PERIPHERAL TRAVEL STUDY

NYC Department of City Planning
Transportation Division
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TABLE OF CONTENTS

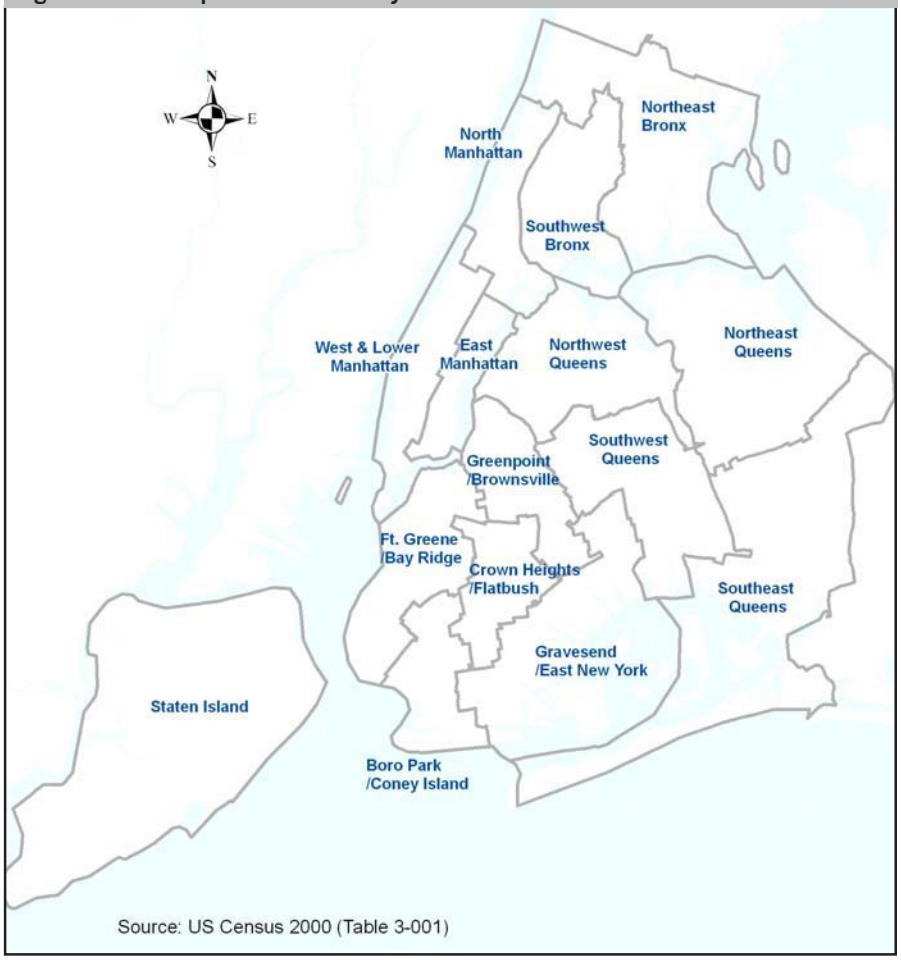
LIST OF TABLES

LIST OF FIGURES

LIST OF MAPS

EXECUTIVE SUMMARY

Figure A. NYC Peripheral Travel Study Areas



This study was initiated to identify opportunities for near- and long-term strategic plans for the transportation needs in the boroughs other than Manhattan. Collectively, these boroughs are forecast to gain more than 550,000 residents between 2010 and 2030 with corresponding increases in employment. These increases will impact travel in all boroughs.

New York City already achieves the highest transit share in the nation for journey-to-work trips. Nevertheless, it continues to experience vehicular congestion and, in PlaNYC, it has set for itself ambitious goals for reducing both congestion and the at-least-partially-related greenhouse gas emissions. To achieve these goals will require, in part, reductions in the auto share for travel trips.

The goal of this study is to evaluate journey to work commutes for the workers who live and/or work in the boroughs outside of Manhattan. Since subway and commuter rail systems focus primarily on delivering commuters to Manhattan Central Business Districts (CBD), this study is an opportunity to analyze work trips involving other destinations, around the periphery of the CBD. These peripheral work trips represent a larger percentage of total work trips than the Manhattan-bound commuters whereas, historically, much of the attention on mass transit has been focused on the CBD-bound commuter. These peripheral workers may benefit from alternate transit or alternative transportation options to alleviate travel time, increase travel mode choices, and manage congestion. It is hoped that this study, together with other mobility-related studies underway by the Department of City Planning, will provide guidance on better serving non-CBD bound trips and support efforts at the City Department of Transportation and the Metropolitan Transportation Authority to grow non-auto travel. Although not the subject of this study, it is anticipated that any improvements to better serve journey-to-work trips would better serve other trips as well.

Contained within Section I of this report, is the methodology used in this study and a summary of the "major findings" of the journey-to-work travel trends in the boroughs outside Manhattan. Section II details the specifics of the study by analyzing the data based on various levels of geographies, such as borough to borough, borough to/from Study Areas and Study Areas to/from Study Areas. Section III presents a conclusion of the entire study and recommendations for next steps. Section IV - Appendix contains additional data and tables.

Major Findings

Although there is a common perception that most workers are concentrated in the Manhattan Central Business District (CBD), this is not true. Manhattan does have the greatest density of employment, and it draws more workers from throughout the region than any other area. More than 880,000 New York City residents commute from the other four boroughs into Manhattan. But when looked at on a borough-to-borough basis, more people live and work in the same borough than commute to any other borough, accounting for more than 1 million resident workers (Table A). In addition, there are a significant number of New York City residents that commute between the boroughs to work. Excluding journeys to Manhattan, there were more than 323,000 interborough journeys-to-work of which 143,000 (44 percent) were between Queens and Brooklyn (Table B).

Table A. NYC Workers: Work Trips by Borough

Origin: Borough of Residence	Destination: Borough of Work						Total
	The Bronx	Brooklyn	Queens	Staten Island	Manhattan	Outside NYC	
The Bronx	**168,050** **(41.0%)**	16,772 (4.1%)	17,155 (4.2%)	2,049 (0.5%)	157,203 (38.5%)	47,591 (11.6%)	408,770 (100%)
Brooklyn	10,813 (1.2%)	**417,954** **(48.0%)**	59,711 (6.8%)	8,832 (1.0%)	333,379 (38.2%)	41,203 (4.7%)	871,892 (100%)
Queens	17,497 (1.9%)	83,772 (9.3%)	**357,681** **(40.0%)**	5,002 (0.5%)	339,011 (37.5%)	100,125 (11.0%)	903,088 (100%)
Staten Island	1,028 (0.6%)	28,173 (15.0%)	5,368 (2.9%)	**84,629** **(45.5%)**	52,236 (28.0%)	14,503 (7.8%)	185,937 (100%)
Manhattan	20,218 (2.7%)	25,054 (3.4%)	19,691 (2.6%)	2,720 (0.4%)	**628,095** **(84.3%)**	49,185 (6.6%)	744,963 (100%)
Total	217,606	571,725	459,606	103,232	1,509,924	252,607	3,114,700

Source: US Census 2000

Table B. NYC Workers with Borough to Borough Work Trips

Origin: Borough of Residence	Destination: Borough of Work				Total # of workers
	The Bronx	Brooklyn	Queens	Staten Island	
The Bronx		16,772	17,155	2,049	35,976
Brooklyn	10,813		59,711	8,832	79,356
Queens	17,497	83,772		5,002	106,271
Staten Island	1,028	28,173	5,368		34,569
Manhattan	20,218	25,054	19,691	2,720	67,683
Total	49,556 (15.3%)	153,771 (47.5%)	101,925 (31.5%)	18,603 (5.7%)	323,855 (100%)

Source: US Census 2000

Residents

Residents of the Bronx, Brooklyn and Queens predominantly rely on transportation other than cars when traveling to work. This holds true both for workers living and working in the same borough and those commuting to work in another borough (when including journeys to Manhattan). For those commuting outside the borough, Subway/RR/Ferry is the predominant mode of travel reflecting the widespread use, though not exclusively, of the subway system for travel to the CBD. Among those working and living in the same borough, the predominant mode in Brooklyn is Other (which includes walking, biking, taxi, motorcycle and work at home). In Queens and the Bronx, the predominant mode is auto, though the combined transit share exceeds that for cars. In contrast, residents of Staten Island rely on cars for journey-to-work trips both within the borough and to employment in other boroughs.

Just as more people work in the borough in which they reside than work in Manhattan, among people that live and work in the same borough, more people tend to work in the same study area (Super Puma) in which they live than in any other.

- In both Bronx study areas
- In all four Queens study areas
- In four of the five Brooklyn study areas

Among residents that do not live and work in the same study area, residents tend to work in an adjoining study area.

For residents who work in the same study area they reside in, the Other mode of travel is the most common method of travel in about half of the study areas. The four highest shares of Other mode were in central Brooklyn and study areas closest to the Manhattan core, all exceeding 40 percent. For these areas, the Other share exceeds the combined transit share. These study areas and the Southwest Bronx, Northwest Queens and the remaining Brooklyn study area (Gravesend/East New York) have the largest Other modal split. All but the last are typically the densest study areas and are located closest to the Manhattan core.

The same study areas that are closer to Manhattan and are more likely to have residents that use subways to travel work have the highest concentration of "Other" as the mode for journey-to work travel. When residents of the areas located closest to the Manhattan core commute to other study areas, Subway/RR/Ferry is the dominant modal split with relatively similar total transit shares (including bus) among them.

Workers

More workers in boroughs outside of Manhattan also reside in the borough they work in than work in any other borough. In Brooklyn, Queens and the Bronx between 61 and 65 percent of the borough workforce live in the borough they work in. In Staten Island, more than 72 percent of the workforce are Staten Island residents.

The majority of workers arriving to work in study areas in the Bronx, Brooklyn, Queens, and Staten Island boroughs travel by car (Table C).

Table C. Workers in Study Areas: Mode of Transportation to Work and Travel Time

Destination: Workers by Study Areas of Work		Mode of Transportation to Work						
		Car	Bus	Subway/RR/ Ferry	Walk	Others	Total	Avg. Travel Time (Min)
BRONX	091- Northeast	74,089 (57.6%)	19,356 (15.1%)	13,690 (10.7%)	13,199 (10.3%)	8,062 (6.3%)	128,396 (100.0%)	34.7
	092- Southwest	75,307 (49.0%)	25,035 (16.3%)	27,608 (18.0%)	15,720 (10.2%)	9,961 (6.5%)	153,631 (100.0%)	38.3
	Total	**149,396 (53.0%)**	**44,391 (15.7%)**	**41,298 (14.6%)**	**28,919 (10.3%)**	**18,023 (6.4%)**	**282,027 (100%)**	
BROOKLYN	121- Greenpoint/Brownsville	53,200 (47.0%)	14,197 (12.5%)	22,289 (19.7%)	15,794 (14.0%)	7,738 (6.8%)	113,218 (100.0%)	40.0
	122- Ft Greene/Bay Ridge	108,318 (39.5%)	28,106 (10.3%)	88,796 (32.4%)	24,482 (8.9%)	24,283 (8.9%)	273,985 (100.0%)	43.9
	123- Crown Heights/Flatbush	44,856 (45.5%)	16,750 (17.0%)	17,436 (17.7%)	11,484 (11.7%)	7,973 (8.1%)	98,499 (100.0%)	38.1
	124- Gravesend/East New York	52,206 (56.3%)	13,137 (14.2%)	11,332 (12.2%)	10,115 (10.9%)	5,913 (6.4%)	92,703 (100.0%)	35.8
	125- Boro Park/Coney Island	44,758 (50.7%)	10,578 (12.0%)	12,299 (14.0%)	14,687 (16.7%)	5,819 (6.6%)	88,141 (100.0%)	34.0
	Total	**303,338 (45.5%)**	**82,768 (12.4%)**	**152,152 (22.8%)**	**76,562 (11.5%)**	**51,726 (7.8%)**	**666,546 (100%)**	
QUEENS	111- Northwest	116,992 (54.1%)	17,200 (7.9%)	47,895 (22.1%)	19,962 (9.2%)	14,524 (6.7%)	216,573 (100.0%)	40.8
	112- Northeast	82,526 (61.9%)	15,328 (11.5%)	14,265 (10.7%)	11,862 (8.9%)	9,265 (7.0%)	133,246 (100.0%)	34.4
	113- Southeast	96,819 (66.8%)	18,393 (12.7%)	12,572 (8.7%)	7,013 (4.8%)	10,215 (7.0%)	145,012 (100.0%)	38.8
	114- Southwest	58,666 (58.1%)	10,643 (10.5%)	13,299 (13.2%)	11,560 (11.4%)	6,856 (6.8%)	101,024 (100.0%)	34.9
	Total	**355,003 (59.5%)**	**61,564 (10.3%)**	**88,031 (14.8%)**	**50,397 (8.5%)**	**40,860 (6.9%)**	**595,855 (100%)**	
STATEN ISLAND	130- Staten Island	86,041 (71.6%)	12,607 (10.5%)	7,615 (6.3%)	5,951 (5.0%)	7,960 (6.6%)	120,174 (100.0%)	31.8
	Total	**86,041 (71.6%)**	**12,607 (10.5%)**	**7,615 (6.3%)**	**5,951 (5.0%)**	**7,960 (6.6%)**	**120,174 (100%)**	

At least a plurality of workers arriving to work in locations outside of Manhattan arrive by auto in every study area. The auto share exceeds the combined Subway/RR/Ferry and bus share in every study area except Ft. Greene/Bay Ridge, where Downtown Brooklyn is located. Subway/RR/Ferry always accounts for less than one third of workers working in a study area. This is true for both for workers residing in New York City and those from the city's suburbs.

Cars are the most common means of transportation among 4 of the 5 highest inter-study area commuter flows and among residents of all study areas except the five closest to Manhattan and Boro Park/Coney Island.

Workers who reside Outside New York City and work in New York City comprise the largest number of workers who make inbound trips into each borough, with the exception of Brooklyn. (Table D) Workers from outside of New York City rely extensively on automobiles for journey-to-work in locations in all four boroughs. Most Brooklyn workers who reside outside Brooklyn commute from Queens.

Table D. Workers in Each Study Area by Borough of Residence

	Destination: Study Areas of Work	Bronx	Brooklyn	Queens	Staten Island	Manhattan	Outside NYC
	91- Northeast	**77,871**	3,886	7,361	361	7,112	28,822
	92- Southwest	**90,179**	6,927	10,136	667	13,106	28,843
BRONX	Total	168,050	10,813	17,497	1,028	20,218	57,665
	121- Greenpoint/Brownsville	2,487	**65,340**	20,515	2,383	3,852	13,841
	122- Ft. Greene/Bay	9,348	**160,915**	35,059	13,829	13,811	33,665
	123- Crown Heights/Flatbush	2,306	**67226**	10,314	2,651	3,543	8,801
	124- Gravesend/East New York	1,616	**60,415**	11,747	3,657	2,243	9,441
	125-Boro Park/Coney Island	1,015	**64,058**	6,137	5,653	1,605	6,522
BROOKLYN	Total	16,772	417,954	83,772	28,173	25,054	72,270
	111- Northwest	9,034	23,018	**127,685**	2,689	9,985	37,616
	112- Northeast	3,154	9,973	**86,134**	876	4,075	24,501
	113- Southeast	2,684	15,131	**79,559**	1,091	3,081	39,306
	114- Southwest	2,283	11,589	**64,303**	712	2,550	15,449
QUEENS	Total	17,155	59,711	357,681	5,368	19,691	116,872
	101- North	22,380	13,005	13,722	1,152	**58,848**	24,914
	102- West & Lower	92,889	240,895	230,639	39,922	**394,598**	388,274
	103- East	41,934	79,479	94,650	11,162	**174,649**	127,266
MANHATTAN	Total	157,203	333,379	339,011	52,236	628,095	540,454
	130- Staten Island	2,049	8,832	5,002	**84,629**	2,720	13,698
STATEN ISLAND	Total	2,049	8,832	5,002	84,629	2,720	13,698

Travel Time

Excluding Manhattan residents and considering all destinations, residents in Southeast Queens (both drivers and transit riders), also are generally located far from subway lines and most major employment centers, have the highest mean travel time (48.0 minutes), whereas the Ft. Greene/Bay Ridge residents (located closer to Manhattan and served by extensive subway coverage) have the shortest mean travel time (38.8 minutes) for work trips.

Those working in Staten Island have shorter average commute times than those working in any other study area; those in Fort Greene/Bay Ridge the longest. In contrast, residents of Fort Greene/Bay Ridge study area have the shortest average commute times of residents of any study area, while residents of Southeast Queens have the longest commute times. Staten Island residents, when compared on a countywide basis, have the longest commute times in the City and one of the longest in the nation.

Implications

The automobile remains an extremely important means of travel among dispersed locations. However, the journey-to-work data demonstrate that people tend to work relatively close to their residence. Among those that work close to home in the same study area, non-automotive means of travel are used more frequently than any other. One area for further exploration is what additional public policy levers could encourage other workers living and working in the same study area or in adjoining study areas (which are generally the next likeliest study areas to work in) to use non-automotive modes for journey-to-work trips. Since many non-journey-to-work trips are also likely to be relatively local, improving conditions for non-automotive travel for nearby journey-to-work trips may also encourage people to choose non-automotive modes for more of their other nearby trips.

Study areas in the central parts of Brooklyn and along the Manhattan border in Brooklyn, Queens and the Bronx are generally the denser areas of these boroughs. These areas are better served by transit and tend to offer a range of nearby destinations for employment, goods, services and institutions that can make neighborhoods more walkable. These study areas include all 9 non-Manhattan "Walkers Paradises" identified by Walk Score™ (walkscore.com), and every community in these study areas scored in Walk Score's™ two top categories of walkability. Land use policies that encourage population growth in the six study areas that constitute this area promote non-auto trips for both journey-to-work and non-journey-to-work travel.

There may be opportunities for further shifts in modal split away from automobiles among those who take relatively short trips, particularly those within the same Super Puma or to an adjoining Super Puma. Improvements to transit, transportation demand management (TDM) or alternative transportation modes to encourage modal shifts for these relatively short-distance trips, may also have benefits of altering mode choices for non-journey-to-work trips. Alternative transportation modes, such as walking and biking, are likely to be more useful options for these relatively short trips, particularly during warmer times of the year and in non-inclement weather.

Since high shares of residents work locally, where shorter distances should reduce average travel times, the high travel times in some locations appear to be a particular problem. In Southeast Queens, which has the longest travel times, long distances for journeys-to-work and multi-modal, public transit trips may account for long travel times. In Staten Island, where most workers also live on the Island and which has the lowest travel times for people working within the study area but among the longest travel times for residents, the numbers suggest that long off-island travel times are pushing up average travel times. Again, multi-modal trips or travel along congested vehicular routes may explain this. Improvements that speed up the transit portions of these journeys could positively impact journey-to-work times for these long commutes.

More than 300,000 people travel daily between the boroughs (other than Manhattan) to work. The automobile dominates this travel. Nevertheless, there may be opportunities to expand the use of alternative modes. One area in particular worth exploring is travel between Brooklyn and Queens, which constitutes 44 percent of interborough trips. These boroughs are adjacent and both bus service and bicycle improvements should be explored. In addition, there may be opportunities to better take advantage of the Atlantic Branch of the Long Island Railroad, which connects downtown Jamaica and its transit hub with Atlantic Terminal, Downtown Brooklyn and nine subway lines.

The medium-density six study area closest to Manhattan may serve as a model for other locations, both within the city and in suburban locations, to create centers such as downtown Jamaica that maximize "other" transit modes of travel and offer shorter length auto trips.

In study areas further from the CBD, where automobile use plays a more important part in maintaining mobility, additional study is needed to evaluate public policies toward automobile use.

01 INTRO

Introduction

This study was initiated to evaluate existing and long-term strategic plans for the transportation needs in the boroughs other than Manhattan. Collectively, the Department of City Planning forecast these boroughs to gain more than 550,000 residents between 2010 and 2030 with corresponding increases in employment of 435,000 forecast by the New York Metropolitan Transportation Council. These increases will impact travel in all boroughs.

New York City already achieves the highest transit share in the nation for journey-to-work trips with almost 55 percent of all commuters using transit for journey-to-work trips, more than 50 percent higher than the next most transit-depended city. Nevertheless, it continues to experience vehicular congestion and, in PlaNYC, it has set for itself ambitious goals for reducing both congestion and the at-least-partially-related greenhouse gas emissions. To achieve these goals will require, among other things, reductions in the auto share for travel trips.

The goal of this study is to evaluate journey to work commutes for the workers who live and/or work in the boroughs outside of Manhattan. Since subway and commuter rail systems focus primarily on delivering commuters to Manhattan Central Business Districts (CBD), this study is an opportunity to analyze work trips involving other destinations, around the periphery of the CBD. These peripheral work trips represent a larger percentage of total work trips than the Manhattan-bound commuters whereas, historically, much of the attention on mass transit has been focused on the CBD-bound commuter. These peripheral workers may benefit from alternate transit or alternative transportation options to alleviate travel time, increase travel mode choices, and manage congestion. It is hoped that this study, together with other mobility-related studies underway by the Department of City Planning, will provide guidance on better serving non-CBD bound trips and support efforts at the City Department of Transportation and the Metropolitan Transportation Authority to grow non-auto travel. Although not the subject of this study, it is anticipated that any improvements to better serve journey-to-work trips would better serve other trips as well.

Contained within this Section I is the methodology used in this study and a summary of the "major findings" of the journey to work travel trends in the peripheral boroughs. Section II details the specifics of the study by analyzing the data based on various levels of geographies, such as borough to borough, borough to/from Study Areas, Study Areas to/from Study Areas, community districts, and U.S. 2000 census tracts. Section III presents a conclusion of the entire study and recommendations for next steps. Section IV - Appendix contains additional data and tables.

