Springfield Gardens - South Jamaica Transportation Study

FINAL REPORT

Bill de Blasio
Mayor

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Springfield Gardens/South Jamaica Transportation Study
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Disclaimer

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Background and Existing Conditions

The Springfield Gardens/South Jamaica Transportation Study seeks to improve traffic and transportation (travel) conditions, enhance mobility, safety, and quality of life for study area residents/visitors while taking account of elected official and community concerns. Located between Downtown Jamaica (to the north) and John F. Kennedy International Airport (to the south), the study area is predominantly residential with some commercial uses along major corridors and industrial uses close to the Airport. The study area is bounded by Linden/Merrick Boulevards to the north, North Conduit Avenue to the south, Sutphin Boulevard/150th Street to the west, and 225th Street to the east; and it falls in Queens Community Districts 12 and 13.

The study area's population is approximately 59,000 with 21,000 households having an average median household income of $58,000. While sixty-seven percent of households own one or more vehicles, journey to work mode choice is almost equally split between auto and surface transit use (48% to 46%, respectively).

The existing and projected future conditions focus on eight major corridors and 33 intersections. Below are some of the major issues and findings:

- Congestion on Merrick, Sutphin, Rockaway, Guy R Brewer, Baisley and Farmers Boulevards;
- Truck double parking for loading/unloading activities on Sutphin, Merrick, and Farmers Boulevards;
- Narrow two-way streets (30 feet wide or less) impacting traffic operations;
- High parking demand on some commercial corridors and near LIRR train stations;
- There are no subway lines/stations in the study area; residents rely on autos, buses and commuter vans;
- Four locations with 300 or more pedestrians in the peak hour;

- Ten fatalities occurred in the last five years, while there were no high crash locations (23 or more crashes/year) for the last three-year period; and
- Twenty-five of 33 intersections had one or more approaches/lane groups with LOS E or F for the AM/PM peak hours.

Recommendations

The recommended improvements, listed below, are generally short-term in nature and usually can be implemented in one to three years.

A. <u>Geometric Changes</u>

1. Baisley Boulevard and Bedell Street Intersection

- Construct concrete pedestrian refuge on the west-leg;
- Restripe westbound left turn lane to complement the existing left turn phase; and
- Install rush hour regulations (Monday-Friday, 7-10AM & 4-7PM) on Baisley Boulevard north curb (60').

2. Baisley Boulevard and Marsden Street Intersection

- Install rush hour regulations on the south curb for 100' (underpass), Monday-Friday (7-10AM & 4-7PM);
- Stripe two travel lanes on the eastbound approach;
- Install a leading phase (11 seconds) on the eastbound approach (left-through); and
- Extend "No Standing Anytime" regulation to 140' on the east curb of Marsden Street between 170th Street and Baisley Boulevard.

3. Baisley Boulevard and 125th Avenue/172nd Street Intersection

- Channelize two eastbound travel lanes separating 125th Avenue and Baisley Boulevard;
- Install pedestrian signal on the west crosswalk at Baisley Boulevard and 172nd Street/125th Avenue; and
- Convert 171st and 172nd Streets from two-way to one-way.

4. Baisley and Guy R. Brewer Boulevards Intersection

- Install "No Standing Anytime" regulation (7-10 AM) on the east curb of northbound approach; and
- Install truck loading/unloading zone (Monday-Friday, 7-10AM) on the north curb of Baisley Boulevard east leg (near to restaurant).

5. Foch Boulevard between 157th/Long Streets and 167th/Smith Streets

- Stripe wide parking lanes (10') on Foch Boulevard between 157th/Long Streets and 167th/Smith Streets.

6. 225th Street between 143rd and North Conduit Avenues

- Relocate bus stop from far-side to near-side on North Conduit Avenue (WB);
- Install sidewalk on the north curb of North Conduit Avenue between 225th Street and 143rd Avenue;
- Close slip ramp between North Conduit and 143rd Avenues and extend curb (6') on eastern tip of triangle;
- Prohibit westbound right turns from North Conduit Avenue onto 225th Street; and
- Install crosswalk and pedestrian signal on the south leg of 225th Street/North Conduit Avenue.

7. 135th Avenue between 224th and 229th Streets

- Stripe centerline and mark wide parking lanes on north and south curbs; and
- Install pedestrian ramps and high visibility crosswalks at 135th Avenue/228th Street.

8. Rockaway/Sutphin Boulevards and 150th Street Intersection

- Shift centerline west (10') on 150th Street and stripe three lanes with left turn bay;
- Install "No Parking Anytime" on west curb (120'); and
- Coordinate signals between Rockaway Boulevard/150th Street and Sutphin Boulevard slip ramp.

B. Street Directional Changes

The following roadway segments are recommended for conversion from two-way to one-way operation:

1. Carson Street between 223rd and 224th Streets;
2. 171st and 172nd Streets between Baisley Boulevard and 120th Avenue;
3. Prospect Court between 224th and 225th Streets;
4. Bedell and 182nd Streets between Farmers Boulevard and 140th Avenue;
5. Smith Street between 120th Avenue and 165th Street; and
6. 161st Place between Baisley Boulevard and 122nd Avenue.

C. Signal Timing Changes

1. Rockaway Boulevard and Sutphin Boulevard/150th Street; and
2. Baisley Boulevard and Marsden Street.

D. Pedestrian Signals

1. North Conduit Avenue and 225th Street; and
2. Baisley Boulevard and 125th Avenue/172nd Street.

E. All-Way Stop (AWS) Controls

All-way stops were installed at the following intersections in 2019:

1. 140th Avenue and 169th Street;
2. 140th Avenue and 170th Street; and
3. 140th Avenue and 171st Street.

F. Truck Loading/Unloading Zones

Truck loading/unloading zones are proposed at the following locations:

1. Sutphin Boulevard from Linden Boulevard to 114th Road (west curb);
2. Sutphin Boulevard from 119th Road to 120th Avenue (west curb);
3. Baisley Boulevard from Guy R Brewer Boulevard to Smith Street (north curb);
4. 140th Avenue from Southgate Street to Bedell Street (north curb);

5. Rockaway Boulevard from Baisley Boulevard to 132nd Avenue (east curb);
6. Rockaway Boulevard from 133rd Avenue to 132nd Avenue (west curb); and
7. Rockaway Boulevard from 133rd Avenue to 132nd Avenue (east curb).

G. <u>Transit-related Improvements (Bus Stop Relocations)</u>

Bus stop relocations are recommended at the following locations:

1. Farmers Boulevard between 140th Avenue and 139th Road (northbound);
2. 140th Avenue between Bedell and 182nd Streets (eastbound); and
3. North Conduit Avenue between 225th Street and 143rd Avenue (westbound).

1.0 Introduction

The Springfield Gardens/South Jamaica (SG/SJ) Transportation Study stems from a request by Councilmember Donovan Richards to extend the boundaries while the Springfield Garden/JFK Transportation Study (SG/JFK) was being conducted. The SG/JFK study area was bounded by North Conduit Avenue (north), Springfield Boulevard (east), and Rockaway Boulevard/Nassau Expressway (south-west) and one objective of this study was to extend the boundary north of Belt Parkway to address some issues identified by the community. Some specific issues raised during the course of the SG/JFK study are:

- Congestion on Merrick, Baisley, Springfield and Sutphin Boulevards and North/South Conduit Avenues;
- Substantial truck traffic on major corridors such as Rockaway, Farmers, Baisley, Guy R. Brewer and Springfield Boulevards;
- Safety issues and conflicts between pedestrians and vehicular traffic at several locations including Springfield Boulevard between North Conduit and 143rd Avenues, Belt Parkway exit ramps to North Conduit Avenue, and the intersections of Linden/Sutphin Boulevards, and Farmers Boulevard and Bedell/Westgate Streets; and
- Streetscape enhancements (tree pits, planters, etc.) and green infrastructure needs on Merrick Boulevard medians between Farmers and Springfield Boulevards.

Exhibit 1-1 shows the study area in regional context and in relation to the SG/JFK and Downtown Jamaica Transportation Studies. Exhibit 1-2 shows major trip generators (shopping malls/centers) in the vicinity of the study area.

Exhibit 1-1: Study Area in Regional Setting

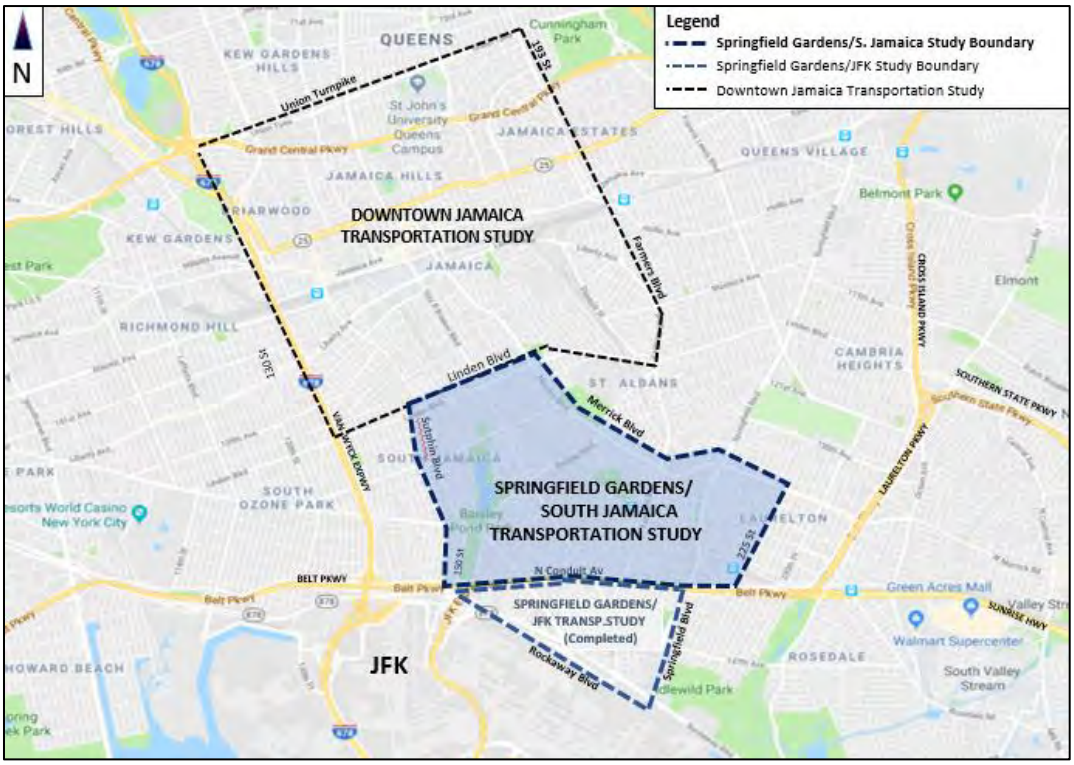
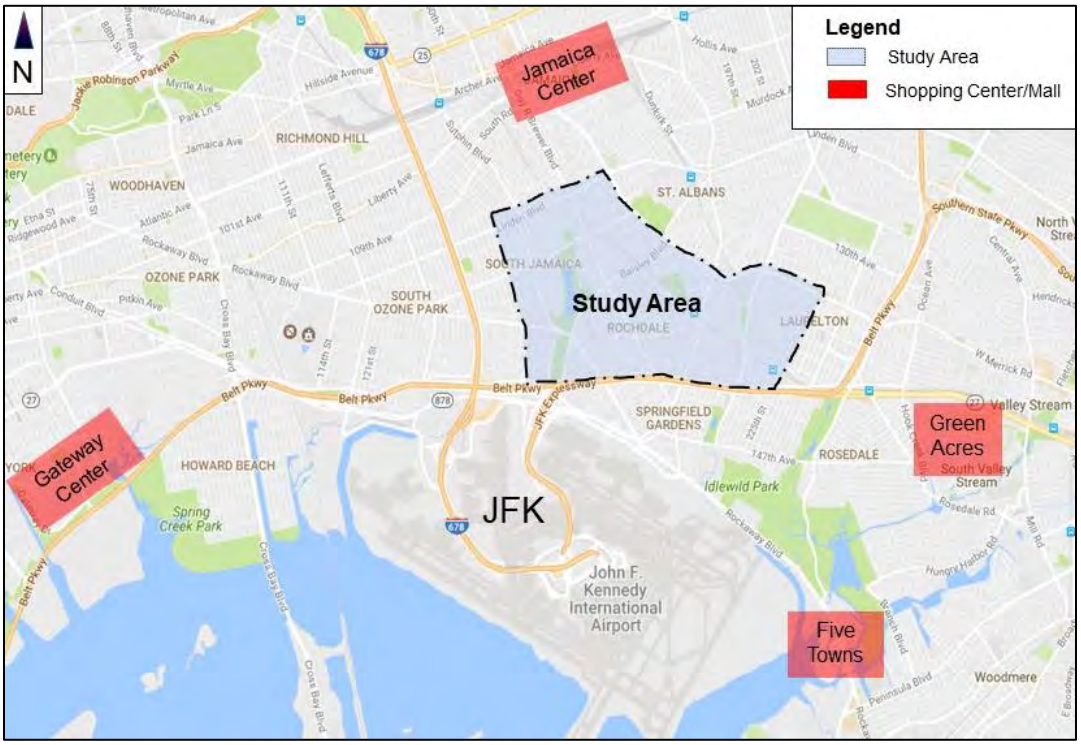


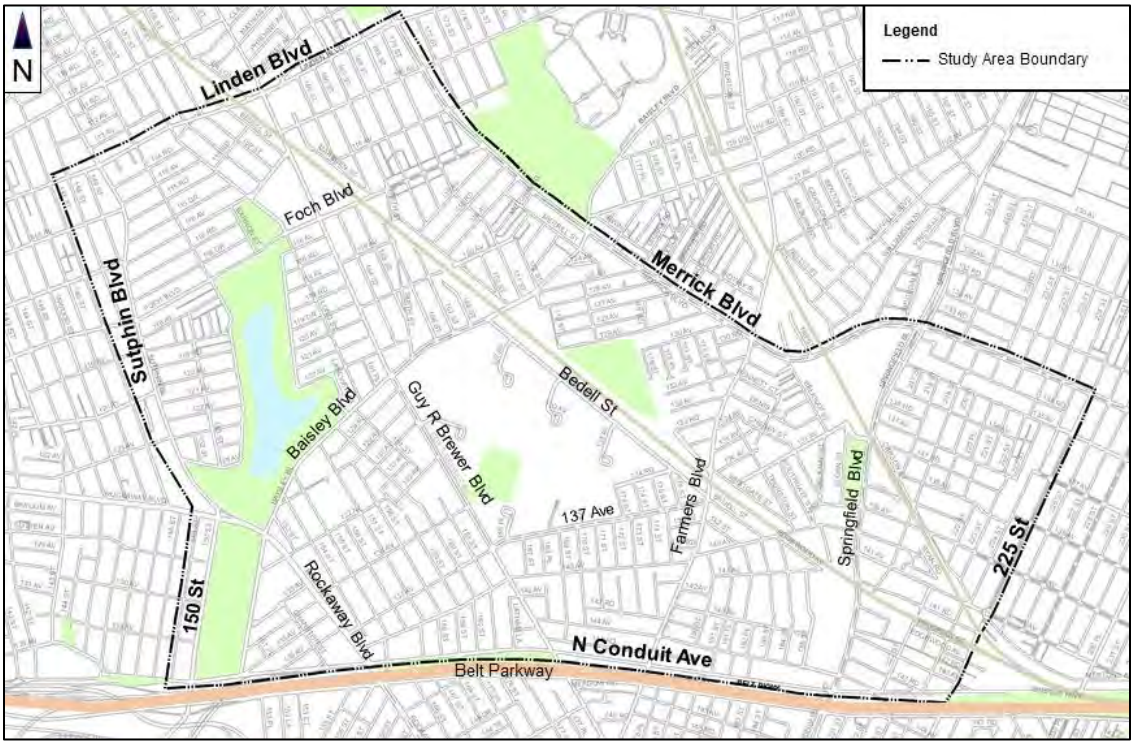
Exhibit 1-2: Study Area and Shopping Centers/Malls



1.1 Study Area

The study area is bounded by Linden Boulevard/Merrick Boulevard to the north, 225th Street to the east, North Conduit Avenue to the south, and Sutphin Boulevard/150th Street to the west. The predominant land use is residential, followed by commercial and industrial uses. Major trip generators in the study area are Rochdale Village, Home Depot, Stop and Shop, Air Cargo facilities, UPS, FedEx, MTA Bus Depot, and six hotels. These uses contribute to congestion and circulation problems on the main arterials (Rockaway, Merrick, Baisley, Springfield, Sutphin and Linden Boulevards, North Conduit Avenue, 150th and 225th Streets) during peak hours. Exhibit 1-3 shows study area boundaries.

Exhibit 1-3: Study Area Boundaries



1.2 Goal and Objectives

The goal of the study is to relieve traffic congestion, improve traffic circulation, manage truck/freight traffic, and enhance mobility and safety for all road users with extensive community input. The study's main objectives are:

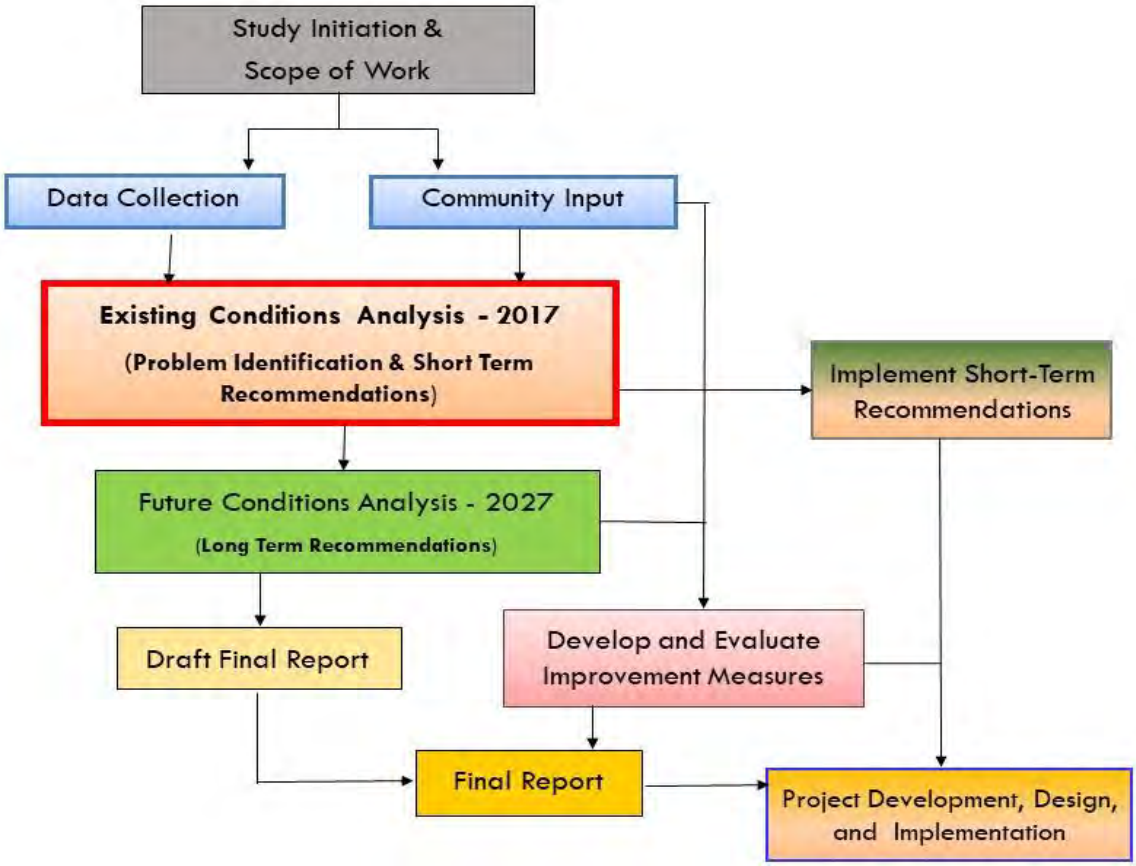
- To assess the existing and future traffic and travel conditions;

- To facilitate extensive community and stakeholders' participation and coordinate various transportation and planning initiatives in the study area; and
- To develop recommendations and improvement measures to address community concerns and enhance the quality of life of residents and visitors.

1.3 Study Process

Exhibit 1-4 reflects the process followed for the study.

Exhibit 1-4: Study Process



2.0 Demographic and Socio-Economic Analysis

2.1 Introduction

The demographic analysis of the study area examined population change and socioeconomic characteristics such as household size, income, car ownership and journey to work by mode to identify trends and help determine future travel needs. The analysis relied on data from New York Metropolitan Transportation Council (NYMTC), New York City Department of City Planning (NYCDCP), American Community Survey (ACS) and data compiled by the United States Department of Commerce – Bureau of Census. Data was collected and analyzed for 2000, 2010 and 2015 while projections were made for 2020 and 2025. To better assess demographic and socio-economic status, comparisons were made with the Borough of Queens and New York City, where applicable. The study area consists of twenty-four (24) census tracts; 13 of them wholly and 11 partially. Two census tracts (292 and 768) were combined into a single tract (294) in 2010. See Table 2-1 and Exhibits 2-1 and 2-2.

2.2 Population Trends

The study area population in 2015 was 59,447 which represents a 1% increase from 2010 (590). It has a population density of 20,785 persons/sq. mile, similar to Queens (21,179 persons/sq. mile). The projected 2025 population is 60,286 (based on NYCDCP population projections for Queens). See Table 2-2.

Table 2-1: Study Area Census Tract Population

Census Tract	CT %	2000	2010	2015	2020	2025
184.01	20%	474	411	414	418	420
184.02	30%	656	667	668	681	686
190	60%	1,336	1,181	1,181	1,206	1,218
266	30%	540	527	530	531	536
272	100%	2,184	1,846	1,851	1,891	1,909
274	100%	1,834	1,735	1,739	1,741	1,741
276	100%	1,223	1,165	1,197	1,200	1,200
278	100%	2,262	2,256	2,262	2,260	2,260
280	100%	1,698	1,551	1,561	1,565	1,570
282	100%	1,318	1,545	1,561	1,618	1,644
284	100%	3,243	3,438	3,499	3,510	3,510
288	100%	4,366	4,230	4,271	4,311	4,322
*292	100%	5,839	-	-	-	-
*294	100%	-	6,664	6,740	6,762	6,762
328	100%	2,155	2,409	2,462	2,505	2,507
330	100%	6,083	6,170	6,269	6,287	6,287
334.01	100%	2,538	3,128	3,182	3,541	3,567
334.02	100%	13,194	12,575	12,616	12,606	12,606
352	60%	1,511	1,448	1,467	1,476	1,480
358	100%	3,923	3,927	3,982	4,035	4,044
630	10%	177	158	158	159	159
646	10%	313	283	284	283	284
650	10%	303	265	265	267	267
682	50%	631	551	558	566	567
*768	100%	755	-	-	-	-
788	40%	698	727	729	738	741
Study Area		**59,254**	**58,857**	**59,447**	**60,155**	**60,286**
Change			**(397)**	**590**	**709**	**131**
Change (%)			**-0.7%**	**1.0%**	**1.2%**	**0.2%**

2010 - CT *294 **= 2000 - CT *768 +CT* 292**

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; and American Community Survey (ACS) 2011-2015

Table 2-2: Population Trends (2000 - 2025)

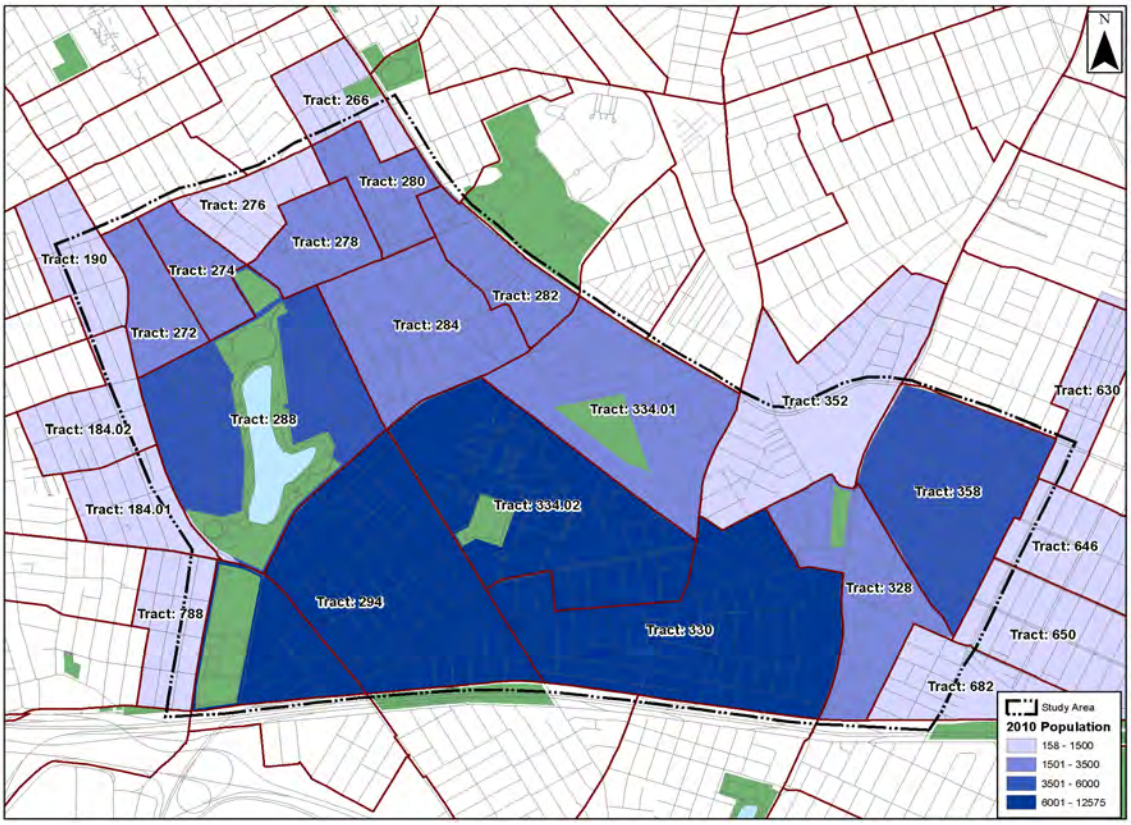
Year	Study Area		Queens		NYC	
	Total	% Change	Total	% Change	Total	% Change
2000	59,254		2,229,379		8,008,278	
2010	58,857	-0.7%	2,250,002	0.9%	8,242,624	2.9%
2015	59,447	1.0%	2,289,489	1.8%	8,397,114	1.9%
*2020	60,155	1.2%	2,330,295	1.8%	8,550,972	1.8%
*2025	60,286	0.2%	2,353,431	1.0%	8,699,966	1.7%

* projected

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; and ACS 2011-2015

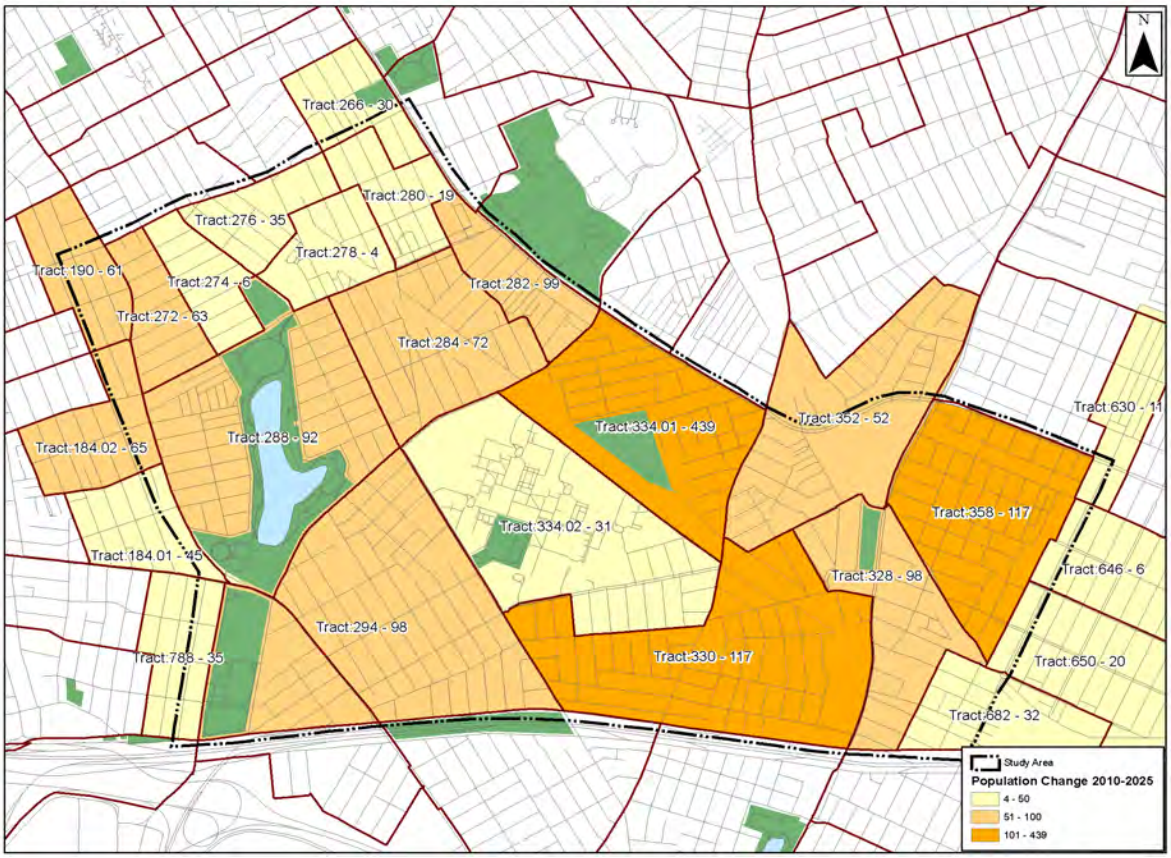
Exhibit 2-1 shows 2010 population distribution showing census tracts 354.02, 294 and 330 as most populous with more than 6,000 residents. Exhibit 2-2 shows the projected population change between 2010 and 2025 where three tracts are projected to add more than 100 residents. Tract 330 which includes Locust Manor Estate development would have the most significant change.

Exhibit 2-1: 2010 Population Density



Source: US Census Bureau 2010

Exhibit 2-2: Population Change 2010-2025



Source: US Census Bureau 2010 and NYMTC Socio-Economic Data 2020-2025

2.3 Household Characteristics

In 2015 there were approximately 21,311 households in the study area with an average household size of 3.04, which is similar to the averages for both Queens and NYC. The household size has remained relatively constant in all areas, a trend is likely to continue in future. See Table 2-3.

Table 2-3: Household Size

Year	Study Area	Queens	NYC
2000	2.9	2.8	2.6
2010	2.8	2.8	2.6
2015	3	2.9	2.7
***2020**	3	2.9	2.7
***2025**	3	2.9	2.7

* projected

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; and ACS 2011-2015.

2.4 Median Household Income

The 2015 median household income was $61,749, which was slightly higher than Queens and NYC. It grew by 6% from 2010, which is slightly lower than Queens (8%) and NYC (10%). See Table 2-4.

Table 2-4: Median Household Income

Census Year	Study Area		Queens		NYC	
	Total ($)	% Change	Total ($)	% Change	Total ($)	% Change
2000	45,104		42,439		38,293	
2010	58,261	29%	55,291	30%	50,285	31%
2015	61,749	6%	59,758	8%	55,191	10%
*2020	65,446	6%	64,586	8%	60,576	10%
*2025	69,364	6%	69,804	8%	66,486	10%

* projected

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; and ACS 2011-2015

2.5 Vehicle Ownership

Vehicle ownership is high with 73% of households with one or more vehicles while 26% had no vehicles in 2015 (Table 2-4). Households with at least two vehicles increased by 5% from 2010 to 2015. Vehicle ownership is expected to increase slightly by 2025 with 75% having at least one vehicle. See Table 2- 5 and Exhibit 2-3.

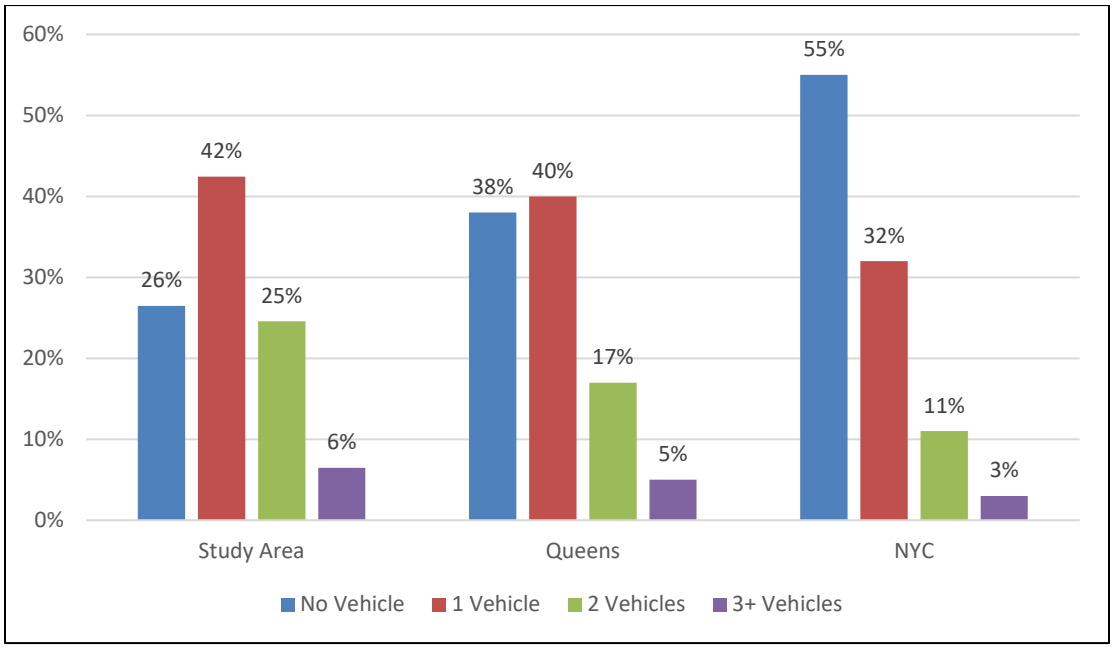
Table 2-5: Vehicle Ownership/Households

No. of Vehicles/HH	Study Area	Queens	NYC
2000	% of Total	% of Total	% of Total
No Vehicles	31%	28%	56%
1 Vehicle	45%	41%	32%
2 Vehicles	28%	17%	10%
3+ Vehicles	5%	4%	3%
2015	% of Total	% of Total	% of Total
No Vehicles	27%	37%	55%
1 Vehicle	44%	40%	31%
2 Vehicles	21%	18%	10%
3+ Vehicles	7%	5%	3%
2015	% of Total	% of Total	% of Total
No Vehicles	26%	38%	55%
1 Vehicle	42%	40%	32%
2 Vehicles	25%	17%	11%
3+ Vehicles	6%	5%	3%
***2020**	% of Total	% of Total	% of Total
No Vehicles	26%	38%	55%
1 Vehicle	41%	40%	32%
2 Vehicles	26%	17%	10%
3+ Vehicles	7%	5%	3%
***2025**	% of Total	% of Total	% of Total
No Vehicles	25%	38%	55%
1 Vehicle	41%	40%	32%
2 Vehicles	27%	17%	10%
3+ Vehicles	7%	5%	3%

* projected

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; and ACS 2011-2015.

Exhibit 2-3: 2015 Vehicle Ownership



Source: US Census Bureau 2015 and ACS 2011-2015

2.6 Journey to Work by Mode

The 2015 journey to work auto mode share (car, truck, or van) showed that drove alone/carpooling was 48%, a small decrease of 1% from 2010. This was higher than Queens (38%) and NYC (27%). Public Transit share was 46% compared to Queens 52% and NYC 57%. The study area bus share is higher (18%) than both Queens and NYC (11%) and the subway share is lower (22%) compared to Queens (39%) and NYC (44%). Walk and working from home both represented approximately 3% of the mode share. See Table 2-6 and Exhibit 2-4.

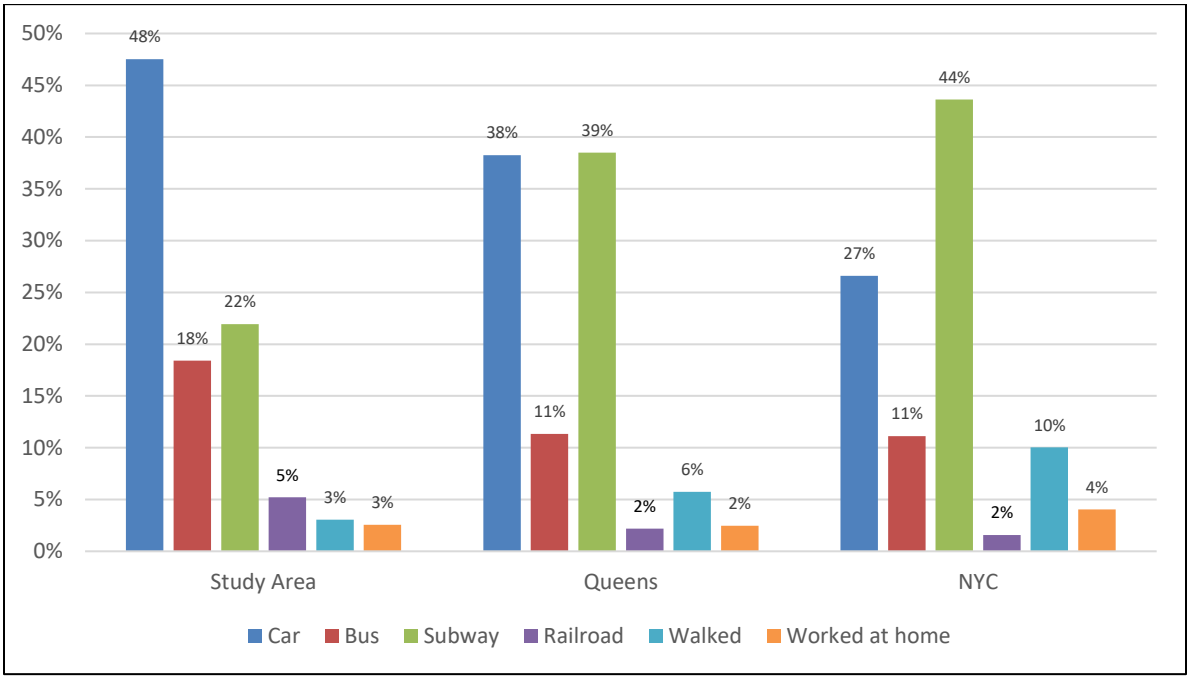
Table 2-6: Journey to Work by Mode

Mode	Study Area					Queens					NYC				
	2000	2010	2015	*2020	*2025	2000	2010	2015	*2020	*2025	2000	2010	2015	*2020	*2025
Car, truck, or van	**53%**	**49%**	**48%**	**47%**	**46%**	**45%**	**39%**	**38%**	**37%**	**36%**	**33%**	**28%**	**27%**	**28%**	**27%**
Drove alone	*42%*	*43%*	*43%*	*43%*	*42%*	*34%*	*32%*	*32%*	*31%*	*31%*	*25%*	*23%*	*22%*	*23%*	*22%*
Carpooled	*11%*	*6%*	*5%*	*4%*	*4%*	*10%*	*7%*	*6%*	*6%*	*5%*	*8%*	*5%*	*5%*	*5%*	*5%*
Public transportation	**43%**	**45%**	**46%**	**45%**	**45%**	**47%**	**51%**	**52%**	**52%**	**52%**	**53%**	**55%**	**57%**	**56%**	**56%**
Bus trolley bus	*20%*	*21%*	*18%*	*18%*	*18%*	*10%*	*12%*	*11%*	*13%*	*12%*	*12%*	*12%*	*11%*	*11%*	*11%*
Subway or elevated	*19%*	*20%*	*22%*	*22%*	*22%*	*34%*	*37%*	*39%*	*37%*	*36%*	*38%*	*41%*	*44%*	*42%*	*42%*
Railroad	*3%*	*4%*	*5%*	*5%*	*5%*	*2%*	*3%*	*2%*	*3%*	*3%*	*2%*	*2%*	*2%*	*2%*	*2%*
Ferryboat	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
Taxicab	1%	0%	1%	1%	1%	1%	0%	0%	1%	1%	2%	1%	1%	1%	1%
Motorcycle	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bicycle	0%	0%	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	2%	2%
Walked	3%	4%	3%	3%	3%	6%	6%	6%	6%	5%	10%	10%	10%	10%	9%
Other means	0%	1%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Worked at home	1%	1%	3%	4%	5%	2%	3%	2%	3%	5%	3%	4%	4%	4%	5%

* projected

Source: US Census Bureau 2000, 2010; NYMTC Socio-Economic Data 2020-2025; ACS 2011-2015

Exhibit 2-4: 2015 Journey to Work by Mode



Source: US Census Bureau and ACS 2011-2015

2.7 Census Transportation Planning Package (CTPP)

The Census Transportation Planning Package is a special tabulation of census data designed for the transportation community, created and funded collaboratively through the Census Bureau, Federal and State DOTs and AASHTO member agencies. The CTPP provides special tabulations of the American Community Survey (ACS) for residence, workplace and flows between home and work.

This analysis uses the CTPP to identify the workplace location (census tract) for study area residents and conversely the residential location (census tract) for study area workers. Additionally, mode of travel to work for both data sets is analyzed. The analysis depends upon census tract flows using the American Community Survey (ACS) five year averages (2006-2010) which can result in a high margin of error.

CTPP - Study Area Workers

The Department of Labor identified approximately 9,133 people who work within the Study Area in 2010 of which the CTPP identified that 70% live in Queens, 14% in Nassau County, 9% in Brooklyn, and 4% in Suffolk County. Mode choice by workers from Queens was 52% by car and 25% by transit while workers from Nassau and Suffolk County overwhelmingly favored car (95%) over transit. This shows the longer commutes are more reliant on cars. There are approximately 3,300 auto work trips into the study area from Queens and nearly 1,200 auto work trips into the study area from Nassau County. See Table 2-7 and Exhibit 2-5.

