3.0 BEST PRACTICE MODEL

The NYMTC Best Practice Model (BPM) is a regional travel demand model that was developed to forecast travel patterns in the NYMTC region consisting of 28 counties in New York, New Jersey, and Connecticut. The BPM contains information about the demographic characteristics of each sub-area – transportation analysis zone (TAZ), data about the transportation systems (bus, train, and ferry routes), as well as information about the major arterials and highways throughout the region. There are 3,500 TAZs in the NYMTC region, of which 33 are located in the Study Area. Figure 3-1 shows the TAZs in the Study Area.

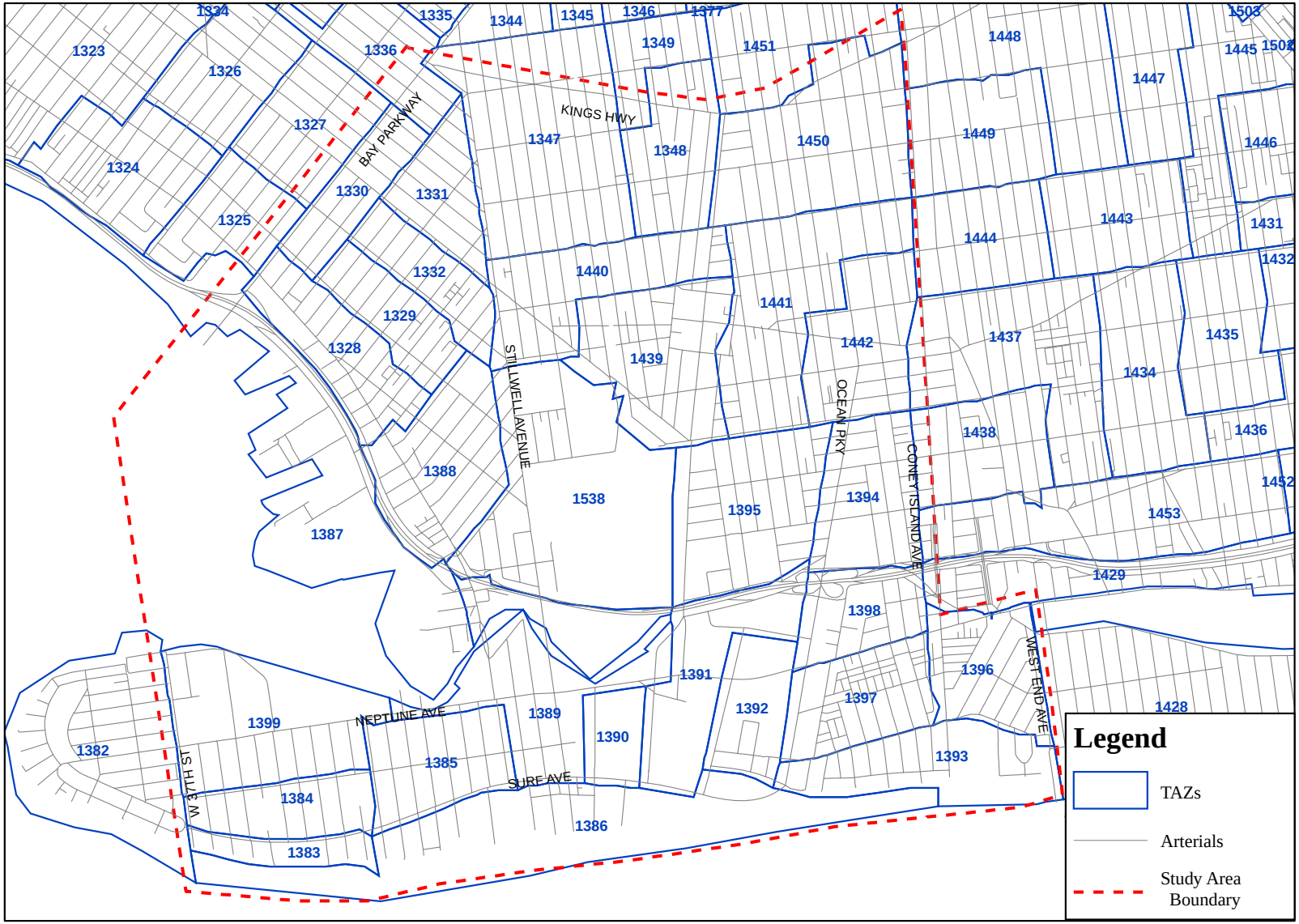
Community Outreach Process

Community input regarding land use and transportation issues in the Study Area was solicited at several meetings and charrettes (public planning workshops). These meetings also sought to obtain from residents their vision of the future for their community.

Scenario Development

Based on the existing land use (including the distribution of vacant lots) and the street network in the Study Area, two land use scenarios and two transportation scenarios were identified to be modeled with the Best Practice Model (BPM). The land use scenarios explored hypothetical development of the vacant lots in the Study Area, primarily in Coney Island where the majority of vacant lots are located. On the other hand, the transportation scenario largely derives from comments community residents made at the various visioning sessions that were held when the study initially began. The impact traffic and transportation issues have on residents' life was evident as they were clear about their desires in this regard. One issue that was heard repeatedly was the problem of accessing Coney Island from Cropsey Avenue during special events at Keyspan Park. Related to this matter, some residents thought that an additional exit ramp from the eastbound Belt Parkway onto Stillwell

Figure 3-1: Transportation Analysis Zones (TAZs) in the Study Area



Avenue would be an alternative to the congested Cropsey Avenue. This alternative was initially explored as a potential scenario, however, upon closer examination of the existing field conditions, including the proximity of the Cropsey Avenue entrance ramp to Stillwell Avenue, it was deemed infeasible and was not modeled. Another prominent issue raised by the community was the need for a bus service that linked Coney Island, Brighton Beach, and Manhattan Beach and provided direct service from Coney Island to Kingsborough Community College.