Figure 1. Peripheral Journey to Work Travel in NYC

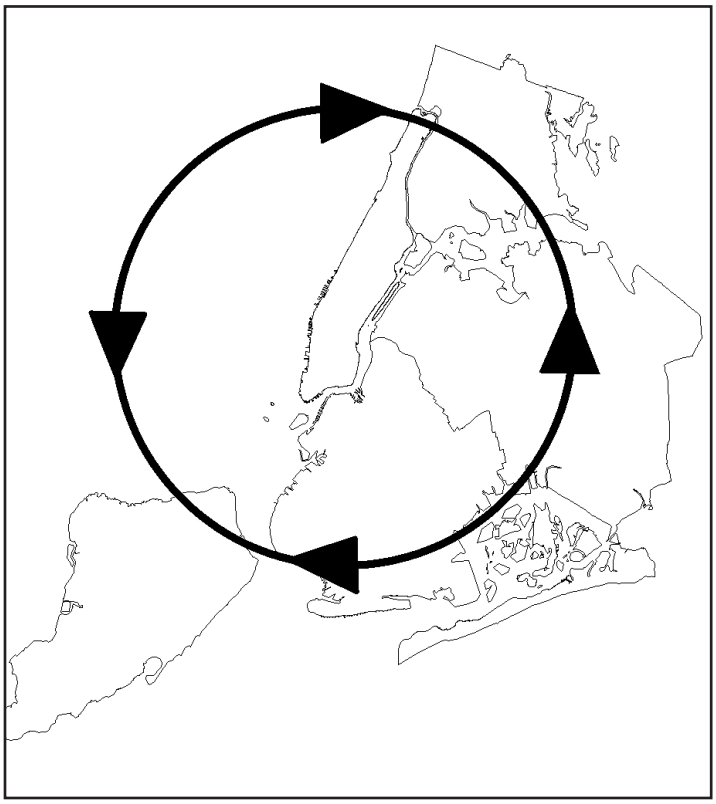
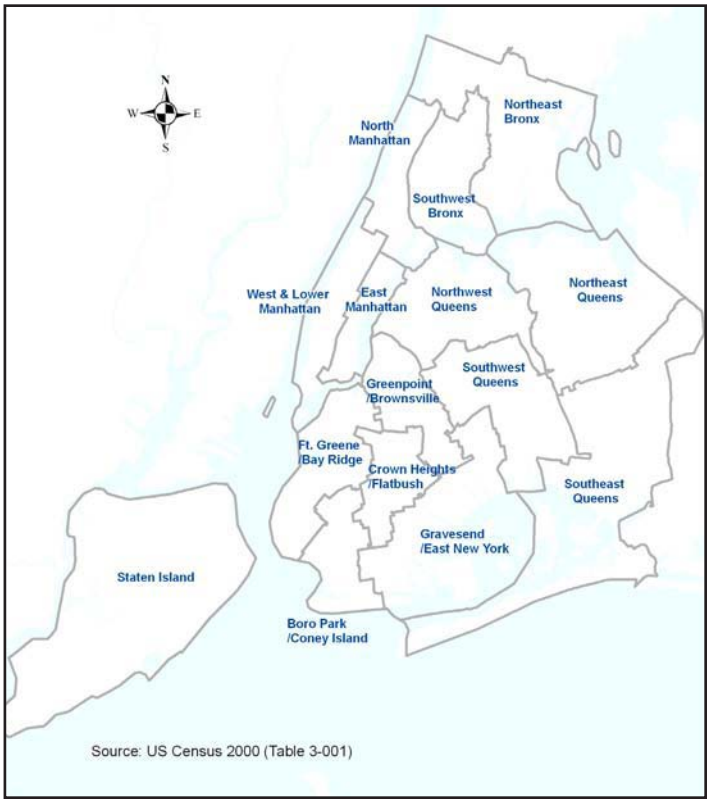


Figure 2. NYC Peripheral Travel Study Areas (Super-PUMAs)



Definitions

Borough
The five geographical and political regions of New York City that collectively form New York City as a whole. (The Bronx, Brooklyn, Manhattan, Queens and Staten Island)

Borough to Borough
A trip with an origin in one NYC borough and a destination (Inter-Borough) in a different NYC borough. (i.e. "inter-borough").

Census Tracts
Statistical geographical subdivisions of a county by the U.S. Census Bureau. Census tracts usually have between 2,500 and 8,000 persons and, when first delineated, are designed to be homogeneous with respect to population characteristics, economic status, and living conditions. The size of census tracts varies widely depending on population density.

Community Districts (PUMA)
A PUMA (Public Use Microdata Area) is a geographic area, as defined by the U.S. Census Bureau as areas with a minimum population of 100,000. NYC contains 59 designated "community districts" as established by law in 1975. A reference map was previously created by the NYC Department of City Planning, Population Division, correlating the U.S. Census PUMA geographies with these 59 NYC Community Districts. In this report, the term "PUMA" refers to the corresponding NYC "Community Districts" for simplicity.

CTPP
"Census Transportation Planning Package" A special tabulation of U.S. Census 2000 data, tailored to meet the needs of transportation planners.

Journey to Work
The trip a worker traveled from place of residence to place of work, including characteristics of route, mode of transportation and travel time, as reported to the Census Bureau.

MTA
Metropolitan Transportation Authority, State of New York

LIRR
Long Island Railroad, Metropolitan Transportation Authority, State of New York

Travel Mode
The means of transportation for trips. In this study the mode categories used are: Drive alone, Carpool, Bus, Subway/Railroad/Ferry, and Other (Bicycle, Walk, Motorcycle, or Work at Home).

Travel Time
The travel time for trips, as recorded in the "Census Transportation Planning Package" U.S. Census 2000 data.

Peripheral Travel
The term "Peripheral Travel" in this study refers to trips made on the periphery of the Manhattan central business district, thus The Bronx, Brooklyn, Queens, and Staten Island boroughs.

Study Areas (Super-PUMA)
A "Super-PUMA" is a geographic area, as defined by the U.S. Census Bureau, with a population of 400,000 or more. In this report, the term "Super-PUMA" refers to 'Study Area' for simplicity.

Methodology

This study utilizes 2000 Census data for information about workers at place of residence (Part 1), place of work (Part 2), journey to work origins and destinations (Part 3), as well as the mean travel time and mode from origin and destination (Part 1 and Part 2).

The primary tool for tabulating the US Census data was the Census Transportation Planning Package (CTPP 2000). The following CTPP 2000 sets of tabulations were used for this study:

Part 1: At Place of Residence
- Table 1-002 – Sex by Means of Transportation
- Table 1-103 – Mean Travel Time by Means of Transportation to Work

Part 2: At Place of Work
- Table 2-002 – Sex by Means of Transportation
- Table 2-057 – Mean Travel Time by Means of Transportation

Part 3: Workers traveling from home to work
- Table 3-001 – Total Workers (no data suppression)
- Table 3-008- Mean Travel Time by Means of Transportation (no data suppression)
- Table 3-014- Aggregate Travel Time by Means of Transportation (no data suppression)

The data tabulations were generated at census tract level and exported to MS Access in order to analyze at the "Super-PUMA, PUMA, and county level. A Super-PUMA is a geographic area, as defined by the US Census Bureau, with a population of 400,000 or more. PUMAs are geographic areas with a population of 100,000 or more. In all instances of this report, the term "Study Area" refers directly to the technical term "Super-PUMA", for simplicity. Appendix A lists the "Super-PUMA" names/numbers with the corresponding "Study Area" names.

The final stage of data manipulation used GIS to graphically represent workers place of residence, place of work, the origin and destination of workers' flow, and their mode of travel at the borough and Super-PUMA level. However, CTPP Part 3 does not have detailed means of transportation without data suppression. In order to calculate for all workers by means of transportation, The "Aggregate Travel Time by Means of Transportation" (Table 3-014) was divided by "Mean Travel Time by Means of Transportation (Table 3-008) to generate commuter flows. By calculating for commuter flows in this way, the data loss is minimal and provides more accurate information for analysis. One problem with the Table 3-014 divided by Table 3-008 calculation is with the 'Others' category, which combines five sub-groups: bicycle, walk, motorcycle, taxicab, and other. Figure 1 graphically represents worker travel flow between the peripheral boroughs. These maps were then used to analyze workers' commute patterns from Borough to Borough, Borough to Study Area, Study Area to Borough, Study Area to Study Area, and Census Tract to Census Tract.

02 FINDINGS

Major Findings

Although there is a common perception that most workers are concentrated in the Manhattan Central Business District (CBD), the opposite is true. Manhattan does have the greatest concentration of employment and it draws more workers from throughout the region than any other area. More than 880,000 New York City residents commute from the other four boroughs into Manhattan where they join 628,000 workers who reside in Manhattan and another 540,000 from outside the city. But when looked at on a borough-to-borough basis, more people live and work in the same borough than commute to any other borough– more than 1 million workers in total live and work in the same borough in the Bronx, Brooklyn, Queens and Staten Island. In addition, there are a significant number of New York City residents that commute between the boroughs to work. Excluding journeys to Manhattan, there were more than 323,000 interborough journeys-to-work of which 143,000 (44 percent) were between Queens and Brooklyn. (Almost 243,000 employed New York City residents, including Manhattan residents, worked outside of the city.)

Residents

Residents of the Bronx, Brooklyn and Queens predominantly rely on transportation other than cars when traveling to work This holds true both for workers living and working in the same borough and those commuting to work in another borough (when including journeys-to-work to employment in Manhattan). For those commuting outside their borough of residence, Subway/Railroad/Ferry is the predominant mode of travel, reflecting the widespread, though not universal, use of the subway system for travel to the CBD. Among those working and living in the same borough, the predominant mode (the mode with the highest share) in Brooklyn is Other (which includes walking, biking, taxi, motorcycle and work at home). In Queens and the Bronx, the predominant mode is auto, though the combined transit share exceeds that for cars. In contrast, residents of Staten Island rely on cars for journey-to-work trips both for commutes within the borough and to other boroughs. (Figure 3)

Just as more people work in the borough in which they reside than work in Manhattan, among people that live and work in the same borough, more people tend to live and work in the same study area (Super Puma) than any other. (Figures 5, 6, 7)

- In both Bronx study areas
- In all four Queens study areas
- In four of the five Brooklyn study areas

Among residents that do not live and work in the same study area, a plurality of residents commuting outside of their study area of residence tend to work in the adjoining study area.

For residents who work in the same study area they reside in, the Other mode of travel is the most common method of travel in about half of the study areas. The four highest shares of Other mode were in Brooklyn, including central Brooklyn and denser areas closest to Manhattan, all exceeding 40 percent. For these areas, the Other share exceeds the combined transit share. (Figure 4) These and the Southwest Bronx, Northwest Queens and the remaining Brooklyn study area (Gravesend/East New York) have the largest Other modal split. All but the last are typically the densest study areas and are located closest to the Manhattan core. When residents of these areas located closest to the Manhattan core commute to other study areas to work, Subway/RR/Ferry is the dominant modal split with relatively similar total transit shares (including bus) among them. (Figures 8, 9)

Workers

Most workers in boroughs outside of Manhattan also reside in the borough they work in. In Brooklyn, Queens and the Bronx between 61 and 65 percent of the borough's workforce live in the borough they work in. In Staten Island, more than 72 percent of the workforce are Staten Island residents.

While residents of the Bronx, Brooklyn, and Queens predominantly do not drive to work, the majority of workers arriving to work in study areas in the Bronx, Brooklyn, Queens, and Staten Island boroughs travel by car, In only four study areas, do cars account for less than half of a study area's workers means of commuting. Figure 10).

In every study area, at least a plurality of workers arriving to work in locations outside of Manhattan arrive by auto. The size of this group exceeds the combined Subway/Railroad/Ferry and bus share in every study area except Ft. Greene/Bay Ridge, where Downtown Brooklyn is located. (Figure 10) Downtown Brooklyn has the most extensive subway service of the study areas – 16 lines in 2000 connecting with more locations within the city and is therefore most similar to Manhattan locations in drawing people via subway. Still, Subway/Railroad/Ferry always accounts for less than one third of workers working in every study area, and in most areas accounts for 20 percent or less. (Figure 11) This is true for both for workers residing in New York City and those from the city's suburbs. (Figure 14)

Cars are the most common means of transportation among 4 of the 5 highest inter-study area commuter flows (Figure 16) and

among residents of study areas outside of the five closest to Manhattan and Boro Park/Coney Island. (Figure 8, 9)

The study areas that are closer to Manhattan and have more residents that use subways to travel to work also have the highest concentration of "Other" as the mode for journey-to work travel.

Workers who reside outside New York City and work in New York City exceed the number of workers who make inbound trips into each borough from any other borough, with the exception of Brooklyn. (Figure 13) Workers from outside of New York City rely extensively on automobiles for journey-to-work in locations in all four boroughs. (Figure 12) Most of Brooklyn's workers that reside outside Brooklyn commute from Queens.

Travel Time

Excluding Manhattan residents and considering all destinations, residents in Southeast Queens (both drivers and transit riders), located the furthest from subway lines and most major employment centers, have the highest mean travel time (48.0 minutes) whereas the Ft. Greene/Bay Ridge residents (located closer to Manhattan and served by extensive subway coverage) have the shortest mean travel time (38.8 minutes) for work trips. (Figure 15)

Among workers working in study areas, those in Staten Island have the shortest average commute times, those in Fort Greene/Bay Ridge the longest. In contrast, workers residing in the Fort Greene/Bay Ridge study area and traveling to work both inside and outside of the study area have the shortest average commute times while workers residing in Southeast Queens have the longest commute times. Staten Island residents, when compared on a countywide basis, have the longest commute times in the City and one of the longest in the nation. (Figure 16)

Peripheral Interborough Flows

Brooklyn-Queens

- The biggest flow of workers coming from a Queens Study Area into a Brooklyn Study Area is from Southeast Queens to Ft. Greene/Bay Ridge (11,115 workers) but this is less than half the largest intra-Queens flow (NE Queens to NW Queens, 23,919). Brooklyn's Ft. Greene/Bay Ridge study area contains Downtown Brooklyn with its many city departments, health care, and universities located in the area.
- The biggest flow of workers coming from a Brooklyn Study Area into a Queens Study Area is from Greenpoint/Brownsville to the adjoining Northwest Queens (5,784 workers) (Figure 17). However, this is less than one-third the flow from Greenpoint/Brownsville to Ft. Greene/Bay Ridge (19,862) and less than the largest intra-Brooklyn flow of 31,637 (Crown Heights/Flatbush to Ft. Greene/Bay Ridge.

Bronx-Queens

- The biggest flow of workers coming from a Queens Study Area into a Bronx Study Area is from Northeast Queens to Southwest Bronx (2,861 workers, Figure 17).
- The biggest flow of workers coming from a Bronx Study Area into a Queens Study Area is from Northeast Bronx to Northwest Queens (4,743 workers, Figure 17).
- In contrast, the flows between Bronx study areas are much greater. From NE Bronx to Southwest Bronx 39,424 travel to work (the largest inter-study area flow) and in reverse direction 19,294 travel to work..

Brooklyn-Staten Island

- The biggest flow of workers coming from Staten Island into a Brooklyn Study Area is from Staten Island to Ft. Greene/Bay Ridge (13,829 workers, Figure 18). They constitute 12 percent of workers on Staten Island and the 12th largest interstudy area flow.
- Conversely, the biggest flow of workers coming from a Brooklyn Study Area to Staten Island is 2,322 workers from Ft. Greene/Bay Ridge to Staten Island (Figure 18).

Bronx-Brooklyn

- The biggest flow of workers coming from a Bronx Study Area into a Brooklyn Study Area is from Northeast Bronx to Ft. Greene/Bay Ridge (5,229 workers, Figure 18)
- The biggest flow of workers coming from Brooklyn Study Area into a Bronx Study Area is from Crown Heights/Flatbush to Southwest Bronx (2,087 workers, Figure 18).

Figure 3. NYC Residents - Modal Split

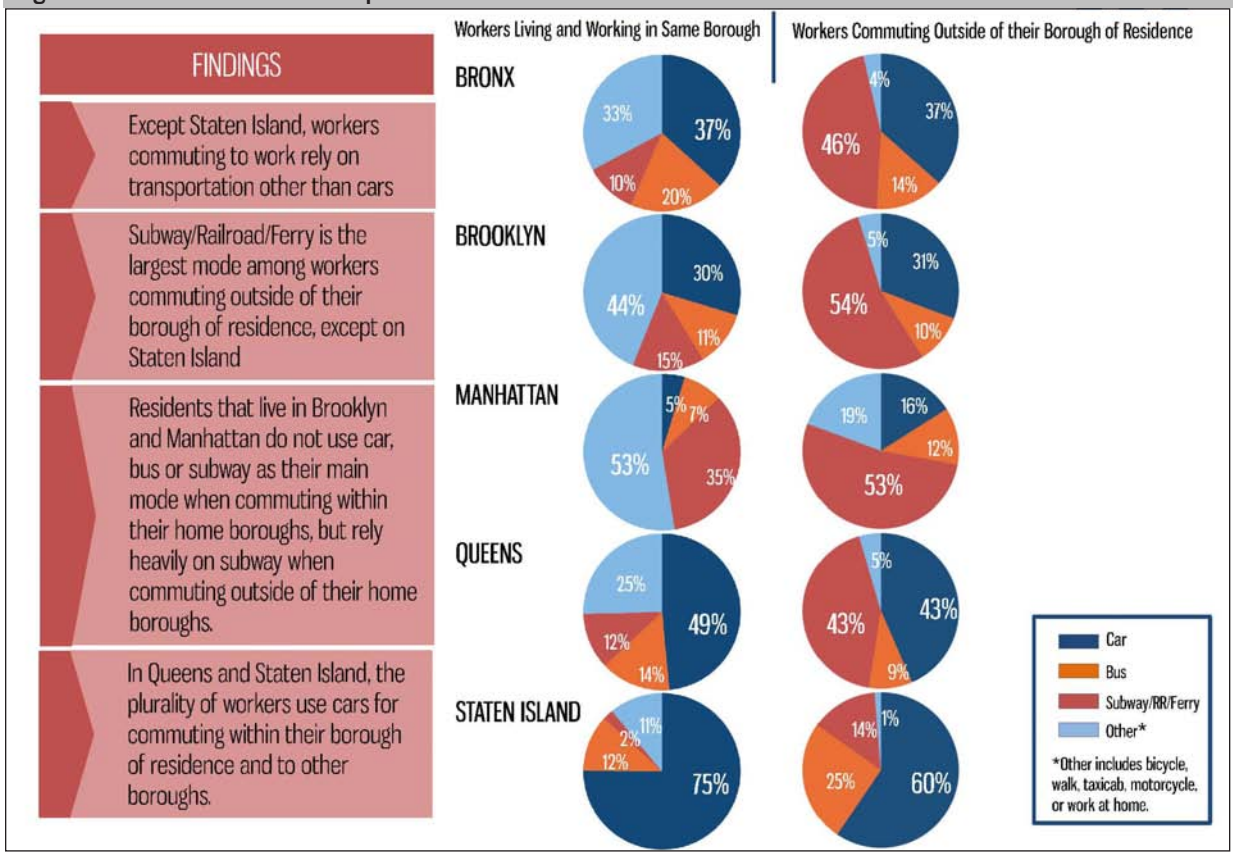


Figure 4. Intraborough - Bronx

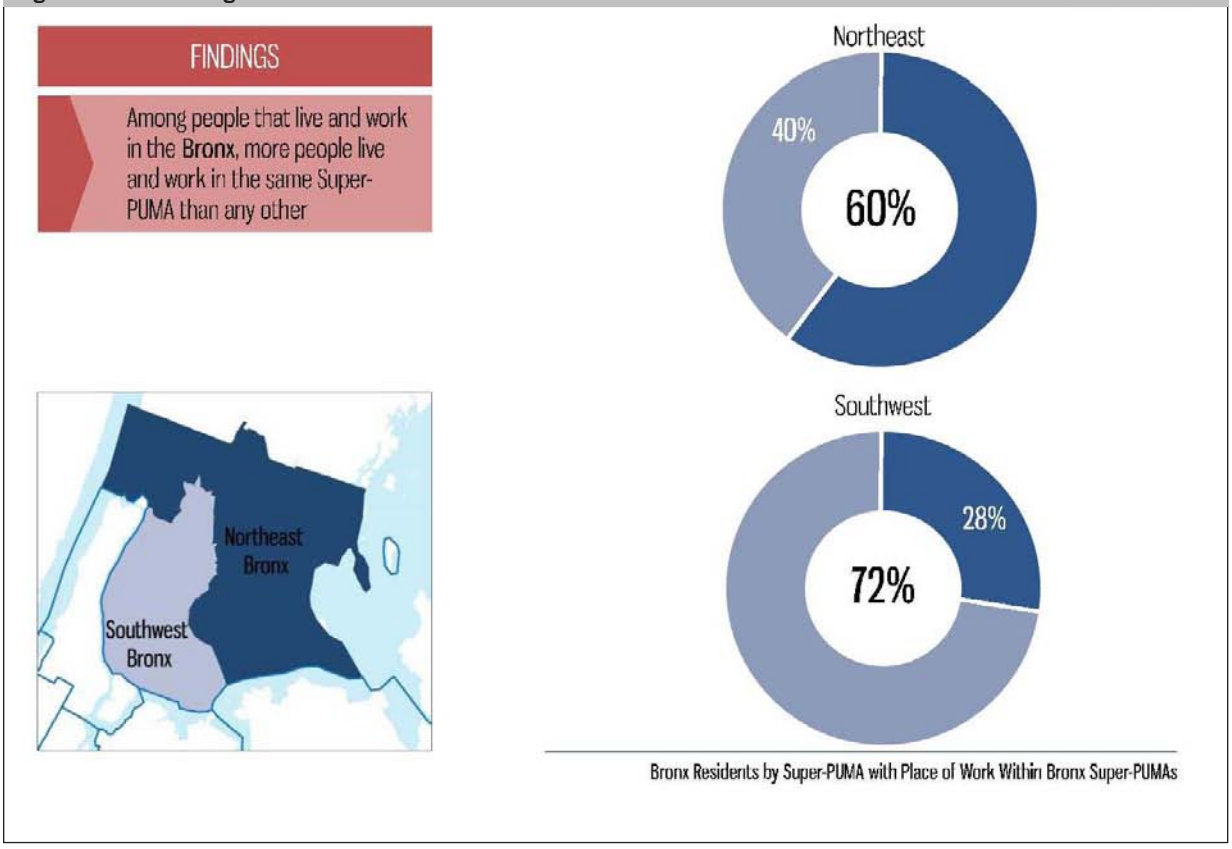
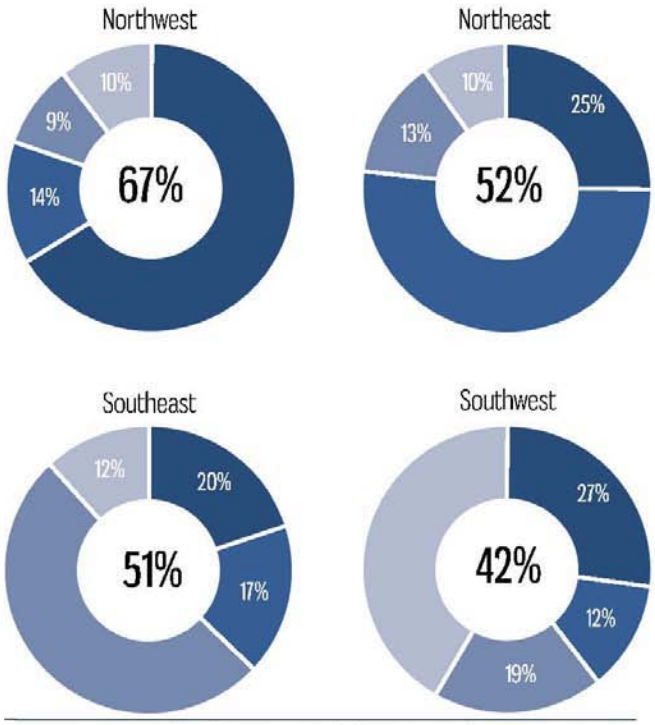


Figure 5. Intraborough - Queens

FINDINGS

Among people that live and work in **Queens**, more people live and work in the same Super-PUMA than any other

Queens residents tend to work locally – the second highest intra-borough commute is to an adjacent Super-PUMA



