Ridgewood Transportation Planning Study

Technical Memorandum No. 1

Existing Conditions 2004

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Prepared by:

New York City Department of Transportation

Iris Weinshall, Commissioner

Judy Bergtraum, First Deputy Commissioner

Michael Primeggia, Deputy Commissioner

Naim Rasheed, Director

Michael Griffith, Deputy Director

Eva Marin, Project Manager

Hau Cho Li, Project Manager

Ali Hamoudeh, Highway Transportation Specialist

Vishal Shah, Intern

Camilla Davis, Intern

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EXECUTIVE SUMMARY

S.1 PROJECT DESCRIPTION

The Ridgewood Transportation study area is located on the Brooklyn/Queens border and is bounded by Metropolitan Avenue to the north, Myrtle Avenue to the south, Traffic Avenue and 65th Street to the east and a line parallel to Forest Avenue connecting Flushing and Metropolitan Avenues in the north to Myrtle and Irving Avenues to the south. The major arterials within the study area include Myrtle Avenue, Forest Avenue, Metropolitan Avenue and Fresh Pond Road. It straddles Community Board 5 in Queens and a small section of Community Board 4 in Brooklyn.

The goal of the study is to assess the existing and future traffic and transportation conditions, identify any problems and generate recommendations to develop a package of improvement measures designed to safely accommodate future transportation needs, resulting from potential development and economic growth, also to examine ways to improve transit. The study will investigate land use, zoning, demographics and other factors that influence traffic and transportation.

S.2 DEMOGRAPHICS

The Ridgewood's study area cuts across two community districts; CD 5 in Queen and CD 4 in Brooklyn, and consists of nineteen census tracts in whole or part.

The demographic analysis for the study area examined population trends from 1980 to 2000. The study area experienced an increase in population of 5.8% between 1980 and 1990 and 15.9% between 1990 and 2000. Similar trend was observed for Queens and New York City with 17.4% and 13% growth, respectively over the 20 years period. The number of households in the study area, Queens and New York City increased over both decades (1980-2000). Median household income has grown over the 20 year period in New York City, Queens and the study area by approximately 29%, 18% and 30%, respectively.

The study area labor force increased by 21.1% between 1980 and 1990; and by 4% between 1990 and 2000. The journey to work by mode distribution shows the majority of

the study area residents in year 2000 used public transportation (subway and buses) and a similar trend was observed for the New York City and Queens residents.

S.3 LAND USE AND ZONING

A land use and zoning analysis of the study area was done by examining the existing zoning, land use, patterns and trends. The analysis focused on categories such as residential, commercial, manufacturing, institutional, and parks uses. It included a review of existing land use maps and the New York City Zoning Resolution. It also looked at recent rezoning actions such as the Middle Village – Glendale Rezoning.

The report shows that the predominant land use in the Ridgewood study area is residential while the land use along Myrtle Avenue is mainly commercial, comprising of national chain stores, restaurants, retails stores, and fast food chain stores.

S.4 TRAFFIC AND TRANSPORTATION

The Existing 2004 traffic conditions were determined through field surveys conducted in November of 2004. The surveys included an inventory of street geometry, signal timing, traffic volumes and parking regulations. Manual turning movements and vehicle classification counts were conducted at many locations. In addition, Automatic Traffic Recorders (ATR) machines were placed at seven locations to record 24 hours traffic volumes on the area street network. The existing condition capacity and level of service analyses showed that there are intersections with poor level of service (LOS) throughout the study area. From a total of 22 intersections analyzed for the various peak hours about half experienced LOS D, E, and F in some or all lane groups. The following lists the number of locations that experienced LOS D, E or F for the respective peak hours:

- During the AM peak hour there are 12 locations;
- During the MD peak hour there are 7 locations;
- During the PM peak hour there are 11 locations; and
- During the Saturday peak hour there are 11 locations.

The most congested corridor in the study area is Myrtle Avenue as seen from the LOS analysis and travel speeds. The average travel speed along Myrtle Avenue is approximately 8 to 14 miles per hour, which is slower than the other cross-town corridors in the study area by approximately 20%.

Goods movement in the study area is a function of truck routes and the origin and destination of goods and services. The distribution of commercial/retail, residential, industrial, and manufacturing can be gleaned from the existing land use and zoning.
There are only two through truck routes in the study area but is adequately served by local truck routes which provide connections to through routes. Truck activity in the study area is very high, particularly along the Myrtle Avenue and Metropolitan Avenue where many commercial/retail establishments are located.

S.5 PUBLIC TRANSPORTATION

The study conducted a transit analysis within the area of study by examining the public transportation facilities and services (subway and bus services) under existing conditions. The capacity and ridership volumes on the buses were also analyzed. The study area is well served and has adequate bus service on all bus routes. A total of thirteen local buses provide service within the area.

S.6 PARKING

A parking analysis of the study area was done by examining existing on-street and off-street parking facilities and the extent to which parking is available and utilized under existing conditions. The study also inventoried and evaluated curb-side street parking regulations within the study area.

The study reveals that:

- There are 2 off-street privately owned parking facilities in the study area with a total capacity of 100 parking spaces.
- The off-street public parking supply is adequate currently and can accommodate the existing demand.

- There are 36 accessory off-street parking facilities in the study area with a total capacity of 1,256 parking spaces.
- The on-street parking utilization on major corridors such as Myrtle Avenue, Palmetto Street, Fresh Pond Road, Forest Avenue, Seneca Avenue, and Central Avenue in the study area shows that the demand just equals capacity as very few empty parking spaces were available, particularly after midday.

S.7 PEDESTRIAN AND BICYCLE ANALYSIS

A pedestrian and bicycle analysis for the study area was conducted for the existing conditions. The pedestrian analysis focused on the identification of high pedestrian volume locations along major corridors and around subway stations, bus stops, and adjacent land uses. It also provided an overview of general pedestrian concentration and flows at selected locations within the study area and assessed vehicle, pedestrian conflicts and capacity problems under current conditions.

The pedestrian data was collected during weekdays (Tuesday, Wednesday or Thursday) during the morning, afternoon and evening peak hours and Saturday Midday peak hours. The pedestrian analysis which included crosswalk and corner level of service (LOS) was done using the HCM methodology. The existing LOS analysis shows that the 13 locations surveyed operate at a LOS C or better.

A review of existing bicycle routes and facilities listed in the New York City Bicycle Master Plan and the New York City Cycling Map was undertaken. The study area does not have network of bicycle lanes and greenway paths. Also there are no bicycle facilities on the study area.

S.8 ACCIDENTS/SAFETY ANALYSIS

A detailed accident analysis was conducted for nine locations in the study area where the total accidents for the three year period between 1998 to 2000 were 20 or more. A preliminary screening for the frequency of accidents showed that there were two locations that averaged between 20 and 37 accidents per year, four locations between 10

and 20 accidents per year, and three locations with less than 10 accidents per year for the three year period.