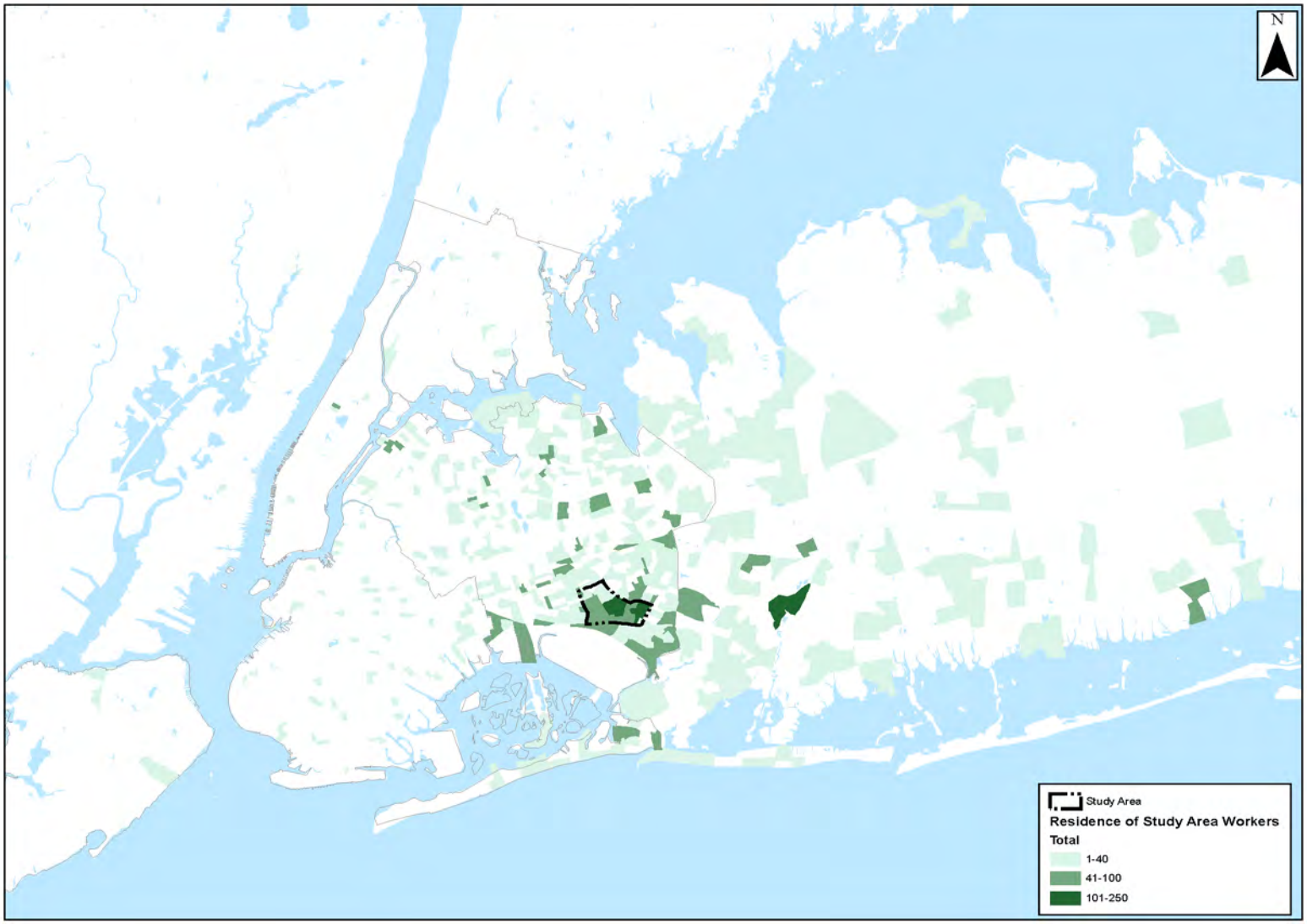
Table 2-7: Workers into Study Area – Residential Location and Mode Share

Residence	Total (%)	Auto	Transit	Other	Auto Work Trips From Study Area
NYC	84.3%	46.8%	46.8%	6.3%	10,504
Bronx County	2.9%	73.3%	26.7%	0.0%	565
Kings County	13.2%	64.5%	34.6%	0.6%	2,259
New York County	24.7%	19.7%	79.5%	0.9%	1,290
Queens County	43.3%	55.0%	33.4%	11.7%	6,324
Richmond County	0.4%	69.6%	30.4%	0.0%	66
Outside NYC					
Connecticut	0.1%	11.8%	88.2%	0.0%	3
New Jersey	1.1%	63.1%	36.9%	0.0%	188
Suffolk County	1.2%	72.7%	24.8%	2.5%	240
Nassau County	12.4%	73.8%	23.4%	2.6%	2,439
Westchester County	0.8%	91.8%	8.2%	0.0%	185
Total	100.0%	51.0%	43.3%	5.7%	13,559

26,592 Workers 16+ from the Study Area (2010 ACS)

Source: CTPP data derived from US Census Bureau, Federal and State DOTs, AASHTO, and ACS

Exhibit 2-5: Residential Location of Workers Who Work into Study Area



Source: CTPP data derived from US Census Bureau, Federal/State DOTs, AASHTO, and ACS

CTPP - Study Area Residents

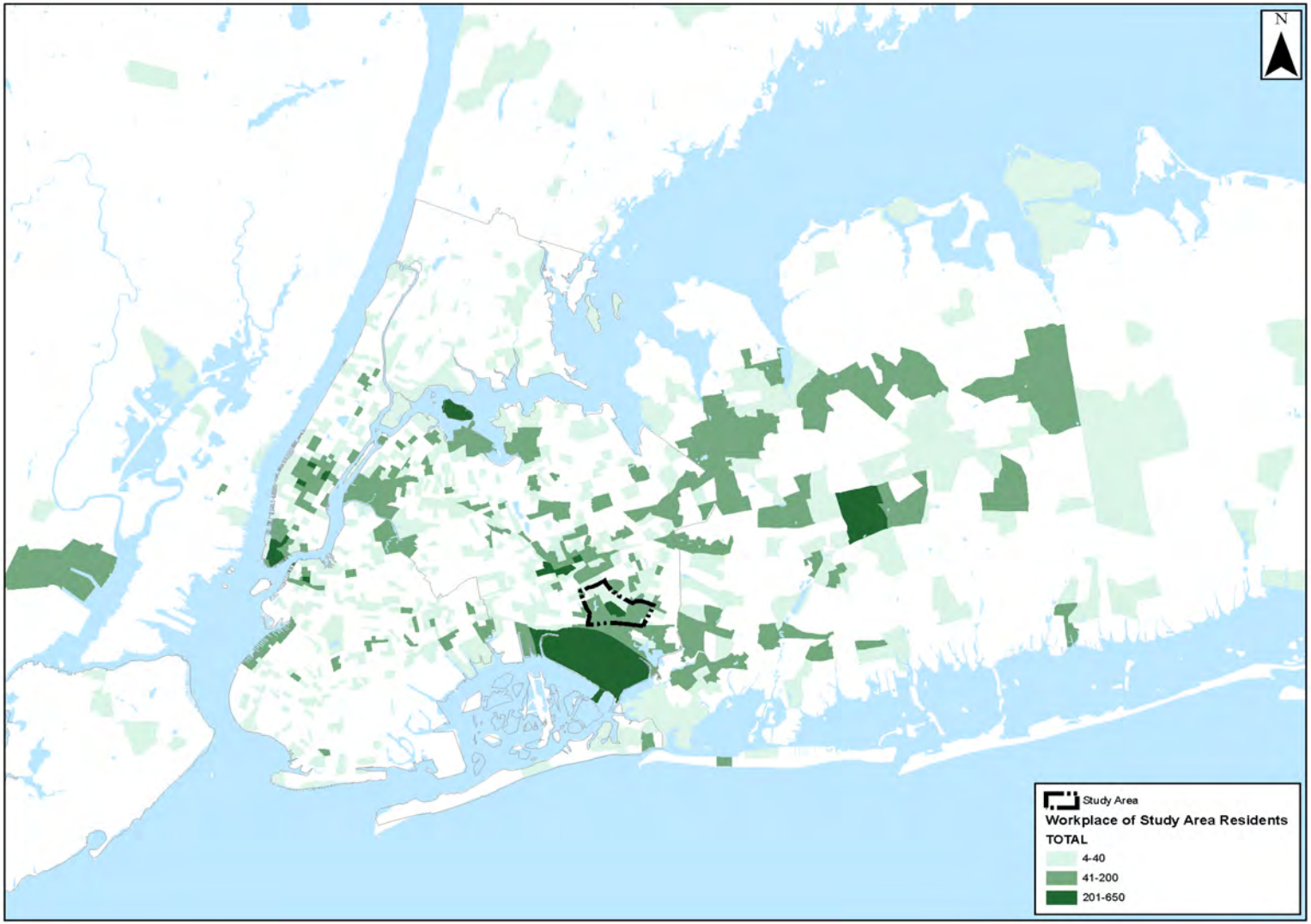
The 2006-2010 ACS identified approximately 26,592 workers, age 16 and older, living in the study area from which the CTPP identifies that 84% work within NYC while 12% work in Nassau County. Of those who work in NYC mode share is split between 47% car, 47% transit (bus, subway, and railroad) and 6% other (walk, bike, motorcycle and work at home). Workers into Manhattan have the highest transit mode share (80%) and the lowest car mode share (20%). Locations with high concentrations of study area resident-workers include JFK Airport, Midtown and Downtown Manhattan, Sunset Park, Long Island City, Jamaica, Downtown Hempstead and Rikers Island. There are approximately 13,500 auto work trips out of the study area with 6,300 auto work trips into Queens, 2,260 auto work trips into Manhattan and 2,400 auto work trips into Nassau County. See Table 2-8 and Exhibit 2-6.

Table 2-8: Residents of Study Area – Work Place and Mode Share

Residence	Total (%)	Auto	Transit	Other	Auto Work Trips From Study Area
NYC	84.3%	46.8%	46.8%	6.3%	10,504
Bronx County	2.9%	73.3%	26.7%	0.0%	565
Kings County	13.2%	64.5%	34.6%	0.6%	2,259
New York County	24.7%	19.7%	79.5%	0.9%	1,290
Queens County	43.3%	55.0%	33.4%	11.7%	6,324
Richmond County	0.4%	69.6%	30.4%	0.0%	66
Outside NYC					
Connecticut	0.1%	11.8%	88.2%	0.0%	3
New Jersey	1.1%	63.1%	36.9%	0.0%	188
Suffolk County	1.2%	72.7%	24.8%	2.5%	240
Nassau County	12.4%	73.8%	23.4%	2.6%	2,439
Westchester County	0.8%	91.8%	8.2%	0.0%	185
Total	100.0%	51.0%	43.3%	5.7%	13,559

26,592 Workers 16+ from the Study Area (2010 ACS)
Source: CTPP data derived from US Census Bureau, Federal/State DOTs, AASHTO, and ACS

Exhibit 2-6: Study Area Residents Workplace Location



Source: CTPP data derived from US Census Bureau, Federal/State DOTs, AASHTO, and ACS.

3.0 Zoning and Land Use

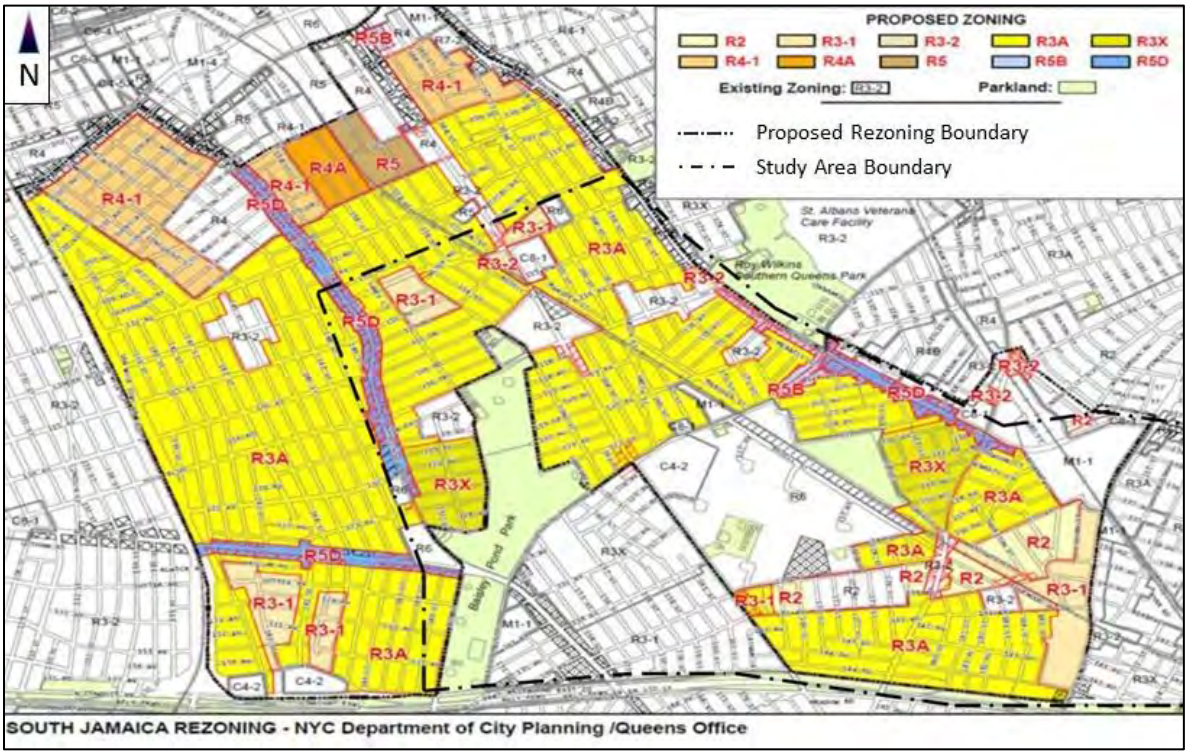
3.1 Introduction

The zoning and land use characteristics provide a synopsis of existing travel characteristics, traffic pattern and congestion. The existing zoning permits residential, commercial, and manufacturing uses. Residential uses are dispersed throughout the study area, commercial uses can be found along the major corridors, and manufacturing/warehousing uses are concentrated in the south-western section close to JFK Airport. There are also several recreational (parks) and institutional (schools) uses.

3.2 Zoning

There are three basic zoning districts in New York City - residential (R), Commercial (C), and Manufacturing (M), as outlined in the NYCDCP Zoning Handbook. Since each land use has different trip generating characteristics a detailed physical survey was conducted for the study area. The existing zoning reflects the South Jamaica Rezoning adopted in 2011 affecting 530 blocks in South Jamaica, St. Albans, and Springfield Gardens. The rezoned area is bounded by Merrick and Springfield Boulevards to the east, Van Wyck Expressway to the west, Liberty Avenue, 108th Avenue and South Road to the north, and the North Conduit Avenue (excluding Baisley Park) to the south. The rezoning facilitated a moderate increase in residential and commercial densities along major corridors. The South Jamaica rezoning map is shown in Exhibit 3-1.

Exhibit 3-1: South Jamaica Rezoning (2011)



Approximately 80% of the study area is zoned for residential use, 15% for commercial, and about 5% for manufacturing. Commercial uses are concentrated along the main corridors - Merrick, Springfield, Baisley, Farmers, Linden, and Sutphin Boulevards. Manufacturing uses are concentrated in three small clusters: Rockaway Boulevard between Baisley Boulevard and North Conduit Avenue, Springfield Boulevard between 139th Avenue and Merrick Boulevard, and Bedell Street between Baisley Boulevard and 120th Avenue.

The 2011 rezoning also resulted in the extension of the Food Retail Expansion to Support Health (FRESH) program to South Jamaica's commercial corridors. This program provides zoning incentives to property owners, developers and grocery store operators in underserved neighborhoods. The incentives include additional residential floor area in a mixed-use building for every square foot provided for a FRESH food store up to a maximum of 20,000 square feet and up to 30,000 square feet as-of-right in M1 districts.

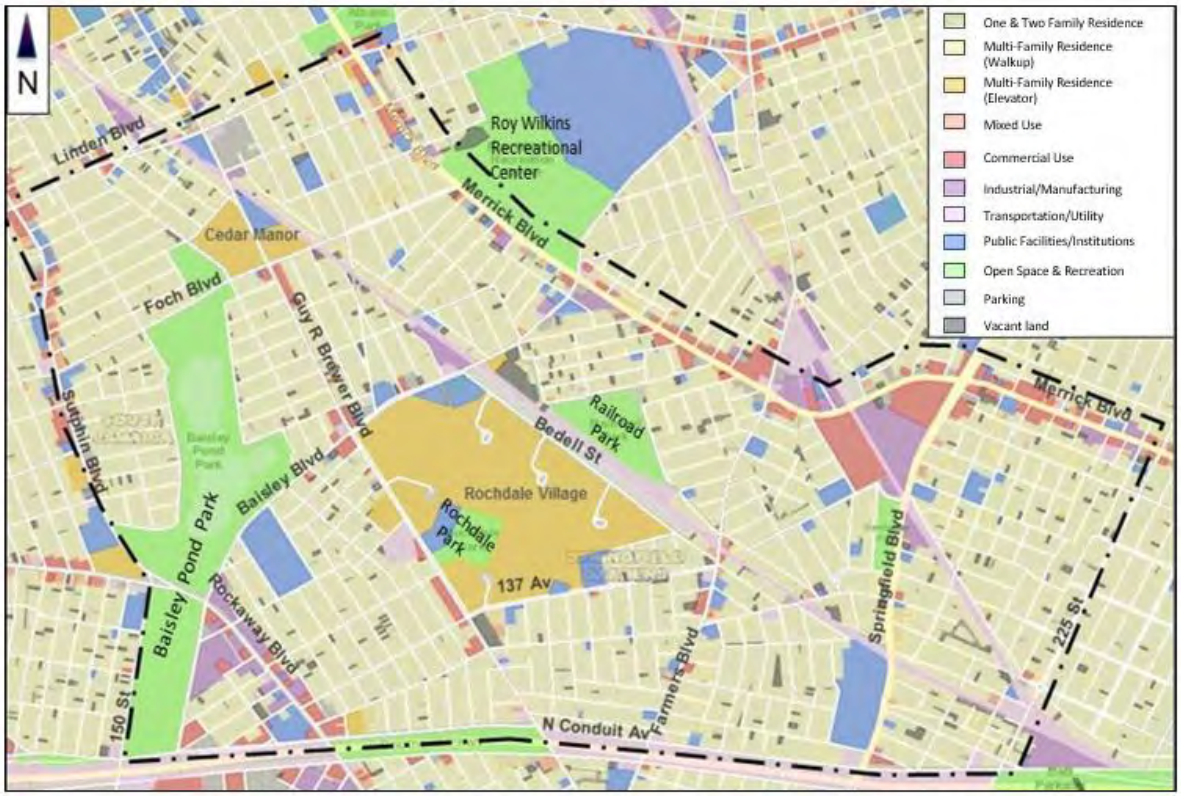
3.3 Land Use

The study area land uses include residential (one and two family homes and high-rise residential buildings), commercial retail, warehouses/international air cargo facilities, transportation, recreational, educational and religious institutions among others. See Exhibit 3-2. Numerous land uses in and around the study area are major trip generators contributing to the area's substantial traffic causing congestion during various peak hours.

Residential Uses

The residential land use is predominantly low to medium density with single-family dwellings scattered throughout the study area. High-density residential buildings are primarily found in two main clusters: Cedar Manor (seven buildings) and Rochdale Village a 120-acre residential park (20 buildings) with approximately 25,000 residents. When Rochdale Village opened in 1963, it was the largest private cooperative housing complex in the world.

Exhibit 3-2: Existing Land Use



Typical one-two family homes

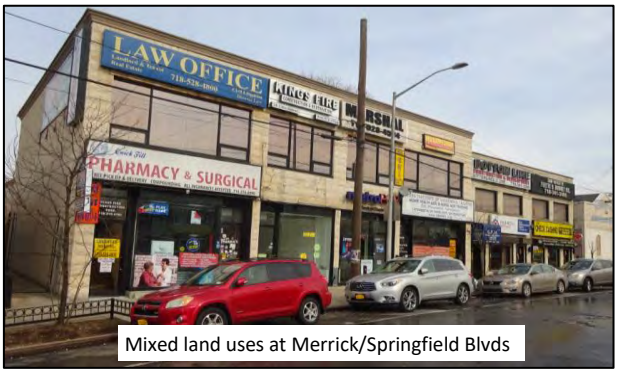
High-rise buildings at Rochdale Village

Commercial Uses

The northern and western boundaries of the study area along Merrick and Sutphin Boulevards features mixed residential and commercial uses such as grocery stores, restaurants, supermarkets, pharmacies, and other service centers (medical offices, salons, auto repair, etc.). There are also several super stores such as the Home Depot, Food World, and Stop and Shop.

There are also six hotels in the study area (Airport Motor Inn, Howard Johnson Express Inn, Sleep Inn JFK Airport, Roadway Inn JFK Airport, Super 8 by Wyndham, and Garden Inn & Suites), located on Rockaway Boulevard and north of North Conduit Avenue, mainly serving the JFK Airport clients.

Shopping plaza at Merrick Blvd/135 Ave



Mixed land uses at Merrick/Springfield Blvds

Manufacturing/Industrial Uses

The manufacturing/ industrial uses (warehousing and cargo distribution centers) are concentrated in the southwestern section of the study area along Rockaway and Baisley Boulevards. The industrial establishments in the area include the UPS Supply Chain Solutions, Kuehne and Nagel, FedEx Trade Network Transport, UPS Freight Supply, Bollore Logistics USA, IBC/Horizon Air Freight, and ZLPX Package Services.

Warehouse/Air Cargo at Rockaway Blvd


UPS Freight Service at 132 Ave

Institutional/Educational Use

There are eight educational facilities/public schools scattered throughout the study area serving children from elementary to high school. They are: Lyndon B. Johnson P.S. 223, Catherine and Count Basie Junior H.S 72, August Martin H.S., George Washington H.S./Queens Preparatory School, Springfield Gardens H.S., York College Academy, Thurgood Marshall Magnet School P.S. 80 of Multimedia and Communication, and High School for Law Enforcement and Public Safety.


HS for Law Enforcement at Guy Brewer Blvd

A. Martin High School at Baisley Blvd, looking east

Transportation Uses

There are numerous transportation uses in the study area including large parking lots serving JFK Airport, Hotels, commercial/industrial facilities, MTA – Baisley Park Bus Depot, and LIRR stations.

MTA Bus Depot at Guy Brewer Blvd, looking east

Laurelton LIRR Station at 141 Ave, looking east

Recreational Uses

There are several recreational facilities in the study area including Baisley Pond Park, Roy Wilkins Park, Railroad Park, Montbellier Park, and Rochdale Park as well as other playgrounds and sports fields.

Baisley Pond Park at Baisley Blvd/156 St, looking west

Roy Wilkins Park at Merrick/Foch Blvds, looking north

3.4 Future Land Use

There are three rezoning proposals in/outside the study area, including South Jamaica, Springfield Gardens and Brookville that might affect future developments. Known proposed developments include:

1. Locus Manor Affordable Housing Complexes

As part of the on-going community renewal effort several affordable residential projects are planned, built, or on-going development; these include two family and multi-family dwelling units, with some designated for seniors. There are five planned multi-family buildings with between 53 and 85 units (see Exhibit 3.3) including off-street parking for each site. This development might generate additional vehicular/pedestrian trips and impact local traffic, primarily along Baisley Boulevard.

Housing Complex at Locus Manor (built/under construction)

Residential Complexes built recently at Locust Manor

The Eclipse under construction at Locust Manor

2. Senior Housing Complex in Rochdale

A ten-story mixed-use building under construction is located at 132nd Avenue and Guy R. Brewer Boulevard; it aims to provide affordable housing and other services to seniors in Rochdale (see Exhibit 3.3). The development will consists of 159 dwelling units with 90 accessory parking spaces. The development is expected to be completed by Fall 2020.

Senior Housing Complex at Rochdale under Construction


Senior Housing at 132 Ave, looking north


Senior Housing at Guy Brewer Blvd, looking west

3. "JFK North Development" – Bartlett Dairy Distribution Center

The NYC EDC has issued an RFP for development of Bartlett Dairy (BD) Distribution Center that will be developed on the JFK North site located between Rockaway Boulevard and Nassau Expressway WB exit ramp opposite the FAA Building, a few blocks south of the study area (see map below). The 24-hour distribution center would be developed on 6.15 acres and include a 38,750 gsp distribution warehouse, 9,000 gsf of office space, and 6,300 gsp vehicle repair shop and 187 accessory parking spaces. The site would also include 91 employee parking spaces, 59 straight truck (33-foot) parking spaces, and 37 trailer storage (53-foot) spaces. The site's main entrance will be via an existing driveway located on the west side of Rockaway Boulevard between 145th Road and 145th Avenue; a second driveway will be located on Rockaway Boulevard just east of 145th Drive. The proposed facility is expected to be completed and operational in 2020. It's estimated that this project will generate an additional 24 and 17 vehicle trips in the AM and PM peak hours, some of which will be from the study area. Exhibit 3-3 shows three future developments in the area.

Exhibit 3-3: Future Developments

4.0 Traffic

4.1 Introduction

Several major regional thoroughfares such as the Van Wyck Expressway, Belt Parkway/North Conduit Avenue/Sunrise Highway, Laurelton Parkway, Cross Island Parkway/Southern State Parkway, and JFK/Nassau Expressway and several other arterials (Merrick, Guy R Brewer, Sutphin, Farmers, Baisley and Rockaway Boulevards) transverse the study area processing significant traffic volumes during various peak hours. The proximity of JFK International Airport accounts for numerous passenger and air cargo trips in addition to shopping centers that access the local street network. Exhibit 4-1 shows major arterials in the study area.

4.2 Street Network and Roadway Characteristics

The main north/south corridors are Springfield Boulevard, Farmers Boulevard, Baisley Boulevard, Guy R. Brewer Boulevard, Sutphin Boulevard, Foch Boulevard, and 150th and 225th Streets; and the main east/west corridors are Rockaway, Merrick and Linden Boulevards, and North Conduit Avenue.

North-South corridors:

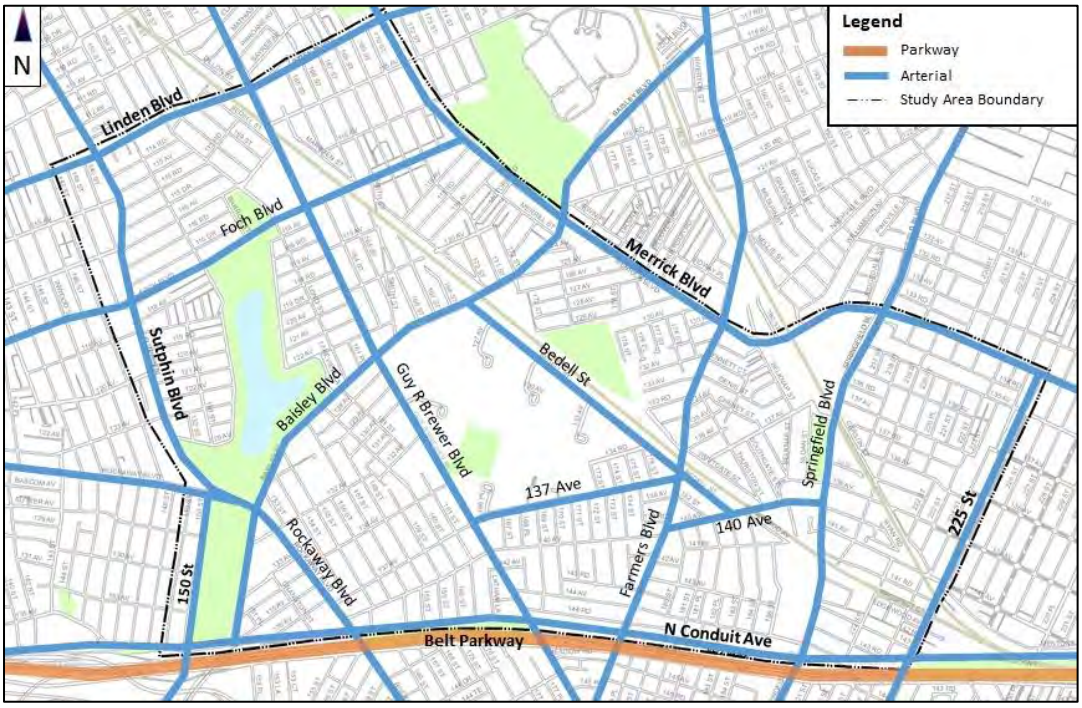
Springfield Boulevard is approximately 60 feet wide with two travel lanes and parking per direction. It terminates at 147th Avenue in the south, connects Northern Boulevard in the north and intersects North/South Conduit Avenues and provides access to the Belt Parkway. It is a through truck route north of Conduit Avenues and a local bus route.

Farmers, Baisley and Guy R. Brewer Boulevards are north/south corridors approximately 50 feet wide with one travel lane and parking per direction. They are also bus routes and truck routes north of Conduit Avenues.

Sutphin Boulevard is approximately 45 feet wide with one travel lane and parking per direction. It terminates at Rockaway Boulevard in south, and provides access to the Belt Parkway via 150th Street. It is a bus route in the study area.

Foch Boulevard varies from 30 to 60 feet wide with one travel lane and parking (where permited) per direction,. It terminates at Rockaway Boulevard in south and Merrick Boulevard in the north.

Exhibit 4-1: Major Arterials



East/West corridors:

Rockaway Boulevard is the principal east/west arterial; it provides direct access to JFK Airport and Five Towns shopping center. It is approximately 80 feet wide with two travel lanes per direction separated by raised median with exclusive left lanes at major intersections. Curbside parking is allowed between North Conduit Avenue and Baisley Boulevard in some sections excluding truck loading/unloading areas and bus stops. It is a regional facility, a through truck route and a bus route.

Merrick Boulevard is approximately 100 feet wide with two travel lanes and curbside parking (where permitted) in each direction. It has a concrete median with exclusive left turn lanes at major intersections. It connects Liberty Avenue in the west and West Merrick Road in the east. It is a key bus route and local truck route.

Linden Boulevard is approximately 50 feet wide with one travel lane and parking (where permitted) per direction. It connects Rockaway Boulevard in the west and Southern State Parkway in the east. It has a shared bike lane and is an express bus route.

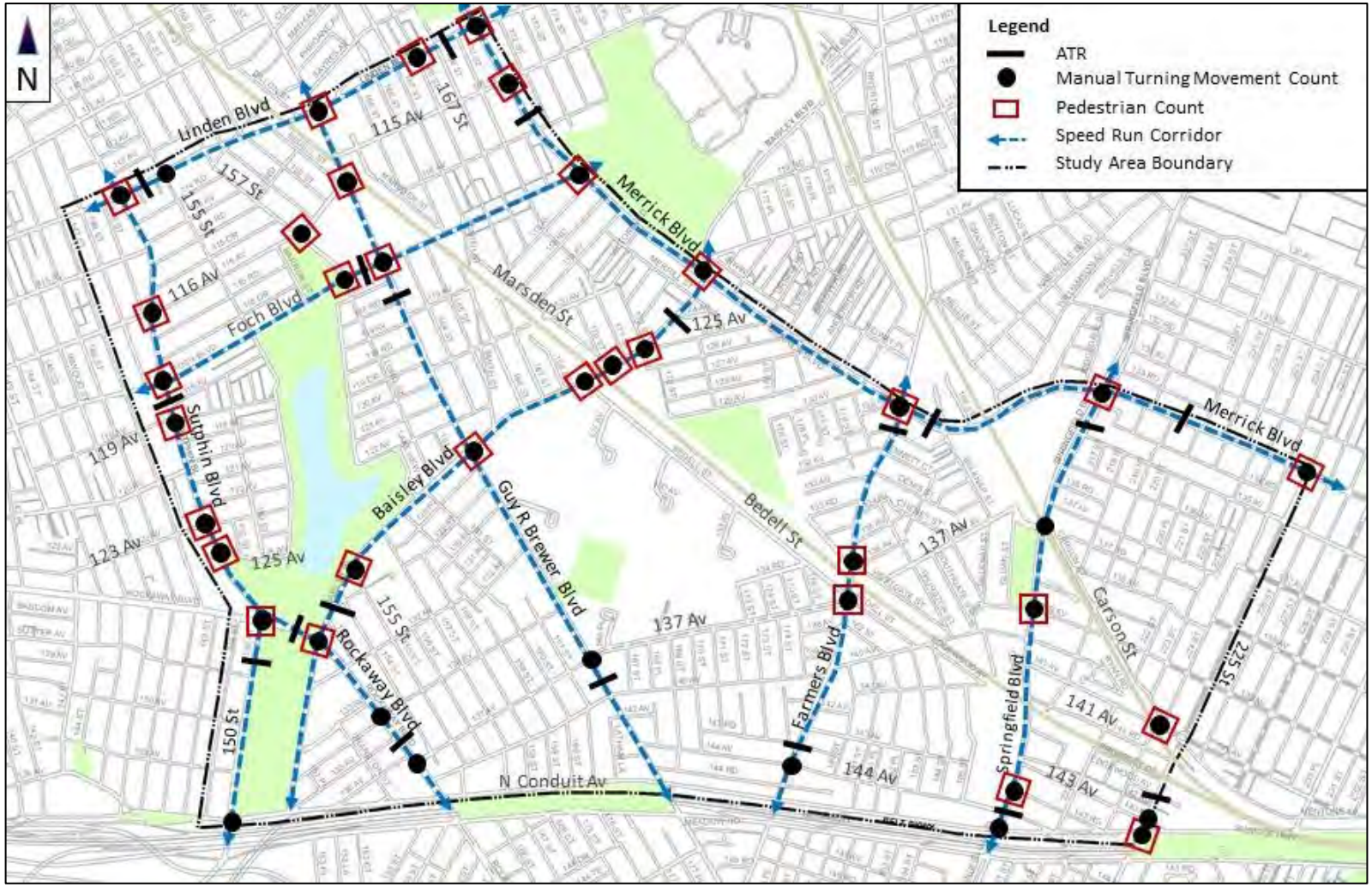
North Conduit Avenue is a major regional facility with four travel lanes in westbound direction with no curbside parking. It connects Atlantic Avenue/Linden Boulevard in the west and Sunrise Highway in the east. It is a through truck route.

4.3 Traffic Data Collection

A comprehensive traffic data collection plan for the AM and PM peak period was executed in Spring/Summer 2017. It included Automatic Traffic Recorders (ATRs) at 19 locations, manual turning movement and vehicle classification counts (autos, bikes, vans, trucks, and buses) at 41 locations, pedestrian counts at 32 locations, and travel speed and time surveys on eight major corridors. Exhibit 4-2 shows the data collection plan.

Other relevant data needed to conduct the capacity analysis such as roadway geometry, number of lanes, signal timings, parking regulations, and bus stops were also collected.

Exhibit 4-2: Traffic Data Collection Plan



4.4 Traffic Network Volumes

Automatic Traffic Recorder data showed the peak hours are 7:30-8:30 AM and 4:45-5:45 PM. Balanced traffic network volumes, prepared using ATRs and manual turning movement counts, were plotted on flow maps for the peak hours (See Exhibits 4-3 and 4-4). The highest traffic volumes during the AM and PM peak hours were recorded along North Conduit Avenue, and Rockaway, Merrick, Springfield, Linden, Farmers, Guy R. Brewer, and Baisley Boulevards, respectively. See Table 4-1.

Table 4-1: Corridors with Highest Traffic Volumes

Arterials	EB	WB	NB	SB
	AM/PM	AM/PM	AM/PM	AM/PM
North Conduit Avenue		3,011/1,968		
Rockaway Boulevard			1,740/1035	813/1,057
Merrick Boulevard	956/1,187	1,434/938		
Springfield Boulevard			798/746	1,215/1,011
Linden Boulevard	750/1,170	1,144/788		
Farmers Boulevard			886/846	804/742
Guy R. Brewer Boulevard			784/757	678/534
Baisley Boulevard			585/459	583/485

Exhibit 4-3: Existing 2017 Traffic Volumes (AM Peak)

Exhibit 4-4: Existing 2017 Traffic Volumes (PM Peak)

4.5 Street Capacity and Level of Service (LOS) Analysis

The capacity of a roadway is the maximum rate of flow which may pass through a section of roadway under prevailing traffic, roadway and signalization conditions. The capacity of a roadway is determined by several factors including turning movements, signal timing, geometric design of the intersection, pedestrian movements, type of vehicle, parking conditions, and weather conditions amongst others. In determining street capacity, the HCS+/2010 Highway Capacity Manual (HCM) methodology and SYNCHRO analysis were used. The methodology requires the use of official signal timings, street geometry, and other relevant roadway and traffic information. Several field visits were conducted to observe prevailing conditions.

Traffic flow characteristics are measured in terms of the volume-to-capacity (v/c) ratios and delays. The quality of the flow is expressed in terms of level of service (LOS), which is based on an average delay experienced by a vehicle. When the v/c ratio exceeds 1.0, a facility or intersection operates at or over capacity. In this situation severe congestion occurs in traffic with stop-and-start conditions with extensive queuing and delays. Volume-to-capacity ratios of less than 0.85 are considered to be reflective of acceptable traffic conditions, with average delays of 45 seconds or less.

Table 4-2 shows the LOS criteria as specified in the 2010 HCM Methodology for signalized intersections. The studied intersections were analyzed for roadway capacity, v/c ratios, vehicular delay, and LOS for the weekday AM and PM peak hours.

Table 4-2: LOS Criteria for Signalized Intersections

LOS	Control Delay Per Vehicle	Description of Traffic Condition
A	**≤ 10.0**	Describes 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 cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles combination of unfavorable progression, long 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, Transportation Research Board,
National Research Council, Washington, D.C. 2010

4.6 Existing Traffic Conditions

Table 4-3 shows the traffic capacity analysis for existing conditions for 34 signalized intersections during the AM and PM peak hours. Twenty-five of 34 intersections experienced LOS E or F on one or more approaches or lane groups during the peak hours. See Exhibits 4-5 to 4-6.

Table 4-3: Traffic Capacity Analysis for Signalized Intersections
Existing Conditions (2017)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Rockaway Blvd & 134th Avenue	NB	LTR	44	0.41	44.7	D	40	0.39	43.9	D
	SB	LTR	443	0.38	41.2	D	48	0.44	43.0	D
	EB	LTR	460	0.47	6.90	A	587	0.60	8.70	A
	WB	LTR	860	0.98	63.5	E	905	1.00	77.1	E
	Overall				43.7	D			48.5	D
Rockaway Blvd & Baisley Blvd	NB	LTR	120	0.35	30.0	C	95	0.37	29.8	C
	SB	LT	215	0.84	55.1	E	205	0.83	54.7	D
		R	383	0.97	69.0	E	205	0.58	34.6	C
	EB	L	315	0.93	53.6	D	367	1.03	73.4	E
		TR	500	0.55	7.70	A	610	0.61	8.60	A
	WB	LT	1,110	1.04	85.3	F	740	0.94	53.5	D
		R	47	0.15	7.70	A	75	0.24	8.70	A
	Overall				54.0	D			39.5	D
Rockaway Blvd & Sutphin Blvd/150th St.	NB	LT	332	1.00	79.2	E	195	0.84	54.3	D
		R	202	0.63	34.0	C	155	0.50	29.7	C
	SB	DefL	127	0.34	26.0	C	77			
		TR/LTR	210	0.75	40.7	D	345	0.77	35.1	D
	EB	L	55	0.41	21.7	C	265	0.93	58.9	E
		TR	550	0.87	32.2	C	780	1.00	76.0	E
	WB	L	135	0.82	45.2	D	75	0.83	54.1	D
		TR	1,242	1.00	64.3	E	715	0.82	26.6	C
	Overall				51.0	D			48.9	D
Sutphin Blvd & 125th Avenue	NB	TR	665	1.04	60.8	E	672	1.02	57.0	E
	SB	LT	265	0.93	52.5	D	345	0.98	54.6	D
	WB	LR	92	0.47	31.0	C	102	0.50	32.3	C
	Overall				52.0	D			54.5	D
Sutphin Blvd & 123rd Avenue	NB	LTR	465	1.00	55.4	E	470	0.99	53.0	D
	SB	LTR	245	0.88	39.0	D	345	1.04	69.7	E
	EB	LTR	125	0.67	30.2	C	120	0.64	28.3	C
	WB	LTR	40	0.22	18.6	B	38	0.21	18.4	B
	Overall				44.0	D			52.0	D
Sutphin Blvd & 119th Avenue	NB	LTR	515	0.99	51.2	D	550	1.04	63.4	E
	SB	LTR	273	0.91	38.1	D	395	1.04	65.8	E
	EB	LTR	46	0.30	22.0	C	30	0.20	19.7	B
	WB	LTR	60	0.43	31.1	C	29	0.21	24.2	C
	Overall				43.0	D			50.0	D
Sutphin Blvd & Foch Blvd	NB	LTR	572	0.99	53.7	D	500	0.99	50.8	D
	SB	LTR	327	0.97	50.4	D	403	1.05	68.1	E
	EB	LTR	307	0.68	43.7	D	288	0.85	48.7	D
	WB	LTR	338	0.65	50.0	D	235	0.73	37.7	D
	Overall				51.0	D			53.0	D
Sutphin Blvd & 116th Avenue	NB	LTR	550	1.04	63.3	E	460	0.91	34.1	C
	SB	LTR	313	0.86	48.8	D	410	1.03	62.7	E
	EB	LTR	150	0.74	44.7	D	130	0.66	37.1	D
	WB	LTR	162	0.71	50.6	D	93	0.57	39.3	D
	Overall				50.0	D			47.0	D
Sutphin Blvd & Linden Blvd	NB	LTR	522	0.56	22.4	C	465	0.76	29.9	C
	SB	LTR	548	0.97	54.9	D	570	1.03	72.8	E
	EB	L	37	0.26	20.5	C	48	0.36	24.0	C
		TR	520	0.92	46.6	D	453	0.91	47.5	D
	WB	L	37	0.26	21.3	B	60	0.39	24.8	C
		TR	325	0.84	40.2	D	433	0.92	49.6	D
	Overall				40.0	D			49.0	D
Linden Blvd & 167th Street	NB	LTR	510	0.34	53.9	D	517	0.95	54.8	D
	SB	LTR	450	0.35	54.3	D	367	0.83	42.2	D
	EB	LTR	182	0.47	50.2	D	195	0.57	50.7	D
	WB	LTR	193	0.46	49.1	D	136	0.54	34.4	C
	Overall				53.0	D			48.0	D

Table 4-3: Traffic Capacity Analysis for Signalized Intersections
Existing Conditions (2017)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Guy R Brewer Blvd & Linden Blvd	NB	L	85	0.72	50.8	D	80	0.67	46.4	D
		TR	577	1.01	66.6	E	475	0.92	48.0	D
	SB	L	16	0.23	21.7	C	48	0.38	26.9	C
		TR	352	0.90	50.2	D	522	0.96	54.8	D
	EB	LTR	464	0.79	54.7	D	623	0.85	54.8	D
	WB	LTR	501	0.90	54.5	D	500	0.90	54.6	D
	Overall				57.0	E			52.0	D
Linden Blvd & Merrick Blvd	NB	L	112	0.75	57.6	E	14	0.35	30.2	C
		TR	1,256	1.05	74.1	E	783	1.03	70.4	E
	SB	L	48	0.37	32.8	C	160	0.77	52.6	D
		TR	732	1.03	74.3	E	883	1.03	70.2	E
	EB	L	85	0.75	44.4	D	117	0.83	50.6	D
		TR	357	0.70	42.6	D	420	0.78	52.6	D
	WB	L	64	0.59	27.7	C	75	0.51	20.5	C
		TR	458	0.88	50.1	D	464	0.89	50.6	D
	Overall				63.0	E			61.0	E
Merrick Blvd & 115th Avenue	NB	LTR	210	0.84	54.1	D	150	0.68	41.9	D
	SB	LTR	209	0.84	54.5	D	155	0.80	54.5	D
	EB	L	22	0.37	21.6	C	19	0.22	15.5	B
		TR	715	0.87	46.0	D	923	0.94	63.7	E
	WB	L	29	0.37	18.0	B	38	0.57	33.7	C
		TR	1,330	1.02	66.6	E	744	0.87	32.1	C
	Overall				54.0	D			48.0	D
Merrick Blvd & Foch Blvd	NB	LTR	244	0.67	36.3	D	227	0.76	40.7	D
	SB	LTR	16	0.08	21.2	C	20	0.18	22.9	C
	EB	L	13	0.14	12.3	B	9	0.17	13.5	B
		TR	801	0.87	41.2	D	1,010	0.94	54.3	D
	WB	L	146	0.82	46.9	D	122	0.77	41.9	D
		TR	1,272	0.98	52.4	D	762	0.91	36.6	D
	Overall				47.0	D			45.0	D
Merrick Blvd & Baisley Blvd	NB	LTR	487	0.54	27.1	C	454	0.52	26.7	C
	SB	LTR	630	1.00	64.7	E	432	0.60	28.8	C
	EB	L	161	0.95	96.0	F	211	1.03	107.9	F
		TR	676	0.61	28.4	C	853	0.82	38.4	D
	WB	L	155	0.89	81.8	F	108	0.80	74.0	E
		TR	1,277	1.02	77.4	E	718	0.64	25.9	C
	Overall				59.0	E			38.0	C
Merrick Blvd & Farmers Blvd	NB	LTR	798	0.97	54.6	D	635	0.95	53.6	D
	SB	LTR	471	0.93	53.5	D	464	0.92	51.7	D
	EB	L	46	0.49	53.7	D	49	0.51	54.8	D
		TR	704	0.69	30.0	C	907	0.90	51.9	D
	WB	L	61	0.53	53.4	D	92	0.77	73.2	E
		TR	1,123	1.00	71.4	E	764	0.94	52.3	D
	Overall				54.5	D			53.0	D
Merrick Blvd & Springfield Blvd	NB	L	97	0.65	54.7	D	160	0.88	76.7	E
		TR	805	0.97	54.5	D	682	0.95	52.6	D
	SB	L	117	0.68	54.7	D	70	0.45	43.8	D
		TR	725	0.95	52.2	D	583	0.85	40.4	D
	EB	LTR	730	0.95	53.9	D	905	0.99	69.4	E
	WB	LTR	820	0.96	54.4	D	528	0.90	54.1	D
	Overall				54.0	D			56.0	E
Merrick Blvd & 225th Street	NB	LTR	242	0.84	50.2	D	222	0.82	48.8	D
	EB	L	22	0.28	17.2	B	30	0.36	21.0	C
		TR	610	0.84	42.8	D	775	0.92	59.0	E
	WB	L	19	0.30	19.5	B	27	0.39	24.4	C
		TR	570	0.90	44.1	D	491	0.88	40.8	D
	Overall				44.0	D			50.0	D
225th Street & 143rd Avenue	NB	LT	480	0.86	30.1	C	475	0.61	18.3	B
	SB	TR	290	0.73	24.7	C	335	0.80	29.2	C
	EB	LR	78	0.33	27.3	C	100	0.36	27.9	C
	WB	LTR	288	0.68	32.3	C	290	0.49	26.9	C
	Overall				29.0	C			25.0	C

