	42.8	D
	NB	TR	0.39	30.10	C	0.46	32.50	C	0.53	33.60	C	0.61	35.2	D
	SB	L	0.70	40.60	D	0.87	59.40	E	1.11	118.70	F	0.92	73.5	E
SB	TR	0.55	32.70	C	0.49	33	C	0.7	37.5	D	1.15	116.5	F	
Overall LOS			F			F			F			F		
Bay Parkway @ Cropsey Avenue	EB	L	0.33	39.60	D	0.35	35.20	D	0.37	51.50	D	1.34	248.90	F
		T	0.61	43.60	D	0.6	36.60	D	0.72	48.80	D	1.04	89.60	F
		R	0.78	47.80	D	0.97	68.40	E	1.04	92.70	F	1.48	260.00	F
	WB	L	0.36	26.20	C	0.33	21.50	C	0.61	33.50	C	0.71	38.70	D
		TR	0.58	29.10	C	0.86	35.50	D	1.48	255.50	F	0.97	47.80	D
	NB	L	0.21	33.90	C	1.23	165.00	F	1.51	295.90	F	1.47	268.10	F
		TR	0.27	17.80	B	0.61	18.00	B	0.74	27.10	C	0.85	25.30	C
	SB	L	0.17	25.60	C	0.54	40.20	D	0.94	127.60	F	1.34	243.40	F
	TR	0.86	42.90	D	1.04	68.60	E	1.35	200.40	F	1.34	187.30	F	
Overall LOS			D			D			F			F		
Brighton Beach Ave @ Brighton 11th St.	EB	T	0.67	19.90	B	0.65	19.10	B	0.56	16.80	B	N/A		
	WB	TR	0.43	13.20	B	0.42	13.20	B	0.32	12.10	B			
	SB	LR	0.58	28.50	C	0.38	24.30	C	0.65	31.90	C			
Overall LOS			B			B			B					
Neptune Ave @ Brighton 10th St.	EB	T	0.77	22.80	C	0.75	22.0	C	0.75	21.8	C			
	WB	T	0.60	17.10	B	0.63	17.8	B	0.82	25.0	C			
	NB	LR	0.09	20.70	C	0.22	22.2	C	0.09	20.6	C			
	SB	L	0.66	28.40	C	0.54	25.9	C	0.63	27.7	C			
	SB	R	0.18	21.90	C	0.24	22.7	C	0.16	21.5	C			
Overall LOS			C			C			C					

Table 2.3-3: Future 2025 Traffic Capacity Analysis for Signalized Intersections
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INTERSECTION	Lane Group		AM			MID			PM			SAT		
			V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS	V/C	DELAY	LOS
Neptune/Emmons Avenue @ E 14th St./Shore Blvd	EB	L	0.73	45.60	D	0.72	43.60	D	1.14	161.90	F	N/A		
		TR	0.46	20.30	C	0.44	22.60	C	0.51	23.70	C			
	WB	L	1.24	145.70	F	0.90	42.30	D	1.14	110.80	F			
		TR	0.55	10.50	B	0.47	11.80	B	0.65	14.60	B			
	NB	L	1.00	76.30	E	0.75	44.80	D	0.68	41.10	D			
		T	0.65	36.20	D	0.42	32.70	C	0.54	35.60	D			
		R	0.85	37.80	D	1.01	69.00	E	1.04	77.00	E			
Overall LOS			E			D			D					
Brighton Beach Ave @ Brighton 4th St	EB	TR	0.17	6.70	A	0.20	7.00	A	0.26	7.30	A			
	WB	LT	0.26	7.40	A	0.30	7.70	A	0.56	10.70	B			
	SB	LTR	0.33	30.20	C	0.37	30.90	C	0.97	74.80	E			
	Overall LOS			B			B			C				
Coney Island Ave @ Avenue Z	EB	LTR	0.94	67.90	E	0.82	38.8	D	0.96	67.6	E	1.36	201.9	F
	WB	LTR				0.92	50.4	D	1.09	104.7	F			
		Def L	1.13	168.00	F							2.11	570.7	F
		TR	0.93	75.10	E							1.25	160.8	F
	NB	L	0.4	20.90	C	0.81	54.6	D	0.78	55.6	E	1.6	341.5	F
	NB	TR	0.42	15.80	B	0.57	19.8	B	0.54	23.8	C	0.57	19.8	B
	SB	L	0.26	16.00	B	0.15	16.3	B	0.29	25.5	C	0.78	44.0	D
	SB	TR	0.41	10.40	B	0.45	11.9	B	0.4	13.5	B	0.7	15.6	B
Overall LOS			C			C			D			F		

Figure 2.3-14: Intersections with LOS D, E, and F (Midday Peak Hour 2025)