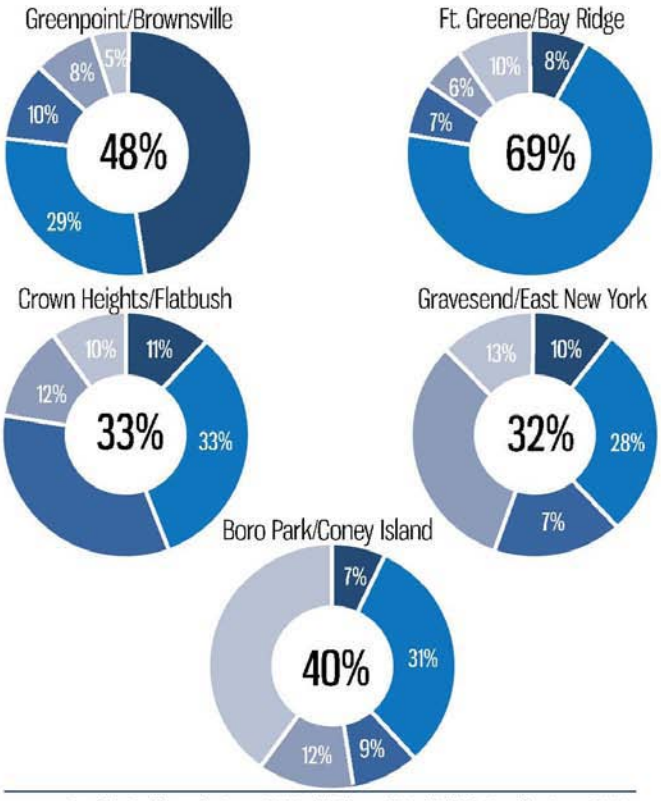
Queens Residents by Super-PUMA with Place of Work Within Queens Super-PUMAs

Figure 6. Intraborough - Brooklyn

FINDINGS

Among people that live and work in **Brooklyn**, generally more people live and work in the same Super-PUMA than any other

Brooklyn residents tend to work locally – the second highest intra-borough commute is to an adjacent Super-PUMA, except in Gravesend/East New York



Brooklyn Residents by Super-PUMA with Place of Work Within Brooklyn Super-PUMAs

Figure 7. Workers Living and Working in Same SuperPuma - Modal Split (Other)

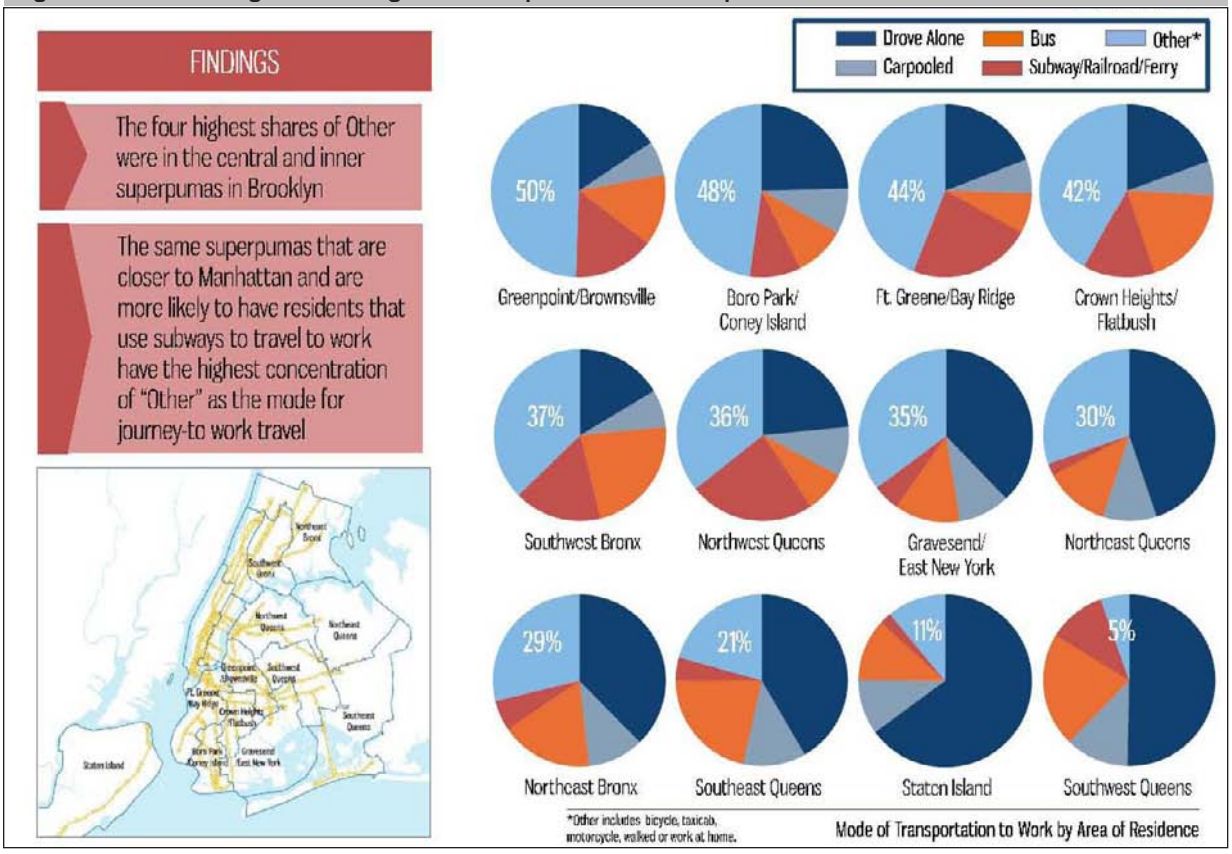


Figure 8. Area of Work Modal Split (Auto)

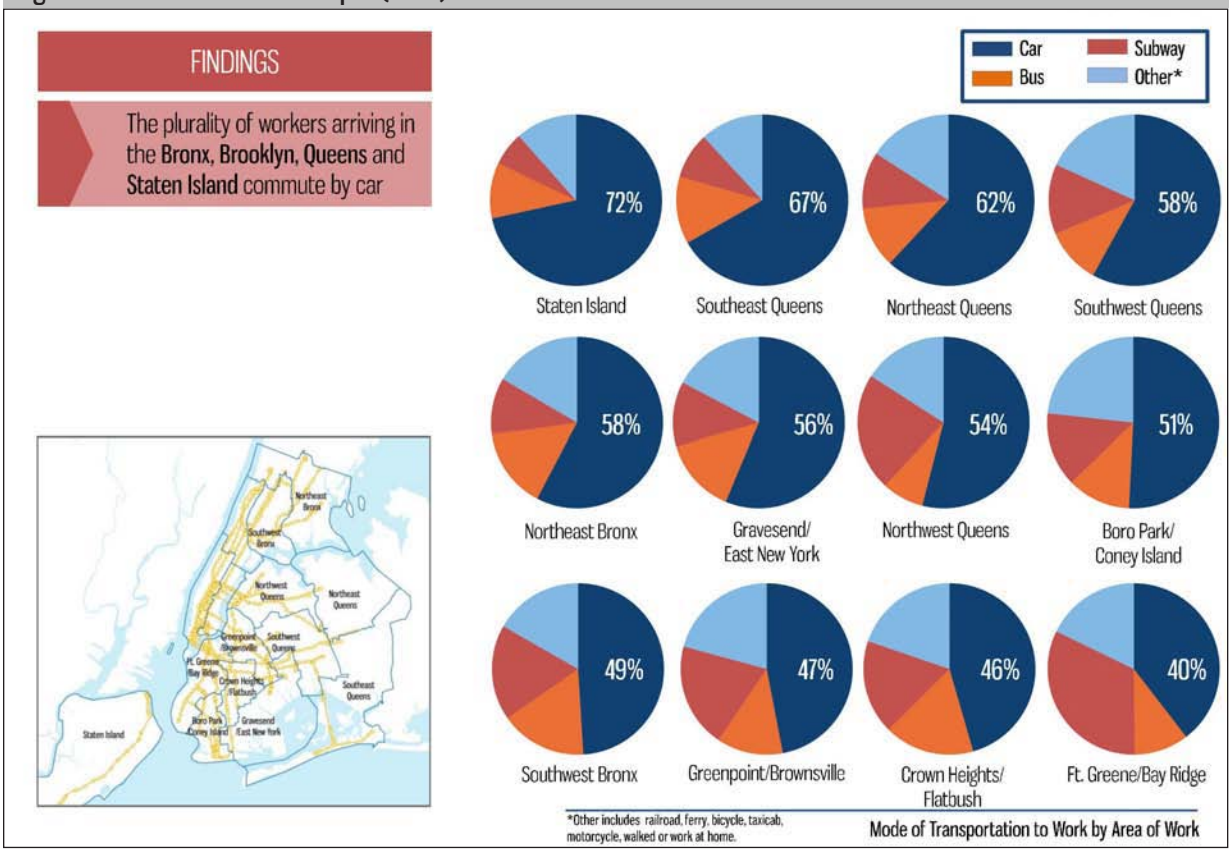


Figure 9. All Workers - Area of Residence Modal Split (Subway)

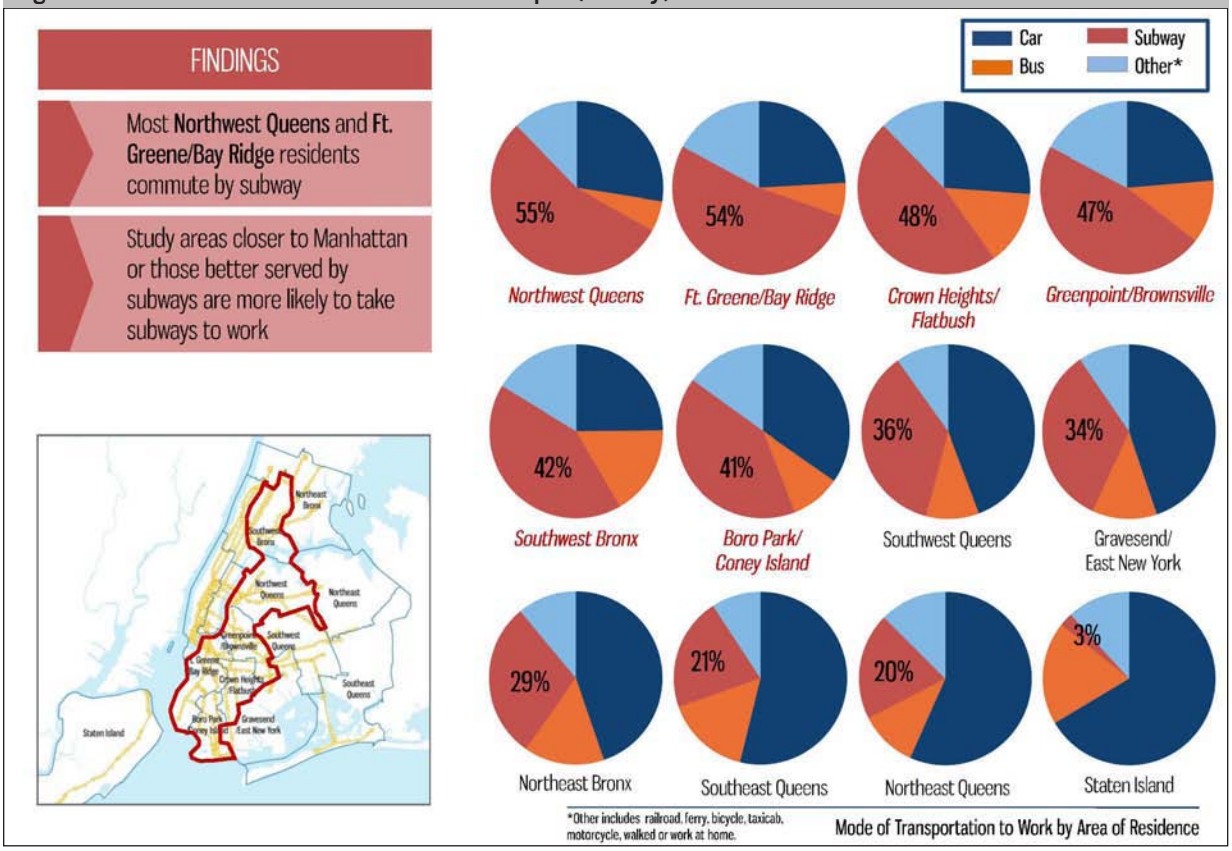


Figure 10. Area of Work Modal Split (Auto)

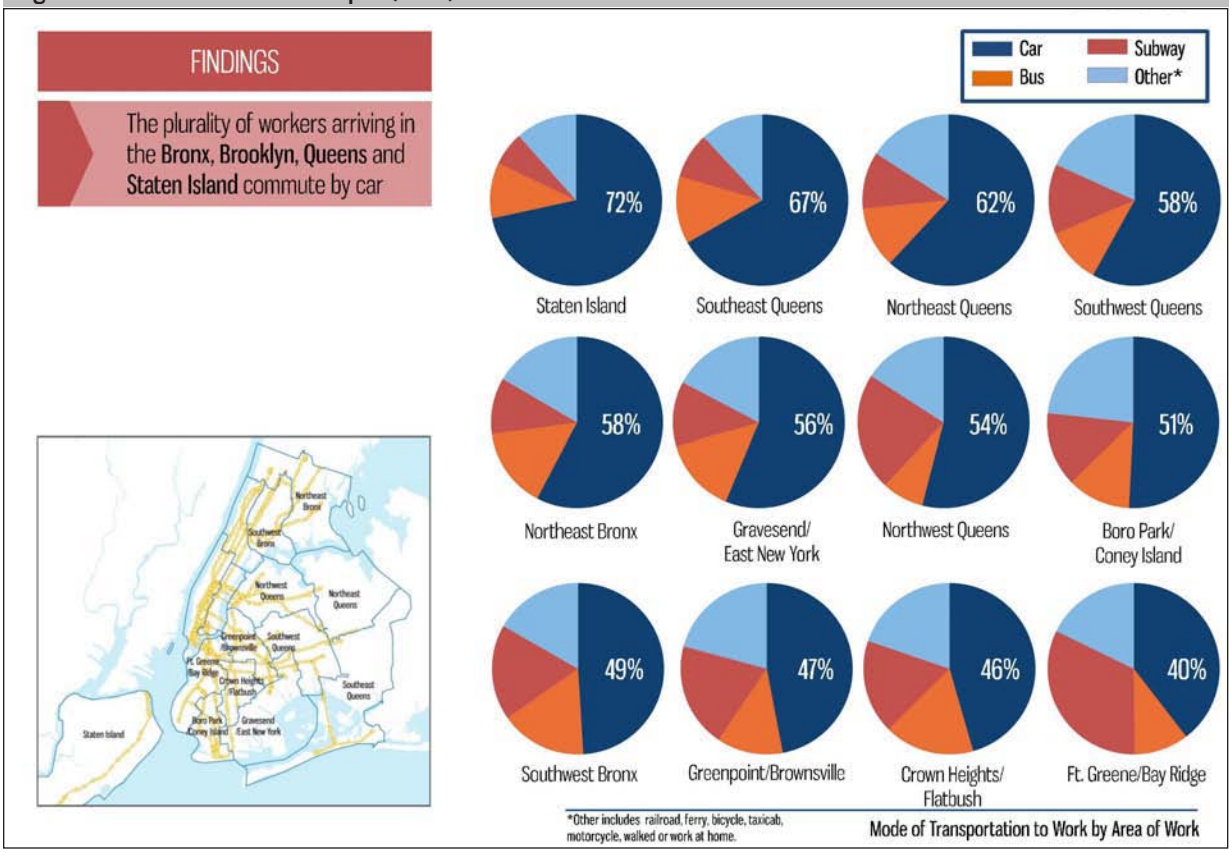


Figure 11. All Workers - Area of Work Modal Split (Subway)

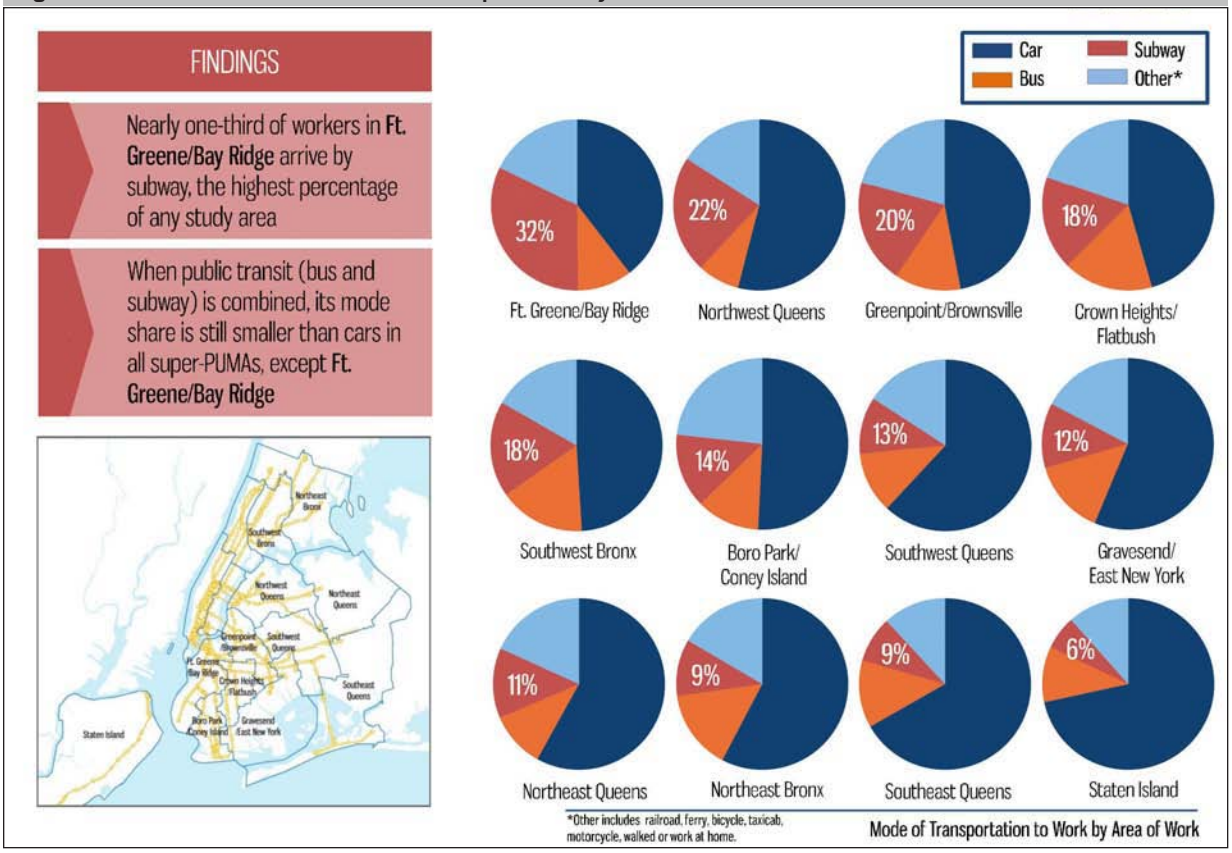


Figure 12. Outside NYC - Journey to Work Modal Split

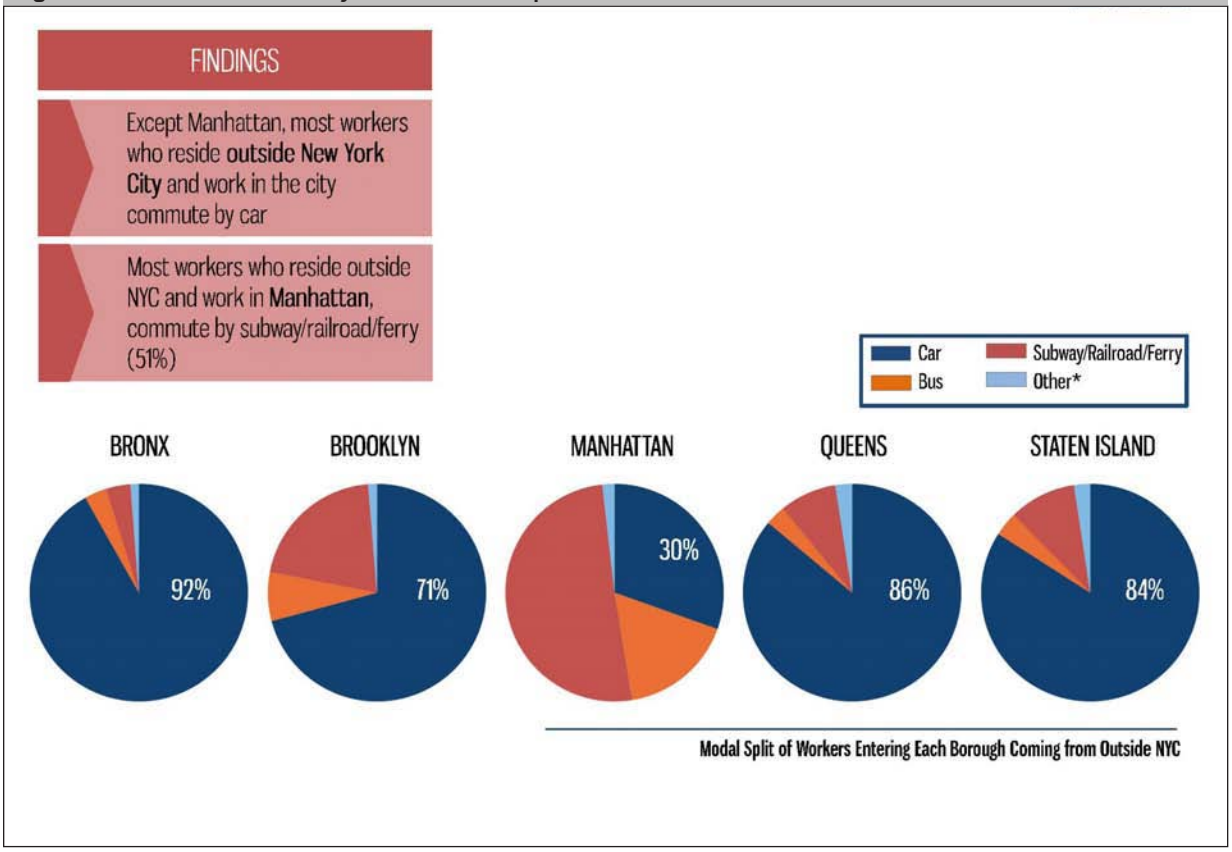


Figure 13. Outside NYC - Journey to Work

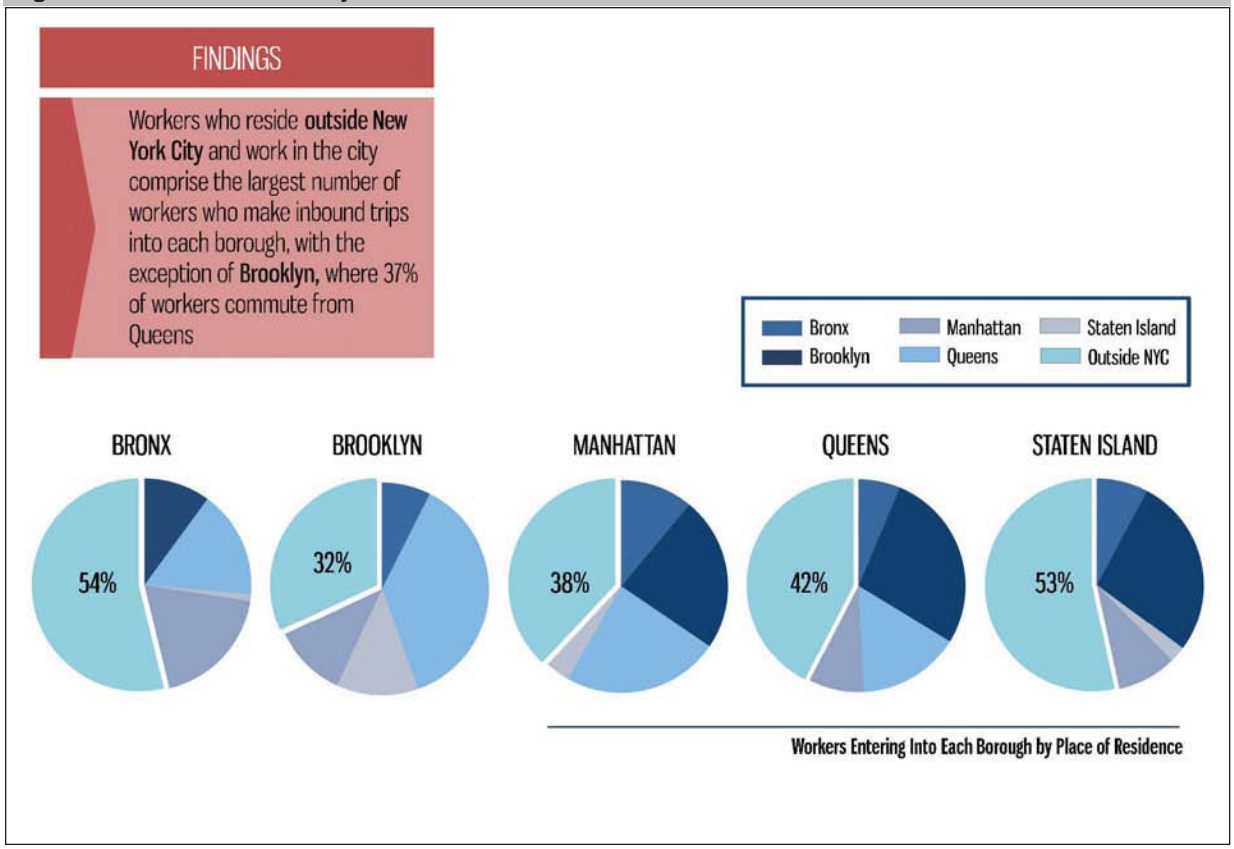


Figure 14. NYC Workers Residing Outside Outside NYC Modal Split (Auto)