Table 4-3: Traffic Capacity Analysis for Signalized Intersections
Existing Conditions (2017)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Springfield Blvd & Eastgate Street	NB	LT	930	0.97	51.4	D	838	0.96	49.3	D
	SB	TR	862	0.97	52.2	D	757	0.96	50.1	D
	EB	LR	322	0.75	42.3	D	325	0.84	49.3	D
	WB	LR	38	0.13	27.4	C	40	0.14	27.5	C
	Overall				50.0	D			49.0	D
Springfield Blvd & 139th Avenue	NB	L	36	0.08	9.10	A	32	0.07	9.10	A
		TR	850	0.80	19.5	B	800	0.77	18.2	B
	SB	L	10	0.03	8.70	A	9	0.03	8.70	A
		TR	568	0.65	15.4	B	580	0.68	16.1	B
	EB	LTR	115	0.45	21.2	C	110	0.44	21.0	C
	WB	LTR	44	0.18	16.7	B	18	0.08	15.4	B
	Overall				18.0	B			17.0	C
Farmers Blvd & 144th Avenue	NB	LTR	696	0.56	11.5	B	613	0.62	12.8	B
	SB	LTR	560	1.00	51.9	D	449	0.91	34.0	C
	EB	LTR	101	0.42	23.6	C	98	0.42	23.6	C
	WB	LTR	166	0.73	41.6	D	65	0.30	22.1	C
	Overall				31.0	C			22.0	C
Farmers Blvd & 137th Avenue/Bedell Street	NB	LTR	650	0.92	48.7	D	667	0.95	53.2	D
	SB	LTR	577	0.98	70.1	E	543	0.91	58.0	E
	EB (137 Av)	LTR	255	0.72	60.4	E	280	0.79	68.2	E
	EB (Bedell)	LTR	474	1.00	92.0	F	300	0.64	50.7	D
	WB	LTR	201	0.70	66.4	E	345	0.91	95.4	F
	Overall				67.5	E			61.0	E
Farmers Blvd & Westgate Street	NB	LTR	880	0.96	46.2	D	750	0.85	31.7	C
	SB	LTR	498	0.99	54.2	D	480	0.99	54.7	D
	EB	LTR	35	0.11	25.6	C	14	0.05	24.8	C
	WB	LTR	118	0.27	29.0	C	94	0.22	28.0	C
	Overall				46.0	D			39.0	D
Guy R Brewer Blvd & 137th Avenue	NB	LTR	647	1.00	52.5	D	663	1.00	52.8	D
	SB	LTR	565	0.84	24.5	C	565	0.85	25.2	C
	EB	LTR	105	0.10	15.9	B	222	0.75	33.4	C
	WB	LTR	332	0.66	23.6	C	285	0.56	21.0	C
	Overall				34.0	C			35.0	C
Guy R Brewer Blvd & 129th Avenue	NB	LTR	783	1.00	47.0	D	600	0.99	46.7	D
	SB	LTR	522	0.97	40.9	D	590	1.00	46.5	D
	EB	LTR	51	0.25	16.6	B	43	0.22	16.1	B
	WB	LTR	35	0.15	17.2	B	126	0.58	30.1	C
	Overall				42.0	D			43.0	D
Guy R Brewer Blvd & Baisley Blvd	NB	LTR	730	1.02	65.5	E	617	0.88	39.0	D
	SB	L	46	0.10	17.2	B	72	0.16	17.9	B
		TR	453	0.96	53.3	D	495	0.96	52.8	D
	EB	L	73	0.15	17.2	B	85	0.17	17.4	B
		TR	425	0.90	50.9	D	522	0.97	72.0	E
	WB	L	117	0.72	40.3	D	130	0.75	46.7	D
		TR	435	0.87	50.4	D	405	0.81	40.4	D
	Overall				53.0	D			48.0	D
Baisley Blvd & Bedell Street	NB	LR	560	0.76	41.4	D	435	0.62	34.5	C
	EB	TR	475	0.45	43.5	D	805	0.78	81.5	F
	WB	LT	770	0.94	49.9	D	760	1.05	75.7	E
	Overall				44.2	D			67.7	E

Table 4-3: Traffic Capacity Analysis for Signalized Intersections
Existing Conditions (2017)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Bailsey Blvd & Marsden Street	SB	LR	95	0.22	19.9	B	360	0.85	42.9	D
	EB	LT	640	1.05	122.3	F	870	1.05	162.0	F
	WB	TR	715	0.66	16.5	B	555	0.51	13.1	B
	Overall				58.0	E			76.5	E
Bailsey Blvd & 172nd St/125th Ave	NB	LTR	210	0.49	24.4	C	185	0.60	29.6	C
	SB	LTR	95	0.21	19.8	B	340	1.01	76.1	E
	EB	LTR	580	0.56	13.5	B	920	0.78	32.8	C
	WB	LTR	540	1.02	65.2	E	395	0.75	26.5	C
	Overall				35.9	D			36.1	D
Baisley Blvd & 155th Street	NB	LTR	95	0.42	26.6	C	25	0.13	21.1	C
	SB	LTR	7	0.04	18.1	B	3	0.02	17.8	B
	EB	LTR	380	0.80	28.7	C	595	0.98	72.1	E
	WB	LTR	548	0.96	73.4	E	418	0.90	49.2	D
	Overall				51.0	D			61.0	E
N. Conduit Avenue & 150th Street	NB	L	483	1.03	81.0	F	596	1.05	86.1	F
		T	210	0.76	42.6	D	243	0.83	49.0	D
	SB	TR	253	0.44	33.6	C	269	0.49	34.3	C
	WB	L	174	0.74	30.5	C	91	0.39	16.0	B
		TR	2,837	1.00	44.1	D	1,877	0.74	20.6	C
	Overall				47.0	D			32.0	C
N. Conduit Avenue & 225th Street	NB	LT	617	1.01	74.5	E	620	0.88	50.0	D
	SB	TR	365	0.79	49.2	D	415	0.81	52.8	D
	WB	LTR	2,655	1.05	68.6	E	1,320	0.75	18.5	B
	Overall				67.3	E			32.3	C
North Conduit Avenue & Springfield Blvd	NB	LT	790	1.00	70.2	E	570	0.92	58.0	E
	SB	TR	570	0.95	70.7	E	465	0.72	50.9	D
		R	160	0.74	63.0	E	235	0.88	77.2	E
	WB	LTR	1,963	0.68	19.0	B	1,450	0.47	15.4	B
	Overall				49.8	D			46.2	D

Exhibit 4-5: Intersections with Approach/Lane Group LOS D, E, and F
Existing Conditions (AM Peak)

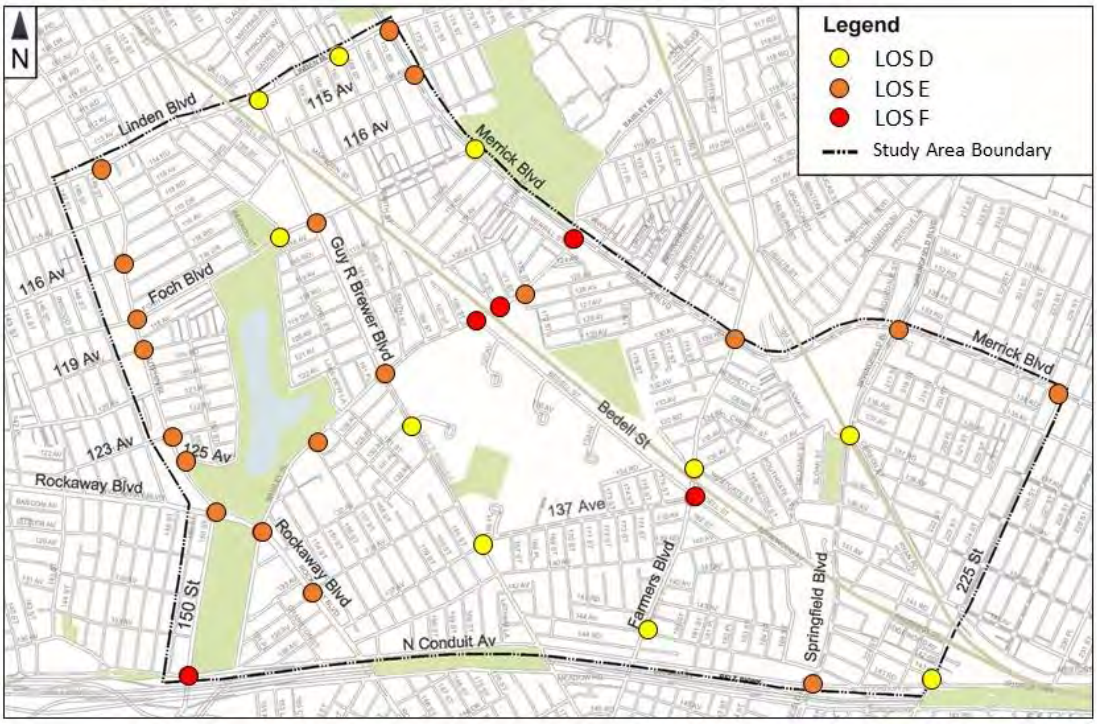
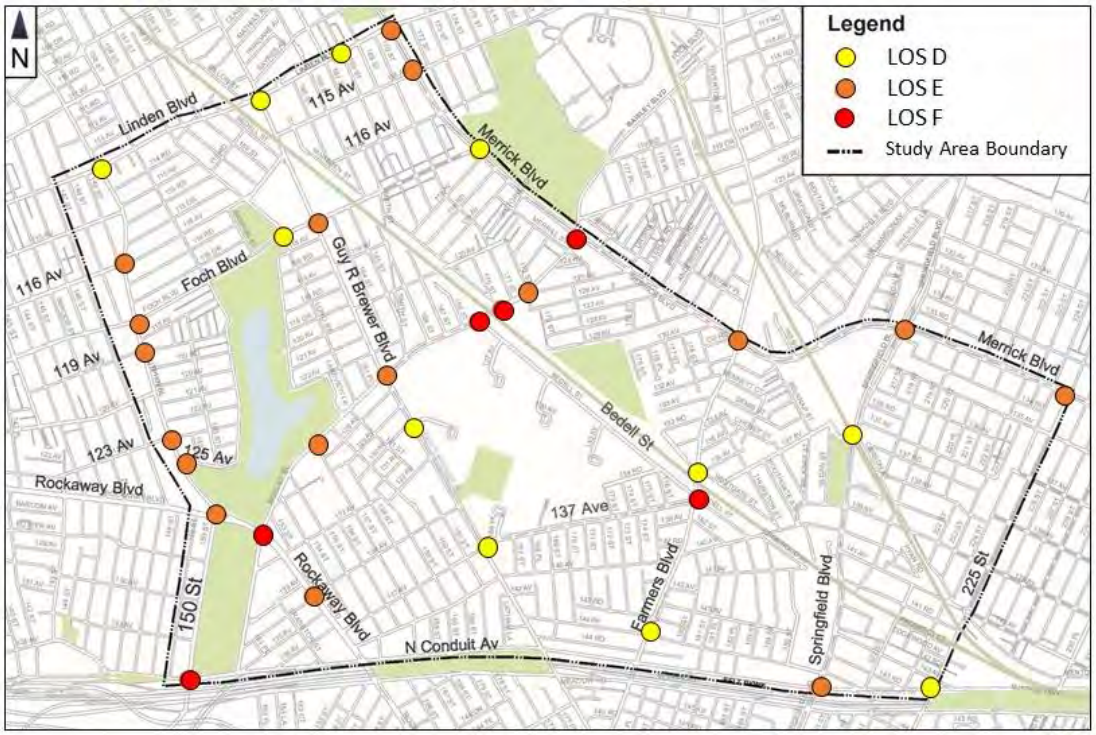


Exhibit 4-6: Intersections with Approach/Lane Group LOS D, E, and F
Existing Conditions (PM Peak)



4.7 Future Traffic Conditions

To analyze the 2027 future traffic conditions, the existing volumes were projected 3.813% for ten years, plus trips from potential known developments. Future balanced traffic network volumes for 34 intersections were developed for the AM and PM peak hours (see Exhibits 4-7 and 4-8). Table 4-4 shows the future conditions capacity analysis results.

The LOS analysis shows that future conditions would be similar to the existing with 25 intersections operating at LOS E or F during the AM and PM peak hours. Intersections with approaches or lane groups with mid LOS D, E and F are shown in Exhibits 4-9 and 4-10.

Exhibit 4-7: Future 2027 Traffic Volumes (AM Peak)

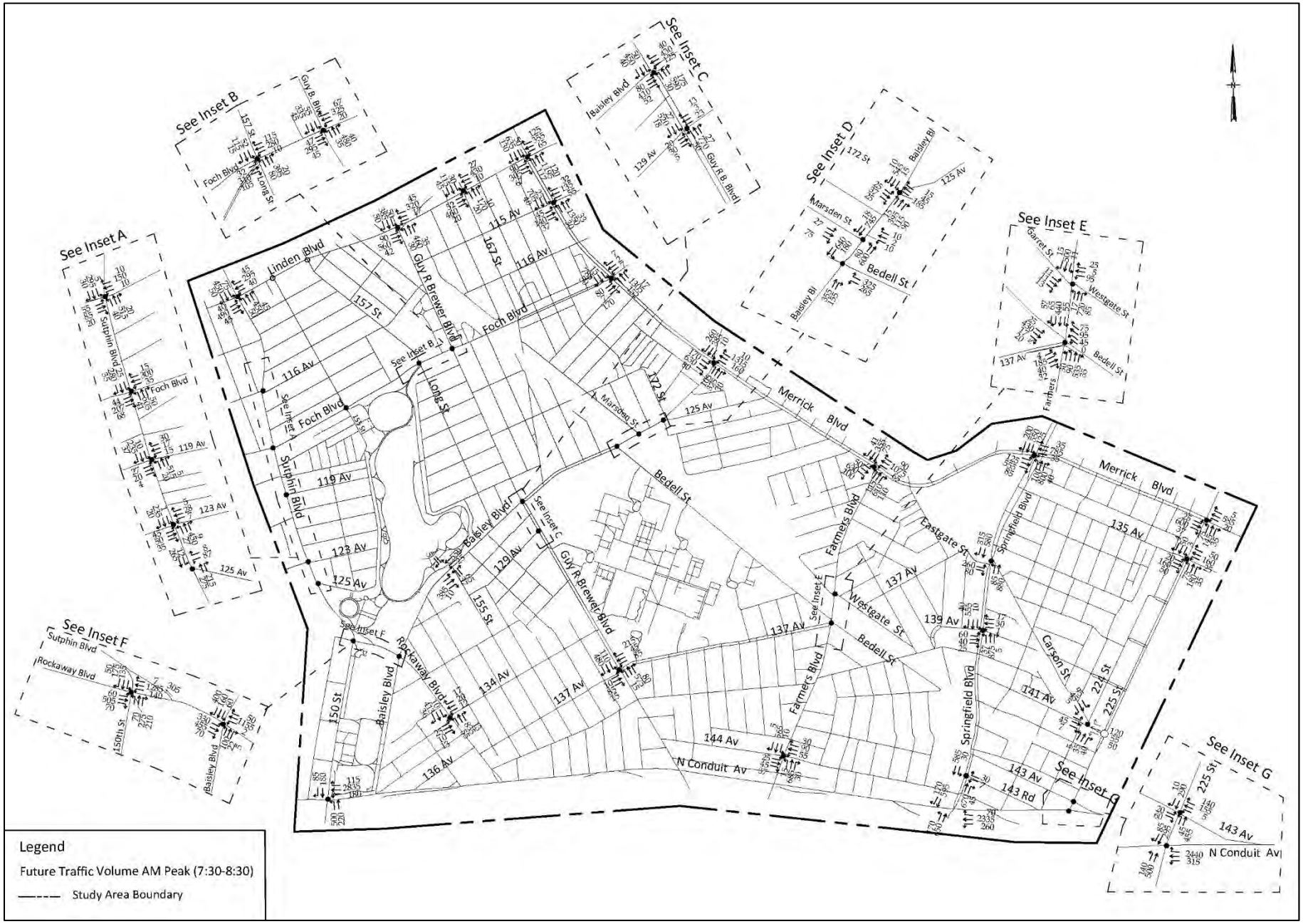


Exhibit 4-8: Future 2027 Traffic Volumes (PM Peak)

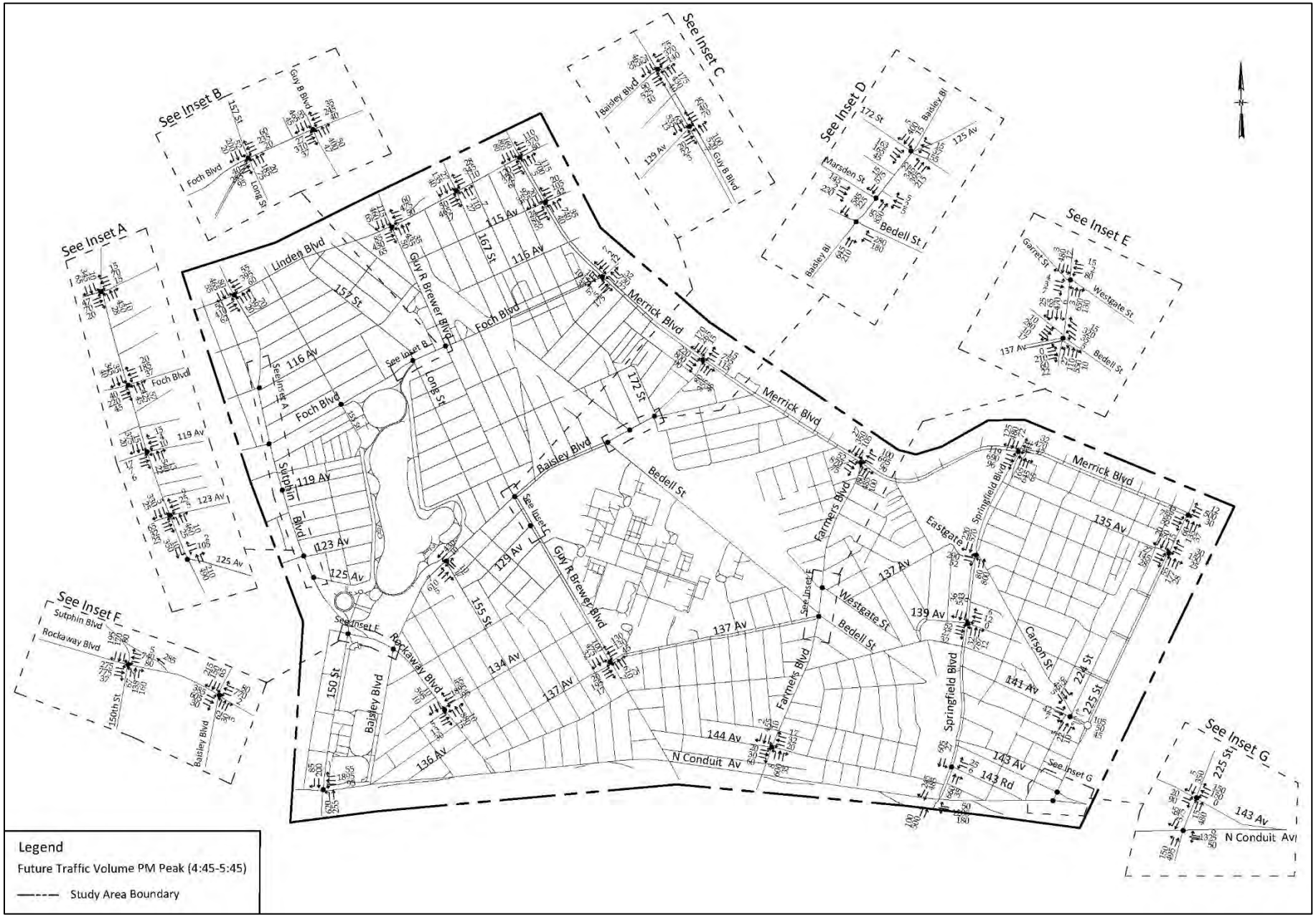


Table 4-4: Traffic Capacity Analysis for Signalized Intersections
Future Conditions (2027)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Rockaway Blvd & 134th Avenue	NB	LTR	44	0.42	45.0	D	43	0.40	44.2	D
	SB	LTR	46	0.39	41.2	D	50	0.45	43.7	D
	EB	LTR	484	0.50	7.20	A	610	0.62	9.10	A
	WB	LTR	895	0.99	66.7	E	943	1.01	77.5	E
	Overall				45.0	D			49.0	D
Rockaway Blvd & Baisley Blvd	NB	LTR	126	0.37	30.3	C	96	0.38	30.1	C
	SB	LT	226	0.89	62.5	E	210	0.87	58.9	E
		R	402	1.00	77.4	E	213	0.60	35.4	D
	EB	L	328	0.95	57.6	E	382	1.04	77.1	E
		TR	526	0.57	8.00	A	635	0.63	9.00	A
	WB	LT	1,154	1.05	88.4	F	770	0.96	59.5	E
		R	49	0.16	7.80	A	77	0.25	8.80	A
	Overall				59.5	E			42.0	D
Rockaway Blvd & Sutphin Blvd/150th St.	NB	LT	344	1.04	89.0	F	203	0.88	59.4	E
		R	210	0.66	35.0	C	160	0.52	30.2	C
	SB	DefL	132	0.36	26.3	C	80			
		TR/LTR	220	0.79	43.6	D	360	0.80	36.8	D
	EB	L	56	0.42	22.4	C	275	0.97	67.1	E
		TR	575	0.91	37.9	D	810	1.01	78.1	E
	WB	L	139	0.86	49.6	D	78	0.87	59.7	E
		TR	1,305	1.05	79.9	E	742	0.85	29.2	C
	Overall				60.2	E			51.9	D
Sutphin Blvd & 125th Avenue	NB	TR	690	1.04	53.6	D	696	1.02	60.5	E
	SB	LT	276	0.93	44.8	D	357	1.03	67.0	E
	WB	LR	95	0.54	52.0	D	106	0.51	49.4	D
	Overall				51.0	D			61.0	E
Sutphin Blvd & 123rd Avenue	NB	LTR	483	0.92	41.4	D	490	0.91	39.9	D
	SB	LTR	256	0.82	31.8	C	360	0.96	51.3	D
	EB	LTR	130	0.66	48.8	D	125	0.66	48.2	D
	WB	LTR	40	0.29	36.5	D	37	0.28	36.1	D
	Overall				40.0	D			44.7	D
Sutphin Blvd & 119th Avenue	NB	LTR	536	0.97	50.3	D	570	0.99	54.8	D
	SB	LTR	284	0.89	36.2	D	408	0.98	53.9	D
	EB	LTR	48	0.37	37.8	D	31	0.20	33.7	C
	WB	LTR	62	0.51	51.3	D	30	0.21	40.7	D
	Overall				45.0	D			53.0	D
Sutphin Blvd & Foch Blvd	NB	LTR	595	0.98	50.5	D	520	0.98	52.5	D
	SB	LTR	340	0.95	45.1	D	420	0.99	53.2	D
	EB	LTR	320	0.85	52.7	D	300	0.81	47.6	D
	WB	LTR	350	0.86	54.8	D	242	0.70	40.3	D
	Overall				51.0	D			50.0	D
Sutphin Blvd & 116th Avenue	NB	LTR	573	0.99	53.7	D	464	0.84	30.5	C
	SB	LTR	326	0.97	50.4	D	420	0.99	52.8	D
	EB	LTR	157	0.68	43.7	D	136	0.60	37.7	D
	WB	LTR	168	0.65	50.0	D	97	0.44	36.0	D
	Overall				51.0	D			40.0	D
Sutphin Blvd & Linden Blvd	NB	LTR	542	0.59	23.0	C	510	0.80	31.7	C
	SB	LTR	570	1.00	64.3	E	592	1.05	76.6	E
	EB	L	38	0.28	21.0	C	50	0.39	25.3	C
		TR	537	0.95	52.9	D	470	0.95	54.0	D
	WB	L	38	0.27	21.5	B	61	0.43	26.6	C
		TR	338	0.87	44.2	D	448	0.95	54.3	D
	Overall				44.5	D			53.0	D
Linden Blvd & 167th Street	NB	LTR	532	0.34	62.0	E	530	0.97	59.7	E
	SB	LTR	467	0.35	61.5	E	380	0.86	45.5	D
	EB	LTR	190	0.58	52.7	D	203	0.60	53.8	D
	WB	LTR	200	0.75	52.8	D	141	0.55	35.4	D
	Overall				59.0	E			51.5	D

Table 4-4: Traffic Capacity Analysis for Signalized Intersections
Future Conditions (2027)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Guy R Brewer Blvd & Linden Blvd	NB	L	88	0.74	53.4	D	83	0.70	48.8	D
		TR	600	1.04	75.6	E	490	0.94	52.4	D
	SB	L	17	0.24	22.1	C	50	0.40	27.8	C
		TR	376	0.93	54.8	D	534	0.98	60.2	E
	EB	LTR	482	0.82	60.7	E	640	0.87	59.6	E
	WB	LTR	520	0.93	65.4	E	516	0.93	63.4	E
	Overall				64.0	E			58.0	E
Linden Blvd & Merrick Blvd	NB	L	116	0.76	59.6	E	15	0.21	32.9	C
		TR	1,306	1.07	80.3	F	813	1.04	73.7	E
	SB	L	50	0.39	33.5	C	168	0.80	54.7	D
		TR	750	1.05	78.5	E	917	1.05	74.6	E
	EB	L	88	0.78	49.7	D	121	0.85	52.8	D
		TR	370	0.72	45.1	D	437	0.79	54.3	D
	WB	L	66	0.61	29.4	C	78	0.54	22.6	C
		TR	476	0.91	54.5	D	480	0.91	54.2	D
	Overall					68.0	E		64.5	E
Merrick Blvd & 115th Avenue	NB	LTR	218	0.86	56.5	E	155	0.71	43.9	D
	SB	LTR	217	0.87	58.4	E	161	0.82	57.5	E
	EB	L	23	0.38	22.1	C	20	0.24	16.2	B
		TR	742	0.90	54.7	D	958	0.96	71.4	E
	WB	L	30	0.39	18.7	B	39	0.59	35.3	D
		TR	1,384	1.04	71.8	E	773	0.91	36.8	D
	Overall				63.0	E			54.0	D
Merrick Blvd & Foch Blvd	NB	LTR	253	0.77	41.3	D	236	0.79	42.9	D
	SB	LTR	17	0.12	22.4	C	21	0.18	23.0	C
	EB	L	14	0.15	12.6	B	9	0.17	13.5	B
		TR	833	0.89	44.4	D	1,048	0.94	54.7	D
	WB	L	152	0.84	50.0	D	127	0.77	45.4	D
		TR	1,324	0.99	53.5	D	791	0.91	43.8	D
	Overall				49.0	D			48.0	D
Merrick Blvd & Baisley Blvd	NB	LTR	518	0.57	27.8	C	472	0.54	27.1	C
	SB	LTR	653	1.01	66.4	E	448	0.62	29.3	C
	EB	L	167	0.98	102.4	F	219	1.05	113.0	F
		TR	703	0.64	29.1	C	885	0.85	41.5	D
	WB	L	161	0.92	88.1	F	112	0.84	79.1	E
		TR	1,325	1.05	85.0	F	747	0.67	26.6	C
	Overall				63.0	E			40.0	D
Merrick Blvd & Farmers Blvd	NB	LTR	828	1.01	63.2	E	660	0.99	61.8	E
	SB	LTR	490	0.97	60.7	E	482	0.96	58.2	E
	EB	L	48	0.51	54.5	D	51	0.54	56.7	E
		TR	732	0.72	31.2	C	942	0.94	63.9	E
	WB	L	63	0.55	54.3	D	96	0.80	78.3	E
		TR	1,165	1.01	76.6	E	793	0.98	68.6	E
	Overall				60.0	E			64.0	E
Merrick Blvd & Springfield Blvd	NB	L	101	0.67	56.5	E	166	0.90	79.2	E
		TR	837	1.01	62.9	E	708	0.96	54.5	D
	SB	L	122	0.71	57.1	E	72	0.48	44.6	D
		TR	770	0.98	58.7	E	606	0.88	43.3	D
	EB	LTR	763	0.99	75.1	E	940	1.01	77.3	E
	WB	LTR	852	0.98	74.4	E	548	0.94	64.8	E
	Overall				67.0	E			62.0	E
Merrick Blvd & 225th Street	NB	LTR	252	0.87	54.1	D	230	0.85	52.1	D
	EB	L	23	0.30	18.1	B	31	0.38	21.6	C
		TR	634	0.87	49.6	D	805	0.95	75.5	E
	WB	L	20	0.31	20.2	C	28	0.40	25.2	C
		TR	594	0.94	53.9	D	510	0.91	47.4	D
	Overall				51.0	D			54.0	D
225th Street & 143rd Avenue	NB	LT	500	0.89	33.5	C	495	0.64	19.0	B
	SB	TR	300	0.75	26.3	C	355	0.83	31.7	C
	EB	LR	80	0.35	27.6	C	110	0.37	28.3	C
	WB	LTR	300	0.71	33.3	C	300	0.51	27.3	C
	Overall				31.0	C			26.0	C

Table 4-4: Traffic Capacity Analysis for Signalized Intersections
Future Conditions (2027)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Springfield Blvd & Eastgate Street	NB	LT	965	0.99	54.7	D	880	0.99	54.8	D
	SB	TR	896	0.99	54.5	D	786	0.98	54.6	D
	EB	LR	335	0.78	44.0	D	338	0.85	50.6	D
	WB	LR	40	0.14	28.4	C	41	0.14	27.6	C
	Overall				52.5	D			53.0	D
Springfield Blvd & 139th Avenue	NB	L	37	0.08	9.10	A	33	0.07	9.10	A
		TR	880	0.83	20.9	C	830	0.80	19.3	B
	SB	L	10	0.03	8.70	A	9	0.03	8.70	A
		TR	590	0.67	16.0	B	600	0.70	16.8	B
	EB	LTR	120	0.47	21.7	C	115	0.46	21.4	C
	WB	LTR	46	0.18	16.8	B	19	0.08	15.4	B
	Overall				19.0	B			18.0	C
Farmers Blvd & 144th Avenue	NB	LTR	724	0.58	11.8	B	637	0.65	13.3	B
	SB	LTR	578	1.02	54.8	D	466	0.95	39.5	D
	EB	LTR	105	0.44	24.1	C	102	0.43	23.9	C
	WB	LTR	172	0.76	44.3	D	68	0.31	22.4	C
	Overall				32.0	C			24.0	C
Farmers Blvd & 137th Avenue/Bedell Street	NB	LTR	676	0.96	54.7	D	693	0.97	693	0.97
	SB	LTR	605	1.01	77.4	E	564	0.96	564	0.96
	EB (137 Av)	LTR	266	0.72	60.4	E	280	0.85	280	0.85
	EB (Bedell)	LTR	492	1.04	131.0	F	310	0.66	51.4	D
	WB	LTR	210	0.74	71.1	E	370	0.93	104.3	F
	Overall				82.0	F			68.0	E
Farmers Blvd & Westgate Street	NB	LTR	920	0.99	53.7	D	784	0.89	35.4	D
	SB	LTR	525	1.03	61.8	E	498	1.03	65.3	E
	EB	LTR	36	0.11	25.7	C	14	0.05	24.8	C
	WB	LTR	122	0.28	29.2	C	98	0.23	28.2	C
	Overall				53.0	D			45.0	D
Guy R Brewer Blvd & 137th Avenue	NB	LTR	670	1.01	54.5	D	690	1.01	54.9	D
	SB	LTR	590	0.88	27.5	C	600	0.88	28.2	C
	EB	LTR	110	0.11	16.0	B	230	0.78	35.8	D
	WB	LTR	345	0.68	24.4	C	296	0.58	21.6	C
	Overall				36.0	D			37.0	D
Guy R Brewer Blvd & 129th Avenue	NB	LTR	810	1.03	54.6	D	600	1.02	54.7	D
	SB	LTR	543	1.01	49.9	D	590	1.03	54.4	D
	EB	LTR	53	0.26	16.8	B	45	0.23	16.3	B
	WB	LTR	36	0.16	17.3	B	130	0.60	31.1	C
	Overall				50.0	D			50.0	D
Guy R Brewer Blvd & Baisley Blvd	NB	LTR	760	1.05	73.5	E	640	0.90	40.5	D
	SB	L	48	0.10	17.3	B	75	0.17	18.0	B
		TR	472	0.97	54.2	D	515	0.97	54.9	D
	EB	L	76	0.16	17.3	B	89	0.18	17.4	B
		TR	443	0.92	54.9	D	560	0.98	76.8	E
	WB	L	124	0.79	49.1	D	140	0.78	49.9	D
		TR	466	0.90	54.4	D	440	0.86	46.3	D
	Overall				54.0	D			51.0	D
Guy R Brewer Blvd & Foch Blvd	NB	LTR	550	0.98	48.7	D	492	0.97	46.9	D
	SB	LTR	434	1.03	60.4	E	564	1.02	54.7	D
	EB	LTR	386	0.97	90.6	F	370	0.96	86.2	F
	WB	LTR	410	0.86	47.7	D	315	0.73	34.8	C
	Overall				60.0	E			55.0	D
Foch Blvd & 157th/Long Streets	NB	LTR	486	1.06	78.6	E	280	0.93	54.4	D
	SB	LTR	182	0.27	14.9	B	266	0.67	23.2	C
	EB	LTR	442	0.95	53.6	D	416	0.95	54.5	D
	WB	LTR	402	0.92	54.3	D	313	0.81	34.0	C
	Overall				55.0	D			42.0	D
Baisley Blvd & Bedell Street	NB	LR	590	0.80	46.9	D	460	0.64	43.4	D
	EB	TR	510	0.49	80.3	F	855	0.83	84.3	F
	WB	LT	820	1.02	64.5	E	810	1.09	101.9	F
	Overall				62.0	E			80.7	F

Table 4-4: Traffic Capacity Analysis for Signalized Intersections
Future Conditions (2027)

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Bailsey Blvd & Marsden Street	SB	LR	102	0.24	20.1	C	375	0.89	47.0	D
	EB	LT	680	1.07	128.0	F	925	1.09	172.2	F
	WB	TR	763	0.70	17.7	B	595	0.55	13.6	B
	Overall				59.6	E			78.0	E
Bailsey Blvd & 172nd St/125th Ave	NB	LTR	245	0.57	26.7	C	207	0.68	33.4	C
	SB	LTR	87	0.23	20.1	C	373	1.05	78.9	E
	EB	LTR	615	0.59	14.0	B	977	0.83	54.2	D
	WB	LTR	570	1.06	78.0	E	420	0.80	29.4	C
	Overall				43.3	D			50.2	D
Baisley Blvd & 155th Street	NB	LTR	100	0.44	26.9	C	26	0.13	21.4	C
	SB	LTR	7	0.05	18.2	B	4	0.03	17.9	B
	EB	LTR	395	0.84	32.2	C	618	0.99	74.0	E
	WB	LTR	580	0.97	74.5	E	435	0.91	53.0	D
	Overall				52.0	D			63.0	E
N. Conduit Avenue & 150th Street	NB	L	502	1.05	83.7	F	620	1.08	89.8	F
		T	219	0.78	44.3	D	252	0.86	52.6	D
	SB	TR	263	0.46	34.3	C	280	0.55	35.8	D
	WB	L	181	0.76	33.3	C	95	0.41	16.4	B
		TR	2,945	1.01	49.0	D	1,950	0.92	22.5	C
	Overall				51.0	D			38.0	D
N. Conduit Avenue & 225th Street	NB	LT	550	1.02	78.3	E	535	0.91	53.9	D
	SB	TR	415	0.82	51.2	D	427	0.83	54.8	D
	WB	LTR	2,752	1.07	75.0	E	1,536	0.78	19.5	B
	Overall				72.9	E			34.0	C
North Conduit Avenue & Springfield Blvd	NB	LT	820	1.02	76.4	E	600	0.93	60.0	E
	SB	TR	595	0.97	74.2	E	485	0.72	52.0	D
		R	170	0.76	65.0	E	245	0.89	79.0	E
	WB	LTR	2,665	0.69	21.0	C	1,515	0.52	16.0	B
	Overall				52.3	D			48.0	D

Exhibit 4-9
Intersections with Approach/Lane Group LOS D, E, and F
Future Conditions (AM Peak)

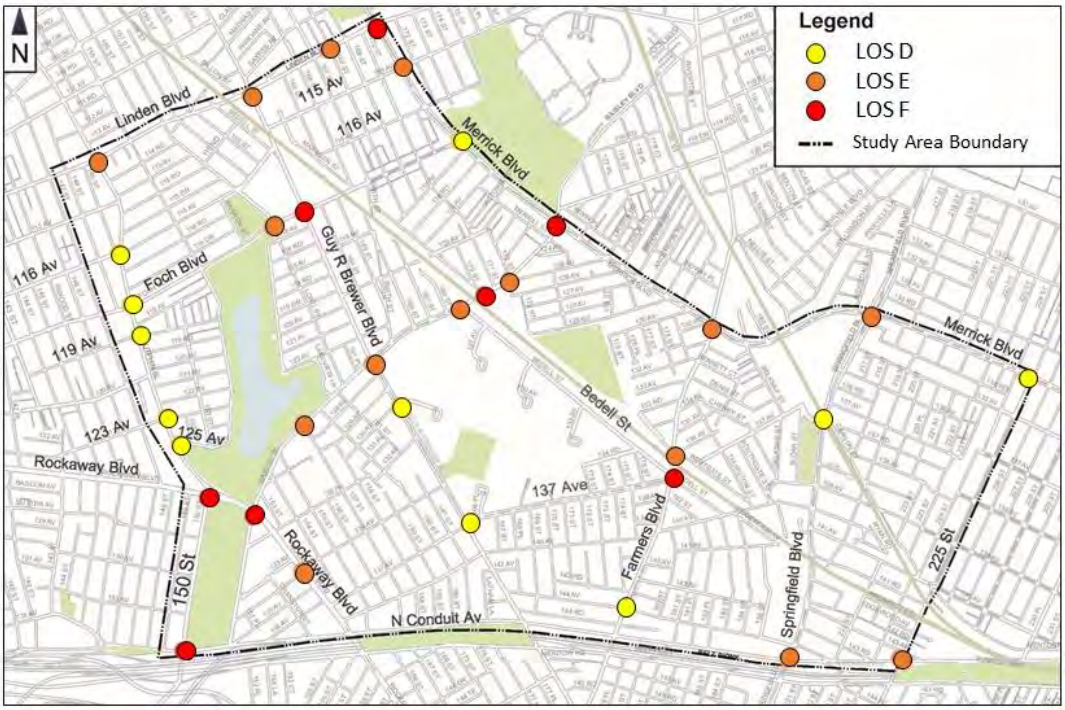
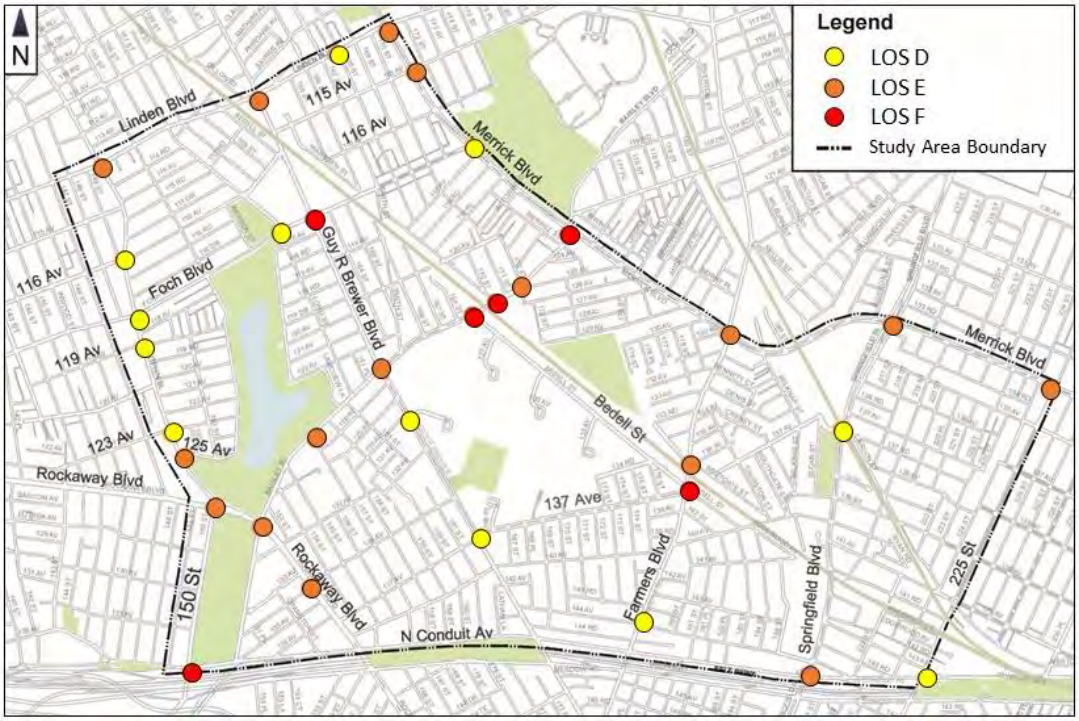


Figure 4-10
Intersections with Approach/Lane Group LOS D, E, and F
Future Conditions (PM Peak)



4-8 Existing Travel Speeds

Many factors such as heavy traffic volumes, parking, and loading/unloading activities reduce roadway capacity resulting in delays and slow travel speeds. Travel speed surveys, using the "floating car" method (a technique whereby a vehicle travels at speeds under prevailing traffic conditions), were conducted along the major corridors during the AM (7:00-9:00) and PM (4:00-6:00) peak periods. Three travel runs were performed for each corridor and speed data was also extracted from INRIX and compared to the field data, where available.

Travel time and speed surveys were conducted along the following corridors:

1. Merrick Boulevard between Linden Boulevard and 225th Street;
2. Springfield Boulevard between North Conduit Avenue and Merrick Boulevard;
3. Farmers Boulevard between North Conduit Avenue and Merrick Boulevard;
4. Guy R. Brewer Boulevard between North Conduit Avenue and Linden Boulevard;
5. Linden Boulevard between Sutphin and Merrick Boulevards**;**
6. Baisley Boulevard between North Conduit Avenue and Merrick Boulevard;
7. Sutphin Boulevard/150th Street between North Conduit Avenue and Linden Boulevard; and
8. Rockaway Boulevard between North Conduit Avenue and Sutphin Blvd/150th Street.

Travel speeds along the eight corridors ranged from 11.5 to 16 mph during the AM and PM peak hours. The slowest travel speeds (11.5-12 MPH) were recorded along Linden (WB), Springfield (SB), Rockaway (WB), Guy R Brewer (NB/SB), Farmers (SB), and Suthpin Boulevards (NB/SB) during the AM and PM peak hours. Exhibits 4-11 to 4-14 and Tables 4-5 and 4-6 provide the average link travel times and speeds for each corridor.