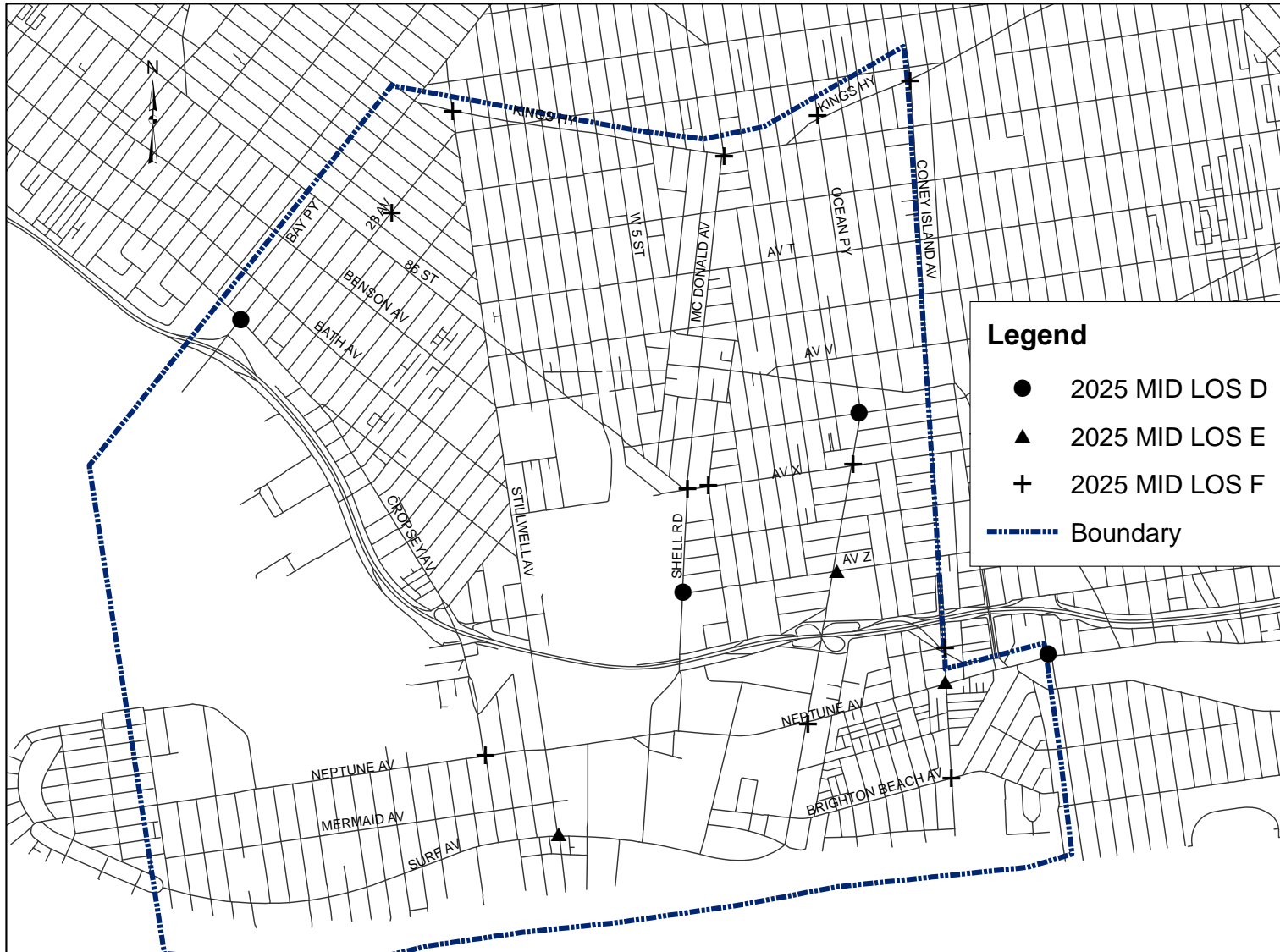
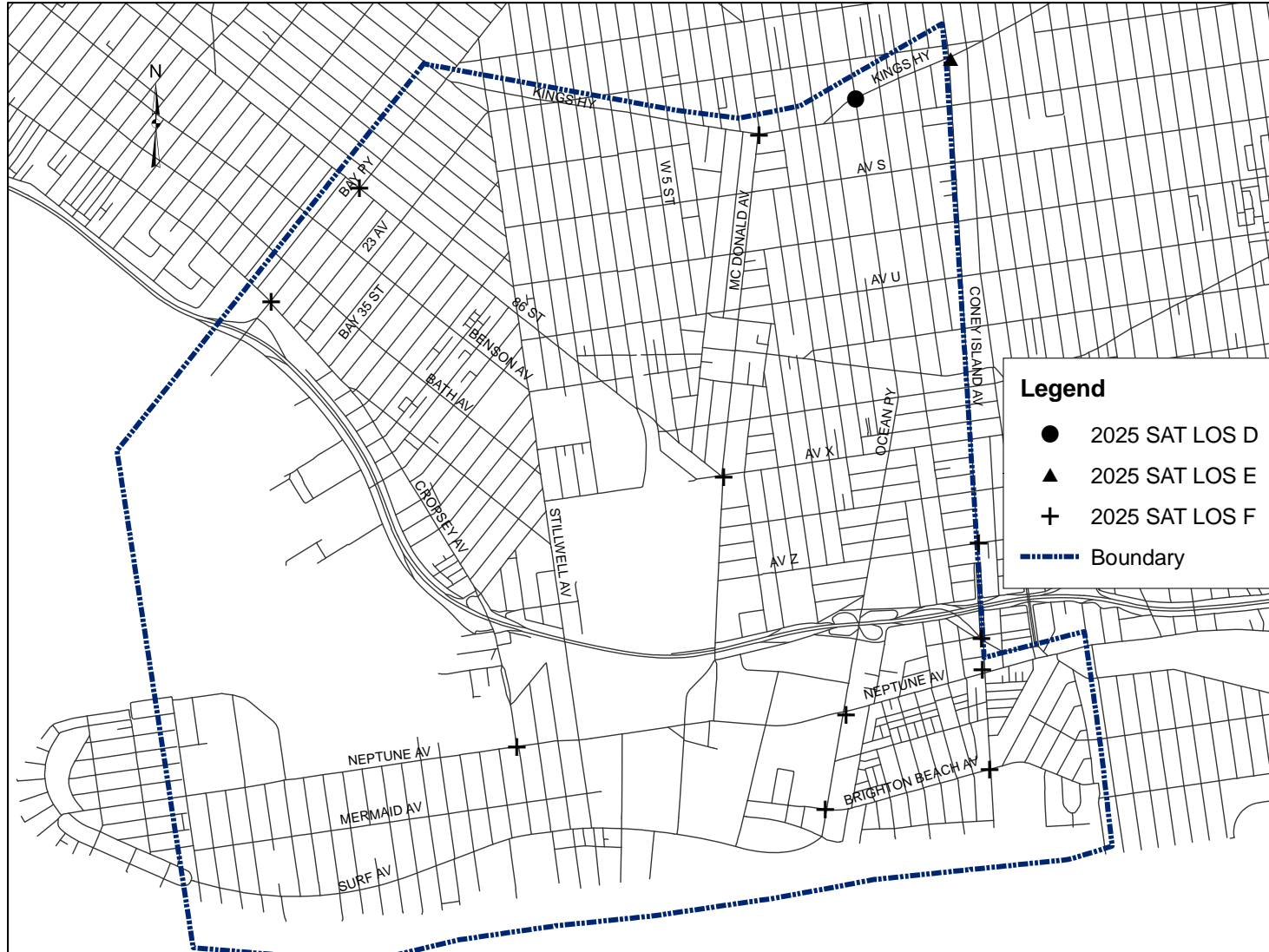


Figure 2.3-16: Intersections with LOS D, E, and F (Saturday Midday Peak Hour 2025)



2.3.2. Future Travel Speeds

Travel speed is a useful indicator of levels of congestion on any traffic network as there is a direct relationship between congestion and delays. The future (2015) travel speeds along the major corridors within the Study Area were calculated for the AM, midday and PM peak hours using the existing conditions (2002) speed and delay as well as the future 2015 delay. The following twelve corridors (shown in Figure 2.3-17) were analyzed for travel time and delay under the future conditions:

North-South Corridors

- McDonald Avenue/Shell Road from Kings Highway to Neptune Avenue
- Ocean Parkway from Kings Highway to Surf Avenue.
- Cropsey Avenue from Bay Parkway to Neptune Avenue
- Coney Island Avenue from Kings Highway to Brighton Beach Avenue
- Bay Parkway from Kings Highway to Shore Parkway
- Stillwell Avenue from Surf Avenue to Kings Highway

East-West Corridors

- Kings Highway from Coney Island Avenue to Bay Parkway
- Avenue U from 86th Street to Coney Island Avenue
- Brighton Beach Avenue from Coney Island Avenue to Ocean Parkway
- Neptune Avenue from Cropsey Avenue to Coney Island Avenue
- Surf Avenue from Ocean Parkway to West 37th Street
- 86th Street from Bay Parkway to Stillwell Avenue

Table 2.3-4 shows the future average travel speeds for the corridors analyzed. Most of the corridors will experience a 30% or greater reduction travel speed during one or all peak periods under projected future conditions. Only Surf Avenue and Avenue U did not experience a significant reduction in travel speed. McDonald Avenue followed by Kings Highway then Neptune Avenue will have the most significant speed reduction.

Figure 2.3-17: Speed Run Corridors

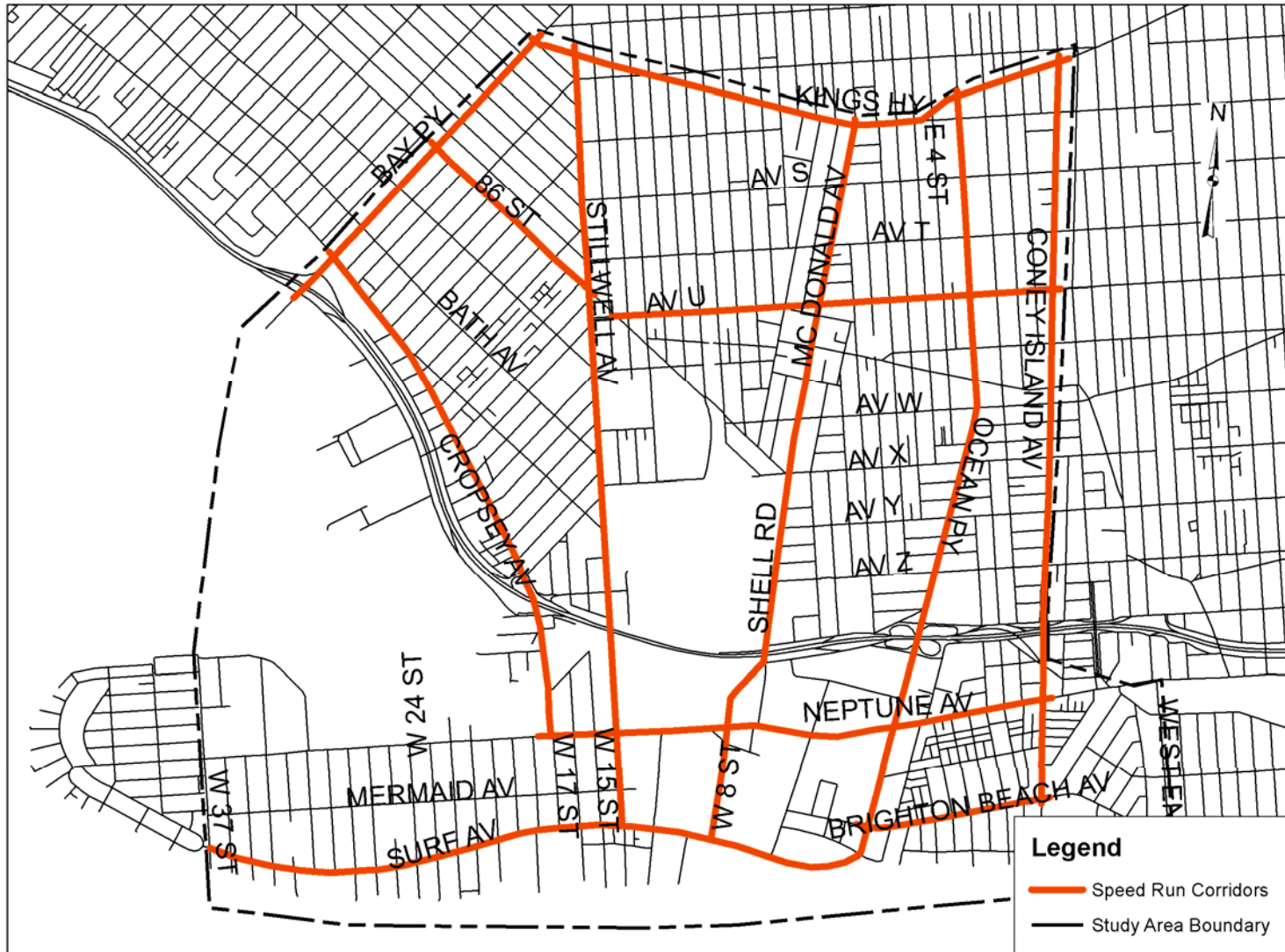


Table 2.3-4: Future Corridor Travel Speed
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No.	Corridors	Peak Hour	Direction	Existing Average Speed (MPH)	Future Average Speed (MPH)
1	McDonald Avenue/Shall Road from Kings Highway to Surf Avenue	AM	NB	13	8
			SB	14	10
		MD	NB	14	7
			SB	14	7
PM	NB	15	9		
	SB	16	8		
2	Ocean Parkway from Kings Highway to Surf Avenue	AM	NB	22	10
			SB	14	13
		MD	NB	15	13
			SB	14	13
PM	NB	13	12		
	SB	31	26		
3	King Highway from Coney Island Avenue to Bay Parkway	AM	EB	11	5
			WB	13	8
		MD	EB	11	7
			WB	9	5
PM	EB	9	6		
	WB	10	7		
4	Cropsey Avenue from Bay Parkway to Neptune Avenue	AM	EB	12	11
			WB	20	19
		MD	EB	13	12
			WB	18	16
PM	EB	13	11		
	WB	20	11		
5	Coney Island Avenue from Kings Highway to Brighton Beach Avenue	AM	NB	18	17
			SB	15	9
		MD	NB	13	10
			SB	14	8
PM	NB	14	13		
	SB	20	6		
6	86th Street from Bay Parkway to Stillwell Avenue	AM	EB	11	10
			WB	15	14
		MD	EB	12	9
			WB	9	6
PM	EB	14	12		
	WB	10	9		
7	Stillwell Avenue from Surf Avenue to Kings Highway	AM	NB	12	10
			SB	16	12
		MD	NB	13	6
			SB	17	9
PM	NB	14	11		
	SB	16	10		

