

Springfield Gardens/JFK Transportation Study



EXISTING CONDITIONS
PTDT15D00.G02



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NYMTC
NEW YORK METROPOLITAN
TRANSPORTATION COUNCIL

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Springfield Gardens/JFK Transportation Study

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1.0 INTRODUCTION

The Springfield Gardens/JFK Transportation Study is being conducted in response to growing traffic congestion and requests from the community to address issues related to traffic circulation, trucks parking and safety. The area, which is located in southeast Queens, is close to the Nassau County border and adjacent to the JFK International Airport. See Figure 1-1. The area is directly impacted by JFK air cargo activity and several major regional shopping centers. JFK Air Cargo industry is a significant driver of New York City's economy. It is the largest international gateway for freight transport. There were approximately 4,000 truck trips traveling to/from JFK Airport and the Springfield Gardens area over a three-month period as other studies using GPS records have sighted. Twenty five thousand different commodities (about 1.4 million tons of freight) are shipped to/from JFK Airport by the largest national/international carriers using the surrounding regional transportation facilities such as the Van Wyck and Nassau Expressways, Long Island Expressway, North and South Conduit Avenues/Sunrise Highway. These facilities provide regional and local access to the Airport and study area. Springfield Gardens reportedly has the highest concentration of warehousing facilities near to JFK due to the large area zoned for industrial use. These industrial/warehousing uses attract significant truck traffic on the surrounding street network contributing to congestion and safety issues which are major concerns for the community.

The study seeks to address traffic and transportation problems in the area and develop recommendations to reduce congestion, improve traffic circulation, manage truck/freight mobility, and enhance safety for all street users while providing a better quality of life for residents.

Figure 1-1: Study Area in Regional Setting

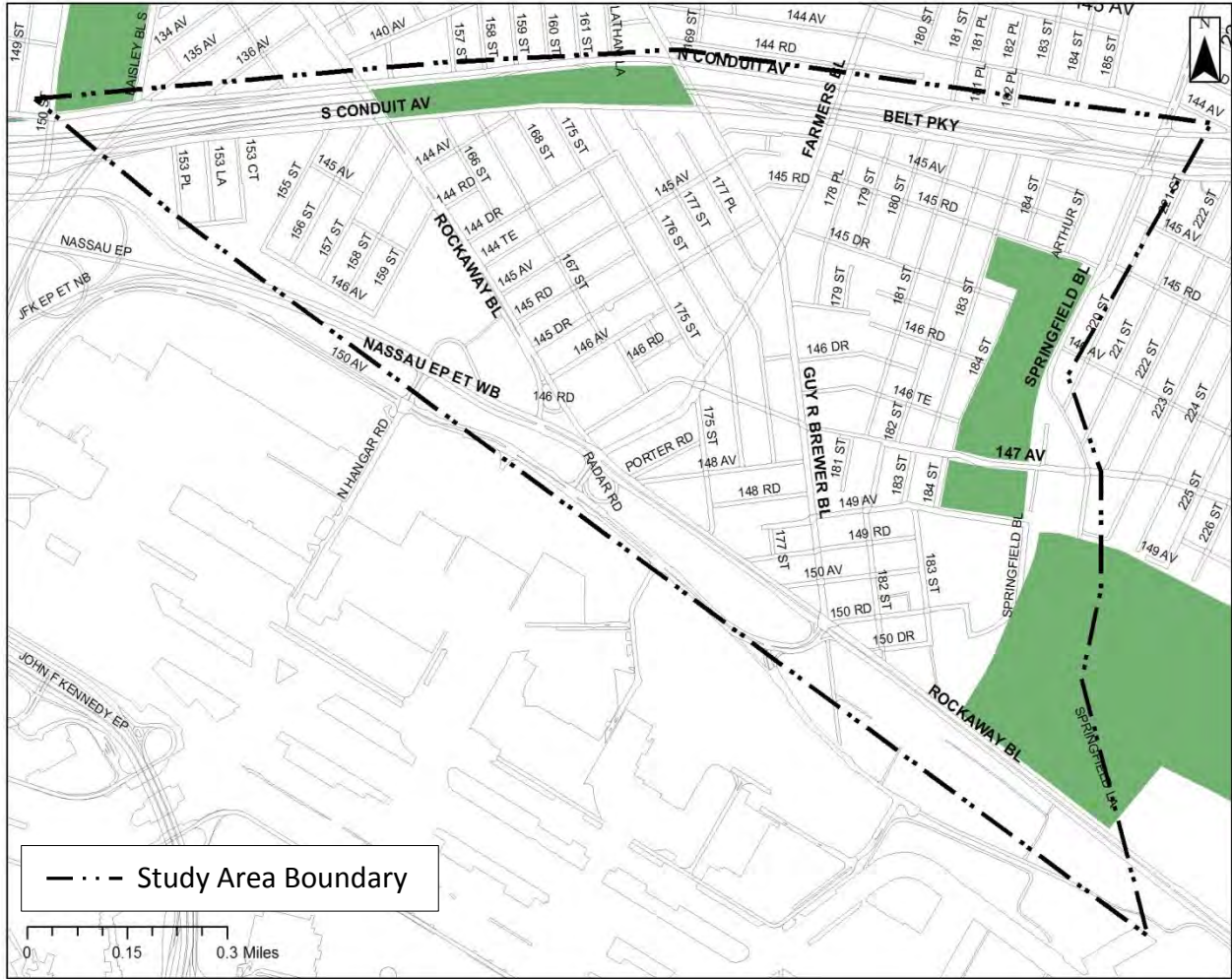


1.1 The Study Area

The triangular study, which is in Queens’s Community District 13, is bounded by North Conduit Avenue to the north, the Nassau Expressway/Rockaway Boulevard/JFK International Airport to the south, and Springfield Boulevard to the east. It is home to many industrial uses and other significant trip generating facilities such as a Department of Motor Vehicles, the International Air Cargo (IAC) facility, MTA Bus Depot, the FAA building and many hotels. These uses attract significant traffic (vehicle trips) contributing to congestion and traffic circulation problems during the various peak hours on the main arterials (North Conduit Avenue, Nassau Expressway, Rockaway Boulevard, Guy Brewer Boulevard and Farmers Boulevard).

See Figure 1-2.

Figure 1-2: Study Area Boundaries



1.2 Goals and Objectives

The study is to relieve traffic congestion and reduce the impact of truck activity on the community while enhancing safety.

The study's main objectives are:

- To assess the existing and future traffic conditions;
- To develop recommendations to address community concerns and enhance the quality of life of residents and visitors; and
- To coordinate various transportation and planning initiatives in the study area.

1.3 Project Organization and Methodology

The study will examine both existing and future traffic and transportation conditions by analyzing the following: Demographics, Land Use and Zoning, Traffic and Transportation, Trucks and Goods Movement, Pedestrians and Bicycles, Crashes and Safety, Parking, and Public Transportation. The study involves the following tasks to help in problem identification and the development of effective solutions:

Task 1 - Project Initiation and Scope of Work

Establish Technical Advisory Committee (TAC) and develop a detailed work program that outlines tasks, subtasks, and products.

Task 2 - Literature Search

Identify relevant studies of projects in the study area.

Task 3 - Data Collection and Identification of Issues

Collect data for demographic, land use and zoning, traffic, parking, pedestrians and bicycles, transit, crashes, and goods movements to assess travel and traffic conditions.

Task 4 - Public Participation

Create a Technical Advisory Committee and conduct public meetings to insure involvement of community stakeholders.

Task 5 - Existing Conditions Analysis

Analyze the existing traffic conditions (2014).

Task 6 - Future Conditions Analysis

Analyze projected future conditions (2024).

Task 7 - Prepare a Draft report for Existing and Future Conditions

Task 8 - Develop and Evaluate Improvement Measures

Task 9 - Prepare Draft/Final Report

Task 10 - Develop Implementation Plan

2.0 DEMOGRAPHICS AND SOCIO-ECONOMIC CHARACTERISTICS

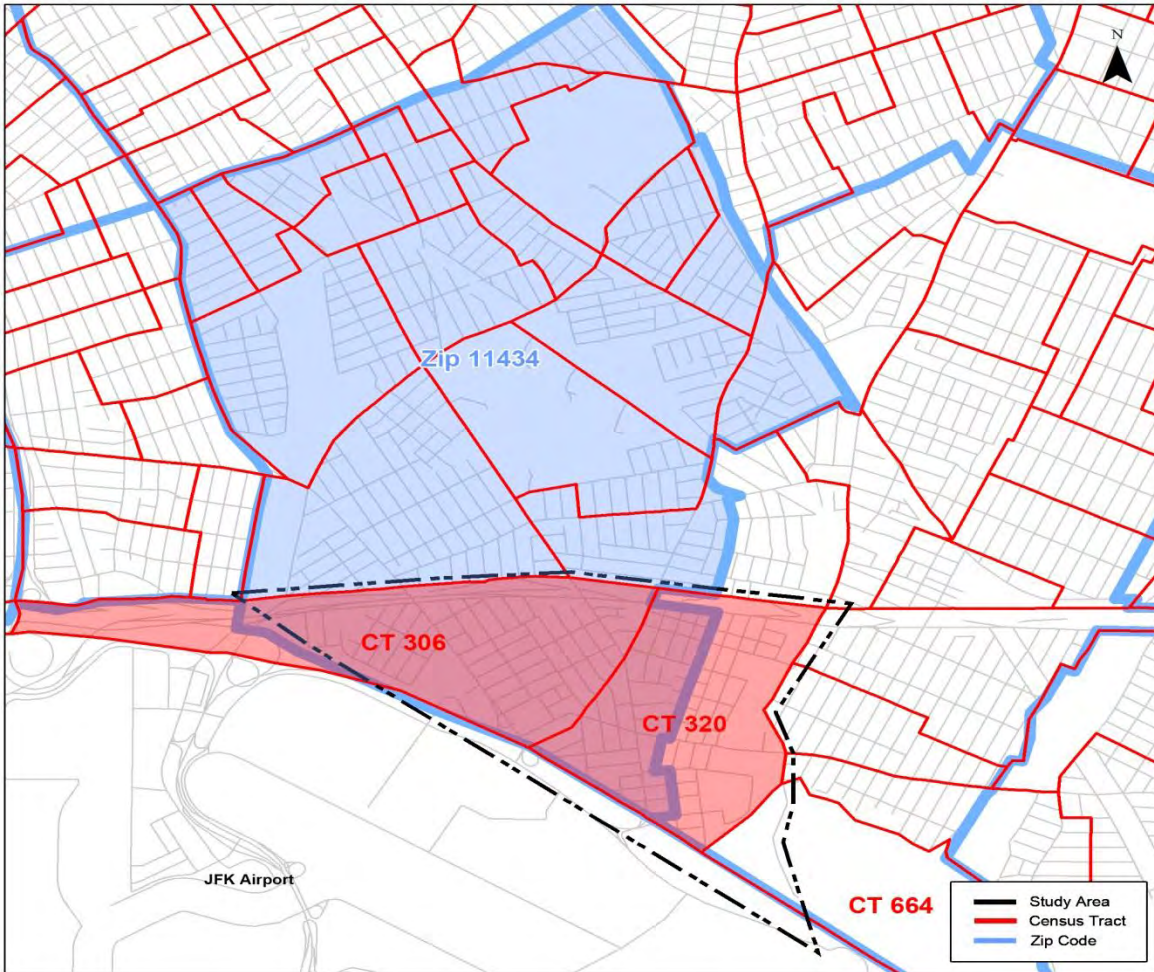
2.1 Introduction

The demographic analysis of the study area examines population changes 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 relies on data from New York Metropolitan Transportation Council (NYMTC), New York City Department of City Planning (NYCDCP) and data compiled by the United States Department of Commerce – Bureau of Census. Data was collected and analyzed for 2000 and 2010 and projections were made for 2020. To better assess the population dynamics of the study area, comparisons were made with the Borough of Queens and New York City, where applicable.

The approximately 1.1 square mile area consists of three census tracts (#306, #320, and #664) in southern Queens Community District 13. While part of Census tract #664 lies within the study area and part of census tract #306 lies outside of the study area, those sections of land are unoccupied. The analysis excluded tract #664 and included the whole of tract #306.

Because of the small size of the study area, zip code 11434 was used to determine median household income, vehicle ownership and journey to work data from the American Community Survey that requires a larger sample size for an acceptable margin of error. Figure 2-1 shows the Census tracts and Zip code 11434.

Figure 2-1: Census Tracts and Zip Codes



2.2 Population Trends

The study area population in 2010 was 8,858 which is a 4% increase from 2000 (8,494).

The population in households was 7,754 with 1,104 residents in group quarters. Census tract #306 increased approximately 300 residents over the last decade while Census tract #320 increased by approximately 60 residents. The study area has a population density of 8,858 persons/sq. mile which is far less than that of Queens (20,420 persons/sq. mile) in 2010. The 2020 population was projected to be 9,313 relied on NYCDP population projections for Queens. See Table 2-1.

Table 2-1: Population Trends

Census Year	Study Area	% Change	Queens	% Change	NYC	% Change
2000	8,494		2,229,379		8,008,278	
2010	8,858	4%	2,230,722	0%	8,175,133	2%
*2020	9,313	5%	2,350,200	5%	8,692,564	6%

*projected

2.3 Household Characteristics

In 2010 there were approximately 2,328 households in the study area with an average household size of 3.33. The median household size in the study area is larger than both Queens and NYC. Over the last decade household size remained relatively constant, a trend that is likely to continue. See Table 2-2.

Table 2-2: Household Size

Census Year	Study Area	% Change	Queens	% Change	NYC	% Change
2000	3.30		2.81		2.59	
2010	3.33	1%	2.82	0%	2.57	0%
*2020	3.33	0%	2.82	0%	2.57	0%

*projected

2.4 Median Household Income

The 2010 median household income was \$59,229 which was larger than Queens and NYC. It grew by 37% from 2000 faster than Queens 33% and NYC 34%. Similar growth trends for two decades were used to project the 2020 median household incomes.

See Table 2-3.

Table 2-3: Median Household Income

Census Year	**Study Area	% Change	Queens	% Change	NYC	% Change
2000	\$ 43,133		\$ 42,439		\$ 38,293	
2010	\$ 59,229	37%	\$ 56,406	33%	\$ 51,270	34%
*2020	\$ 81,144	37%	\$ 75,020	33%	\$ 68,702	34%

*projected, **Zip Code 11434

2.5 Vehicle Ownership

Vehicle ownership in the study area are higher compared to that of Queens and NYC with approximately 26% of the households owning no vehicle, nearly 43% owning one vehicle and 31% owning 2 or more vehicles in 2010. Number of household with at the least 2 vehicles increased by 7% from 2000 to 2010, as shown in Table 2-4.

Table 2-4: Vehicles Ownership/Households

# of Vehicles	**Study Area		Queens		NYC		
	2000	Total	% of Total	Total	% of Total	Total	% of Total
Total Households		19,967		782,664		3,021,588	
No vehicle available		6,419	32%	295,049	38%	1,682,946	56%
1 vehicle available		8,868	44%	321,337	41%	955,165	32%
2 vehicles available		3,734	19%	132,217	17%	305,267	10%
3 vehicles available		946	5%	34,061	4%	78,210	3%
	2010	Total	% of Total	Total	% of Total	Total	% of Total
Total Households		20,120		773,130		3,049,978	
No vehicle available		5,270	26%	283,440	37%	1,679,025	55%
1 vehicle available		8,610	43%	311,198	40%	955,187	31%
2 vehicles available		5,025	25%	137,354	18%	325,755	11%
3+ vehicles available		1,215	6%	41,138	5%	90,011	3%
	*2020	Total	% of Total	Total	% of Total	Total	% of Total
Total Households		21,126		839,782		3,304,528	
No vehicle available		4,648	22%	298,207	36%	1,774,532	54%
1 vehicle available		9,295	44%	327,515	39%	991,358	30%
2 vehicles available		5,915	28%	159,559	19%	429,589	13%
3+ vehicles available		1,268	6%	54,502	6%	109,049	3%

* Projected, ** Zip Code 11434

2.6 Journey to Work by Mode

The study area 2010 vehicle mode share of 49% was much higher than Queens 39% and NYC 28%. While vehicle mode share decreased between 2000 and 2010 from 53% to 49%, this is largely due to a decrease in carpooling as drove alone increased from 41% to 44%. Public Transportation mode share was lower in the study area with 44% while Queens had 51% and NYC 55%. The study area had a high bus share but a low subway share compared to Queens and NYC. Walking and working from home both represented approximately 3% of the mode share. Table 2-5 shows the Journey to Work by Mode data.

Table 2-5: Journey to Work by Mode

Journey to Work - Mode	**Study Area			Queens			NYC		
	2000	2010	*2020	2000	2010	*2020	2000	2010	*2020
Workers 16 and over	22,806	26,608	27,938	931,709	1,035,828	1,151,582	3,192,070	3,658,527	4,193,147
Car, truck, or van	52.6%	49.0%	48.0%	44.5%	39.1%	37.0%	32.9%	28.0%	28.0%
<i>Drove alone</i>	41.0%	43.7%	45.0%	34.3%	32.1%	31.0%	24.9%	22.8%	23.0%
<i>Carpooled</i>	11.6%	5.3%	3.0%	10.2%	7.0%	6.0%	8.0%	5.2%	5.0%
Public transportation	42.3%	44.1%	44.4%	47.4%	51.3%	52.8%	52.8%	55.4%	54.9%
<i>Bus or trolley bus</i>	19.9%	18.0%	17.0%	10.2%	11.8%	12.5%	11.6%	12.4%	10.9%
<i>Subway or elevated</i>	18.6%	21.8%	22.0%	34.3%	37.0%	37.0%	37.6%	40.9%	42.0%
<i>Railroad</i>	3.0%	4.3%	4.9%	2.2%	2.5%	2.7%	1.6%	1.8%	2.0%
<i>Ferryboat</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4%	0.2%	20.0%
<i>Taxicab</i>	0.7%	0.4%	0.5%	0.7%	0.4%	60.0%	1.7%	1.1%	1.0%
Motorcycle	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	10.0%
Bicycle	0.1%	0.0%	0.4%	0.3%	0.4%	1.0%	0.5%	0.7%	1.5%
Walked	3.0%	3.3%	3.4%	5.7%	5.8%	5.7%	10.4%	10.3%	10.0%
Other means	0.2%	0.3%	0.2%	0.4%	0.5%	0.5%	0.5%	0.5%	50.0%
Worked at home	1.8%	3.0%	3.5%	1.8%	2.5%	3.0%	2.9%	3.9%	4.0%

*projected, **Zip Code 11434

3.0 ZONING AND LAND USE

3.1 Zoning

The existing zoning which permits manufacturing and warehousing in the area has land uses that attract significant truck trips. Since each land use has different trip generating characteristics a detailed physical survey was done. DCP Zoning and Land Use maps and NYC Zoning resolution were also used in the land use analysis. There are three basic zoning districts in New York City - residential (R), Commercial (C), and Manufacturing (M), as outlined in the NYCDCP Zoning Handbook.

The zoning districts dictate the types of uses and densities that can be developed. In addition to residential and manufacturing uses there are also other uses related to commercial, recreational and institutional activities. Figure 3-1 shows the existing zoning districts in the study area.

Figure 3-1: Existing Zoning



There are three residential districts within the study area: R3-2, R3A, and R3-1 and one manufacturing district M1-1. The study area is equally divided between these two districts, where the residential area is located the north of 147th Avenue between Rockaway Boulevard and Springfield Boulevard, while manufacturing districts are located south of 147th Avenue and west Rockaway Boulevard, between South Conduit Avenue and Nassau Expressway. The commercial activities are concentrated mainly along major corridors – Rockaway Boulevard, Farmers Boulevard, and Guy R. Brewer Boulevard consisting of many food stores, restaurants, retail/sales stores, rentals, automobile/truck repair and body shop services. The residential district represents approximately 50% of the study area.

There is a M1-1 manufacturing district mapped in the south-western sections of the study area. This permits light industries such as warehousing, air-cargo shipments, carriers, repair shops, storages and automobile uses. The manufacturing district represents approximately a half of the study area.

3.2 Land Use

The Study Area land uses include residential (one-two family homes/luxury condominiums), commercial retail, warehouses/international air cargo facilities, transportation, recreational, educational and religious institutions amongst others. Numerous land uses in and around the study area are major trip generators contributing to the area's traffic. JFK International Airport which borders the study area along Nassau Expressway/Rockaway Boulevard represents one of the largest trip generators in the country that attracts millions of travelers/visitors every year to the area. Corridors such as the Belt Parkway/Conduit Avenues, Rockaway Boulevard, and Nassau Expressway provide the most direct routes to the Airport either by passenger cars, taxis or other car services. There are numerous air-cargo and warehouse facilities located in the study area that serve various Airport needs. Every day hundreds of trucks/tractor trailers use roads throughout the study area to bring freight to and from JFK Airport. Several hotels are located in the study area that serves travelers to/from JFK Airport.