Exhibit 4-11
Existing Average Travel Speed (MPH) - AM Peak

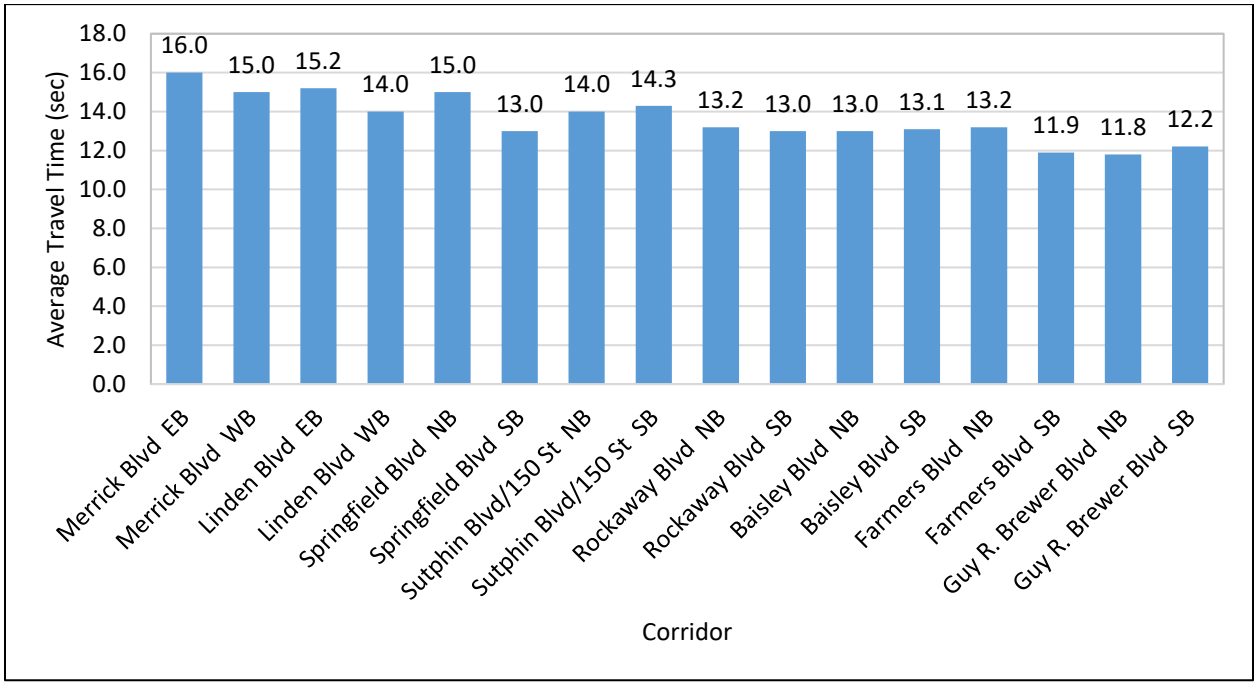


Exhibit 4-12
Existing Average Travel Speed (MPH) - PM Peak

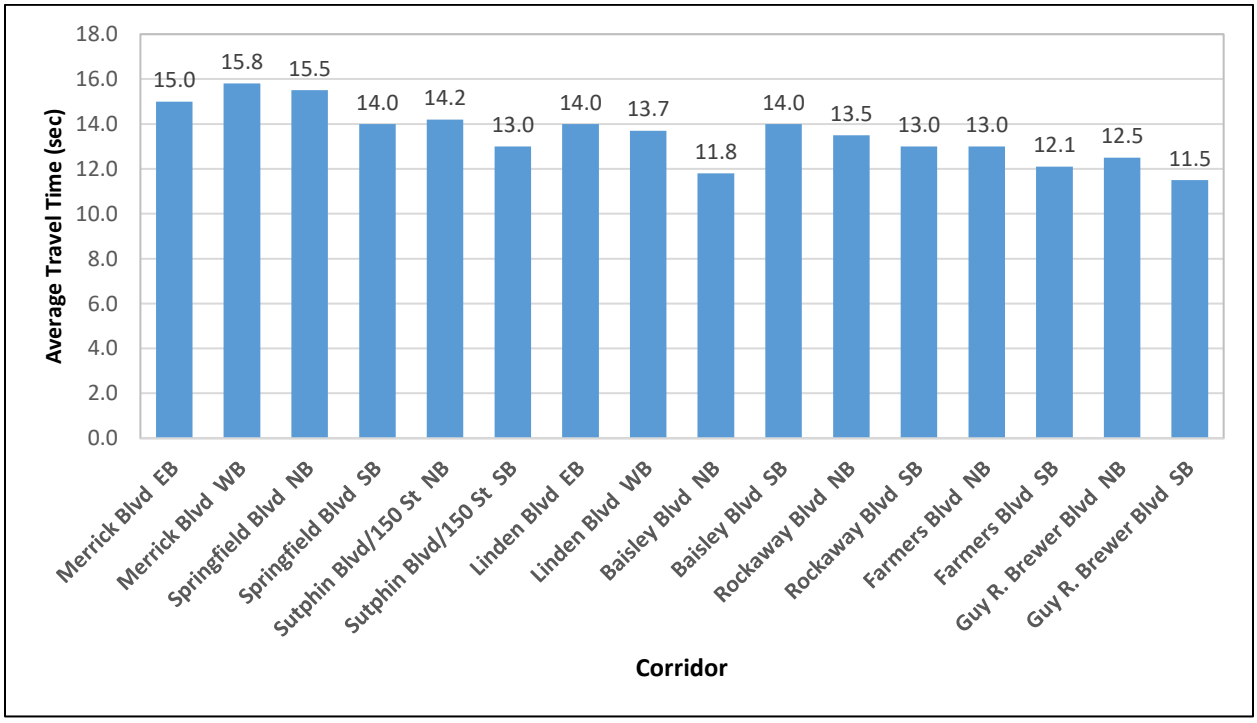


Exhibit 4-13
Existing Average Travel Speeds (AM Peak)

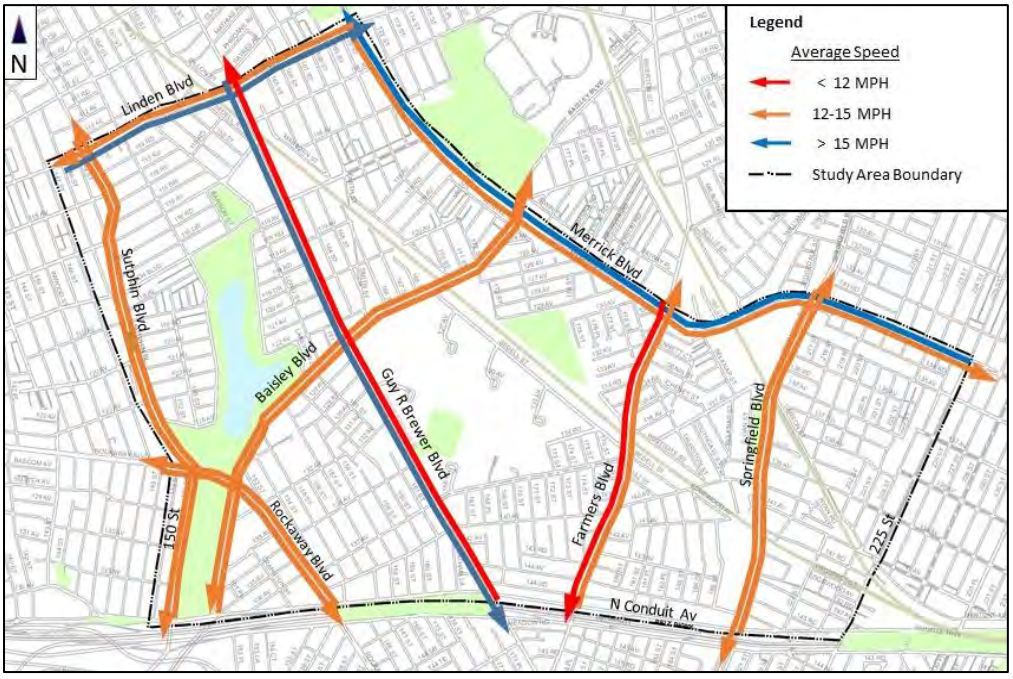


Exhibit 4-14
Existing Conditions Average Travel Speeds (PM Peak)

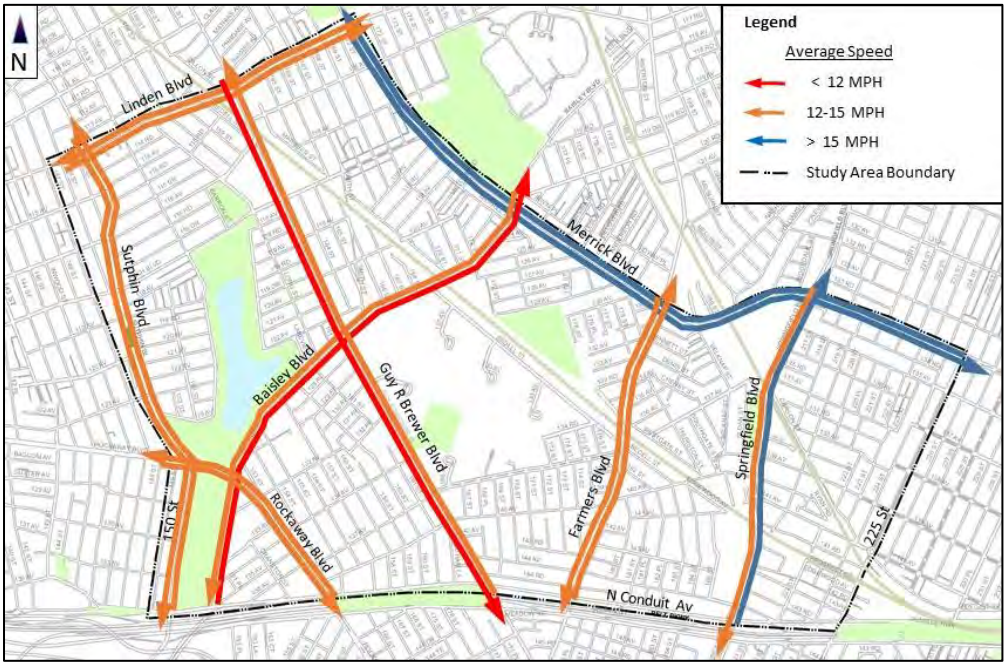


Table 4-5

Existing and Future Average Travel Speeds - AM Peak

Corridor	Direction	Cross-streets	Existing Condition		Future Condition	
			Average Travel Time (sec)	Average Travel Speed (mph)	Average Travel Time (sec)	Average Travel Speed (mph)
Merrick Blvd	EB	Linden Blvd & 225 St	12.15	16.0	13.00	15.8
	WB	225 St & Linden Blvd	16.75	15.0	18.20	14.6
Linden Blvd	EB	Sutphin Blvd & Merrick Blvd	2.85	15.2	2.90	14.9
	WB	Merrick Blvd & Sutphin Blvd	4.05	14.0	4.10	13.8
Springfield Blvd	NB	N. Conduit Ave & Merrick Blvd	3.90	15.0	4.15	14.8
	SB	Merrick Blvd & N. Conduit Ave	4.80	13.0	4.75	12.9
Sutphin Blvd/150 St	NB	N. Conduit Ave & Linden Blvd	4.80	14.0	4.75	14.1
	SB	Linden Blvd & N. Conduit Ave	4.90	14.3	4.85	14.4
Rockaway Blvd	WB	N. Conduit Av & Sutphin Bl/150 St	5.85	13.2	6.25	12.7
	EB	Sutphin Bl/150 St & N. Conduit Av	5.90	13.0	6.00	12.8
Baisley Blvd	NB	N. Conduit Ave & Merrick Blvd	7.15	13.0	7.30	12.5
	SB	Merrick Blvd & N. Conduit Ave	6.80	13.1	7.00	12.8
Farmers Blvd	NB	N. Conduit Ave & Merrick Blvd	3.90	13.2	4.15	12.8
	SB	Merrick Blvd & N. Conduit Ave	4.80	11.9	4.90	11.8
Guy R. Brewer Blvd	NB	N. Conduit Ave & Linden Blvd	4.50	11.8	4.60	11.7
	SB	Linden Blvd & N. Conduit Ave	4.20	12.2	4.30	11.9

Table 4-6

Existing and Future Average Travel Speeds - PM Peak

Corridor	Direction	Cross-streets	Existing Condition		Future Condition	
			Average Travel Time (sec)	Average Travel Speed (mph)	Average Travel Time (sec)	Average Travel Speed (mph)
Merrick Blvd	EB	Linden Blvd & 225 St	12.55	15.0	13.25	14.8
	WB	225 St & Linden Blvd	11.40	15.8	11.50	15.7
Springfield Blvd	NB	N. Conduit Ave & Merrick Blvd	3.65	15.5	3.70	15.4
	SB	Merrick Blvd & N. Conduit Ave	5.30	14.0	5.80	13.8
Sutphin Bl/150 St	NB	N. Conduit Ave & Linden Blvd	5.00	14.2	4.95	14.3
	SB	Linden Blvd & N. Conduit Ave	5.15	13.0	5.10	13.2
Linden Blvd	EB	Sutphin Blvd & Merrick Blvd	2.75	14.0	2.80	13.8
	WB	Merrick Blvd & Sutphin Blvd	3.95	13.7	4.00	13.6
Baisley Blvd	EB	N. Conduit Ave & Merrick Blvd	8.20	11.8	8.50	11.5
	WB	Merrick Blvd & N. Conduit Ave	7.00	14.0	7.20	13.8
Rockaway Blvd	NB	N. Conduit Av & Sutphin Bl/150 St	5.20	13.5	5.30	13.4
	SB	Sutphin Bl/150 St & N. Conduit Av	5.90	13.0	6.00	12.7
Farmers Blvd	NB	N. Conduit Ave & Merrick Blvd	4.55	13.0	4.65	12.9
	SB	Merrick Blvd & N. Conduit Ave	4.70	12.1	4.75	11.8
Guy R. Brewer Bl	NB	N. Conduit Ave & Linden Blvd	4.30	12.5	4.35	12.4
	SB	Linden Blvd & N. Conduit Ave	5.05	11.5	5.20	11.3

4-9 Future Travel Speeds

The 2027 future travel speeds were calculated using future projected delays (HCS) and existing measured speeds. Future average travel speeds during the AM and PM peak hours would decrease slightly along the eight major corridors**.** Figures 4-15 to 4-18 and Tables 4-6 and 4-7 provide the average link travel times and speeds for each corridor.

Exhibit 4-15
Future Average Travel Speeds (MPH) - AM Peak

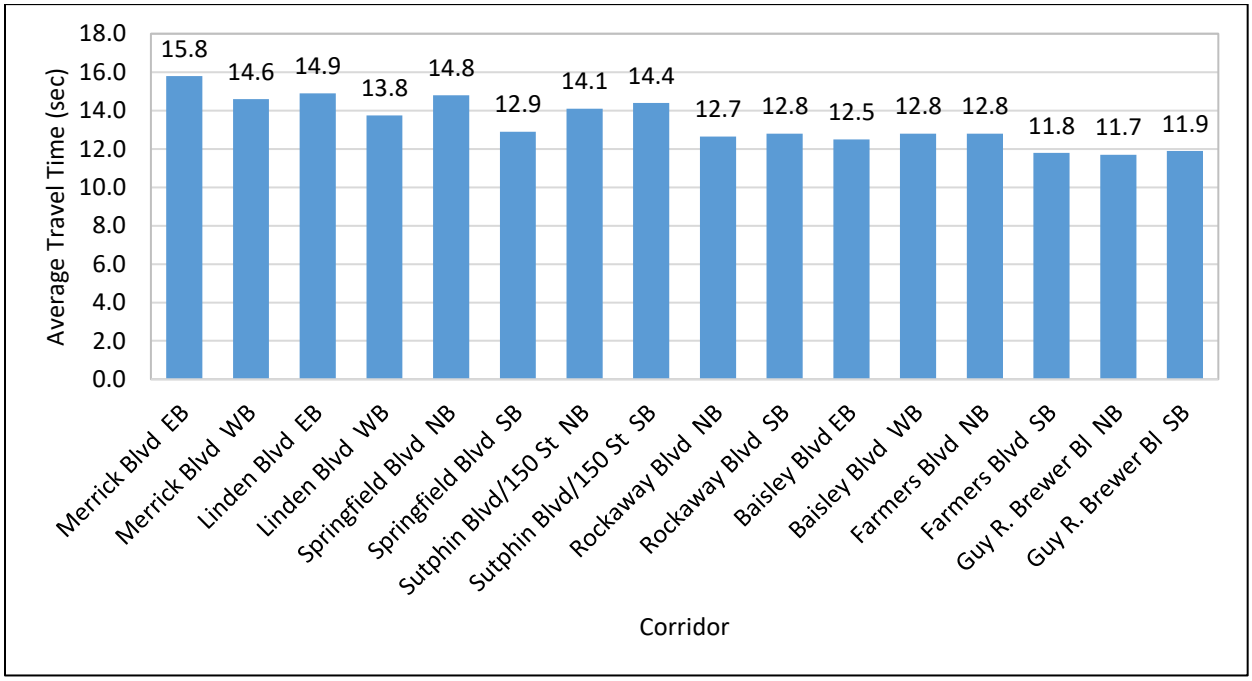


Exhibit 4-16
Future Average Travel Speeds (MPH) - PM Peak

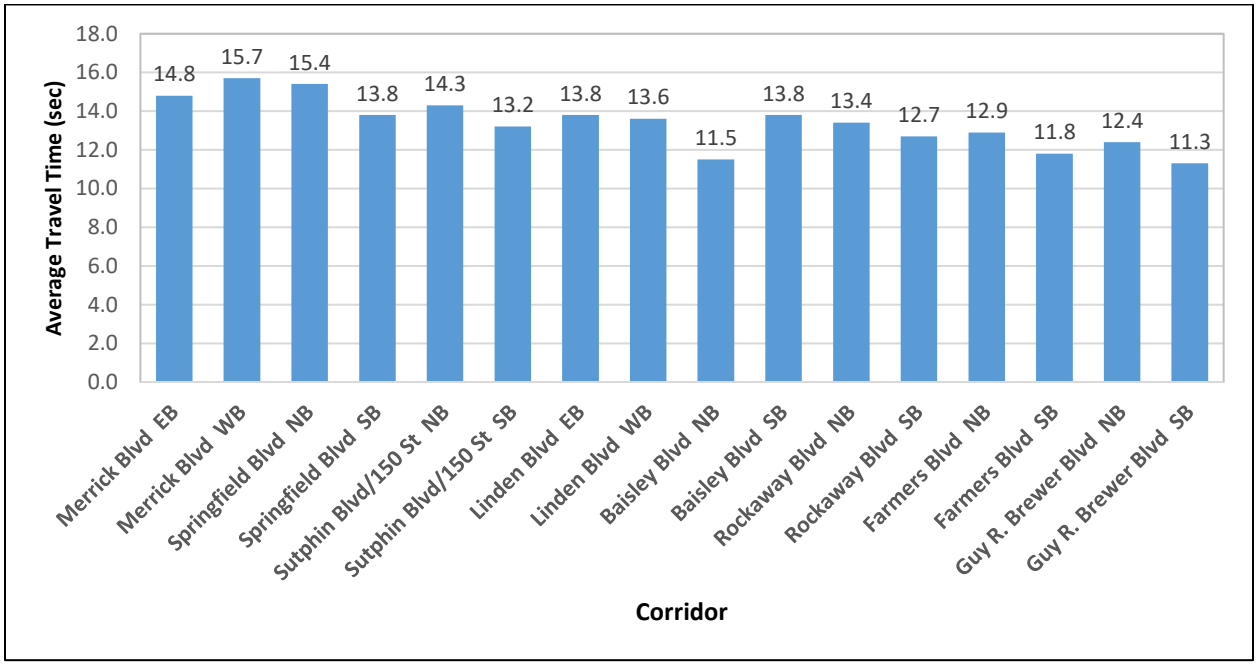


Exhibit 4-17
Future Conditions Average Travel Speed (AM Peak)

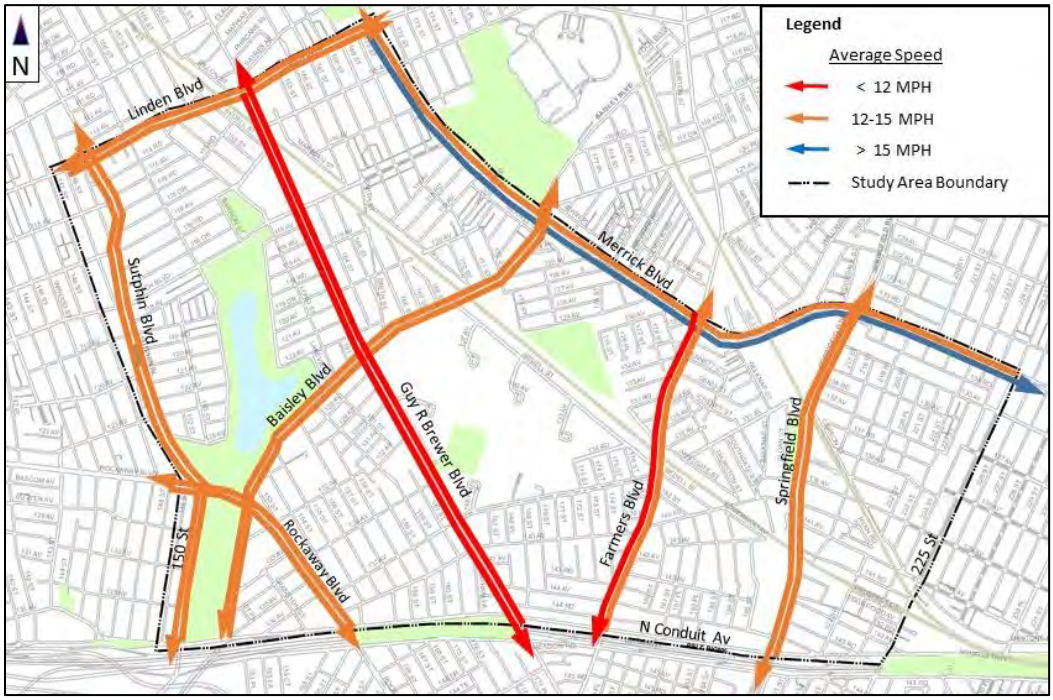
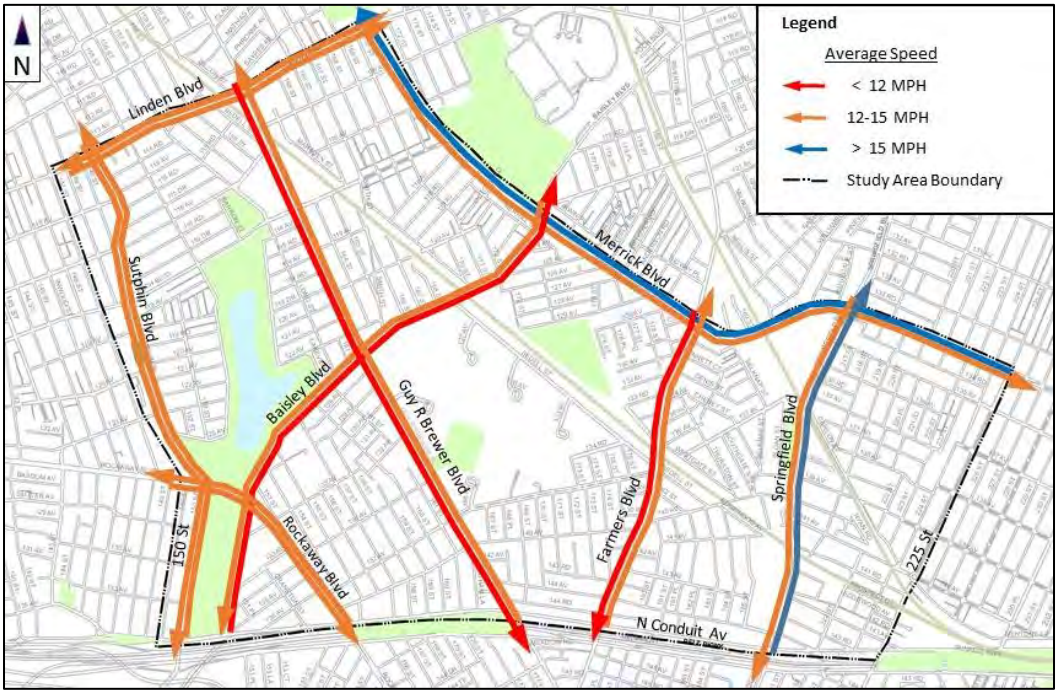


Exhibit 4-18
Future Conditions Average Travel Speed (PM Peak)



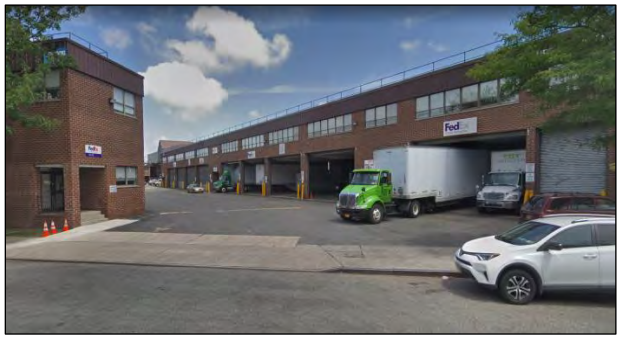
4-10 Trucks and Goods Movement

During the public outreach process, the community expressed concerns about congestion and other safety issues posed by trucks in the area. According to studies prepared by the Port Authority of NY&NJ (from GPS records), approximately 4,000 truck trips travel to/from JFK Airport and Springfield Gardens for a three-month period. Most of these trucks use regional facilities such as Van Wyck Expressway, Rockaway Boulevard/Nassau Expressway, Sunrise Highway and Conduit Avenues, but some also use local corridors in the study area. Of the total truck trips entering the City about 13% are destined to JFK Airport along with the Springfield Gardens/South Jamaica study area. Data from the Citywide Freight Plan indicates that percentage of trucks in the traffic stream on major corridors and truck routes are much higher (8-12%) compared to a City-wide average (4-5%).

There are several industrial and warehouse establishments in the study area, mainly on Rockaway Boulevard between Baisley Boulevard and North Conduit Avenue, and Merrick Boulevard between Springfield and Farmers Boulevards that attract local truck traffic. There are two designated “Through” truck routes in the study area - Springfield Boulevard and North Conduit Avenue and five “Local” routes - Rockaway, Farmers, Guy R. Brewer, Baisley and Merrick Boulevards. See Exhibit 4-19.

Exhibit 4-19: Existing Truck Routes

Some examples of truck activities are shown below:



Baisley Blvd, UPS/FedEx, looking east

Rockaway Blvd at 133rd Ave, looking northeast

Sutphin at Linden Blvds, looking north

Thurston St at 140th Ave, looking northwest

The highest truck volumes were recorded along North Conduit Avenue and Rockaway, Farmers, Springfield, Baisley and Guy R. Brewer Boulevards during the AM and PM peak hours. See Exhibit 4-20. Future truck volumes are expected to be slightly higher (generated by adding 3.813% growth per 10-year and potential trips from new developments). See Exhibit 4-21.

Exhibit 4-20: Existing Truck Volumes - AM and PM Peak Hours

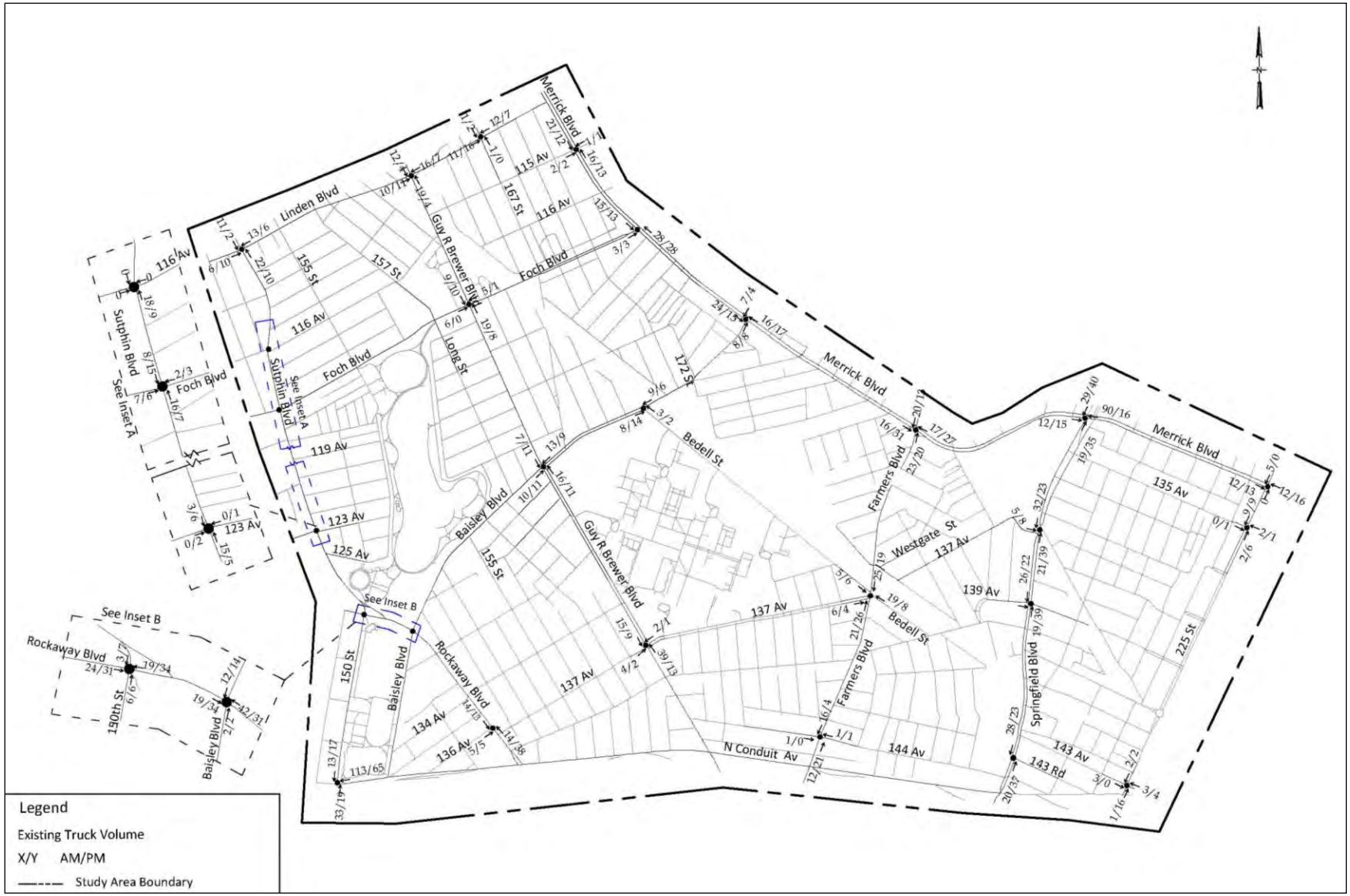
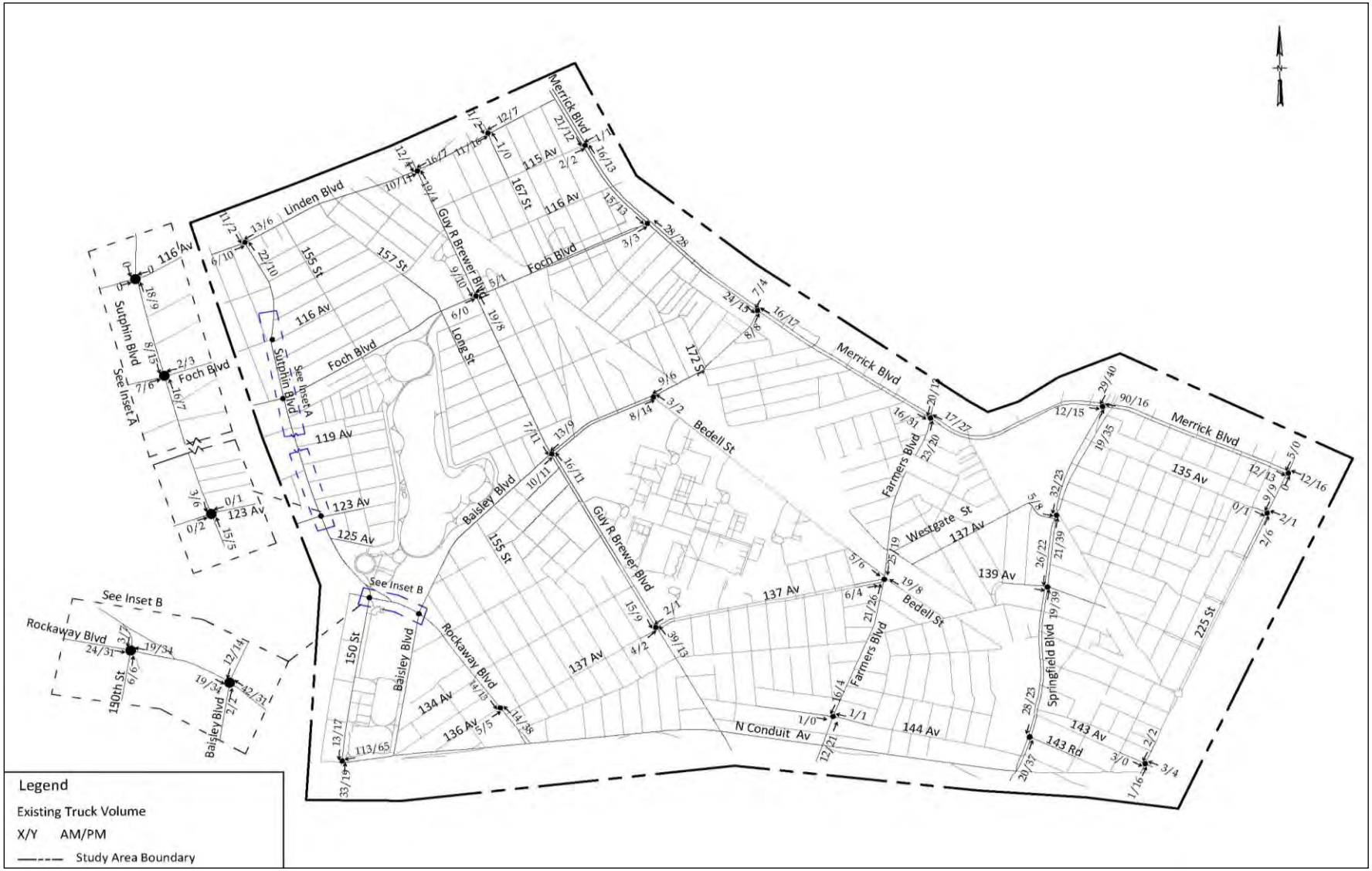


Exhibit 4-21: Future Truck Volumes - AM and PM Peak Hours



5.0 Pedestrian and Bicycle Analysis

5.1 Introduction

Trips associated with residential, commercial, and institutional uses account for a majority of the pedestrian traffic within the study area. Each pedestrian trip contributes to the pedestrian traffic seen in crosswalks, corners, and sidewalks. The highest pedestrian volumes in the study area were observed in proximity to large multi-family buildings and along major corridors such as Guy R. Brewer, Baisley, Merrick, and Sutphin Boulevards.

5.2 Data Collection and Existing Volumes

The 2017 existing and 2027 projected future conditions analysis focuses on pedestrian activity at major intersections. Pedestrian counts were conducted at 27 intersections during the weekday AM (7:30-8:30) and PM (4:45-5:45) peak hours. See Figure 5-1.

The field surveys revealed the pedestrian volumes were low to moderate. The highest pedestrian movements were recorded along Guy R. Brewer, Baisley, Sutphin and Merrick Boulevards, where three large residential complexes exist (Rochdale Village, Cedar and Locust Manors), and near several schools, shopping malls and commercial strips. The intersections with the highest numbers of pedestrian crossings ranging from 300 to 630 during a peak period include Guy R. Brewer/Foch Boulevards (630), Sutphin/Rockaway Boulevards (530), Guy R. Brewer/Baisley Boulevards (515), Sutphin/123rd Avenue (350), and Springfield/Merrick Boulevards (300). Exhibits 5-1 and 5-2 show the pedestrian volumes for the AM and PM peak hours, respectively.

5.3 Pedestrian Level of Service (LOS) Analysis

The pedestrian Level of Service is measured in terms of square feet of space per pedestrian (SF/P), as shown in Exhibit 5-3. The LOS criteria indicate the quality of pedestrian movement and comfort, and are defined in a density-comfort relationship. The level of service (LOS) analysis shows most intersection crosswalks operates at satisfactory LOS A and B during the AM and PM peak hours. The results of pedestrian LOS analysis for pedestrians are shown in Table 5-1.

Exhibit 5-1: Existing Pedestrian Volume (AM Peak)

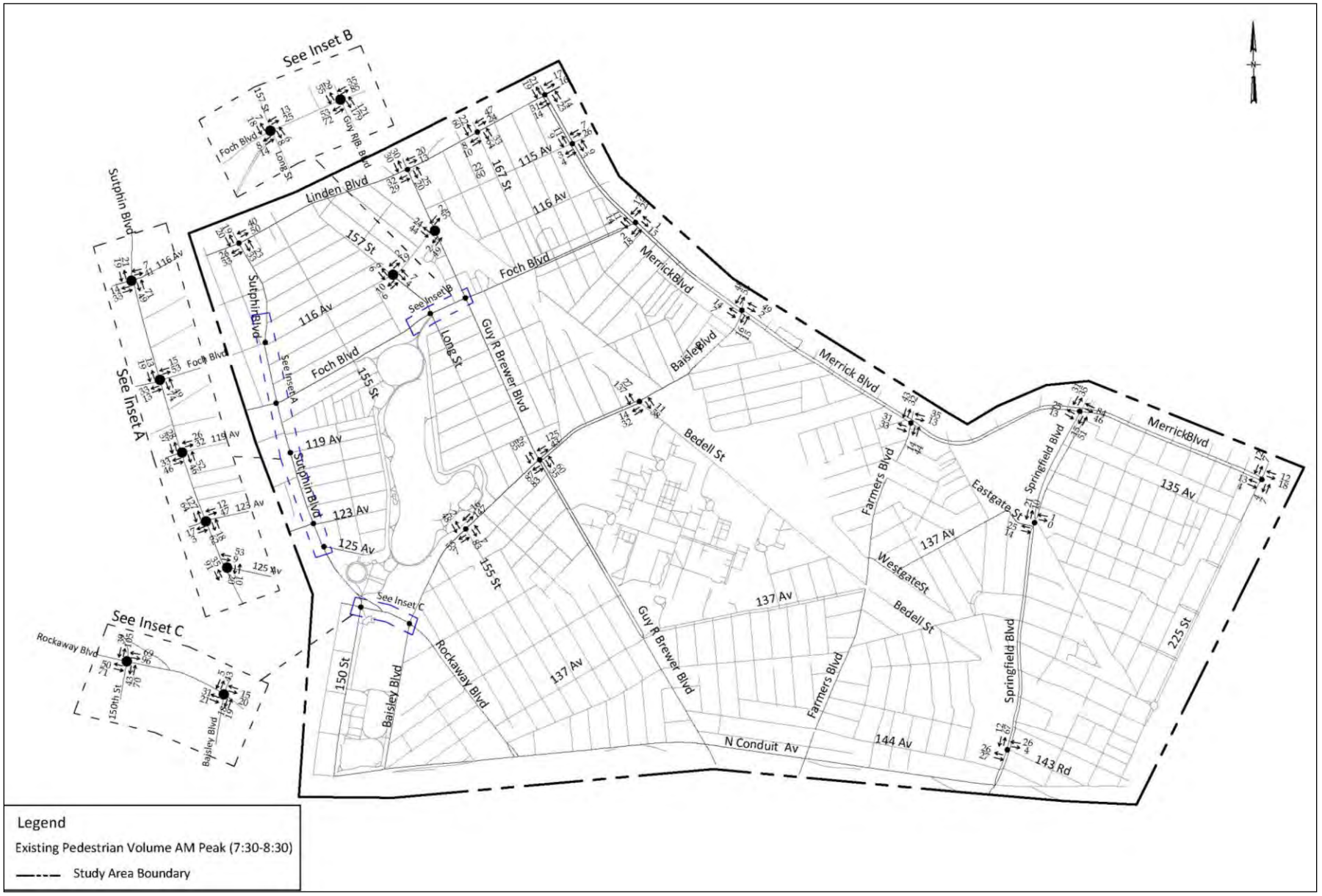


Exhibit 5-2: Existing Pedestrian Volume (PM Peak)

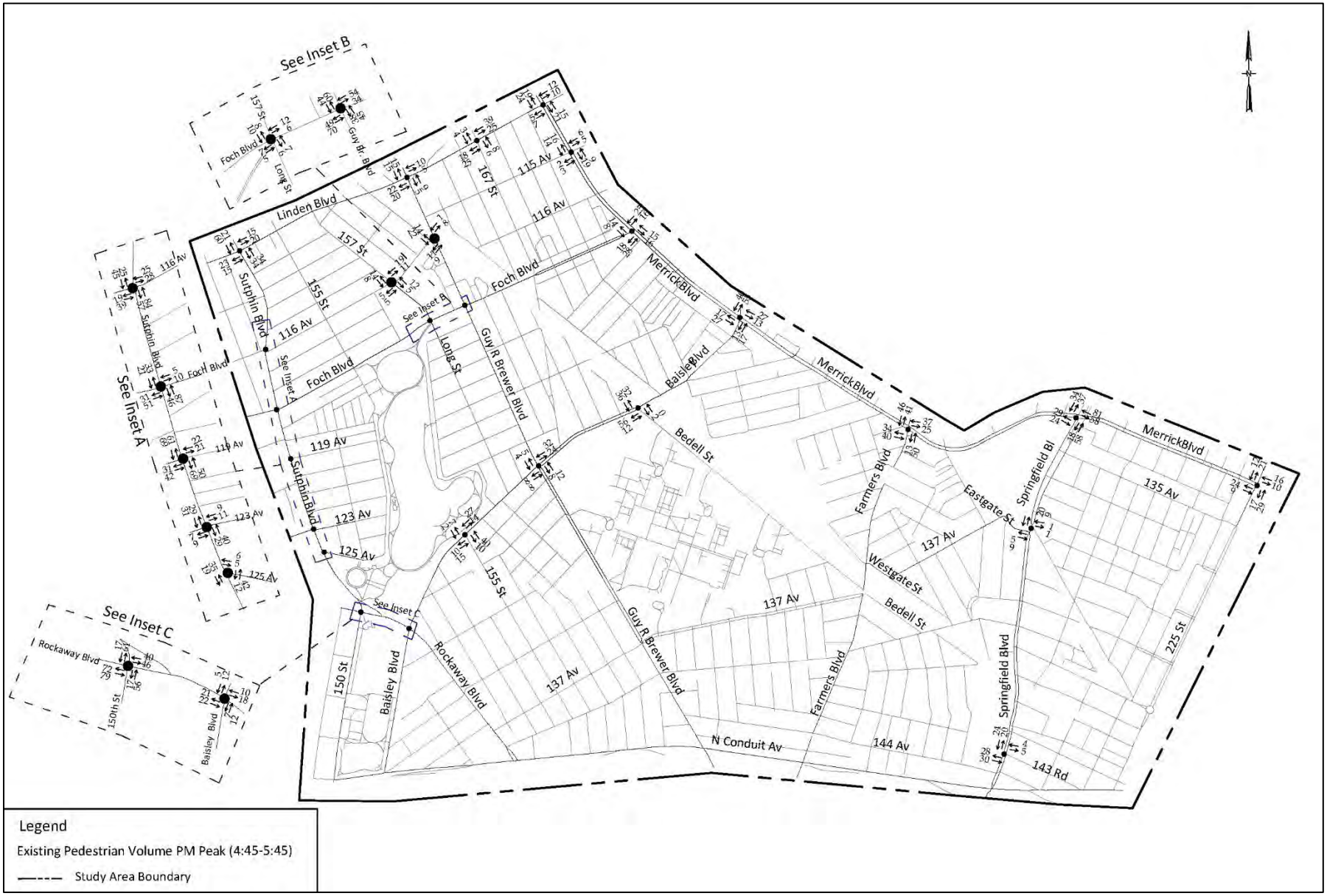
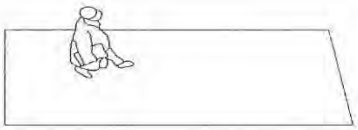


Exhibit 5-3: Pedestrian Level of Service (LOS) Criteria

LOS A

Pedestrian Space > 60 ft^2/p *Flow Rate* ≤ 5 p/min/ft

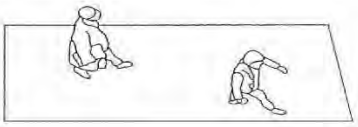
At a walkway LOS A, pedestrians move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.



LOS B

Pedestrian Space > 40-60 ft^2/p *Flow Rate* > 5-7 p/min/ft

At LOS B, there is sufficient area for pedestrians to select walking speeds freely, to bypass other pedestrians, and to avoid crossing conflicts. At this level, pedestrians begin to be aware of other pedestrians, and to respond to their presence when selecting a walking path.



LOS C

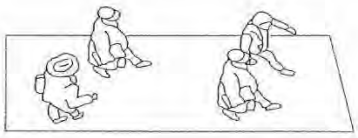
Pedestrian Space > 24-40 ft^2/p *Flow Rate* > 7-10 p/min/ft

At LOS C, space is sufficient for normal walking speeds, and for bypassing other pedestrians in primarily unidirectional streams. Reverse-direction or crossing movements can cause minor conflicts, and speeds and flow rate are somewhat lower.

LOS D

Pedestrian Space > 15-24 ft^2/p *Flow Rate* > 10-15 p/min/ft

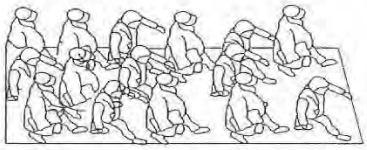
At LOS D, freedom to select individual walking speed and to bypass other pedestrians is restricted. Crossing or reverse-flow movements face a high probability of conflict, requiring frequent changes in speed and position. The LOS provides reasonably fluid flow, but friction and interaction between pedestrians is likely.