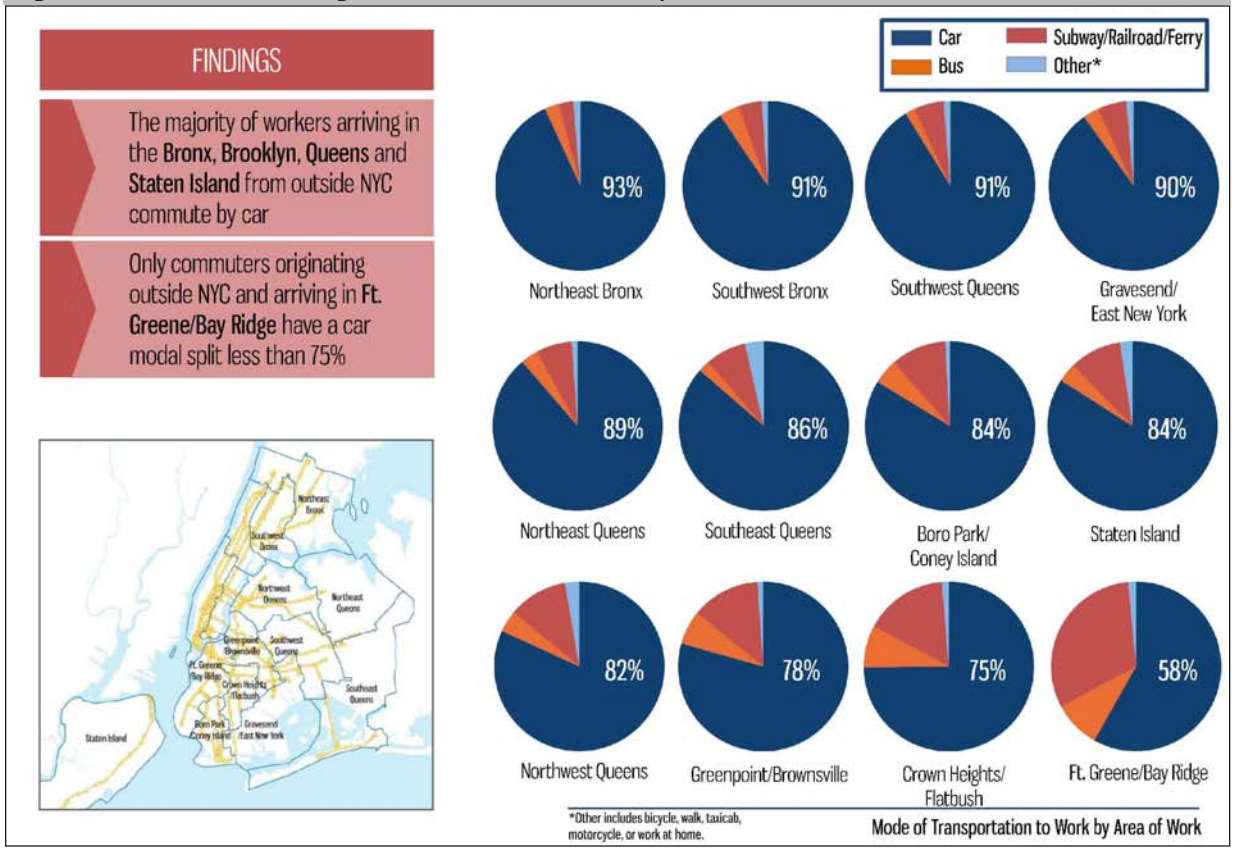


Figure 15. All Workers - Travel Times to Work by Area of Resi-

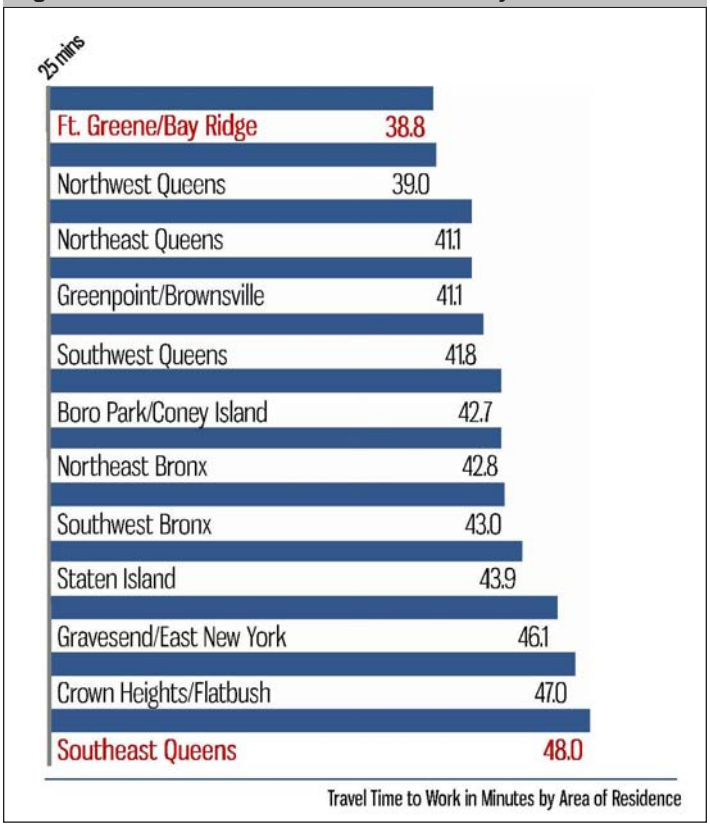


Figure 16. All Workers - Travel Times to Work by Area of Work

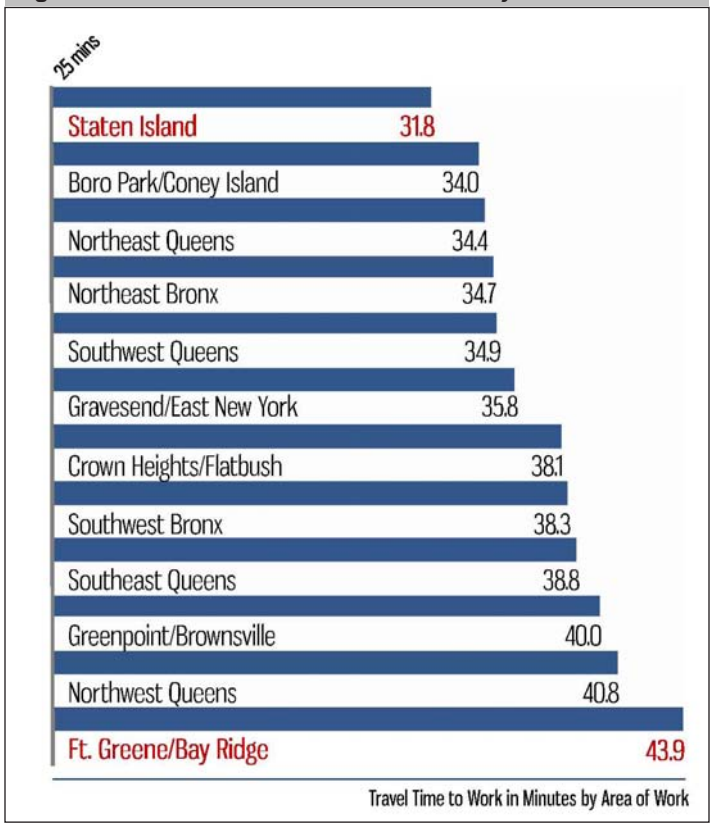


Figure 17. Highest Inter-Borough Flow: Brooklyn-Queens and Bronx-Queens (by Study Areas)

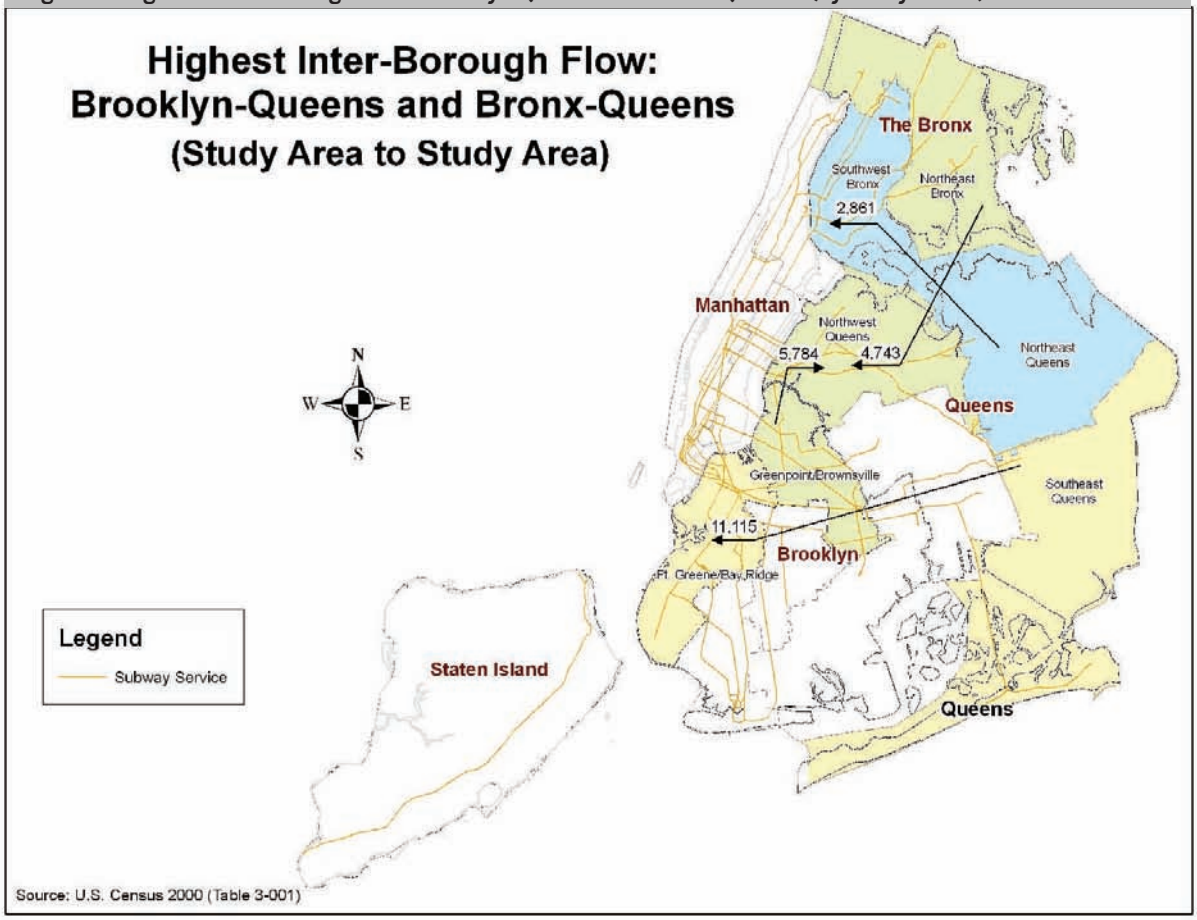
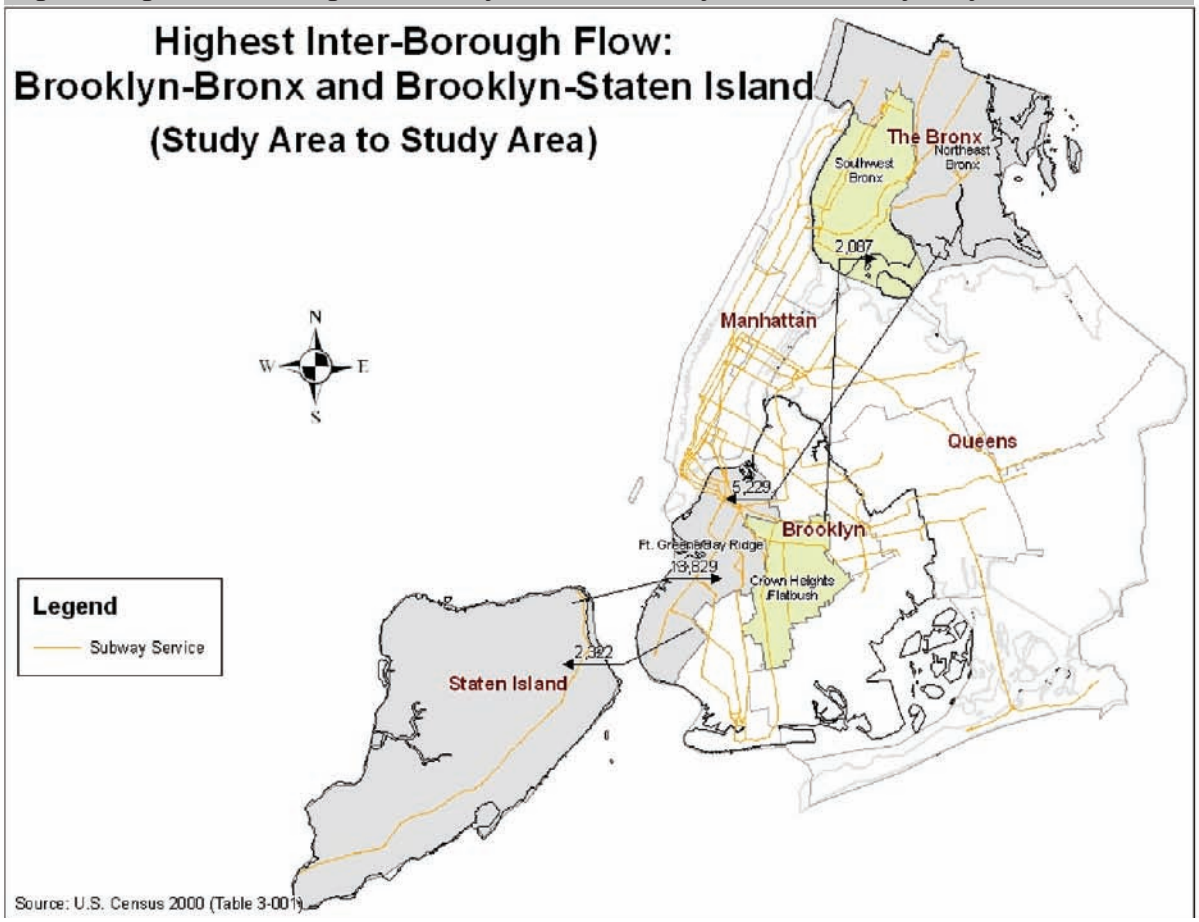


Figure 18. Highest Inter-Borough Flow: Brooklyn-Bronx and Brooklyn-Staten Island (by Study Areas)



Implications

Although New York City is the most transit-dependent location in the United States, the automobile remains an extremely important means of travel among dispersed locations within the city. However, the journey-to-work data demonstrates that there is a tendancy for people to work relatively close to their residence. Among those that work close to home in the same study area, non-automotive means of travel are used more frequently than any other. One area for further exploration is what additional public policy levers could encourage other workers living and working in the same study area or in adjoining study areas (which is generally the next likeliest study area to work in) to use non-automotive modes for journey-to-work trips. Since many non-journey-to-work trips are also likely to be relatively local, improving conditions for non-automotive travel for nearby journey-to-work trips may also encourage people to choose non-automotive modes for more of their other nearby trips

The high proportion of workers who work near their place of residence indicates that individuals' decisions about where to work and where to live are interdependent. Land use measures that promote mixed use and a range of housing and employment choices can facilitate individuals' inclination to co-locate home and workplace, which this study's findings suggest could benefit non-auto modal share and reduce travel times.

Study areas in the inner and central parts of Brooklyn and along the Manhattan border in Queens and the Bronx correspond to the denser areas of these boroughs. These areas are better served by transit and have a high incidence of offering a range of nearby destinations for employment, goods, services and institutions that can make neighborhoods more walkable. These study areas include all 9 non-Manhattan "Walkers Paradises" identified by Walk Score™ (walkscore.com) and every community in these study area scored in Walk Score's™ two top categories of walkability. Land use policies that encourage mixed-use growth in the six study areas that constitute this area, promote non-auto trips for both journey-to-work and non-journey-to-work travel including linked trips combining the two. The City's zoning policies are designed to direct growth to these transit-oriented locations while taking action to protect the scale of low-density, more auto-oriented neighborhoods, In doing so, these land use policies help the City to shrink its per capita carbon footprint which is already less than one-third the U.S. average.

Developing multi-use centers at transit-oriented locations can also shift a share of future trips from automobiles to transit, walking or biking. Policies that encourage job and residential centers at locations such as Downtown Jamaica, provide opportunities for a local population to walk to work, for residents of nearby communities to take a bike or bus to work and connects other neighborhoods via the subway or commuter rail. In addition, locations such as Downtown Jamaica can be reached by transit from suburban locations and can encourage reverse commuting by transit as well.

There may be opportunities for further shifts in modal split away from automobiles among those who take relatively short trips, particularly those within the same Super Puma or to an adjoining Super Puma. Improvments to transit, transportation demand management (TDM) or alternative transportation modes to encourage modal shifts for these relatively short-distance trips may also have benefits of altering mode choices for non-journey-to-work trips. Alternative transportation modes, such as walking and biking, are likely to be more useful options for these relatively short trips, particularly during warmer times of the year and in non-inclement weather. . One area worthy of exploration is a bike sharing program. The Department of City Planning studied bicycle sharing programs in Paris, Washington DC, Montreal and elsewhere in it 2009 report, Bike-Share Opportunities in New York City (http://nyc.gov/html/dcp/html/transportation/td_bike_share.shtml) . While there are challenges to establishing a bike share program, a program that provides convenient bicycle available near both work and employment opportunities could be popular among the many who live and work in the same super-PUMA study area or in an adjoining study area.

Since high shares of residents work locally, where shorter distances should reduce average travel times, the high travel times in some locations appear to be a particular problem. In Southeast Queens, which has the longest travel times, long distances for journeys-to-work and, if public transit is used, potentially multi-modal trips, may account for long travel times. In Staten Island, where most workers both live and work on the Island and which has the lowest travel times for people working within the study area but the longest travel times for residents, the numbers suggest that long off-island travel times are pushing up average travel times. Again, multi-modal trips or travel along congested vehicular routes may explain this. Improvements that speed up the transit portions of these journeys could positively impact journey-to-work times for these long commutes as could land use measures to enable more workplaces to be located within Staten Island. The Metopolitan Transportation Authority's (MTA) is currently studying the reuse of Staten Island's inactive North Shore railroad which could be used to reduce travel times

for many Staten Island residents that now make multi-mode trips into Manhattan. The MTA's East Side Access project, which will bring the Long Island Railroad (LIRR) into Grand Central Station and increase the LIRR's capacity, offers the opportunity to increase service to South-eastern Queens and provide a significantly faster commute for some Souteast Queens residents. The completion of the East Side Access project will free up some capacity in Pennsylvania Station, The MTA is currently undertaking an environmental review of a project to bring Metro North's New Haven and Hudson Division lines into Penn Station. Such new Metro North services hold the possibility of shorter commute times from areas of the Bronx as well as the potential for coordinating any future transit improvements with targeted transit-oriented development.

More than 300,000 people travel between the boroughs to work. The automobile dominates this travel. Nevertheless, there may be opportunities to expand the use of alternative modes. One area in particular worth exploring is travel between Brooklyn and Queens which constitutes 44 percent of such interborough trips. These boroughs are the only ones not separated by a water body and both bus service and bicycle improvements should be explored. In addition, there may be opportunities to take better advantage of the Altantic Branch of the Long Island Railroad which connects downtown Jamaica and its transit hub with Atlantic Terminal, Downtown Brooklyn and nine subway lines. Another area to explore encouraging future modal choice shift is the flow between Staten Island and Ft. Greene/Bay Ridge. This is the 12th highest inter-study area flow and it is dominated by the auto mode.

In study areas further from the CBD, where automobile use plays a more important part in maintaining mobility, additional study is needed to evaluate public policies toward automobile use.

Borough to Borough Work Trips by NYC Workers

This section examines the borough to borough travel of workers who live in one borough and work in another. The following Maps 1-10 and Tables 1-4 show the number of workers who reside in one borough and work in a different borough, using the 2000 Journey-to-Work Census Data.