1.0 INTRODUCTION

1.1 Setting the Context

The Ridgewood neighborhood is known for its brick and stone one or two family homes and row of small multiple dwelling from the early 20th century, mostly build before 1930. There has been little change over the years in the national origins of the area population. Descendants of the original immigrants, predominately from Germany and Central and Eastern Europe still remain in the district but more recently have intermingled with Italian, Irish and Latinos coming to the area.

Ridgewood is a quiet residential mainly working-class neighborhood. The area being less than 45 minutes from Manhattan and close to Williamsburg enjoyed rapid population growth after World War 1 when the bridges connecting Manhattan and Brooklyn were built and the BMT line was extended to Metropolitan Avenue. The M (elevated), the L (underground) and the LIRR provide train service to the area. The M line runs through central Ridgewood (Fresh Pond Road, Forest Avenue, and Seneca Avenue stations) and cuts across Brooklyn to lower Manhattan. At Myrtle/Wyckoff, you can switch to the L train that traverses Williamsburg on its way to Manhattan's Union Square.

The main commercial streets in the study area are Myrtle Avenue, Fresh Pond Road, Forest Avenue, Wyckoff Avenues and Metropolitan Avenue providing adequate opportunities for shopping. Several small stores and local shops specialize in German and Eastern Europe merchandises and delicacies. These corridors have a mix of commercial and residential land uses on both sides of the streets. Buildings are generally 2 to 3 stories high with commercial on the ground floor and residential units on the second and third floors. Retail activities included restaurants, clothing and shoes stores, groceries, delis, pork shops, household appliance stores, hardware and services such as dry cleaners and medical-dental services.

Immediately outside the study area is the Metro Mall, with stores such as Kmart, BJ'S, Conway, GNC, and the Wyckoff Heights Medical center, all the facilities are heavily used by residents of the study area.

Many commercial banks can be found in the study area such as Chase and Citibank at Metropolitan Avenue and Flushing Avenue, and the Ridgewood saving bank - a classic stone bank headquarters at Forest Avenue and Myrtle Avenue. The area also house the "Ridgewood Theater" on Myrtle Avenue, which was opened in 1913. It is one of the longest continuously operated theater in NYC. The neighborhood is also home to post offices, auto sales, rental establishment, major supermarkets, and pharmacies. A police station is located on Catalpa Avenue. The study area offers open green spaces such as Grover Cleveland Park, Glen Ridge Park and the Athletic Field Park for recreational use.

Private and public educational institutions present in the study area are Our Lady of the Miraculous Medal School, St Matthias School, P.S 81, P.S 71, J.H.S 93, and the Queens Ridgewood Library among others.

1.2 Goals and Objectives

The goal of the study is to assess the existing and future traffic and transportation conditions, identify problems and generate recommendations to develop a package of improvement measures to address future transportation needs. The study's main objectives therefore are:

- To identify the travel and traffic characteristics and to assess the existing transportation demand of the study area;
- To project and assess the future (2015) conditions of the study area with respect to demographic, land use, traffic, transit, pedestrian and bicycle, parking, and good movement and;
- To reduce vehicular congestion, while improving travel conditions and safety for all users (vehicular and pedestrian) and increase accessibility to public transit / alternate modes.

An in-dept analysis of the following pertinent issues will provide the basis for realizing the study's goals and objectives along with extensive public outreach.

Demographics: An analysis of existing and future population trends will be conducted focusing on household size, income, car ownership-rates, age distribution, travel behavior, and mode share.

Land Use and zoning: An analysis of the existing zoning and land use trends in the area will be conducted. It will focus on the spatial distribution and identification of the major trip generators

and associated trips due to the land use characteristics. An assessment of the future implications of potential land use changes will also be done.

Traffic: An analysis of the existing and future traffic conditions will be undertaken. This requires an inventory of the street geometry, traffic volumes, parking regulations, traffic controls, and other factors required to conduct traffic capacity analysis using the Highway Capacity Manual (HCM) methodology. This will allow one to determine volume to capacity (v/c) ratios, vehicular delay and level of services (LOS) for the AM, MD, PM and Saturday peak hours.

Pedestrians & Bicycles: Pedestrian activity and level of services will be conducted for existing and future conditions for crosswalks and corners at selected locations where high pedestrian concentrations are found usually due to the land use characteristics. An inventory of bicycles facilities will be conducted and an assessment of the demand for the use of bicycles as an alternate mode in the study area will be done.

Accidents: An accident analysis for the study area will be done for a three year period (1998-2000), using data provided by NYCDOT, NYPD, and DMV. The analysis will address factors such as accident type, frequency, severity, and pedestrian/bicyclists involves.

Parking: A detailed examination of on and off-Street parking supply and demand for existing and future projected conditions will be done. Areas with parking short fall will be identified and measures recommended to satisfy demand.

Goods Movement: An assessment of truck routes and truck traffic in the study area and its relation to commercial, retail, and industrial activity will be done.

Transit: An analysis of transit usage (bus and subway) in the area. The analysis will address routes, ridership, frequency, and adequacy of service.

The study will recommend measures (Transportation Systems Management, Transportation Demand Management) to alleviate congestion and improve safety and mobility of pedestrian and vehicular traffic thereby improving the quality of life of people who live and work there.