3.1. Scenarios Modeled

This task was a modeling exercise of transportation alternatives to evaluate likely outcomes and feasibility. When conducting traffic and transportation studies, NYCDOT normally does a projected future condition assessment for at least 10 years from the existing base year. In order to synchronize NYCDOT's with NYMTC's future travel needs assessment, the traditional 10-year horizon to 2012 was changed to 2015. As a result, the modeling was done for the 2002 (existing conditions) which was the BPM built in base year, two future baseline years in 2015 and 2025 using unmodified (no change) BPM projected data (called 2015N and 2025N), and two future proposed build years in 2015 and 2025 using modified BPM data reflecting assumed future condition (called 2015P and 2025P). Table 3-1 is a simple matrix showing the transportation and land use scenarios that were modeled and described in further details in the following sections.

Table 3-1: Future Proposed Transportation and Land Use Scenarios

TRANSPORTATION / LAND USE		1 Moderate Development (2015P)	2 Aggressive Development (2025P)
1	Transportation System Management (TSM) Strategies	Transportation West 15 and West 17 Street one-way southbound; West 19 and West 16 Streets one-way northbound ·Additional moving lane on Ocean Parkway service road by peak hour	Transportation - same as 2015P
2	Transit Focused Improvements	Transit Extend B74 bus to serve Coney Island, Brighton Beach, and Manhattan Beach	Transit - same as 2015P

3.2. Land Use Scenarios

Within the Study Area, the vacant lots amount to over two million square feet of space that could be utilized for residential, commercial, and light manufacturing, as permitted by the existing zoning regulations. The majority of vacant lots in the Study Area can be found in Community Board 13. The table below shows the distribution of vacant lots in the Study Area by community districts.

Table 3-2: 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**
Total	**1,803,475**	**720,166**	**191,867**	**2,715,508**

Land Use Scenario 1 – Moderate Development (LUS1/2015P)

The Land Use Scenario 1 advocates moderate development by the year 2015 consistent with existing development patterns geographically and the development density. It embraces a development pattern that would result in little or no change to land use patterns. It is assumed that vacant lots zoned for residential use would be developed consistent with the existing building context. Similarly, lots zoned for commercial or manufacturing uses would adhere to the existing context and uses in the neighborhood. This scenario also assumes that no major proposed developments by any development agency (NYC Economic Development Corporation (EDC), Empire State Development Corporation (ESDC), or the Coney Island Development Corporation (CIDC)) would occur prior to 2015 and that only 60% of vacant lots zoned for residential developments would be developed by 2015 and the remaining 40% by 2025. The vacant lots zoned for commercial and manufacturing development would be 40% developed by 2015 and the remaining 60% developed by 2025. Based on these assumptions, developments that occur prior to 2015 would be primarily residential in nature and small in scale (built at or below the maximum FAR permissible).

Land Use Scenario 2 – Aggressive Development (LUS 2/2025P)

At the core of this development scenario is the concept/plan to revitalize Coney Island. The development concept focuses on the core of Coney Island's entertainment area along Surf Avenue. It encapsulates the vision for the area developed by CIDC that calls for developments that will attract visitors throughout the year, instead of primarily during the summer months as is currently the case. While the plan will enhance the overall attractiveness of Coney Island, most of the new developments will be concentrated between West 23rd Street and Stillwell Avenue from Surf Avenue to the Boardwalk.

The general development concept plan for Coney Island includes uses/activities such as:

1. Hotel,
2. Multi-Cultural Community Center,
3. Mixed Income/Mixed Use Developments,
4. New entertainment facilities, and
5. New recreational facilities.

Currently, the vacant land in the core of Coney Island entertainment area identified for development amounts to approximately 115,000 square feet for residential use in R5 and R6 zones and 556,535 square feet for commercial use in a C7 zone. These proposed developments are expected to maximize the permissible floor area ratio FAR. Based on these permissible FAR there would be approximately 229,652 square feet floor space for residential development and 1,113,071 square feet floor for commercial development. It is anticipated that some rezoning will be necessary to meet the future development objectives. For example, some of the lots currently zoned for residential development may be rezoned for commercial/mixed use developments.

This scenario assumes that in the CIDC target area all lots currently zoned for residential development will be developed prior to 2015 and 90% of the lots zoned for commercial development will be built by 2015 with the remaining 10% by 2025. Areas outside the CIDC target area would be developed consistent with the moderate development scenario – 60% of residential development and 40% of commercial development before 2015; and 40% of residential development and 60% of commercial development by 2025. Table 3-3 shows the planned developments by floor area for major land uses in the three community boards.

Table 3-3: Scenario #1 – Moderate Development for 2015 and 2025

Community Board	Residential (sq. ft.)	Commercial (sq. ft.)	Manufacturing (sq. ft.)	Total (sq. ft.)	Residential (Units)			Commercial (SqFt)		Manufacturing (SqFt)	
					No of Units	2015	2025	2015	2025	2015	2025
CB 11	52,329	0	12,044	**64,373**	39	23	16	0	0	4,818	7,226
CB 13	1,631,993	1,176,702	175,198	**2,983,893**	1,205	723	482	1,065,395	111,307	70,080	105,118
CB 15	216,225	0	4,625	**220,850**	127	76	51	0	0	1,850	2775
	1,900,547	**1,176,702**	**191,867**	**3,269,116**	1,371	822	549	1,065,395	111,307	76,748	115,119

Table 3-4: Scenario #2 – Aggressive Development for 2015 and 2025

Community Board	Residential (sq. ft.)	Commercial (sq. ft.)	Manufacturing (sq. ft.)	Total (sq. ft.)	Residential (Units)			Commercial (SqFt)		Manufacturing (SqFt)	
					No of Units	2015	2025	2015	2025	2015	2025
CB 11	52,329	0	12,044	**64,373**	39	23	16	0	0	4,818	7,226
CB 13	1,402,341	63,631	175,198	**1,641,170**	706	424	282	63,631		70,080	105,118
CB13 - EDC	229,652	1,113,071	0	**1,342,723**	499	499	0	1,001,764	111,307	0	0
CB 15	216,225	0	4,625	**220,850**	127	76	51	0	0	1,850	2775
	1,900,547	**1,176,702**	**191,867**	**3,269,116**	1,371	1,022	349	1,065,395	111,307	76,748	115,119

Based on the above land use development scenarios, estimates of future population, household, employment and vehicular trips were made for input in the models. The model inputs for each land use scenario are shown in Table 3-5 below.