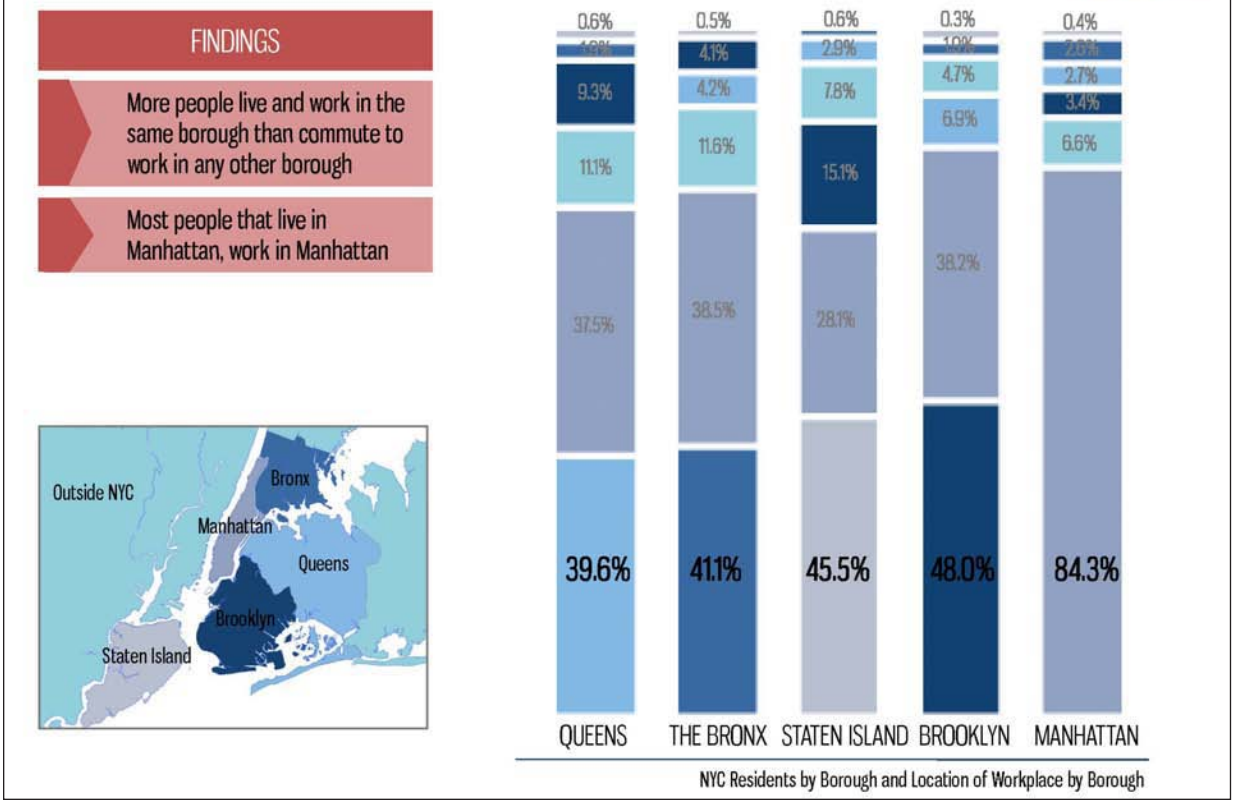
The majority of workers in NYC live and work in the same borough. Manhattan has the greatest percentage of workers remaining in the same borough for their place of work with 84.3%, while workers in Queens have the lowest percentage with only 40.0% remaining in Queens for their place of work. Table 1 lists where workers in NYC live and work by boroughs as determined by the U.S. Census 2000.

Table 1. NYC Workers: Work Trips by Boroughs

Origin: Borough of Residence	Destination: Borough of Work						Total
	The Bronx	Brooklyn	Queens	Staten Island	Manhattan	Outside NYC	
The Bronx	168,050 (41.0%)	16,772 (4.1%)	17,155 (4.2%)	2,049 (0.5%)	157,203 (38.5%)	47,591 (11.6%)	408,770 (100%)
Brooklyn	10,813 (1.2%)	417,954 (48.0%)	59,711 (6.8%)	8,832 (1.0%)	333,379 (38.2%)	41,203 (4.7%)	871,892 (100%)
Queens	17,497 (1.9%)	83,772 (9.3%)	357,681 (40.0%)	5,002 (0.5%)	339,011 (37.5%)	100,125 (11.0%)	903,088 (100%)
Staten Island	1,028 (0.6%)	28,173 (15.0%)	5,368 (2.9%)	84,629 (45.5%)	52,236 (28.0%)	14,503 (7.8%)	185,937 (100%)
Manhattan	20,218 (2.7%)	25,054 (3.4%)	19,691 (2.6%)	2,720 (0.4%)	628,095 (84.3%)	49,185 (6.6%)	744,963 (100%)
Total	217,606	571,725	459,606	103,232	1,509,924	252,607	3,114,700

Source: U.S. Census 2000

Figure 19. NYC Residents - Journey to Work



In addition, Table 1 shows for each borough the second largest percentages of workers who work in another borough are commuting to Manhattan. For example, 41.0% of Bronx workers remain in the Bronx, with 38.5% of Bronx workers commuting to Manhattan. However, when excluding Manhattan as a destination for borough to borough work trips, NYC workers who work outside their borough of residence work primarily in Brooklyn (47.5%) or Queens (31.5%), as shown on Table 2.

Table 2. NYC Workers with Borough to Borough Work Trips (Excluding Manhattan as a Work Destination)

Origin: Borough of Residence	Destination: Borough of Work				Total # of workers
	The Bronx	Brooklyn	Queens	Staten Island	
The Bronx		16,772	17,155	2,049	35,976
Brooklyn	10,813		59,711	8,832	79,356
Queens	17,497	83,772		5,002	106,271
Staten Island	1,028	28,173	5,368		34,569
Manhattan	20,218	25,054	19,691	2,720	67,683
Total	49,556 (15.3%)	153,771 (47.5%)	101,925 (31.5%)	18,603 (5.7%)	323,855 (100%)

Source: U.S. Census 2000

As shown in Table 2, Brooklyn and Queens are the largest destinations of borough to borough commute trips within NYC when excluding Manhattan. Furthermore, the concentration of work trips between Brooklyn and Queens is the highest between any two boroughs, excluding Manhattan. Table 3 lists the number of workers commuting from one borough to another borough, excluding Manhattan. The greatest flows of workers from one borough to another borough are from Queens to Brooklyn (83,722) and Brooklyn to Queens (59,711).

Table 3. Flow of Workers with Borough to Borough Work Trips (Excluding Manhattan)

Origin: Borough of Residence	Destination: Borough of Work	Total # of workers
Queens	Brooklyn	83,722
Brooklyn	Queens	59,711
Staten Island	Brooklyn	28,173
Queens	The Bronx	17,420
The Bronx	Queens	17,097
The Bronx	Brooklyn	16,728
Brooklyn	The Bronx	10,776
Brooklyn	Staten Island	8,832
Staten Island	Queens	5,368
Queens	Staten Island	5,002
The Bronx	Staten Island	2,049
Staten Island	The Bronx	1,028

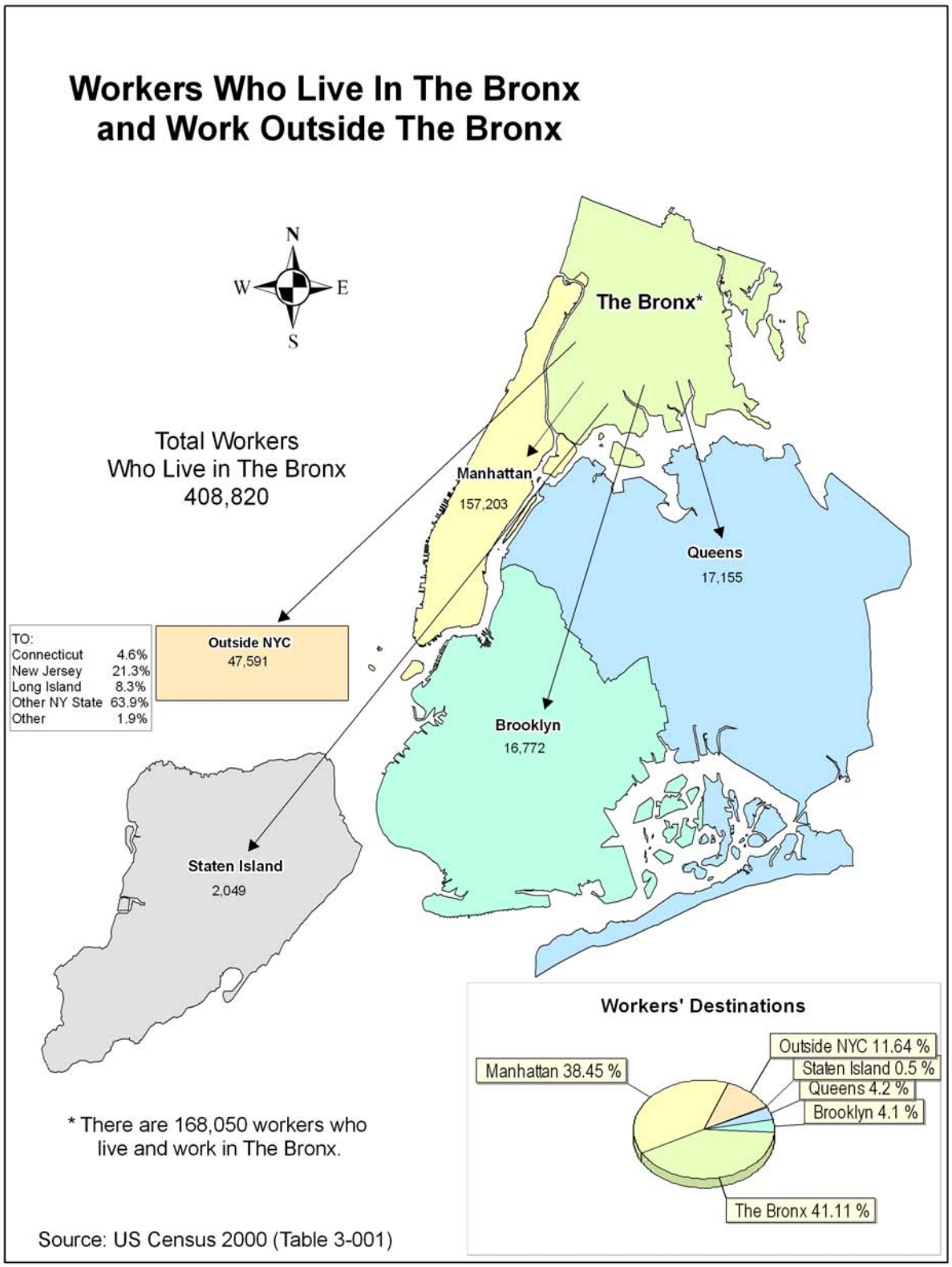
Table 4 further diagrams the number of workers commuting from borough to borough within NYC. By excluding all origin and destinations outside of NYC, Table 4 shows the travel patterns from borough to borough within NYC. For example, the greatest origination by borough for workers traveling inbound into The Bronx is from Manhattan at 40.8%. A strong correlation of borough to borough travel between Brooklyn and Queens is shown, as 54.5% of workers traveling inbound to Brooklyn originate from Queens, and 58.6% of workers traveling inbound to Queens originate from Brooklyn.

Table 4. Inbound Workers to Each Borough within NYC

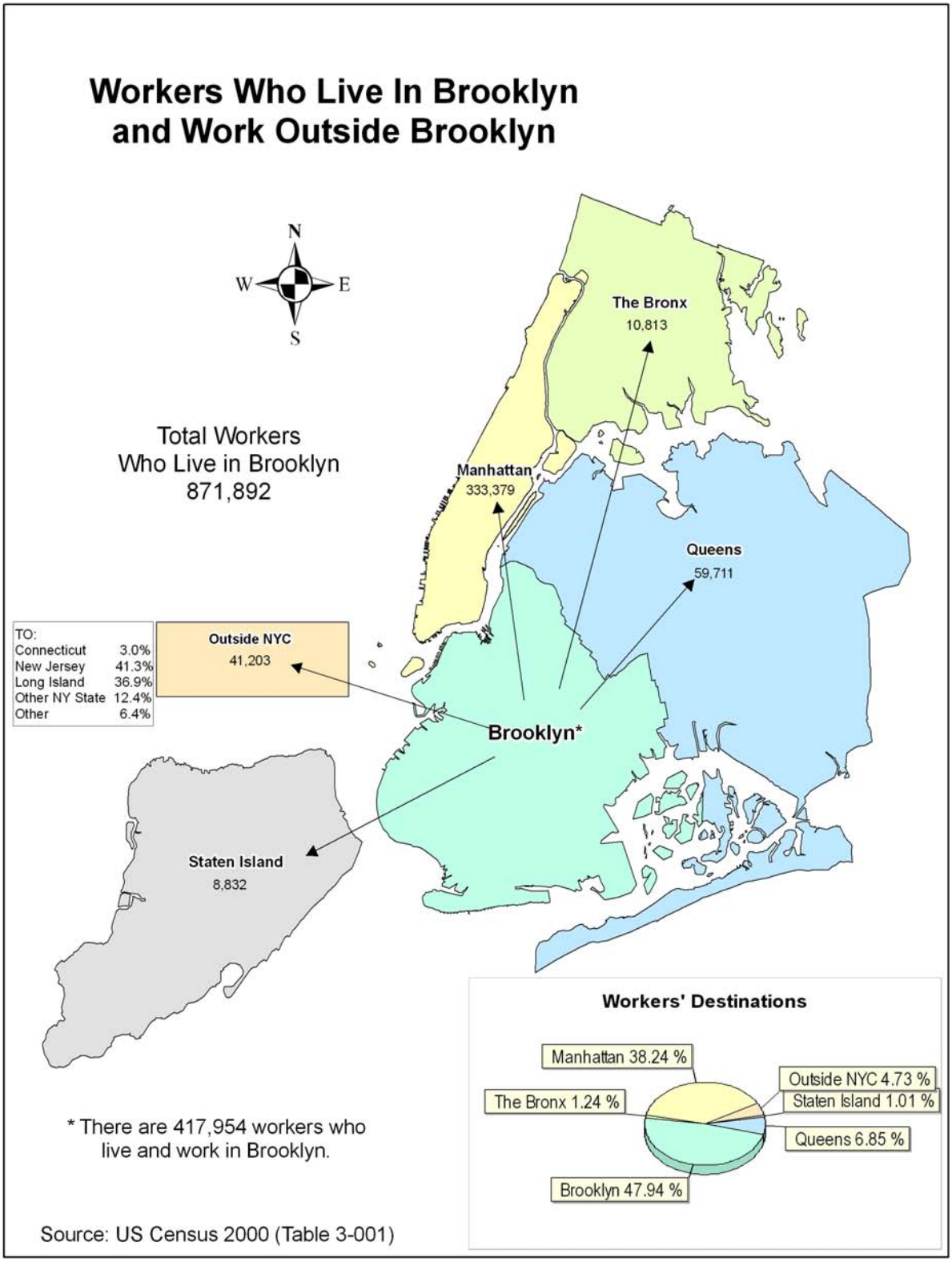
Origin: Borough of Residence	Destination: Borough of Work				
	The Bronx	Brooklyn	Queens	Staten Island	Manhattan
The Bronx		16,772 (10.9%)	17,155 (16.8%)	2,049 (11.0%)	157,203 (17.8%)
Brooklyn	10,813 (21.8%)		**59,711 (58.6%)**	**8,832 (47.5%)**	**333,379 (37.8%)**
Queens	17,497 (35.3%)	**83,772 (54.5%)**		5,002 (26.9%)	**339,011 (38.4%)**
Staten Island	1,028 (2.1%)	28,173 (18.3%)	5,368 (5.3%)		52,236 (5.9%)
Manhattan	**20,218 (40.8%)**	25,054 (16.3%)	19,691 (19.3%)	2,720 (14.6%)	
Total	49,556 (100%)	153,771 (100%)	101,925 (100%)	18,603 (100%)	881,829 (100%)

Maps 1-10 on the following pages correspond to Tables 1-4 displaying the number of workers who travel from borough to borough for work trips as determined by the U.S. Census 2000. Maps 1-5 show the work trips outbound from each borough of residence to each borough of work. Maps 6-10 show the work trips inbound to each borough of work from each borough of residence.

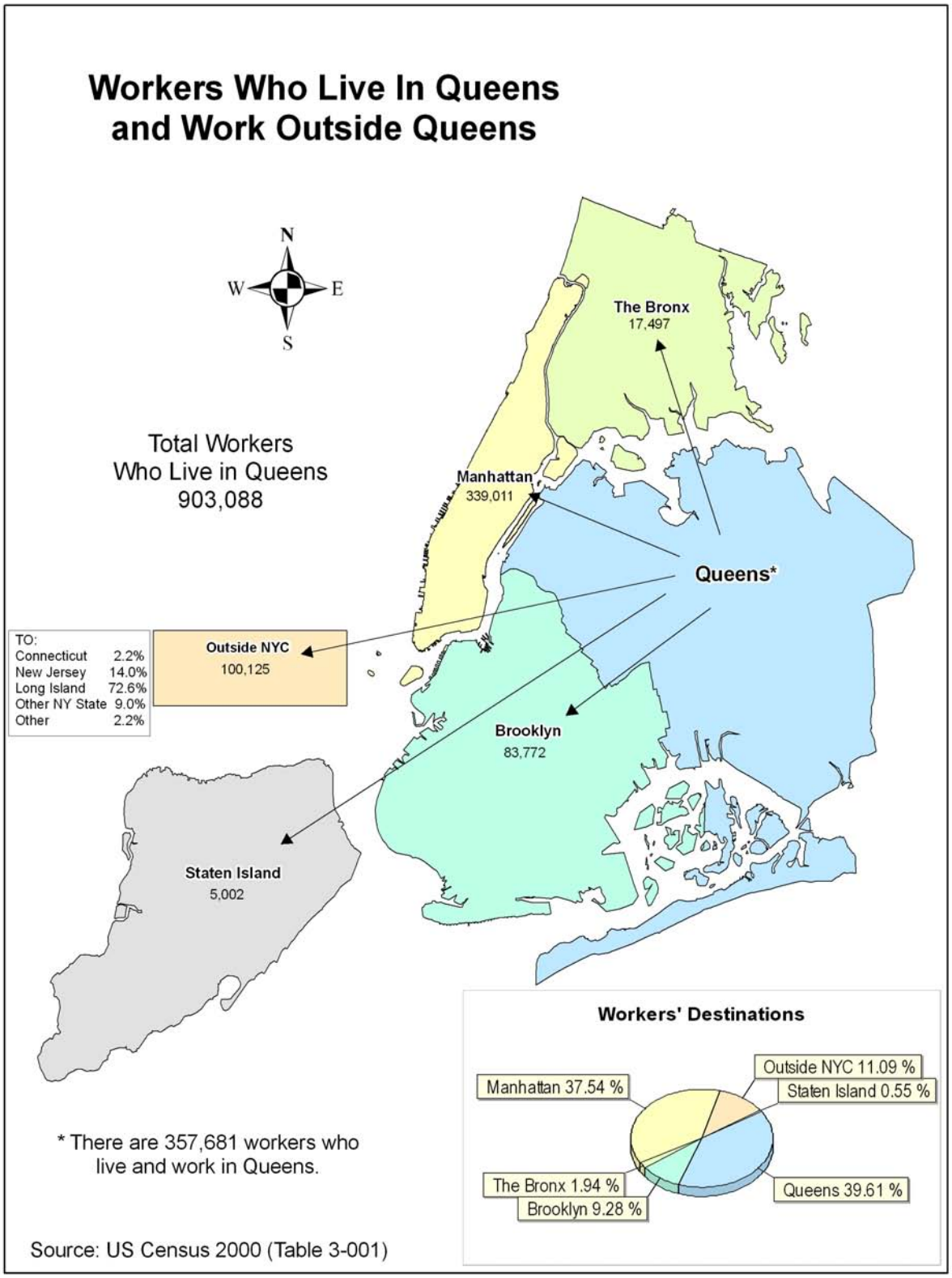
Map 1. Workers Who Live in The Bronx and Work Outside The Bronx



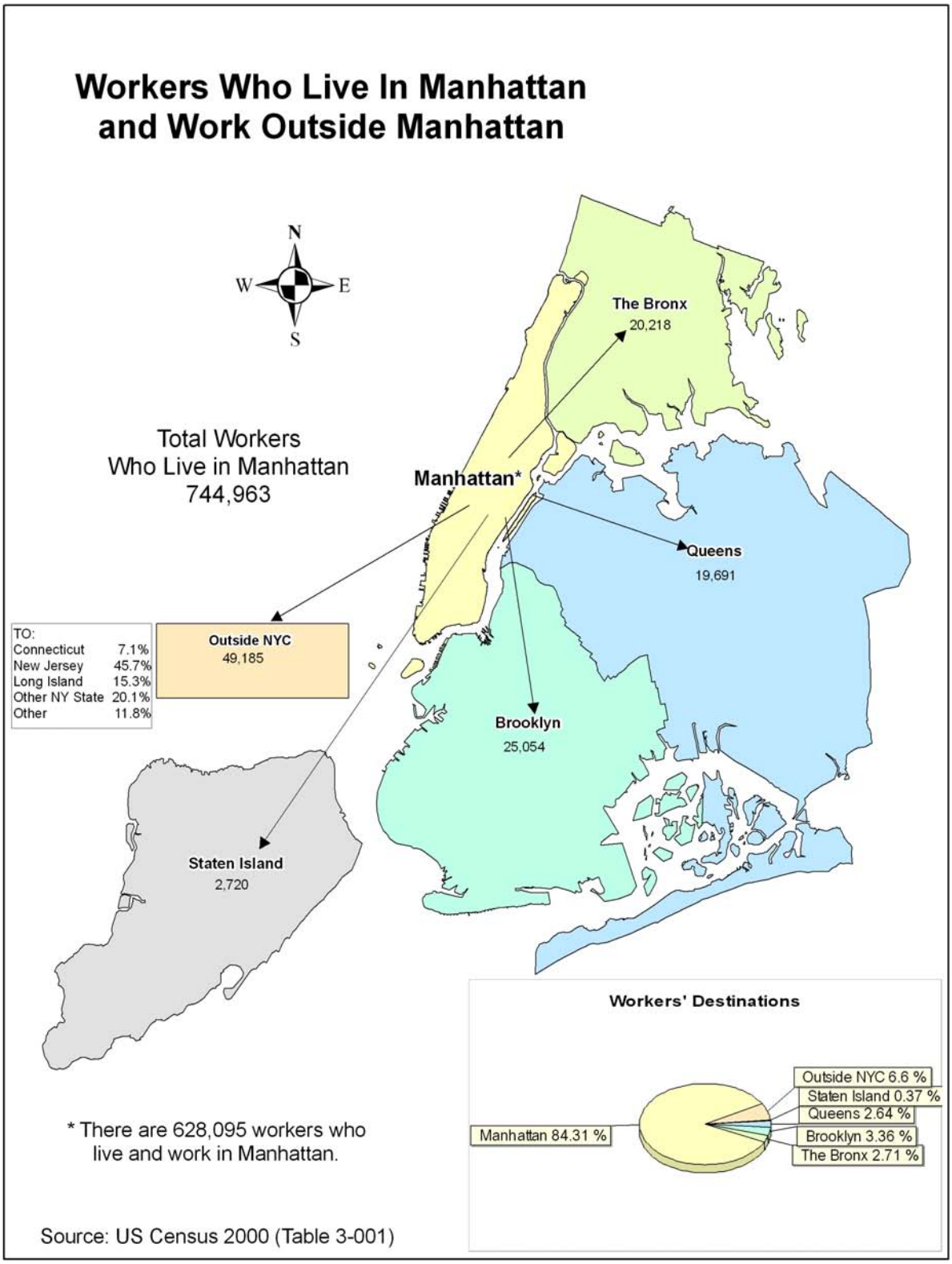
Map 2. Workers Who Live in Brooklyn and Work Outside Brooklyn