1.3 The Study Area

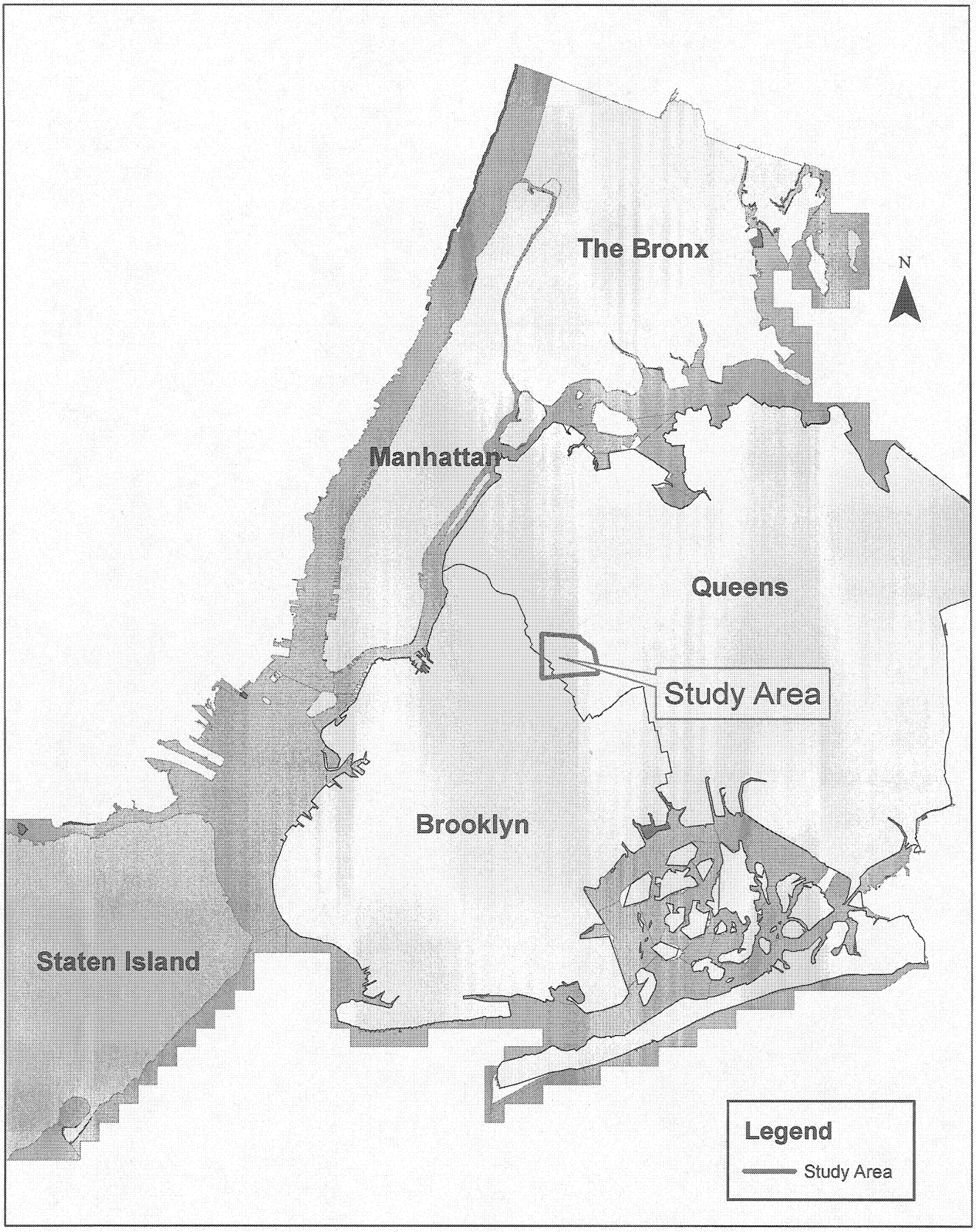
The study area is located on the Brooklyn / Queens Border and is bounded by Metropolitan Avenue to the north, Myrtle Avenue to the south, Traffic Avenue and 65th Street to the east and a line parallel to Forest Avenue connecting Flushing and Metropolitan Avenues in the north to Myrtle and Irving Avenues to the south. The major arterials within the study area are Myrtle Avenue, Forest Avenue, Metropolitan Avenue and Fresh Pond Road.

The study area falls within community board 5 in Queens and a small section of community board 4 in Brooklyn. Figure 1-1 shows the study area in a regional context and Figure 1-2 shows the study area boundaries and community boards.

The Ridgewood area has experienced an increase in population over the past two decades, a trend still seen today. The population trends in the study area show an increase of approximately 16.0 % from 53,524 in 1990 to 62,053 in year 2000. The number of households increased also during the 1990's and 2000's.

The study area is well served by major highways and public transit. The major expressways in the vicinity of the study area are the Brooklyn- Queens Expressway / I-278 to the west which can be accessed using Flushing, Grand, or Metropolitan Avenues. To the north is the Long Island Expressway (LIE), and to the south east of the study area there are the Jackie Robinson Parkway and the Van Wyck Expressway. The transit operators providing service in the area are NYC Transit (Bus and Subways) and Long Island Rail Road (commuter rail).