There are two predominant land uses in the study area – residential and manufacturing. The north-eastern half of the study area is predominantly residential with one and two family homes and small mixed residential/commercial uses along major corridors such as Rockaway, Guy R. Brewer, and Farmers Boulevards. The south-western parts of the study area are zoned only for the manufacturing uses. Large warehouses are clustered within two areas: the south-eastern located between Rockaway Boulevard and Idlewild Park and south of 147th Avenue, and the north-western located between Nassau Expressway and 157th Street and south of South Conduit Avenue. Figure 3-3 shows the general land use and identifies some specific uses such as hotels, MTA Bus Depot, FAA and DMV buildings.

Figure 3-3: Land Use



The residential area consisting mainly of single-family dwellings is concentrated in the northeast section of the study area, east of Rockaway Boulevard and between South Conduit Avenue and 147th Avenue. There are also newly built condominium complexes (Empire & Liberty House Luxury Apartments) located between Guy Brewer Boulevard and 176th Street, adjacent to South Conduit Avenue.

There are two public schools in the study area – J.H.S. 251 and P.S. 52. Junior High School 251 is located in the northeast corner of the study area on Springfield Boulevard between South Conduit Avenue and 145th Road, and P.S. 52 is located on Guy R. Brewer Boulevard between 146th Drive and 146th Terrace. The Springfield High School is located one block north of North Conduit Avenue on Springfield Boulevard (outside of the study area).

Land uses within the residential area include also community facilities such as the Birch Family Services located on Farmers Blvd at 145th Avenue, the Eihab Human Services located on South Conduit Avenue at 175th Street, and the Homes for the Homeless located on 175th Street between 149th Avenue and 148th Road.



Typical one and two family homes



New Luxury Condominiums



P.S. 251 at Springfield Blvd



P.S. 52 at Guy Brewer Blvd



Birch Family Services at Farmers Blvd



Eihab Human Services at S. Conduit Ave

The following are some of the buildings/activities that generate a significant number of vehicle trips.

FAA Building & DMV Office:

The US Federal Aviation Administration (FAA) building located on Rockaway Boulevard with 730 parking spaces and the Springfield Gardens Department of Motor Vehicles (DMV) located on Rockaway Boulevard/148th Avenue with 137 parking spaces attract significant number of vehicle trips during the AM and PM peak hours.



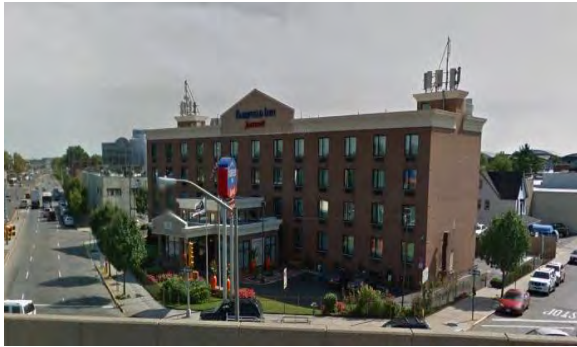
US Federal Aviation Administration (FAA) Building



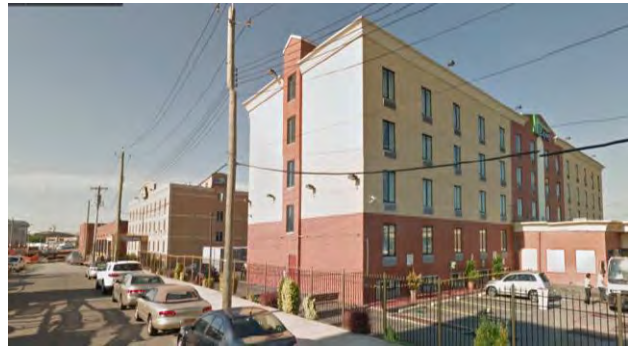
Springfield Gardens - DMV Office

Hotels:

A significant number of new hotels have been constructed recently that also contribute to traffic congestion in the area. There are twenty-four hotels conveniently located in the vicinity of Springfield Gardens, near JFK International Airport. These hotels are concentrated surrounding the Belt Parkway, in the western end of the study area and in the east around Rockaway Boulevard south of S. Conduit Avenue. In the study area there are six of the ten hotels (JFK Inn, Days Inn, Comfort Inn, Holiday Inn Express, Fairfield Inn and Best Western JFK Airport Hotel). Another four hotels (Airport Motor Inn, Howard Johnson Express Inn, Sleep Inn JFK Airport, and Garden Inn & Suites) are located outside of the study area, north of the Belt Parkway. These hotels provide various services to guests including private parking and a free shuttle service directly to the JFK terminals 24 hours a day. The room capacity of six hotels is more than 500 rooms with a total parking capacity of 220 parking spaces. The delivery needs for hotels are provided by various truck companies which also contribute to traffic in the area. Hotel guests travel to other attractions nearby such as Aqueduct Racetrack, Resort World Casino, Green Acres Mall, Belmond Park, Jamaica Center for Arts and Learning, King Manor Museum, Rufus King Park, and City Beaches.



Fairview Inn NY JFK at Rockaway Blvd



Holiday Inn Express & Days Inn at 153rd Ln

Comercial/Mixed:

There are several commercial and mixed uses/developments concentrated mainly along major corridors (Rockaway, Guy R. Brewer and Farmers Boulevards). These include various retail establishments, food stores, delis, restaurants, supermarkets, laundromats, banks, gas stations, auto/truck sales, repairs and body shops.



McDonalds at Rockaway Blvd

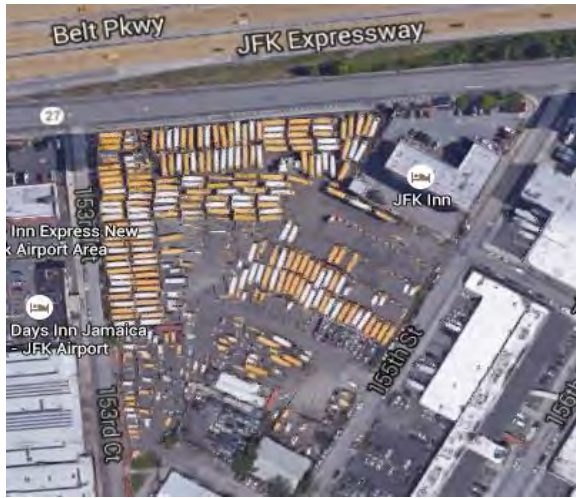


Walgreens/retail stores
at Farmers/Guy Brewer Blvds

Transportation Related Uses

There are related transportation uses such as parking lots and air-cargo facilities, DSNY/MTA and school bus garages, NYPD Auto Pound, and loading and docking stations and layover areas. The following are examples of such uses.

1. *School Bus Facilities:* There are two sites used for school buses parking. One located at 155th Street, adjacent to South Conduit Avenue, with a parking capacity of 300 buses and 50 cars. The second site is located on Eastern Road, adjacent to Rockaway Boulevard with a capacity for more than 250 buses.



School Bus Garage at 155th Street



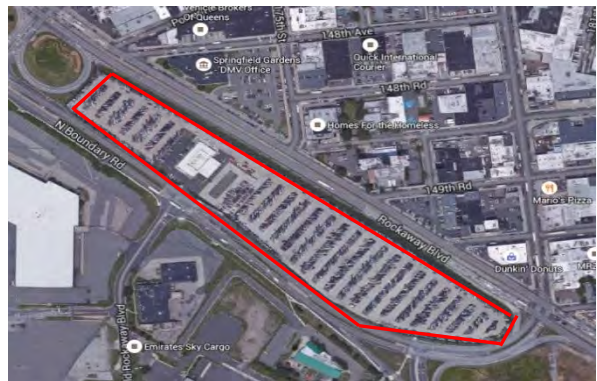
School bus parking lot at Eastern Road

2. *DSNY Facility:* The NYC Department of Sanitation garage for servicing and maintenance of trucks along with two parking lots for trucks and automobiles is located south of South Conduit Avenue between 146th Avenue and 153rd Lane. The garage has also seven docking bays for trucks use.
3. *Air Park JFK:* A large parking facility serving JFK Airport has the capacity of more than 300 parking spaces for cars. The facility is located in the northwestern section of the study area, adjacent to South Conduit Avenue.
4. *MTA – BUS JFK DEPOT:* A MTA Bus Depot is located on Rockaway Boulevard between 147th Avenue and Farmers Boulevard. This facility is used by hundreds of buses for layover and servicing. Most buses leave before 7:00 AM or before 4:00 PM and return after peak hours (AM/PM) ends. The buses are parked overnight and during off-peak hours inside or close to the Depot.



MTA - JFK Bus Depot at Rockaway Blvd (b/w Farmers Blvd & 146th Ave)

5. *NYPD Auto Pound*: The newly created NYPD Auto Pound of the Property Clerk Division acomodates more than 1,000 cars. The facility is located on N. Boundary Road bordering Rockaway Boulevard.



NYPD Auto Pound (b/w Rockaway Blvd & N. Boundary Road)

6. *Truck Rental Facilities*: There are three truck rental companies in the study area: **Penske** located on Rockaway Boulevard and 146th Avenue; **Budget** located on Guy Brewer Boulevard and 178th Place, and “**Gabrielli truck sales**” located in the northwestern section of the study area. The largest of three rental facilities “Gabrieli truck sales” accommodates more than 100 trucks and 200 cars.

(a) **Manufacturing District**

The study area has the highest off-airport concentration of air-cargo facilities in NYC. A part of the study area consists mainly of warehouses and distribution centers contributing to the significant truck traffic in the area. See below maps.

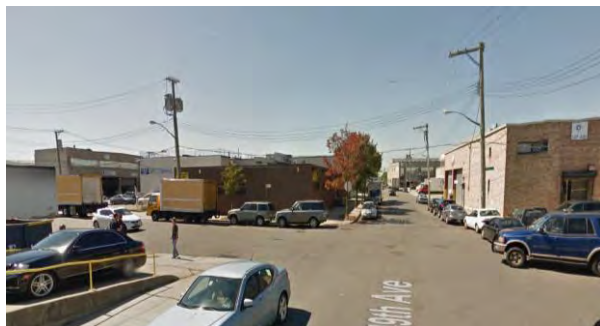


Western industrial area:
(b/w S. Conduit Ave & Nassau Expy)



Eastern industrial area:
(b/w Rockaway Blvd & 147th Ave)

Most large warehouses include docking stations/layovers for truck loading and unloading in addition to truck and cars parking. A variety of goods are distributed using large containers. Pictures below show industrial area warehouses.



Industrial area with warehouses



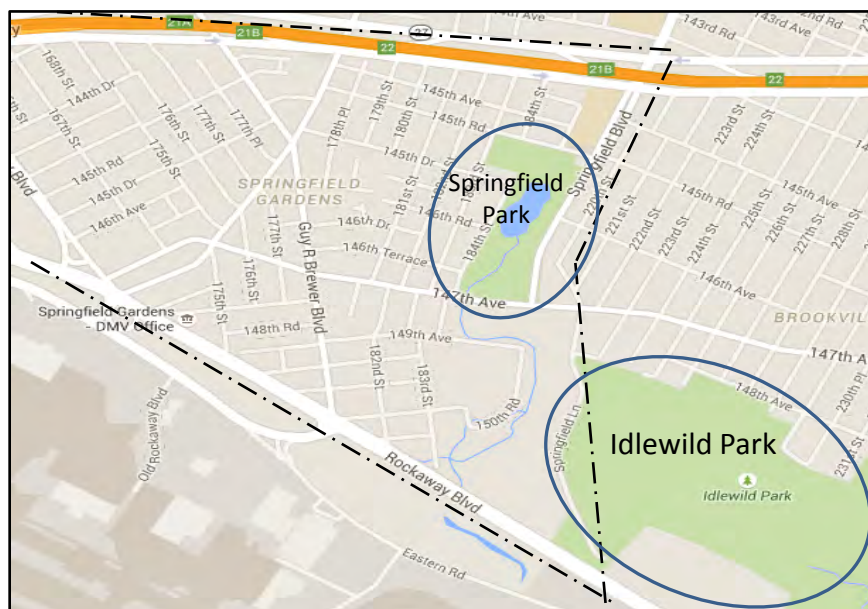
Warehouses with docking bays and truck activities

(b) Industrial Use

Industrial uses in the area accommodates the businesses - the UPS Store, Dynasty Express Int. Corp., Maribel International, NAI Long Island, Express Line USA Inc., Garden Lights Corp, Pilot Freight Services, LLK Logistics, Seagis/Assoc. Global Systems, Perishable Center JFK, Amana Express, IFS/BNX Shipping Inc., Excel, Toll Global Forwarding, Aramex, Triport International Aircraft, MRZ Trucking, NMC Logistics, GSE Direct, Quick International Courier, Aramex International Courier and WorldNet International.

Recreational Areas/Parks:

There are two recreational parks in the study area: Springfield Park located in the north-eastern section of the study area, between Springfield Boulevard and 184th Street and Idlewild Park mainly outside of the study area as seen below.

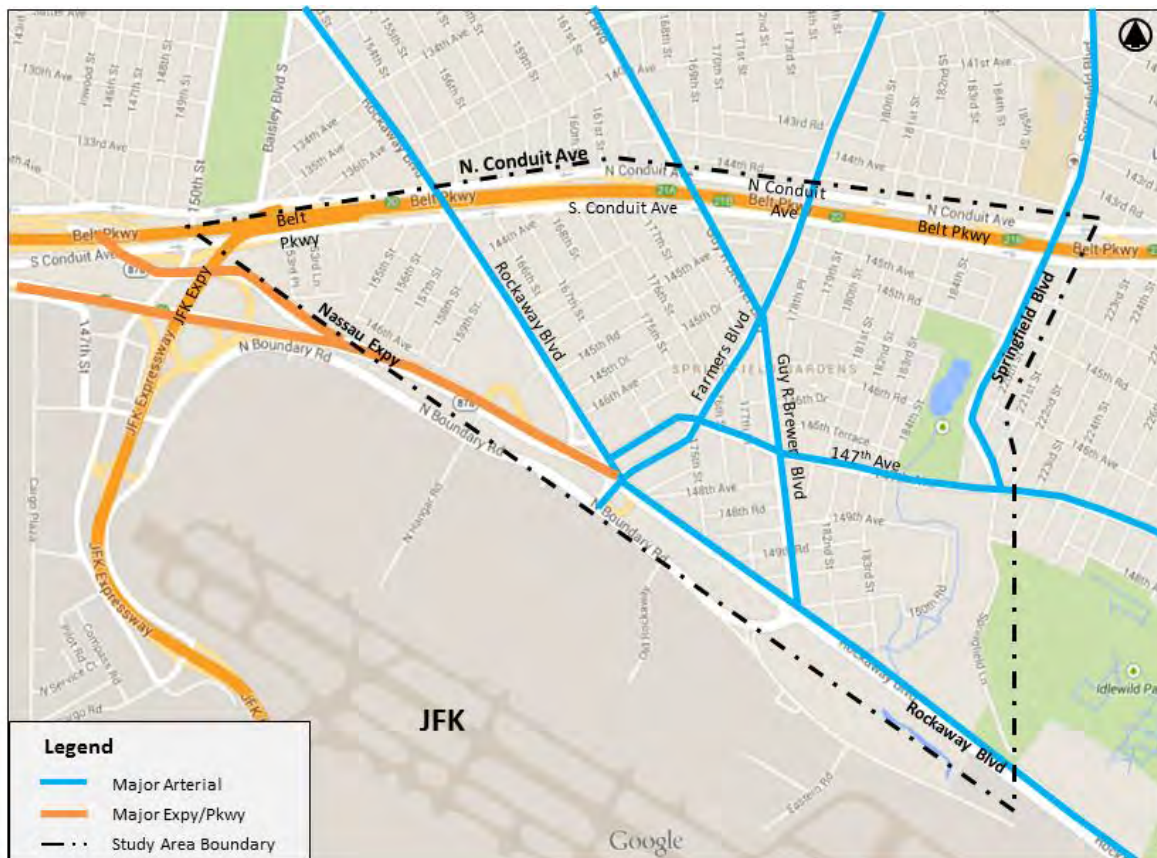


4.0 TRAFFIC AND TRANSPORTATION

4.1 Introduction

The Springfield Gardens study area has several major trip generating activities of commercial and industrial nature. Similar activities exist outside in relatively close proximity. The neighboring JFK Airport attracts significant traffic including heavy truck-trailers that can contribute to congestion and circulation problems on the area's arterials (North South Conduit Avenue, South Conduit Avenue, Nassau Expressway/Rockaway Boulevard, Farmers Boulevard, Guy Brewer Boulevard, 147th Avenue, and Springfield Boulevard). Figure 4-1 shows major arterials in the study area.

Figure 4-1: Major Arterials



4.2 Street Network System

The triangularly study area can be accessed via Rockaway Boulevard, Guy Brewer Boulevard, Farmers Boulevard and Springfield Boulevard from the north or south, via Belt Parkway/Conduit Avenues and JFK/Nassau Expressway from the west, and via 147th Avenue from the east. The major north-south corridors are:

Rockaway Boulevard is the longest north/south corridor in the study area, which is the major arterial providing access to JFK Airport and Five Towns shopping center. It crosses the North and South Conduit Avenues under the Belt Parkway into Ozone Park. It is approximately 80 feet wide with three travel lanes per direction separated by raised median and no parking on both sides for most of its length. Curbside parking is allowed between 157th and 159th Streets on the west curb and between 144th Avenue and Farmers Boulevard on the east curb. Rockaway Boulevard between Guy Brewer and Farmers Boulevard is predominantly industrial (with numerous air cargo and warehousing facilities) and has also a few commercial (fast food chains and body shops) establishments. It is a designated through truck route providing access to JFK Airport and other or industrial complexes in the study area. It is also a regional corridor that connects several shopping centers in the close proximity to the study area. Rockaway Boulevard is a key bus route in the study area. The corridor is used to access the Belt Parkway and Nassau Expressway making Rockaway Boulevard one of the congested corridors during the peak hours.

Farmers and Guy R. Brewer Boulevards are north/south corridors approximately 50 feet wide with one wide travel lane per direction plus parking on both curbs. They intersect Nassau Expressway and Rockaway Boulevard in the south of the study area providing direct access to JFK Airport via North Boundary Road. In the north, they connect South and North Conduit Avenues, over the Belt Parkway to downtown Jamaica. South of 147th Avenue, the corridors are surrounded with industrial uses. Trucks are regularly observed on these roadways which are also bus routes.

Springfield Boulevard another major north/south corridor approximately 60 feet wide has two lanes and parking per direction. It terminates at 147th Avenue in the south, provides access to

the Belt Parkway and the South/North Conduit Avenues. It is a local truck route north of the Belt Parkway.

The major east-west corridors:

Belt Parkway is a regional uninterrupted flow facility with three lanes per direction. The North and South Conduit Avenues are service roads to the Parkway. There are five exit and three entrance ramps to/from the parkway in the study area. Trucks are not allowed on the Belt Parkway.

North and South Conduit Avenues are Service Roads to the Belt Parkway. They have four travel lanes per direction and no parking on both sides. In the west, North and South Conduit Avenues connect Atlantic Avenue and in the east to Sunrise Highway. They are the designated through truck routes as trucks are not permitted on the Belt Parkway.

Nassau Expressway another regional uninterrupted flow facility has three travel lanes per direction separated by a wide raised median. In the east, it connects Rockaway Boulevard to JFK/Van Wyck Expressways while in the west merges with South Conduit Avenue. Nassau Expressway also carries heavy traffic volumes and is not designated truck route.

147th Avenue is a local east-west corridor passing through the center of the study area. It is a 50 feet roadway with one travel lane and parking lane in each direction. In the west, it connects to Rockaway Boulevard and in the east to Francis Lewes Boulevard. 147th Avenue is also a bus route that has several bus stations.

4.3 Traffic Data Collection

Existing traffic conditions were determined from field surveys and data collected in Spring 2014, and supplemented with information from previous conducted studies related to the study area. The traffic data was collected on selected roadways and major intersections in the study area during the various peak hours. Automatic Traffic Recording (ATRs) machines were placed for one week and collected 24 hours traffic counts in 15-minute intervals at the following locations:

1. Rockaway Blvd between South Conduit Ave and 144th Drive
2. Rockaway Blvd between Guy R. Brewer Blvd and 150th Drive
3. 147th Avenue between 142nd and 143rd Streets
4. Nassau Expressway between N. Hangar Road and Rockaway Boulevard
5. Farmers Blvd between 176th and 177th Streets
6. Guy R. Brewer Blvd between 146th Terrace and 146th Drive
7. South Conduit Avenue between Rockaway Boulevard and 150th Drive
8. South Conduit Avenue between Guy R. Brewer and Farmers Boulevards
9. South Conduit Avenue between 181st and 182nd Streets
10. North Conduit Avenue between Farmers and Springfield Boulevards
11. North Conduit Avenue between 222nd Street and Springfield Boulevard

Manual turning movement and vehicle classification counts (auto, bikes, vans, trucks, and buses) were conducted for one midweek day (Tuesday or Wednesday or Thursday) during the AM, Midday and PM peak hours for one weekday (Tuesday or Wednesday or Thursday) during the 7-9 AM and 4-6 PM peaks, in 15-minutes intervals at the following locations:

1. Rockaway Boulevard and South Conduit Ave
2. Rockaway Boulevard and 144th Avenue
3. Rockaway Boulevard and 144th Drive
4. Rockaway Boulevard EB and Nassau Expressway
5. Rockaway Boulevard/Nassau Expressway and Farmers Boulevard
6. Rockaway and Guy R. Brewer Boulevards
7. South Conduit Avenue and Guy R. Brewer Boulevard

8. South Conduit Avenue and Farmers Boulevard
9. North Conduit Avenue and Farmers Boulevard
10. South Conduit Avenue and Springfield Boulevard
11. North Conduit Avenue and Springfield Boulevard
12. North Conduit Avenue and 181st Street
13. Guy R. Brewer and Farmers Boulevards
14. 147th Avenue and Farmers Boulevard
15. 147th Avenue and Guy R. Brewer Boulevard
16. 147th Avenue and Springfield Boulevard

Pedestrian Counts were conducted concurrently with vehicular counts for one weekday (Tuesday or Wednesday or Thursday) during the 7-9 AM and 4-6 PM peaks, in 15-minute intervals at the following locations:

1. Rockaway Boulevard and South Conduit Avenue
2. Rockaway Boulevard and 144th Avenue
3. Rockaway Boulevard and 144th Drive
4. Guy R. Brewer Boulevard and 147th Avenue
5. Farmers Boulevard and Guy R. Brewer Boulevard
6. Farmers Boulevard and 147th Avenue
7. 147th Avenue and Springfield Boulevard

Travel time surveys were conducted for one weekday during the AM (7:00-9:00) and PM (4:00-6:00) peak hours involving four major corridors in the study area. The ATRs, speed, manual turning movement and pedestrian count locations are shown in Figure 4-2.