LOS E

Pedestrian Space > 8-15 ft^2/p *Flow Rate* > 15-23 p/min/ft

At LOS E, virtually all pedestrians restrict their normal walking speed, frequently adjusting their gait. At the lower range, forward movement is possible only by shuffling. Space is not sufficient for passing slower pedestrians. Cross0 or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with stoppages and interruptions to flow.



LOS F

Pedestrian Space ≤ 8 ft^2/p *Flow Rate* varies p/min/ft

At LOS F, all walking speeds are severely restricted, and forward progress is made only by shuffling. There is frequent, unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.

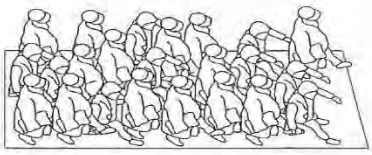


Table 5-1: Level-of-Service for Pedestrian Analysis

Loc. #	Intersection	Crosswalk	AM		PM	
			SF/P*	LOS	SF/P*	LOS
1	Rockaway Boulevard & Baisley Blvd	North	199	A	107	A
		South	92	A	250	A
		East	819	A	566	A
		West	713	A	826	A
2	Rockaway Boulevard & Sutphin Blvd/150 Street	North	76	A	86	A
		South	79	A	88	A
		East	293	A	689	A
		West	193	A	416	A
3	Sutphin Boulevard & 125th Avenue	North	700	A	723	A
		South	326	A	296	A
		East	418	A	501	A
		West	N/A	A	N/A	A
4	Sutphin Boulevard & 123rd Avenue	North	642	A	872	A
		South	900	A	1410	A
		East	254	A	294	A
		West	118	A	380	A
5	Sutphin Boulevard & 119th Avenue	North	836	A	1145	A
		South	527	A	569	A
		East	147	A	118	A
		West	263	A	134	A
6	Sutphin Boulevard & Foch Boulevard	North	496	A	233	A
		South	860	A	489	A
		East	121	A	110	A
		West	641	A	378	A
7	Sutphin Boulevard & 116th Avenue	North	805	A	731	A
		South	840	A	678	A
		East	118	A	100	A
		West	398	A	221	A
8	Sutphin Boulevard & Linden Boulevard	North	845	A	332	A
		South	773	A	508	A
		East	413	A	494	A
		West	348	A	719	A
9	Linden Boulevard & Guy R Brewer Boulevard	North	913	A	996	A
		South	399	A	559	A
		East	656	A	809	A
		West	492	A	963	A
10	Linden Boulevard & 167th Street	North	418	A	637	A
		South	431	A	829	A
		East	1414	A	1822	A
		West	406	A	356	A
11	Merrick Boulevard & Linden Boulevard	North	535	A	584	A
		South	1031	A	649	A
		East	162	A	141	A
		West	116	A	130	A
12	Merrick Boulevard & 115th Avenue	North	664	A	505	A
		South	723	A	1010	A
		East	522	A	209	A
		West	294	A	205	A

* SF/P – Square feet per pedestrian

Table 5-1: Level-of-Service for Pedestrian Analysis

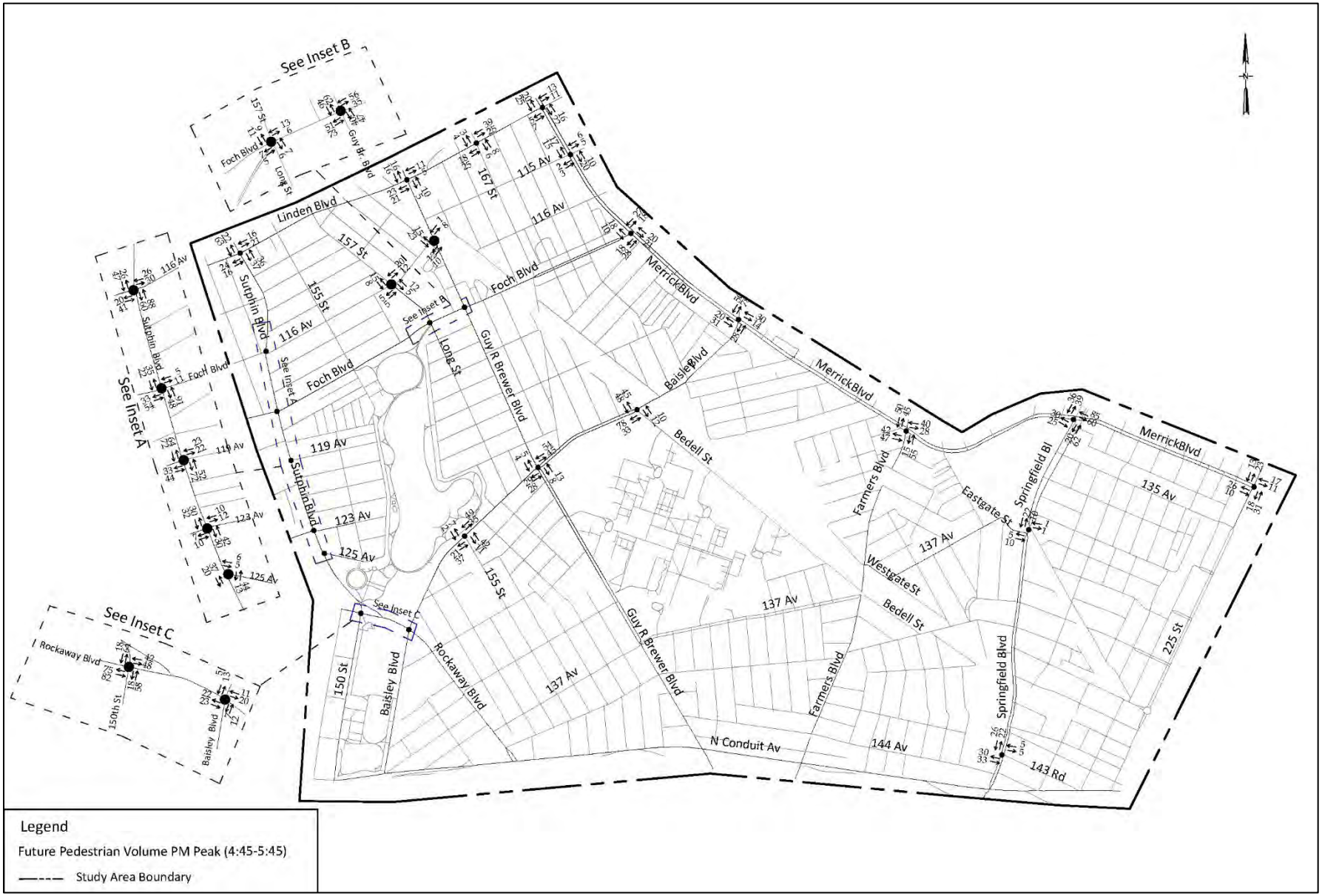
Loc. #	Intersection	Crosswalk	AM		PM	
			SF/P*	LOS	SF/P*	LOS
13	Merrick Boulevard & Foch Boulevard	North	1334	A	524	A
		South	1320	A	1338	A
		East	881	A	374	A
		West	558	A	42	B
14	Merrick Boulevard & Baisley Boulevard	North	524	A	651	A
		South	1338	A	603	A
		East	374	A	360	A
		West	42	B	71	A
15	Merrick Boulevard & Farmers Boulevard	North	697	A	537	A
		South	397	A	342	A
		East	139	A	148	A
		West	122	A	99	A
16	Merrick Boulevard & Springfield Boulevard	North	221	A	207	A
		South	723	A	119	A
		East	130	A	510	A
		West	85	A	83	A
17	Merrick Boulevard & 225th Street	North	286	A	209	A
		South	454	A	227	A
		East	628	A	498	A
		West	422	A	393	A
18	Guy R Brewer Boulevard & Baisley Boulevard	North	169	A	163	A
		South	113	A	113	A
		East	119	A	116	A
		West	240	A	235	A
19	Springfield Boulevard & East Gate	North	392	A	461	A
		South	664	A	882	A
		East	N/A		N/A	
		West	254	A	324	A
20	Guy R Brewer Boulevard & Foch Boulevard	North	258	A	366	A
		South	257	A	268	A
		East	42	B	57	B
		West	124	A	98	A
21	Guy R Brewer Boulevard & 116th Avenue	North	457	A	542	A
		South	344	A	512	A
		East	N/A		N/A	
		West	128	A	267	A
22	Foch Boulevard & 157th Street	North	437	A	579	A
		South	660	A	809	A
		East	283	A	305	A
		West	564	A	735	A
23	116th Avenue & 157th Street	North	345	A	414	A
		South	312	A	432	A
		East	488	A	676	A
		West	566	A	748	A
24	Baisley Boulevard & 155th Street	North	50	B	205	A
		South	231	A	617	A
		East	317	A	239	A
		West	578	A	344	A
25	Baisley Boulevard & Bedell Street	North	N/A		N/A	
		South	241	A	157	A
		East	335	A	434	A
		West	133	A	349	A

5.4 Future Conditions Pedestrian Analysis

The projected future 2027 volumes were generated according to the CEQR Technical Manual guidelines. The 2016 volumes were projected 0.5% for the first five years and 0.25% per year for the next five years (total 3.813%). Under future conditions all intersections crosswalks will continue to operate at acceptable levels of service (LOS A and B). Exhibits 5-4 and 5-5 show the projected volumes for the AM and PM peak hours.

Exhibit 5-4: Projected Future Pedestrian Volume (AM Peak)

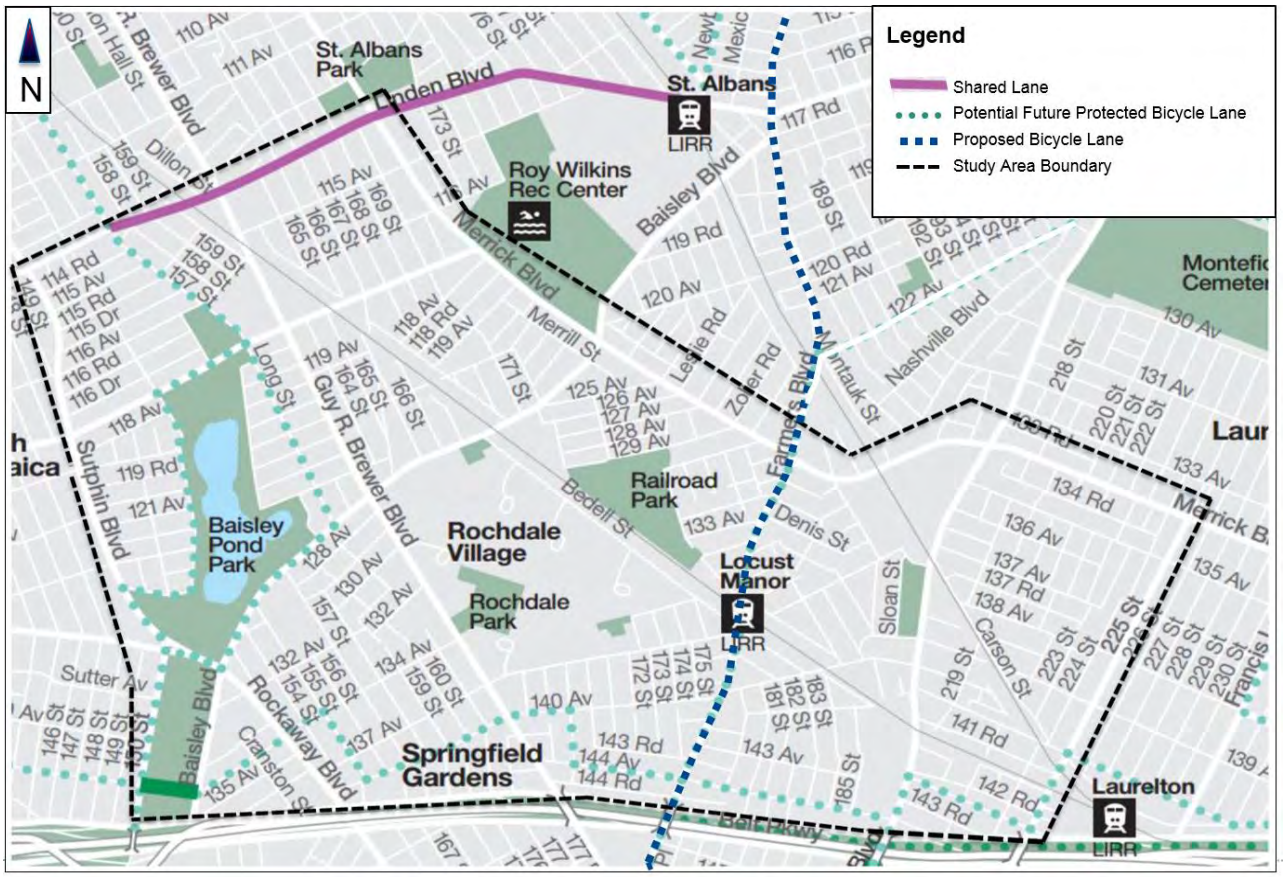
Exhibit 5-5: Projected Future Pedestrian Volume (PM Peak)



5-5 Bicycle Network (Existing and Future Conditions)

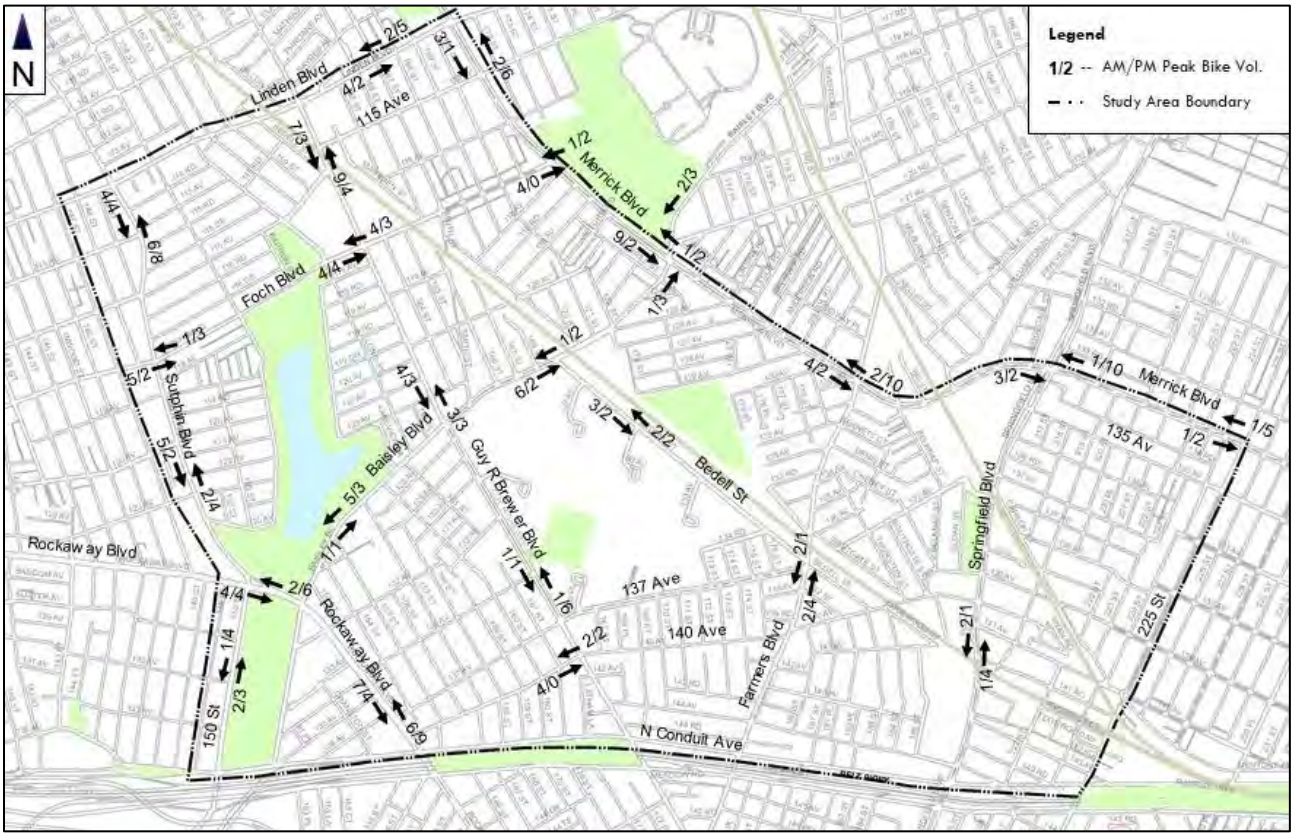
Bicycle facilities in the study area include a shared lane on Linden Boulevard. Potential routes to connect parks with bicycle facilities are being explored as part of the expansion of the bicycle network. Exhibit 5-6 shows the existing and potential bike routes according to the 2019 Bicycle Map.

Exhibit 5-6: Existing and Future Bicycle Network



Bicycle volumes for selected locations are shown in Exhibit 5-7 for the AM and PM peak hours.

Exhibit 5-7: Existing Bicycle Volumes



6.0 Crashes and Safety

6.1 Introduction

To identify high crash locations and address safety issues, crash history for the most recent three years were compiled and analyzed. Traffic crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the three years (2015-2017) for which data is available as well as from NYCDOT and NYPD records. The data obtained quantify the total number of reportable crashes (involving fatality, injury, or property damage exceeding $1,000) as well as an annual breakdown of pedestrian and bicycle-related crashes at each location. The Borough Vision Zero plan, priority corridors/intersections, and heat maps with an emphasis on pedestrian fatalities and KSI provided a framework for the analysis. Crash types, frequency, and severity were examined by time of day and safety enhancements will be explored.

The Vision Zero Action Plan identifies two corridors, Sutphin and Rockaway Boulevards, and three intersections, Merrick/Linden Boulevards, Sutphin/Linden Boulevards, and North Conduit Avenue/225th Street, for potential safety improvements. Exhibit 6-1 shows safety issues along with Vision Zero Priority Corridors and Intersections.

6.2 Summary of Crashes (2015-2017)

New York State Department of Transportation defines a “high crash location” as one with 23 or more crashes in any consecutive twelve months or five or more pedestrian/bicyclist-related crashes per year in the three most recent years. The 2015-2017 crash data showed that the study area does not have a high crash location. Of the 1,817 reportable crashes between 2015 and 2017, consequences are 1,872 injuries to drivers/vehicle passengers, 178 involved pedestrians and 49 cyclists. Table 6-1 shows the crash summary per location with more than twenty crashes for three-year period (2015-2017).

Exhibit 6-1: Safety Issues and Crash Locations

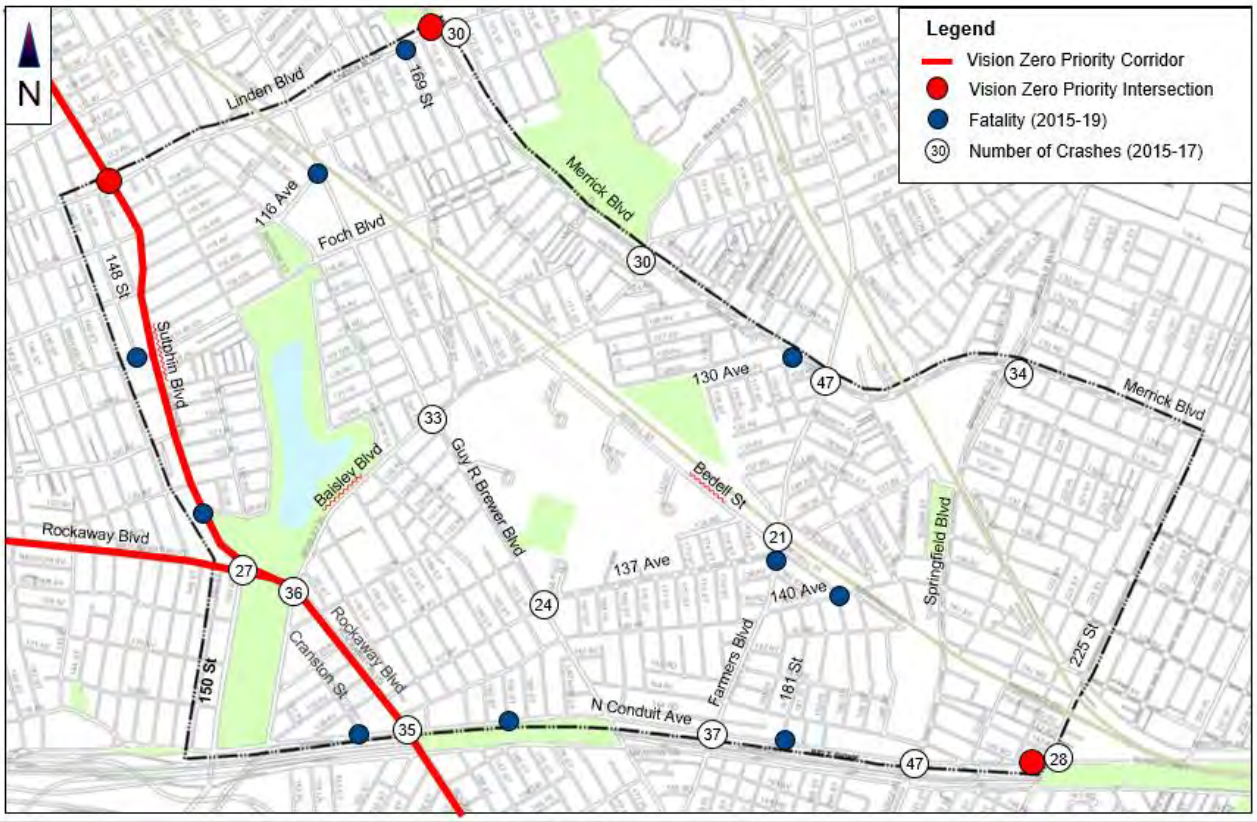


Table 6-1: Crash Summary per Location (2015-2017)

Location	Crash Injuries	Ped. Injuries	Bicyclist Injuries	Motorist Injuries	Total Injuries	Total Crashes
Springfield Blvd & N. Conduit Ave	38	1	0	54	55	47
Merrick & Farmers Blvds/130th Rd	35	4	1	46	51	47
Farmers Blvd & N. Conduit Ave	28	3	0	33	36	37
Rockaway Blvd & Baisley Blvd	30	0	0	63	63	36
Rockaway Blvd & N. Conduit Ave	25	2	0	34	36	35
Springfield Blvd & Merrick Blvd	31	4	0	36	40	34
Guy R Brewer Blvd & Baisley Blvd	26	7	0	34	41	33
Merrick Blvd & Linden Blvd	25	4	0	39	43	30
Merrick Blvd & Baisley Blvd	25	3	1	30	34	30
N. Conduit Ave & 225th St	24	3	0	32	35	28
Rockaway/Sutphin Blvds & 150th St	19	4	0	17	21	27
Guy R Brewer Blvd/137th Ave	17	2	1	31	31	24
Farmers Blvd & 137th Ave/Bedell St	17	1	0	26	27	21

Fatalities (2015-2019)

Between 2015 and 2019, there were ten fatalities in the study area involving motor vehicle operators, pedestrians and motorcyclists. There were no bicyclist-related fatalities during the analyzed period. Fatalities involving six pedestrians occurred on North Conduit Avenue/Cranston Street, Sutphin Blvd/125th Avenue, Guy R Brewer Blvd/116th Avenue/Bedell Street, Linden Blvd/169th Street, Farmers Blvd/137th Avenue, and Foch Blvd/148th Street; three motor vehicle operators on 140th Avenue and Bedell Street, North Conduit Avenue and 159th and 181st Streets; and one fatality involving motorcyclist occurred at Merrick Boulevard and 130th Avenue.
Table 6-2 lists locations with the most recent 5-year fatalities (2015-2019).

Table 6-2: Summary of Fatalities (2015-2019)

Intersection	Fatality					
	2015	2016	2017	2018	2019	Total
140th Ave and Bedell Street	1 (Mo)					1
Merrick Blvd & 130th Ave			1 (Mc)			1
N. Conduit Ave & Cranston Street	1 (Ped)					1
N. Conduit Ave & 181st Street			1 (Mo)			1
N. Conduit Ave & 159th Street	1 (Mo)					1
Sutphin Blvd & 125th Ave	1 (Ped)					1
Guy R Brewer Blvd & 116th Ave	1 (Ped)					1
Linden Blvd & 169th Street				1 (Ped)		1
Farmers Blvd & 137th Ave					1 (Ped)	1
Foch Blvd & 148th Street					1 (Ped)	1
Total	**5**	**0**	**2**	**1**	**2**	**10**

Mo - Motorist; Ped - Pedestrian; Mc- Motorcyclist

Crashes and Injuries per Corridor (2015-2017)

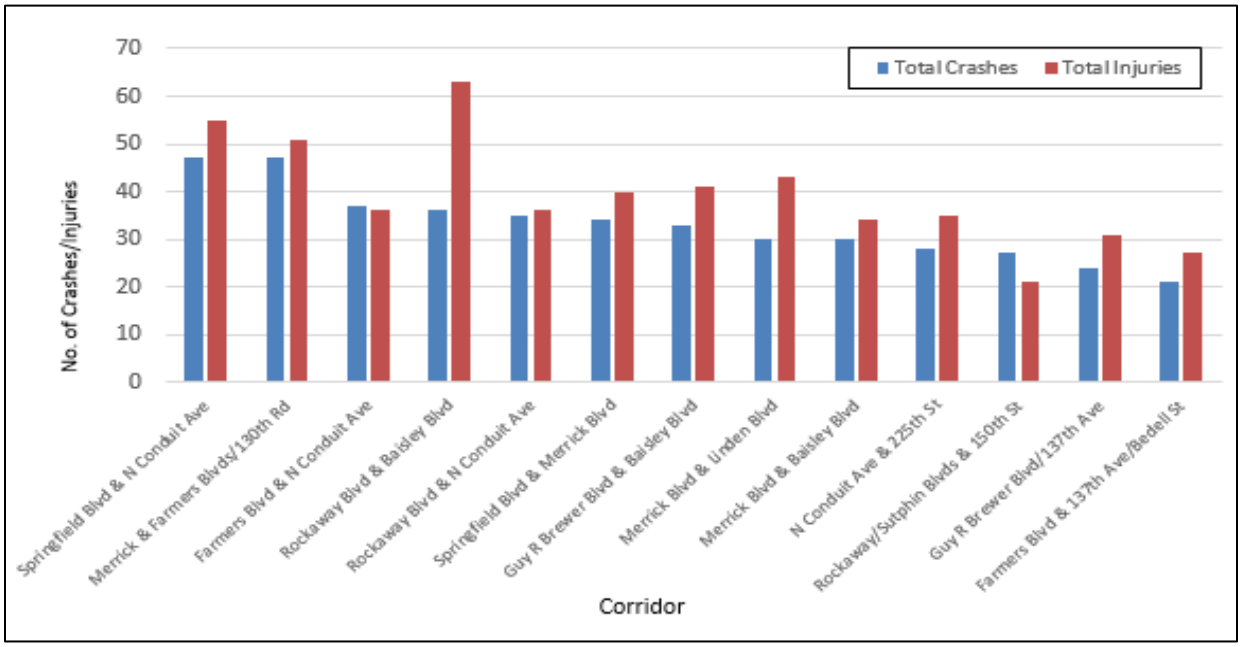
The corridors with the highest numbers of crashes/injuries are: Merrick Boulevard (292/337), Guy R. Brewer Boulevard (217/270), Baisley Boulevard (201/242), North Conduit Avenue

(198/243), Farmers Boulevard (194/225), Springfield Boulevard (164/182), and Linden Boulevard (155/185). Table 6-3 summarizes crashes, fatalities, and injuries for ten major corridors in the study area and Exhibit 6-2 shows the locations of crashes/injuries per corridor.

Table 6-3: Summary of Crashes per Corridor (2015-2017)

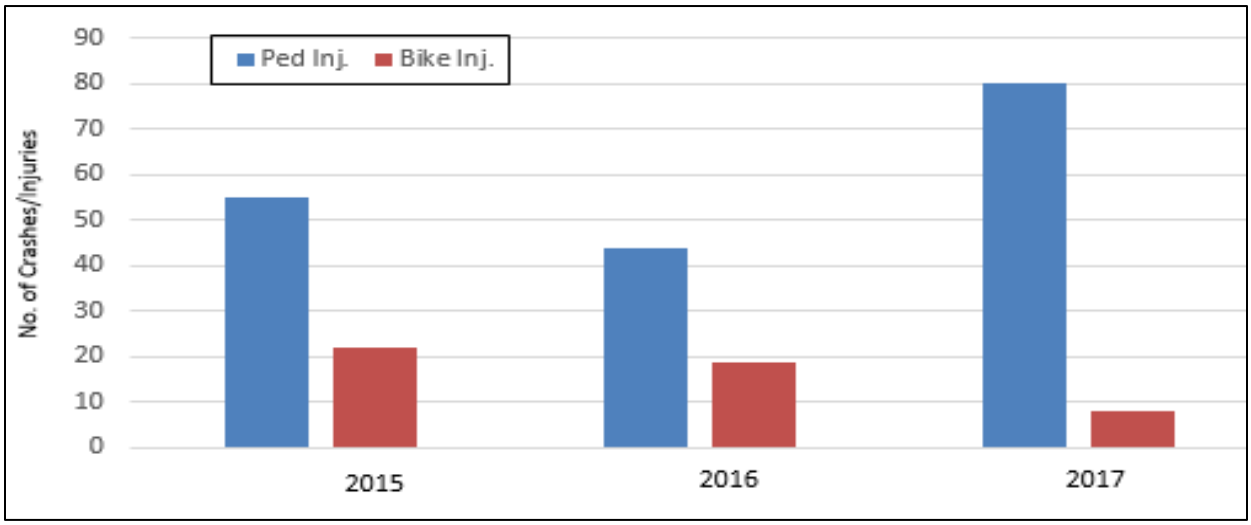
Corridor	Crashes per Year			Total Injuries (2015-17)	Total Crashes (2015-17)	Total Fatality (2015-19)
	2015	2016	2017			
Merrick Blvd bet. 225th Street & Linden Blvd	107	74	111	337	292	1
Guy R. Brewer Blvd bet. N. Conduit Ave & Linden Blvd	56	70	91	270	217	1
Baisley Blvd bet. N. Conduit Ave & Merrick Blvd	47	68	86	243	201	0
N. Conduit Ave bet. 225th & 150th Streets	59	52	87	221	198	3
Farmers Blvd bet. N. Conduit Ave & Merrick Blvd	52	64	78	225	194	1
Springfield Blvd bet. N. Conduit Ave & Merrick Blvd	59	52	53	182	164	0
Linden Blvd bet. Merrick & Sutphin Blvds	37	55	53	185	155	1
Rockaway Blvd bet. N. Conduit Ave & Sutphin Blvd/150th Street	39	39	52	154	130	0
Sutphin Blvd bet. Linden/Rockaway Blvds & 150th Street	33	35	33	99	101	1
Foch Blvd bet. Sutphin & Merrick Blvds	14	10	11	52	35	1

Exhibit 6-2: Total Crashes/Injuries per Corridor (2015-17)



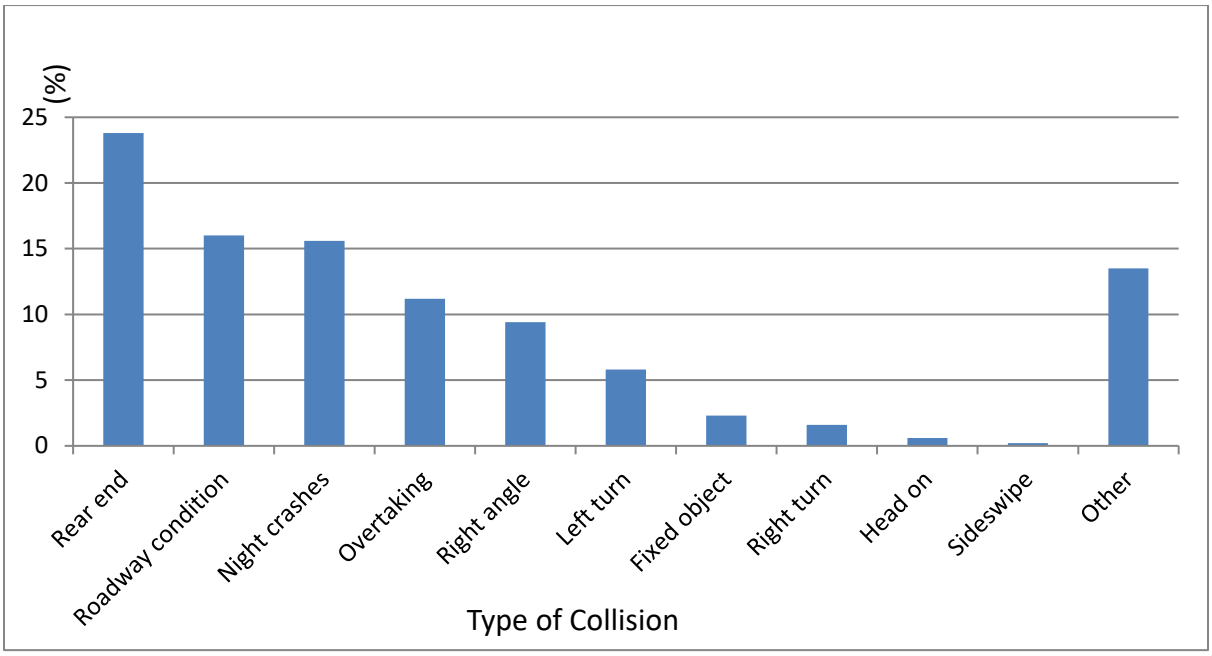
Pedestrians were involved in 8.5% and bicyclists 2.3% of all crashes/injuries in the study area, between 2015 and 2017. See Exhibit 6-3.

Exhibit 6-3: Pedestrian and Bicyclist Crashes



The most common collision types are: *rear end* (24%), *wet roadway conditions* (15%), *night accidents* (17%), *overtaking* (12.5%), *right angle* (9.3%), and *left turn* (6.7%). See Exhibit 6-4.

Exhibit 6-4: Crashes by Collision Type and Driving Condition (2015-2017)



7.0 Parking

7.1 Introduction

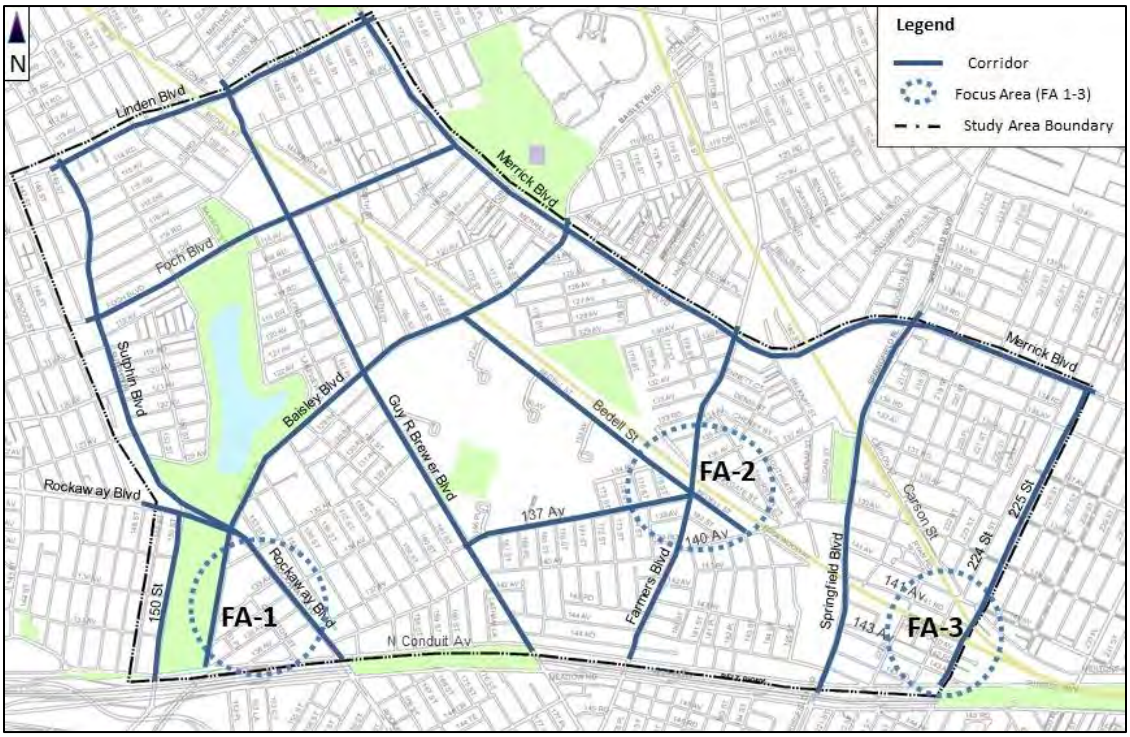
The parking analysis focuses on the study area's parking demand and supply to identify parking shortages and address needs. It includes surveys of on-street parking along major corridors and three focus areas and off-street parking facilities during the AM and PM peak hours to determine the parking demand and supply. On-street parking is generally permitted on all streets except where it is prohibited by parking regulation. Off-street parking facilities are primarily accessory associated with residential, industrial/warehousing and commercial uses.

7.2 On-Street Parking

The parking analysis focuses on capacity, utilization, and identification of areas with shortfalls along major commercial corridors and in three focus areas. See Exhibit 7-1. The major commercial corridors are – Merrick, Sutphin, Rockaway, Farmers, Springfield, Baisley, Foch and Guy Brewer Boulevards, 137th Avenue, and Bedell, 225th, and 150th Streets; and the three focus areas are:

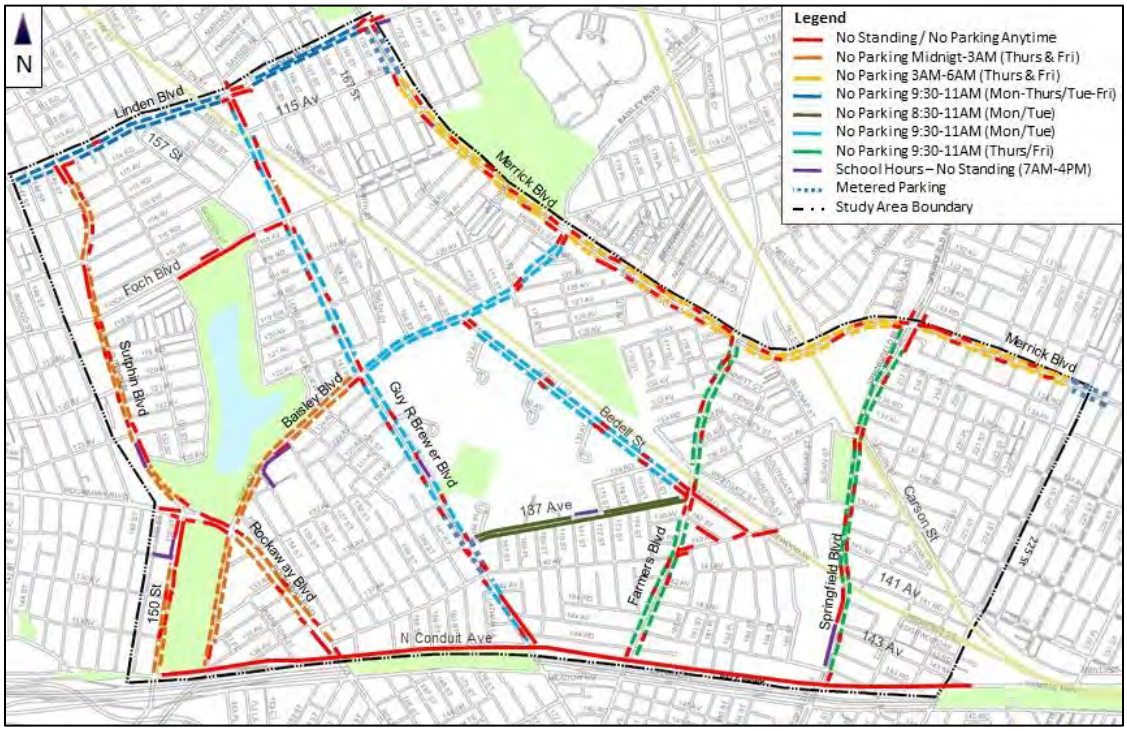
1. Focus Area 1 (FA1) has a mix of residential and commercial uses; it is a part of the JFK Business Industrial District (BID) and is bounded by Baisley Boulevard, Rockaway Boulevard, and North Conduit Avenue;
2. Focus Area 2 (FA2) is primarily residential; it is bounded by 137th and 140th Avenues, Bedell, Thurston and 182nd Streets in the vicinity of the LIRR Locust Manor station (Rochdale Village); and
3. Focus Area 3 (FA3) lies in proximity to the LIRR Laurelton station; it's bounded by 225th and 223rd Streets, between 141st and 143rd Avenues. The area is predominantly residential with some commercial uses, primarily scattered along 224th Street and 141st Road.

Exhibit 7-1: On-Street Parking Facilities



Parking regulations along these corridors include alternate side street cleaning, no stopping/standing zones, bus stops, fire hydrants, authorized parking zones, metered parking, and truck loading/unloading zones. See Exhibit 7-2.

Exhibit 7-2: On-Street Parking Regulations



On-Street Parking Capacity and Utilization

There are approximately 3,200 parking spaces along the major corridors and about 1,000 spaces within the three focus areas. Parking demand was highest during the PM peak hour with the average utilization of 85% along major corridors, and 88%, 95%, and 96% in the three focus areas. See Table 7-1 and Exhibit 7-3.