Figure 1-1: Study area in the Regional context



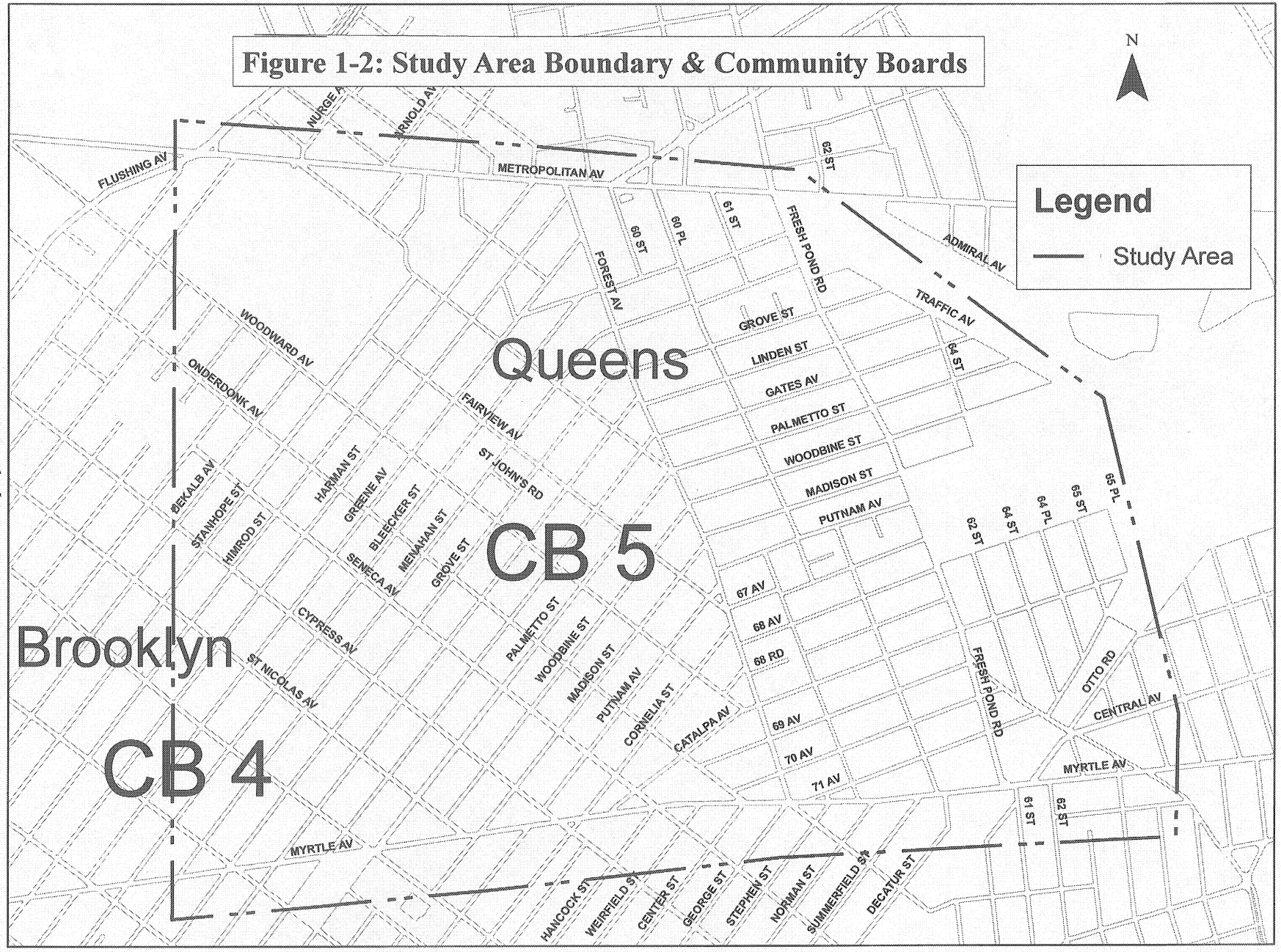


Figure 1-2: Study Area Boundary & Community Boards
N
Legend
Study Area
Queens
Brooklyn
CB 5
CB 4
METROPOLITAN AV
FLUSHING AV
NURGE AV
ARNOLD AV
62 ST
FRESH POND RD
ADMIRAL AV
TRAFFIC AV
FOREST AV
60 ST
60 PL
61 ST
64 ST
GROVE ST
LINDEN ST
GATES AV
PALMETTO ST
WOODBINE ST
MADISON ST
PUTNAM AV
65 PL
65 ST
64 PL
62 ST
WOODWARD AV
ONDERDONK AV
FAIRVIEW AV
ST JOHN'S RD
DEKALB AV
STANHOPE ST
HIMROD ST
HARMAN ST
GREENE AV
BLEECKER ST
MENAHAN ST
SENECA AV
GROVE ST
CYPRESS AV
ST NICOLAS AV
67 AV
68 AV
68 RD
69 AV
70 AV
71 AV
CORNELIA ST
CATALPA AV
OTTO RD
CENTRAL AV
MYRTLE AV
61 ST
62 ST
HANCOCK ST
WEIRFIELD ST
CENTER ST
GEORGE ST
STEPHEN ST
NORMAN ST
SUMMERFIELD ST
DECATUR ST

At the moment, there is no known planning or rezoning proposals within the study area. However, there are two major transit rehabilitation and improvements projects underway and the planned reconstruction of Wyckoff Avenue. The following highlights some of the studies.

Myrtle/Wyckoff Intermodal Improvements

The Myrtle/Wyckoff Intermodal Improvements project is sponsored by NYCT and NYC DOT, in coordination with the Federal Transit Administration. The primary objective of the project is to improve customer transfers among the subway stations (elevated M and underground L trains) and buses by transforming the one block segment of Palmetto Street between Myrtle/Wyckoff Avenues and St. Nicholas Avenue into an integrated intermodal facility. The intermodal improvements work is expected to start in February 2007 and last until June 2008.

Rehabilitation of Myrtle/Wyckoff subway station

NYCT is currently in the process of rehabilitating and upgrading the Myrtle/Wyckoff subway stations, a project separate from the intermodal improvements mentioned above. Both stations have been designated in poor condition and are not in complaint with the Americans with Disabilities Act (ADA). The station rehabilitation is currently underway and is anticipated to be completed in August 2007.

Reconstruction Wyckoff Avenue from Flushing Avenue to Cooper Avenue

This reconstruction project passes through a very small section of the study area. The Department of Design and Construction of the City of New York is undertaking the reconstruction of Wyckoff Avenue from Flushing Avenue to Cooper Avenue. Currently the project is in its design/pre-construction phase.

1.4 Project Organization and Methodology

The organization of this study is reflected in Figure 1-3. The following are the project tasks:

Task 1 – Project Organization and Management

A detailed work program that outlines tasks, subtasks, task products and schedule has been developed including selection of Technical Advisory Committee (TAC) members.

Task 2 – Literature Search

Relevant studies have been obtained from DOT's Environmental Impact Statement Library and from the Department of City Planning and other public and private agencies. Some of the studies reviewed were:

1. Myrtle/Wyckoff Intermodal Improvements, Draft Categorical Exclusion, NYCT September 2005

Task 3 – Data Collection and Identification of Issues

Primary and secondary data was collected for the following: demographic, land use and zoning, traffic, parking, pedestrians and bicycles, transit, accidents, and goods movement for the study area. An inventory of all existing conditions information was created.

Task 4 – Analysis of Existing Conditions

Conduct a comprehensive analysis of the existing conditions (2003) data collected for population, land use and zoning, traffic and transportation, parking, pedestrian and bicycle, transit, accidents and goods movement in the study area. Identify problems and issues based on analysis and community input.

Task 5 – Draft report for Existing Conditions (Technical Memorandum No.1.)

Task 6 – Analysis of Future Conditions

Conduct an analysis of projected future (2015) conditions, for all issues studied for the existing conditions (demographics, land-use and zoning, traffic, parking, transit, pedestrian and bicycle, accidents and goods movements.)

Task 7 – Development & Evaluation of Alternative Improvement Packages

Generate recommendations and to develop a package of improvement measures designed to safely accommodate future traffic and transportation needs resulting from potential development and economic growth.

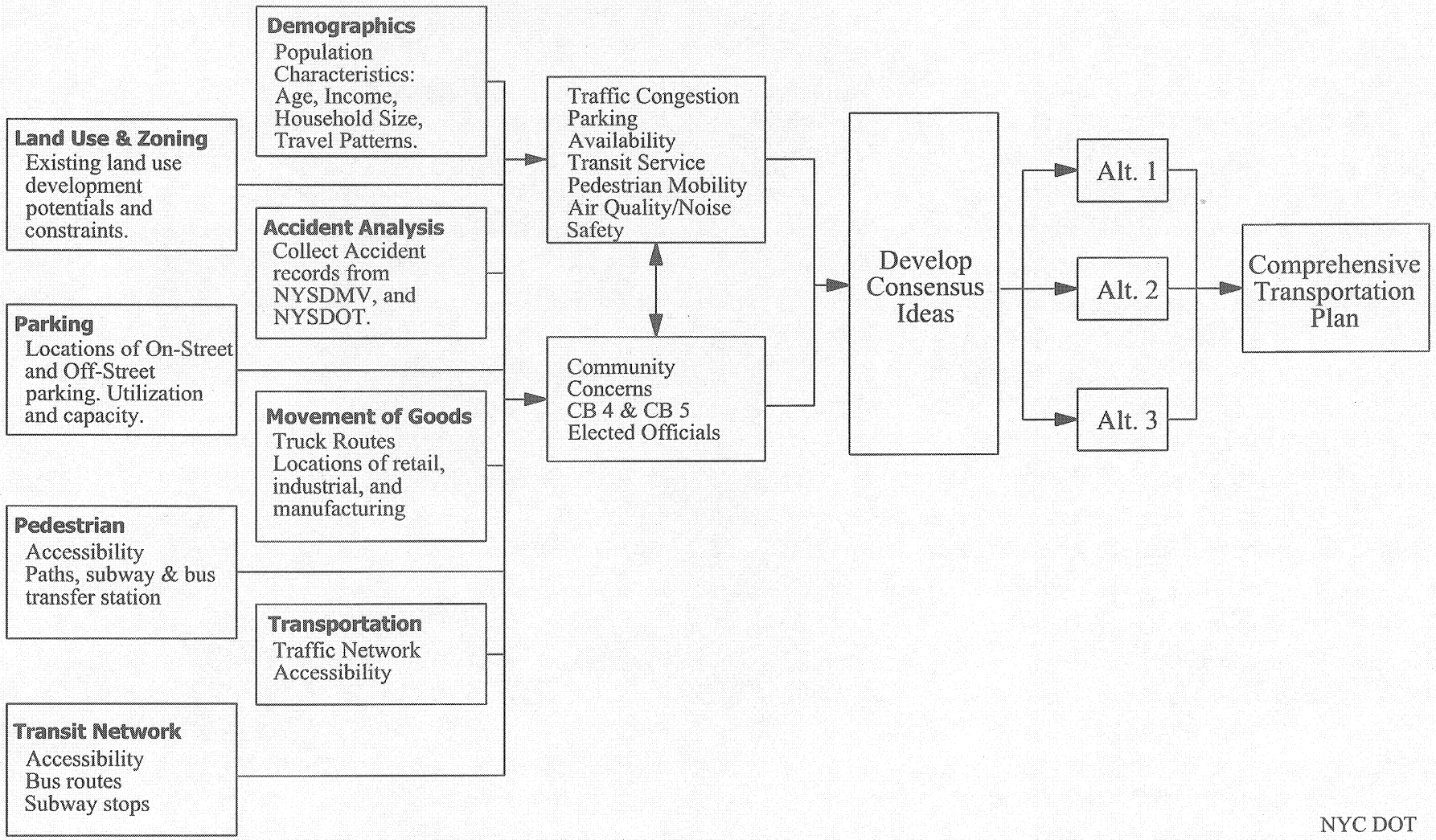
Task 8 – Recommendations and Implementation Plan