Figure 4-2: Traffic Count Locations



Other relevant data needed to conduct the HCS capacity analysis such as number of bus stops or parking maneuvers, roadway geometry, and signal timing were also collected for 16 analyzed intersections.

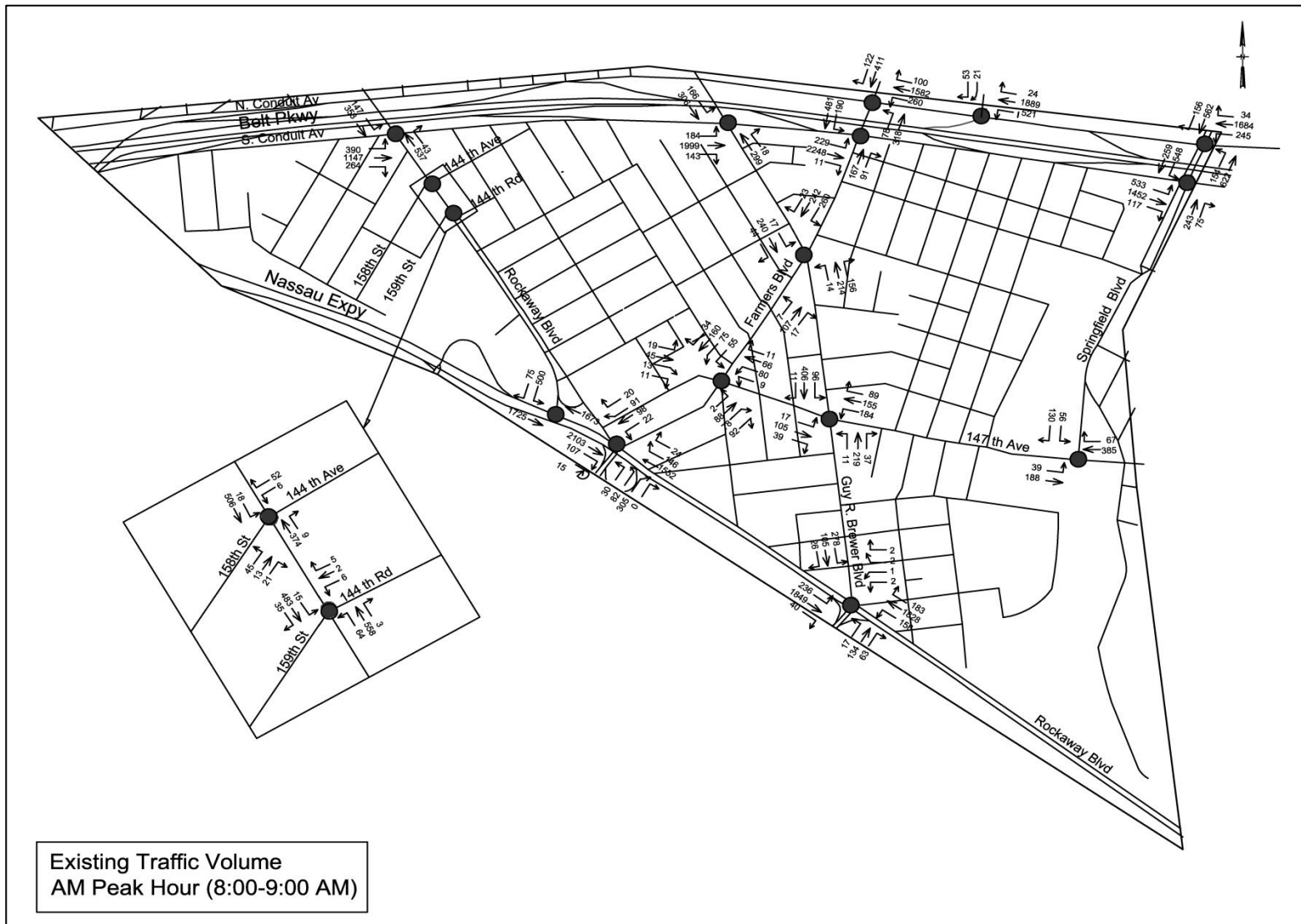
4.4 Network Traffic Volumes

The balanced traffic network volumes were plotted on flow maps for the AM (8:00-9:00) and PM (4:30-5:30) peak hours.

Balanced traffic network volumes for the AM and PM peak hours were prepared using the ATRs and manual turning movement counts. See Figures 4.3 and 4.4. The traffic volumes for the midday peak hours were significantly lower than the AM and PM peak hours. The highest traffic volumes during the AM/PM peak hours are recorded along South Conduit Avenue with 2,500/2,700 vehicles in the eastbound direction; North Conduit Avenue with 2,450/1,500 vehicles in the westbound direction; Nassau Expressway with 2,200/2,260 and 1,750/1,620

vehicles in the east-westbound directions; Rockaway Boulevard with 2,120/2,140 and 2,170/2,040 vehicles in the south-northbound directions; Farmers Boulevard with 500/375 and 260/580 vehicles in the south-northbound directions; Guy Brewer Boulevard with 510/430 and 380/590 vehicles in the south-northbound directions; and Springfield Garden Boulevard 720/690 and 770/570 vehicles in the south-northbound directions, respectively.

Figure 4-3
Existing Traffic Volumes
AM Peak Hour



4.5 Street Capacity and Level of Service (LOS) Analysis

The capacity of the roadways is the maximum rate of flow which may pass through a section of roadway under prevailing traffic, signalization and roadway 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, illegal and/or double parking, grade, and roadway and weather conditions. In determining street capacity within the study area, the 2010 HCM methodology was used. The methodology requires the use of official signal timings, street geometry, and other relevant roadway and traffic information for performing capacity (LOS) analysis.

The 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 LOS, which is based on an average delay experienced by a vehicle. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. 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, and extensive vehicle 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 4-1 shows the level of service criteria as specified in the 2010 HCM Methodology.

Table 4-1: Level of Service Criteria for Signalized Intersections

Level of Service (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 combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 to 80.0	Describes operations with control delay greater than 55 and up to 80 sec. per vehicle. This level of service is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	> 80	Describes operations with control delay in excess of 80 sec. per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factor to such delay levels.

Sources: Highway Capacity Manual, Transportation Research Board, National Research Council, Washington, D.C. 2010.

4.6 Existing Traffic Conditions

The HCS+ and 2010 Highway Capacity Manual (HCM) analyses show the volume-to-capacity (v/c) ratios, vehicular delay, and Level-of-Service (LOS). Table 4-2 shows the summary of the traffic capacity analysis for the existing conditions involving 16 signalized intersections.

Most intersections operated at an acceptable level of service (LOS) D or better during the AM/PM peak hours. However, some intersections experienced LOS E and F for some approaches or all lane groups during analyzed peak hours. Intersections with approaches/or lane groups with LOS D, E and F are listed below and shown in Figures 4-5 to 4-6.

- Rockaway Boulevard and South Conduit Ave (AM, PM);
- Rockaway Boulevard and 144th Avenue (PM);
- Rockaway Boulevard EB and Nassau Expressway (PM);
- Rockaway Blvd/Nassau Expressway and Farmers Blvd (AM, PM);
- Rockaway and Guy R. Brewer Boulevards (AM, PM);
- North Conduit Avenue and Farmers Boulevard (PM);
- North Conduit Avenue and Springfield Boulevard (AM, PM);
- South Conduit Avenue and Guy R. Brewer Boulevard (AM, PM);
- South Conduit Avenue and Farmers Boulevard (PM);
- South Conduit Avenue and Springfield Boulevard (AM, PM); and
- 147th Avenue and Guy R. Brewer Boulevard (AM).

TABLE 4-2 (Page 1 of 2)
Traffic Capacity Analysis for Signalized Intersections
Existing Conditions

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
Rockaway Blvd & South Conduit Avenue	NB	TR	580	0.61	41.4	D	656	0.57	34.2	C
	SB	L	147	0.71	62.6	E	201	1.02	111.7	F
		T	353	0.80	52.7	D	280	0.69	48.2	D
	EB	LT	1537	0.80	30.0	C	2678	1.04	59.9	E
		R	264	0.41	12.5	B	227	0.29	9.8	A
Overall				35.5	D			54.4	D	
Rockaway Blvd & 144th Avenue	NB	TR	563	0.28	11.9	B	454	0.23	11.4	B
	SB	L	18	0.05	10.1	B	48	0.12	10.8	B
		T	506	0.56	16.7	B	433	0.48	15.1	B
	EB	LTR	78	0.16	30.9	C	204	0.42	35.4	D
	WB	LR	58	0.23	32.8	C	71	0.28	34.0	C
Overall				16.1	B			18.1	B	
Rockaway Blvd & 144th Drive	NB	LTR	625	0.38	13.0	B	500	0.30	12.1	B
	SB	LTR	533	0.41	13.6	B	478	0.37	13.0	B
	WB	LTR	13	0.04	29.3	C	24	0.07	29.8	C
	Overall				13.4	B			13.0	B
Rockaway Blvd & Nassau Expressway	SB	L	500	0.42	34.0	C	526	0.44	34.3	C
		R	75	0.29	34.2	C	102	0.40	36.9	D
	EB	T	1725	0.96	34.5	C	1735	0.96	35.4	D
	WB	T	1673	0.77	19.6	B	1519	0.70	17.7	B
	Overall				28.2	C			28.4	C
Rockaway Blvd & Farmers Blvd	NB	TR	1722	0.61	19.7	B	1779	0.71	21.9	C
	SB	T	2103	0.95	35.6	D	2118	1.00	47.6	D
		R	122	0.17	14.4	B	143	0.20	14.8	B
	EB	L	112	0.71	49.7	D	116	0.64	43.8	D
		LTR	305	0.61	35.8	D	513	0.75	39.1	D
	WB	L	22	0.18	28.7	C	24	0.47	48.9	D
		T	98	0.43	32.9	C	74	0.25	29.2	C
	R	111	0.46	33.3	C	107	0.41	32.7	C	
Overall				29.5	C			35.7	D	
Rockaway Blvd & Guy Brewer Blvd	NB	L	158	1.02	128.0	F	85	0.54	63.1	E
		TR	2011	1.06	71.4	E	1757	0.99	49.3	D
	SB	L	236	0.88	78.5	E	201	0.90	79.5	E
		T	1849	0.93	38.2	D	1913	0.96	42.4	D
		R	40	0.07	17.8	B	28	0.05	17.6	B
	EB	LT	151	0.18	31.5	C	188	0.23	32.2	C
		R	63	0.19	32.4	C	97	0.31	34.6	C
	WB	L	278	0.87	63.9	E	245	0.78	54.3	D
		TR	131	0.33	34.6	C	111	0.29	33.9	C
Overall				57.3	E			46.9	D	
North Conduit Avenue & Farmers Blvd	NB	LT	396	0.59	30.6	C	538	0.82	40.9	D
	SB	TR	533	0.45	26.3	C	549	0.46	26.4	C
	WB	LTR	1942	0.83	29.7	C	1214	0.51	21.5	C
	Overall				29.2	C			27.2	C
North Conduit Avenue & Springfield Blvd	NB	LT	776	1.00	70.2	E	570	0.92	58.0	E
	SB	T	562	0.95	70.7	E	458	0.72	50.9	D
		R	156	0.74	63.0	E	233	0.88	77.2	E
	WB	LTR	1963	0.68	19.0	B	1370	0.47	15.4	B
Overall				40.8	D			36.2	D	

TABLE 4-2 (Page 2 of 2)
Traffic Capacity Analysis for Signalized Intersections
Existing Conditions

Intersection	Approach	Movement	AM PEAK				PM PEAK			
			Volume	V/C Ratio	Avg. Delay	LOS	Volume	V/C Ratio	Avg. Delay	LOS
South Conduit Avenue & Guy Brewer Blvd	NB	TR	317	0.90	74.7	E	350	0.92	74.5	E
	SB	Defl	166	1.04	119.9	F	185	0.93	89.7	F
		T	306	0.78	53.6	D	365	0.95	76.0	E
	EB	LTR	2326	0.56	12.6	B	2688	0.73	15.5	B
	Overall				32.4	C			31.0	C
South Conduit Avenue & Farmers Blvd	NB	TR	258	0.32	32.8	C	672	1.02	84.4	F
	SB	Defl	190				196	0.97	98.9	F
		LT	481	0.60	28.5	C	345	0.60	34.8	C
		T								
	EB	LTR	2488	0.92	34.9	C	2704	0.73	22.5	C
Overall				33.6	C			38.2	D	
South Conduit Avenue & Springfield Blvd	NB	T	243	0.84	69.7	E	222	0.83	69.2	E
		R	75	0.22	41.2	D	186	0.68	55.7	E
	SB	L	548	1.03	92.9	F	276	0.96	83.1	F
		T	259	0.56	36.9	D	350	0.82	49.6	D
	EB	LTR	2102	0.32	13.5	B	3056	0.85	23.7	C
Overall				40.6	D			34.9	C	
Farmers Blvd & Guy Brewer Blvd	NB	LTR	384	0.45	18.8	B	543	0.63	22.1	C
	SB	LTR	301	0.28	16.4	B	351	0.31	16.7	B
	EB	LTR	131	0.13	14.9	B	455	0.42	18.0	B
	WB	Defl	260	0.61	24.2	C	121	0.29	17.4	B
		TR	265	0.48	19.8	B	157	0.29	17.1	B
Overall				19.1	B			18.9	B	
Farmers Blvd & 147 Avenue	NB	LTR	260	0.26	12.0	B	577	0.57	15.3	B
		Defl	55				66	0.20	11.9	B
	SB	LT	75	0.31	12.4	B	38			
		TR	194				140	0.30	13.0	B
	EB	LTR	88	0.16	11.4	B	146	0.26	12.4	B
	WB	LTR	166	0.53	18.6	B	127	0.46	17.3	B
Overall				13.4	B			14.5	B	
147 Ave & Guy Brewer Blvd	NB	LTR	267	0.28	12.3	B	588	0.62	16.5	B
	SB	LTR	513	0.43	13.5	B	428	0.38	13.0	B
	EB	LTR	161	0.28	12.7	B	302	0.52	16.0	B
	WB	LTR	428	0.98	53.8	D	180	0.49	16.9	B
	Overall				25.8	C			15.5	B
147 Ave & Springfield Blvd	NB	LTR								
	SB	LR	186	0.15	13.0	B	116	0.09	12.6	B
	EB	L	39	0.12	9.8	A	193	0.45	13.9	B
		T	188	0.31	11.2	B	623	1.00	49.3	D
	WB	TR	452	0.40	11.4	B	134	0.20	9.7	A
Overall				11.6	B			31.7	C	

Figure 4-5: Intersections with LOS D, E, and F Existing Conditions (AM Peak Hour)

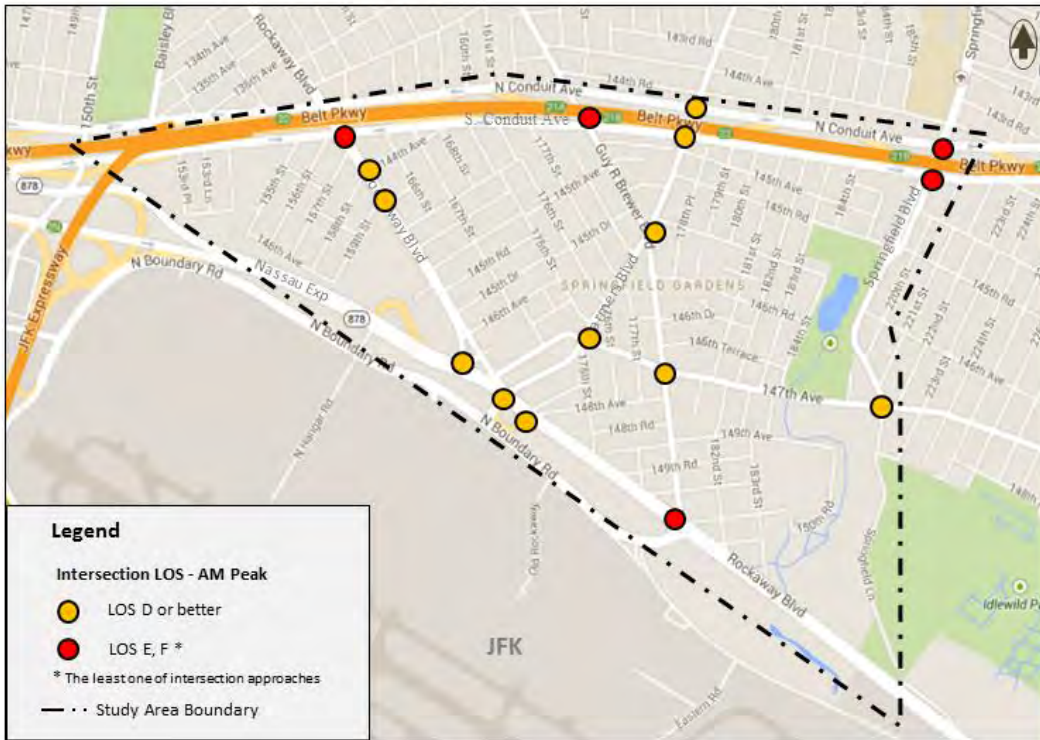
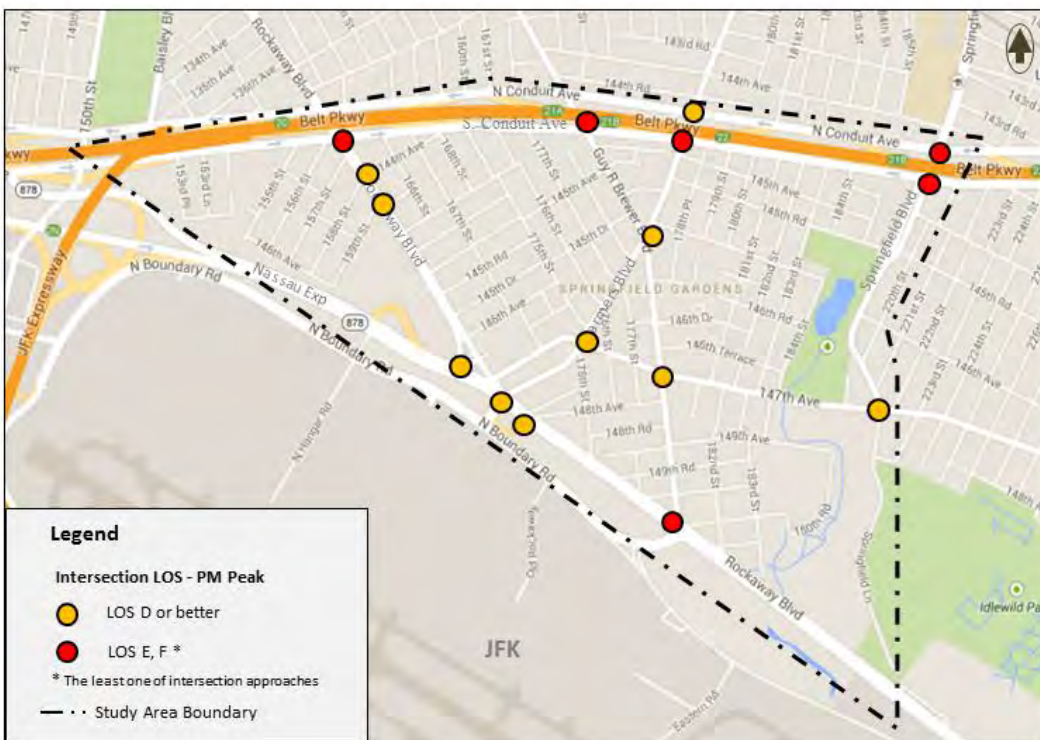


Figure 4-6: Intersections with LOS D, E, and F Existing Conditions (PM Peak Hour)



4-7: Average Travel Speed

Major corridors in the study area that experiencing congestion were analyzed for the travel speeds during selected peak hours. Many factors contributed to the congestion such as heavy traffic volumes, trucks loading/unloading activities, double or illegal parking/standing, and pedestrian movements that reduces roadway capacity and results in delays and lower travel speeds.