Table 2.3-4: Future Corridor Travel Speed
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No.	Corridors	Peak Hour	Direction	Existing Average Speed (MPH)	2015 Average Speed (MPH)
8	Surf Avenue from Ocean Parkway to West 37 th Street	AM	EB	16	14
			WB	17	16
		MD	EB	18	17
			WB	18	17
		PM	EB	16	15
			WB	23	22
9	Bay Parkway from Kings to Shore (Belt) Parkway	AM	NB	15	13
			SB	12	10
		MD	NB	15	14
			SB	16	13
		PM	NB	14	10
			SB	10	5
10	Neptune Avenue from Cropsey Avenue to Coney Island Avenue	AM	EB	12	10
			WB	11	6
		MD	EB	14	10
			WB	13	8
		PM	EB	12	8
			WB	13	8
11	Brighton Beach from Coney Island Avenue to Ocean Parkway	AM	EB	9	8
			WB	9	6
		MD	EB	9	8
			WB	8	6
		PM	EB	11	6
			WB	9	5
12	Avenue U from 86th Street to Coney Island Avenue	AM	EB	12	10
			WB	10	9
		MD	EB	9	8
			WB	10	9
		PM	EB	10	10
			WB	9	8

2.4. Pedestrians/Bikes

2.4.1. Pedestrian Analysis

The analysis of existing pedestrian conditions showed that in general pedestrian volumes were high in those areas where commercial and recreational activities are concentrated in proximity to transit stations or hubs. For example, pedestrian volumes were high along 86th Street and Brighton Beach Avenue and at the Brighton Beach (Q), Avenue X (F), Kings Highway (F) subway stations. The projected future pedestrian volumes for most of the Study Area were generated by using the existing pedestrian volumes and adding a 1.0% per year growth rate. However, a 1.5% growth rate was applied to those locations in Coney Island where major developments are expected in the future. In general, changes in pedestrian volumes are attributed to land use changes (residential and commercial developments) and economic growth. The pedestrian analysis focused on LOS analysis for crosswalks at key intersections in the Study Area. Table 2.4-1 shows the total future crosswalk volumes for the intersections analyzed. Appendix B shows projected crosswalk level of service for the weekday and weekend. All intersections crosswalks under future conditions are expected to operate at acceptable levels of service. However, at some location, particularly along Surf Avenue, safety improvements such as a leading pedestrian interval (LPI) and crosswalk widening are recommended. Figures 2.4-1, 2.4-2 and 2.4-3 show the 2015 pedestrian volumes and LOS for the AM, midday, and PM peak hours.

During the peak summer season, there is a surge in pedestrian volumes in Coney Island and Brighton Beach in those areas next to the beach and entertainment facilities. Intersections along Surf Avenue and Brighton Beach Avenue experience an increase in pedestrian volumes, particularly on weekends, a pattern that is expected to continue under future conditions.

Table 2.4-1: Future 2015 Pedestrian Volumes (Crosswalk)

	Intersection	Pedestrian Crosswalk Volume		
		AM	Midday	PM
		Cross Walk (Ped/Hr)	Cross Walk (Ped/Hr)	Cross Walk (Ped/Hr)
1	Kings Highway/Ocean Parkway	353	262	414
2	Kings Highway/McDonald Avenue	602	516	723
3	Kings Highway/Coney Island Avenue	885	1383	1617
4	Bay Parkway/86th Street	1429	1582	3167
5	McDonald Avenue/86th Street & Avenue X	732	557	688
6	Ocean Parkway/Avenue X	235	175	176
7	Ocean Parkway/Avenue Z	395	319	268
8	Coney Island Avenue/Neptune Avenue	242	348	566
9	Cropsey Avenue/Neptune Avenue/West 17th Street	85	103	135
10	Mermaid Avenue/Stillwell Avenue	485	305	496
11	Surf Avenue/Stillwell Avenue	263	700	1250
12	West 8th Street/Surf Avenue	116	167	163
13	West 17 th Street/Mermaid Avenue	514	639	656
14	Coney Island Avenue/Guider Avenue (Belt Pkwy Entrance)	342	141	208
15	86th Street/Stillwell Avenue.	303	245	309
16	Coney Island Avenue/Brighton Beach Avenue	1067	1699	1790
17	Ocean Parkway/Brighton Beach Avenue	485	1092	603
18	Bay Parkway/Cropsey Avenue	309	254	319
19	Brighton Beach Avenue/Brighton 11	1666	1580	1323
20	Brighton Beach Avenue/Brighton 4 Street	1183	2134	1745
21	Ocean Parkway/Neptune Avenue	762	669	692