Table 3-5: Model Inputs for LUS1 and LUS2

Scenario	2015P					2025P				
	Potential Dwelling Units	Pop.	H'holds	Jobs	Vehicular Trips	Potential Dwelling Units	Pop.	H'holds	Jobs	Vehicular Trips
LUS1	641	1,282	641	100	75	345	690	345	400	200
LUS2	1,024	2,048	1,048	600	300	347	694	347	100	100

3.3. Transportation Scenarios

Accompanying the land use scenarios are transportation options that will be integrated into the overall development concept. There are two distinct elements to the transportation component, the highway network and transit network. The model combines these components into one scenario. The proposed transportation scenario therefore includes a combination of changes to the highway network and the transit network. This transportation scenario will be applied to the 2015P and 2025P scenarios.

The proposed changes to the highway network derive from the community's request to improve access for residents during events at Keyspan Park, when changes to traffic patterns are usually made. Secondly, the proposal to provide an additional moving lane on Ocean Parkway is designed to relieve congestion during the AM and PM peak hours in the future. The HCS capacity analysis conducted along Ocean Parkway showed that the northbound approach on 4 of 6 intersections will be failing in 2015 and some southbound approaches would operate at LOS D in the PM peak.

The modeled changes to the highway network include the following:

1. Convert West 17th Street to one-way southbound between Neptune Avenue and Surf Avenue

2. Convert West 19th Street to one-way northbound from Surf Avenue to Neptune Avenue.
3. Convert West 16th Street to one-way northbound, West 15th Street to one-way southbound, and convert Hart Place between West 16th and 15th streets to one-way eastbound.
4. Extend Hart Place east of Cropsey Avenue to Stillwell Avenue.
5. Provide an additional lane on Ocean Parkway during rush hour. This would be done by restricting parking (e.g. "No Parking 7-10 AM and 4-7 PM) based on peak direction travel on the service roads.

Figure 3-2 shows the locations of the proposed highway network changes in the Study Area.

Transit

The simulated change to the transit system is the extension of the B74 bus loop to provide service to Brighton Beach and Manhattan Beach as well. Figure 3-3 shows the existing and simulated B74 bus route.

3.4. Results of Modeling Effort

To assess the future conditions using the BPM, the modeling process begun by calibrating the 2002 base year. After the 2002 base year condition was modeled, the BPM future baseline 2015N and 2025N conditions were modeled. Then, the proposed scenarios in the LUS1 and LUS2 plus transportation options were modeled for 2015P and 2025P with the necessary adjustments to the model.

To assess the results and potential impacts of the scenarios on the Study Area, transportation performance measures specifically related to the TAZs in the Study Area were extracted and analyzed. The analysis examined changes in traffic (volume) for the AM, midday, and PM peak periods, average travel speed along major corridors and transit bus trips on Neptune Avenue. The BPM peak periods cover a four-hour time span as follows – AM (6-10 AM), midday (10 AM-3 PM), and the PM (3-7 PM).

Figure 3-2: Highway Network Changes for the Future Build Scenarios (2015P and 2025P)