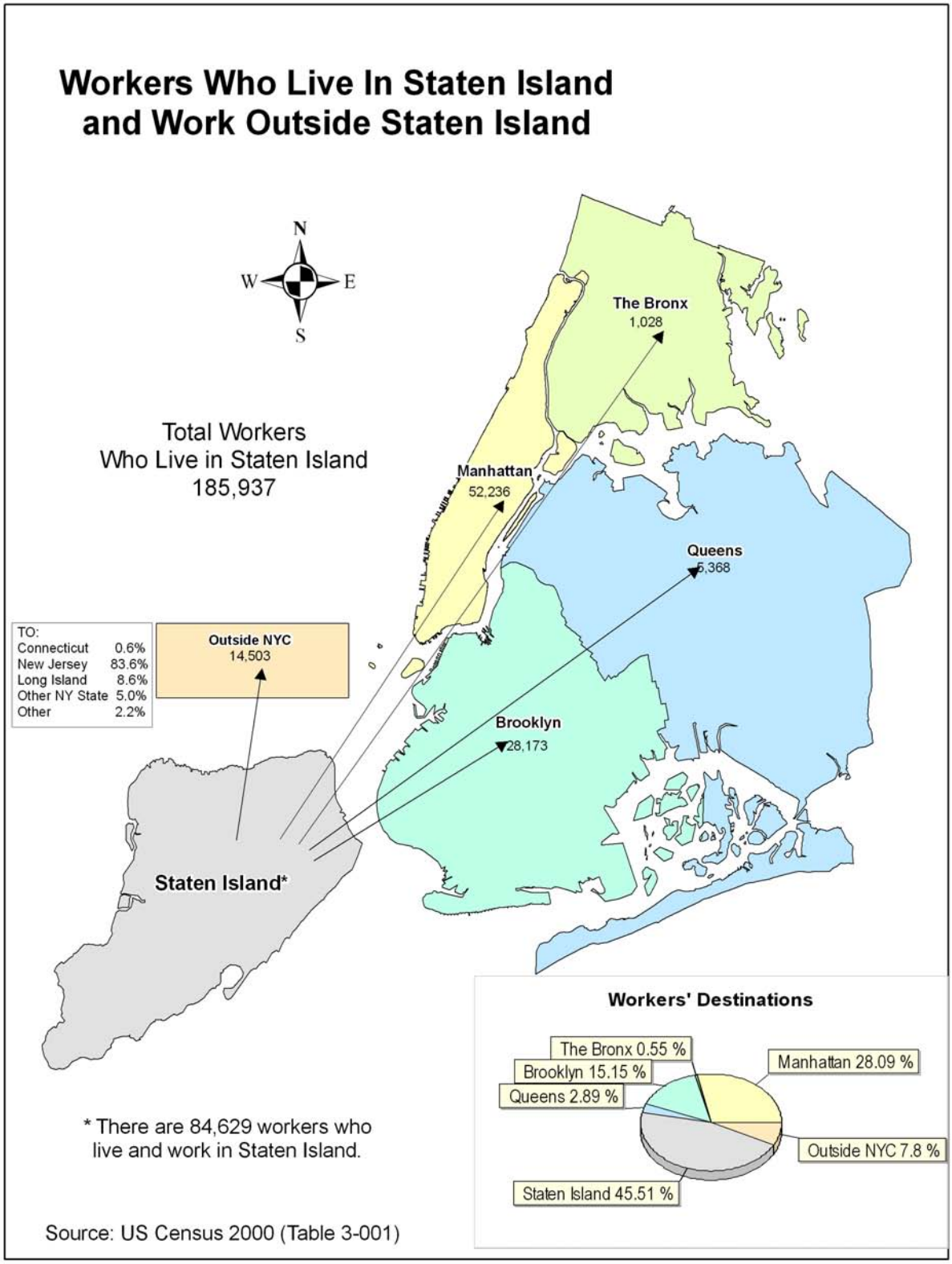
Map 3. Workers Who Live in Queens and Work Outside Queens



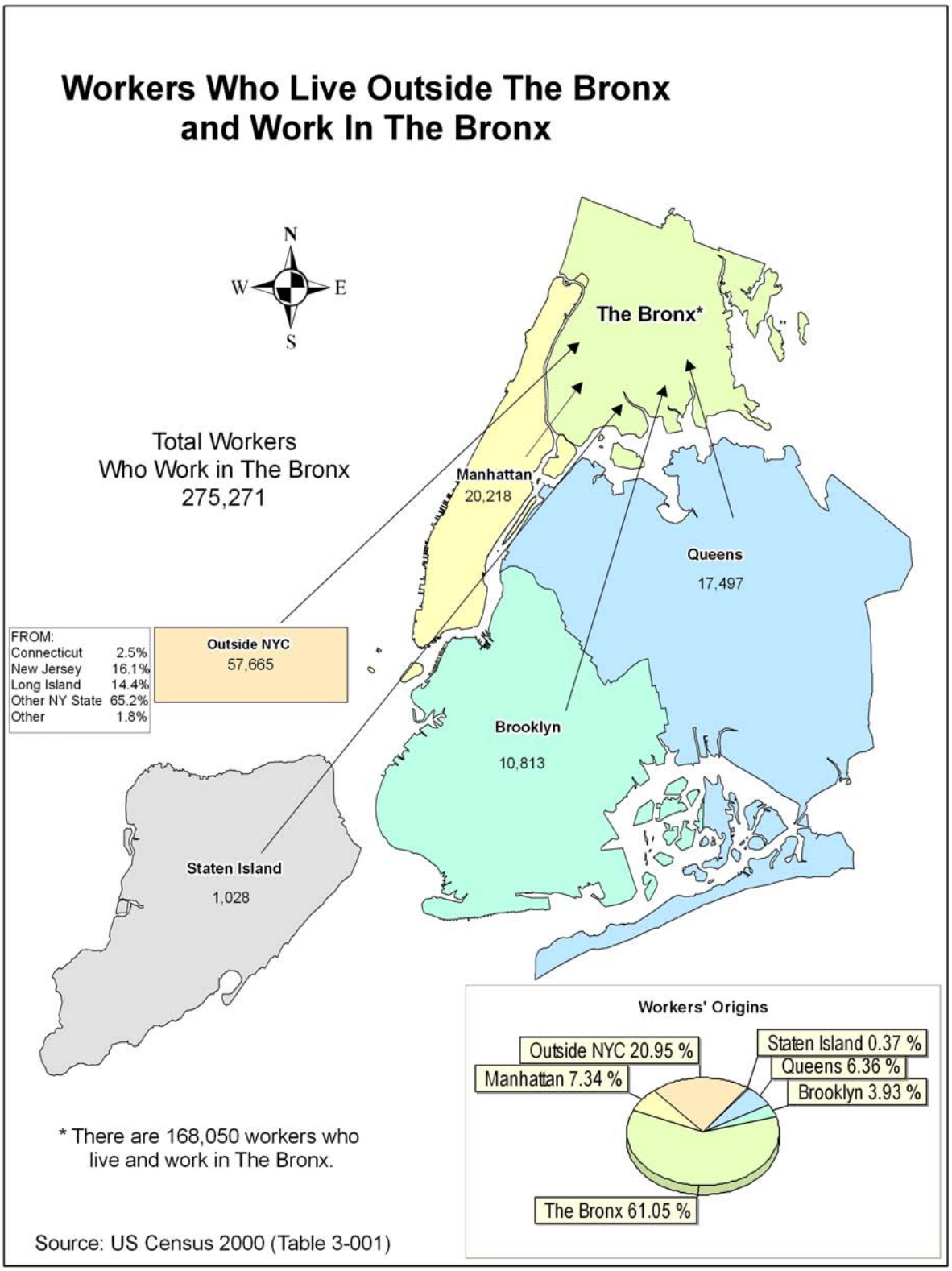
Map 4. Workers Who Live in Manhattan and Work Outside Manhattan



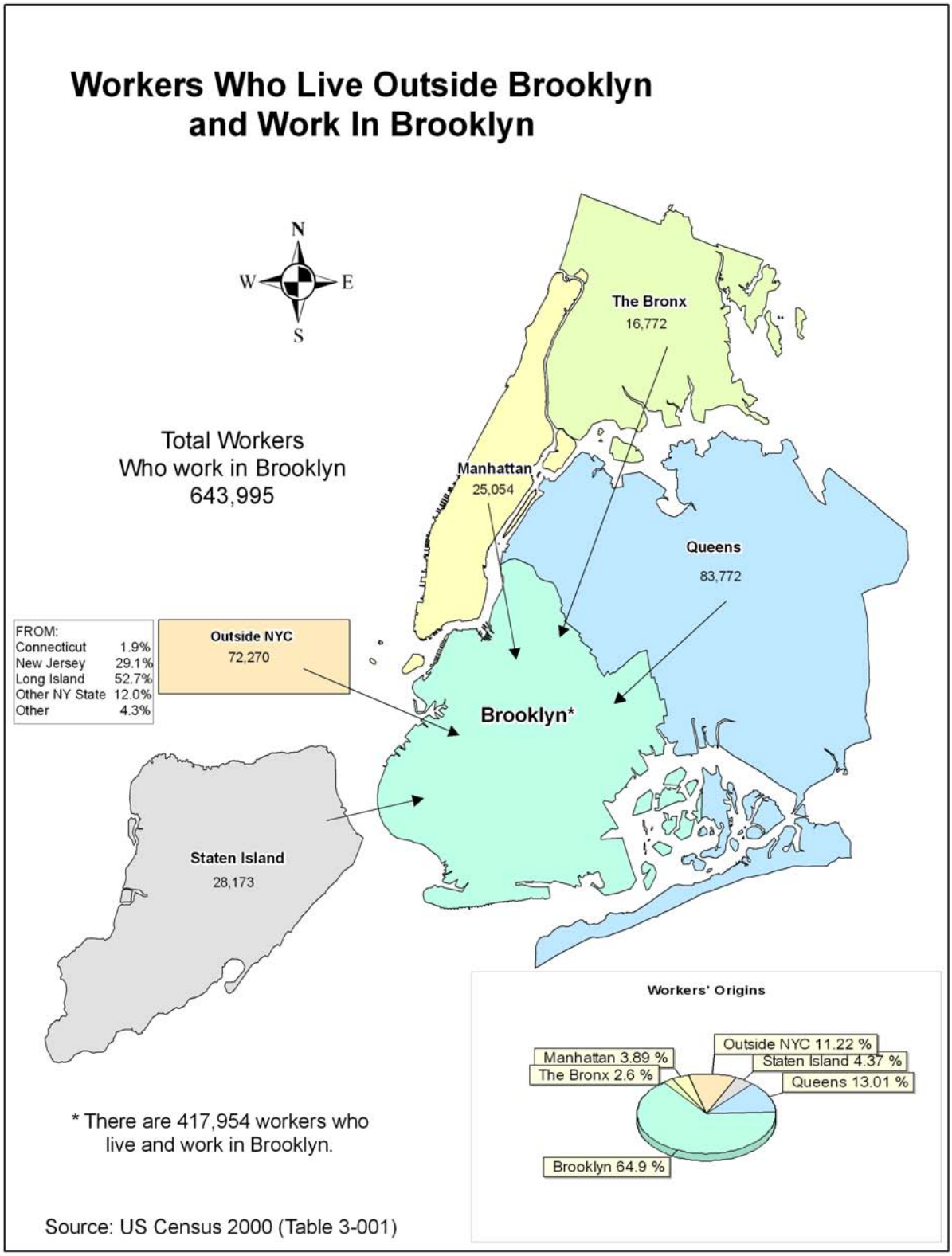
Map 5. Workers Who Live in Staten Island and Work Outside Staten Island



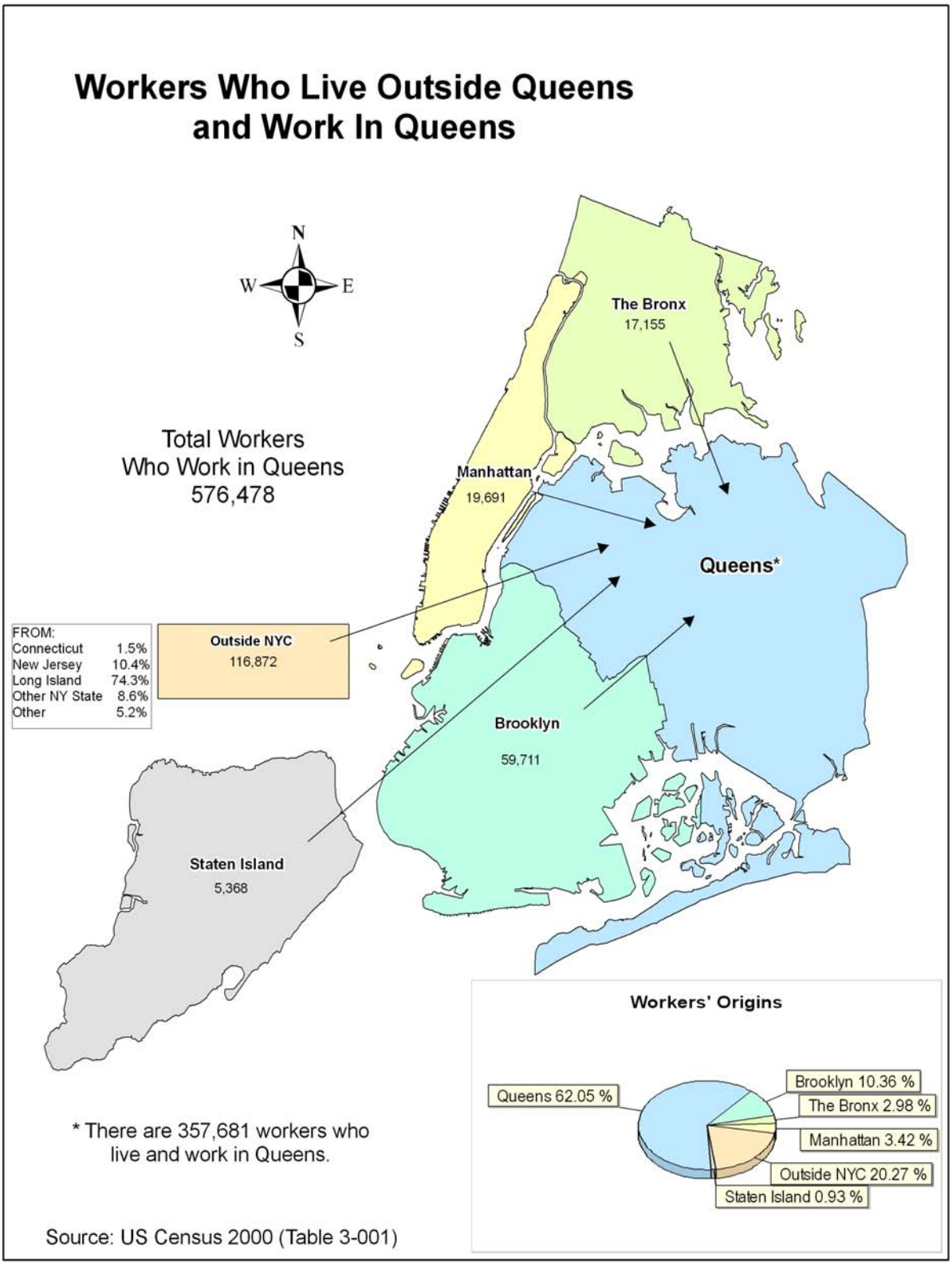
Map 6. Workers Who Live Outside The Bronx and Work in The Bronx



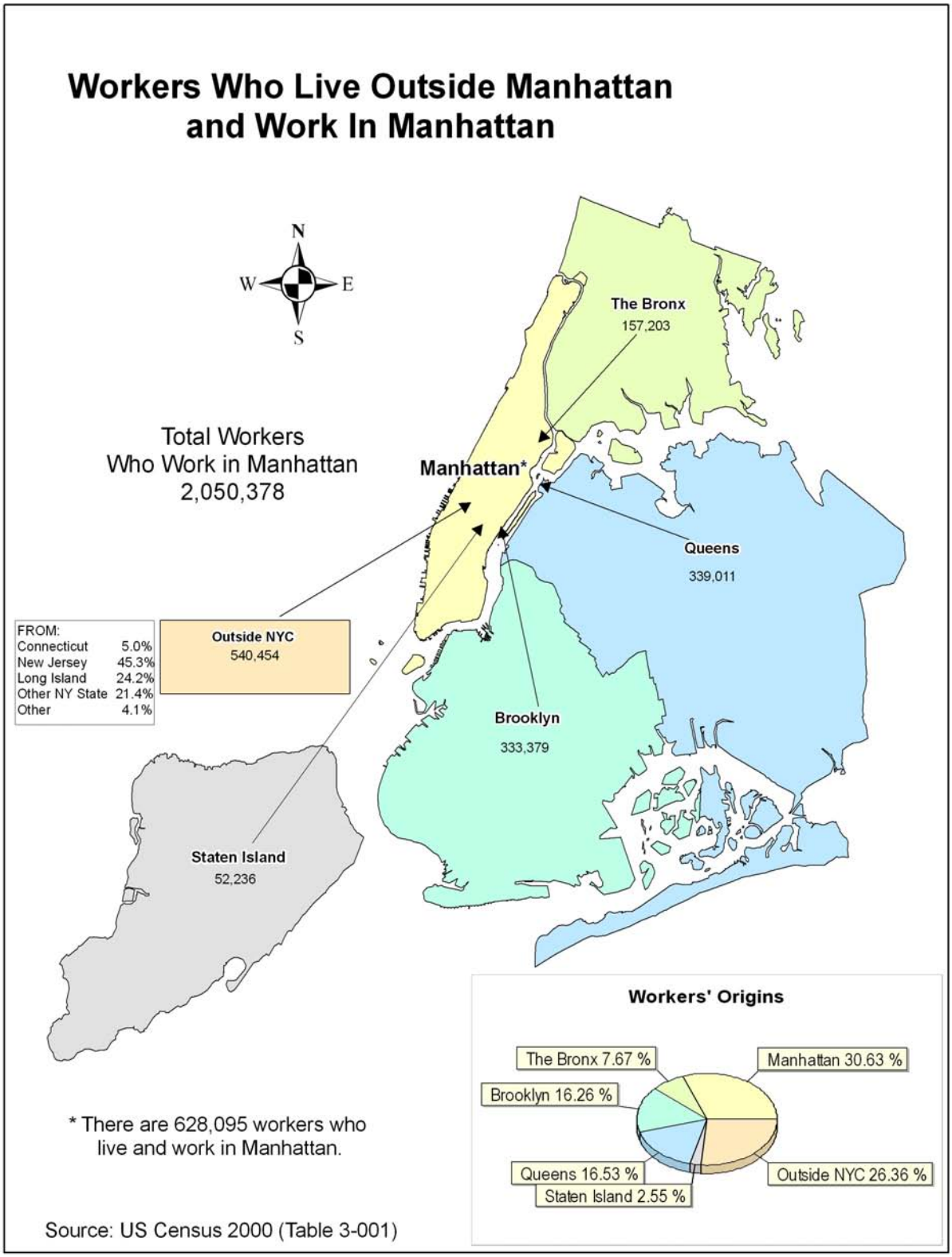
Map 7. Workers Who Live Outside Brooklyn and Work in Brooklyn



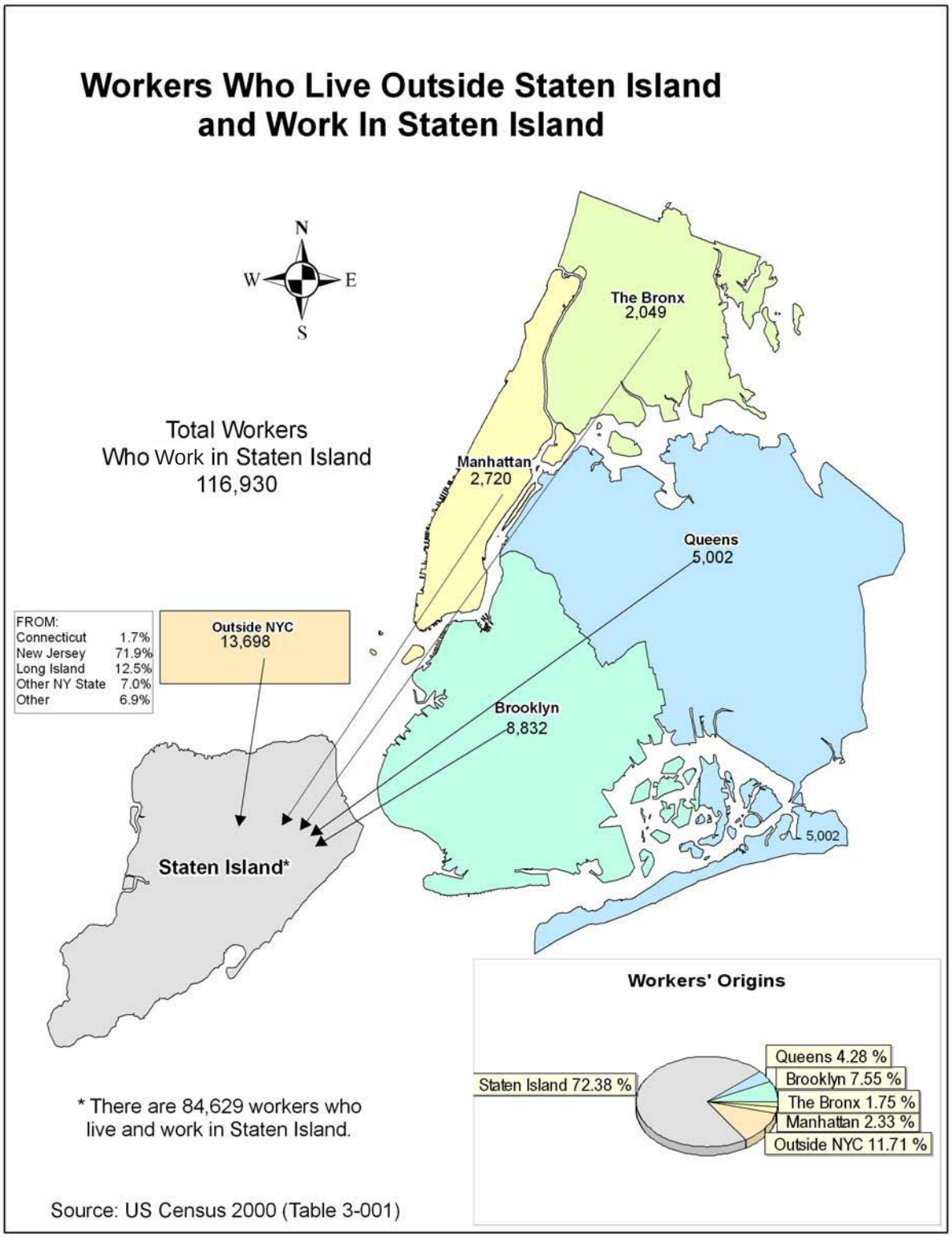
Map 8. Workers Who Live Outside Queens and Work in Queens



Map 9. Workers Who Live Outside Manhattan and Work in Manhattan



Map 10. Workers Who Live Outside Staten Island and Work in Staten Island

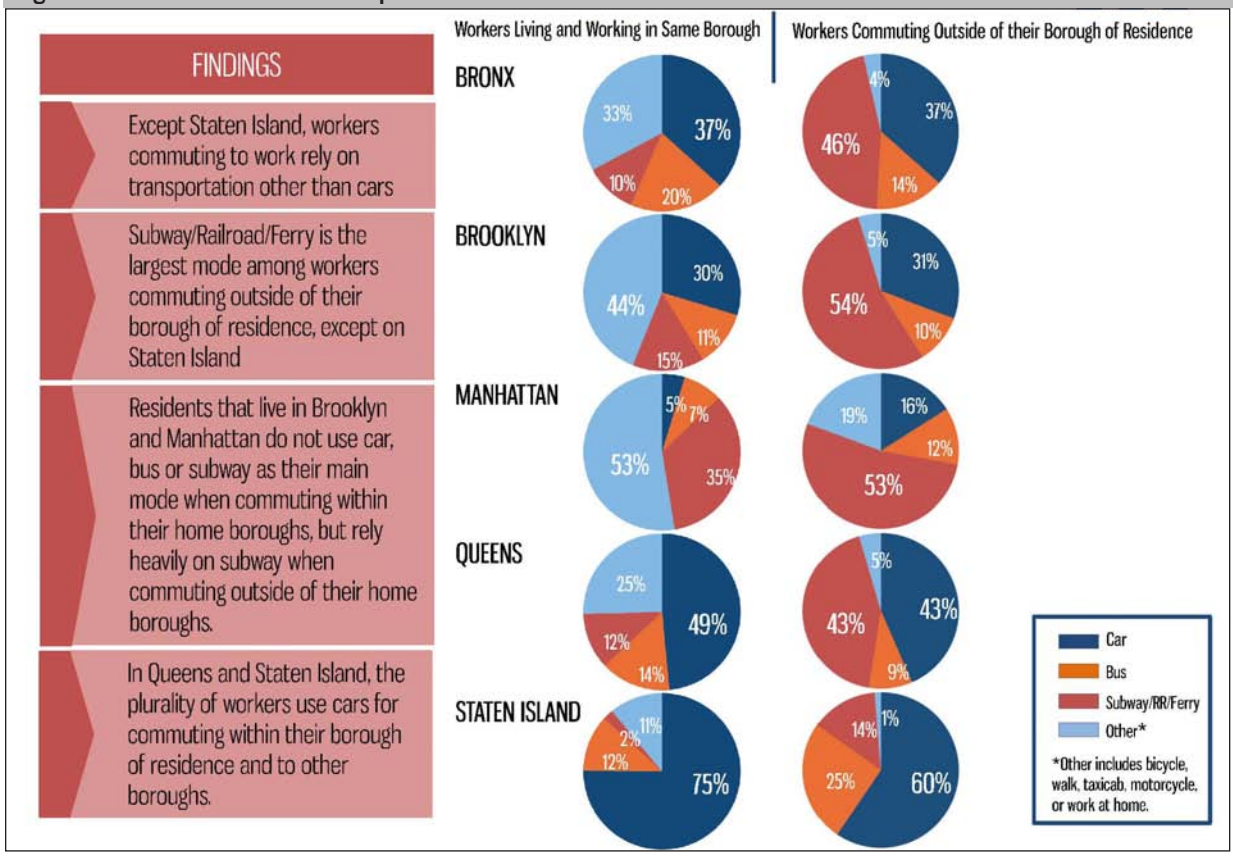


Modal Split by Borough for NYC Residents

Except in Staten Island, New York City residents rely on transportation other than cars to get to work. For workers commuting outside the borough of their residence, Subway/RR/Ferry is the major mode and, when combined with Bus users, constitute more than half of each of these borough's outgoing commuters. In Staten Island, the car is the primary means of traveling to worksites both within and outside of the borough but is more auto-dominant for travel within the borough accounting for three-fourths of all on-island commuters.