The peak hour travel time and speed runs were conducted along the following corridors:

1. Rockaway Blvd between South Conduit Avenue and 150th Drive
2. Guy R. Brewer Blvd between South Conduit Avenue and Rockaway Blvd
3. Farmers Blvd between South Conduit Avenue and Rockaway Blvd
4. 147th Avenue between Springfield Blvd and Rockaway Blvd

The “floating car” method (a technique whereby a field vehicle travels at speeds under prevailing traffic conditions) was used to obtain peak hour travel speeds. Three travel time runs were performed for each corridor during the weekday AM (7:00-9:00) and PM (4:00-6:00) peak periods. Travel speeds along four corridors ranged from 8 to 25 mph for the AM and from 11 to 25 mph for the PM during the AM and PM peak hours. Tables 4-3 and 4-4, and Figures 4-7 to 4-10 provide the average link travel times and speeds for each corridor.

Table 4-3: Average Travel Speed - AM Peak Hour

Corridor	Direction	Between	Average Travel Time (sec)	Average Travel Speed (mph)
Rockaway Blvd	NB	Springfield Land and N. Conduit Ave	297.7	20.7
Rockaway Blvd	SB	N. Conduit Ave and Springfield Land	250.0	24.9
Farmers Blvd	NB	Rockaway Blvd and N. Conduit Ave	155.3	15.9
Farmers Blvd	SB	N. Conduit Ave and Rockaway Blvd	160.0	15.0
Guy R. Brewer Blvd	NB	Rockaway Blvd and N. Conduit Ave	380.3	8.1
Guy R. Brewer Blvd	SB	N. Conduit Ave and Rockaway Blvd	269.3	11.4
147th Ave	EB	Farmers Blvd and 225th Street	223.7	12.5
147th Ave	WB	225th Street and Farmers Blvd	316.3	8.8

Figure 4-7: Average Travel Speed - AM Peak Hour

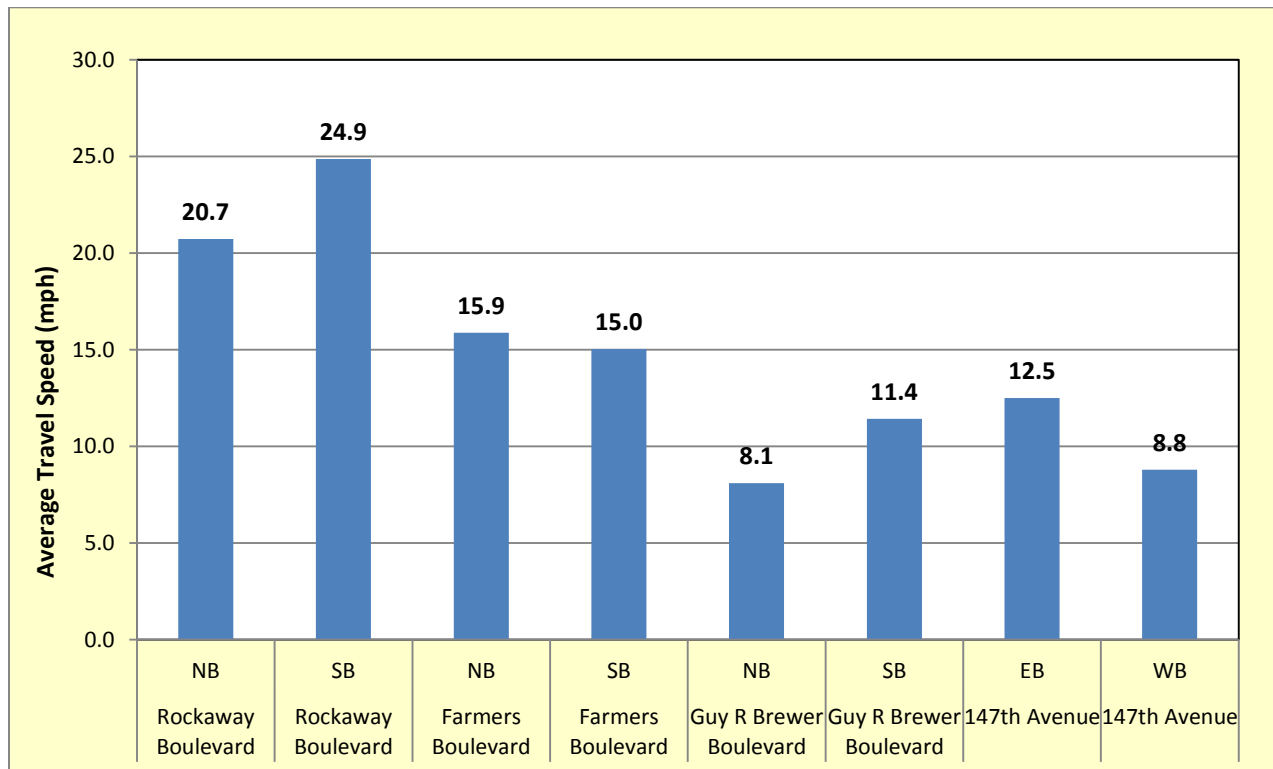


Table 4-4: Average Travel Speed - PM Peak Hour

Corridor	Direction	Between	Average Travel Time (sec)	Average Travel Speed (mph)
Rockaway Blvd	NB	Springfield Land and N. Conduit Ave	249.3	24.7
Rockaway Blvd	SB	N. Conduit Ave and Springfield Land	301.7	20.6
Farmers Blvd	NB	Rockaway Blvd and N. Conduit Ave	173.0	14.2
Farmers Blvd	SB	N. Conduit Ave and Rockaway Blvd	147.3	16.3
Guy R. Brewer Blvd	NB	Rockaway Blvd and N. Conduit Ave	273.3	11.3
Guy R. Brewer Blvd	SB	N. Conduit and Ave Rockaway Blvd	191.7	16.0
147th Ave	EB	Farmers Blvd and 225th Street	167.0	16.7
147th Ave	WB	225th Street and Farmers Blvd	160.0	17.4

Figure 4-8: Average Travel Speed – AM Peak Hour

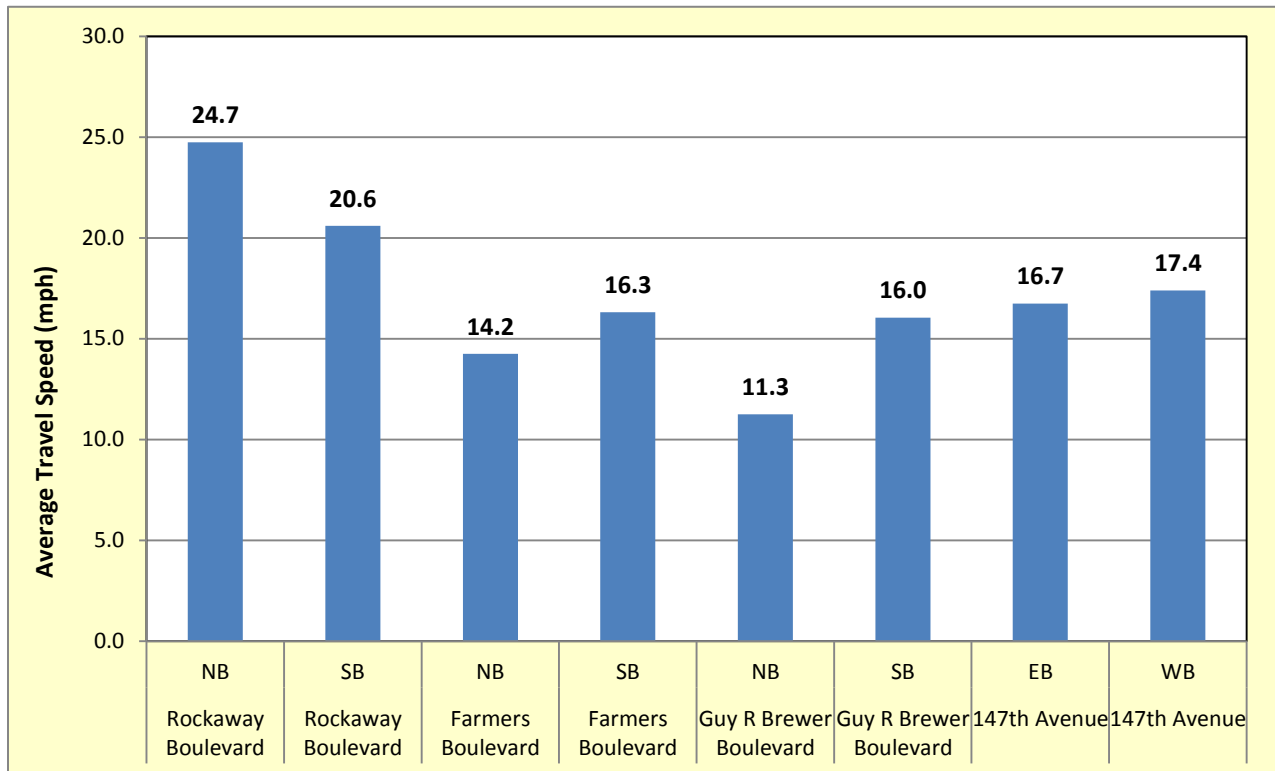


Figure 4-9: Existing Travel Speed – AM Peak Hour

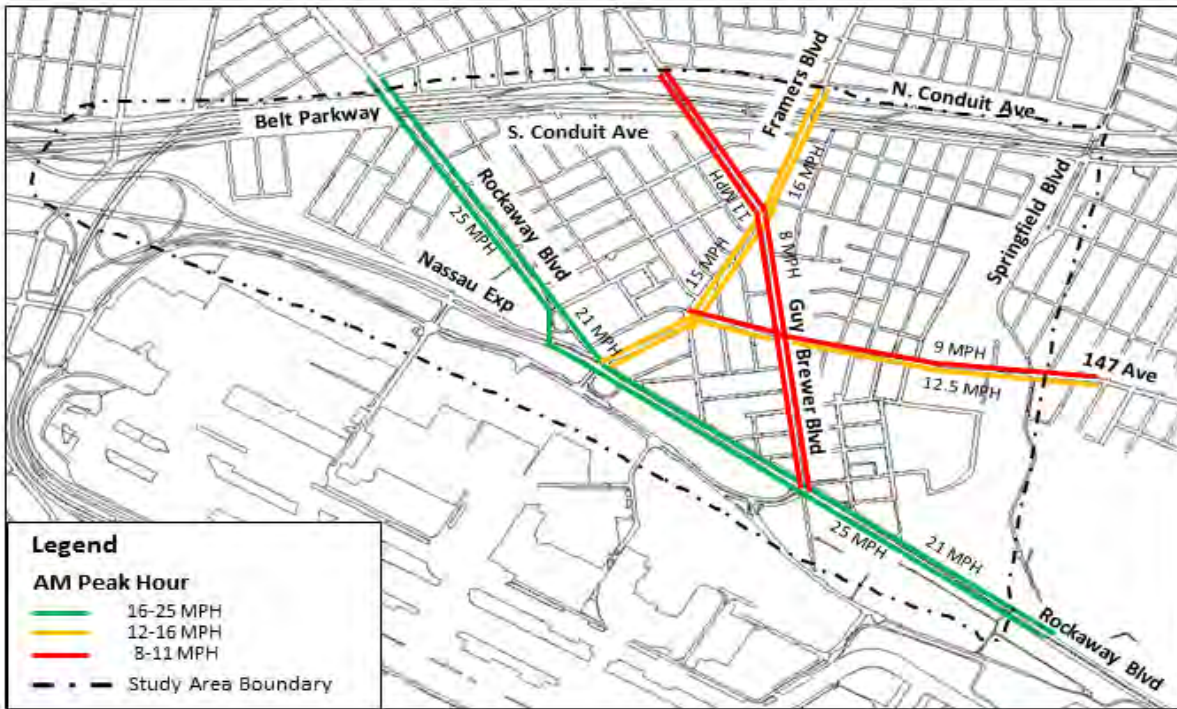
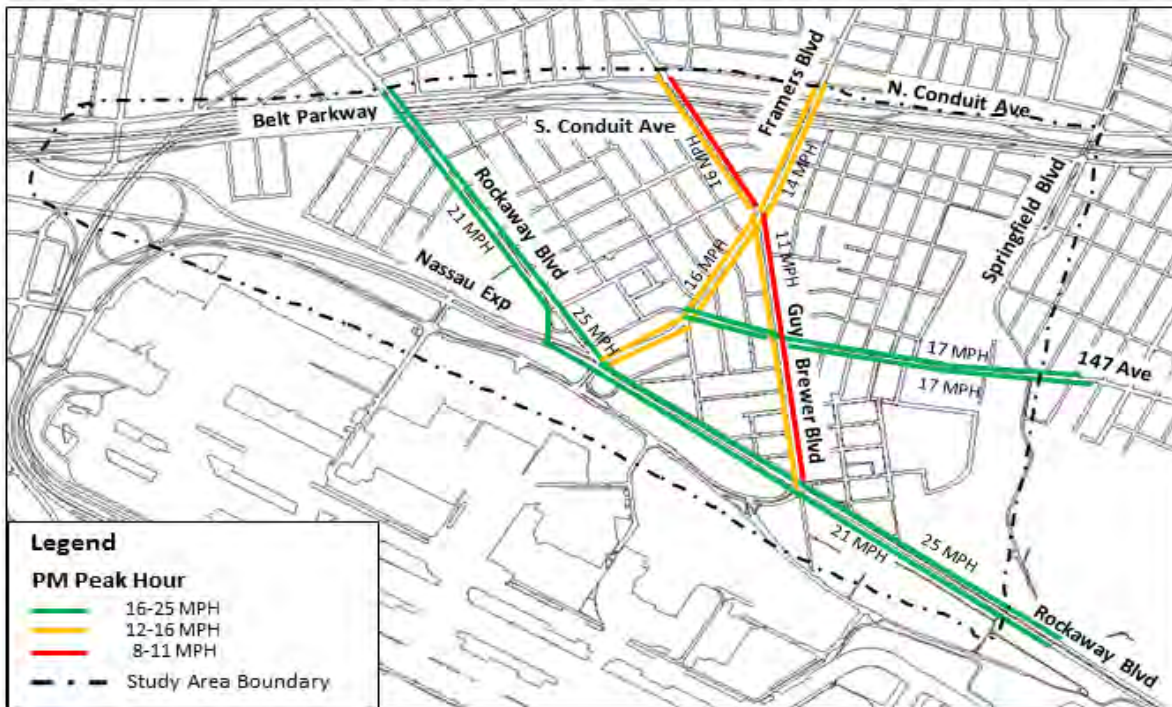


Figure 4-10: Existing Travel Speed – PM Peak Hour

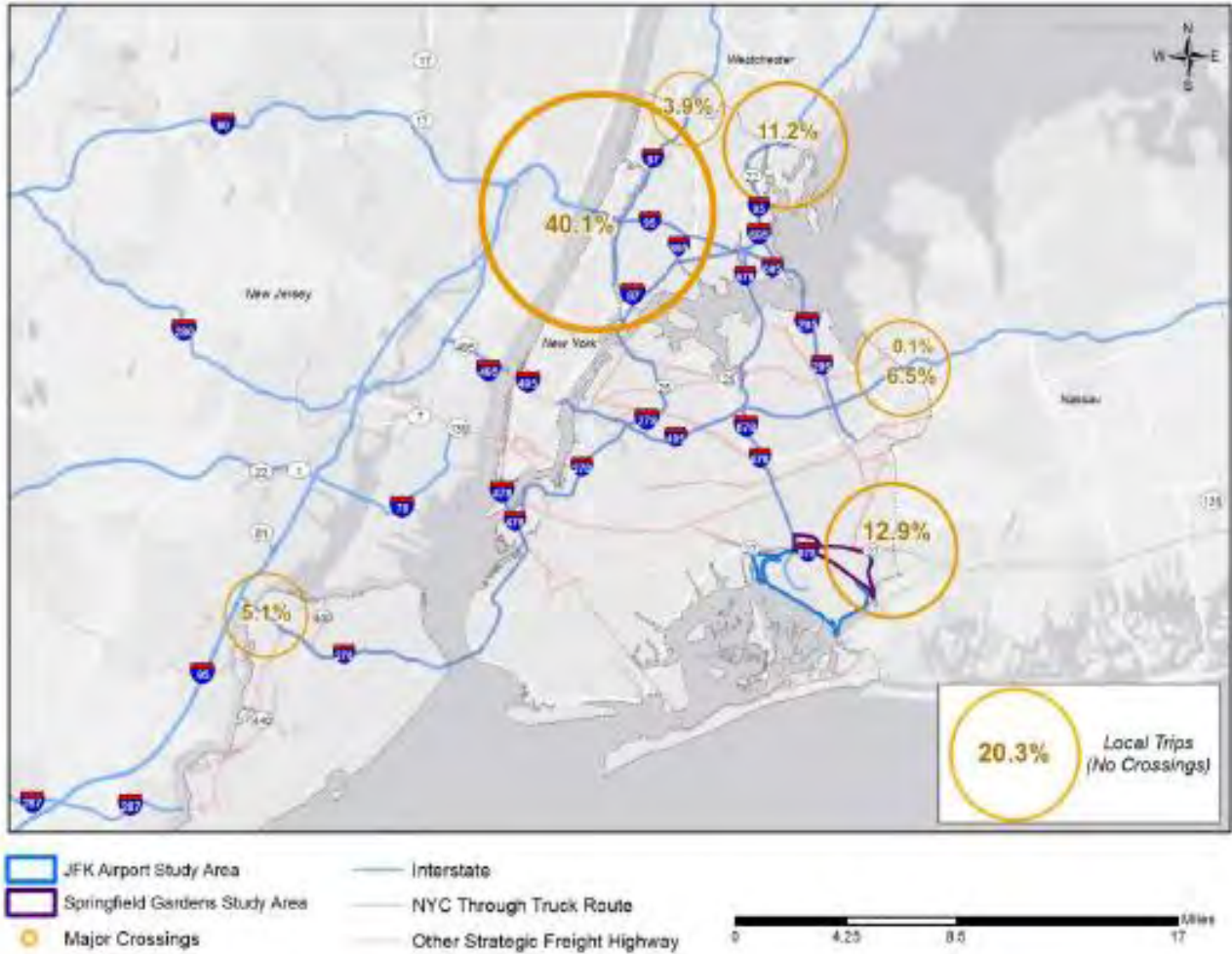


4-8: Trucks and Goods Movement

New York City is heavily dependent on trucks for delivery of goods and services. Thousands of local and through truck trips traverse the city to satisfy daily needs. Given the reliance upon trucks for goods movement in New York City, the need to examine truck traffic as part of any traffic and transportation study is obvious. This was even more so as residents complained about truck traffic in their neighborhood as being a nuisance. Though trucks provide a vital service, their presence requires space for loading and unloading, and parking. The community said they also contribute to noise, air pollution, congestion, and other safety issues.

The study area which borders JFK International Airport, with Air Cargo industry becoming of the principal drivers of New York City's economy has felt to consequences. JFK is the largest international gateway for freight and air cargo transport. According to PA of NY&NJ studies using GPS records sighted approximately 4,000 truck trips to/from JFK Airport and Springfield Gardens areas over a three-month period. Twenty five thousand different commodities (about 1.4 million tons of freight) are shipped to/from JFK Airport and Springfield Gardens by the largest national/international carriers. These shipments travel via major regional transportation facilities such as the Van Wyck Expressway, Nassau Expressway, New England Thruway, Long Island Expressway, Conduit Avenues, and Sunrise Highway. Some of these facilities provide regional and local access to JFK Airport and the Springfield Gardens study area. Figure 4-11 shows regional highways and major crossings in NYC linked to the study area. Of the total truck trips entering the City 12.9% go to JFK Airport and the Springfield Gardens study area.

Figure 4-11: Regional Truck Crossings



Source: Pa NY&NY

The existing analysis focused on truck activity and circulation on local routes in the study area with the aim of managing truck activities in a way that minimizes impacts on the local community. The study takes into consideration the City’s 55-foot truck rule change as it relates to the Springfield Gardens and JFK Airport areas. Figure 4-12 shows regional truck routes.

Figure 4-12: Regional Truck Routes



The study area is more directly impacted by the JFK air cargo industry than any other neighborhood in Queens. In close proximity to the study area there are several industrial establishments. However, there are many shopping malls that attract truck traffic. Figure 4-13 shows major regional truck trip generators.

Figure 4-13: Major Regional Trip Generators



The photos below show some examples of truck activity.