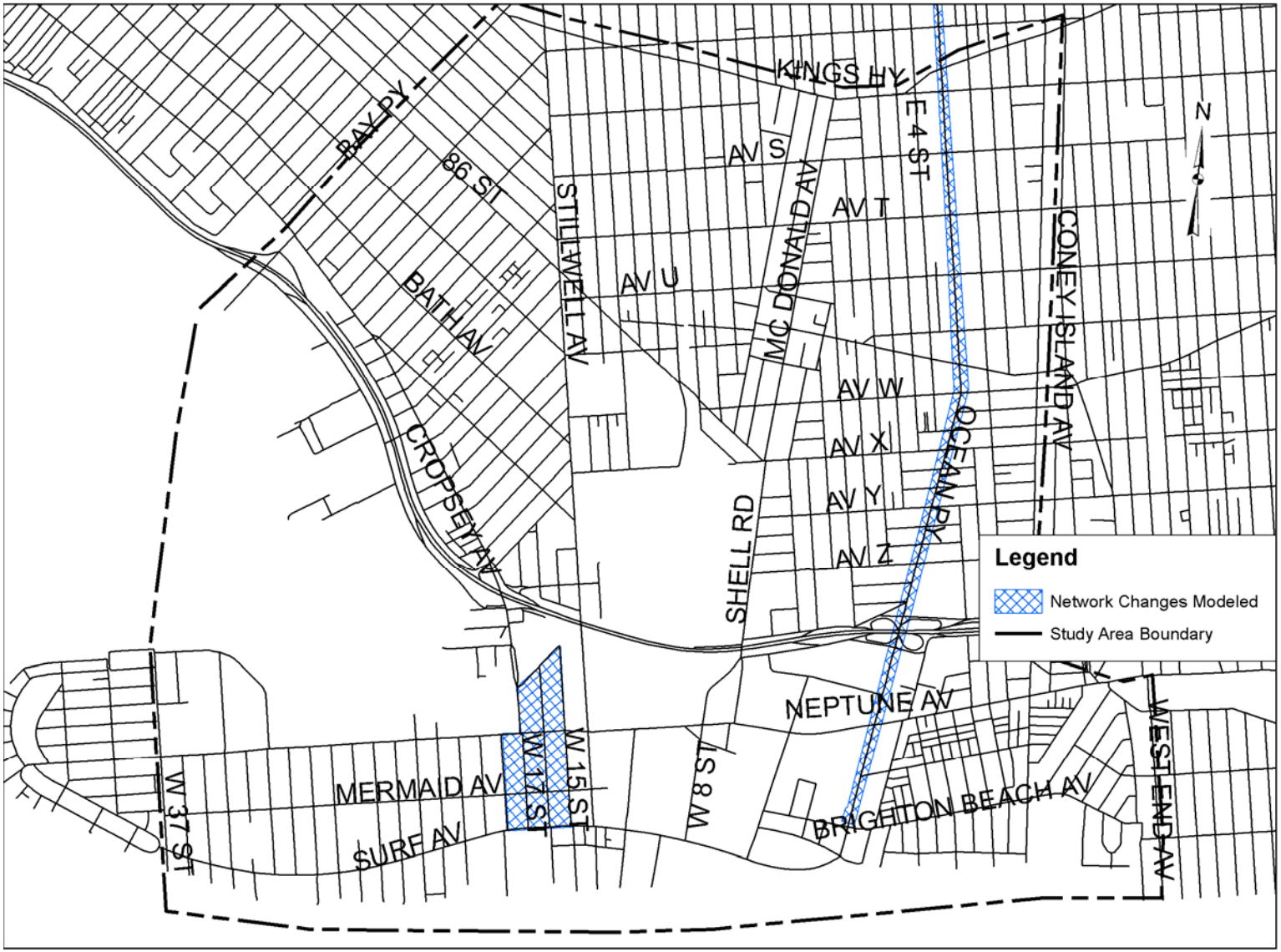
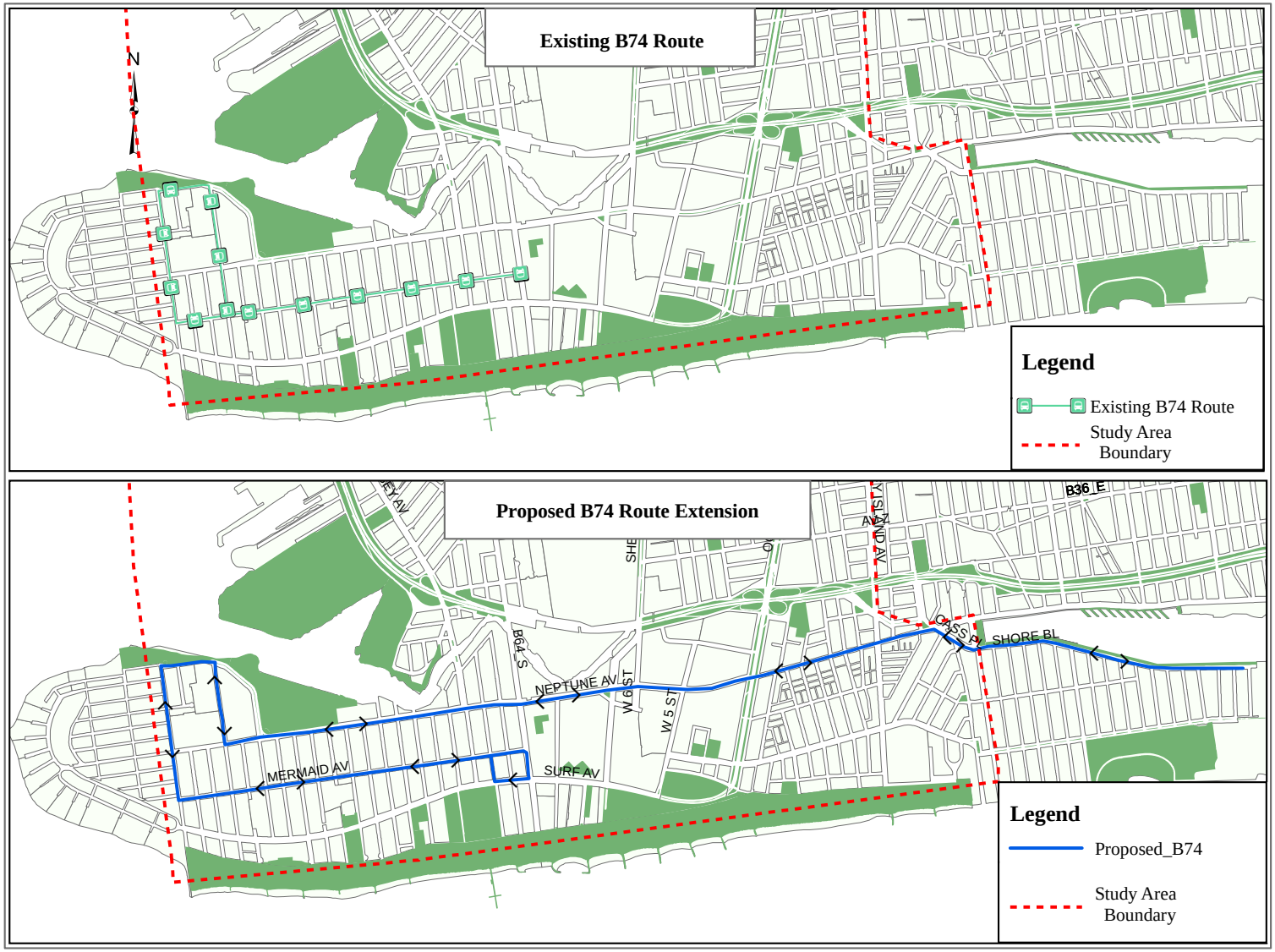


Figure 3-3: Transit Network Changes for the Future Build Scenarios (2015P and 2025P)



In addition to comparing results of one scenario against the other, the BPM results for the 2002 base year and the 2015 future baseline year were compared to the NYCDOT 2002 existing condition and the 2015 future condition, that was derived from traffic counts conducted for the local network and projected to 2015 using the CEQR criteria, i.e. a background growth rate of 1.0% per year plus the trips of any known developments likely to be built before 2015. However, where there was little known future development, a 1.5% annual background growth rate was applied to be conservative.