Residents that live in the Bronx, Brooklyn and Manhattan and work in the same borough they reside in do not rely primarily on transit options (Subway/RR/Ferry/Bus). In Manhattan more than half use Other (walking, biking, etc) whereas in Brooklyn and the Bronx the Other and Auto shares are more important. As in Staten Island, in Queens Autos are the dominant mode of commuting within the borough.

Figure 20. NYC Residents - Modal Split



Borough to Study Areas Work Trips by NYC Workers

This section examines travel from one NYC borough to the smaller geography of a "Super-PUMA". As defined by the U.S. Census Bureau, a "Super-PUMA" is a geographic area, with a population of 400,000 or more. In all instances of this report, the term Study Area is used instead of "Super-PUMA" for simplicity. The term Study Area refers directly to the technical term of "Super-PUMA". Appendix A lists these Study Area details with the corresponding "Super-PUMA" details.

Table 5 shows the concentration of travel by workers into each Study Area from each of the NYC boroughs and outside New York City. The largest source of inbound workers is represented in bold print.

Figure 21. NYC Peripheral Travel Study Areas

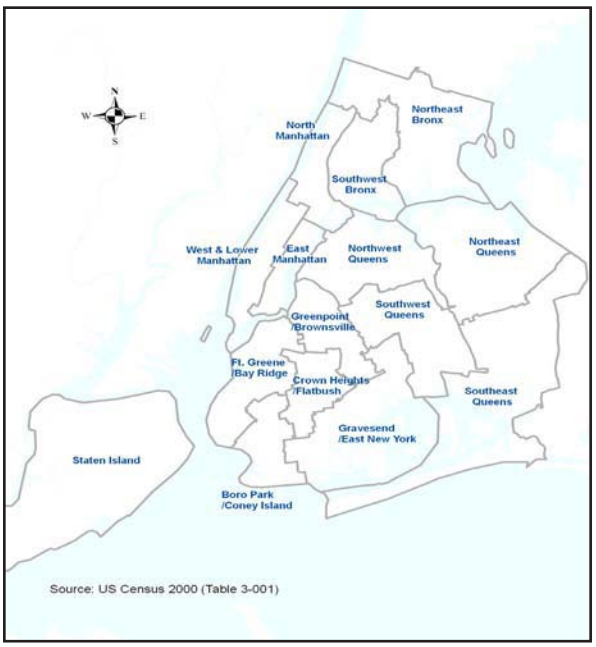


Table 5. Workers in Each Study Area by Borough of Residence

Destination: Study Areas of Work	Origin: Workers' Borough of Residence					
	Bronx	Brooklyn	Queens	Staten Island	Manhattan	Outside NYC
Bronx						
91- Northeast	**77,871**	3,886	7,361	361	7,112	28,822
92- Southwest	**90,179**	6,927	10,136	667	13,106	28,843
Total	168,050	10,813	17,497	1,028	20,218	57,665
Brooklyn						
121- Greenpoint/Brownsville	2,487	**65,340**	20,515	2,383	3,852	13,841
122- Ft. Greene/Bay	9,348	**160,915**	35,059	13,829	13,811	33,665
123- Crown Heights/Flatbush	2,306	**67226**	10,314	2,651	3,543	8,801
124- Gravesend/East New York	1,616	**60,415**	11,747	3,657	2,243	9,441
125-Boro Park/Coney Island	1,015	**64,058**	6,137	5,653	1,605	6,522
Total	16,772	417,954	83,772	28,173	25,054	72,270
Queens						
111- Northwest	9,034	23,018	**127,685**	2,689	9,985	37,616
112- Northeast	3,154	9,973	**86,134**	876	4,075	24,501
113- Southeast	2,684	15,131	**79,559**	1,091	3,081	39,306
114- Southwest	2,283	11,589	**64,303**	712	2,550	15,449
Total	17,155	59,711	357,681	5,368	19,691	116,872
Manhattan						
101- North	22,380	13,005	13,722	1,152	**58,848**	24,914
102- West & Lower	92,889	240,895	230,639	39,922	**394,598**	388,274
103- East	41,934	79,479	94,650	11,162	**174,649**	127,266
Total	157,203	333,379	339,011	52,236	628,095	540,454
Staten Island						
130- Staten Island	2,049	8,832	5,002	**84,629**	2,720	13,698
Total	2,049	8,832	5,002	84,629	2,720	13,698

Source: US Census 2000

Workers in the Brooklyn Study Areas who commute from other boroughs primarily travel from Queens, with a total of 83,772 (Table 5).

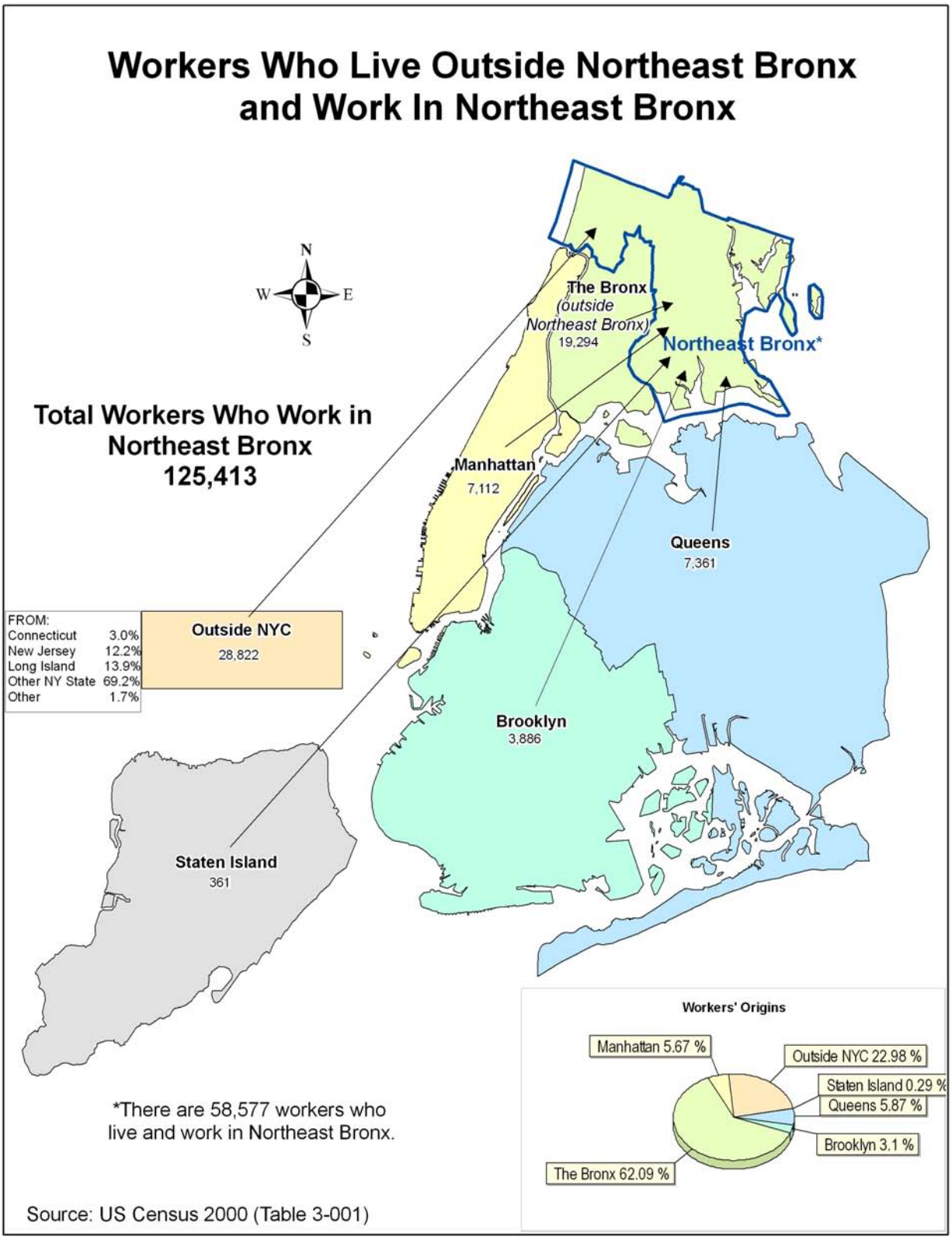
The workers commuting from the other boroughs to the four Study Areas in Queens are primarily coming from Brooklyn, with a total of 59,711 workers (Table 5, Table 6, and Table 7).

The majority of workers commuting from other boroughs to Staten Island come from Brooklyn, with a total of 8,832 workers (Map 25 and Table 5).

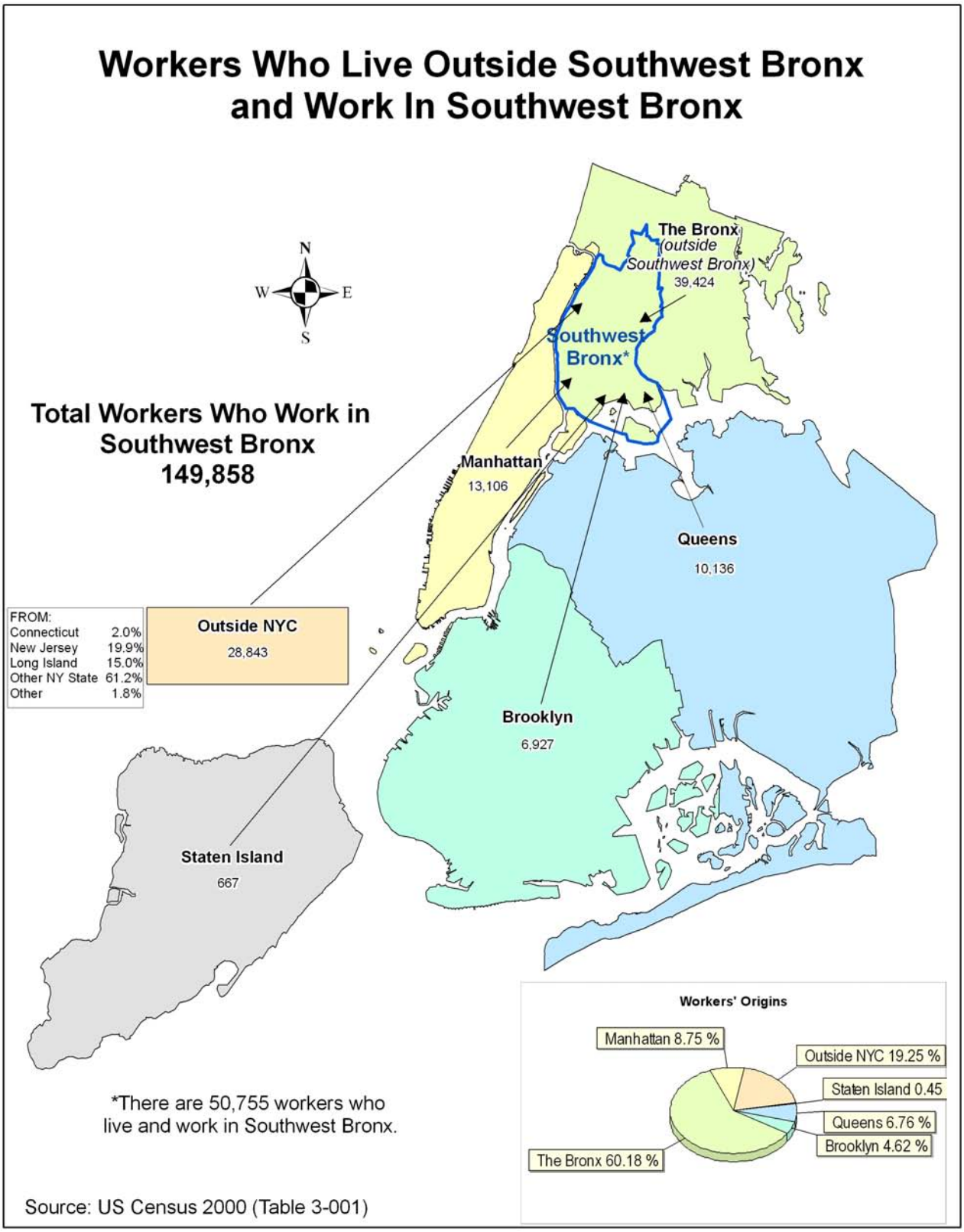
More Bronx residents commute to Northwest Queens than any other Queens Study Area, with a total of 9,034 workers (Map 63, Map 64, and Table 5).

Maps 11-25 on the following pages correspond to Table 5 and display the number of workers who travel from their home borough to their place of work in a borough's study area.

Map 11. Workers Who Live Outside Northeast Bronx and Work in Northeast Bronx

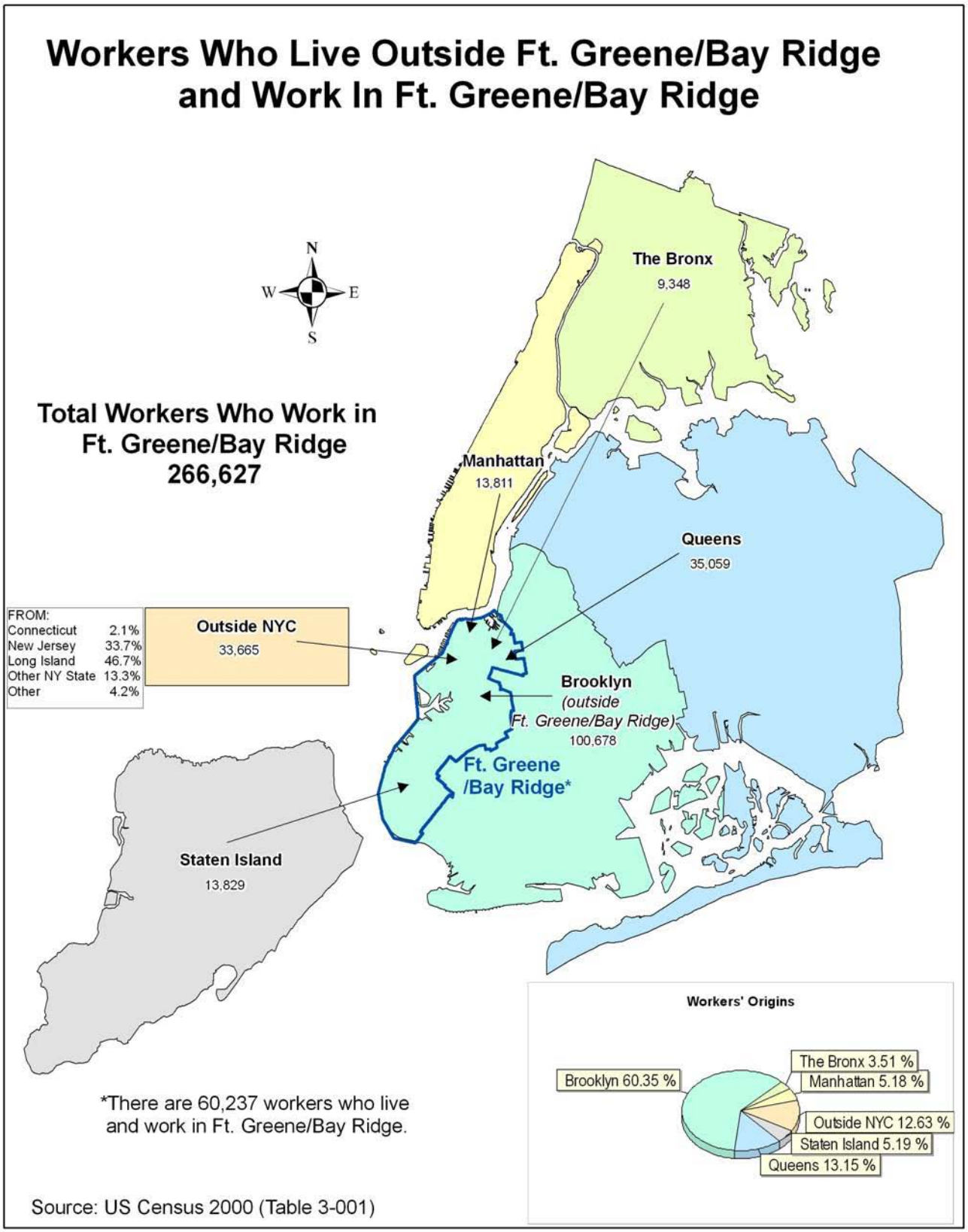


Map 12. Workers Who Live Outside Southwest Bronx and Work in Southwest Bronx

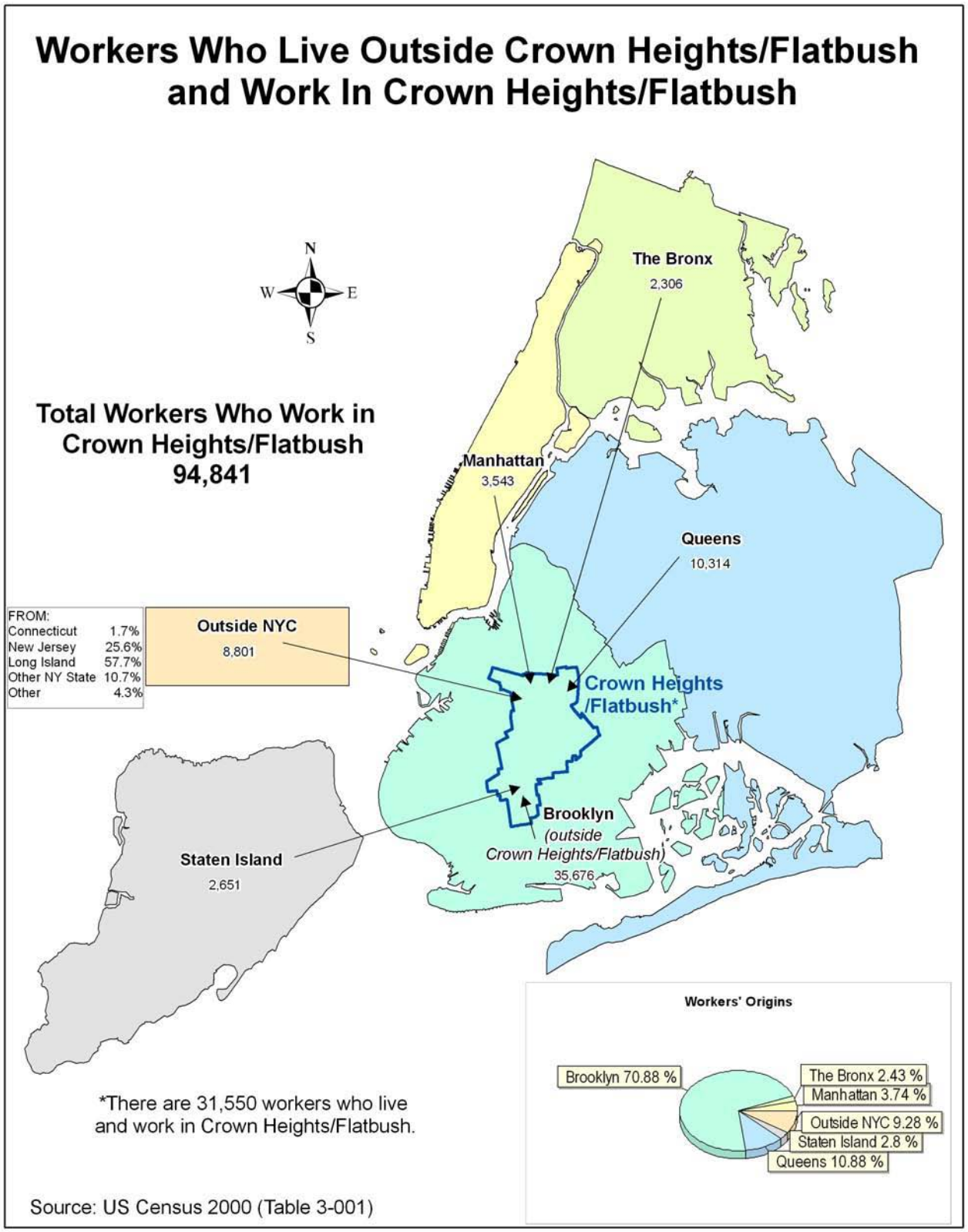


Map 13. Workers Who Live Outside Greenpoint/Brownsville and Work in Greenpoint/Brownsville