Task 9 – Draft Final Report

Task 10 – Final Report

Incorporate comments of the various agencies and community groups.

Figure 1-3
RIDGEWOOD TRANSPORTATION STUDY
Process & Issues
Inventory Issues Alternatives Plan



NYC DOT

2.0 DEMOGRAPHIC ANALYSIS

The demographic and socioeconomic analysis of the study area examine trends such as population growth and decline, age distribution and sex, household size, employment, income and car ownership rate to help determine future travel needs.

The demographic analysis relies on data from New York City Department of City Planning (NYCDCP), and computer files issued by the United States Department of Commerce – Bureau of the Census. Data was collected and analyzed for the years 1980, 1990 and 2000.

The Ridgewood's study area cuts across two community districts and two New York City Boroughs. The Study area is located predominately within Community District No. 5 in Queens with a very small section in the southwest part of the study area in CD No. 4 in Brooklyn.

There are nineteen census tracts in the study area; eleven of them fall entirely within the study area, while eight are partially located in the study area. Three of the nineteen tracts are in Brooklyn and the others are in Queens. The study area consists of the following Census Tracts: 439*, 441*, 443*, 539*, 545, 547, 549, 551, 577*, 579*, 581, 583, 585, 587, 589, 591, 593, 595*, 613*.

To better assess the population dynamics of the study area, comparisons were made with the Borough of Queens, where approximately 95% of the study area falls, and New York City, where applicable. Table 2-1 shows the census tracts, borough, community district and the percentage of the census tract in the study area.

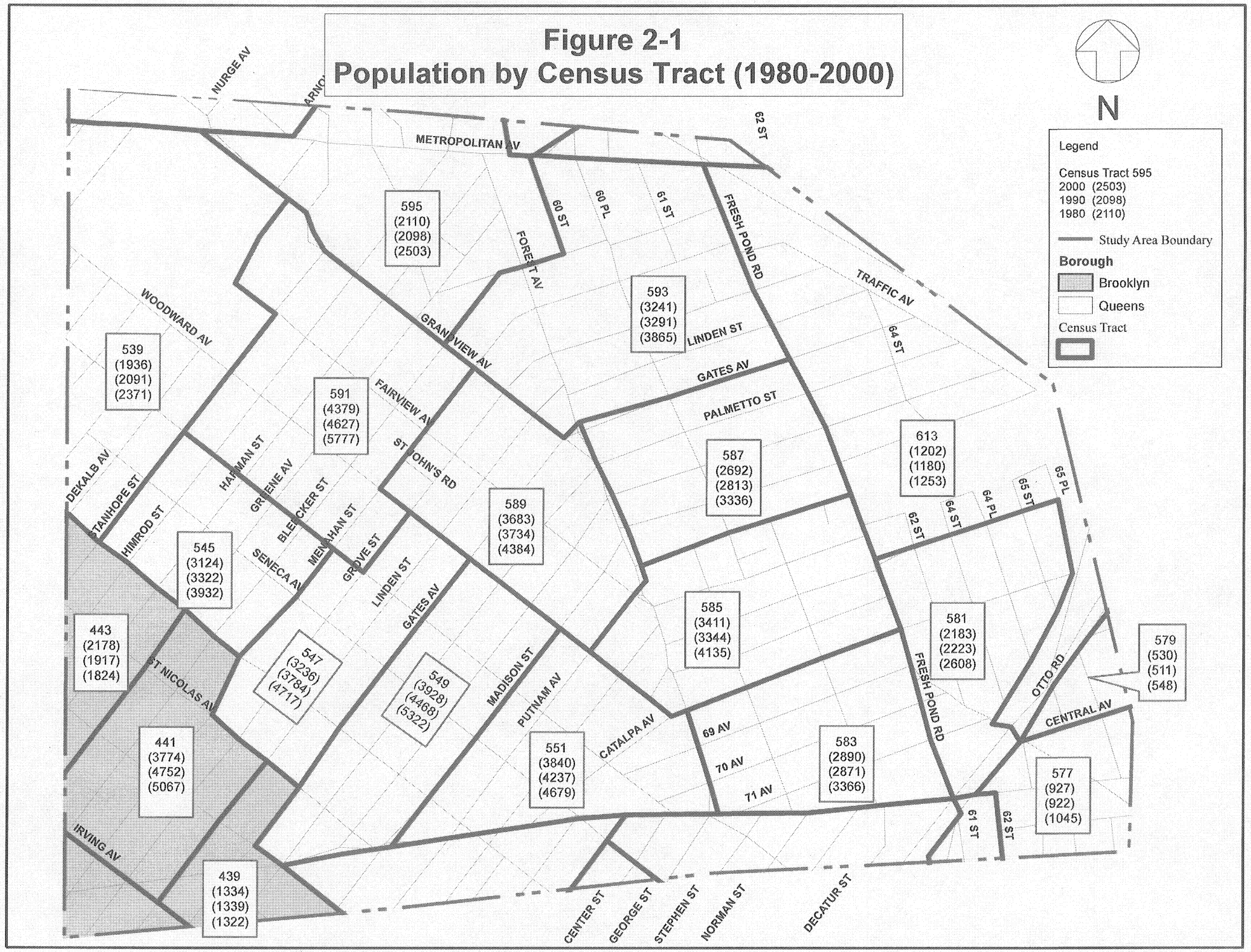
*Tracts partially within the study area.

In the analysis of partial census tracts, it is assumed that the population and other related variables are evenly distributed geographically. Figure 2-1 shows the study area and the community districts boundaries.