Figure 2.4-1: Future 2015 Pedestrian Volumes - AM Peak Hour

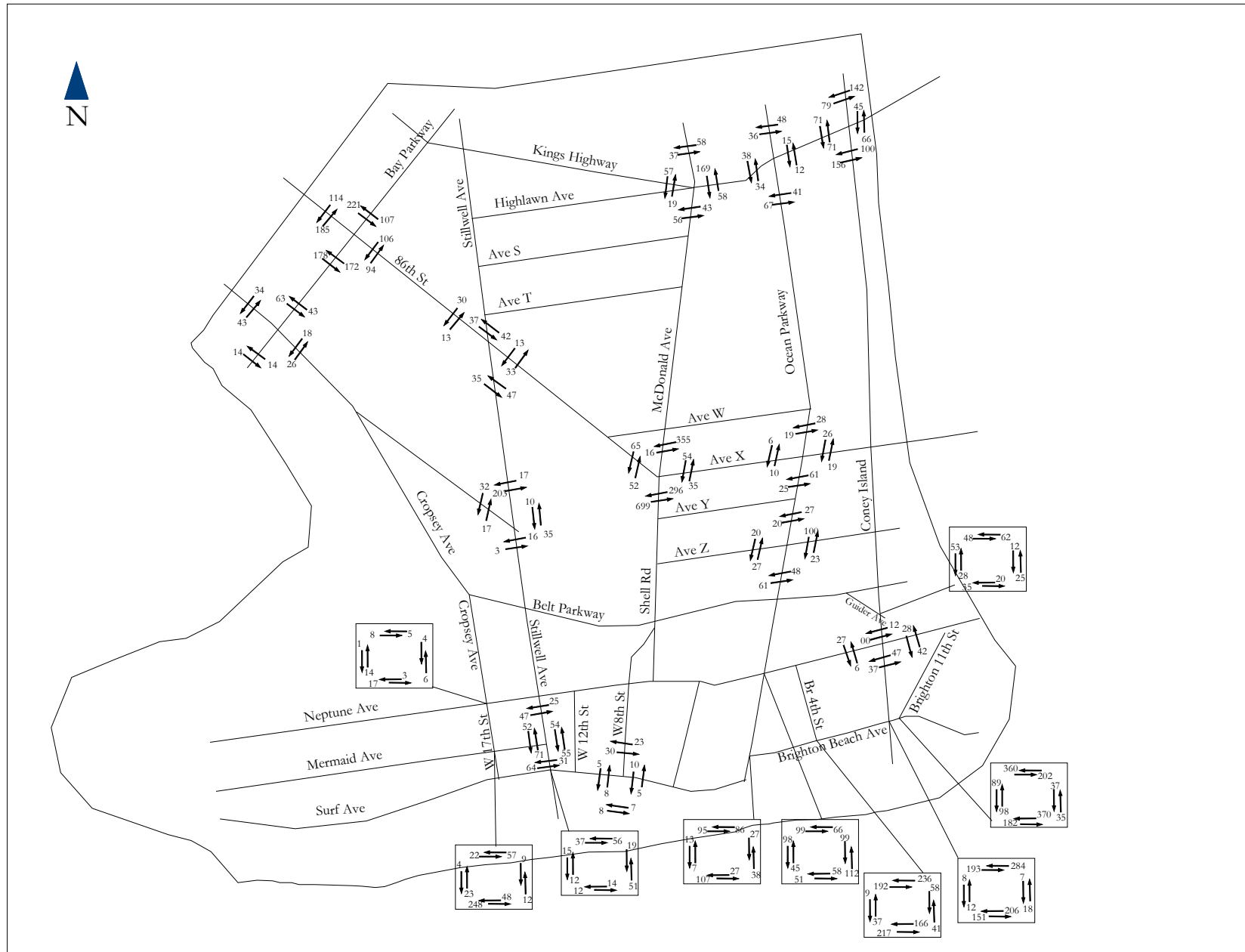


Figure 2.4-2: Future 