BPM Results – Vehicular Volumes

The results of the BPM modeling process for 2002 Base Year, 2015N, and 2025N shows that between 2002 and 2015N the traffic volume on the major corridors in the Study Area decreased slightly during the AM and PM periods but increased slightly during the midday peak hour. Ironically, the midday volumes in the Study Area were higher than the AM and PM peak period volumes in each scenario year. This does not correlate with data collected in the field by NYCDOT for the traditional traffic analysis. The chart also shows that there was no significant difference (average 2%) in traffic volumes between the 2015N and 2025N scenario years. Chart 3-1 shows the traffic volumes in the Study Area during the AM, midday, and PM periods.

Chart 3-1: Comparison of Vehicle Volume for 2002 Base Year & Future Baseline (N) Scenarios

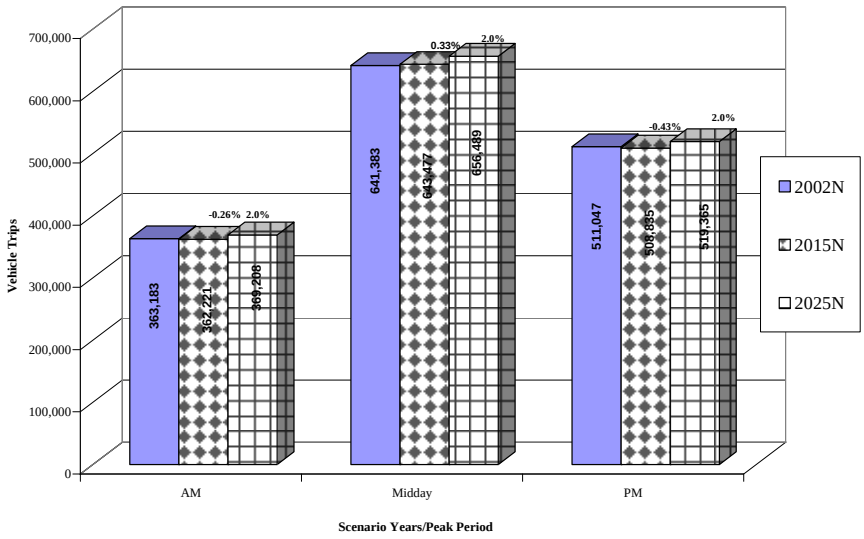


Chart 3-2 compares the 2002 Base Year trips to future build scenarios in LUS1/2015P and LUS2/2025P. This chart shows that there was a small decline in trips between 2002N and 2015P in the AM peak period. Unlike the baseline future scenario years, there was a significant difference (average 12.5%) between the 2015P and 2025P trips for each peak period.

Chart 3-2: Comparison of Vehicular Volume for 2002 Base Year and Future Build (P) Scenarios

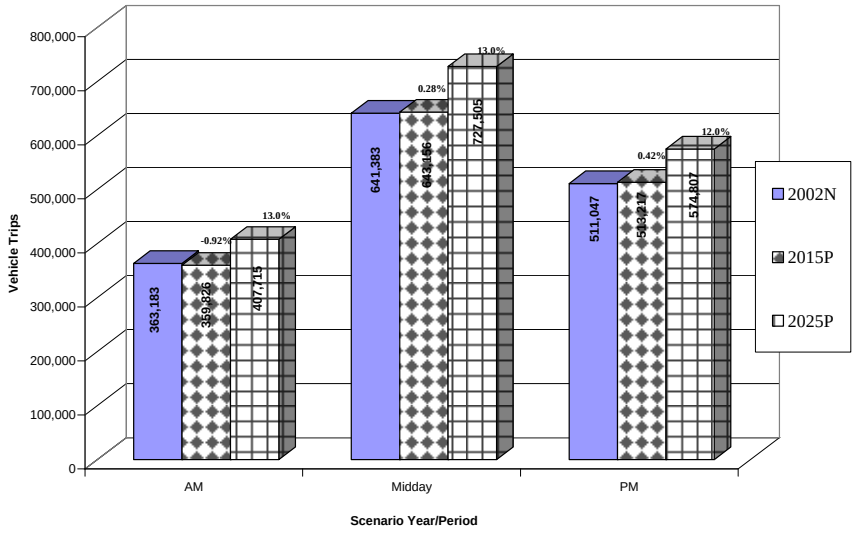
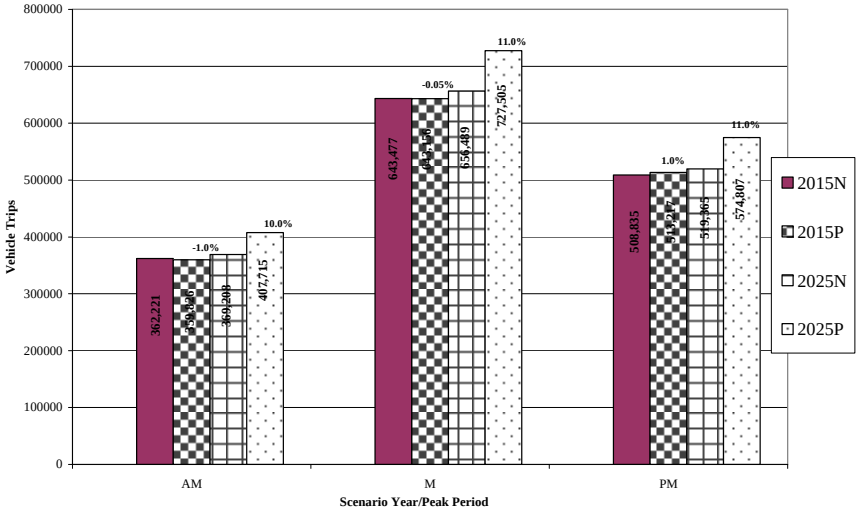


Chart 3-3 shows the difference in traffic volumes for the AM, midday, and PM period between 2015N and 2015P, and 2025N and 2025P. The data shows that between 2015N and 2015P, the change in vehicular volumes was insignificant. However, there was a significant difference (average 10.5%) for the vehicular volumes in all peak periods between 2025N and 2025P.