TABLE 2-1

#	Census Tract	Borough/CD	Percentage of Tract in The Study Area (%)
1	439	BK/4	35
2	441	BK/4	97
3	443	BK/4	45
4	539	Q/5	60
5	545	Q/5	100
6	547	Q/5	100
7	549	Q/5	100
8	551	Q/5	100
9	577	Q/5	30
10	579	Q/5	20
11	581	Q/5	100
12	583	Q/5	100
13	585	Q/5	100
14	587	Q/5	100
15	589	Q/5	100
16	591	Q/5	100
17	593	Q/5	100
18	595	Q/5	55
19	613	Q/5	25

Figure 2-1
Population by Census Tract (1980-2000)



2.1 Population Trends

As shown in Table 2-2 below, the population analysis covers the three decennial years 1980, 1990 and 2000. The study area had a population of 50,597 in 1980, 53,524 in 1990, and 62,053 in 2000. This shows a population increase of 21.7% over the 20 year period. Comparing the population changes in the study area with the borough of Queens and New York City, it shows that all three geographic areas recorded growth; New York City grew by 13%, and Queens grew by 17.4% over the 20 year period.

Table 2-2: Population by Area

Census Year	New York City	% Change	Queens	% Change	Study Area	% Change
1980	7,071,639	-	1,891,325	-	50,597	-
1990	7,322,564	3.6	1,951,598	3.2	53,524	5.8
2000	8,008,278	9.4	2,229,379	14.2	62,053	15.9

The travel needs and characteristics of the school-attending population are different from that of the working and retired population. To capture the difference, the analysis was applied to six age groups between 0-4, 5-9, 10-14, 15-19, 20-64, 65+. This analysis reflects pre-school, elementary, junior high school, high school, employable, and retired population, respectively. Even though the legal working age is 16, Department of City Planning (DCP) statistics show that less than 40% of the ages 0-17 are employed. Census data also shows that a significant number of the school population is between 19-25 years old. According to the DCP, the retirement age of 65 plus was supported by the fact that less than 20% of this population is employed. The 0-19 age group is predominately a school attending population. Their trips are slightly outside the work trip peak hours. The work trips are more directly related to the 20-64 age groups. The majority of the retirement age group trips are outside the work trip and school trip peak hours. Table 2-3 shows comparison in the age distribution among the study area, Queens and New York City.

Table 2-3: Population by Area and Age Group

Census Year & Age Group	New York City	% Share	Queens	% Share	Study Area	% Share
1980	**7,071,639**	**100**	**1,891,325**	**100**	**50,597**	**100**
0 -4	470,694	6.7	111,399	5.9	3,907	7.7
5 -9	447,327	6.3	110,369	5.8	5,211	10.3
10 - 14	506,283	7.2	127,289	6.7	2,871	5.7
15 - 19	563,492	8.0	143,124	7.6	5,833	11.5
20-64	4,132,111	58.4	1,117,816	59.1	23,567	46.6
65+	951,732	13.5	281,328	14.9	9,180	18.1
1990	**7,322,564**	**100**	**1,951,598**	**100**	**53,524**	**100**
0 - 4	509,740	7.0	121,590	6.2	3,917	7.3
5 - 9	457,477	6.2	108,599	5.6	3,380	6.3
10 - 14	450,072	6.1	110,275	5.7	3,249	6.1
15 - 19	470,786	6.4	117,941	6.0	3,431	6.4
20 - 64	4,481,172	61.2	1,204,850	61.7	32,168	60.1
65+	953,317	13.1	288,343	14.8	7,380	13.8
2000	**8,008,278**	**100**	**2,229,379**	**100**	**62,053**	**100**
0 - 4	540,878	6.8	140,509	6.3	4,923	7.9
5 - 9	561,115	7.0	146,955	6.6	5,041	8.1
10 - 14	530,816	7.0	140,287	6.3	4,348	7.0
15 - 19	520,641	7.0	134,795	6.0	4,228	6.8
20 - 64	4,916,971	61.4	1,384,009	62.0	37,813	60.9
65+	937,857	12.0	282,824	13.0	5,699	9.2

2.2 Labor Force

According to the U.S census bureau, the labor force includes all persons in the civilian labor force plus members of the Armed Forces (persons 16 years of age and over on active duty with the U.S. Army, Navy, Air Force, Marine Corps, or Coast Guards). The "civilian labor force" consists of persons classified as employed or unemployed. Those not in the labor force are mainly students, housewives, retired workers, seasonal workers, inmates of institutions, disabled persons, and persons doing only incidental unpaid family work.

As expected, the labor force fluctuates with changes in the total population. Table 2-4 shows the labor force distribution for the years 1980, 1990 and 2000 for New York City, Queens, and the study area.

Table 2-4 indicates that in New York City from 1980 to 2000 the percentage of the population over 16 years of age decreased by 10.1% in the first decade, while the labor force also decreased by 4.7%. During the second decade, even though the population over 16 years of age increased by 7.9% in New York City, the labor force only increased by 1.1%. From 1980 to 1990 in New York City, the number of employed civilians decreased by 6.6% while the number of unemployed civilians increased by 19.7%. The employed and unemployed civilians from 1990 to 2000 increased by 0.6% and 7.6%, respectively in New York City

Queens' population over 16 years of age increased during both decades by 4.9% from 1980 to 1990 and by 11.8% between 1990 and 2000. The labor force also increased by 12% between 1980 and 1990 and by 2% from 1990 to 2000. Queens also experienced an increase in both employed and unemployed civilians during both decades; there was a 10.4% and 34.4% increase during the first decade, and there was a slight increase of 1.9% and 4.4% during the second decade.

In the study area, the population over 16 years of age increased by 10.2% between 1980 and 1990 from 37,969 to 41,837. This is reflected by the 21.1% or the 4,386 person increase in the labor force during this period. During the second decade, the population over 16 years old and the labor force also increased by 11.6% and 4%, respectively. The study area experienced an increase in employed (17.4%) and unemployed (63.9%) civilians between 1980 and 1990. The unemployed civilians in the study area almost doubled the rate observed for Queens and almost tripled the rate for New York City during the same period. In the ten years between 1990 and 2000 in the study area, the number of employed civilians increased by 4% while unemployed civilians increased 5.8%.