Table 7-1: On-Street Parking Capacity and Utilization

Major Arterials	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
Rockaway Blvd bet. N. Conduit Ave & Sutphin Blvd	E/W	0	102	102	87	85
Guy R. Brewer Blvd bet. N. Conduit Ave & Linden Blvd	N/S	36	282	318	249	78
Farmers Blvd bet. N. Conduit Ave & Merrick Blvd	N/S	0	203	203	157	77
Springfield Blvd bet. N. Conduit Ave & Merrick Blvd	N/S	0	185	185	160	86
Baisley Blvd bet. N. Conduit Ave & Merrick Blvd	N/S	0	351	351	290	83
Suthin Blvd bet. 150th St. & Linden Blvd	N/S	0	240	240	211	88
Linden Blvd bet. Sutphin & Merrick Blvds	N/S	0	206	206	156	76
Foch Blvd b/w bet. Sutphin & Merrick Blvds	N/S	0	270	270	234	87
225th St. bet. N. Conduit Ave & Merrick Blvd	N/S	0	243	243	181	74
Merrick Blvd bet. Linden Blvd & 225th St	E/W	39	476	515	464	90
Bedell St. bet. Baisley & Farmers Blvds	E/W	0	243	243	234	96
137th Ave bet. Guy R. Brewer & Sprigfield Blvds	E/W	0	246	246	218	89
150th St bet. N.Conduit Av & Rockaway/Sutphin Blvds	E/W	0	113	113	98	87
Total		**75**	**3,160**	**3,235**	**2,739**	**85**

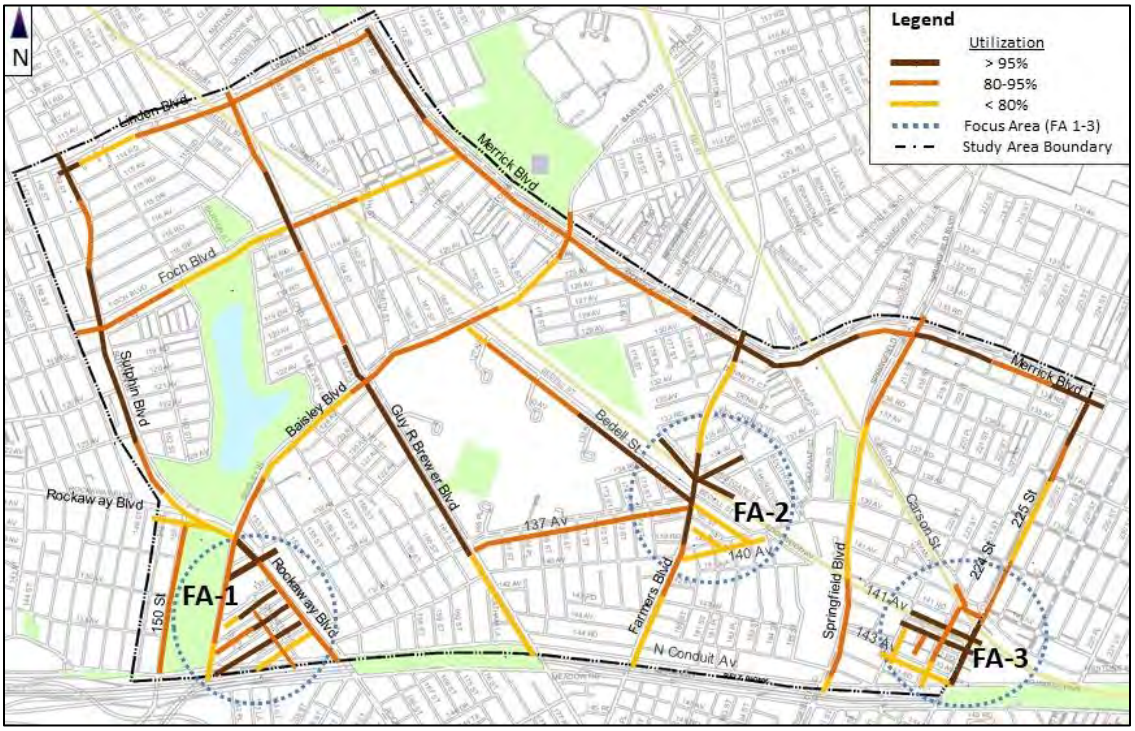
Focus Area 1 (Springfield Gardens - Industrial) Local Streets	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
132nd Ave bet. Baisley & Rockaway Blvds	E/W	0	22	22	19	86
133rd Ave bet. Baisley & Rockaway Blvds	E/W	0	63	63	50	79
134th Ave bet. Baisley & Rockaway Blvds	E/W	0	72	72	64	89
135th Ave bet. Baisley & Rockaway Blvds	E/W	0	84	84	78	93
136th Ave bet. Baisley & Rockaway Blvds	E/W	0	64	64	59	92
Cranston St. bet. N.Conduit & 133rd Aves	N/S	0	66	66	58	88
153rd St. bet. 132nd Ave & Baisley Blvd	N/S	0	41	41	37	90
151st Pl bet. 134th & 135th Sts	N/S	0	17	17	13	76
Baisley Blvd bet. N. Conduit Ave & Rockaway Blvd	N/S	0	86	86	69	80
Total		**0**	**429**	**429**	**378**	**88**

Table 7-1: On-Street Parking Capacity and Utilization

Focus Area 2 (Locust Manor Station) Local Streets	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
Bedell St bet. 176th St. & 140th Ave	E/W	0	30	30	28	93
Garrett St bet. Farmers & 133rd Rd	E/W	0	66	66	62	94
Westgate St. bet. 137th Ave & Farmers Blvd	E/W	0	21	21	21	100
136th Ave bet. Westgate St & Thurson Ave	N/S	0	32	32	31	97
137th Ave bet. 175th St & Westgate St	N/S	0	40	40	35	88
Farmers Blvd bet. 182nd St & 133rd Rd	N/S	0	70	70	68	97
Total		**0**	**259**	**259**	**245**	**95**

Focus Area 3 (Laurelton Station) Local Streets	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
225th St. bet. 141st Ave & 142nd Rd	N/S	0	68	68	65	96
224th St. bet. 141st Ave & 142nd Rd	N/S	0	42	42	41	98
223rd St bet. Prospect Ct & 142nd Rd	N/S	0	18	18	17	94
222nd St. bet. 141st Ave & 142nd Rd	N/S	0	41	41	36	88
141st Ave bet. 225th & 222nd Sts	E/W	0	46	46	43	93
141st Rd bet. 225th & 222nd Sts	E/W	0	50	50	50	100
Prospect Ct bet. 225th & 222nd Sts	E/W	0	66	66	65	98
Edgewood Ave bet. 225th & 224th Sts	E/W	0	40	40	38	95
142nd Rd bet. 225th & 222nd Sts	E/W	0	7	7	5	71
Total		**0**	**371**	**371**	**355**	**96**

Exhibit 7-3: On-Street Parking Utilization



Major Corridors

Curbside parking utilization for the major corridors is 83% and 85% in the AM and PM peak hours, respectively. The roadway segments with the highest parking utilization include Merrick Boulevard between Springfield Boulevard and 221st Street, and between Farmers Boulevard and Zoller Road; Sutphin Boulevard between Foch Boulevard and 116th Avenue, and between 122nd and 123rd Avenues; Rockaway Boulevard between North Conduit Avenue and Baisley Boulevard; Springfield Boulevard between 139th and 136th Avenues; Guy R. Brewer Boulevard between 137th Avenue and Baisley Boulevard, and between Foch Boulevard and 119th Avenue.

Focus Area 1

The average utilization is 85% and 88% for the AM and PM peak hours, respectively. The roadway segments with high parking demand includes 134th and 136th Avenues between Rockaway Boulevard and Cranston Street.

Curbside parking on 132nd Ave

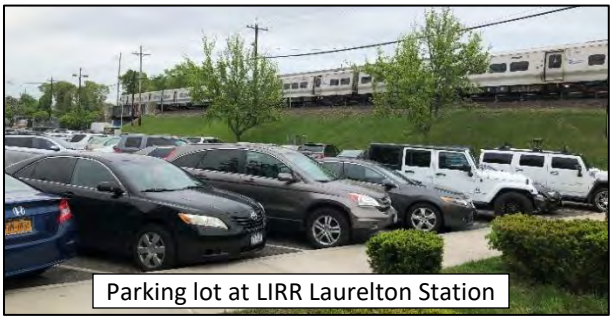
Focus Area 2 - Locust Manor LIRR Station

The average utilization is about 92% and 95% for the AM and PM peak hours, respectively.


Parking at Garrett St adjacent to Laurelton Station

Focus Area 3 - Laurelton LIRR Station

The average utilization is about 94% and 96% for the AM and PM peak hours, respectively. Parking utilization was highest on segments of 142nd Road, Prospect Court, 224th and 225th Streets.


Parking lot at LIRR Laurelton Station

Metered Parking

Roadway segments with metered parking are:

1. Merrick Boulevard between 224th and 225th Streets (11 spaces);
2. Merrick Boulevard between Linden Boulevard and 115th Avenue (28 spaces); and
3. Guy R. Brewer Boulevard between 140th and 134th Avenues (36 spaces).

Metered parking regulation is daily from 9:00 AM to 7PM, except Sunday; along Guy R. Brewer Boulevard it is for one hour, and on Merrick Boulevard two hours.

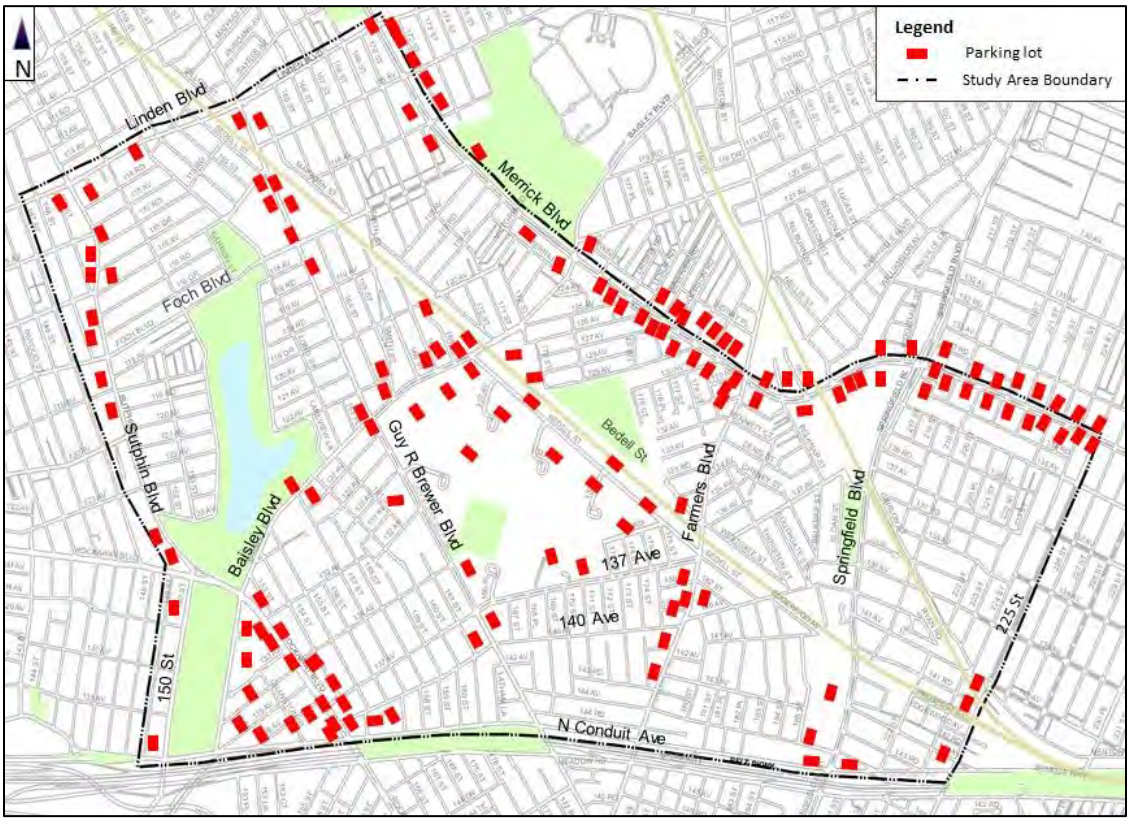
Illegal/Double Parking

Illegal parking activities were observed at bus stops, hydrants, or driveways along the major corridors.

7.3 Off-Street Parking

There are approximately 150 off-street parking lots serving residential, commercial, industrial, institutional, and recreational land uses. Rochdale Village has the largest parking lots; other large parking lots are adjacent to commercial and industrial uses along the major corridors and in the JFK Business Improvement District. See Exhibit 7-4.

Exhibit 7-4: Off-Street Parking Facilities



Parking Capacity and Utilization

The parking survey shows that off-street facilities could accommodate existing demand; although some facilities are fully utilized during peak hours. The average daily utilization is about 75%. Rochdale Village has the highest off-street parking capacity with approximately 2,750 spaces including lots reserved for its residents with permits. Average daily utilization is about 63%. Other facilities provide more than 1,375 spaces for various commercial, institutional and recreational uses with average daily utilization of about 70%.

Parking lot at Bedell St

Parking lot at Rochdale Village

The LIRR Laurelton station parking lot provides 96 spaces for local commuters. It is generally fully occupied throughout the day.

Two parking lots, providing long term parking, in the JFK BID industrial area have capacities of 180 and 50 spaces. Theses lots provide free shuttle service to the airport.

Parking Lot at Baisley Pond Park

Baisley Pond Park has one parking facility with capacity of about 50 spaces; the lot is generally fully occupied throughout the day.

7.4 Future Parking

The parking analysis indicates that approximately 3,500 on-street and 4,125 off-street parking spaces in the study area will be available in the future. The future demand for parking will depend on population growth, vehicle ownership, and new developments that will generate additional vehicular trips. Developments such as Locust Manor (120 accesory spaces) and Rochdale Village (90 accessory spaces) will add capacity to existing off-street supply.

8.0 Public Transportation

8.1 Introduction

Almost half of the study area population (46%) use public transportation to get to work as being the second largest travel mode after auto (48%). Buses supply majority of the public transportation service followed by commuter vans and railroad (Long Island Railroad - LIRR). There are no subway lines/stations within the study area. Transit services were examined taking account of ridership, routes, stops, terminals, shelters, frequency, and adequacy of space for stopping/layover, travel time, etc.

8.2 Existing Transit Network

The Metropolitan Transportation Authority-New York City Transit (MTA-NYCT) provides a network of bus routes along several major corridors (Rockaway, Farmers, Baisley, Guy R. Brewer, and Springfield Boulevards, and 147th Avenue). There are 12 MTA/NYCT bus lines (Q3, Q5, Q6, Q7, Qx63, Q77, Q84, Q85, Q111, Q113, Q114, QM21) and two MTA/LIRR rail lines (with two stations) serving the area. The frequency of bus service varies from one bus route to the other, reflecting different traveler patterns. Exhibit 8-1 provides details about formal transit service and Table 8-1 provides the headway information for each of these routes.

Exhibit 8-1: Existing Transit Network

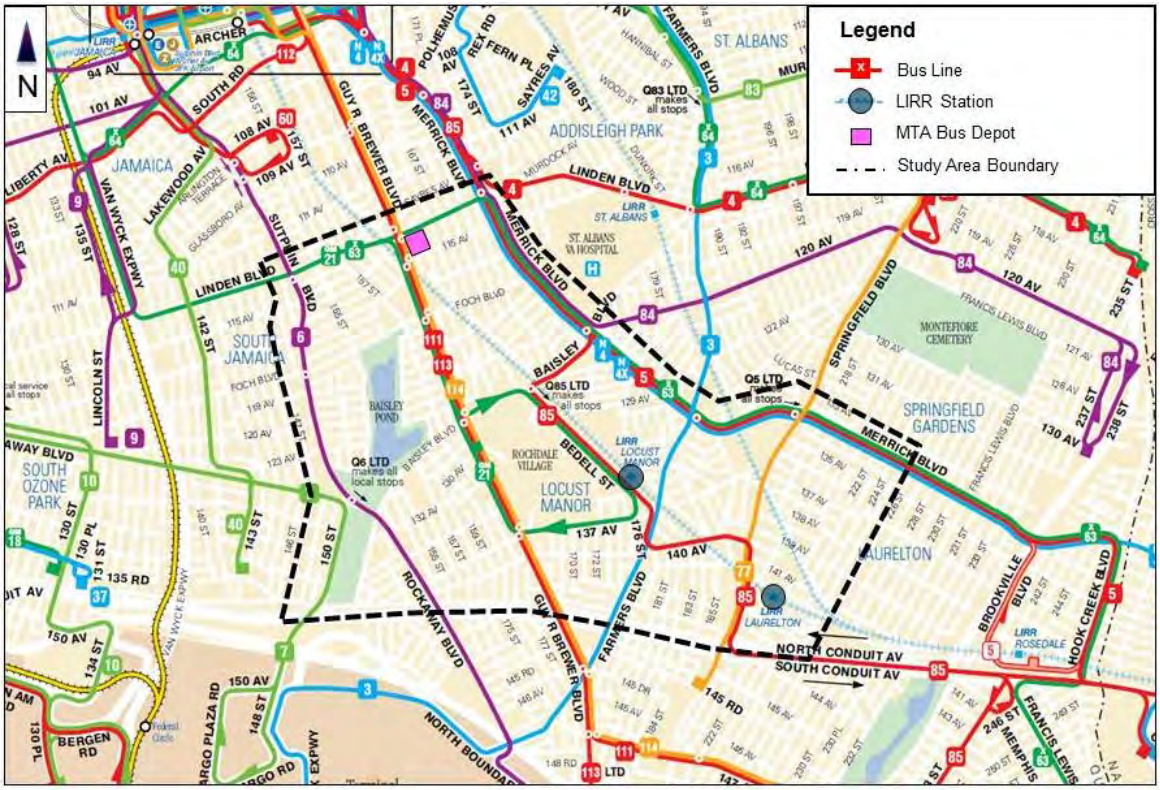


Table 8-1: Bus Headways

	Headways (In Minutes)				
	(Weekday, Sat, Sun)	(Weekday, Sat, Sun)	(Weekday, Sat, Sun)	(Weekday, Sat, Sun)	(Weekday, Sat, Sun)
Bus Line	AM	Noon	PM	Eve	Over Night
Q3	9, 20, 30	15, 15, 20	9, 15, 20	12, 15, 20	60, 60, 60
Q5	8, 9, 15	8, 9, 12	6, 7, 10	8, 8, 10	60, 60, 60
Q6	10, 12, 20	10, 12, 15	10, 12, 15	12, 14, 20	30, 30, 30
Q7	10, 20, 30	20, 20, 30	10, 20, 30	20, 20, 30	Does Not Run
Q77	7, 30, 30	17, 20, 30	10, 20, 30	13, 24, 30	Does Not Run
Q85	8, 11, 15	15, 20, 24	16, 16, 23	17, 20, 20	40, 40, 40
Q111	6, 12, 20	10, 12, 12	6, 12, 12	15, 15, 15	60, 60, 60
Q113	15, 24, 24	24, 24, 24	13, 24, 24	22, 24, 24	Does Not Run
Q114	15, 24, 24	24, 24, 24	13, 24, 24	22, 24, 20	60, 60, 60
N4	10, 15, 20	15, 15, 20	10, 15, 20	15, 20, 30	60, 60, 60
X63	12	Does Not Run	15	Does Not Run	Does Not Run
QM21	30	Does Not Run	30	60	Does Not Run

Buses:

Q3: The Q3 provides service between the 165th Street Bus Terminal (Jamaica) and JFK International Airport. It operates along Farmers Boulevard in the study area with major transfer points at Merrick Boulevard (N4, Q5, and X63 buses) and 140th Avenue (Q85).

Q5: The Q5 provides service between Jamaica Center – Parsons Boulevard/Archer Avenue (E, J, or Z subway station) and either Green Acres Mall or the LIRR Rosedale Station. It operates along Merrick Boulevard in the study area sharing the route with the N4 and X63 buses. A major transfer point is Farmers Boulevard for the Q3.

Q6: The Q6 bus operates between N. Boundary Road, JFK International Airport cargo area, and 165 Street Bus Terminal, Jamaica. It operates along Sutphin and Rockaway Boulevards with the major transfer point at Rockaway/Sutphin Boulevards (access to Q7).

Q7: The Q7 bus operates between the Euclid Avenue (A and C) subway station and 148th Street/South Cargo Road at JFK International Airport. It operates along 150th Street and a portion of Rockaway Boulevard in the study area with the major transfer point at Rockaway/Sutphin Boulevards (Q6 access).

Q77: The Q77 bus operates between Merrick Boulevard/165th Street Bus Terminal and Springfield Boulevard/145th Road. It operates along Springfield Boulevard in the study area with major transfer points at Merrick/Springfield Boulevards (access to Q5 and N4) and Springfield Boulevard and 140th/144th Streets (access to Q85 and LIRR Laurelton station).

Q85: The Q85 bus operates between the Jamaica Center (E, J, and Z) subway station and 243rd/Huxley Streets in Rosedale or Green Acres Mall. It operates along Baisley Boulevard, Bedell Street, Farmers Boulevard, 140th Avenue, and Springfield Boulevard in the study area. The major transfer points along this route are at Baisley/Merrick Boulevards (access to Q5 and N4), Farmers

Boulevard/138th Street (access to Q3), and Springfield Boulevard and 140th/144th Streets (access to Q77 and LIRR Laurelton station).

Q111: The Q111 bus provides service between 148th Avenue/Francis Lewis Boulevard and Parsons Boulevard/Hillside Avenue (F train subway station). It operates along Guy R. Brewer Boulevard along with the Q113, Q114, and QM21 bus lines.

Q113: The Q113 Limited bus operates between the Parsons Boulevard F train subway station (at Hillside Avenue) and Seagirt Boulevard/Beach 19th Street, Far Rockaway. It makes express stops along Guy R. Brewer Boulevard. The bus route is shared with the Q114, Q111, and QM21 bus lines.

Q114: The Q114 bus operates between the Parsons Boulevard F subway station, Jamaica, and Beach Seagirt Boulevard/20th Street, Far Rockaway, daily. It operates along Guy R. Brewer Boulevard and shares segments of the route with the Q113, Q111, and QM21 bus lines, with transfer points along Guy R. Brewer Boulevard.

N4: The N4 bus operates between the LIRR Freeport Station and Jamaica Center. It operates along Merrick Boulevard in the study area along with the Q5 and X63 buses. The major transfer point is at Merrick/Farmers Boulevards (Q3).

X63: The X63 bus operates between 149th Avenue/253rd Street (Rosedale) and 23rd Street/First Avenue (Manhattan) on weekdays only. It operates along Merrick Boulevard in the study area along with the N4 and Q5 buses.

QM21: The QM21 operates between Bedell Street/127th Street (Rochdale Village) and East 57th Street/3rd Avenue (Manhattan) on weekdays only. It operates along Guy R Brewer Boulevard, Bedell Street, 137th Street, and Baisley Boulevard in the study area with various major transfer points along Guy R Brewer Boulevard with the Q111, Q113, and Q114. Another transfer point is 176th/Bedell Streets with the LIRR Locust Manor station.

The shortest bus frequencies are about six minutes for Q111 and Q5 along Merrick and Guy R. Brewer Boulevards in the morning and evening peak hours.

8.3 Bus Ridership

Bus ridership includes all passengers who board buses using a valid Metro Card, cash, transfer, SBS ticket, or pass. Average "Weekday" ridership includes every weekday in the year (Monday to Friday), except major holidays. Average "Weekend" ridership is average sum of the two days (Saturday and Sunday). The bus lines with the highest ridership are Q111, Q5, and Q85 with more than 3.6 million riders annually. See Table 8-2.

Table 8-2: Bus Line Ridership and Ranking

Bus	City Rank	Annually	Weekday	Weekend
Q3	88	3,101,830	9,684	11,531
Q5	59	3,664,082	11,728	12,353
Q6	10	3,480,285	11,334	10,823
Q7	30	1,606,778	5,341	4,505
Q77	116	1,825,110	6,413	3,548
Q85	57	3,625,708	11,820	11,215
Q111	9	3,781,018	12,390	11,370
Q113	36	1,364,068	4,569	3,666
Q114	23	2,123,963	6,396	8,953
X63	20	151,967	598	N/A
QM21	33	59,068	233	N/A
N4	N/A	N/A	N/A	N/A

Travel Times

The actual travel times of buses serving the area were recorded and compared to the schedules from origin to destination; some routes had more than ten minutes delay during either the AM or PM peak hours. Congestion along local corridors such as Merrick, Farmers, Sutphin and Guy R. Brewer Boulevards results in longer delay and lower travel speed for buses, thus impacting travel time and inconveniencing commuters.

8.4 Commuter Vans and Taxi/Livery Services

Commuter vans (also known as "dollar vans") and other transportation services (livery taxis) comprise a thriving shadow transportation system in areas with limited rail and bus service. Southeastern Queens has several commuter van routes that work synergistically with MTA-NYCT buses to link residents to Downtown Jamaica and other neighborhoods. There are 18 registered commuter van companies with a fleet of approximately 250 vans authorized by DOT. Commuter vans shadow the bus routes listed below:

- **Q83 –** via Liberty Avenue to Laurelton;
- **Q4 –** via Linden Boulevard to Cambria Heights;
- **Q5 –** via Merrick Boulevard to Valley Stream;
- **Q111 –** via Guy R. Brewer Boulevard/147th Avenue to Rosedale; and
- **Q113 –** via Guy R. Brewer Boulevard/Rockaway Turnpike to Far Rockaway.

8.5 Commuter Railroads (Long Island Railroad - LIRR)

Long Island Railroad has two local stations (Locust Manor and Laurelton) within the study area that serve local commuters who wish to reach the Jamaica Center Station transit hub where transfers can be made to other branches of the system. Commute to downtown Brooklyn or Midtown Manhattan takes approximately 30 to 40 minutes from the study area. Exhibit 8-2 shows the study area within the regional commuter rail network (shown in yellow circle).

Exhibit 8-2: Study Area within LIRR Network

According to 2013 MTA-LIRR Origin and Destination Survey, on average 987 commuters departed from the Laurelton station on weekdays, majority of which (773 commuters) was during the AM peak. The average commuters during the same period was from Locust Manor (745 commuters) of which 509 were in the AM peak. During the weekend, there were 538 and 650 commuters from the Laurelton and Locust Manor station, respectively. The destination split during the AM peak from Laurelton was 271 to downtown Manhattan, 197 to Mid-Manhattan West, 118 to Brooklyn, and 187 to other destinations. From Locust Manor 145 to downtown Manhattan, 125 to Mid-Manhattan West, 84 to Brooklyn, and 155 to other destinations. Additional ridership details are shown in Appendix.

8.6 Future Transit Conditions

Bus and Van Services

Buses and commuter vans will continue to play a major role in future transportation service provision in the area. The bus service quality will depend on future traffic patterns including congestion, speed, roadway conditions, ridership and service availability. Commuters, who rely on bus and commuter van services will quite likely continue to deal with delays, multiple transfers, overcrowdings, and unreliable travel times unless recent innovative surface transit treatments are applied in the area. Some of these treatments might include Select Bus Service (SBS), transit priority treatments, off-board fare collection and all-door boarding to speed passenger loading that have positively impacted bus travel speed and reduced travel time.

9.0 Issues and Recommendations

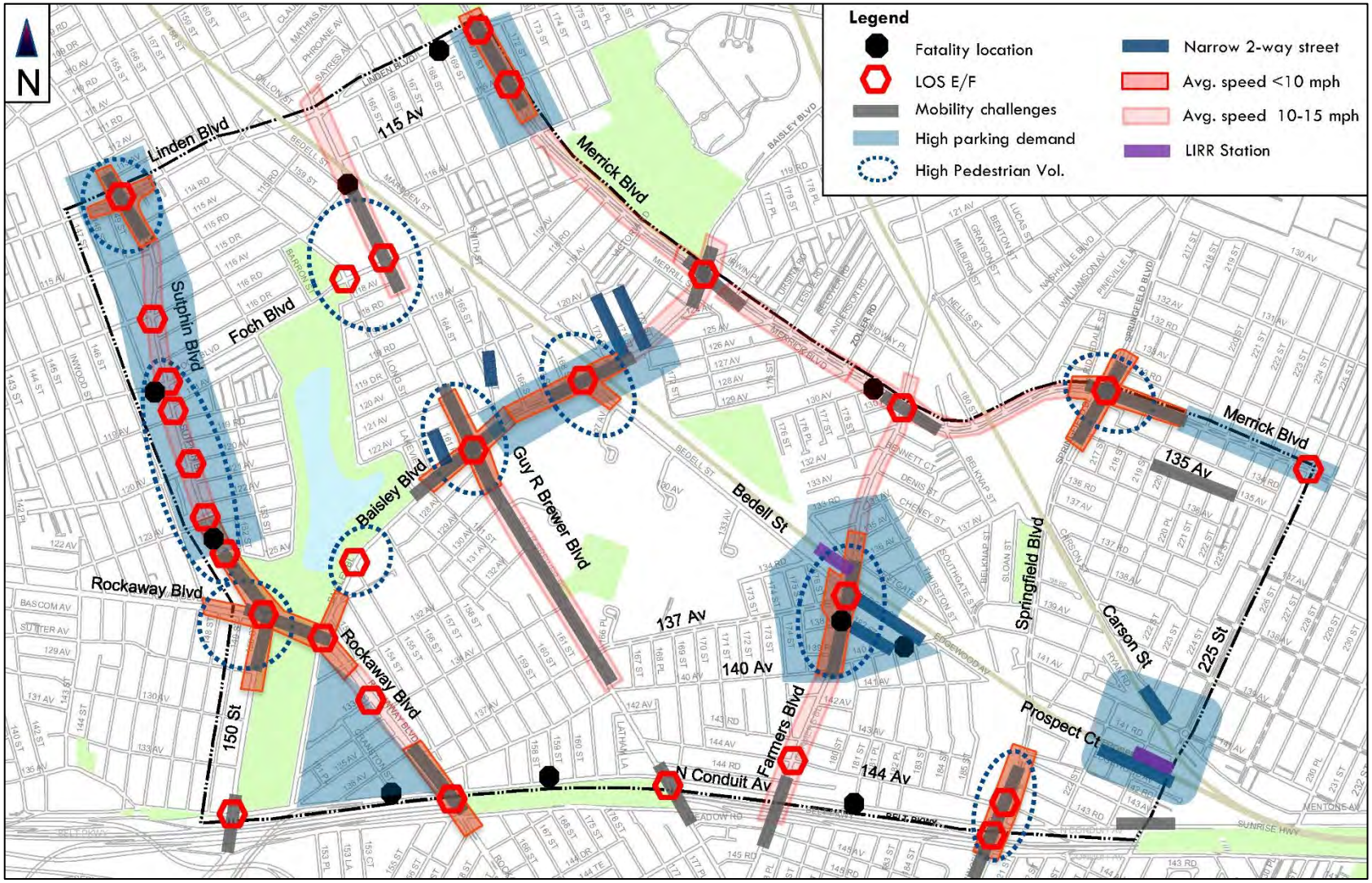
9-1 Issues

The existing and future traffic conditions analyses along with field observations and community input were used to identify traffic and transportation issues such as congestion, roadway infrastructure deficiency, traffic control constrains, truck activity, double parking, surface transit performance, and pedestrians/cyclists safety. The analysis revealed the following issues:

- Ten corridors/street segments experiencing congestion and low travel speeds;
- Eleven street segments with high parking demand (truck loading/unloading, double parking, etc.);
- Three bus lines with delays and/or above capacity ridership issues;
- Twenty-five intersections with one or more approaches/lane group with poor LOS (E or F); and
- Several intersections where additional traffic controls (signals, signs and pavement markings) are warranted.

Exhibit 9-1 shows the synthesis of traffic and transportation issues.

Exhibit 9-1
Synthesis of Traffic and Transportation Issues



9-2 Summary of Recommendations

The recommendations to address the traffic and transportation issues (shown in Exhibit 9-2) are generally short-term in nature to be implemented in one to three years. Recommendation details are listed below:

Geometric Changes:

1. Baisley Boulevard between Rockaway and Merrick Boulevards;
2. Foch Boulevard between 157th/Long Streets and 167th/Smith Streets;
3. 141st Avenue between 223rd/Carson and 225th Streets;
4. 225th Street between 143rd and North Conduit Avenues;
5. 135th Avenue between 224th and 229th Streets; and
6. Rockaway Boulevard and 150th Street/Sutphin Boulevard.

One-way Conversions:

1. Carson Street between 223rd and 224th Streets;
2. 171st Street between Baisley Boulevard and 120th Avenue;
3. 172nd Street between Baisley Boulevard and 120th Avenue;
4. Prospect Court between 224th and 225th Streets;
5. 182nd Street between Farmers Boulevard and 140th Avenue;
6. Bedell Street between Farmers Boulevard and 140th Avenue;
7. Smith Street between 120th Avenue and 165th Street; and
8. 161st Place between Baisley Boulevard and 122nd Avenue.

Signal Timing Changes:

1. Rockaway Boulevard and Sutphin Boulevard/150th Street; and
2. Baisley Boulevard and Marsden Street.

Pedestrian Signals:

1. North Conduit Avenue and 225th Street; and

2. Baisley Boulevard and 172nd Street/125th Avenue.

All-Way Stop (AWS) Controls:

1. 140th Avenue and 169th Street;
2. 140th Avenue and 170th Street; and
3. 140th Avenue and 171st Street.

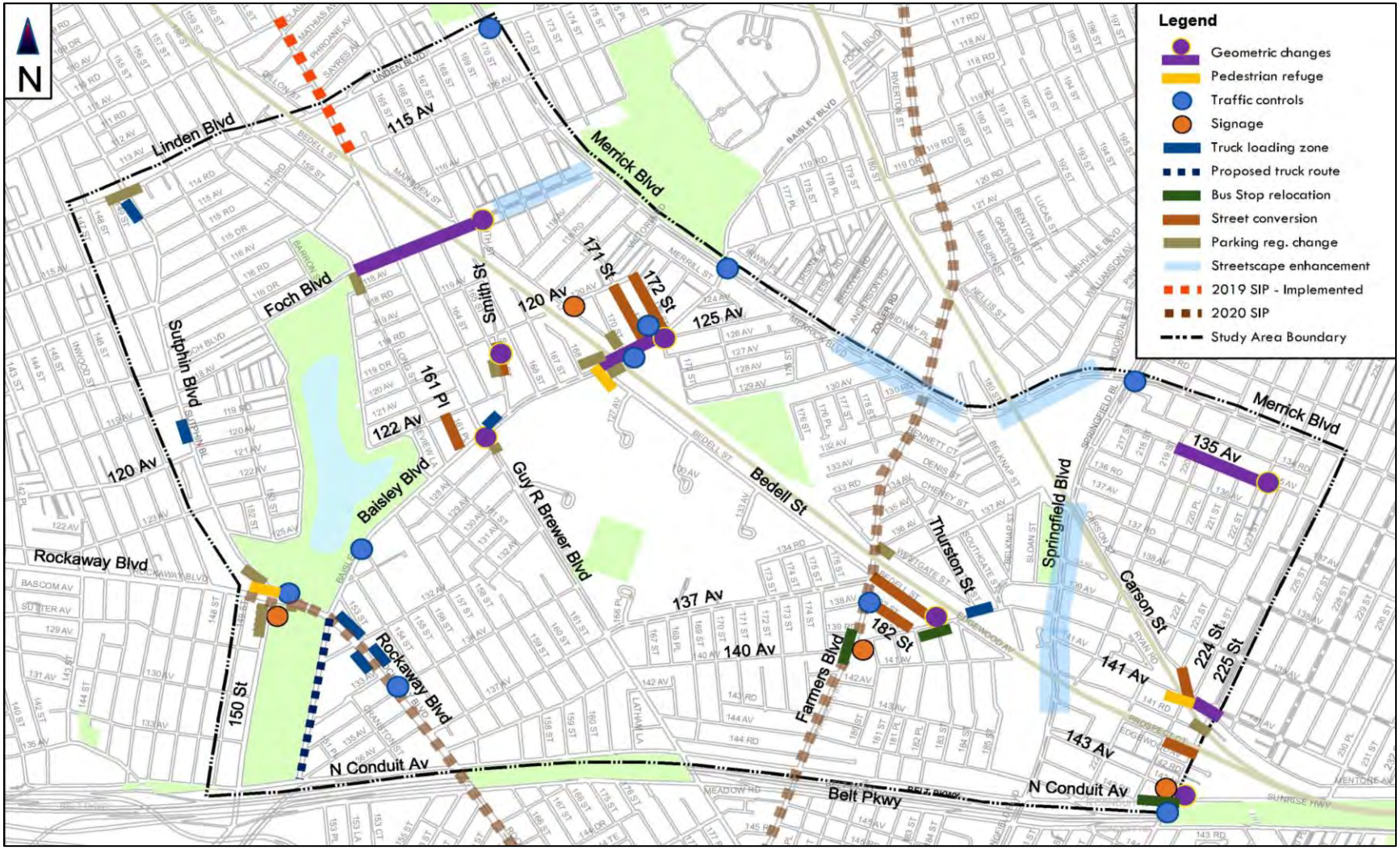
Truck Loading/Unloading Zones:

1. Sutphin Boulevard from Linden Boulevard to 114th Road;
2. Sutphin Boulevard from 119th Road to 120th Avenue;
3. 140th Avenue from Southgate Street to Bedell Street;
4. Baisley Boulevard from Guy R. Brewer Boulevard to Smith Street;
5. Rockaway Boulevard from Baisley Boulevard to 132nd Avenue; and
6. Rockaway Boulevard from 133rd Avenue to 132nd Avenue.

Transit-related Improvements (Bus Stop Relocations):

1. Farmers Boulevard between 140th Avenue and 139th Road (northbound);
2. 140th Avenue between Bedell and 182nd Streets (eastbound); and
3. North Conduit Avenue between 225th Street and 143rd Avenue (westbound).

Exhibit 9-2
Proposed Locations for Improvement



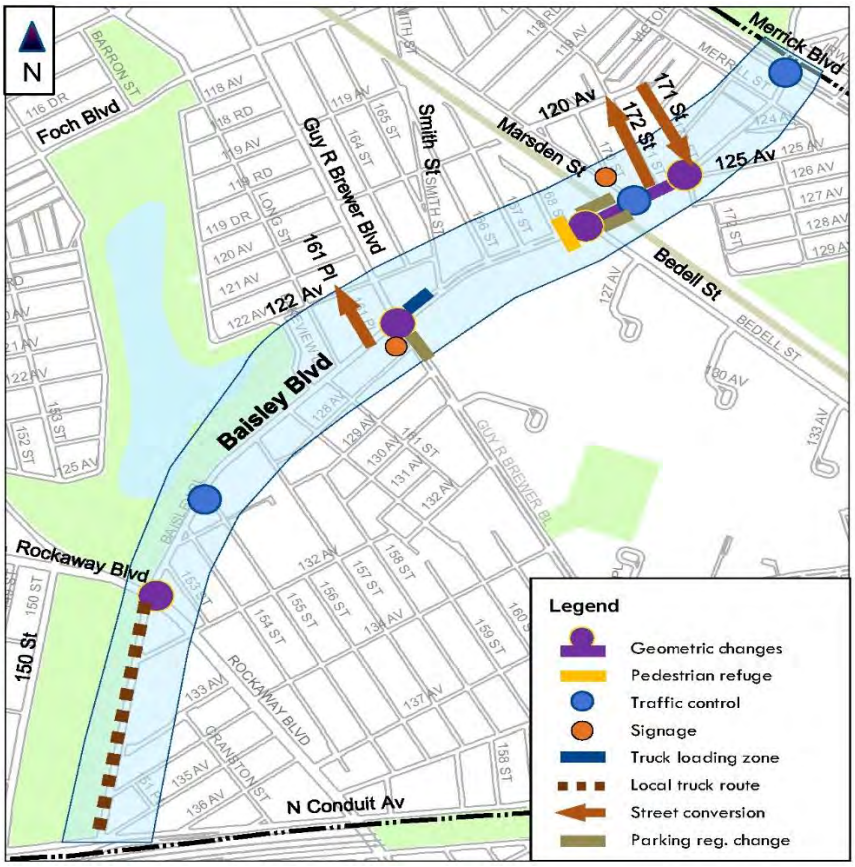
9-2.1 Geometric Roadway Improvements

Roadway and geometric changes are proposed at the locations below:

9-2.1.1 Baisley Boulevard between Rockaway and Merrick Boulevards

Baisley Boulevard is a congested corridor with traffic operation and pedestrian safety issues at several intersections. See proposed measures in Exhibit 9-3 and outlined below.

Exhibit 9-3
Proposed Improvements on Baisley Boulevard



9-2.1.1a Baisley Boulevard and Bedell Street Intersection

Issues:

1. Congestion on eastbound and westbound approaches of Baisley Boulevard during peak hours;
2. Existing westbound left turn phase without designated lane creates conflict; and
3. High pedestrian volume with long crosswalks.

Proposals:

1. Install concrete pedestrian refuge on west-leg;
2. Designate westbound left turn lane; and
3. Install rush hour regulations on north curb of Baisley Boulevard (60') during the AM and PM peak periods (Monday-Friday, 7-10AM & 4-7PM).

9-2.1.1b Baisley Boulevard and Marsden Street Intersection

Issues:

1. Eastbound left turn conflicts with westbound through movement;
2. Narrowed roadway under LIRR overpass creates congestion for eastbound and westbound traffic; and
3. Existing curb regulation (for half block) on the east curb of Marsden Street is "No Standing Monday-Friday, 8AM-6PM".

Proposal:

1. Install rush hour regulations on the south curb for 100' (underpass), Monday-Friday during the AM and PM peak period (7-10AM & 4-7PM);
2. Enable two travel lanes for the eastbound approach during rush hours;
3. Install a leading green phase (11 seconds) for the eastbound approach (left-through); and
4. Extend "No Standing Anytime" regulation (additional 60 feet north) on the east curb of Marsden Street between 170th Street and Baisley Boulevard to cover the entire block.

9-2.1.1c Baisley Boulevard and 125th Avenue/172nd Street Intersection

Issues:

1. Complex multi-leg intersection adjacent to high density senior housing complex;
2. Sixty-foot wide roadway (Baisley Boulevard, west-leg) with no channelization;


171st St, looking south

3. 171st and 172nd Streets are narrow two-way streets (ranging 28'-30'), with parking on both curbs between Baisley Boulevard and 120th Avenue; and
4. Missing ADA-compliant pedestrian ramps and signal on west-leg.


172nd St, looking north

Proposals:

1. Channelize two eastbound travel lanes to separate through movements to 125th Avenue and Baisley Boulevard;
2. Install pedestrian signal for the west crosswalk at Baisley Boulevard and 125th Avenue/172nd Street;
3. Create one-way pair with 171st Street (northbound) and 172nd Street (southbound); and
4. Install peg-a-tracks on the eastbound approach.

Exhibits 9-4a and b show the existing and proposed configuration.

9-2.1.1d Baisley and Guy R. Brewer Boulevard Intersection

Issues:

1. Congestion on all approaches due to heavy left turns and through movements during AM and PM peak hours; and
2. U-turn maneuvers conflict with through traffic.

Proposed:

1. Prohibit parking (100') on the east curb for northbound approach;
2. Install truck loading/unloading zone (Monday-Friday, 7-10 AM; 50') on the north curb of Baisley Boulevard east-leg (near to restaurant); and
3. Install "No U-turn" signs for NB and WB approaches.

Exhibits 9-5a and b show the existing and proposed configuration.