Rockaway/Farmers Blvds, looking east



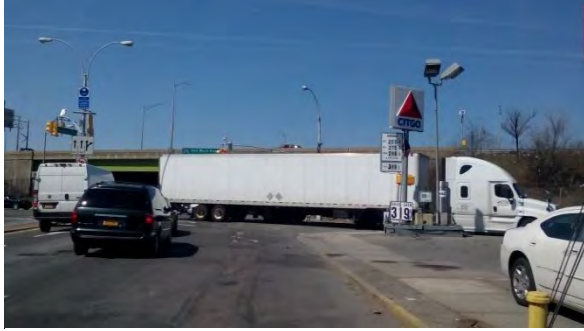
149th Ave, looking east



Farmers Blvd, looking north



Guy Brewer Blvd/147th Ave, looking east



Rockaway Blvd, Oversize truck (55' long)

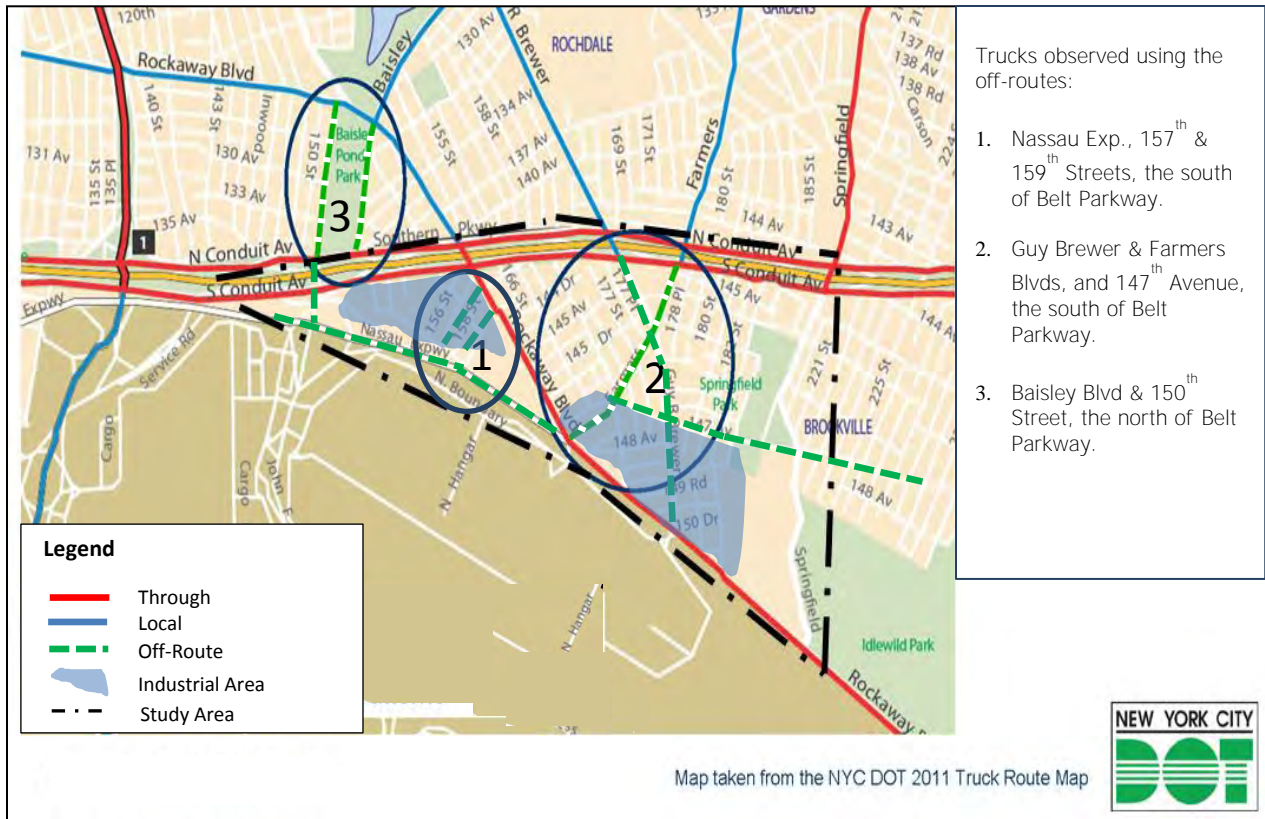


Penske Trucks Rental

Truck Routes

There are three designated through truck routes in the study area. Rockaway Boulevard is the only north-south truck route in the study area. North and South Conduit Avenues are major east-west truck routes. Springfield Boulevard, Farmers Boulevard, and Guy Brewer Boulevard are local truck routes north of the Belt Parkway. South of the Belt Parkway and west of Rockaway Boulevard where the warehousing activity exists making it necessary for trucks to use those corridors being off-route. Figure 4-14 shows truck routes in the study area.

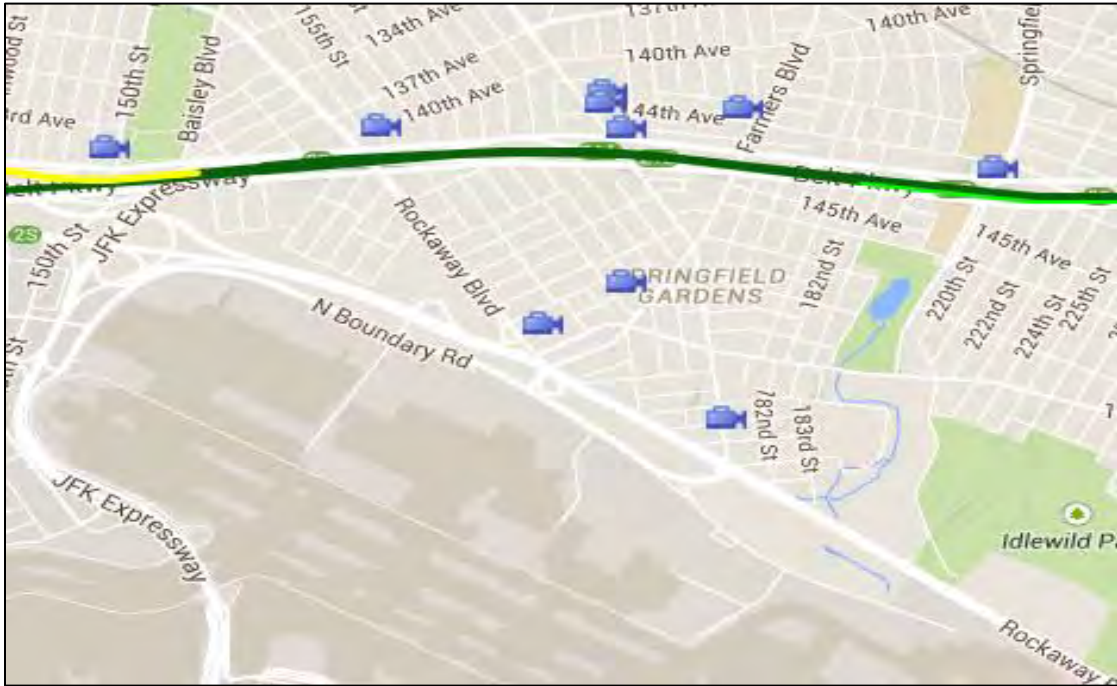
Figure 4-14: Truck Routes



Data Collection and Analysis

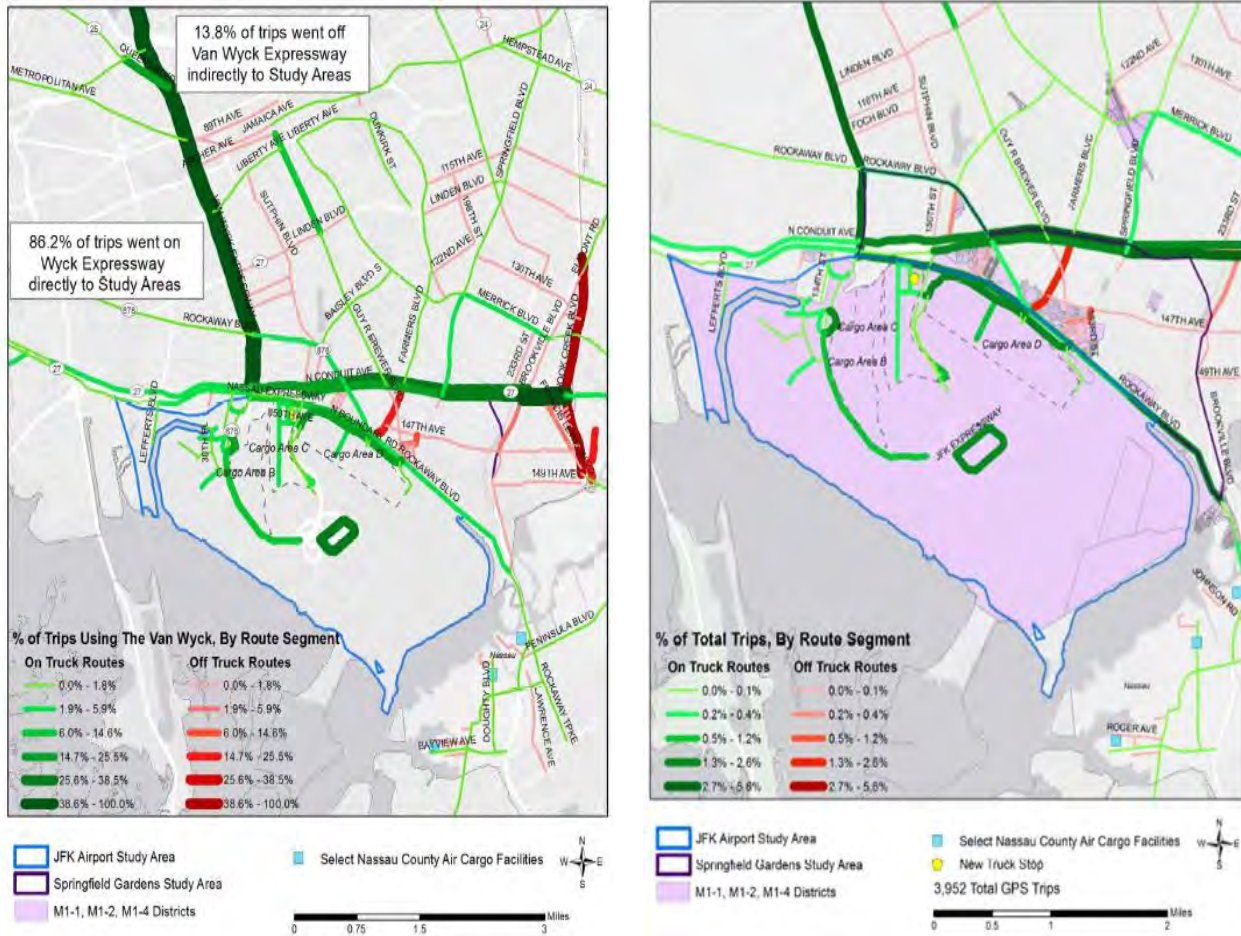
In the spring 2014, NYC DOT conducted the manual turning movement and classification counts at 16 selected intersections to determine truck volume. Additional field observations were made to assess truck activities. Emphasis was placed on double or illegal parking, and loading and unloading activities. DOT also installed cameras at eight intersections to capture truck traffic patterns along major corridors. See pictures below.

Cameras Operating Live in the Area



Most truck activities (61%) occur during of non-peak hours (between 11AM-2PM and between 8PM-5AM) when traffic volumes are at their lowest. During the morning about 20% occur from 5AM to 11AM and in the evening about 19% from 2PM to 8PM. Exhibits below show truck activities.

Regional and Local Trip Activities



Source: PA of NY/NJ

Approximately 70% of the total trips occurred on designated truck routes; 37% of the total trips traveled exclusively on truck routes, 54% took a combination of through and off-truck routes while 9% traveled exclusively off-truck route. A percentage of truck share (averaging between 10 - 20%) in the total traffic volume is much higher in the study area than in Queens and the City where average truck volume share is about/or less than 7%.

Table 4-15 shows truck volumes along major corridors during the AM and PM peak hours.

Table 4-15: Truck Volumes (AM & PM Peak Hours)

Intersection	AM Peak						PM Peak					
	EB/WB			NB/SB			EB/WB			NB/SB		
	Traffic	Truck	% of Truck	Traffic	Truck	% of Truck	Traffic	Truck	% of Truck	Traffic	Truck	% of Truck
Rockaway Blvd &												
S. Conduit Ave	1,801	152	8%	1,080	87	8%	2,905	114	4%	1,137	54	5%
144th Ave	137	1	1%	1,087	82	8%	275	11	4%	935	76	8%
144th Rd	13	2	15%	1,158	98	8%	24	4	17%	978	89	9%
Nassau Expy	3,398	198	6%	575	46	8%	3,254	263	8%	638	44	7%
Farmers Blvd	646	94	15%	3,947	312	8%	834	263	32%	4,040	118	3%
Guy Brewer Blvd	630	88	14%	4,294	367	9%	641	263	41%	4,184	105	3%
Guy Brewer Blvd												
S. Conduit Ave	2,326	132	6%	789	20	3%	2,688	98	4%	900	7	1%
Farmers Blvd	656	38	6%	685	36	5%	733	41	6%	894	26	3%
147th Ave	589	26	4%	780	40	5%	482	39	8%	1,016	43	4%
Farmers Blvd												
N. Conduit Ave	1,942	128	7%	928	39	4%	1,193	178	15%	1,087	21	2%
S. Conduit Ave	2,488	278	11%	929	60	6%	2,704	135	5%	1,213	55	5%
147th Ave	254	37	15%	584	50	9%	273	44	16%	818	54	7%
Springfield Blvd												
N. Conduit Ave	1,963	131	7%	1,494	56	4%	1,327	69	5%	1,261	44	3%
S. Conduit Ave	2,102	142	7%	1,125	26	2%	3,056	107	4%	1,034	33	3%
147th Ave	679	34	5%	186	11	6%	1,050	31	3%	106	5	5%
Total	18,945	1,481		19,455	1,319		21,439	1,629		20,241	769	

Figures 4-14 and 4-15 show percentages of total truck volume by routes.

Figure 4-14: Truck Volume - AM Peak Hour

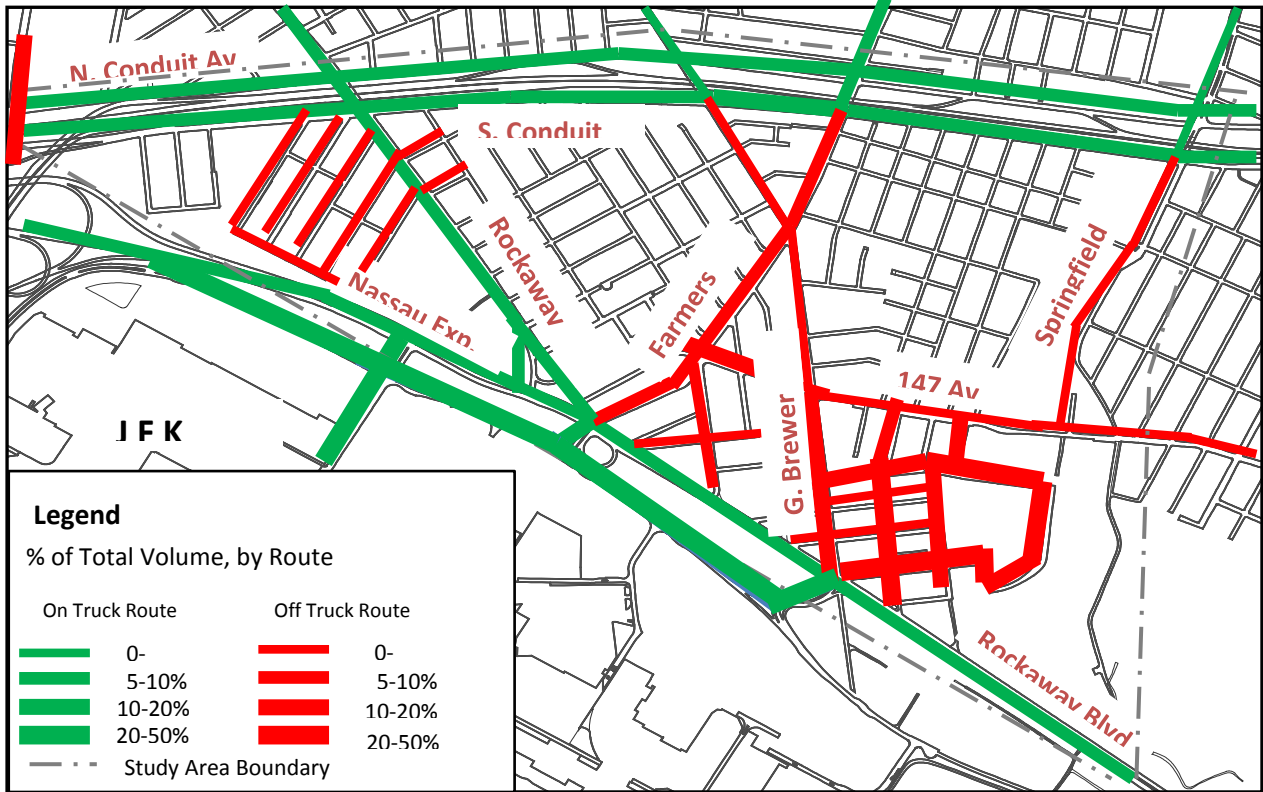
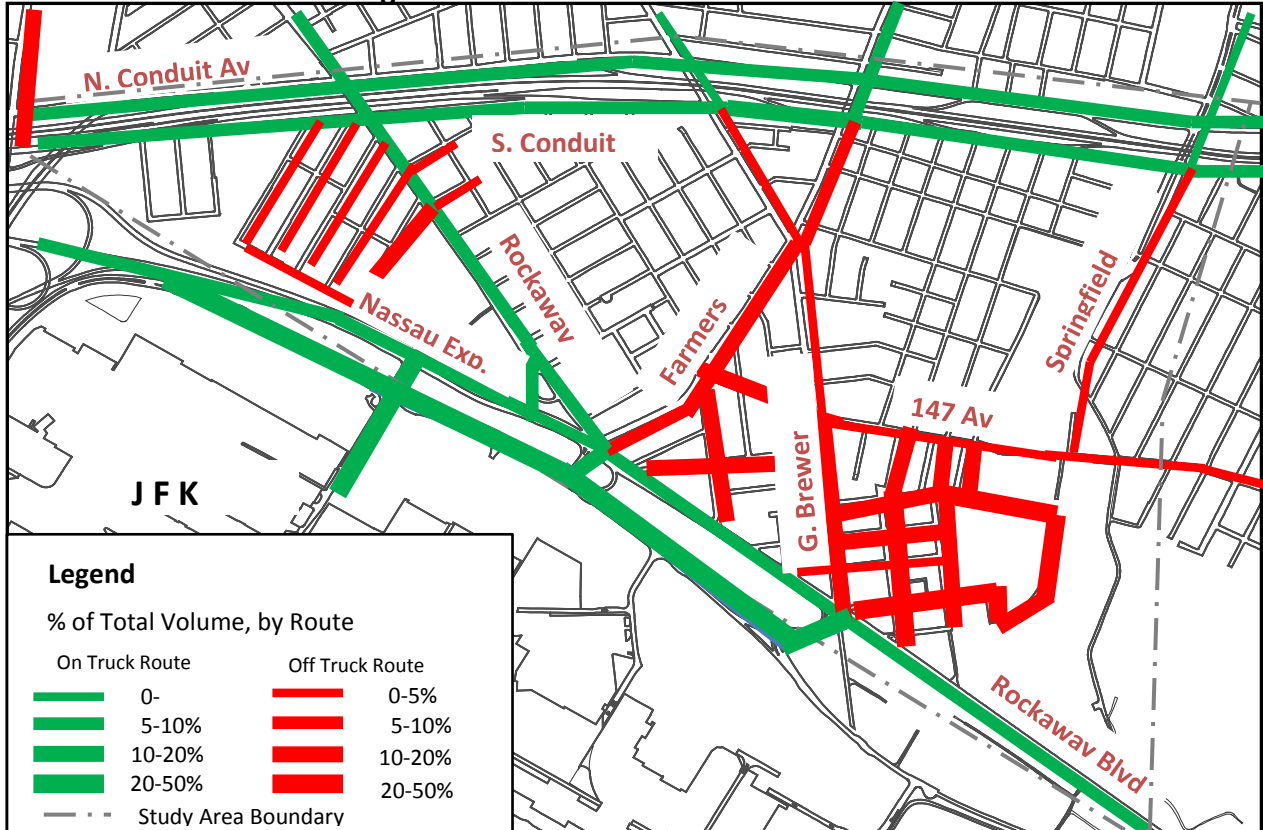


Figure 4-15: Truck Volume - PM Peak Hour



Community Concerns

The community expressed several concerns related to truck activity in the area including illegal truck activities on residential streets such as parking, layovers, and dangerous turning maneuvers – in some instances hit parked cars, crossing over medians/sidewalks, dumping and garbage disposal; truck activity and safety issues on Rockaway Boulevard near the FAA building, and along 146th Avenue and 159th Street; and about bus and truck drivers who regularly dump garbage on their local streets that residents have to clean up by themselves. Additionally, the community concern was about trucks/trailers entering Federal (traffic) circle at Nassau Expressway/Rockaway Boulevard, destined for air cargo/warehousing facility at JFK International Airport or Springfield Gardens industrial area. The community asked if it is possible to provide a designated truck route to JFK Airport directly from the traffic circle.