Table 2-4: Labor Force Distribution for 1980, 1990 and 2000 Census data

Census Year	New York City	% change	Queens	% change	Study Area	% change
1980 (Total pop)	**7,071,639**	-	**1,891,325**	-	**50,597**	-
Pop over 16 years	6,467,814	-	1,514,278	-	37,969	-
In labor force	3,764,267	-	908,085	-	20,744	-
Employed	3,487,013	-	850,310	-	19,160	-
Unemployed	269,009	-	57,123	-	1,578	-
1990 (Total pop)	**7,322,564**	**3.6**	**1,951,598**	**3.2**	**53,524**	**5.8**
Pop over 16 years	5,817,015	-10.1	1,588,591	4.9	41,837	10.2
In labor force	3,586,428	-4.7	1,017,127	12.0	25,112	21.1
Employed	3,257,637	-6.6	938,996	10.4	22,489	17.4
Unemployed	322,125	19.7	76,752	34.4	2,586	63.9
2000 (Total pop)	**8,008,278**	**9.4**	**2,229,379**	**14.2**	**62,053**	**15.9**
Pop over 16 years	6,279,431	7.9	1,775,449	11.8	46,694	11.6
In labor force	3,626,865	1.1	1,037,238	2.0	26,127	4.0
Employed	3,277,825	0.6	956,784	1.9	23,384	4.0
Unemployed	346,741	7.6	80,111	4.4	2,737	5.8

2.3 Household Characteristics

The number of households in the study area increased by 6.4% from 19,541 to 20,782 between 1980 and 1990, while the number increased by only 2.3% to 21,255 between 1990 and 2000. The number of households in Queens also increased in both decades; It increased by 1% to 720,149 between 1980 and 1990 and by 9% to 782,664 from 1990 to 2000. In New York City the number of households increased by 1% from 2,788,530 to 2,819,401 from 1980 to 1990, while between 1990 and 2000 the number increased by 7.2% to 3,021,588.

The average household size, which is measured in persons per household, in the study area showed an increase from 2.42 to 2.61 between 1980 and 1990 and a similar increase from 2.61 to 3.01 between 1990 and 2000. Household size in Queens showed a similar trend; there was an increase from 2.63 to 2.67 between 1980 and 1990 and an increase from 2.67 to 2.81 between 1990 and 2000. The average household size for New York City increased during both decades from 2.49 to 2.54 between 1980 and 1990 and from 2.54 to 2.59 between 1990 and 2000. The rate of growth is slightly lower than the increase observed within the study area.

Table 2-5 shows the household characteristics (number of household and average household size) in New York City, Queens and the study area.

Table 2-5: Household Characteristics

Census Year	New York City	% Change	Queens	% Change	Study Area	% Change
1980 Population	7,071,639		1,891,325		50,597	
# of Households	2,788,530		711,940		19,541	
Persons Per Household	2.49		2.63		2.42	
1990 Population	7,322,564	3.6	1,951,598	3.2	53,524	5.8
# of Households	2,819,401	1.1	720,149	1.2	20,782	6.4
Persons Per Household	2.54	2.0	2.67	1.5	2.61	7.9
2000 Population	8,008,278	9.4	2,229,379	14.2	62,053	15.9
# of Households	3,021,588	7.2	782,664	8.7	21,255	2.3
Persons Per Household	2.59	2.0	2.81	5.2	3.01	15.3

2.4 Median Household Income

The median household income in the study area is best represented by a comparison with New York City and Queens. Table 2-6 shows median income in New York City, Queens, and the study area for the period 1980-2000.

Table 2-6: Median Household Income by Area

Census Year	New York City	% Change	Queens	% Change	Study Area	% Change
1980	$29,802	-	$36,270	-	$26,567	-
1990	$38,909	30.6	$44,601	23.0	$35,477	33.5
2000	$38,293	-1.6	$42,439	-4.8	$34,158	-3.7

Household median income has grown over the past 20 years in New York City, Queens, and the study area by approximately 29%, 18% and 30%, respectively. The median income of New York City was $29,802 in 1980 and rose to $38,909 by 1990, reflecting an increase of 30.6% during the first decade. The median income in Queens, on the other hand, increased by 23% from $36,270 to $44,601 while in the study area it increased by as much as 33.5% from $26,567 to $35,477. However, the median household income of the study area was only $34,158 which was approximately 19% less than Queens median income and 11% less than New York City. Between 1990 and 2000 the residents of New York City, Queens and the study area all experienced income decreases of approximately 2%, 5% and 4%, respectively.

2.5 Vehicle Ownership

Between 1980 and 2000, vehicle ownership in **New York City** increased by approximately 16%. In 1980, from a total of 2,788,530 households, about 41% owned a vehicle. By 1990, about 44% of the total households owned a vehicle. Data from 2000 shows that the percentage remained the same, and about 44% of the 3,021,588 households in New York City owned a car.

The number of households with only one vehicle decreased by approximately 1.7% in New York City between 1980 and 1990, while number of households with two and three or more vehicles increased by approximately 34% and 98%, respectively. Between 1990 and 2000, the trend slowed and the number of households with one vehicle, two vehicles, and three or more vehicles increased in New York City by approximately 7.6%, 8%, and 5.3%, respectively.

In **Queens,** the total number of households that did not own a vehicle during 1980, 1990 and 2000 were 39%, 37% and 38% of the total respectively. Hence, more than 60% of the households owned a car. Queens experienced a 12% increase in vehicle ownership over the 20 year period. Between 1980 and 1990 the number of households with one vehicle decreased by 6.8%, while households with two vehicles increased by 27%, but the number of households with three or more vehicles doubled from 1980 to 1990. Between 1990 and 2000, the number of households with one vehicle increased by 7.8%, households with two vehicles increased by 7.1%, and households with three or more vehicles experienced a decline of about 3%.

In 1980, 1990 and 2000 in the study area, 47%, 46% and 45% respectively owned at least one vehicle. s . Though vehicle ownership declined 1% per decade, the number of households with vehicles increased overall by 3.8% between 1980 and 1990 and decreased by 0.4% between 1990 and 2000. While Queens had a 12% increase in car ownership, the number of households in the study area with no vehicle increased by 12% over the past 20 year period.

Between 1980 and 1990 the number of households in the study area owning one, two, and three or more vehicles increased by 0.8%, 19.6% and 1.1%, respectively. However, between 1990 and 2000, households owning one and two vehicles decreased by 0.4% and 9.2%, while households with three or more increased by 55.3%. Table 2-7 shows vehicle ownership per household in the study area, Queens and New York City for the period 1980-2000.

The population in the study area increased by 21.7% between 1980 and 2000 and gained an absolute number of 11,456 people. Vehicle ownership however remained relatively stable with 47%, 46%, and 45% over 1980, 1990, and 2000.

Table 2-7: Vehicle Ownership per Household (1980 and 2000)

Area	Year	Number of Households	Households with Zero veh	% change	Households with vehicles	% change	One	% change	Two	% change	Three or more	% change
NYC	1980	2,788,530	1,636,988	-	1,151,542	-	902,529	-	211,518	-	37,495	-
	1990	2,819,401	1,575,217	-3.8	1,244,184	8.0	887,309	-1.7	282,593	33.6	74,282	98.1
	2000	3,021,588	1,682,946	6.8	1,338,642	7.6	955,165	7.6	305,267	8.0	78,210	5.3
Queens	1980	711,940	278,073	-	433,867	-	319,765	-	96,632	-	17,470	-
	1990	720,149	263,702	-5.2	456,447	5.2	297,987	-6.8	123,443	27.7	35,017	100.4
	2000	782,664	295,049	11.9	487,615	6.8	321,337	7.8	132,217	7.1	34,061	-2.7
Study Area	1980	19,541	10,268	-	9,273	-	7,553	-	1,460	-	261	-
	1990	20,782	11,159	8.7	9,623	3.8	7,613	0.8	1,746	19.6	264	1.1
	2000	21,255	11,674	4.6	9,581	-0.4	7,586	-0.4	1,585	-9.2	410	55.3

2.6 Journey to work by Mode

Journey to work by mode was examined in the 1980, 1990 and 2000 census years. Tables 2-8, 2-9, 2-10 and 2-11 show a summary of the journey to work by mode share.