Exhibit 9-4a
Baisley Boulevard between Bedell Street and 125th Avenue/172nd Street
Existing Configuration

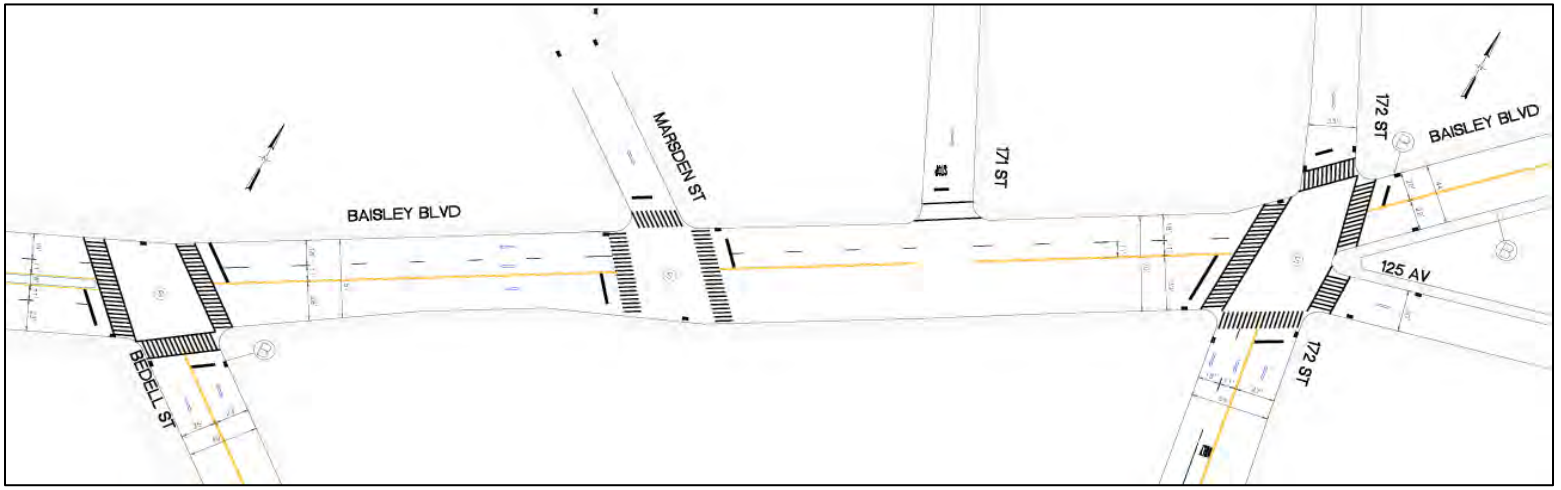


Exhibit 9-4b
Baisley Boulevard between Bedell Street and 125th Avenue/172nd Street
Proposed Configuration

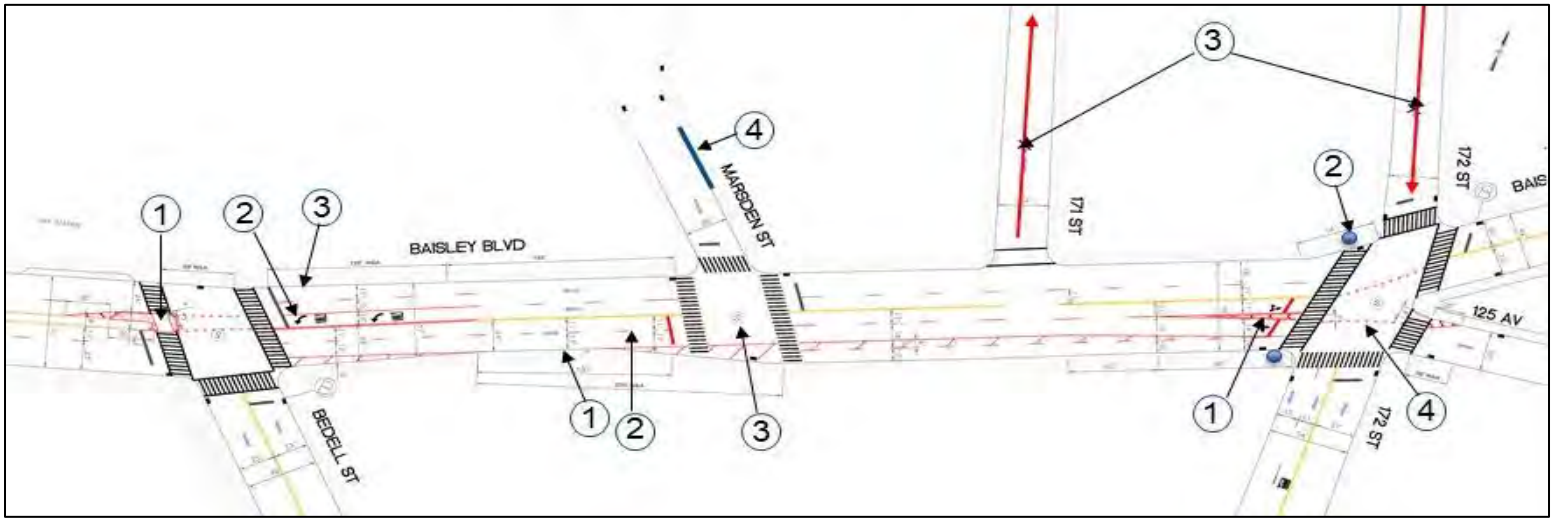


Exhibit 9-5a
Baisley Boulevard and Guy R Brewer Boulevard
Existing Configuration

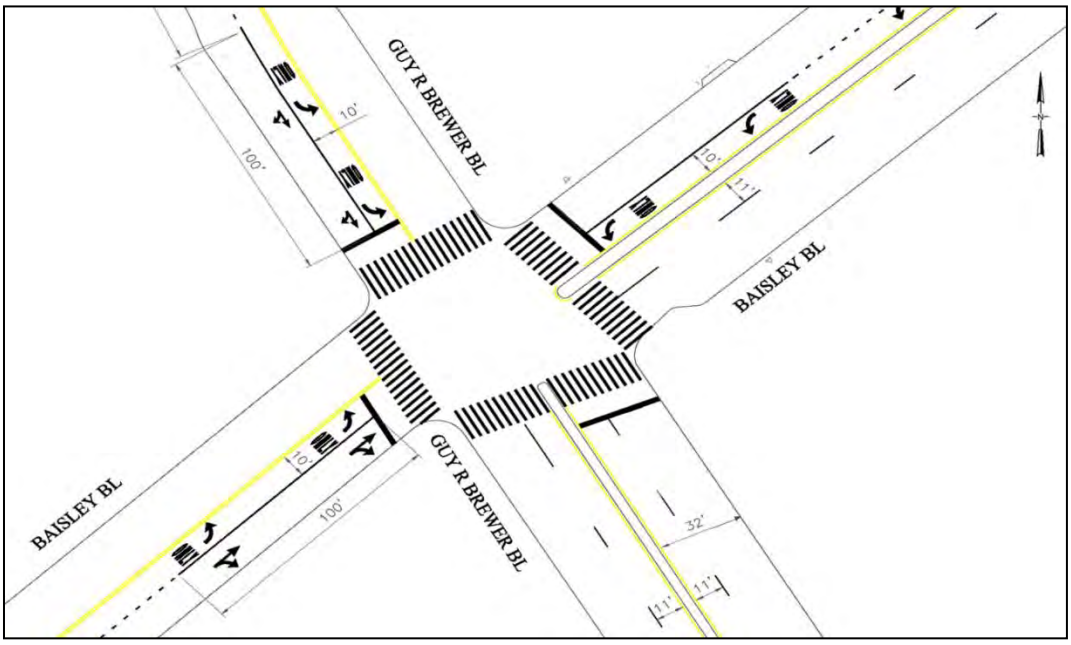
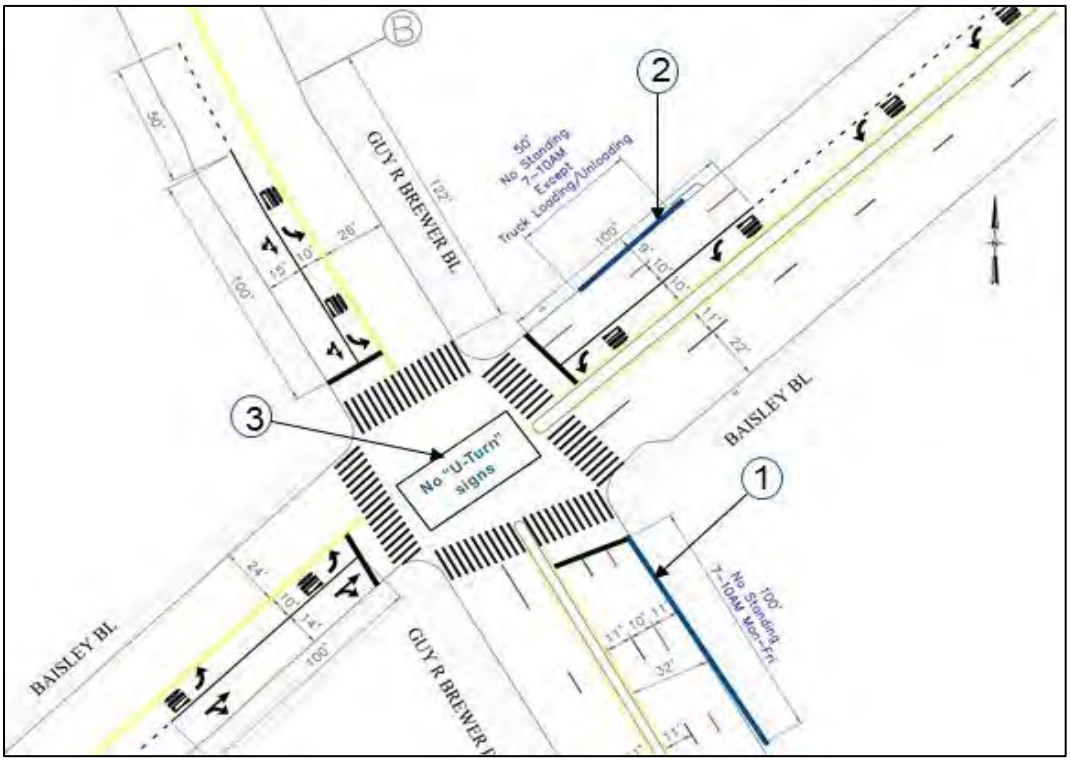


Exhibit 9-5b
Baisley Boulevard and Guy R Brewer Boulevard
Proposed Configuration



9-2.1.2 Foch Boulevard between 157th and 167th Streets

Issues:

1. Heavy vehicular and pedestrian traffic at Guy R. Brewer and Foch Boulevards intersection; and
2. Wide travel lanes on Foch Boulevard (50') with parking on both curbs; and
3. Long crosswalk (57 feet) at 167th Street/Foch Boulevard intersection (north-leg).

Proposed:

1. Stripe wide parking lanes (10') on Foch Boulevard between 157th/Long Streets and 167th/Smith Streets; and
2. The intersection of Foch Boulevard and 167th/Smith Streets will receive school safety improvements as a part of the capital reconstruction of Foch Boulevard between Smith Street and Merrick Boulevard (Capital Project - HWQ200578).

Exhibits 9-6a and b show existing and proposed configurations.

Exhibit 9-6a
Foch Boulevard between 157th and 167th Streets
Existing Configuration

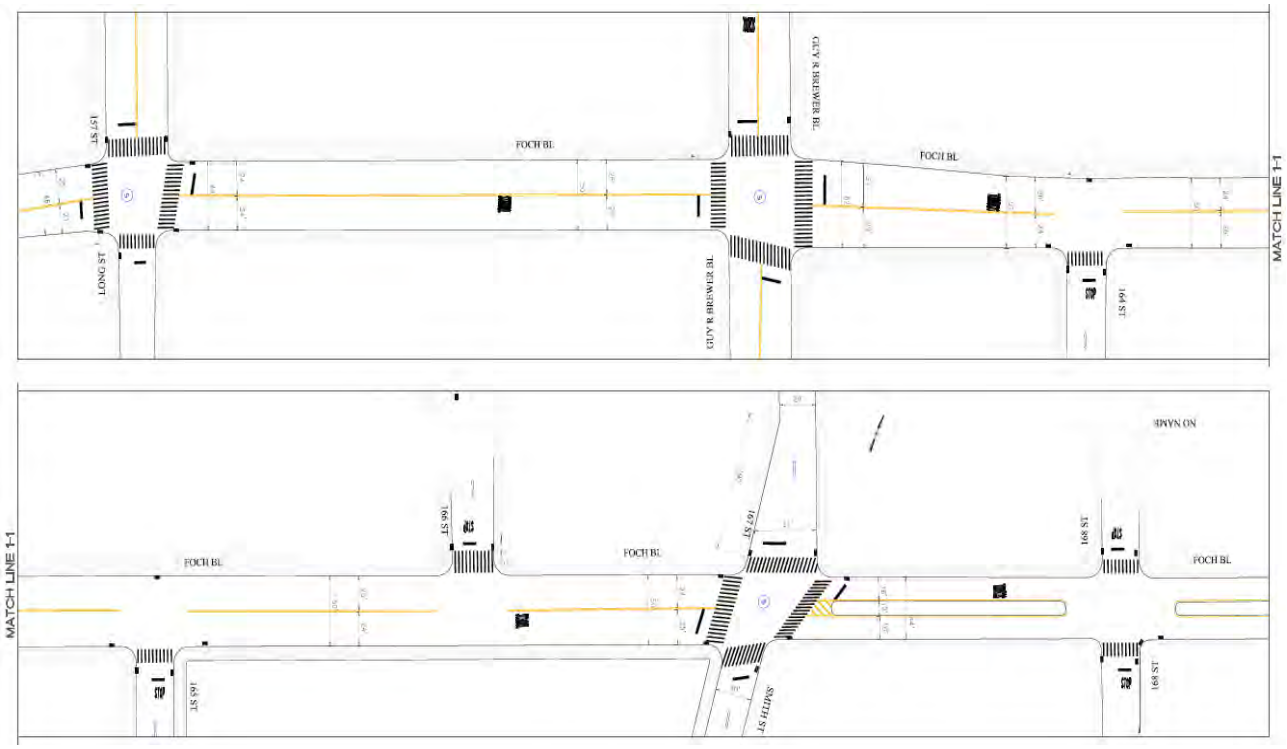
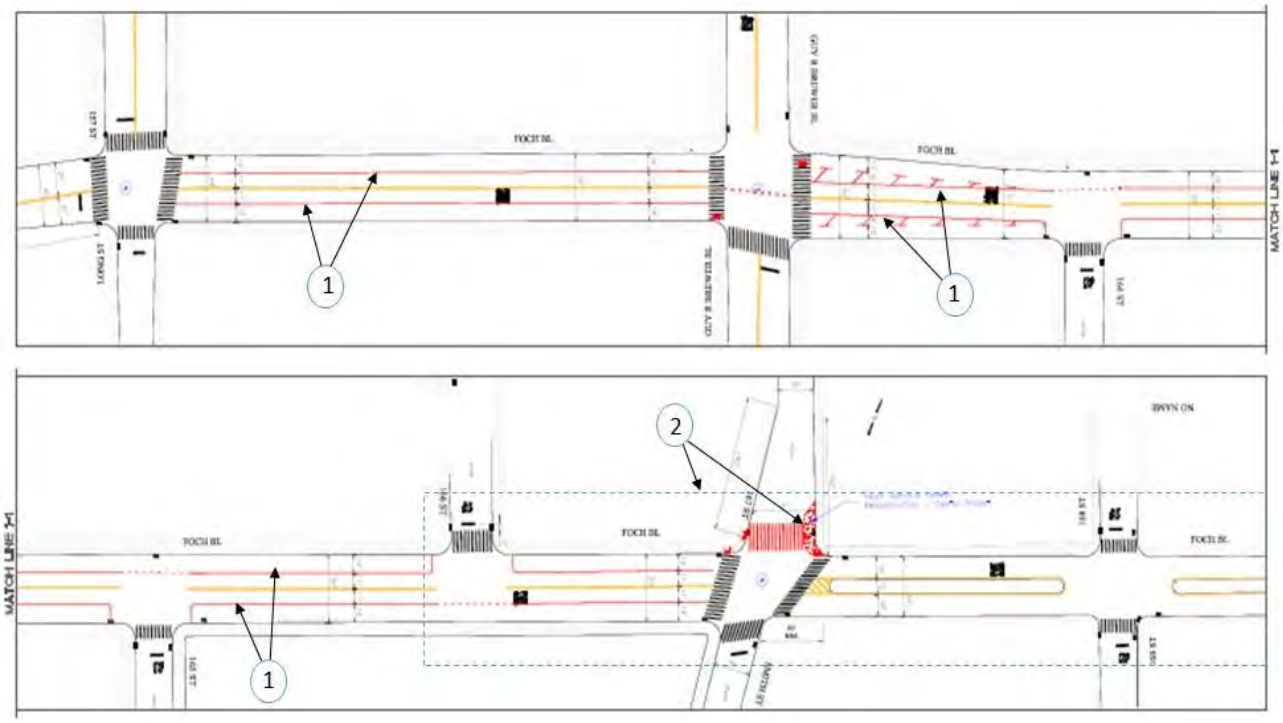


Exhibit 9-6b
Foch Boulevard between 157th and 167th Streets
Proposed Configuration



9-2.1.3 141st Avenue between 224th and 225th Streets & Carson Street between 223rd and 224th Streets

Issues:

1. Wide roadway (50 feet) with uncontrolled mid-block pedestrian crossings;
2. Missing crosswalks at Carson Street/224th Street intersection;
3. Carson Street between 223rd and 224th Streets is 24-30 feet wide with two-way operation and parking on both curbs; and
4. High parking demand by commuters using Laurelton LIRR station.


171st St looking south

Proposed:

1. Install a flush median on 141st Avenue between 224th and 225th Streets;

2. Redesign the 224th Street northbound and southbound approaches with crosswalks and ADA-compliant ramps;
3. Convert Carson Street to one way southbound between 223rd and 224th Streets; and
4. Daylight both curbs of south leg (224th Street) for 60 feet.

Exhibits 9-7a and b show existing and proposed configurations.

Exhibit 9-7a
141st Avenue between 224th/Carson Streets and 225th Street
Existing Configuration

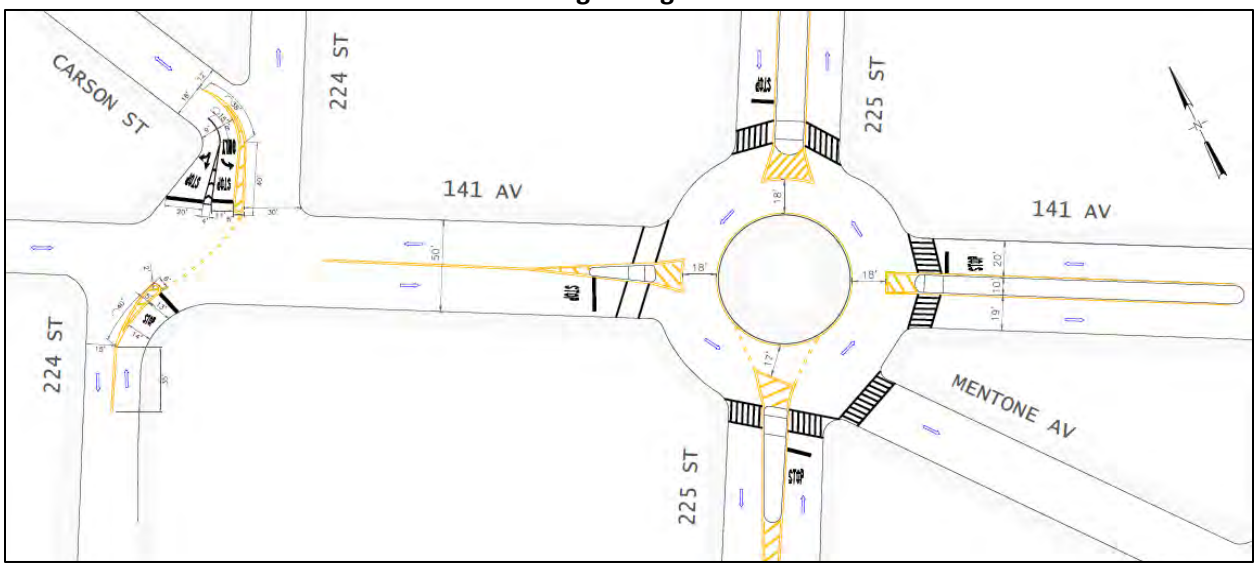
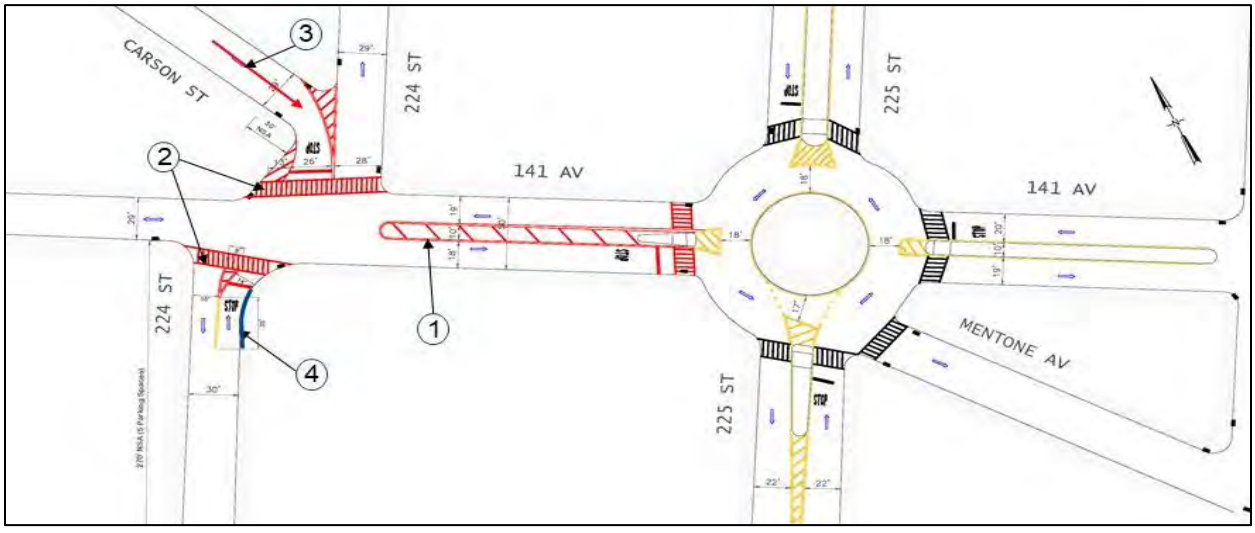


Exhibit 9-7b
141st Avenue between 224th/Carson Streets and 225th Street
Proposed Configuration



9-2.1.4 225th Street between 143rd and North Conduit Avenues

Issues:

1. Far side bus stop at 225th Street/North Conduit Avenue creates spillback, weaving, and unsafe midblock crossing;
2. High-speed right turns from N. Conduit Avenue onto 143rd Avenue conflicts with pedestrian activity; and
3. Low volume on mid-block slip ramp.

Proposals:

1. Relocate bus stop from far-side to near-side on westbound approach;
2. Close slip ramp between North Conduit and 143rd Avenues;
3. Prohibit westbound right turns from North Conduit Avenue onto 225th Street (mark through lane only);
4. Install crosswalk and pedestrian signal on the south leg of 225th Street/North Conduit Avenue intersection;
5. Upgrade crosswalks and pedestrian ramps to meet ADA standards at 225th Street and 143rd Avenue intersection; and
6. Install sidewalk and curb extension on the northwest curb of the T-intersection (North Conduit Avenue/143rd Avenue).

Exhibits 9-8a and b show existing and proposed configurations.

Exhibit 9-8a
225th Street between 143rd and North Conduit Avenues
Existing Configuration

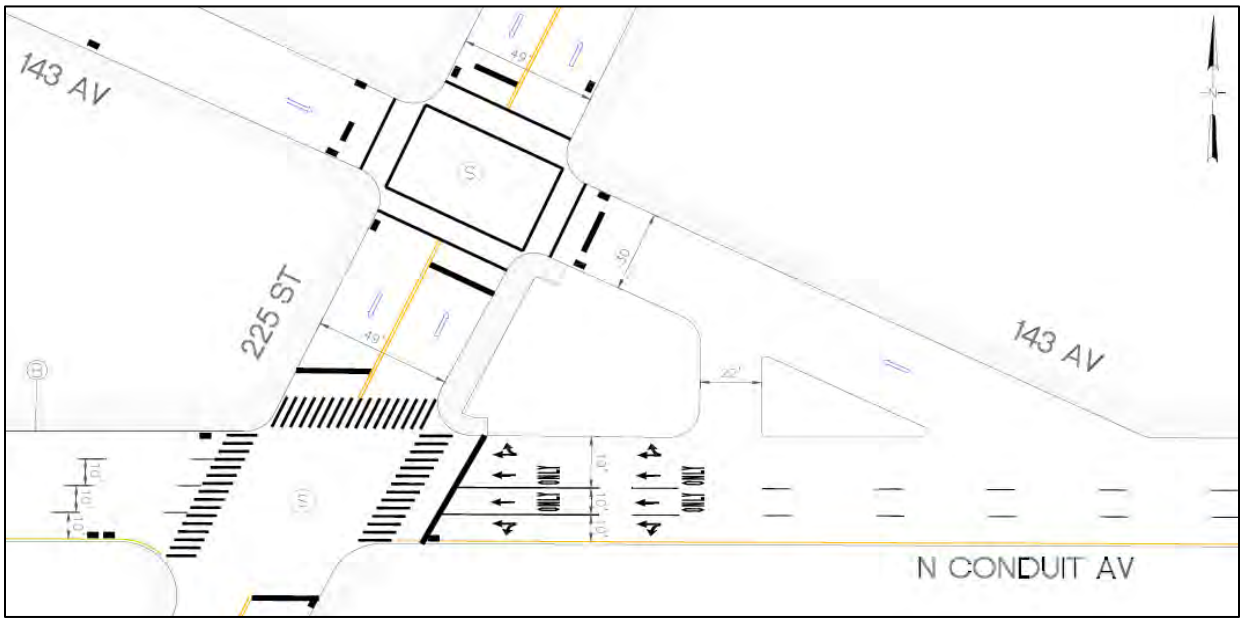
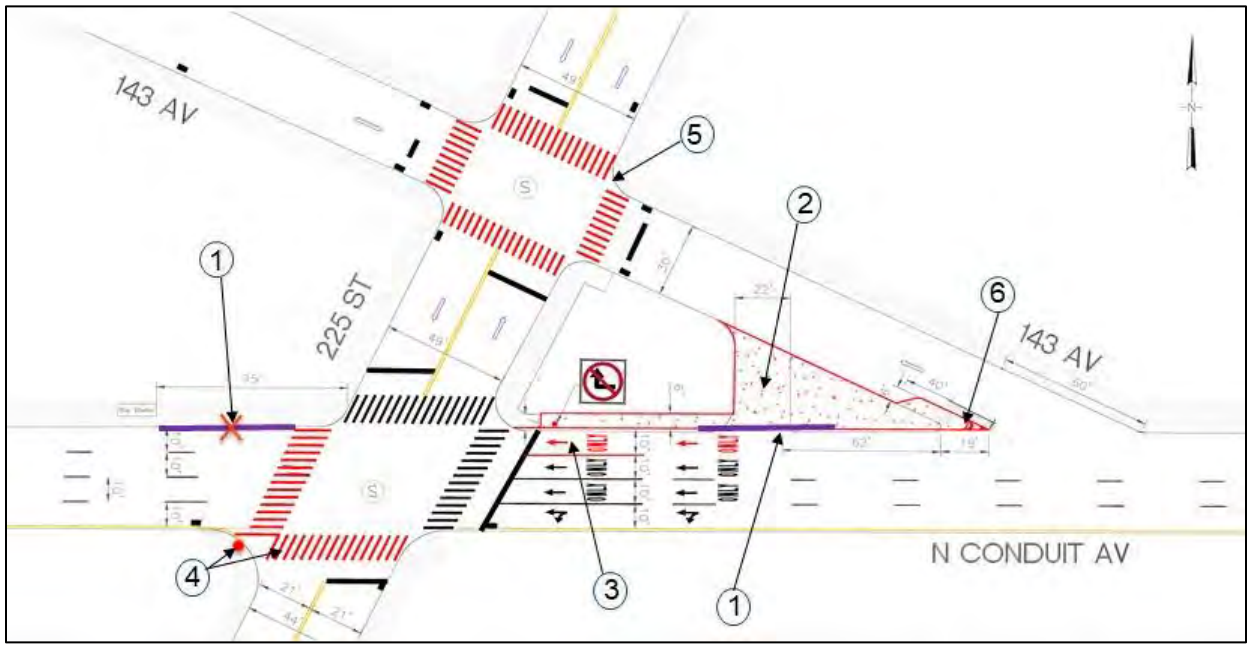


Exhibit 9-8b
225th Street between 143rd and North Conduit Avenues
Proposed Configuration



9-2.1.5 135th Avenue between 224th and 229th Streets

Issues:

1. Wide two-way roadway segment (five blocks) with varying width (43 to 51 feet); and
2. Missing crosswalks.

Proposal:

1. Stripe parking lanes on north and south curbs with centerline;
2. Install high visibility crosswalks at 135th Avenue/228th Street intersection and upgrade to ADA-compliant pedestrian ramps; and
3. Mark peg-a-track at the intersections of 135th Avenue and 225th and 229th Streets.

Exhibits 9-9a and b show the existing and proposed configurations.

Exhibit 9-9a
135th Avenue between 224th and 229th Streets
Existing Configuration

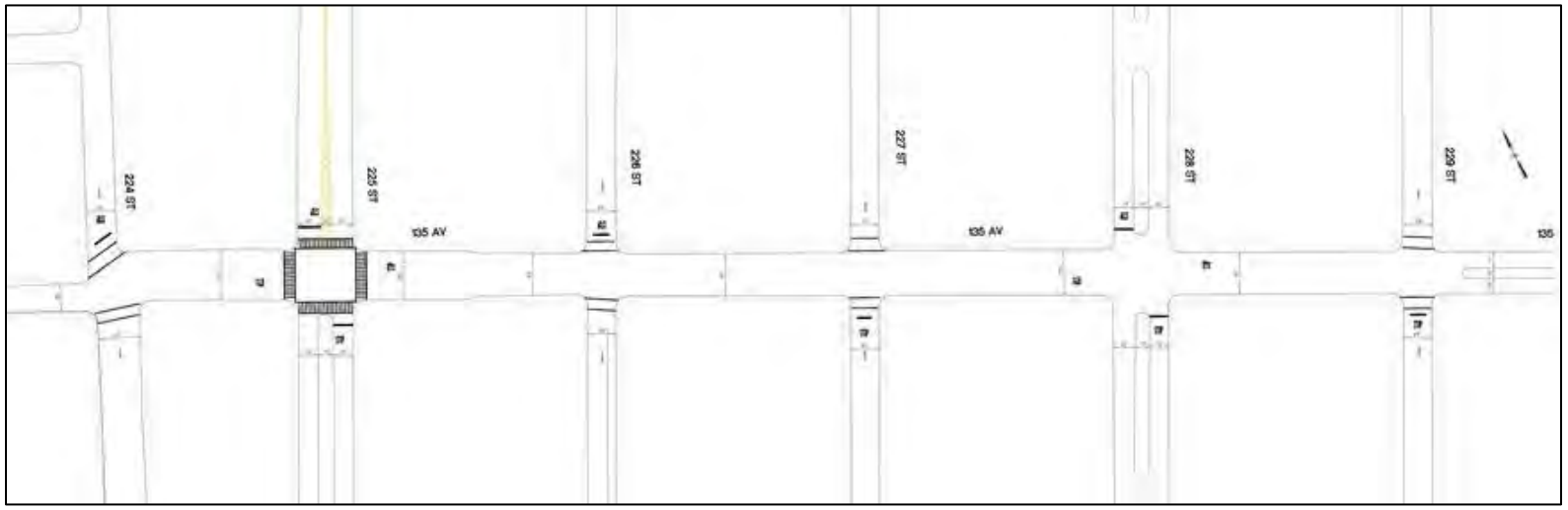
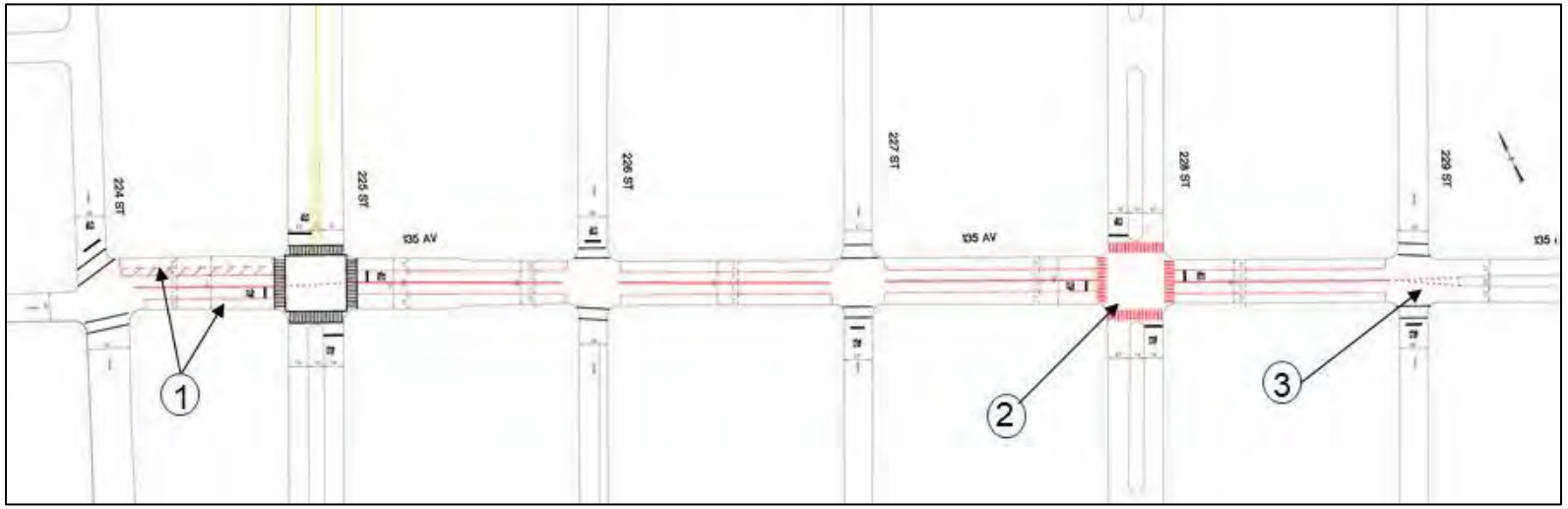


Exhibit 9-9b
135th Avenue between 224th and 229th Streets
Proposed Configuration



9-2.1.6 Rockaway/Sutphin Boulevards and 150th Street Intersection

Issues:

1. Peak hour congestion on all approaches;
2. Existing slip ramp signal is pedestrian actuated; since its infrequently used, continuous green on the ramp creates conflict while merging with northbound traffic;
3. Bus maneuvers (pick-up/drop-off) at the slip ramp bus stop blocks through traffic at merge point from Rockaway Boulevard and 150th Street; and
4. High pedestrian volumes (students from three nearby schools) and frequent mid-block crossings.

Proposal:

1. Lengthen southbound left turn bay and modify lane designation for Sutphin Boulevard;
2. Move centerline on the north leg (Sutphin Boulevard) 5 feet west and install pedestrian refuge;
3. Move centerline on the south leg (150th Street) 10 feet west and install flexible bollards (100 feet);
4. Restripe 150th Street northbound to three travel lanes including a left turn bay (100 feet); and install "No Parking Anytime" on the west curb for 120 feet;
5. Coordinate signals at Rockaway Boulevard/150th Street intersection and Sutphin Boulevard slip ramp (self-actuated signal); and
6. Prohibit parking on the east curb of Sutphin Boulevard slip ramp for 40 feet in front of bus stop for easy bus transition into northbound traffic.

Exhibits 9-10a and b show the existing and proposed configurations.

Exhibit 9-10a
Rockaway/Sutphin Boulevards and 150th Street
Existing Configuration

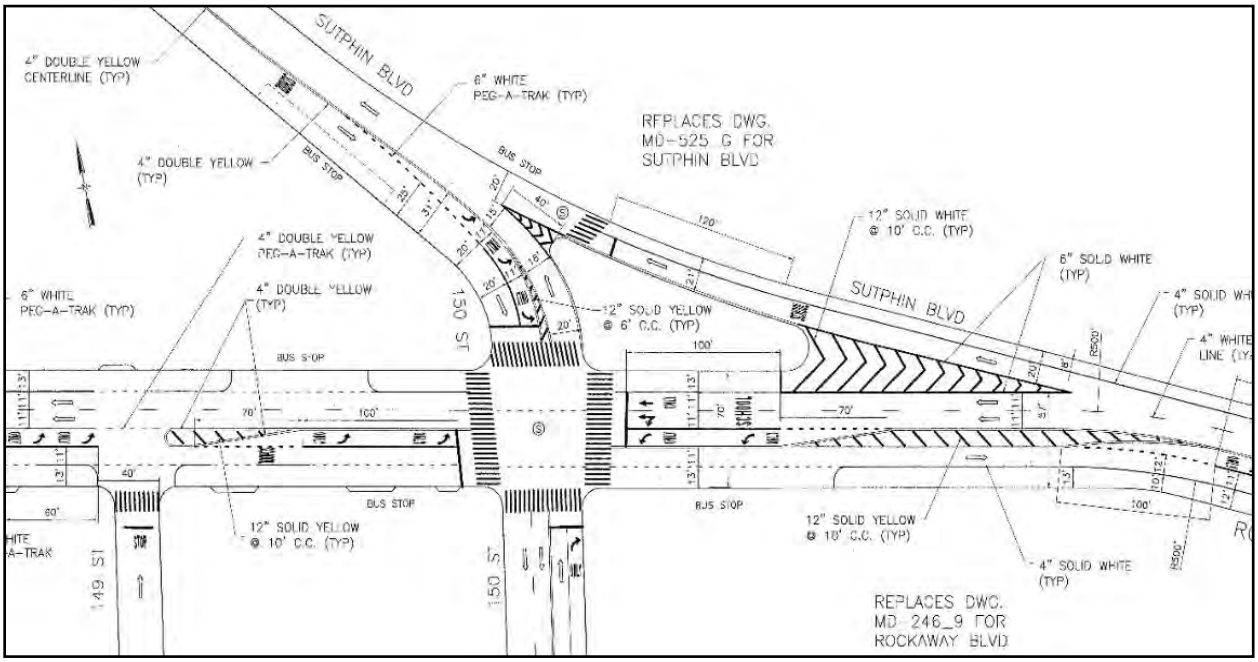
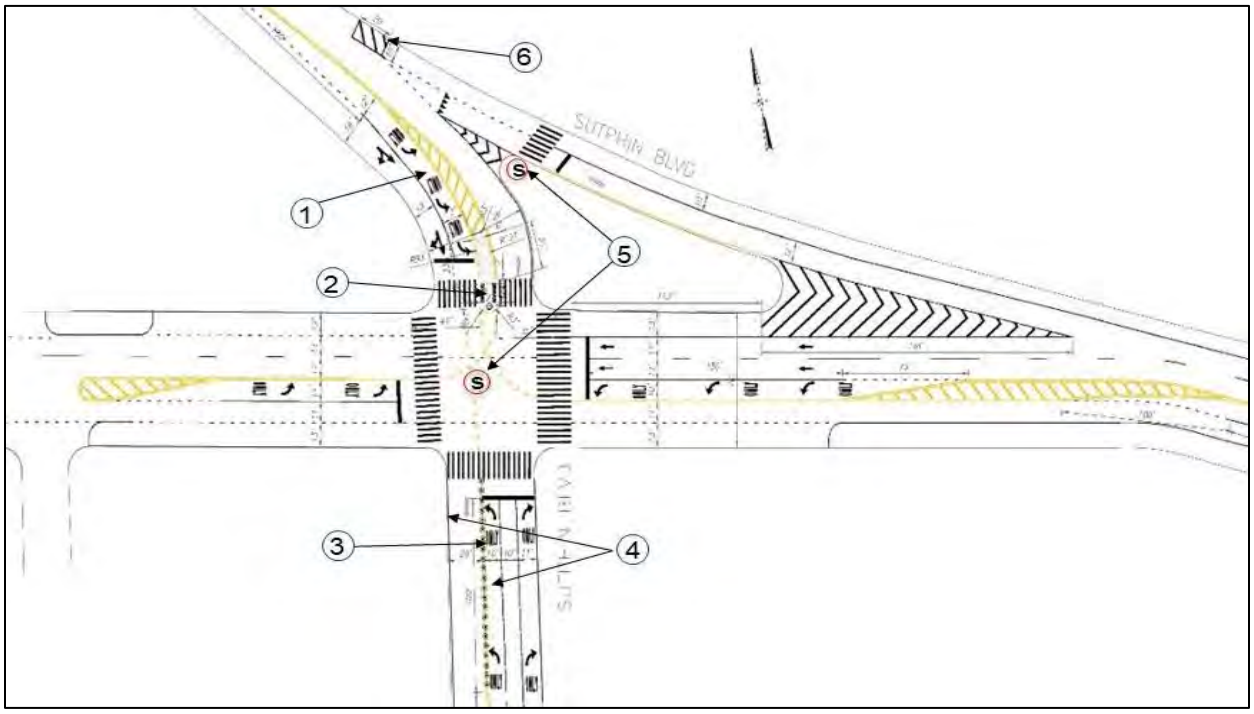


Exhibit 9-10b
Rockaway/Sutphin Boulevards and 150th Street
Proposed Configuration



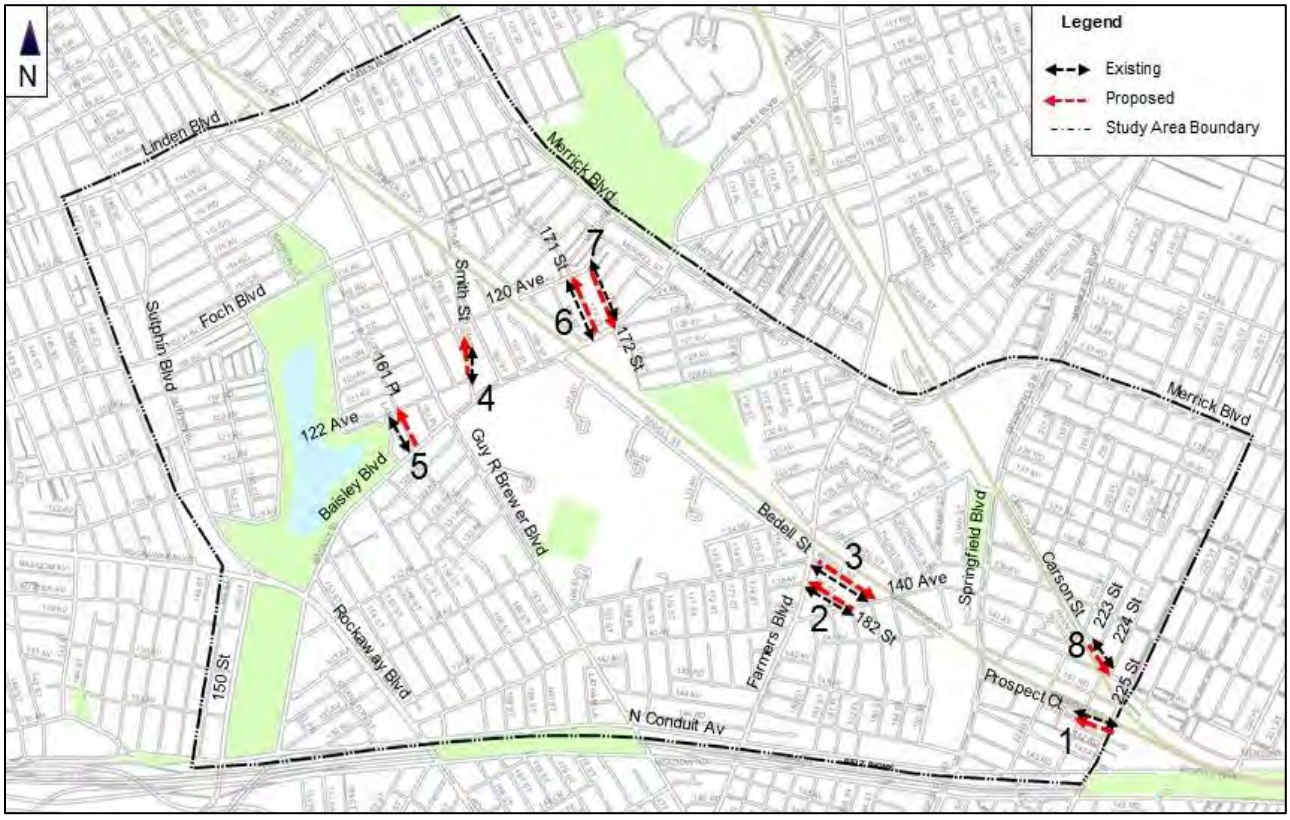
9-2.2 One-way Street Conversions

The following narrow street segments (24'-30') are proposed for conversion from two-way to one-way operation (see Exhibit 9-11):

1. Prospect Court between 224th and 225th Streets;
2. 182nd Street between Farmers Boulevard and 140th Avenue;
3. Bedell Street between Farmers Boulevard and 140th Avenue;
4. Smith Street between 120th Avenue and 165th Street (1/2 block);
5. 161st Place between Baisley Boulevard and 122nd Avenue;
6. 171st Street between Baisley Boulevard and 120th Avenue*;
7. 172nd Street between Baisley Boulevard and 120th Avenue*; and
8. Carson Street between 223rd and 224th Streets*.

* - See pages 9-9 & 9-13 (SIP 2020).

Exhibit 9-11
Proposed One-way Conversions



9-2.2.1 Prospect Court between 224th and 225th Streets

Issues:

1. Prospect Court between 224th and 225th Streets is an extremely narrow two-way street (24' wide) with parking on both curbs; and
2. High demand for parking by commuters using the LIRR Laurelton station.


Prospect Ct, looking north

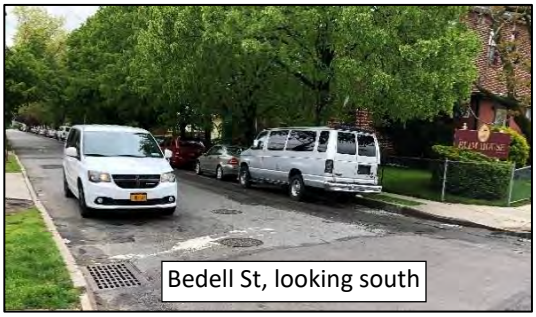
Proposal:

1. Convert Prospect Court to one-way northbound from 225th to 224th Streets.

9-2.2.2 182nd and Bedell Streets between Farmers Boulevard and 140th Avenue

Issues:

1. Narrow two-way streets (30 feet wide) with parking on only one curb at Bedell Street and ½ block at 182nd Street.


Bedell St, looking south

Proposal:

1. Create a one-way pair with Bedell Street (southbound) and 182nd Street (northbound).

9-2.2.3 161st Place between Baisley Boulevard and 122nd Avenue

Issues:

1. Narrow two-way street (24 feet) with parking on both curbs; and
2. High parking demand.


161st St, looking south

Proposal:

1. Convert 161st Street to one-way northbound from Baisley Boulevard to 122nd Avenue.

9-2.2.4 Smith Street between 165th Street and 120th Avenue

Issues:

1. Narrow midblock segment of two-way street (20') with parking on east curb;
2. Community concern about safety due to speeding; and
3. Vehicular conflicts at Smith/165th Streets intersection.