2015 Pedestrian Volumes - Midday Peak Hour

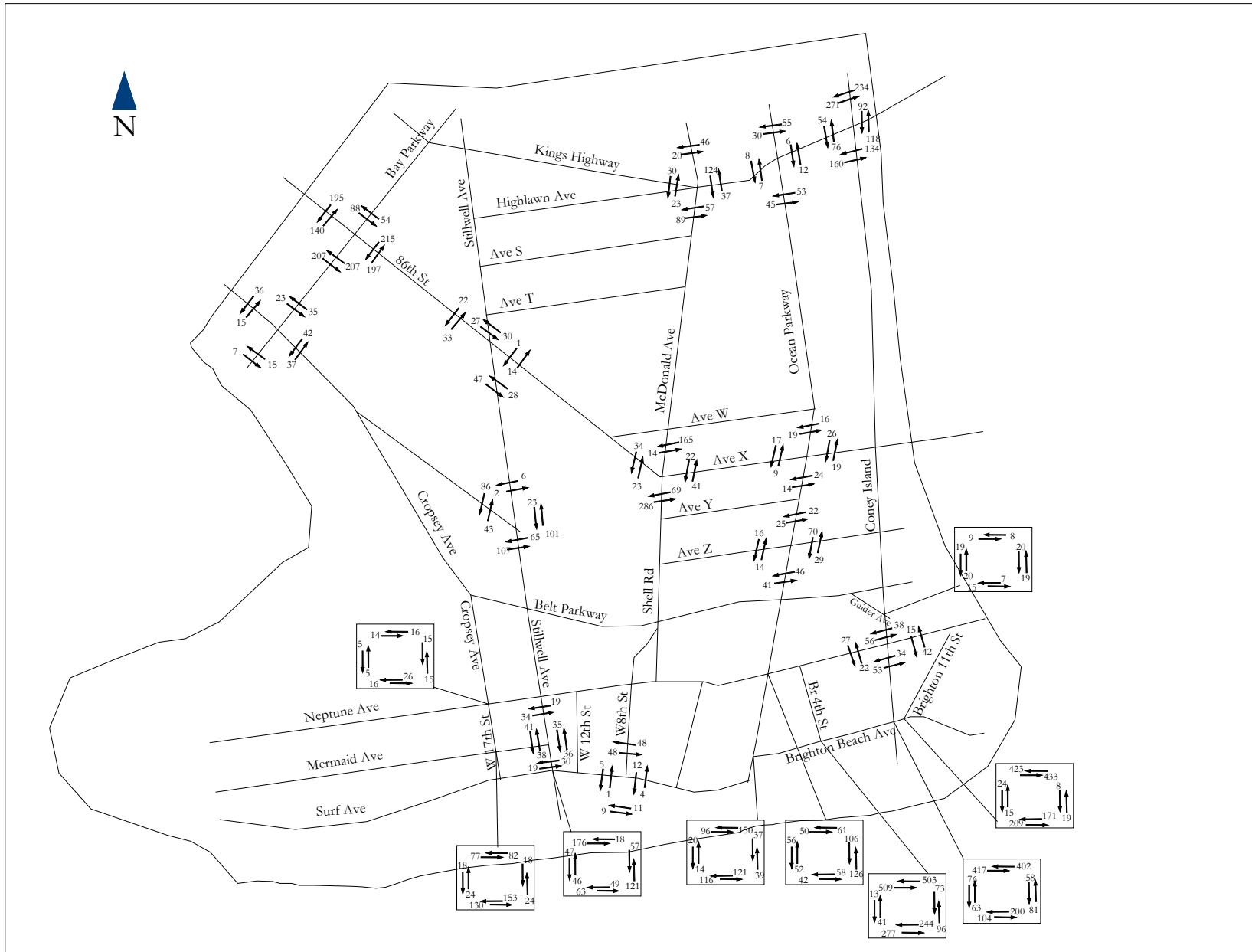
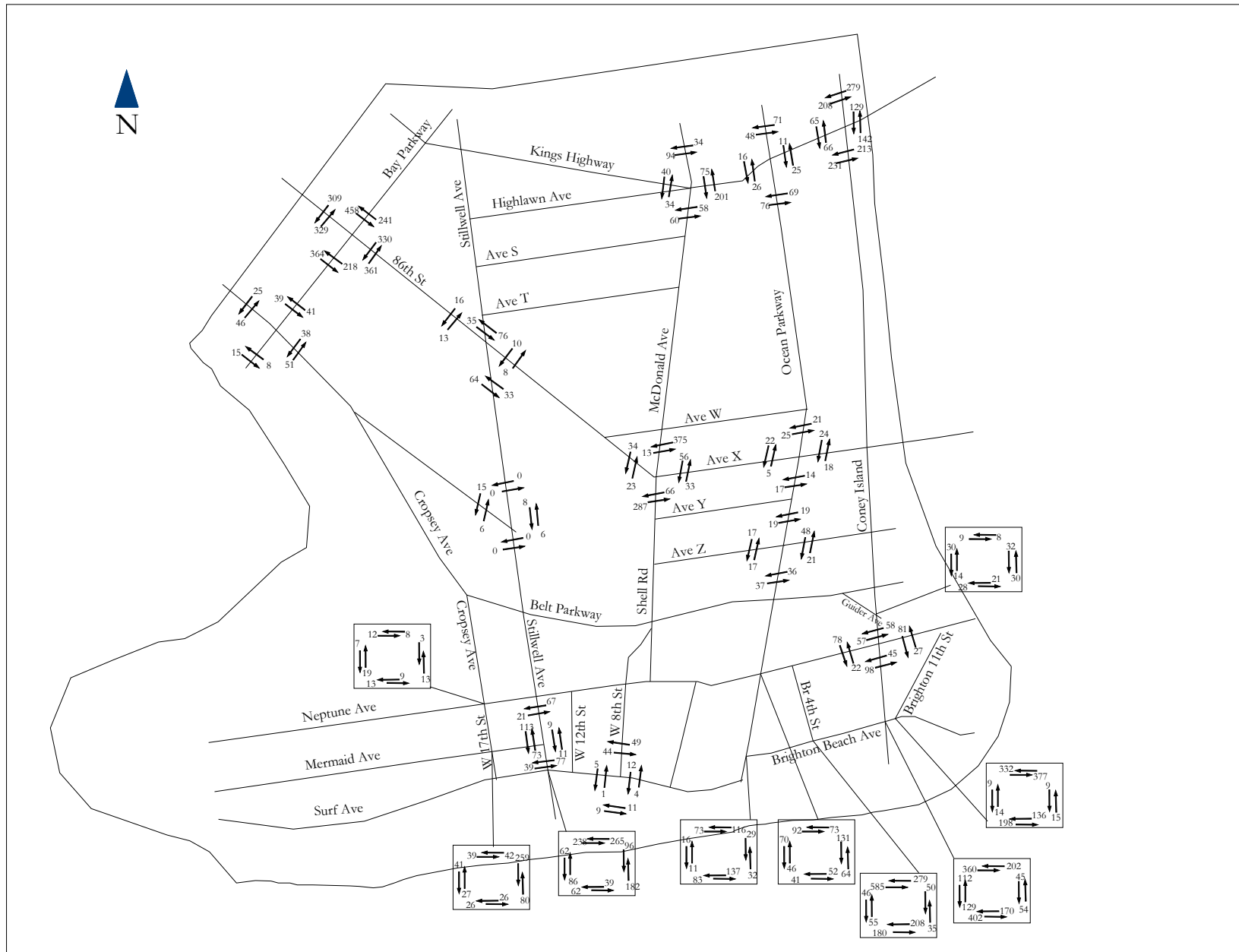