Chart 3-3: Comparison of No Build (N) and Build (P) Scenario Vehicular Volumes



Traffic Volumes on Major Corridors

To assess BPM projected travel patterns in the Study Area a comparison of volumes along the major corridors for each peak period and scenario year was done. Additionally, the NYCDOT collected and projected traffic volumes were compared to that of the BPM for 2002 and 2015N. As the BPM peak period extends for four hours, the 2002 ATR data used for the study was consulted to determine what percent of the same four hour period constituted the NYCDOT peak hour travel volumes. This analysis showed that the AM, midday, and PM peak hour constituted 32%, 26%, and 27%, respectively, of the BPM peak period.

Table 3-6 below supports the area-wide data that showed the midday peak period having a higher volume than the AM or PM peak period. The table also shows that the vehicular volumes declined along some of the major corridors between the 2002 base year and the future baseline years (2015N and 2025N) in one or more peak periods. The same also applied to the future build scenarios (2015P and 2025P) although there were only three instances where the 2025P volumes were less than the 2002N volumes. The reason for these anomalies is not clear. However, it could be attributed to future planned changes to the highway network that would affect flows as trips can be diverted elsewhere. Also, it could be attributed to the provision of increased transit service which could have caused a change in mode from auto to transit for some travelers.

Table 3-6: BPM Generated Vehicular Volumes along Major Corridors - AM, Midday, and PM Peak Periods

Corridors	2002			2015N			2015P			2025N			2025P		
	AM	MID	PM	AM	MID	PM	AM	MID	PM	AM	MID	PM	AM	MID	PM
86 Street	24,621	46,903	37,789	20,806	39,873	31,728	19,053	37,644	29,442	21,624	42,327	33,048	26,352	50,221	39,269
Bay Parkway	44,510	74,444	59,522	42,222	68,154	55,512	40,787	67,417	54,371	42,133	68,492	56,376	44,872	73,318	59,616
Coney Island Avenue	29,126	47,209	36,867	32,823	54,295	41,021	27,842	45,942	34,715	29,898	49,380	37,458	28,788	48,210	36,228
Cropsey Avenue	23,814	46,742	37,629	23,167	46,152	36,965	27,069	53,766	42,251	23,929	49,767	38,785	27,891	55,854	44,611
Kings Highway	21,245	38,901	31,970	21,497	39,199	31,538	20,613	38,287	31,533	22,062	40,217	32,491	21,331	38,891	31,681
McDonald Avenue/ Shell Road	22,415	37,355	28,703	24,082	40,865	31,450	22,019	38,337	28,958	25,108	42,058	32,205	23,438	42,015	30,860
Neptune Avenue	40,029	72,361	57,710	37,046	70,097	55,406	45,039	82,857	65,906	38,517	72,586	57,144	47,148	85,932	67,827
Ocean Parkway	47,470	77,750	63,035	48,317	79,162	64,327	48,864	75,947	65,518	49,526	81,086	65,883	52,280	81,451	68,743
Stillwell Avenue	25,397	46,479	37,222	25,890	47,610	37,463	24,014	45,639	36,160	31,265	65,747	44,337	25,624	48,696	37,986
Surf Avenue	13,231	27,136	20,809	15,069	31,506	23,689	17,140	38,894	31,047	15,987	32,807	25,087	16,628	37,363	28,354

Comparison of NYCDOT and BPM Vehicular Volumes and Speeds for 2002 and 2015

Traffic Volumes

The application of the NYCDOT's ATR peak hour percentages of the BPM peak period (four hours) volumes provided a basis to compare the BPM volume and NYCDOT peak hour volumes. Tables 3-7 and 3-8 show the bi-directional volumes along the major corridors for the AM (8-9 AM), midday (1-2 PM), and PM (5-6 PM) peak hours for 2002 and 2015 from both sources. The tables show that for both 2002 and 2015 the BPM AM and PM peak hour volumes were less than NYCDOT derived volume on all the major corridors except three (86 Street, Stillwell Avenue, and Kings Highway). During the midday peak hour, the BPM volumes were less on all major corridors except one (Ocean Parkway).

Vehicular Speed

Comparison of NYCDOT's field measured and projected travel speed to that of the BPM for 2002 and 2015N shows that in most cases the BPM speeds exceeded the NYCDOT measured travel speed by 30% or higher. Tables 3-9 and 3-10 show the speed data along the ten major corridors in the Study Area.

Table 3-7: DOT/BPM (2002) Peak Hour Volumes

Corridor	Direction	AM (8-9 AM)			MID (1-2 PM)			PM ((5-6 PM)		
		DOT	BPM	Percent Diff.	DOT	BPM	Percent Diff.	DOT	BPM	Percent Diff.
Bay Parkway	NB	862	843	2%	802	1,105	-27%	986	813	21%
	SB	878	740	19%	752	1,128	-33%	872	907	-4%
	TOTAL	1,740	1,583	10%	1,554	2,233	-30%	1,858	1,720	8%
Coney Island Avenue	NB	514	538	-5%	611	713	-14%	619	518	20%
	SB	530	498	6%	489	704	-31%	609	547	11%
	TOTAL	1,043	1,036	1%	1,100	1,416	-22%	1,228	1,065	15%
Cropsey Avenue	EB	860	518	66%	691	882	-22%	739	685	8%
	WB	652	435	50%	539	696	-23%	742	538	38%
	TOTAL	1,512	953	59%	1,230	1,577	-22%	1,481	1,223	21%
Kings Highway	EB	260	448	-42%	226	671	-66%	323	521	-38%
	WB	338	402	-16%	326	642	-49%	241	518	-53%
	TOTAL	598	850	-30%	552	1,313	-58%	564	1,039	-46%
McDonald Avenue/ Shell Road	NB	492	369	33%	406	494	-18%	434	353	23%
	SB	443	348	27%	450	515	-13%	499	393	27%
	TOTAL	935	717	30%	856	1,009	-15%	933	746	25%
Neptune Aveune	EB	555	409	36%	440	606	-27%	514	449	15%
	WB	524	374	40%	449	605	-26%	495	471	5%
	TOTAL	1,079	783	38%	889	1,211	-27%	1,009	919	10%
Ocean Parkway	NB	2,236	508	340%	1,009	398	153%	1,114	297	275%
	SB	1,451	504	188%	1,102	442	149%	1,348	358	277%
	TOTAL	3,687	1,012	264%	2,110	840	151%	2,462	1,065	131%
Stillwell Avenue	NB	263	470	-44%	275	677	-59%	232	507	-54%
	SB	279	342	-19%	341	578	-41%	259	461	-44%
	TOTAL	542	812	-33%	615	1,255	-51%	491	968	-49%
Surf Avenue	EB	349	272	28%	322	413	-22%	334	310	8%
	WB	340	258	32%	264	401	-34%	377	291	29%
	TOTAL	689	529	30%	586	814	-28%	711	601	18%
86 Street	EB	429	718	-40%	357	1,106	-68%	380	734	-48%
	WB	240	407	-41%	369	703	-48%	334	669	-50%
	TOTAL	669	1,125	-41%	726	1,809	-60%	714	1,403	-49%