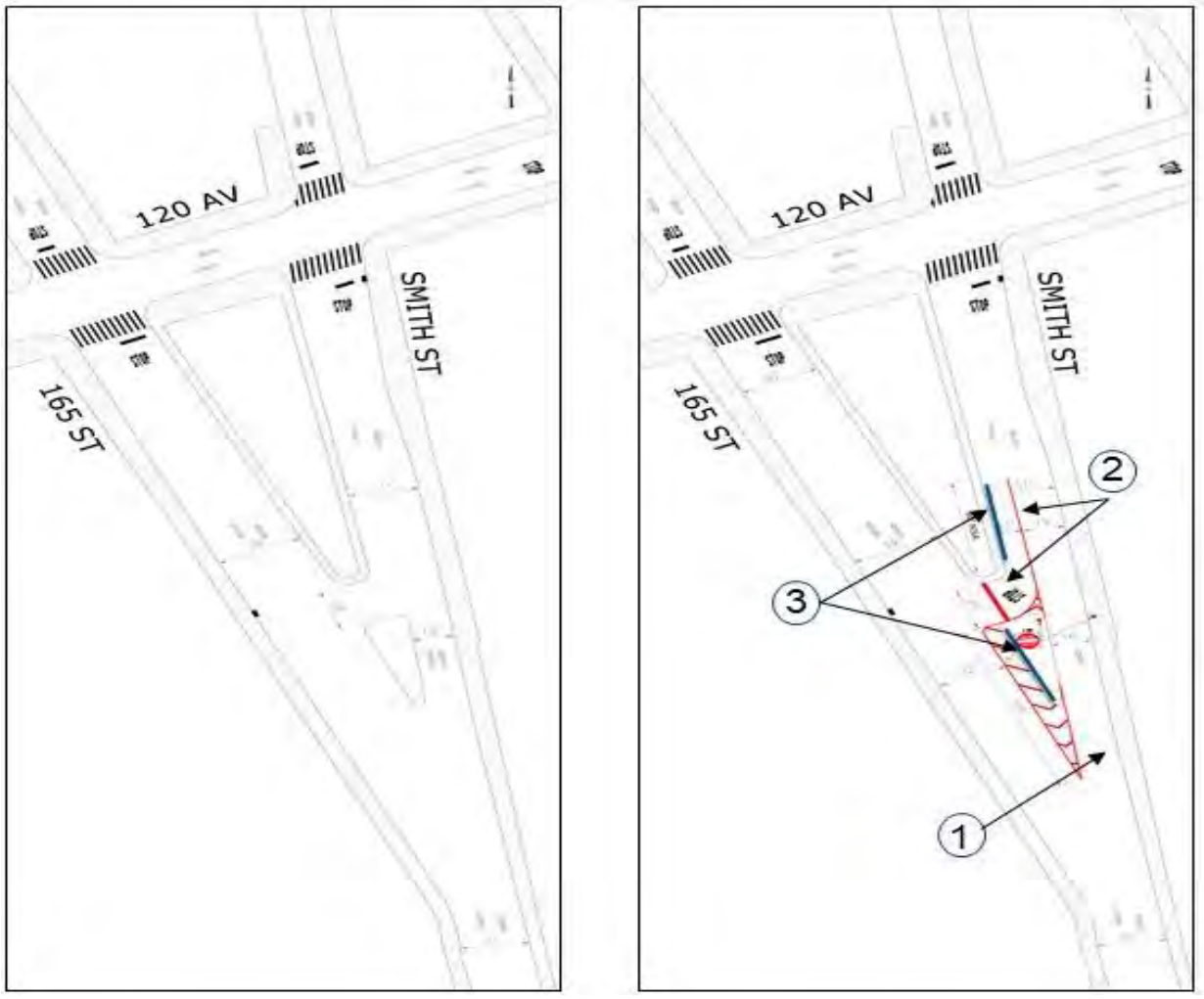
165th & Smith Streets looking north

Proposal:

1. Eliminate two-way operation on Smith Street at 165th Street intersection;
2. Convert Smith Street to one-way northbound at triangle; prohibit southbound through movement to 165th Street from Smith Street and stripe southbound right turn lane from Smith Street mid-block to 165th Street; and
3. Remove three parking spaces on west curb of Smith Street and east curb of 165th Street.

Exhibit 9-12 shows the existing and proposed conditions for Smith/165th Streets.

Exhibit 9-12
Smith Street between 120th Avenue and 165th Street
Existing and Proposed Configurations



9-2.3 Curb Management

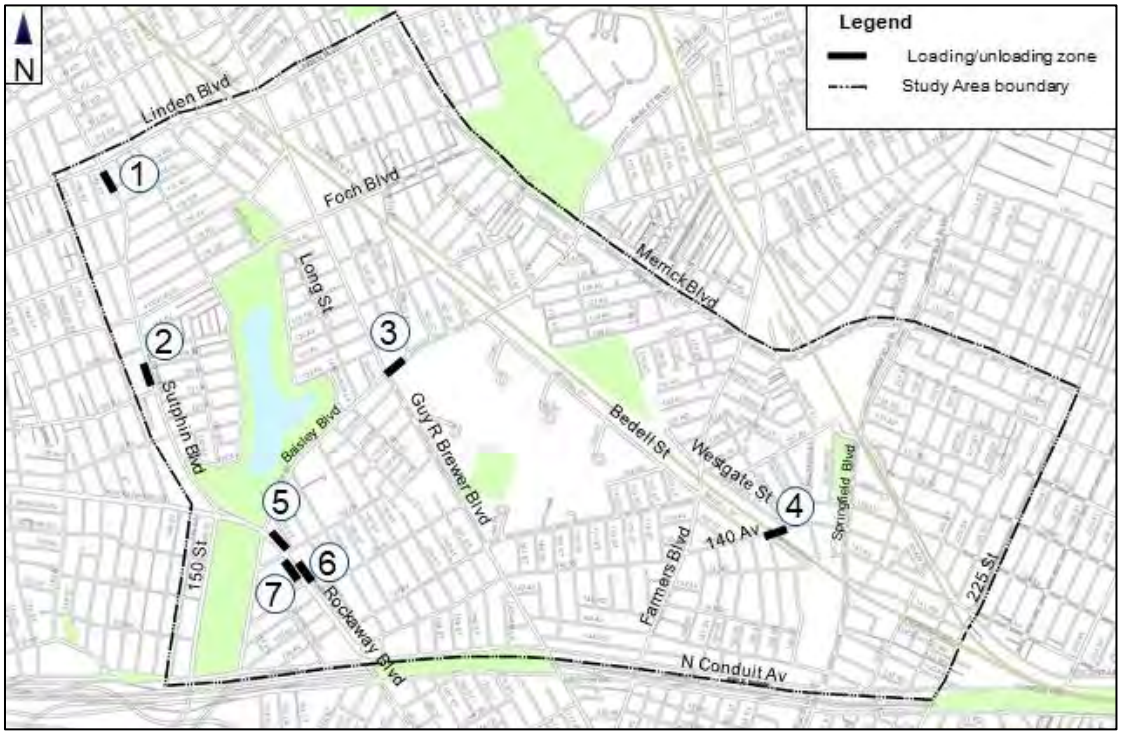
9-2.3.1 Truck Loading/Unloading Zones

Seven truck loading/unloading zones are recommended. See Exhibit 9-13.

1. Sutphin Boulevard from Linden Boulevard to 114th Road (west curb);
2. Sutphin Boulevard from 119th Road to 120th Avenue (west curb);
3. Baisley Boulevard from Guy R Brewer Boulevard to Smith Street (north curb);
4. 140th Avenue from Southgate Street to Bedell Street (north curb);
5. Rockaway Boulevard from Baisley Boulevard to 132nd Avenue (east curb);

6. Rockaway Boulevard from 133rd Avenue to 132nd Avenue (west curb); and
7. Rockaway Boulevard from 133rd Avenue to 132nd Avenue (east curb).

Exhibit 9-13:
Proposed Truck Loading/unloading Zones



9-2.3.2 Transit Improvements

Bus Stop Relocations

The following bus stops are proposed for relocation (see Exhibit 9-15):

1. Farmers Boulevard between 140th Avenue and 139th Road (northbound);
2. 140th Avenue between Bedell/183rd and 182nd Streets (eastbound); and
3. North Conduit Avenue at 225th Street (westbound).

10.0 PUBLIC PARTICIPATION

Community stakeholders - elected officials, residents, business owners, civic associations, JFK Industrial Business Improvement District, and community representatives - were given the opportunity to share with NYCDOT their concerns and issues through a series of meetings (Technical Advisory Committee and Public) throughout the study process. These meetings facilitated the identification of traffic and transportation issues in the study area and helped to develop various improvement measures. Five meetings to obtain community input were held - two Technical Advisory Committee (TAC), two public, and one Citizen Advisory Group; the meetings were held as follows:

A. TAC Kickoff Meeting – December 19, 2017
B. Public Meeting #1 (Kick-off) – May 21, 2018
C. TAC Meeting #2 – December 11, 2018
D. Citizen Advisory Group (CAG) Meeting – December 11, 2018
E. Public Meeting #2 CB13 – May 13, 2019

The notes for the public outreach meetings follows.

Springfield Gardens/South Jamaica Transportation Study
Notes of Technical Advisory Committee (TAC) Kick-off Meeting
December 19, 2017 @ 10:00 AM

The first Technical Advisory Committee (TAC) meeting for the Springfield Gardens/South Jamaica Transportation Study was held at the Queens Borough Commissioner's Office (120-55 Queens Boulevard, 2 FL / Room 280 – Queens, NY) to introduce the study and present the draft scope of work for comments/input. Representatives from State Senators James Sander and Leroy Comrie, Councilmember Donovan Richard, NYC Department of City Planning, NYS Department of Transportation, MTA-Bus Operations, NYC Transportation Coordinating Committee, Long Island Railroad, JFK Industrial Business Improvement District (JFK IBID), and Community Board (CB) 13 were present.

Following the welcome by NYCDOT Borough Commissioner (B/C) Nicole Garcia and introductions by attendees, the project team presented the scope of study. Michael Griffith provided a brief background followed by a PowerPoint presentation by Project Manager, Milorad Ubiparip. The presentation outlined the scope of work and study process including the goal/objectives, subject areas of analyses, preliminary data collection plan, and next steps. A general discussion followed the presentation wherein attendees commented on the study scope or asked questions.

1. **Comments/Questions - Ms. Cohen (JFK IBID consultant):**
   - What is the completion status of the Springfield Gardens/JFK Transportation Study (a previous study)?
   - How was the outreach program conducted?
   - Would CBs (12 and 13) and other civic groups be invited to public meetings?
   - There are several new hotels located on/or close to Rockaway Boulevard.

   DOT Response:
   - While the kick-off TAC meeting was for members (government agencies, elected officials, CBs, and key stakeholders), the public meeting is open to all.
   - Requested IBID to share with DOT a list of other interested parties who should be invited to meetings.
   - DOT could provide the IBID with flyers and advertisement to broaden the outreach process.
   - Conducting public meetings to obtain community input is a Federal requirement with which the agency must comply.

2. **Comments/Questions - Ms. Cohen:**
   - Provided a brief background on the establishment of the IBID in 2013, and questioned why it was not involved from inception with the previous study.
   - Adequate communication between city agencies and the IBID is very important.
   - What is the traffic data collection process?

DOT Response:

- All relevant data in the system (TIMS) is checked (i.e. parking regulations, traffic counts) and validated with field data.

3. **Comments - Ms. Cohen:**
   - What factors influence the placement of parking regulations?
   - Parking signs are missing in some locations.
   - How is the appropriateness of a parking regulation at a particular time made?

   DOT Response:
   - The study team always collaborate with the Borough Engineering office on missing signs and other issues.
   - Based on surveys and traffic analysis, signs will be replaced/removed/installed appropriately.
   - It was also stressed that community input regarding parking needs was crucial.

4. **Comment - Ms. Cohen:**
   - Could she see the data collected for the previous study and review the data collection plan to have a better understanding of the data collection process?

5. **Comments - Mark McMillan (CB 13):**
   - There are safety concerns at the Merrick and Springfield Boulevards intersection.
   - How can the community inform DOT of issues/concerns?

   DOT Response:
   - There are three ways to transmit concerns - a web-portal, via e-mail (sent to the project manager at mubiparip@dot.nyc.gov), and TAC, CAG, and public meetings.

6. **Question - Ms. Cohen:**
   - Would the web-portal be different from that of the previous study?

   DOT Response:
   - Different; web portal address: http://nycdotfeedbackportals.nyc/springfield-gardens-south-jamaica-study/springfield-gardenssouth-jamaica

7. **Comment/Question - Ms. Cohen:**
   - 53’-0” trucks are currently on the streets so is there a need to design for larger trucks or propose a rule change?

DOT Response:

- There are two dimensions to this issue; the operational - addressed by the study; and the policy - to be addressed as part of the Citywide Freight Plan.

8. Comments - Ms. Cohen:

- There are safety concerns relating to pedestrian access to new hotels along Rockaway Boulevard where many crosswalks do not exist.
- Data collection plan should cover every street in the industrial/residential area.

9. Comments/Questions - Senator James Sanders office:

- Will zoning changes be recommended?
- Is DOT responsible for damaged streets?

DOT Response:

- The Department of City Planning is responsible for zoning changes but DOT reviews all zoning proposals that are subject to CEQR.
- DOT is responsible for the maintenance of City streets.

10. Comments/Questions - Ms. Cohen:

- The Port Authority will expand with new facilities in the M1-1 industrial area since the property is under its jurisdiction.
- How would land use changes affect trucks activity?
- A review of the current M1-1 district would be required to reflect reality and determining if any adjustment is necessary.

11. Comments/Questions - CM Richards' office:

- What is the process by which community members can send complaints (such as missing stop signs, truck enforcement on residential streets, or other illegal activities for lack of enforcement) to DOT?
- How would the traffic study address these issues?

DOT Response:

- The agency works closely with NYPD to increase enforcement and the issues raised would be part of the study focus.
- Ms. Cohen also reiterated the need to establish better communication at the outset.

12. Comment/Question - Senator James Sanders' office:

- Will this study be in conjunction with SDOT? Will the study create any changes in signals and traffic patterns?

DOT Response:

- DOT works closely with other agencies including SDOT, and the Signals division will review warrants for installing new signals/signal timing changes or other traffic controls.

Springfield Gardens/South Jamaica Transportation Study
Notes of Public Kick-off Meeting
May 21, 2018 @ 7:00 PM

NYCDOT (Traffic Engineering and Planning) held the first public meeting for the Springfield Gardens/South Jamaica Transportation Study at Roy Wilkins Recreational Center, Baisley Boulevard and 177th Street. The purpose of the meeting was present the draft scope of work and receive community input. In attendance were representatives of State Senator Leroy Comrie, Councilmembers Adrienne Adams and I. Daneek Miller, NYCDCP, NYCTCC, Queens Library, and Community Boards (CBs) 12 and 13.

The meeting begun with Michael Griffith (NYCDOT) providing a brief background to the study followed by the Project Manager, Milorad Ubiparip, presenting the draft scope of work. The presentation included the goals/objectives, study area boundaries, proposed data collection plan, areas of analyses and next steps in the study process.

Following the presentation, a Question and Answer period allowed attendees to ask questions and express concerns. Pertinent comments follow:

1. **Comments/Questions - Ms. Pierre-Louis (Jamaica Leadership Council & CB13):**
   - Is there a medium to express concerns on other DOT streetscape projects?
   - How long would it take to implement community requests?
   - Beside small enhancements, will capital improvements be among the recommendations?

2. **Comments - Ms. Reddick (CB 12):**
   - There are safety concerns at the intersection of 133rd Avenue and 223rd Street; it should be daylighted or 4-way stop signs installed.
   - Buses have difficulty turning at the last stop of the Q60 at 108th Avenue/Sutphin Boulevard (near the church); the south curb should be daylighted to facilitate bus-turning maneuvers.

   DOT Response:
   - The location, which is part of the Downtown Jamaica Transportation Study Area, will be examined.

3. **Comments - Ms. Pierre-Louis:**
   - Southwest corner of Merrick Boulevard and Laurelton Parkway Service Road near Laurelton Plaza (new Donkin Donuts, medical office, and other local retail establishments - inadequate street lighting.
   - North Conduit Avenue/230th Place - poor lighting and geometric/infrastructure issues at Q85 stop; trees obstruct the visibility of the bus stop; insufficient sidewalk space and poor sidewalk maintenance.

DOT Response:

- Location will be examined for potential lighting/infrastructure improvements, though it is outside the study area.

4. **Comments - Ms. Reddick:**
   - The Q6 stop with heavy ridership was relocated a year ago to the Q60 stop at 91-10 Sutphin Boulevard with less ridership.
   - Could the bus stop on Archer Avenue near 165th Street be relocated due to the narrow sidewalk?

   DOT response:
   - Study team will coordinate with MTA-NYCT and bus stop management, and evaluate the feasibility of an alternative location although it's within the Downtown Jamaica Transportation Study Area.

5. **Comment - Ms. Reddick:**
   - The parking analysis should not only focus on major corridors but all residential streets.

   DOT response:
   - Due to the large size of the study area, the focus would be major arterials and streets near commercial establishments.

6. **Comments – Ms. Keller:**
   - Parking demand is high on residential streets near her home, especially during late evening hours; drivers park cars illegally blocking driveways, at hydrants, etc.
   - She suggested "No Parking Anytime" and "No Standing Anytime" signs be posted; she will provide specific locations.
   - Storeowners complained about cars parked on Merrick Boulevard between Farmers Boulevard and Belknap, from early morning, or all day, in front of stores/local retail and asked DOT to consider installing muni-meters for two blocks.
   - Specific locations for suggested meters to be provided to DOT.

   DOT response:
   - Relevant parking data will be reviewed and a solution proposed to address the issue

7. **Comment:**
   - Several bus stops in Rosedale need bus shelters, particularly along Brookville Boulevard and 147th Avenue.

   DOT response:
   - Follow-up with appropriate unit and/or MTA will be done though location is outside the study area.

8. **Comments - Ms. Pierre-Louis:**
   - Streetscape/green infrastructure on Merrick Boulevard medians between Farmers and Springfield Boulevards is insufficient.

- The placement of trees or planters on medians is desirous.
- Storeowners on 243rd Street (near Library) are willing to pay for streetscape treatments has been unable to obtain permission to do so; they are requesting written guidelines that local businesses/community groups can follow to obtain permission to install planters on sidewalks/medians.

DOT response:
- The streetscape unit is responsible for landscaping.
- Most medians along Merrick Boulevard are very narrow and may not support healthy plants.
- A feasibility assessment will be done following receipt of community identified desired locations.

9. Comment:
- Speeding is frequently observed along 115th/116th Avenues between Francis Lewis/Springfield Boulevards and 204th/205th Streets near Linden Boulevard; can speed humps be installed to mitigate?

DOT response:
- Certain criteria must be met to install a speed hump; each request must be evaluated as they cannot be installed on bus/truck routes, near driveways, etc.

10. Comment:
- ATV and motorcycles on Dunkirk Street during the summer months pose safety risks and noise issues for residents and seniors.

DOT response:
- This is an enforcement issue (should be addressed by NYPD), but the area will be examined for an appropriate response.

11. Comment:
- 147th Avenue in Rosedale regularly experience flooding and ponding during heavy rainfalls.

DOT response:
- DDC and DEP's 147th Avenue Reconstruction capital project covers this area and should be near completion.

12. Comment - Ms. Keller:
- Trucks parked overnight on residential streets in CB 13 is problematic.

DOT response:
- This is an enforcement issue that will be relayed to NYPD.

13. Comment/Question:
- "Why did DOT select this area to be studied?"

DOT response:

- While conducting the Springfield Gardens/JFK Transportation Study CM Richard Donovan requested the northern boundary extend north of the Belt Parkway to address traffic and transportation issues raised by the community. This study is in response to that request.
- This study complements (fits between) two other transportation studies - Downtown Jamaica and Springfield Gardens/JFK both completed.

Springfield Gardens/South Jamaica Transportation Study
Notes of Technical Advisory Committee (TAC) Meeting #2
December 11, 2018 @ 1:00 PM

NYCDOT Traffic Engineering and Planning conducted the second Technical Advisory Committee (TAC) meeting for the Springfield Gardens/South Jamaica Transportation Study at the Queens Borough Commissioner's Office, 120-55 Queens Boulevard, 2 FL / Room 280 – Queens, NY. The purpose of the meeting was to present the existing conditions analysis, issues and findings. The meeting was attended by representatives from PANYNJ, MTA Bus Operations and Long Island Railroad (LIRR) and NYPD.

Michael Griffith, NYCDOT, welcomed attendees and provided a brief background to the study before asking everyone to introduce themselves and affiliation, after which Project Manager Milorad Ubiparip made the Power Point presentation.

The presentation recapped the study goals and objectives, study area boundaries, study process, and provided highlights of the existing conditions analysis (demographics, zoning/land use, traffic, parking, pedestrians/bicyclists, safety/crashes, transit, and trucks/goods movement) issues and findings. The next steps in the study process were discussed and then attendees were invited to comment and/or ask questions.

The following is a summary of the Q & A.

1. **Comment/Question PANYNJ:**
   - When will the study be completed?

   DOT response:
   - The study will be completed by June of next year.

2. **Comment/Question NYPD representative:**
   - At what locations were illegal parking activities (such as commercial vehicles parking overnight, and in driveways and in hydrants) observed?

   DOT response:
   - The community complained about lack of enforcement and illegal activities on residential streets.
   - The locations identified by the community will be shared with NYPD.

No other questions were raised by attendees.

Springfield Gardens/South Jamaica Transportation Study
Notes of Citizen Advisory Group (CAG) Meeting #2
December 11, 2018 @ 1:00 PM

The second Technical Advisory Committee (TAC) meeting for the Springfield Gardens/South Jamaica Transportation Study was scheduled for December 11th at the Queens Borough Commissioner's Office. The purpose of the meeting was to present the existing conditions analysis with issues and findings to the CAG members. Only DOT staff came to the meeting. CB 12 later asked for a presentation at a later executive meeting.

Springfield Gardens/South Jamaica Transportation Study
Notes of Public Meeting #2
May 13, 2019 @ 6:30 PM

The second public meeting for the Springfield Gardens/South Jamaica Transportation Study was held at the Springfield Gardens High School, 143-10 Springfield Boulevard, Queens, NY. The purpose of the meeting was to present the study findings and preliminary recommendations. Attending the meeting were representatives from the offices of: Councilmen Richards, Adams and Miller's, NY Senators Vella and Comrie, JFK Gateway, DCP-Queens, NYMTC/NYCTCC, Queens Chronicle, and CBs 12 and 13.

Michael Griffith, NYCDOT Project Director, welcomed attendees and provided a brief study background. Milorad Ubiparip, Project Manager, then made a PowerPoint presentation of the findings and preliminary recommendations.

The presentation recapped the study goals and objectives, study area boundaries, study process, and provided highlights of the existing and future conditions analysis (demographics, zoning/land use, traffic, trucks/goods movement, pedestrians/bicyclists, safety/crashes, parking and transit issues/findings and preliminary recommendations. The next steps in the study process were discussed and then attendees were invited to comment and/or ask questions. Following are the pertinent comments and questions.

1. **Comment/Question:**
   - Why only 73% of households own one car and why was 2015 used as the most recent data for population estimate.

   DOT Response:
   - DOT explained the data source was Census (decennial) for car vehicle ownership rates and population.

2. **Comments/Questions:**
   - Bus service and on-time performance along Guy R. Brewer Boulevard is unreliable; wait time for a bus often exceed 25 minutes.
   - Increased enforcement is necessary to prevent trucks from using local streets.
   - What is the process used to establish a designated truck route?

   DOT Response:
   - Procedures for truck operation on local streets including "unwritten rules" such as truck use of local streets is legal as long as truck drivers can provide proof for local destination delivery.

3. **Comments/Questions:**
   - Can there be more signs and traffic controls on Guy R Brewer Boulevard, 167th Street, and Farmers Boulevard as they corridors have many accidents?

- Left turn maneuvers are difficult at the Guy R Brewer Boulevard/137th Avenue intersection on the SB approach.

4. Comments/Questions:

- Street lighting is poor along Guy R. Brewer Boulevard all way to Jamaica Avenue where lights are located on one side of roadway and causes darkness in some sections.
- Participants also identified segments along other streets such as 140th, 134th, 132nd, and 129th Avenues; 157th and 160th Streets; and outside the study area along Francis Lewis and Springfield Boulevards, 147th Avenue, and Guy R. Brewer Boulevard at South Conduit Avenue for lighting improvement..
- Can cameras be installed at some sections along Guy R Brewer Boulevard to monitor traffic and provide more safety for pedestrians?

DOT Response:

- Participants were asked to provide specific locations where lighting is insufficient or need to be improved.

5. Comments - CM Miller:

- As many of the narrow two-way streets (30' or less) as possible in South Jamaica should be converted to one-way operation.
- There are safety issues on Baisley Boulevard, 137th Avenue, and at the Farmers/Linden Boulevards intersection where a Leading Pedestrian Interval (LPI) was installed.
- The left turn signal request at the Farmers/Linden Boulevards intersection should be reevaluated and the parking regulations on the NB-SB approach changed.
- Buses along Baisley and Farmers Boulevards are often delayed, up to 25 minutes, due to constant congestion or spillback along these corridors.

DOT Response:

- The Farmers/Linden Boulevard intersection was previously evaluated three times for a left turn lane/phase; it was found infeasible due to other congested approaches and roadway configuration physical limits.
- DOT will revisit the intersection again to look for potential improvements.

6. Comments - District Manager McMillan (CB 13):

- What is the status of EIS for the Belmont Park Development?
- When will there be a public meeting?

DOT Response:

- It will take about two months for various reviews and will continue coordination with Developer/Consultants to address some of DOT comments.

7. Comment Representative from Gateway JFK (IBID):

- How proposed truck routes will be identified/marked/mapped along Baisley Boulevard and 150th Street.

DOT Response:

- Explained the procedure by which truck routes are designated and mapped.

8. **Comment:**
   - Left turn maneuvers are difficult at the Guy R Brewer/Farmers Boulevards intersection; it should be assessed for potential improvement.

9. **Comment/Question:**
   - If an intersection has poor LOS (E and F), what can be done to achieve satisfactory LOS (A-D).

DOT Response:

- There are a number of measures to achieve good LOS including managing of signal timing, parking regulations, striping roadway to increase capacity, etc.

10. **Comment/Question:**
    - Last question came if NYC Transit/network of buses will, as result of recommendations, be affected by implementation.

DOT Response:

- It is necessary to identify needs, land use, and demand for current or future bus services; this can be facilitated with agreement and various discussions.

Appendix

A. Public Transit

B. Recommendations

C. Other Projects/Initiatives

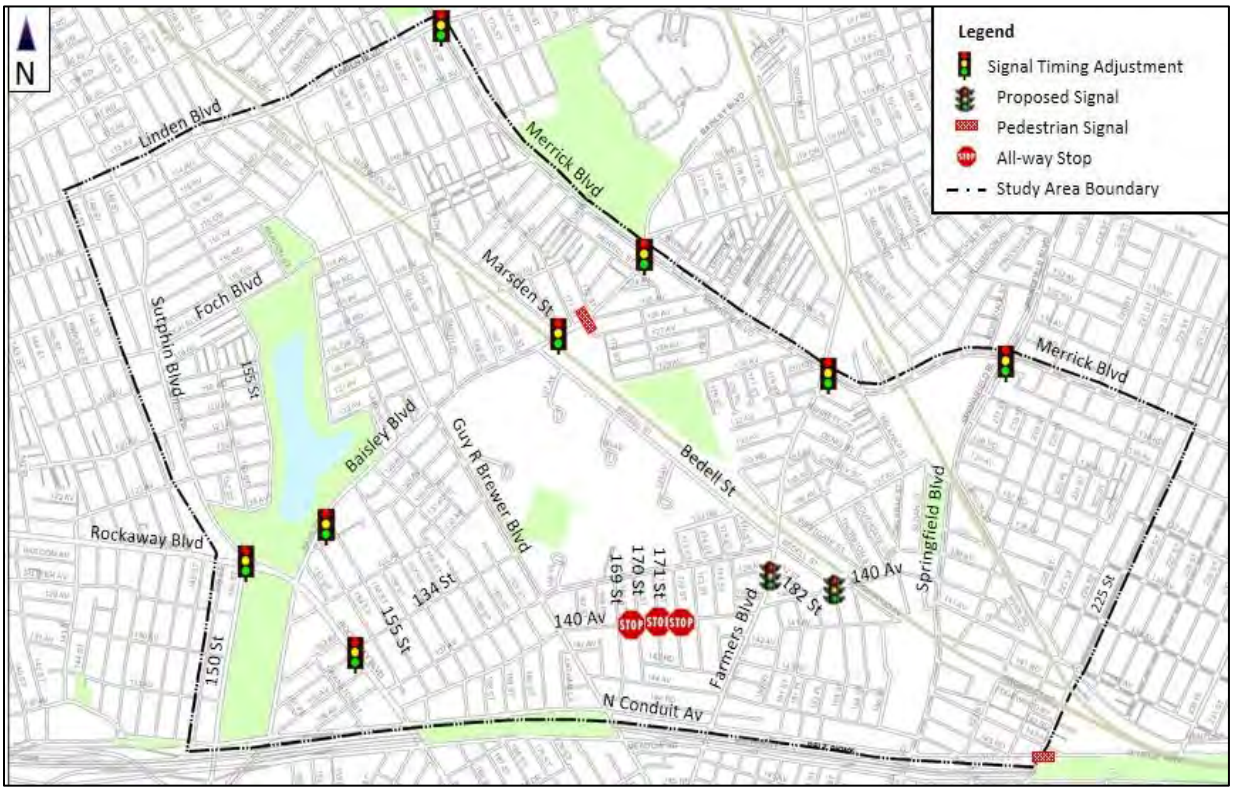
A. Public Transit

Table A1: LIRR Ridership Access Mode to Station
(Westbound by Depart from Station)

Boarding Station	Access Mode	AM Peak	Midday Off Peak	PM Reverse Peak	Overnight Off Peak	Weekday Total	Saturday	Sunday	Weekend Total
Laurelton	Drove alone and parked	438	27	19	0	484	89	71	160
	Carpooled	52	0	0	0	52	23	24	47
	Was dropped off	118	5	6	6	135	42	23	65
	Walked	155	82	31	26	294	159	102	261
	Bus	0	0	0	0	0	0	5	5
	Subway	3	9	0	0	12	0	0	0
	Taxi	7	0	3	0	10	0	0	0
	Total Laurelton	**773**	123	59	32	**987**	313	225	**538**
Locust Manor	Drove alone and parked	118	5	13	0	136	9	27	36
	Carpooled	13	0	0	0	13	9	0	9
	Was dropped off	56	0	5	0	61	33	29	62
	Walked	312	129	36	30	507	319	196	515
	Bus	10	13	5	0	28	18	5	23
	Bike	0	0	0	0	0	0	5	5
	Total Locust Manor	**509**	147	59	30	**745**	388	262	**650**

B. Recommendations

Exhibit E1: Proposed Locations for Traffic Control Changes



C. Other Projects/Initiatives (by DOT)

Exhibit C1: Sumary of Other Projects/Initiatives Commenced by DOT

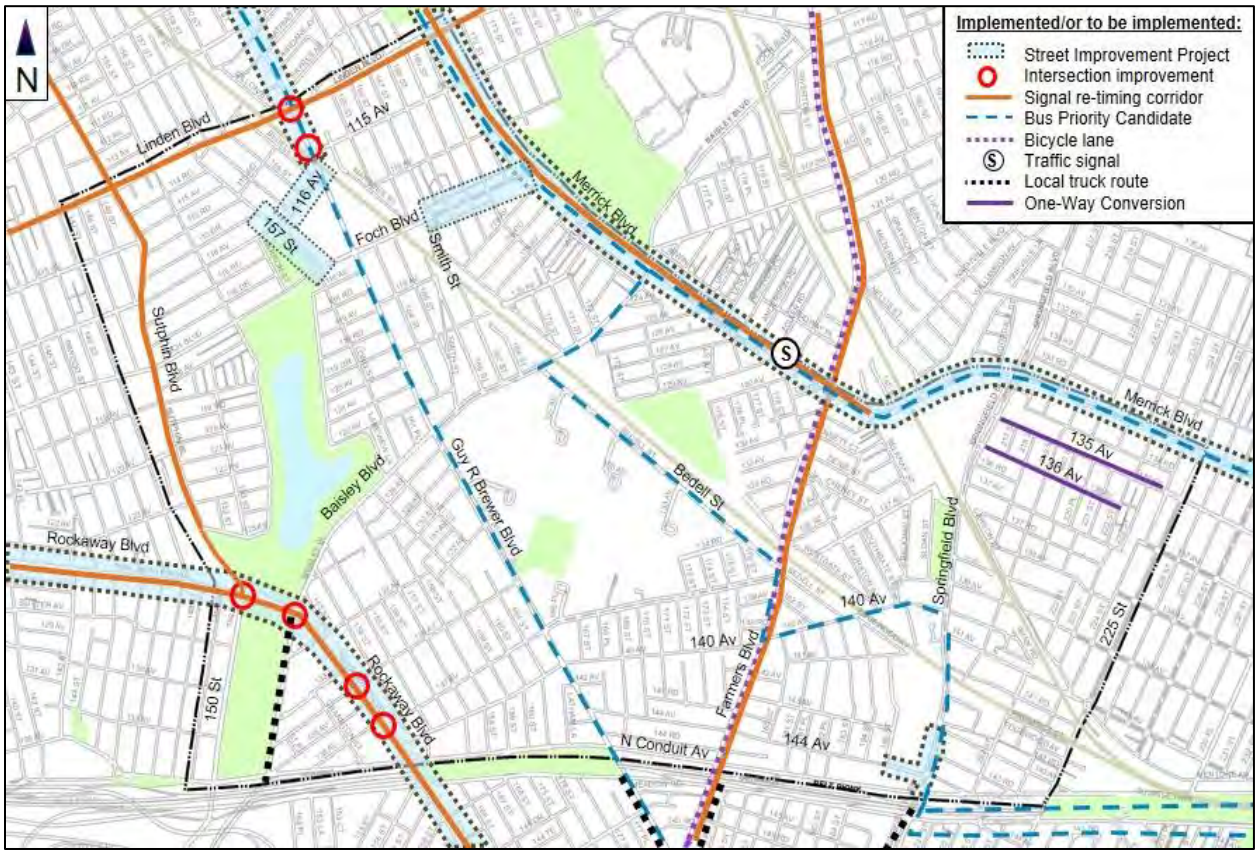


Exhibit C2: Rockaway Blvd Safety Improvements (from Sutphin Blvd to North Conduit Ave)

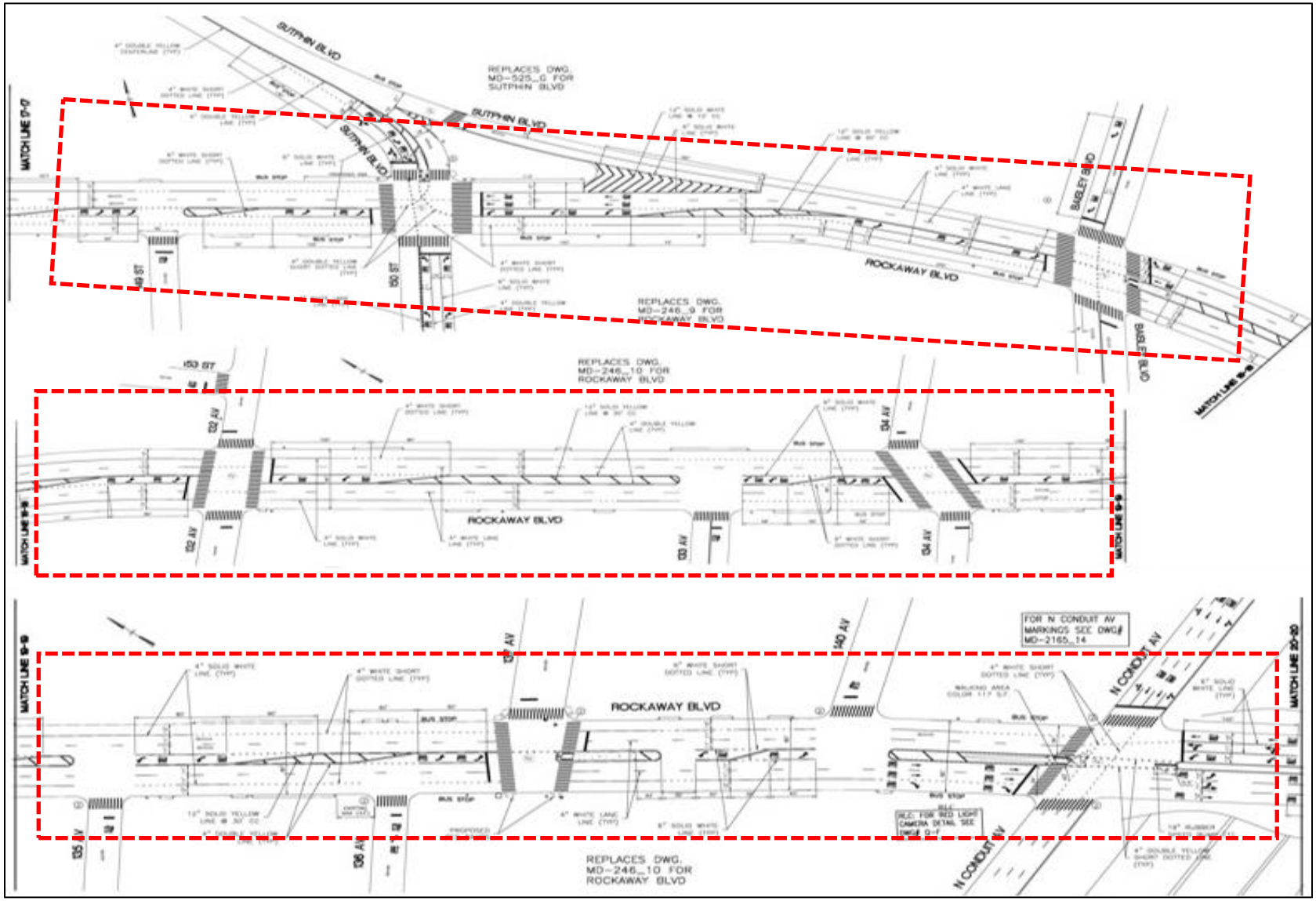


Exhibit C3: Proposed Improvements on Foch Blvd

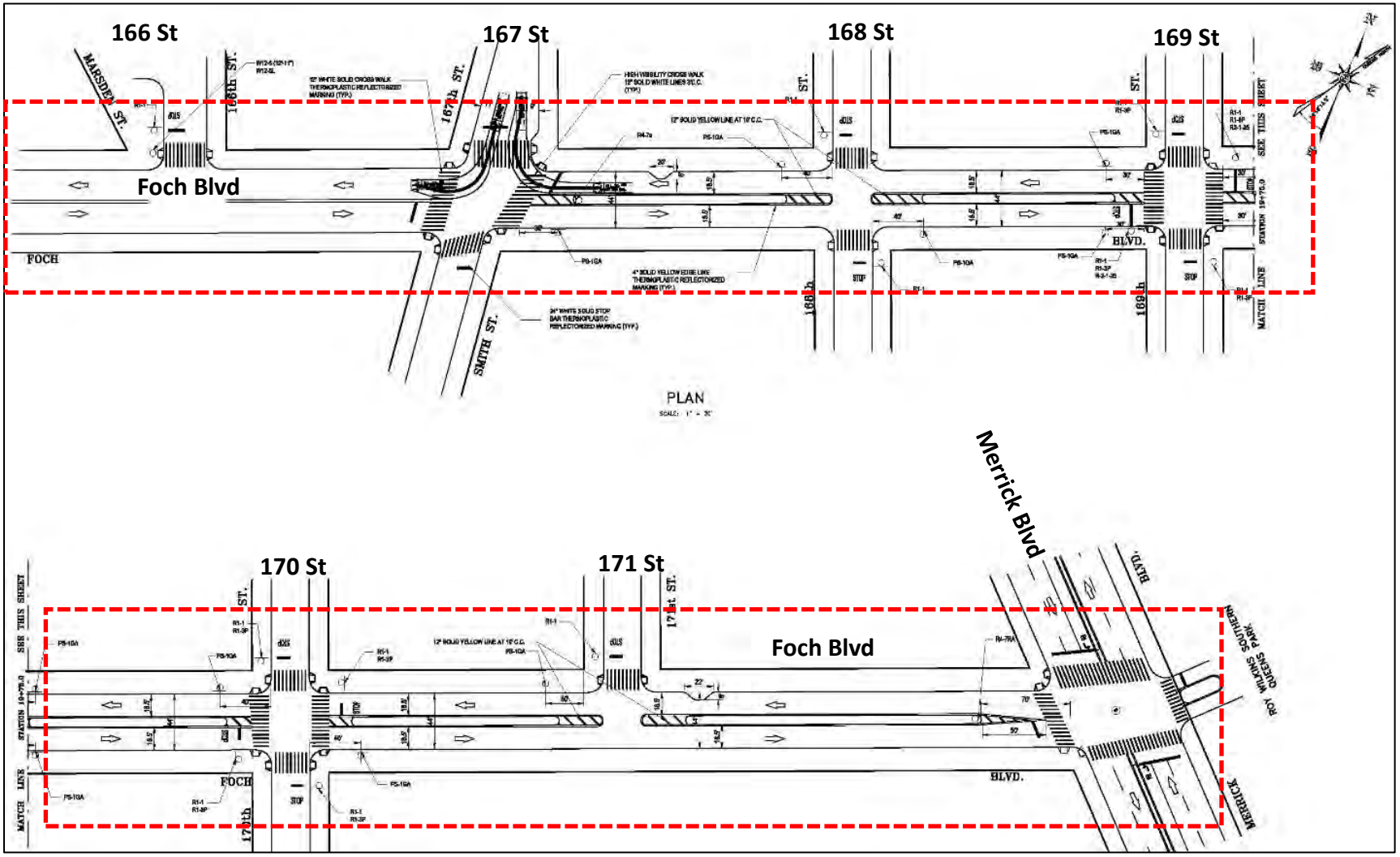
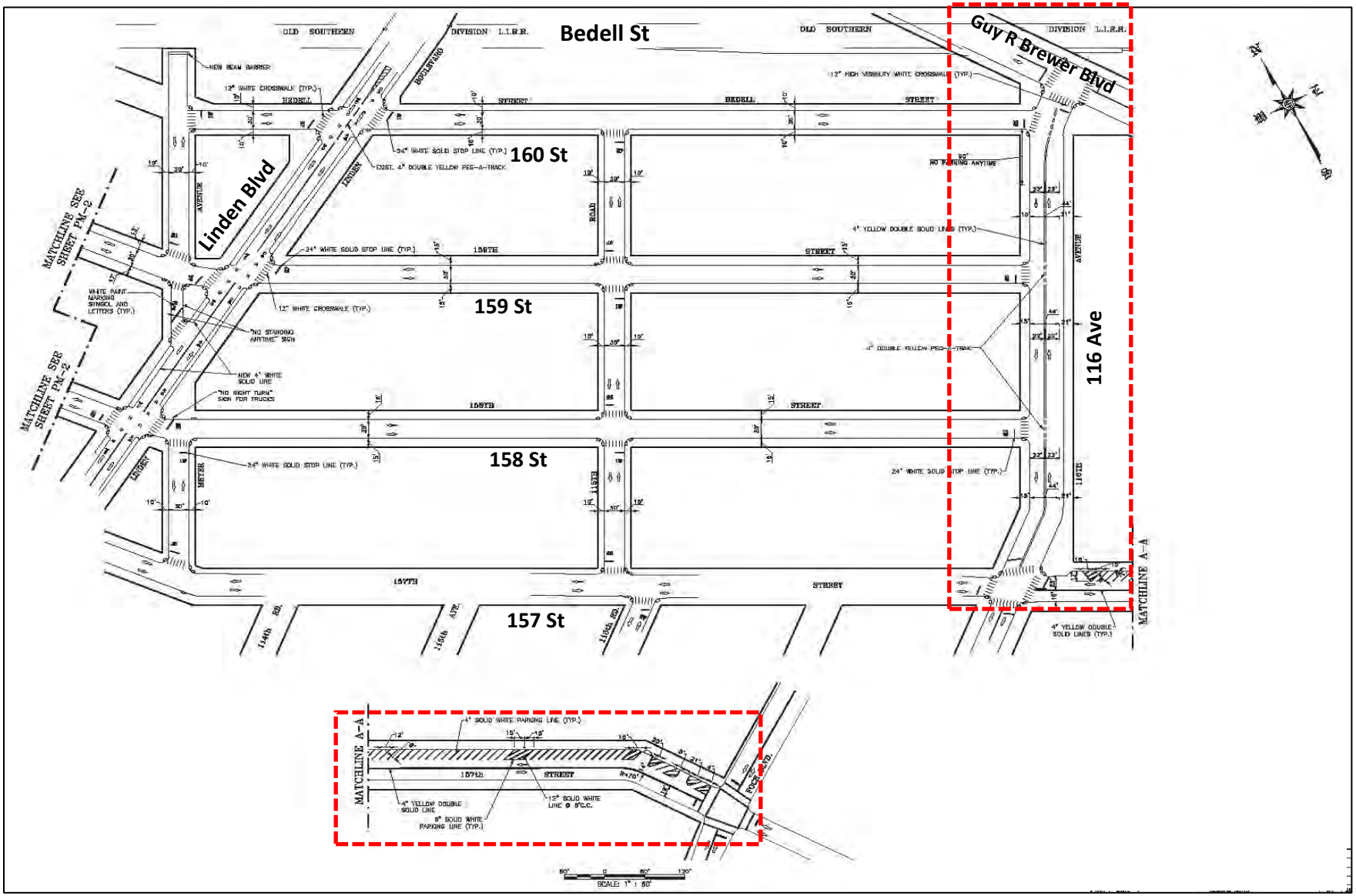


Exhibit C4: South Jamaica Streets Reconstruction (Project ID: HWQ121B3)



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