The community also expressed concerns about the dollar vans traveling in the area at high speeds and double parking on the streets. They asked the City to provide more enforcement and traffic laws regulating the dollar vans.

5.0 PEDESTRIAN AND BICYCLE

5.1 Introduction

Pedestrian trips are generated by different area attractions mostly associated with residential, commercial and institutional activities. Each pedestrian trip contributes to the pedestrian traffic as crosswalks, corners or sidewalks. The highest pedestrian volumes during the AM and PM peak hours were recorded at the following locations:

- Guy Brewer and Farmers Boulevards (total intersection volume - 110 pedestrians in AM and 300 in PM);
- Rockaway Boulevard & 144th Avenue (total intersection volume - 60 pedestrians in AM and 130 in PM); and
- Guy Brewer Boulevard & 147th Avenue (total intersection volume – 80 pedestrians in AM and 100 in PM).

5.2 Existing Pedestrian Volumes

The pedestrian analysis focused on the crosswalks and corners at selected intersections, where the highest pedestrian volumes were observed. Pedestrian counts were conducted for seven locations during the weekday AM and PM peak hours in 15-minute increments:

1. Rockaway Boulevard and South Conduit Avenue
2. Rockaway Boulevard and 144th Avenue
3. Rockaway Boulevard and 144th Drive
4. Guy R. Brewer Boulevard and 147th Avenue
5. Farmers Boulevard and Guy R. Brewer Boulevard
6. Farmers Boulevard and 147th Avenue
7. 147th Avenue and Springfield Boulevard

The weekday AM and PM peak hour pedestrian volumes for crosswalks are shown in Figure 5-1. The pedestrian volumes in the study area for the most locations are low or insignificant, averaging fewer than 100 persons per a crosswalk per any peak hour.

5.3 Pedestrian Level of Service (LOS) Analysis – Existing Condition

The Highway Capacity Manual methodology was used to determine pedestrian level of service (LOS) for the crosswalks and corners at the seven analyzed intersections during the AM and PM peak hours. The pedestrian LOS is measured in terms of square feet of space per pedestrian (SF/P), as shown in Figure 5-2. The levels of service indicate the quality of pedestrian movement and comfort, and are defined in a density-comfort relationship. All crosswalks indicated LOS A, which shows that the existing roadways (crosswalk and sidewalks) can handle the existing pedestrian volumes at the satisfactory levels.

**Figure 5-1: Existing Pedestrian Volumes (2014)
AM/PM Peak Hours**

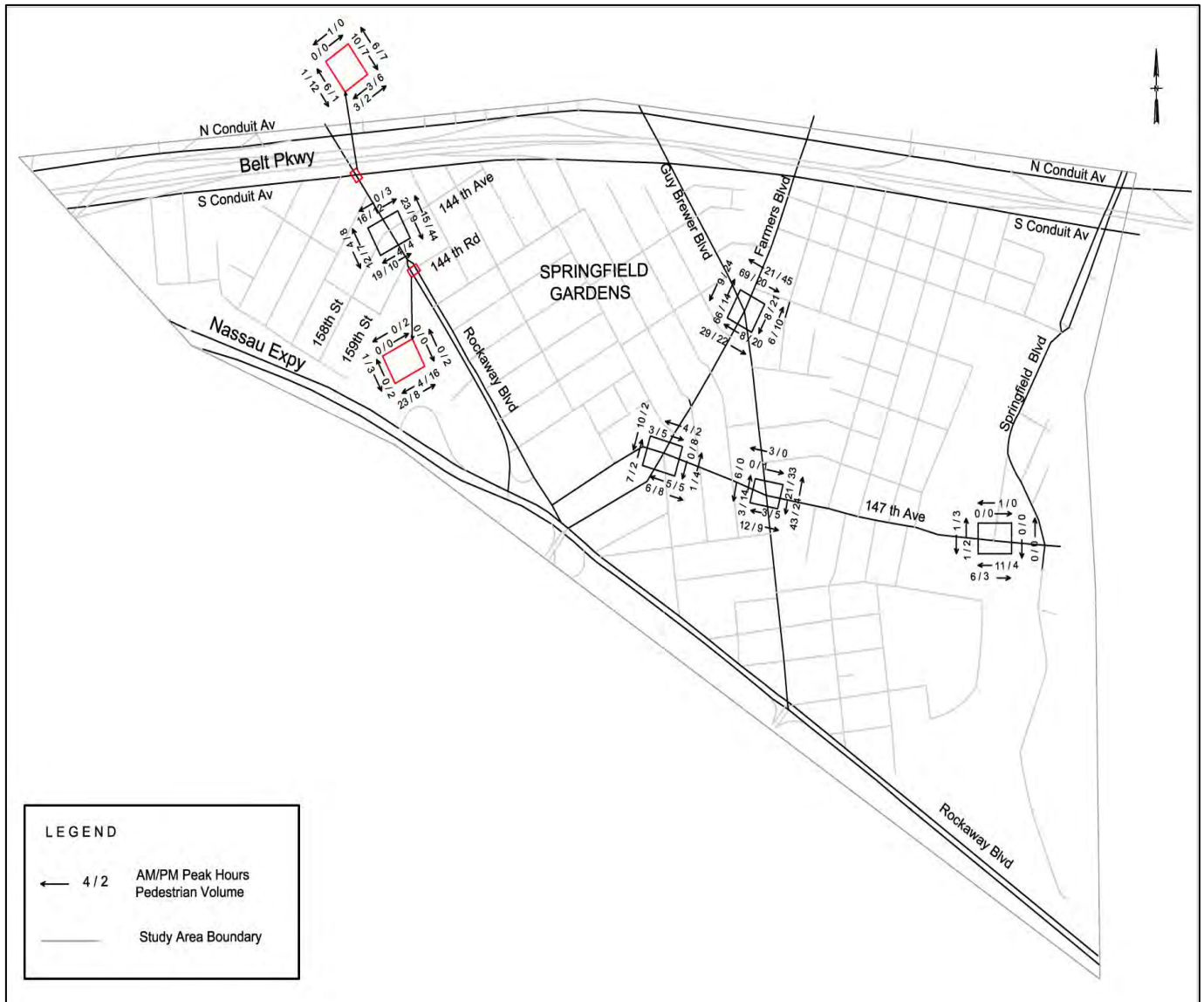
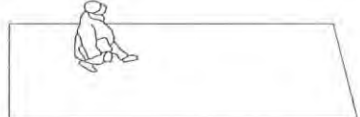


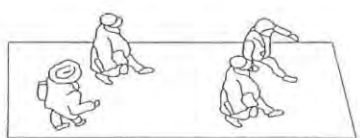




Figure 5-2: Pedestrian Level of Service (LOS) Criteria

<p>LOS A <i>Pedestrian Space</i> > 60 ft²/p <i>Flow Rate</i> ≤ 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.</p>	
<p>LOS B <i>Pedestrian Space</i> > 40-60 ft²/p <i>Flow Rate</i> > 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.</p>	
<p>LOS C <i>Pedestrian Space</i> > 24-40 ft²/p <i>Flow Rate</i> > 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.</p>	
<p>LOS D <i>Pedestrian Space</i> > 15-24 ft²/p <i>Flow Rate</i> > 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.</p>	
<p>LOS E <i>Pedestrian Space</i> > 8-15 ft²/p <i>Flow Rate</i> > 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. Cross or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with stoppages and interruptions to flow.</p>	
<p>LOS F <i>Pedestrian Space</i> ≤ 8 ft²/p <i>Flow Rate</i> 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.</p>	

The analysis indicated that all the crosswalks analyzed operated at acceptable LOS A. Table 5-1 shows the results of the crosswalk LOS analysis.

Table 5-1: Existing Pedestrian LOS

Loc. #	Intersection	Crosswalk	AM		PM	
			SF/P	LOS	SF/P	LOS
1	Rockaway Boulevard & South Conduit Avenue	North	N/A	N/A	N/A	N/A
		South	3549	A	1371	A
		East	1282	A	1423	A
		West	1659	A	6653	A
2	Rockaway Boulevard & 144 th Avenue	North	4709	A	4800	A
		South	2609	A	4247	A
		East	412	A	106	A
		West	782	A	905	A
3	Rockaway Boulevard & 144 th Drive	North	8591	A	5701	A
		South	2447	A	1230	A
		East	1831	A	1831	A
		West	1893	A	1718	A
4	Guy Brewer Boulevard & Farmers Boulevard	North	456	A	146	A
		South	677	A	445	A
		East	315	A	126	A
		West	285	A	226	A
5	Guy Brewer Boulevard & 147 th Avenue	North	2664	A	1313	A
		South	702	A	406	A
		East	406	A	139	A
		West	638	A	2229	A
6	Farmers Boulevard & 147 th Avenue	North	568.3	A	654.8	A
		South	345.7	A	544.2	A
		East	550.2	A	434.3	A
		West	466.2	A	660.0	A
7	Springfield Boulevard & 147 th Avenue	North	2506	A	2512	A
		South	1880	A	1460	A
		East	1650	A	1402	A
		West	2110	A	1895	A

5.4 Bicycle Network (Routes/Paths)

The existing and planned bicycle facilities indicate the potential for the provision of an extensive bicycle network in the study area. Figure 5-3 shows the existing bicycle network with potential routes and paths according to the 2014 Bicycle Map.

Figure 5-3: Bicycle Network



6.0 CRASHES AND SAFETY

6.1 Introduction

The analysis of crashes/safety is an important component in traffic and transportation planning study process, as transportation activities are directly related to crashes and can lead to loss of life and/or property damage. The main purpose of the crash analysis is to identify locations in the study area with safety issues that might need special attention for potential improvements.

In order to identify locations with high crash occurrences in the study area, it was necessary to examine the most recent crash history to see if any patterns can be established. The existing reportable crash data for the last three years (2011-2013) was compiled and analyzed. The records were collected from the New York State Department of Transportation (NYSDOT) crash database, which includes also data from the New York State Department of Motor Vehicle (NYSDMV) and New York City Police Department (NYPD) for which data was available at the time of analysis. The data provides information on location, severity, collision type, time of crash, weather condition, and quantify the total number of reportable crashes (involving fatality, injury, or property damage exceeding \$1,000) as well as a yearly breakdown of pedestrian and bicycle-related crashes at each location.

6.2 Summary of Crashes (2011-2013)

New York State Department of Transportation defines a high crash location as one where there are five or more pedestrian/bicyclist-related crashes or, 23 or more crashes in any consecutive 12 months within the most recent 3-year period. After reviewing all intersections (195) in the study area for the most recent three years (2011-2013), only two intersections (Rockaway Blvd/Guy R. Brewer Blvd and Rockaway Blvd/Farmers Blvd) were identified as “High Crash Locations”. Table 6-1 summarizes two high crash locations.

Table 6-1: High Crash Locations (2011-2013)

Intersection	Total Accident			Injuries			Pedestrian Crashes			Bicycle Crashes		
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Guy R. Brewer Blvd & Rockaway Blvd	36	29	36	66	29	53	0	0	0	0	0	0
Rockaway Blvd & Farmers Blvd	26	28	34	29	27	48	1	0	1	0	0	0

Figure 6-1 shows high crash locations with fatalities from 2011 to 2013, and locations identified under the NYC “Vision Zero Corridor/Intersection Action Plan” for 2014.

From 2011 to 2013, of the total of 717 reportable crashes, 903 resulted in injuries to the driver or vehicle passengers, 32 involved pedestrian injuries, and 16 injuries involved bicyclists between 2011 and 2013. The crash data show that total reportable crashes decreased by 14% and 1.8% from 2011 to 2012 and from 2012 to 2013. A similar trend could be seen with the respect to injuries, pedestrian, and bicycle crashes.

Figure 6-1: High Crash Locations (2011-2013)

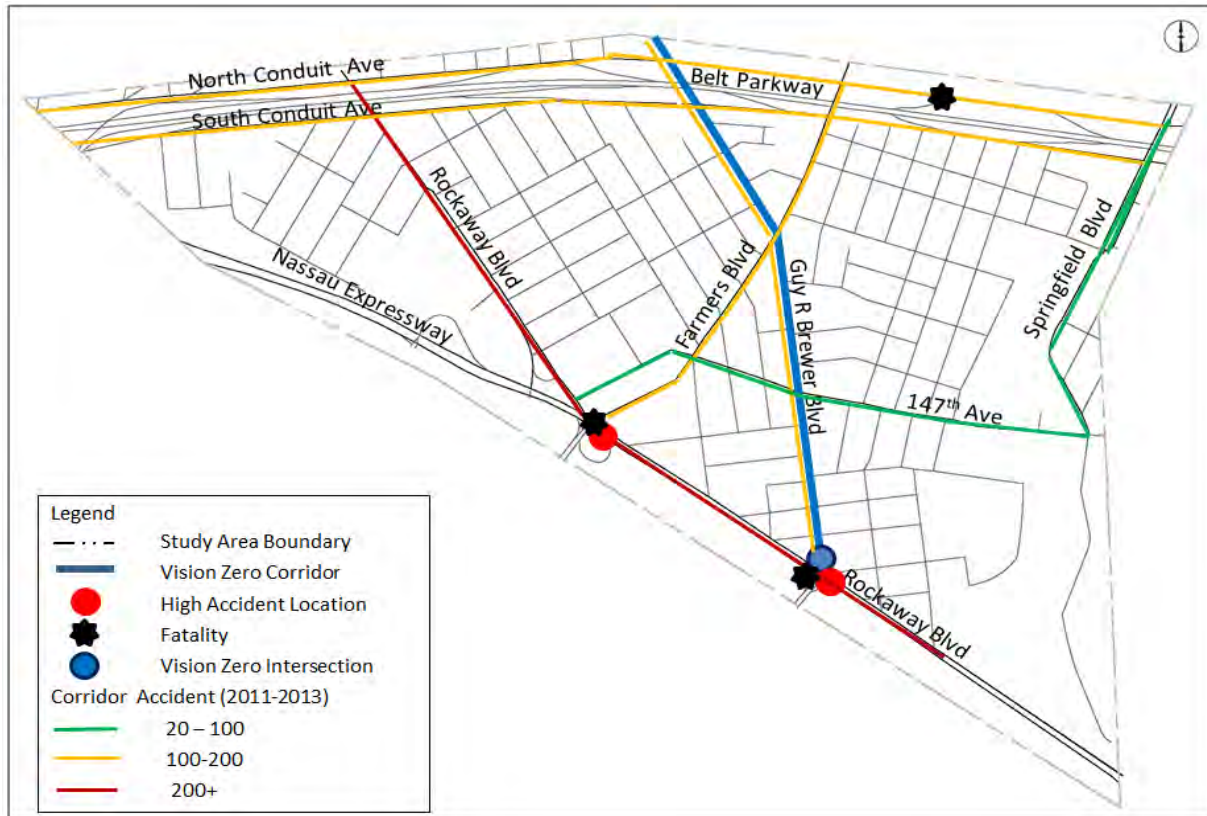


Table 6-2 summaries total crashes per corridor by year (2011-2013); Figures 6-2 and 6-3 show a graphic summary of the crashes/injuries per corridor/per year.

Table 6-2 Summary of Crashes per Corridor by Year (2011-2013)

Corridor	Crashes			Total Crashes	Total Injuries	Total Fatality	Pedestrian Crashes			Bicycle Crashes		
	2011	2012	2013				2011	2012	2013	2011	2012	2013
Rockaway Blvd (North Conduit Ave to Nassau Expressway)	73	71	77	221	292	1	1	1	1	0	0	0
Farmers Blvd (North Conduit Ave to Rockaway Blvd)	62	58	62	182	215	1	5	2	2	0	1	1
Guy R. Brewer Blvd (North Conduit Ave to Rockaway Blvd)	74	57	65	196	276	0	6	1	5	5	1	1
Springfield Blvd (North Conduit Ave to Rockaway Blvd)	40	31	17	88	91	0	2	1	1	2	0	0
South Conduit Ave (150 Street to Springfield Blvd)	63	50	40	153	179	0	3	0	1	1	1	0
North Conduit Ave (150 Street to Springfield Blvd)	69	58	56	183	244	1	2	1	5	3	0	1
Nassau Expressway (150 Street to Rockaway Blvd)	5	5	2	12	18	0	0	0	0	0	0	0
147th Ave (Rockaway Blvd to Springfield Blvd)	10	9	2	21	21	0	0	1	1	1	0	0

Figure 6-2: Total Crashes/Injuries per Corridor (2011-2013)

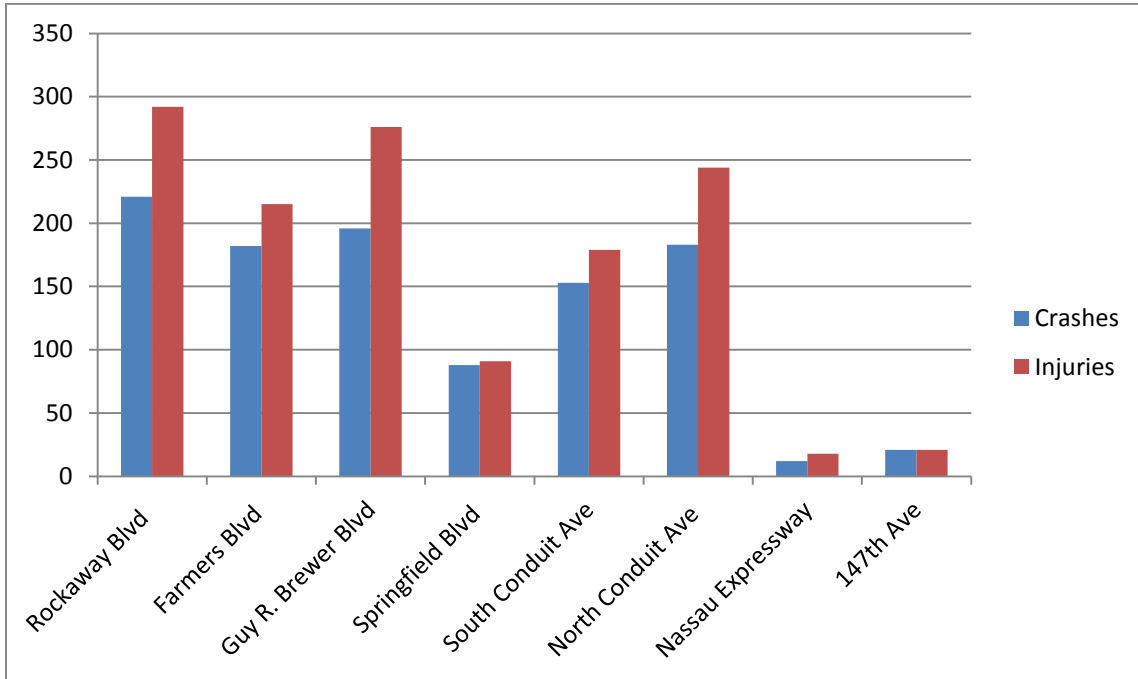
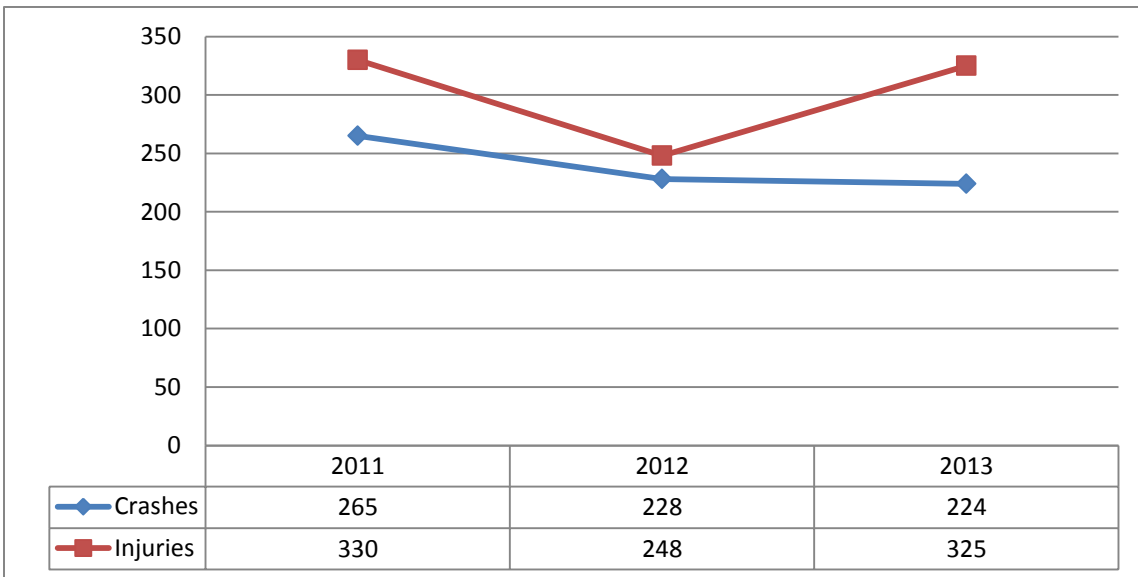


Figure 6-3: Total Crashes/injuries by Year (2011-2013)



Pedestrians were involved in 4.5% of all crashes in the study area while bicyclists were involved in 2.2% between 2011 and 2013. 3.1% of all injuries were severe Type A injuries (involved a bleeding wound or the person was carried away from the scene), 5% were type B injuries (bruises) 91.9% were type C severity (no visible injuries), while 143 crashes involved property damage only (\$1,000 damage or more). The three most common collision types were rear end crashes (25.2%), overtaking (12.6%), and right angle crashes (9.9%). Fourteen percent (14%) of the crashes occurred during wet roadway conditions, while 20.2% of all crashes occurred during non-daylight hours (night-time). Figure 6-4 shows Crashes by Collision Type and Driving Conditions (2011-2013). Figure 6-4 shows crashes involving pedestrians and bicyclists by each year per each corridor.