Table 3-8: DOT/BPM (2015) Peak Hour Volumes

Corridor	Direction	AM (8-9 AM)			MID (1-2 PM)			PM ((5-6 PM)		
		DOT	BPM	Percent Diff.	DOT	BPM	Percent Diff.	DOT	BPM	Percent Diff.
Bay Parkway	NB	1,130	894	26%	802	1,127	-29%	1,197	852	41%
	SB	1,087	795	37%	752	1,173	-36%	1,071	953	12%
	TOTAL	2,217	1,689	31%	1,554	2,254	-31%	2,268	1,804	26%
Coney Island Avenue	NB	671	534	26%	611	725	-16%	760	527	44%
	SB	601	516	17%	489	741	-34%	738	540	37%
	TOTAL	1,272	1,050	21%	1,100	1,466	-25%	1,498	1,067	40%
Cropsey Avenue	EB	954	511	87%	691	862	-20%	955	669	43%
	WB	772	416	86%	539	696	-23%	889	533	67%
	TOTAL	1,726	927	86%	1,230	1,558	-21%	1,844	1,201	53%
Kings Highway	EB	315	450	-30%	226	672	-66%	392	517	-24%
	WB	410	410	0%	326	651	-50%	292	508	-43%
	TOTAL	725	860	-16%	552	1,323	-58%	684	1,025	-33%
McDonald Avenue/ Shell Road	NB	597	369	62%	406	516	-21%	526	364	44%
	SB	538	401	34%	450	587	-23%	607	453	34%
	TOTAL	1,135	771	47%	856	1,103	-22%	1,133	818	39%
Neptune Aveune	EB	673	380	77%	440	594	-26%	688	448	53%
	WB	635	348	82%	449	589	-24%	691	440	57%
	TOTAL	1,308	728	80%	889	1,183	-25%	1,379	889	55%
Ocean Parkway	NB	1,930	314	514%	1,009	401	152%	1,415	323	338%
	SB	1,427	304	369%	1,102	454	143%	1,640	346	374%
	TOTAL	3,357	619	443%	2,111	855	147%	3,055	669	357%
Stillwell Avenue	NB	349	462	-24%	275	675	-59%	268	498	-46%
	SB	345	367	-6%	341	610	-44%	385	476	-19%
	TOTAL	694	828	-16%	616	1,285	-52%	653	974	-33%
Surf Avenue	EB	571	244	134%	322	439	-27%	404	315	28%
	WB	509	239	113%	264	411	-36%	455	301	51%
	TOTAL	1,080	482	124%	586	851	-31%	859	616	40%
86 Street	EB	434	633	-31%	357	876	-59%	461	796	-42%
	WB	365	477	-23%	369	972	-62%	430	579	-26%
	TOTAL	799	1,110	-28%	726	1,848	-61%	891	1375	-35%

Table 3-9: DOT/BPM (2002) Vehicular Travel Speed

Corridors	AM						MID						PM					
	DOT		BPM		% Speed Diff.		DOT		BPM		% Speed Diff.		DOT		BPM		% Speed Diff.	
East/West	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
86th Street	11	15	21	21	89%	38%	12	9	19	18	59%	100%	14	10	19	18	36%	84%
Kings Highway	11	13	14	13	27%	1%	11	9	12	11	7%	22%	9	10	11	11	25%	12%
Cropsey Avenue	12	20	23	22	93%	10%	13	18	22	20	70%	11%	13	20	22	20	69%	0%
Surf Avenue	16	17	25	25	55%	44%	18	18	24	24	33%	33%	16	23	24	24	51%	4%
Neptune Avenue	12	11	21	21	73%	87%	14	13	20	20	40%	54%	12	13	20	20	63%	53%
North/South	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**
McDonald Avenue/ Shell Road	13	14	18	17	37%	21%	14	14	17	17	18%	19%	15	16	17	17	10%	8%
Ocean Parkway	22	14	13	14	-41%	1%	14	14	13	14	-7%	-2%	13	31	13	14	1%	-56%
Coney Island Avenue	18	15	19	19	7%	26%	13	14	18	18	42%	31%	14	20	18	19	31%	-6%
Stillwell Avenue	12	16	22	21	83%	29%	13	17	21	20	58%	15%	14	16	20	20	46%	24%
Bay Parkway	15	12	19	18	26%	49%	15	16	17	17	11%	8%	14	10	16	18	16%	78%