The 1980 journey to work data for public transportation and other modes were not available at the same level of detail as for 1990 and 2000 census years. However, the 1980 data clearly shows that for New York City, Queens and the study area public transportation was the predominant mode. It represented 56.2%, 50.8% and 53.9% of the total trips, respectively. Journey by rail (subway, elevated trains and rail road) trips represented approximately 42% in New York City, and 40% in both Queens and in the study area.

Journey to work by automobiles represent the second most commonly used mode with 31% auto share in New York City, 42% in Queens and 32% in the study area.

Walking was about 12% share and 14% share Of the journey to work trips in New York City walking made up a 12% share, the study area was a 14% share, and the share of walking in Queens only constituted 7%. Travel by "other means" for journey to work was less than 2% of the trips in New York City, Queens and the study area over the decades.

The 1990 journey to work data showed similar trends to 1980 with public transportation as the predominant mode. In 1990, New York City public transportation accounted for 54.5% of all work trips, 48.5% in Queens, and 50% in the study area. Travel by subway was the most commonly used mode of public transportation in all locations, accounting for 38% of all work trips in the study area, 35.1% in Queens and 37.6 in New York City.

Automobile are the second most commonly used mode of transportation for journey to work in New York City (33.4%), Queens (44.9%), and the study area (37.8%). This category includes both driving alone and carpooled trips.

Less than 1% of the study area residents use taxicabs, ferry or railroad for journey to work. Walking represents 11.5% share in the study area, is about the same for New York City, but is only half of that in Queens.

The 2000 journey to work data maintained the trends of 1990 with public transportation as the predominant mode. In New York City, 54.2% of the residents use public transit, in Queens the share is 48.2% and in the study area the share is 56.1%. In the study area 42.9% of the trips are made by subway and 11.7% made by buses. Taxicabs represent less than 1% of the work trips in the study area and Queens, while in New York City the percentage share is 1.7%. Automobile accounted for 32% of the total trips in the study area, 45.3% in Queens and 33.9% for New York City. Among the other modes, walking represents 11.2% in the study area, 5.8% in Queens and 10.7% in New York City.

Table 2-8: 1980 Journey To Work By Mode

1980 Census Year	New York City	Mode Share %	Queens	Mode Share %	Study Area	Mode Share %
Car, Truck or Van						
Drove alone	567,774	20.7	239,045	29.4	4,159	22.3
Carpooled	278,273	10.2	101,640	12.5	1,769	9.5
Total	**846,047**	**30.9**	**340,685**	**41.9**	**5,928**	**31.7**
Public Transportation						
Bus or street car	384,393	14	88,221	10.8	2,520	13.5
Subway, elevated train or rail road	1,157,634	42.2	324,898	39.9	7,544	40.4
Total	**1,542,027**	**56.2**	**413,119**	**50.8**	**10,064**	**53.9**
Walked only	320,308	11.7	54,960	6.8	2,583	13.8
Other means	33,166	1.2	4,928	0.6	102	0.5
Total Trips	**2,741,548**	**100**	**813,692**	**100**	**18,677**	**100**

Table 2-9: 1990 Journey To Work By Mode

1990 Census Year	New York City	Mode Share %	Queens	Mode Share %	Study Area	Mode Share %
Car, Truck or Van	-	-	-	-	-	-
Drove alone	765,151	24.6	309,990	34.3	5,913	27.2
Carpooled	271,503	8.7	95,940	10.6	2,329	10.7
Total	**1,036,654**	**33.4**	**405,930**	**44.9**	**8,240**	**37.8**
Public Transportation	-	-	-	-	-	-
Bus	403,477	13.0	94,390	10.4	2,318	10.8
Subway	1,168,346	37.6	317,421	35.1	8,124	38.0
Railroad	54,716	1.8	21,260	2.3	213	1.0
Ferry	16,619	0.5	94	0.0	0	0
Taxicab	50,096	1.6	5,237	0.6	59	0.3
Total	**1,693,254**	**54.5**	**438,402**	**48.5**	**10,714**	**50.0**
Other modes	-	-	-	-	-	-
Motorcycle	1,711	0.1	415	0.0	4	0
Bicycle	9,643	0.3	1,531	0.2	31	0.1
Walked	340,077	10.9	54,646	6.0	2,472	11.5
Other means	24,930	0.8	3,767	0.4	88	0.4
Total	**376,361**	**12.1**	**60,359**	**6.7**	**2,595**	**12.1**
Total Trips	**3,106,269**	**100**	**904,691**	**100**	**21,407**	**100**

Table 2-10: 2000 Journey To Work By Mode

2000 Census Year	New York City	Mode Share %	Queens	Mode Share %	Study Area	Mode Share %
Car, Truck or Van	-	-	-	-	-	-
Drove alone	794,422	25.6	319,187	34.9	5,349	23.9
Carpooled	254,974	8.2	95,329	10.4	1,827	8.2
Total	**1,049,396**	**33.9**	**414,516**	**45.3**	**7,176**	**32.0**
Public Transportation	-		-		-	
Bus	364,408	11.8	94,729	10.4	2,625	11.7
Subway	1,199,226	38.7	319,225	34.9	9,608	42.9
Railroad	51,141	1.6	20,845	2.3	157	0.7
Ferry	11,193	0.4	143	0.0	0	0.0
Taxicab	53,781	1.7	6,235	0.7	163	0.7
Total	**1,679,749**	**54.2**	**441,177**	**48.2**	**12,553**	**56.1**
Other modes	-		-		-	
Motorcycle	1,488	0.0	384	0.0	12	0.1
Bicycle	15,024	0.5	2,417	0.3	93	0.4
Walked	332,264	10.7	52,776	5.8	2,515	11.2
Other means	21,998	0.7	3,766	0.4	45	0.2
Total	**370,774**	**12.0**	**59,343**	**6.5**	**2,665**	**11.9**
Total Trips	**3,099,919**	**100**	**915,036**	**100**	**22,394**	**100**

2.7 Study Area Population Characteristics

Table 2-11 and Figure 2-2 show population characteristics in the study area for each of the census year. Over the past 20, years the study area experienced an increase in population of about 22% and 8.7% increase in the total number of households. The labor force, income and car ownership also experienced an increase over the two decades.

Table 2-11
Study Area Population Characteristics

Census Year	Total Population	# of Households	Labor Force	Income	Car Ownership
1980	50,597	19,541	20,744	$ 26,567	9,273
1990	53,524	20,782	25,112	$ 35,477	9,623
2000	62,053	21,255	26,127	$ 34,158	9,581
% change (1980-2000)	21.7	8.7	25.1	29.8	3.4

Figure 2-2
Study Area Population Graph Trends