Figure 6-4: Pedestrian and Bicycle Crashes by Year

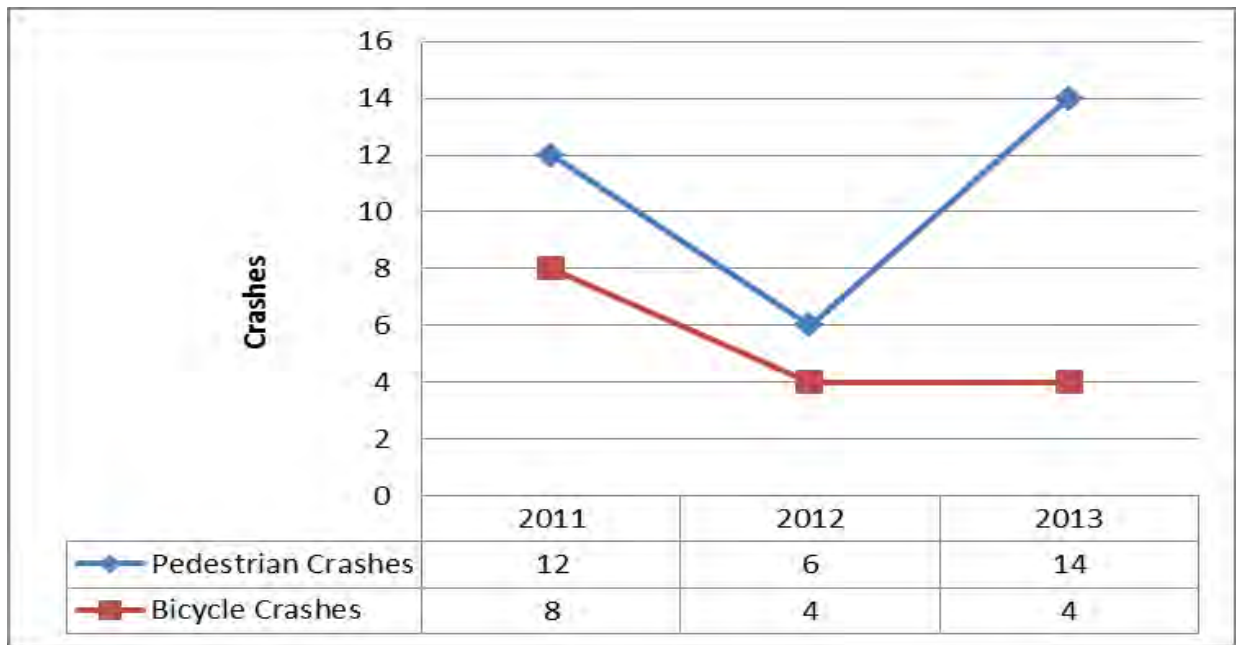
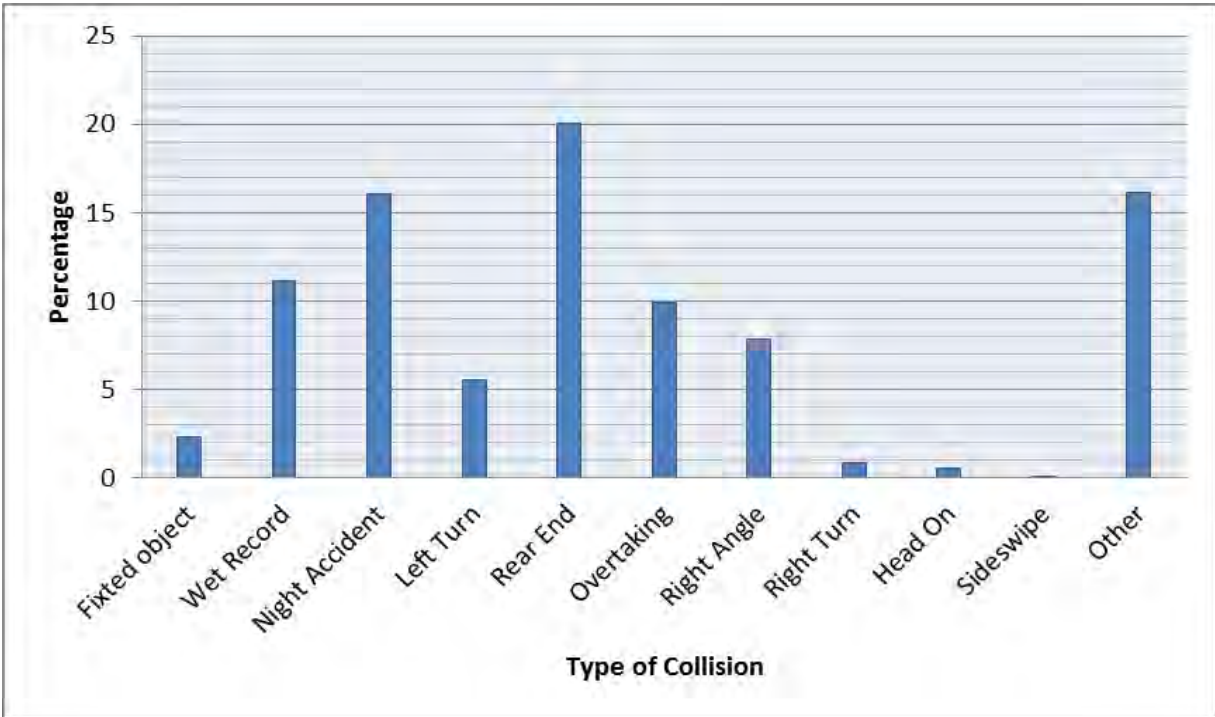


Figure 6-5 shows crashes by collision type and driving condition from 2011 to 2013.

Figure 6-5: Crashes by Collision Type and Driving Condition (2011-2013)



Between 2011 and 2013, there were three (3) fatalities in the study area; two involving pedestrians and one motor vehicle. There was no bicyclist fatality recorded. The highest number of pedestrian/moving vehicle fatalities occurred along the Rockaway Blvd with two (2) crashes. Third fatality in the study area occurred on North Conduit Avenue, between Farmers Blvd and Springfield Blvd. Table 6-3 shows locations where fatalities occurred and other crash related information.

Table 6: Summary of Fatalities (2011-2013)

Intersection/ Corridor	Fatality				2011-2013				
	2011	2012	2013	Total	Injury Type			Total	Property Damage Only
					A	B	C		
Guy R. Brewer Blvd & Rockaway Blvd	0	1 (ped)	0	1	2	11	135	148	24
Rockaway Blvd & Farmers Blvd	0	0	1 (ped)	1	7	7	90	104	14
North Conduit Ave	1 (mv)	0	0	1	7	5	231	243	33
Total	1	1	1	3	16	23	456	495	71

6.3 Vision Zero Action Plan (2014)

The Springfield Gardens is a part of the Queens, where the pedestrian safety action plan recommends a series of actions to alter the physical and behavioral conditions on local borough streets that lead to vehicular/pedestrian/bicycle fatality or injury. On an average, one (1) pedestrian is killed or severely injured in the borough of Queens every weekday. The Queens pedestrian fatality rate (1.92/100,000) is slightly above the NYC average (1.88/100,000). In the study area the Vision Zero Action Plan selected one priority corridor - Guy R. Brewer Boulevard out of 47 corridors and one priority intersection - Rockaway Boulevard/Guy R. Brewer Boulevard out of 72 intersections in the Queens. Figure 6-1 illustrated these priority locations (corridor and intersection) as selected for potential improvements.

7.0 PARKING

7.1 Introduction

Parking plays an important role in the overall transportation system network. As a result of insufficient parking in the area could lead to unnecessary circulation as motorists search for parking spaces, illegal or double parking, thus reduce generally roadway capacity. The parking analysis focuses on the study area's parking demand and supply to identify parking deficiencies in an attempt to address the area's parking needs.

There are numerous on-street and off-street parking facilities in the study area. On-street parking is generally permitted on all residential streets except where parking regulation prohibits. Off-street parking facilities are associated with large parking lots located in the industrial/manufacturing and residential areas. Surveys of on-street and off-street parking facilities were conducted during selected peak periods.

7.2 On-Street Parking

The on-street parking analysis focused on major corridors in the study area where commercial activities are concentrated together with high density industrial uses that includes some minor residential streets. Parking regulations in the area range from alternate side street cleaning to restricted parking on commercial streets (metered-parking, time restricted parking, no standing zones, bus stops, fire hydrants, authorized parking zones, and loading/unloading bays).

The parking survey documented parking accumulation on each block face for an average weekday where the highest concentration of truck movement or commercial activities occurs. Figure 7-1 shows the on-street parking regulations. The local residential areas are found to be adequate (underutilized) with the existing capacity (with no street cleaning regulations); since most of houses own garages or driveways plus available curbside parking in the front of each house. Outside visitors rarely park within the residential premises.

A detailed survey for the existing on-street parking and utilization was conducted during the morning and midday peak periods (8AM-3PM) focusing on major corridors and industrial areas where parking shortfalls or noticeable truck activities occur mostly during selected periods of time. Figure 7-2 shows locations where a detailed on-street parking survey was conducted.

Figure 7-1: On-Street Parking Regulations



A detailed survey was conducted during AM and midday peak periods (8AM to 3PM) focusing mainly on the industrial (warehouse/manufacturing) areas. Figure 7-2 shows locations of parking survey.

Figure 7-2: On-Street Parking Survey Locations



On-Street Parking Capacity and Utilization

There are approximately 1,668 on-street parking spaces in the surveyed areas. The average parking utilization for the industrial area and major corridors reached 77% (1,282 spaces) during the analyzed peak hours. There were instances when parking demand exceeds capacity, resulting in an illegal or double parking especially along major corridors such as Rockaway,

Farmers and Guy Brewer Boulevards. The average utilization for analyzed corridors is 55% during analyzed peak hours.

Parking shortfall was noticeable on several local streets within the industrial areas where parking utilization exceeded 90% during the peak hours. Table 7-1 shows total capacity and utilization for corridors and industrial areas. The corridors with high parking demand are listed below:

Western industrial area: 155th Street, 156th Street, 157th Street, 145th Avenue and 146th Drive with an average utilization of about 82%.

Eastern industrial area: 175th Street, 176th Street, 181st Street, 182rd Street, 184th Street, 148th Avenue, 148th Road, 149th Avenue, 149th Road, 150th Avenue, 150th Road, and 150th Drive with an average utilization of about 95%.

There are three roadway segments with metered parking in the study area:

- 1) Rockaway Blvd between 145th Street and 183rd Street (10 meters/58% utilized);
- 2) 175th Street between 148th Avenue and Rockaway Blvd (16 meters/86% utilized); and
- 3) 148th Avenue between Rockaway Blvd and Guy R. Brewer Blvd (16 meters/106% utilized).

Figure 7-3 shows locations with the average peak hour utilization.

Table 7-1: On-Street Parking Facilities (Capacity & Utilization)

(Page 1 of 2)

Major Corridors	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
Rockaway Blvd bet. N. Conduit Ave and 183rd St.	E/W	10	42	52	40	77
Guy R. Brewer Blvd bet. N. Conduit Av and Rockaway Blvd	E/W		159	159	104	65
Farmers Blvd bet. N. Conduit Av and Rockaway Blvd	E/W		130	130	63	48
Springfield Blvd bet. N. Conduit Ave and 147th Ave	E/W		110	110	36	33
147th Ave bet. Springfield Blvd and Rockaway Blvd	N/S		131	131	89	68
N. Conduit Ave bet. 150th St. and Springfield Blvd	N/S		0	0	0	0
S. Conduit Ave bet. 150th St. and Springfield Blvd	N/S		47	47	13	28
Total		10	619	629	345	55

Local Streets (western industrial enclave)	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
155th St. bet. S. Conduit Ave and 146th Ave	E/W		32	32	29	91
156th St. bet. S. Conduit Ave and 146th Ave	E/W		33	33	31	94
157th St. bet. Rockaway Blvd and 146th Ave	E/W		55	55	50	91
158th St. bet. Rockaway Blvd and 146th Ave	E/W		49	49	36	73
159th St. bet. Rockaway Blvd and 146th Ave	E/W		57	57	34	60
145th Ave bet. 155th St. and 157th St.	N/S		29	29	28	97
145th Rd bet. 157th St. and 159th St.	N/S		32	32	28	88
146th Rd bet. 155th St. and 159th St.	N/S		48	48	35	73
146th Dr bet. 177th St. and Guy R. Brewer Blvd	N/S		19	19	18	95
Total		0	354	354	289	82

Table 7-1: On-Street Parking Facilities (Capacity & Utilization)

(Page 2 of 2)

Local Streets (eastern industrial enclave)	Direction	Metered Parking	Non Metered Parking	Total Capacity	Occupancy (#)	Utilization (%)
175th St. bet. Farmers Blvd and Rockaway Blvd	E/W	16	48	64	55	86
176th St. bet. Farmers Blvd and 148th Ave	E/W		41	41	42	102
177th St. bet. Farmers Blvd and 148th Ave	E/W		61	61	51	84
181st St. bet. 147th Ave and Dead End	E/W		12	12	13	108
182rd St. bet. Rockaway Blvd and 147th Ave	E/W		52	52	55	106
183rd St. bet. Rockaway Blvd and 147th Ave	E/W		89	89	79	89
184th St. bet. 147th Ave and 149th Ave	E/W		21	21	19	90
Porter Rd bet. Rockaway Blvd and 147th Ave	N/S		38	38	33	87
148th Ave bet. Rockaway Blvd and Guy R. Brewer Blvd	N/S	16	47	63	67	106
148th Rd bet. 175th St. and Guy R. Brewer Blvd	N/S		25	25	31	124
149th Ave bet. Dead End and 184th St.	N/S		79	79	85	108
149th Rd St bet. Rockaway Blvd and 183rd St.	N/S		32	32	37	116
150th Ave bet. Rockaway Blvd and 183rd St.	N/S		22	22	24	109
150th Rd bet. Rockaway Blvd and 183rd St.	N/S		35	35	34	97
150th Dr bet. Rockaway Blvd and 183rd St.	N/S		13	13	14	108
153rd Pl bet. S. Conduit Ave and 146th Ave	N/S		24	24	9	38
153 Ln bet. S. Conduit Ave and 146th Ave	N/S		14	14	0	0
Total		32	653	685	648	95
Total (Corridors/Streets)		42	1,626	1,668	1,282	77

Figure 7-3: On-Street Parking Utilization



7.3 Off-Street Parking

An inventory of all accessible off-street parking facilities (lots and garages) in the study area was compiled. The inventory includes off-street parking lots located in the residential areas and all other parking facilities within the industrial areas. Figure 7-4 shows the locations of off-street parking facilities in the study area.

Off Street Parking Capacity and Utilization

It is estimated that the area has more than 120 off-street parking facilities with the capacity more than 4,600 spaces. The most of these facilities are located within the industrial areas serving various warehouses and air-cargo transport needs. The largest off-street parking facility in the study area is the NYPD Auto Pound with the capacity to park more than 1,000 cars. The second largest off-street parking facility is the Federal Aviation Administration (FAA) located on Rockaway Boulevard, between 144th Road and 145th Road with 730 parking spaces. Another large off-street parking facilities are the Air Park JFK/AMB located between South Conduit Avenue and 153rd Road with 570 parking spaces and Gabrielli Truck Sales Company that can accommodate more than 200 cars and 100 trucks. The Hotels in the study area have together parking capacity of more than 500 spaces. A parking lot serving the Office of Department of Motor Vehicles has the capacity of more than 130 spaces. Other off-street parking facilities in the study area are smaller with the capacity of fewer than 100 parking spaces.

Figure 7-4: Off-street Parking Facilities



There are only few small parking lots within the residential areas that serve mainly luxury condominiums. Majority of the single or two family dwellings own a garage or driveway serving parking needs. Other parking lots in the study area serve various community needs, schools, churches, banks, food centers, etc.

The majority of off-street parking facilities are located within industrial areas. Table 7-2 lists all off-street parking facilities in the study area with their location, capacity and utilization.

Table 7-2: Off-Street Parking Facilities (Location, Capacity & Utilization)

(Page 1 of 4)

No.	Name of Lot	Location of Facility	Type of Facility	Capacity (#)		Utilization (# / %)			
				Trucks/ Docking	Car Spaces	Trucks/ Containers	Cars (#)	Buses	(%)
1	Gabrielli Truck Sales	S. Conduit Ave/153rd Pl	private lot	120	200	118	75		38
2	Dept. of Sanitation (3/4/23)	146th Ave/153rd Ln	docking/lot	7	60	22	30		50
		146th Ave	private lot		50		20		40
		153rd Ct	docking		14	2	0		0
3	Air Park JFK	S. Conduit Ave/153rd Pl	private lot		320		300		94
4	AMB JFK Airport Park	146th Ave	docking/lot	7	100	3	50		50
					150	32	150		100
5	School Buses	S. Conduit Ave/155 St	docking/lot		50		37	300	74
6	Sel's Swift Services	156th St	docking	3		3			
7	Safe Screening Services	155th St	private lot		10		10		100
8	Cosmo Freight Solutions	155th St	private lot		45		32		71
10	Prime Transport	155th St	docking/lot	28	10	13	5 +6		110
11	Concordia Int. Forwd. Corp.	155th St	docking	7		3	2		
12	X-P Shipping	155th St	docking	10		2	5		
13	Unitrans	156th St/S.C.A	private lot		20		9		45
14	RREEF JFK Port Industrial	157th St	docking	11		4	5		
15	Prax Air	157th St	docking	32			30		100
16	Gourmet Boutique	158th St	docking	25		4	14		93
17	Mersant Int. Ltd	158th St	docking	3		1			
18	Mersant Int. Ltd	Rockaway Blvd/159th St	private lot		10		8		80
19	Freigth Transport	156th St/S.C.A	docking/lot	3	4	0	3		75
20	Arc Air Logistics	146th Ave/157th St	private lot		25		23		92
21	US Fed. Aviation Adm.	Rockaway Blvd/144th Rd	private lot		730		250		34
22	JFK Inn	155th St	private lot		80		47		59
23	Comfort Inn	153rd Ln	private lot		18		10		56
24	Holiday Inn Express JFK	153rd Ln/S.C.A	private lot		22		14		64
25	Days Inn	153rd St	private lot		30		12		40
26	Best Western JFK	153rd Ln	private lot		35		14		40
27	Fairfield Inn NY JFK	S.C.A./Rockaway Blvd	private lot		33		25		76

Table 7-2: Off-Street Parking Facilities (Location, Capacity & Utilization)

(Page 2 of 4)

No.	Name of Lot	Location of Facility	Type of Facility	Capacity (#)		Utilization (# / %)			
				Trucks/ Docking	Car spaces	Trucks/ Containers	Cars	Buses	(%)
28	Getty Repair Station	Rockaway Blvd/S.C.Ave	private lot		15		8		53
29	Residential	S.C.Ave/166th St	private lot		10		5		50
30	YA Truck Tire Repair	Rockaway Blvd/144th Ave	private lot		50		35		70
31	Belt Tire Center - Car/Trucks	Rockaway Blvd/144th Rd	private lot		25		7		28
32	Dynasty Express Int. Corp.	Rockaway Blvd/144th Dr	private lot		10		12		120
33	The UPS Store	Rockaway Blvd/144th Dr	private lot		25		30		120
34	New Yummy Express	Rockaway Blvd/145th Rd	private lot		25		22		88
35	Maribel International	145th Rd	private lot		25		21		84
36	Cross Island Fitness Ctr.	Springfield Blvd/S.C.A	private lot		45		44		98
37	NAI Long Island	Springfield Blvd/147 Ave	private lot		30		29		97
			docking/lot	7	20	7	19		95
38	JHS 231	Arthur St	private lot		10		7		70
39	Sun Rock Auto Parts	GB/Farmers Blvds	private lot		20		7		35
40	Budget Truck Rental	GB Blvd/178th Pl	private lot		20	6	8		40
41	Guy R Farmers Ldrmt	GB/Farmers Blvds	private lot		16		2		13
42	Instant Money Service	S.C. Ave/178th Pl	private lot		8		4		50
43	Empire House Luxury Apts	S.C. Ave/177th St	private lot		13		8		62
44	Liberty House Luxury Apts	S.C. Ave/177th St	private lot		23		7		30
45	Luxury Apartments	S.C. AVE/GB Blvd	private lot		25		5		20
46	145 Food Center	GB/Farmers Blvds	private lot		35	4	15		43
47	Birch Family Services	Farmers Blvd/Meadow Dr	private lot		80		52		65
48	Lancer Service Station	S.C. Ave/Farmers Blvd	private lot		15		12		80
49	Eihab Human Services	S.C. Ave/168th St	private lot		20		16		80
50	Residential	S.C. Ave/175th St	private lot		15		6		40
51	Hassel Brothers Auto Body	G.B. Blvd/146th Rd	private lot		35		27		77
52	Express Line USA Inc.	146th Rd/167th St	docking/lot	6	20	4	12		60
53	Truck repair	Rockaway Blvd/145th Rd	private lot		10		10		100
54	Garden Lights Corp.	Rockaway Blvd/145th Dr	docking/lot	4	20	6	6		30
55	Penske Truck Rental	Rockaway Blvd/146th Ave	private lot		60	32			0
56	All State Inc.	Rockaway Blvd/145th Dr	private lot		10	2	2		20
57	Pilot Freight Services	167th St/146th Ave	docking/lot	16	10	4	14		140
58	MTA Bus JFK Depot	Rockaway/ 147th Ave	private lot						
		147th Ave/Farmers Blvd	private lot		90		70		78
		147th Ave	docking/lot	3	28		15		54