Table 3-10: DOT/BPM (2015) Vehicular Travel Speed

Corridors	AM						MID						PM					
	DOT		BPM		% Speed Diff.		DOT		BPM		% Speed Diff.		DOT		BPM		% Speed Diff.	
East/West	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**	**EB**	**WB**
86th Street	10	14	21	21	107%	47%	9	6	19	18	109%	202%	12	9	19	18	59%	102%
Kings Highway	5	8	14	13	176%	63%	7	5	12	11	66%	127%	6	7	11	11	89%	61%
Cropsey Avenue	11	19	23	22	113%	17%	12	16	22	20	84%	27%	11	11	22	20	101%	84%
Surf Avenue	14	16	25	24	76%	53%	17	17	24	24	40%	39%	15	22	24	24	60%	8%
Neptune Avenue	10	6	20	19	96%	222%	10	8	18	18	83%	126%	8	8	18	18	129%	127%
North/South	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**	**NB**	**SB**
McDonald Avenue/ Shell Road	8	10	17	17	114%	70%	7	7	16	16	125%	134%	9	8	16	17	75%	113%
Ocean Parkway	10	13	24	24	137%	85%	13	13	23	23	77%	78%	12	26	23	23	90%	-12%
Coney Island Avenue	17	9	19	19	11%	110%	10	8	18	18	80%	128%	13	6	18	19	42%	209%
Stillwell Avenue	10	12	22	21	117%	72%	6	9	20	20	236%	117%	11	10	20	20	83%	99%
Bay Parkway	13	10	19	18	46%	80%	14	13	17	18	21%	37%	10	5	16	18	64%	263%

Highway Network Changes

West 17th Street (and adjacent streets) and Ocean Parkway

As stated under Section 3.3, Transportation Scenarios, specific network changes were identified for simulation and evaluation. In evaluating elements of the transportation scenario, the focus was on West 17th and adjacent streets as well as Ocean Parkway.

West 17th Street

West 17th Street is a narrow, local street (30 feet wide) that operates as an arterial/feeder for two blocks between Neptune Avenue and Surf Avenue. It is one of the main entry/exit routes for Coney Island and operates with two southbound lanes and one northbound lane. For the future build scenarios (2015P and 2025P), the street network was modeled with the proposed changes i.e. West 17th Street operating one-way southbound and with the adjacent streets West 16th Street and West 19th Street operating one-way northbound.

Table 3-11 shows the comparison of volumes and speed as a result of highway network changes on West 15th Street, West 16th Street, West 17th Street, and West 19th Street. According to the Model, the change from a two-way to one-way operation on West 17th Street would result in an increase of southbound traffic volumes from 562 to 1,053 (87%), from 1,058 to1,436 (36%), and 811 to 1,124 (39%) during the AM, midday, and PM period, respectively, in 2015. For the other scenarios, there would be an increase in volume of 1% (1,053 to 1,065) and 3% (1,436 to 1,477) in the AM and midday period between 2015P and 2025P and 1% (from 1,124 to 1,108) decrease in the PM period. Along West 16th Street, the northbound volume during the AM, midday, and PM peak periods in 2015 would be 945, 2279, and 1851, respectively. Adjusting for the peak hour percentages* would yield 302, 593, and 500 vehicles in each peak hour. Along West 19th Street, the northbound volume during the same period would be 408, 952, and 792. These numbers appear to be very inflated because they are higher than existing numbers along West

*As the BPM peak period data spanned a four-hour time period while the DOT peak hour data was for only one hour, ATR data was analyzed to determine what percent of the same four-hour period used by the BPM constituted the DOT peak hour. The ATR data showed that the DOT peak hour constituted 32%, 26%, and 27% of the AM, midday, and PM peak period, respectively, utilized in the BPM.

Table 3-11: Comparison of Volume and Speed Resulting From Highway Network Changes on West 15th Street, West 16th Street, West 17th Street, and West 19th Street

		West 17 Street						West 15 Street			West 16 Street			West 19 Street		
Scenario Year	Direction	AM		MID		PM		AM	MID	PM	AM	MID	PM	AM	MID	PM
		Volume	Speed	Volume	Speed	Volume	Speed	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Volume
2002N	NB	551	22	1406	21	1222	20									
	SB	570	24	1091	22	844	22									
2015N	NB	549	22	1432	21	1173	20									
	SB	562	24	1058	22	811	23									
2015P	NB	0		0		0		0	0	0	945	2279	1851	408	952	792
	SB	1053	33	1436	33	1124	33	328	598	352	0	0	0	0	0	0
2025N	NB	581	22	1464	20	1211	20									
	SB	574	24	1122	22	864	22									
2025P	NB	0		0		0		0	0	0	314	726	592	410	1008	790
	SB	1065	33	1477	33	1108	33	2	1	2	0	0	0	0	0	0

17th Street and higher than the numbers along other major corridors in the Study Area. Some post-implementation observation would be conducted to test these results.

Ocean Parkway

To increase capacity or improve operations along Ocean Parkway during the AM and PM peak periods, the addition of one moving lane along the service road in the peak travel direction by removing parking was considered and modeled. Table 3-12 shows the summary and results for AM and PM peak period volumes and some speed data along Ocean Parkway for the existing, future without changes, and proposed conditions (no build scenarios (2002 and 2015N) and build scenario (2015P)).

Table 3-12: BPM Traffic Volume and Speeds along Ocean Parkway Mainline and Service Roads (2002, 2015N, 2015P)

	2002N				2015N				2015P			
Corridor	**AM**	**PM**	**AM Speed**	**PM Speed**	**AM**	**PM**	**AM Speed**	**PM Speed**	**AM**	**PM**	**AM Speed**	**PM Speed**
Ocean Pkwy - Mainline NB	18,725	25,733			19,567	27,380			15,701	24,397		
Ocean Pkwy - Mainline SB	18,325	24,618			19,551	26,385			17,690	23,742		
Ocean Pkwy - Service NB	5,502	3,984	19	20	4,997	2,901	19	21	11,004	6,423	21	21
Ocean Pkwy - Service SB	4,918	8,699	19	18	4,202	7,661	20	18	4,469	10,956	19	19

The simulation shows that increase in lane capacity on the service road would result in an increase in volumes on the service roads while mainline volumes would decrease. During the AM peak period, there was a net volume increase of 8.7% on the corridor with the service road having a 120% increase while the mainline volume decreased by 19.75%. During the PM peak period there was a 1.9% net volume increase on the corridor with the service road volume increased by 43% while the mainline volume decreased on by 10%. Correspondingly, there was a slight increase in speed from 19 mph to 21 mph during the AM peak period and 18 mph to 19 mph during the PM peak period on the corridor.