Figure 2.4-3: Future 2015 Pedestrian Volumes - PM Peak Hour

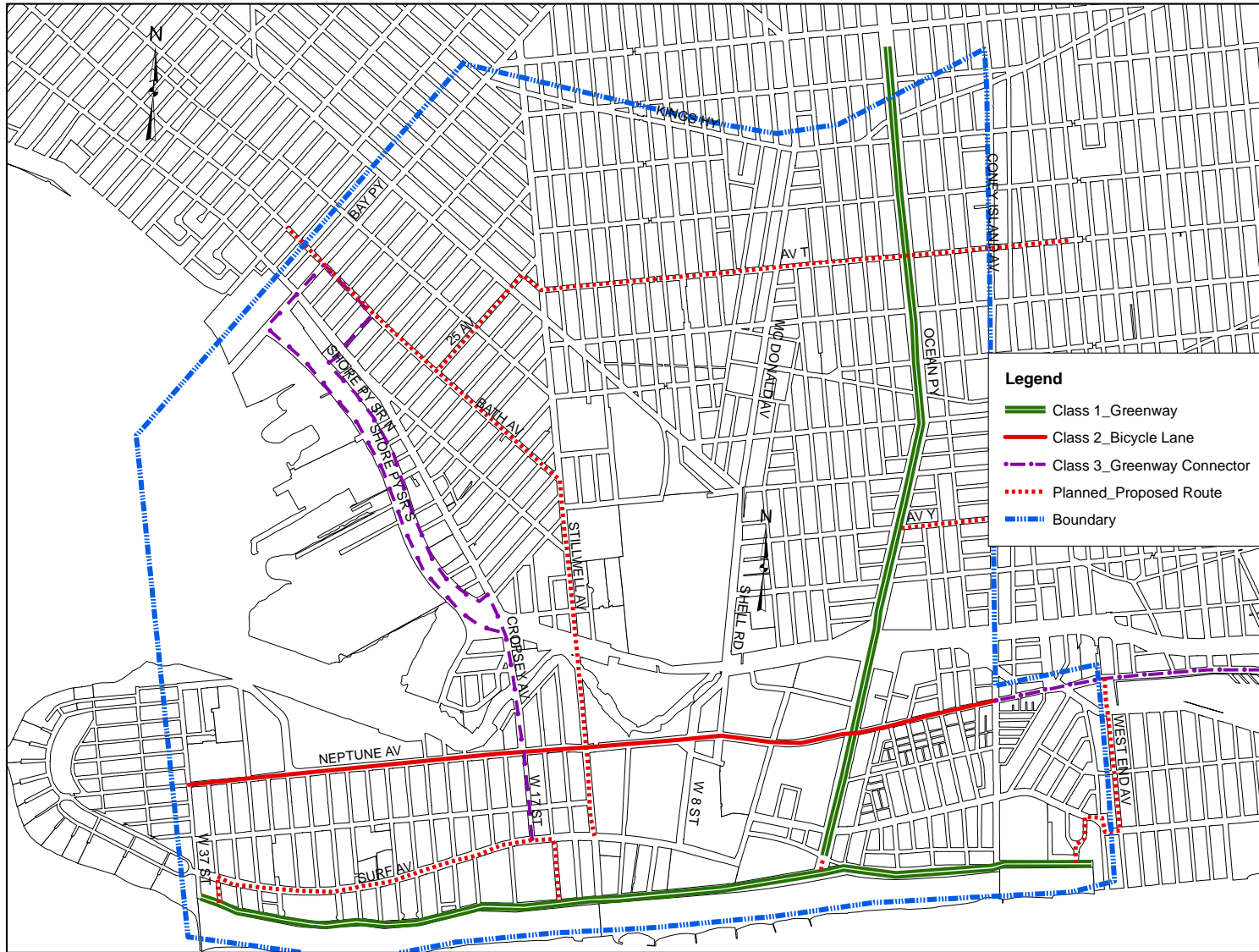


2.4.2. Bicycle/Greenway Analysis

According to the 2000 Census the use of bicycles as an alternative mode of transportation is limited in the Study Area; also, bicycle use tends to be primarily for recreational purposes. Only a small percent (8%) of the population walked or biked to work. Under future conditions, use of this mode share is expected to increase as the bicycle network expands throughout the city and thus increasing commuting options for workers.

Although cycling for journey to work trips is not widespread in the Study Area, bikes are popular for recreational purposes. Greenway and on-street bicycle facilities are relatively extensive, and are expected to be expanded in the future based on recommendations made in the Shore Parkway Connector study recently completed by the Department of City Planning. The first on-street marked and signed bicycle facility in the Study Area was installed along Neptune Avenue (from West 37th Street to Ocean Parkway) in June 2005. The lane was added to both sides of the street to accommodate cyclists traveling in both directions. Beside Neptune Avenue marked bicycle paths are located on the Ocean Parkway esplanade and the boardwalk, where cycling is permitted from 6 AM to 10 AM daily. Figure 2.4-4 shows the bicycle and greenway facilities in the Study Area.

Figure 2.4-4: Bicycle Facilities



2.5. Parking

In general, the parking supply is adequate to satisfy demand in the Study Area, but there are specific locations particularly where commercial and amusement activities are concentrated that have parking shortfall. Based on current demand in these areas along with population growth, changes in zoning and land use, and potential for new developments, it is anticipated that the parking shortfall would be exacerbated. The parking analysis focused on the main corridors in the Study Area – Coney Island Avenue, Ocean Parkway, Brighton Beach Avenue, Surf Avenue, Mermaid Avenue, Neptune Avenue, Cropsey Avenue, Stillwell Avenue, Kings Highway, Bay Parkway, McDonald Avenue/Shell Road, 86th Street, Avenue X, and Avenue U. The areas where parking shortfall are expected include portions of 86th Street (Bay Parkway to Stillwell Avenue), Surf Avenue (seasonal), Brighton Beach Avenue, Mermaid Avenue, portions of Coney Island Avenue and Kings Highway.

2.5.1. On-Street Parking

Future demand for on-street parking is expected to be higher where recreational and commercial activities are concentrated and new developments are expected to occur. The projected future on-street parking supply, demand, and utilization for the weekday and weekend peak hours in the Study Area are shown in Appendix C.

The future conditions parking analysis projects that on-street parking utilization rates would be higher (greater than 75%) on Coney Island Avenue (80%, 92% and 78% for the AM, midday, and PM, respectively), McDonald Avenue (100%, 100% and 98% for the AM, midday, and PM, respectively), Kings Highway (96%, 99%, and 77% for the AM, midday, and PM, respectively), Neptune Avenue (93%, 92%, and 89% for the AM, midday, and PM, respectively), Cropsey Avenue (99%, 100%, 100% for the AM, midday, and PM, respectively), Avenue U (75% for midday), and Brighton Beach Avenue (93%, 99%, 93% for the AM, midday, and PM, respectively). Table 2-5.1 summarizes the parking utilization (excluding double-parked vehicles) along the major corridors in the Study Area.

Table 2-5.1: Future 2015 Parking Utilization (%)

Corridor	AM	MID	PM
Coney Island Avenue	80	92	78
Ocean Pkwy	66	60	71
McDonald Avenue	108	101	101
Shell Road	72	68	70
Bay Parkway	56	52	53
Avenue X	69	70	68
86th Street	70	64	64
Kings Highway	96	99	77
Neptune Avenue	93	92	89
Surf Avenue	55	51	53
Stillwell Avenue	54	55	44
Cropsey Avenue	99	100	100
Avenue U	59	75	49
Brighton Beach Avenue	93	99	93

2.5.2. Off-Street Parking

Most of the off-street parking facilities in the northern part of the Study Area are small parking lots associated with commercial establishments (restaurants, pharmacy, variety stores) and multi-unit residential buildings.

The off-street parking facilities south of the Belt Parkway are associated with the high-rise residential buildings as well as commercial, entertainment and recreational establishments. The off-street parking lots associated with Keyspan Park and the Aquarium are paid facilities, while Home Depot, Ceasar’s Bay Mall, and Pathmark parking is free. Currently, the parking lots serving recreational facilities such as Keyspan Park, the Aquarium, and the Amusement Park reach peak utilization during summer months usually May to September. However, in light of the revitalization effort to make Coney Island a year-round destination, off-street parking demand and utilization are expected to increase notably.

The Coney Island Development Corporation’s preliminary vision plan calls for additional off-street parking facilities in Coney Island, or in its proximity, to meet the expected demand during peak periods. Visitors using the amusement and entertainment sites would be bused

from the proposed parking facility to their destination via a proposed shuttle service for the area.

The existing conditions parking demand and supply analysis showed that parking demand was satisfied along most of the major corridors in the Study Area. However, in some instances, particularly along 86th Street and Brighton Beach Avenue where retail establishments are concentrated, the parking demand was greater than the supply. Consequently, the use of muni-meters will be expanded to increase parking turnover and satisfy demand of both trucks and private automobiles. In October 2005 muni-meters were installed on Brighton Beach Avenue and adjacent street corners between Brighton 11th Street and Ocean Parkway.

2.6. Public Transportation

The study area is currently well served by public transportation. Metropolitan Transportation Authority-New York City Transit is the provider of public transit service - both subway and bus - in the study area. In light of the Metropolitan Transportation Authority's current budgetary constraints and announced service cuts, service provision in the study area may change significantly. Proposed service changes within the study area include: eliminating X28 service on weekends, discontinuing B64 overnight service, terminating B4 service at Avenue Z and Coney Island Avenue, and eliminating M line train service at Bay Parkway.