Table 7-2: Off-Street Parking Facilities (Location, Capacity & Utilization)

(Page 3 of 4)

No.	Name of Lot	Location of Facility	Type of Facility	Capacity (#)		Utilization (# / %)			
				Trucks/ Docking	Car spaces	Trucks/ Containers	Cars	Buses	(%)
59	McDonalds	Rockaway/Farmers Blvds	private lot		10		8		80
60	Residential	147th Ave/Farmers	private lot		10	1	4		40
61	Boserino Auto Collision	147th Ave/Farmers Blvd	docking/lot	13	26	0	13		50
62	Speedway Auto Center	147th Ave/Farmers Blvd	private lot		32		32		100
63	IFS/BNX Shipping Inc.	147th Ave/Farmers	docking/lot	9	30	5	20		67
64	Excel	147th Ave/Farmers	docking	4		0			
65	LLK Logistics Services	147th Ave/Farmers	docking	2	64	1	44		69
66	Amana Express	147th Ave/Farmers	docking	4	1	3	1		100
67	Assoc. Global System/Seagis	Farmers Blvd	docking	7		0			
68	Perishable Center JFK	Farmers	Docking						
69	UPS Supply Chain Solutions	150 th Road	Docking/lot	94	122	60	90		74
70	Toll Global Forwarding	183 rd St	docking/lot	15	21	11/23	13		62
71	Air Tiger Express USA	149 th Ave/183 rd St	Docking/lot	23	35	7	57		163
72	Aramex	182nd/150 th Rd	docking/lot	32	46	5	42		91
73	Industrial	183 rd St/150 th Dr	Docking/lot	4	85	46/8	48		56
74	Queens Detention Facility	183 rd St/150 th Rd	Docking/lot	20	25	0	21		84
75	Industrial	150 th Rd	Docking/lot	11	20	13	14		70
76	Industrial	Rockaway Blvd/182 nd St	Docking/lot	12	14	13	6		43
77	Mario's Pizza	Guy Brewer Blvd/149 th Rd			25	0	15		60
78	38/39/48	150 th Ave/182 nd St	Docking/lot	18	36	2	27		75
79	GSE Direct	Guy Br. Blvd/149th Ave	Docking/lot	12	38	3	25		66
80	Savino Del Bene USA	F149TH Ave/182 nd St	Docking/lot	12	47	0	45		96
81	Aramex Int. Courier	182 nd St/147 th Ave	Docking/lot	41	20	3	20		100
82	Industrial	Guy Br. Blvd/149th Ave	Docking/lot		50		33		66
83	Industrial	F149TH Ave/182nd St	Docking/lot		20	0	7		35
84	Fast Fleet	147th Ave/181 st St	Docking/lot	34	22	2	20		91
85	Industrial	147th Ave/183 rd St	Docking/lot	52	35	14	35		100
86	Industrial	Guy Br. Blvd/149th Ave	Docking/lot	12	40	8	12		30
87	Quick Int. Courier	148th Ave/148 th Rd	Docking/lot	5	96	5	49		51
88	Industrial	148 th Rd	Docking/lot		36	2	19		53
89	JFK Shuttle	175 th St /148 th Rd	lot		40		32		80
90	Industrial	149 th Rd 177 th St	lot		32		11		34
100	Industrial	Rockaway Boulevard	lot		26		13		50
101	Industrial	149 th Avenue	lot		20		19		95

Table 7-2: Off-Street Parking Facilities (Location, Capacity & Utilization)

(Page 4 of 4)

No.	Name of Lot	Location of Facility	Type of Facility	Capacity (#)		Utilization (# / %)			
				Trucks/ Docking	Car spaces	Trucks/ Containers	Cars	Buses	(%)
102	Industrial	149 th Avenue	lot		25	5	7		28
103	PK Deli	Guy Br. Blvd/149th Rd	lot		30		15		50
104	Industrial	149 th Rd/Guy Br. Blvd	lot		28		15		54
105	BLVD Hero's	Guy Br. Blvd/149 th Rd	lot		5		3		60
106	ATM Services NY	Guy Br. Blvd/150 th Rd	lot		10		6		60
107	Industrial	149th Rd/177 th St	lot		58	2	21		36
108	Dunkin' Donuts	Guy Br. Blvd/Rock Blvd	lot		16		4		25
109	Industrial	150th Rd/Rockaway Blvd	lot		8		5		63
110	Kenny Deli & Grocery	147th Ave/Guy Br. Blvd	Docking/lot	9	18	8	8		44
111	DMV	175 th St/Rockaway Blvd	lot		137		88		64
112	Vehicle Brokers of Queens	148 th Ave/Porter Rd	lot		18		12		67
113	Industrial	Framers Rd/175 th St	lot		60		44		73
114	industrial	147th Ave/Guy Br. Blvd	3 lots		10/10/10		5/1/5		37
115	Sea Food Delight	GBB/147 th Ave	lot		20		14		70
116	Industrial	147 th Ave	lot		15	6			13
117	Jamaican Flavors	Framers Rd/Porter Rd	lot		12		8		67
118	Auto Center	175th St/Farmers Blvd	lot	4	40		40		100
119	Industrial	GBB/147th Ave	lot		10	3	6		60
120	Industrial	176 th St	lot		20	4	6		30
121	Industrial	176 th St	Docking/lot	10	12	3	12		100
122	Industrial	176 th St	lot		15		8		53
123	Industrial	147th Ave/177th St	Docking/ lot	7	22	4	13		59
124	Industrial	177th St/148 th Ave	Docking/ lot	4	60	2	52		87
125	Industrial	177th St/147th Ave	Docking/ lot		140		80		57
126	School Bus Garage	Eastern Rd/Rockaway Blvd						250	
	TOTAL			645	4,666	523	2,706	550	

The average utilization for off-street parking facilities is about 58% for cars and 81% for trucks docking stations during the peak hours. The results from the survey indicated that the capacity for the most of off-street parking facilities can satisfy the existing demands.

8.0 PUBLIC TRANSPORTATION

8.1 Introduction

Public transportation plays a key role in the transportation system of the study area. The public transportation has the second largest mode of travel (44%, compared to vehicle mode of 49%) in the study area. The high percentage of travel relates to buses with a very small subway/railroad distribution share in the area. The study area is well served with public transportation that includes local buses and dollar vans traversing throughout the study area. There are no subway or railroad (LIRR) lines/stations within the study area.

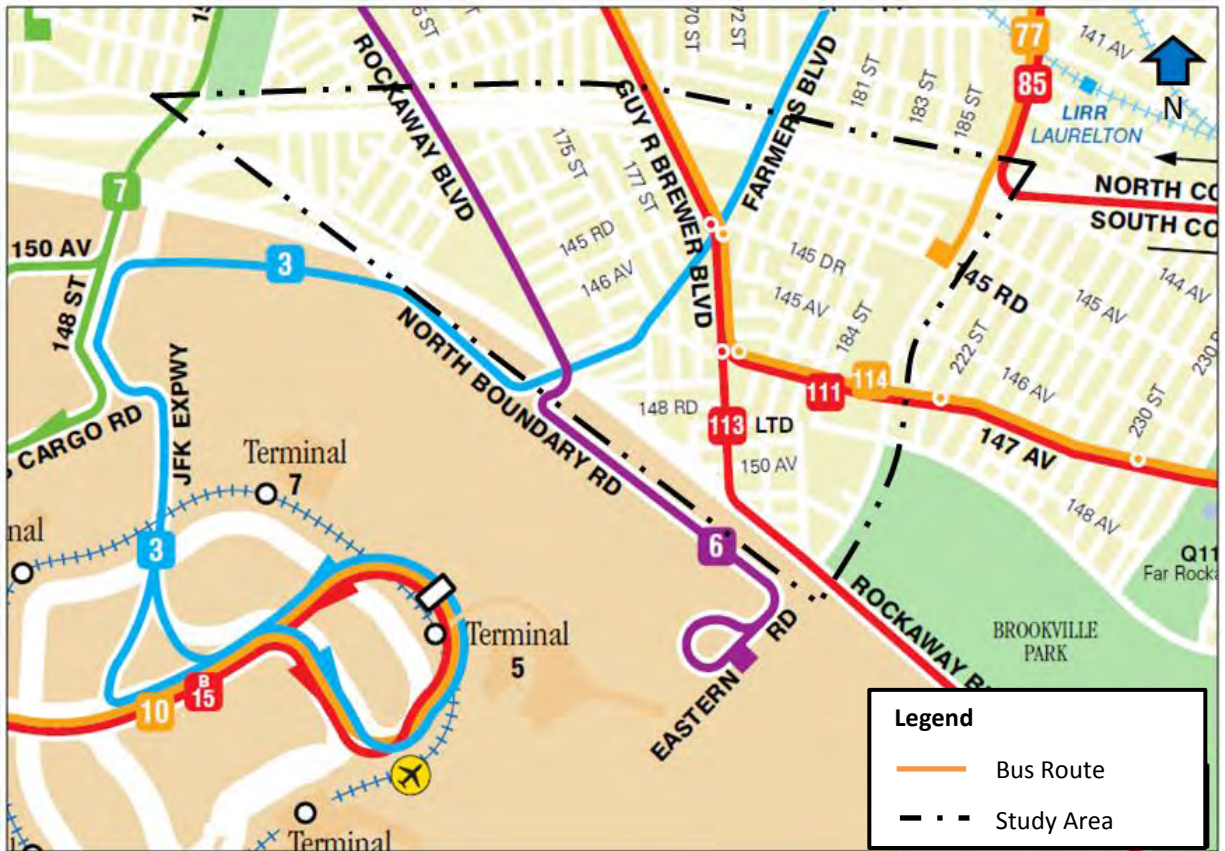
8.2 Bus Network

The Metropolitan Transportation Authority-New York City Transit (MTA-NYCT) provides a network of bus routes along several major corridors (Rockaway, Farmers, Guy R. Brewer, and Springfield Boulevards, and 147th Avenue) in the study area. There are six MTA/NYCT bus lines (Q3, Q6, Q111/114, Q113, and Q77) that operate and provide services within the study area as shown in Figure 8-1. The frequency of bus service varies from one bus route to the other, reflecting different traveler patterns within the study area. Table 8-1 provides the headway information for each of these routes.

MTA Buses:

Q6: The Q6 bus provides service between N. Boundary Rd, JFK Airport cargo area and 165th Street Bus Terminal, Jamaica, daily at all times. Within the study area, the Q6 bus operates along Rockaway Boulevard. The major transfer point along this route is Farmers Blvd intersection (access to Q3 buses). Q3 Limited stop service runs only weekday rush hours, towards 165th Street from 6:00 AM to 8:30 AM and towards JFK airport from 3:00 PM to 7:00 PM.

Figure 8-1: Bus Routes



Q111: The Q111 bus provides service between 148th Avenue/Francis Lewis Boulevard, Rosedale, and Parsons Boulevard subway station, Jamaica at all times. Additional Q111 service operates between Parsons Blvd (F) subway station, Jamaica and 137th Avenue/Guy R. Brewer Boulevard, south Jamaica daily. Within the study area, the Q111 bus operates along Guy R. Brewer Boulevard and 147th Avenue. On school days, additional service runs from Baisley Boulevard/157th Street to Parsons Boulevard (F) subway station at 2:50 PM and 3:40 PM and from Guy R. Brewer Boulevard /134th Avenue to Parsons Boulevard (F) subway station at 3:17 PM.

Q113 (Limited): The Q113 (Limited) bus provides service between Parsons Boulevard (F) subway station, Jamaica, and Beach 20th Street/Seagirt Boulevard, Far Rockaway, via Nassau Expressway, daily. Within the study area, the bus operates along Guy R. Brewer Boulevard and Rockaway Boulevard on school days, additional service runs from Guy R. Brewer Boulevard

/137th Street to Beach 20th Street/Seagirt Boulevard at 2:55 PM. Q113 (Ltd) bus operates only morning to evening.

Q114 (Limited): The Q114 (Limited) bus provides service between Parsons Boulevard (F) subway station, Jamaica, and Beach 20th Street/Seagirt Boulevard, Far Rockaway, daily. Within the study area, the bus operates along Guy R. Brewer Boulevard and 147th Avenue. All Q114 buses make limited stops along Guy R. Brewer Boulevard and 147th Avenue during weekdays 6:00 AM to 9:00 PM, Saturdays 6:00 AM to 9:00 PM and Sunday 9:30 AM to 6:00 PM. All Q114 buses make all local stops between Brookville Boulevard and Far Rockaway at all times.

NYCT MTA Buses:

Q3: The Q3 bus provides service between 165th Street Bus Terminal, Jamaica and JFK Airport (Terminal 5) daily at all times from 12:00 AM to 12:00 PM. Within the study area, the Q3 bus operates along Farmers Boulevard. The major transfer point along this route in the study area is Rockaway Boulevard (access to the Q6 bus) and Guy R. Brewer Boulevard (access to the Q111 and Q113 Ltd buses).

Q77: The Q77 bus provides service between Merrick Boulevard/165th Street bus terminal and Springfield Boulevard/145th Road, Springfield Gardens, daily. In weekdays and Saturdays, bus operates from 6:15 AM to 9:30 PM and Sunday from 6:55 AM to 10:09 PM. Within the study area, the Q77 bus operates along Springfield Boulevard. The major transfer point along this route is South Conduit Avenue (access to the Q85 buses) near the school.

Table 8-1: Average Frequency of NYCT/NICE Bus Services

Route	Weekday					Saturday					Sunday				
	AM	Noon	PM	Eve	Night	AM	Noon	PM	Eve	Night	AM	Noon	PM	Eve	Night
Q3	9	15	9	12	60	20	15	15	15	60	30	17	18	17	60
Q6	5	10	5	9	30	12	12	12	14	30	20	15	15	20	30
Q6(Ltd)	10	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Q77	7	17	10	13	-	30	20	20	24	-	30	30	30	30	-
Q111/Q113 (R1)	5	10	5	9	60	10	10	12	15	60	20	12	12	15	60
Q111/Q113(R2)	3	7	4	6	60	7	7	8	12	60	20	8	8	15	60
Q113 (Ltd)	12	20	12	20	-	20	20	20	20	-	20	20	20	-	-
Q114(Ltd)	12	20	12	20	60	20	20	20	20	60	20	20	20	20	60
Notes: Time Periods: AM= 7-9 AM, Noon= 11 AM-1 PM, PM= 4-7 PM, Eve= 7-9 PM and Night= Midnight - 4 AM															
“-” = no service during time period. R1 = Route one, R2= Route two															

Headway shown in minutes

8.3 Bus Ridership (2013)

Bus ridership includes all passengers who board buses using a valid Metro Card, cash, transfer, SBS ticket, or pass. Ridership does not include employees, non-revenue passengers (e.g., children under 44” tall traveling with an adult). 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). Ridership on major holidays (New Year’s Day, Presidents’ Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas) is included in the Annual Total.

At the end of 2013, the New York City Transit bus system had 192 local, 5 Select Bus Services and 29 Express routes, and the MTA Bus system had 45 local and 35 Express routes. Of the 45 MTA local bus routes, the Q111 had the 8th rank of annual riders (4,154,512). Bus ridership within the study area for the year 2013 is shown in Table 8-2 and Figures 8-2a, 8-2b, and 8-2c.

Table 8-2: Bus Ridership (2013)

Bus Route		Rank	Weekday Average	Weekend Average	Annual Total
NYCT BUS	Q3	92	9,696	11,808	3,112,508
	Q77	124	6,486	2,176	1,762,582
MTA BUS	Q6	11	11,844	10,760	3,600,468
	Q111	8*	13,832	11,644	4,154,512
	Q113	10	11,745	5,227	3,762,914

Source: MTA

* Ranking 8 out of 45 Local bus line (MTA Bus)

** Ranking 92 out of 192 Local bus line (MTA NYCT Bus)

Figure 8-2a: Weekday Bus Ridership

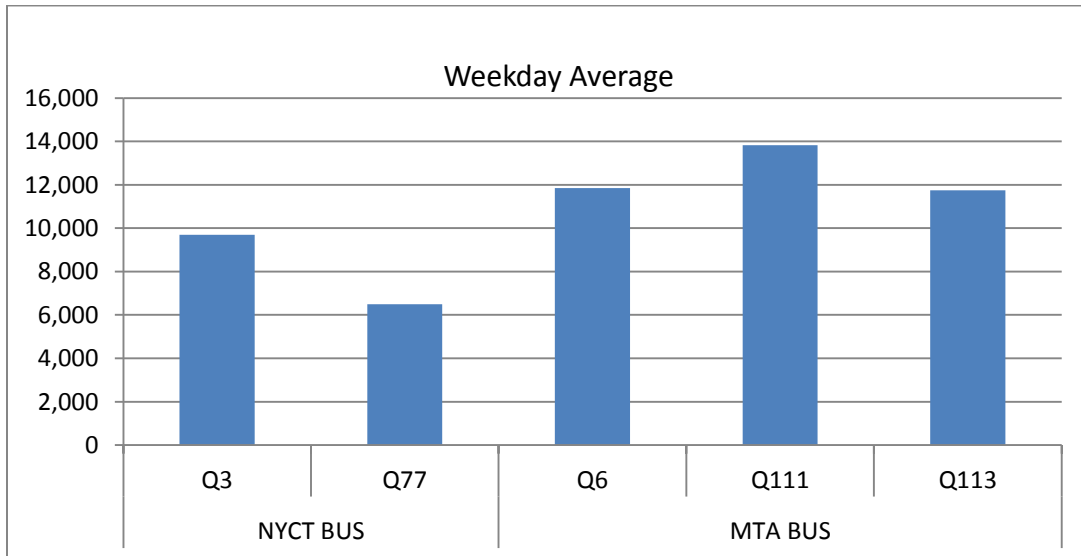


Figure 8-2b: Weekend Bus Ridership

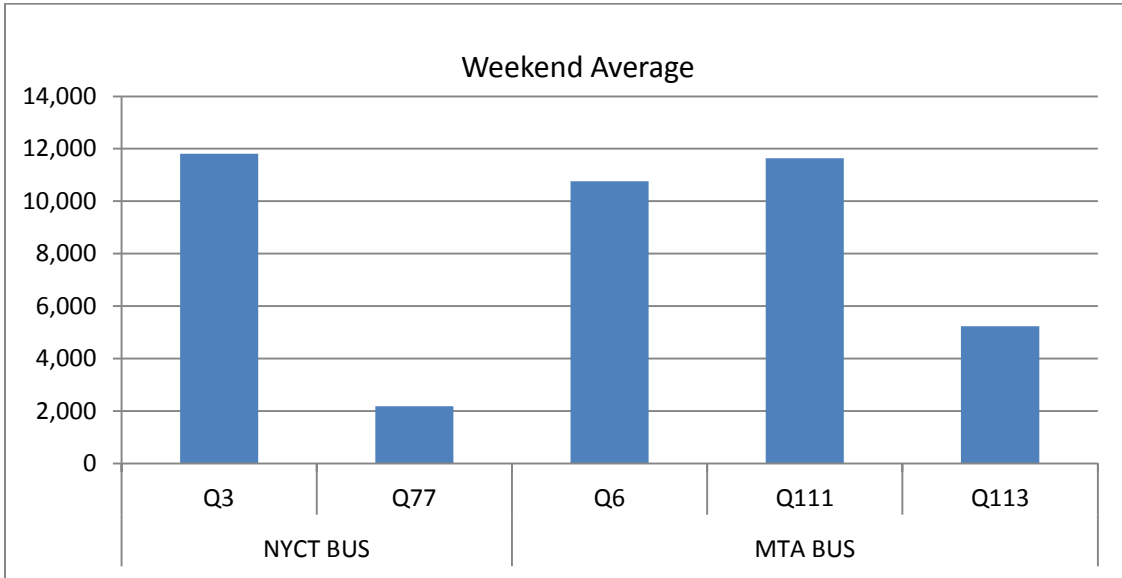


Figure 8-2c: Annual Total Bus Ridership