Subway Service

Six New York City Transit subway lines - B, D, F, M, N, and Q - operate in the study area. These lines make 14 stops in the study area. The B/Q train runs on the same route and makes the same stops in the study area. The D, F, and N lines run on separate routes in the study area; and the M train shares one stop with the D train (until the end of June 2010 when service on that line will be terminated).

B Train

The B train provides service to the study area (Brighton Beach) from Bedford Park Boulevard, the Bronx. It provides local service in Manhattan and express service in Brooklyn. The headway for this train is six to eight minutes northbound during the AM peak hour and every ten minutes during the PM peak hour.

D Train

The D train provides service between 205th Street (Norwood) in the Bronx and Coney Island. It makes four stops in the study area – Bay Parkway, 25th Avenue, Bay 50th Street, and terminates at Coney Island/Stillwell Avenue. The headway for this train is six to eight minutes during the AM peak hour and seven to ten minutes during the PM peak hour.

F Train

The F train operates between Jamaica Estates, Queens and Coney Island. Within the study area, it runs along McDonald Avenue making a total of six stops in the study area – Kings

Highway, Avenue U, Avenue X, Neptune Avenue, West 8th Street, and Coney Island/Stillwell Avenue where the line terminates. The headway for this train varies from four to six minutes during the AM and PM peak hours.

M Train

The M train provides service between Middle Village, Queens and Gravesend. It makes only one stop (Bay Parkway/86th Street) in the study area. The headway for northbound trains varies from 7 to 12 minutes during the AM peak hour and eight to ten minutes during PM peak hour. Service on this line will be terminated end of June 2010.

N Train

The N train provides service between Astoria (Ditmars Boulevard) and Gravesend (86th Street). This train makes three stops in the study area at Kings Highway, Avenue U, 86th Street, and Coney Island/Stillwell Avenue. Headway along this line varies during the AM and PM peak hours – seven to nine minutes in the AM and 7 to 14 minutes in the PM.

Q Train

The Q train provides service between 57th Street, Manhattan and Coney Island/Stillwell Avenue. It makes four stops in the study area – Brighton Beach, Ocean Parkway, West 8th Street, and Coney Island/Stillwell Avenue. In general, the Q train provides express service in Manhattan and local service in Brooklyn. Headway for this train varies from six to nine minutes during the AM and PM peak hours.

Figure 2.6-1 shows the train lines and stations in the study area.

Figure 2.6-1: Subway Routes and Stations in the Study Area



Bus Service

In the study area there are nine local bus lines (B1, B3, B4, B6, B36, B64, B68, B74, and B82) and two express bus lines (X28/X38). The local buses provide daily service to points within the study area and Brooklyn, while the express bus provides service between the study area and Manhattan. A summary of service provision on each bus line is below:

B1

The B1 bus provides service between Bay Ridge and Manhattan Beach. In the study area it provides service along 86th Street, Avenue X, Ocean Parkway and Brighton Beach Avenue. Headway varies according to demand for service. During the AM peak hour, the headway is ten minutes for southbound and nine minutes for northbound buses. During the PM peak hour, the headway is nine minutes for southbound and ten minutes for northbound buses.

B3

The B3 bus provides service between Bath Beach and Bergen Beach. In the study area it provides service along Avenue U, Stillwell Avenue, and 25th Avenue before approaching its last stop at 25th Avenue/Harway Avenue. A significant difference does not exist between the headways for AM and PM peak hours. During the AM peak hour the headway is eight for eastbound and seven minutes for westbound buses; the headway is ten minutes in both directions during the PM peak hour. Effective end of June 2010 service south of Avenue U and East 71 Street will be discontinued on this route.

B6

The B6 bus line provides service between Bath Beach and East New York. In the study area it provides service along Bay Parkway, Shore Parkway, and 26th Avenue. The headway for this bus line in the AM peak hour for eastbound service is nine minutes for local service and eight minutes for limited stop service; westbound service headway is eight minutes for local service and eight minutes for limited stop service. During the PM peak hour, the headway for eastbound service is ten minutes for local and six minutes for limited stop service; for westbound service it is ten minutes for local and five minutes for limited stop service.

B36

The B36 bus provides service between Coney Island and Sheepshead Bay (Avenue U). It provides service along Ocean Parkway, Neptune Avenue, West 5th Street, Surf Avenue, West 37th Street, and West 33rd Street. During the AM peak hour the headway is three to six minutes for eastbound buses and four to six minutes for westbound buses; during the PM hour the headway is seven to eight minutes in both directions.

B64

The B64 bus provides service between Bay Ridge and Coney Island. In the study area it provides service along the Bath Avenue, 25th Avenue, Harway Avenue, Stillwell Avenue, Mermaid Avenue, Surf Avenue, Bay View Avenue, and 37th Street. During the AM peak headway for this bus line is 11 to 15 minutes for eastbound service and 8 to 10 minutes for westbound service. During the PM peak hour, the headway is ten minutes in both directions. Effective end of June 2010 service south of 25th Avenue will be discontinued on this route as well as overnight service.

B68

The B68 bus provides service between Coney Island and Park Slope. In the study area it provides service along Coney Island Avenue, Brighton Beach Avenue, and Surf Avenue. The headway is the same for both AM and PM peak hours – six to eight minutes in both directions.

B74

The B74 bus provides service between Sea Gate and Coney Island. It provides service along Mermaid Avenue, Neptune Avenue, Bay View Avenue, and 33rd Street. The headway during the AM peak hour is nine minutes and during the PM peak hour it is seven minutes.

B82

The B82 bus provides service between Gravesend and Starrett City. In the study area it runs along Cropsey Avenue, Bay Parkway, and Kings Highway. The headway is six to eight

minutes eastbound and nine minutes westbound during the AM peak; during the PM peak hour, the headway is seven to eight minutes westbound and 12 minutes eastbound.

X28/X38

The X28/X38 bus lines provide express service between Sea Gate/Bensonhurst and Manhattan (X28 to West 23 Street/Broadway and X38 to East 57 Street/Madison Avenue). Within the study area there are stops along Surf Avenue and Cropsey Avenue. During the AM peak hour both buses provide Manhattan-bound service every six to ten minutes; during the PM peak hour Brooklyn-bound service is provided every eight minutes on the X38 and every 12 minutes on the X28.

Figure 2.6-2 shows the bus routes in the study area.