Map 14. Workers Who Live Outside Ft. Greene/Bay Ridge and Work in Ft. Greene/Bay Ridge



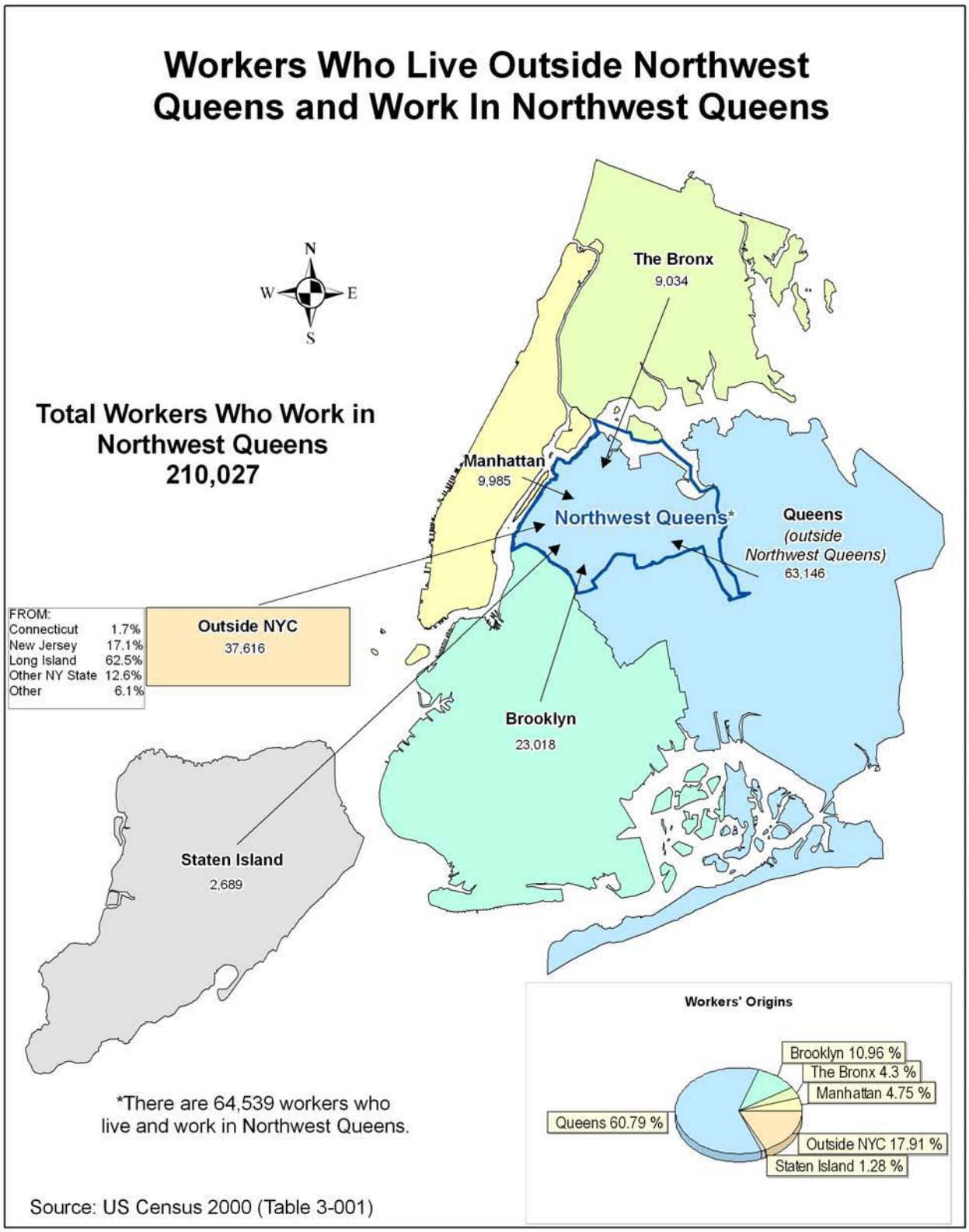
Map 15. Workers Who Live Outside Crown Heights/Flatbush and Work in Crown Heights/Flatbush



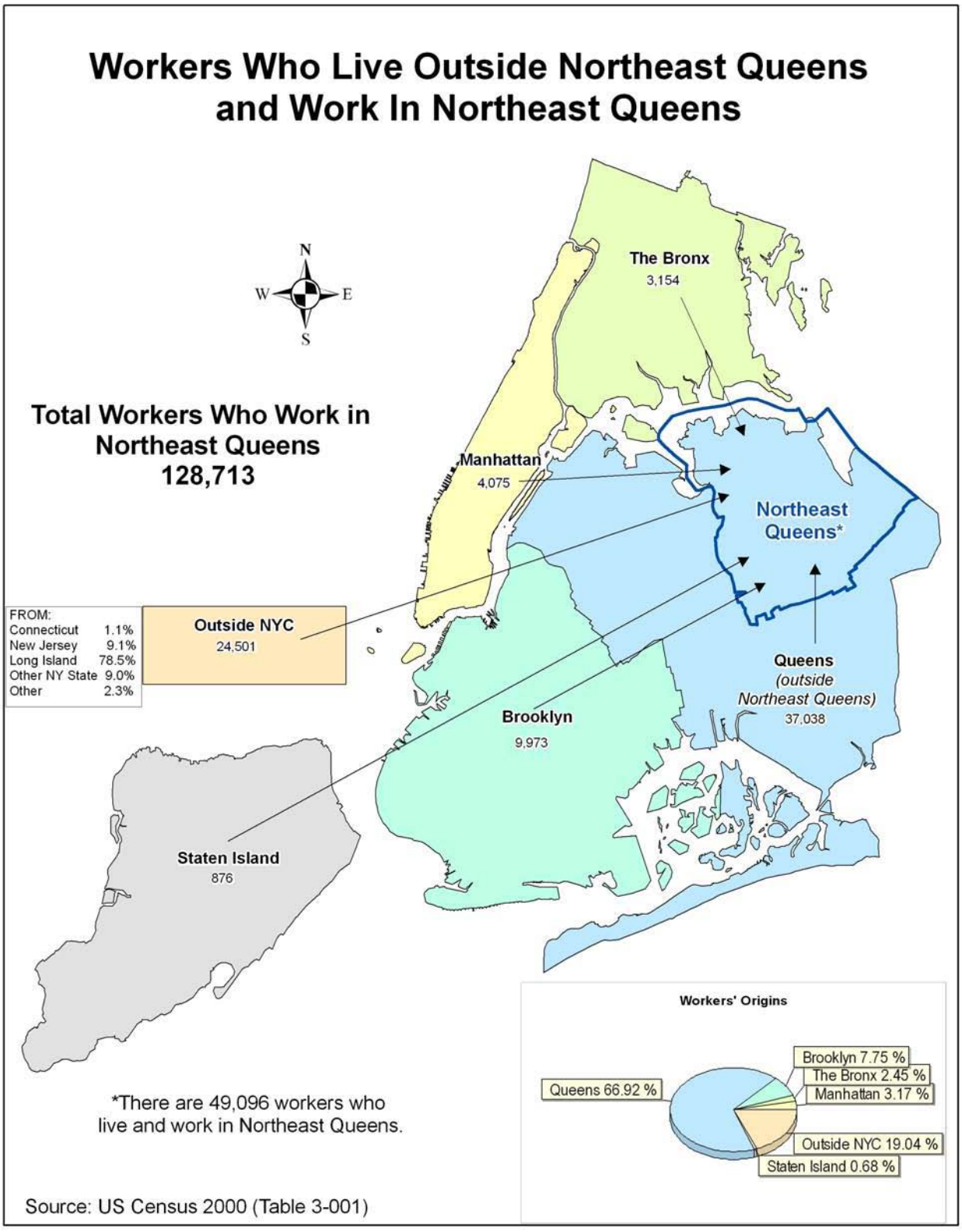
Map 16. Workers Who Live Outside Gravesend/East New York and Work in Gravesend/East New York

Map 17. Workers Who Live Outside Boro Park/Coney Island and Work in Boro Park/Coney Island

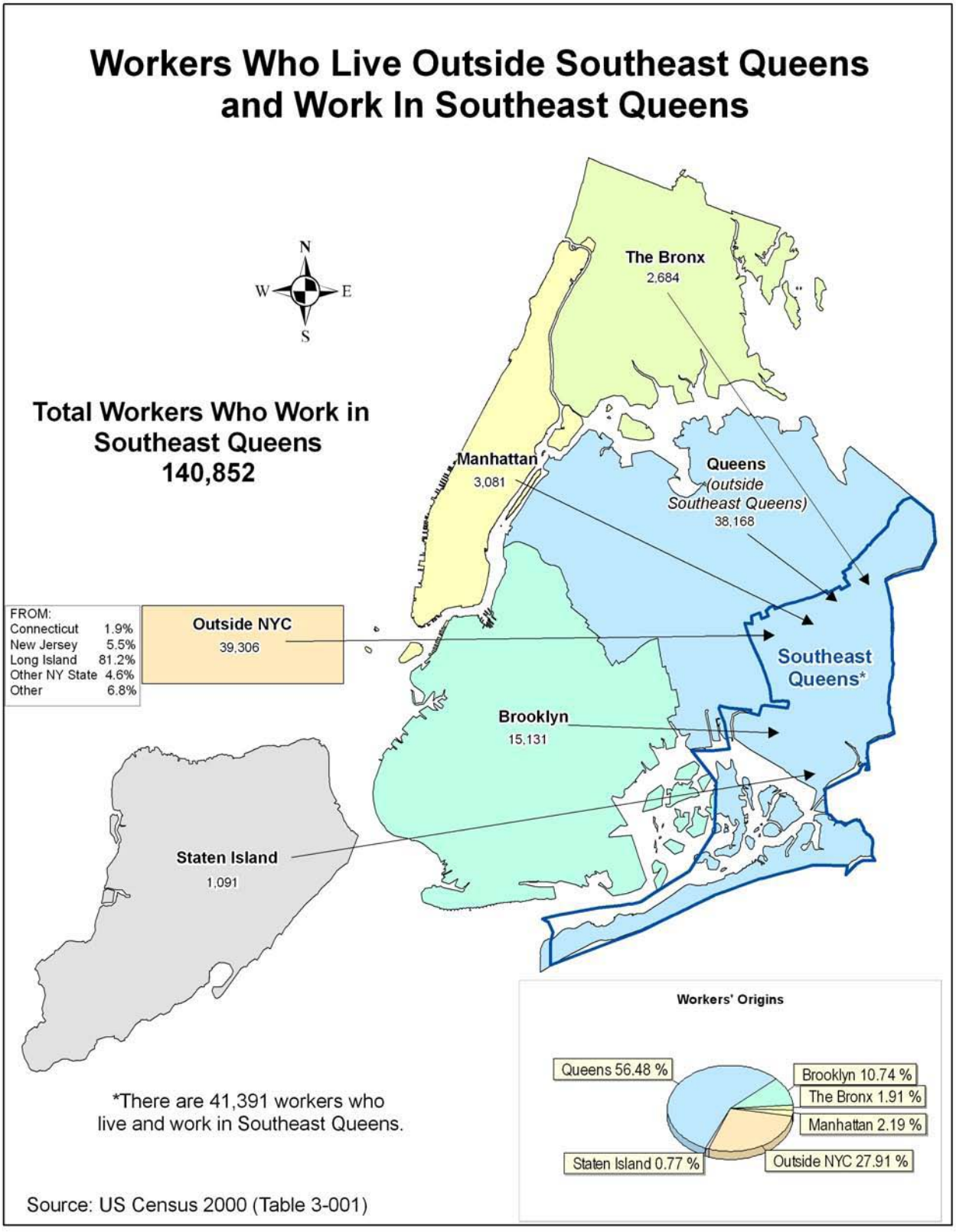
Map 18. Workers Who Live Outside Northwest Queens and Work in Northwest Queens



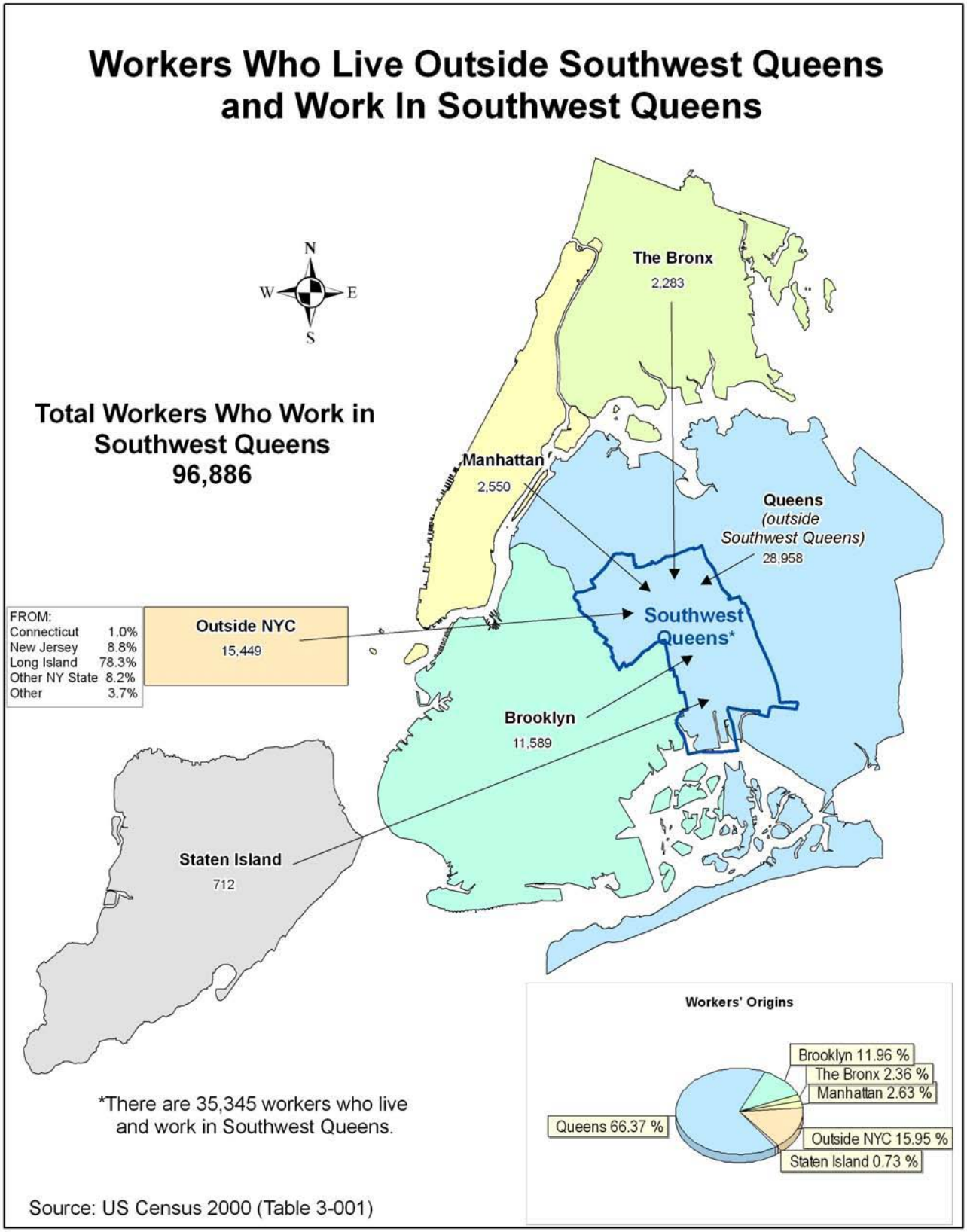
Map 19. Workers Who Live Outside Northeast Queens and Work in Northeast Queens



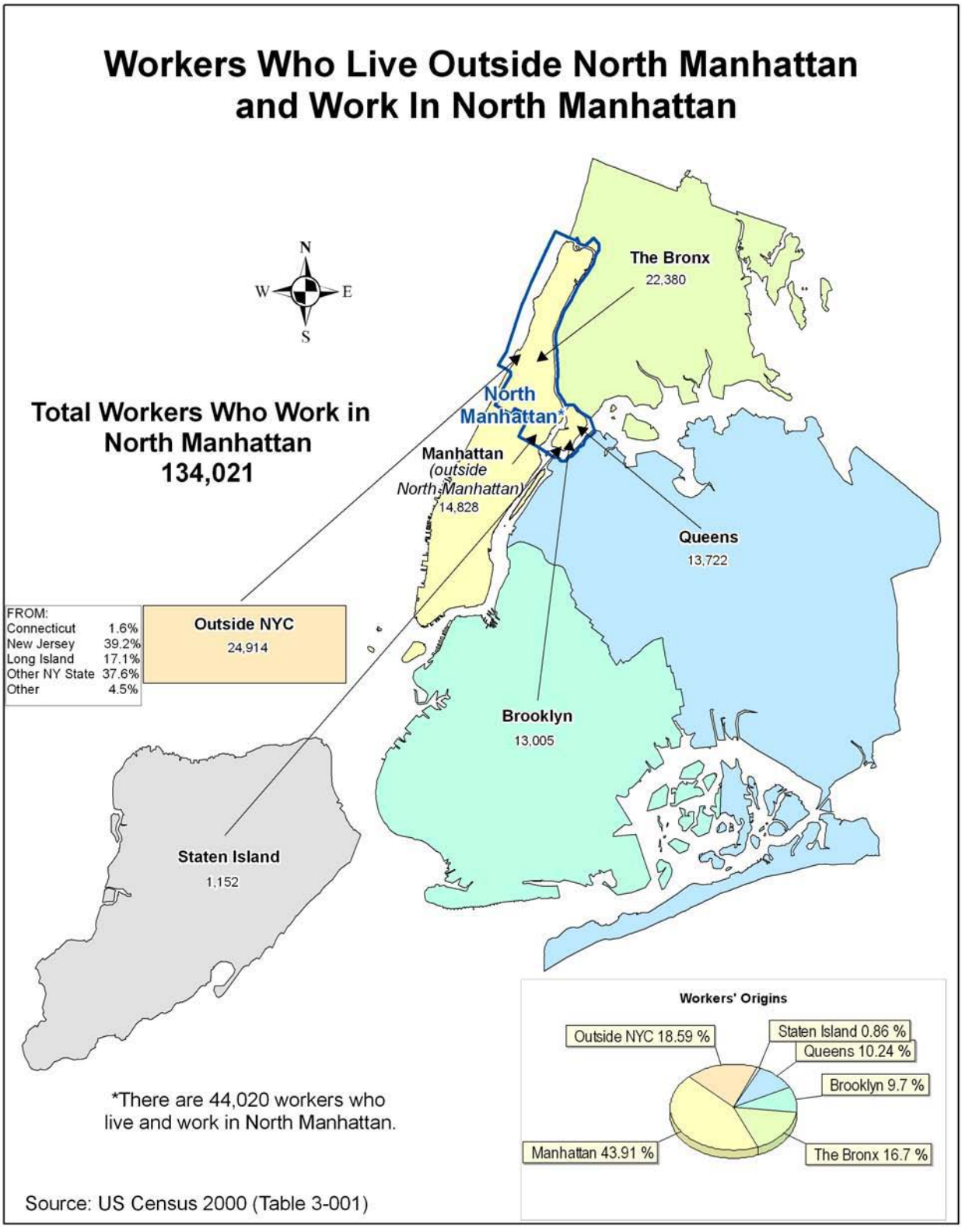
Map 20. Workers Who Live Outside Southeast Queens and Work in Southeast Queens



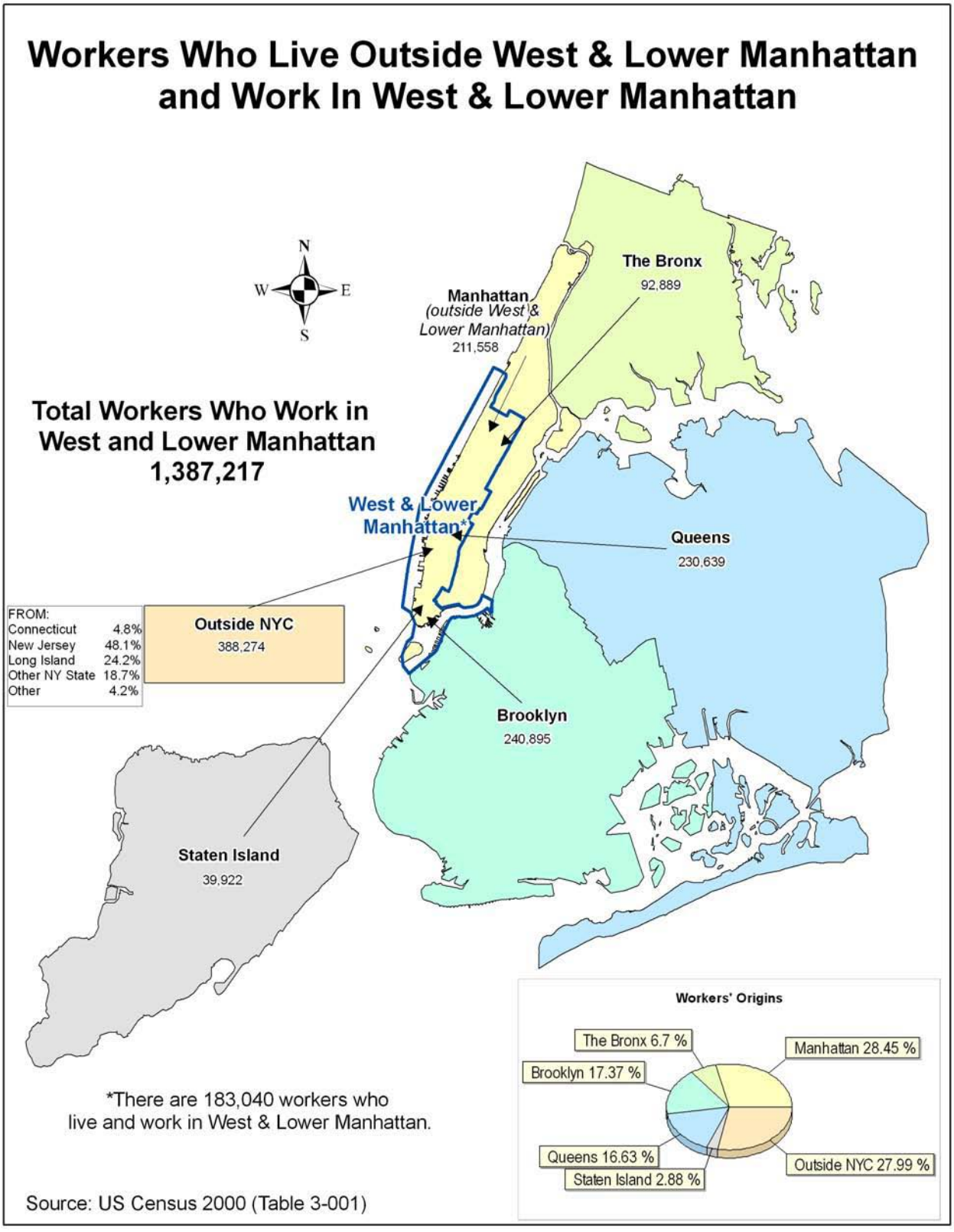
Map 21. Workers Who Live Outside Southwest Queens and Work in Southwest Queens



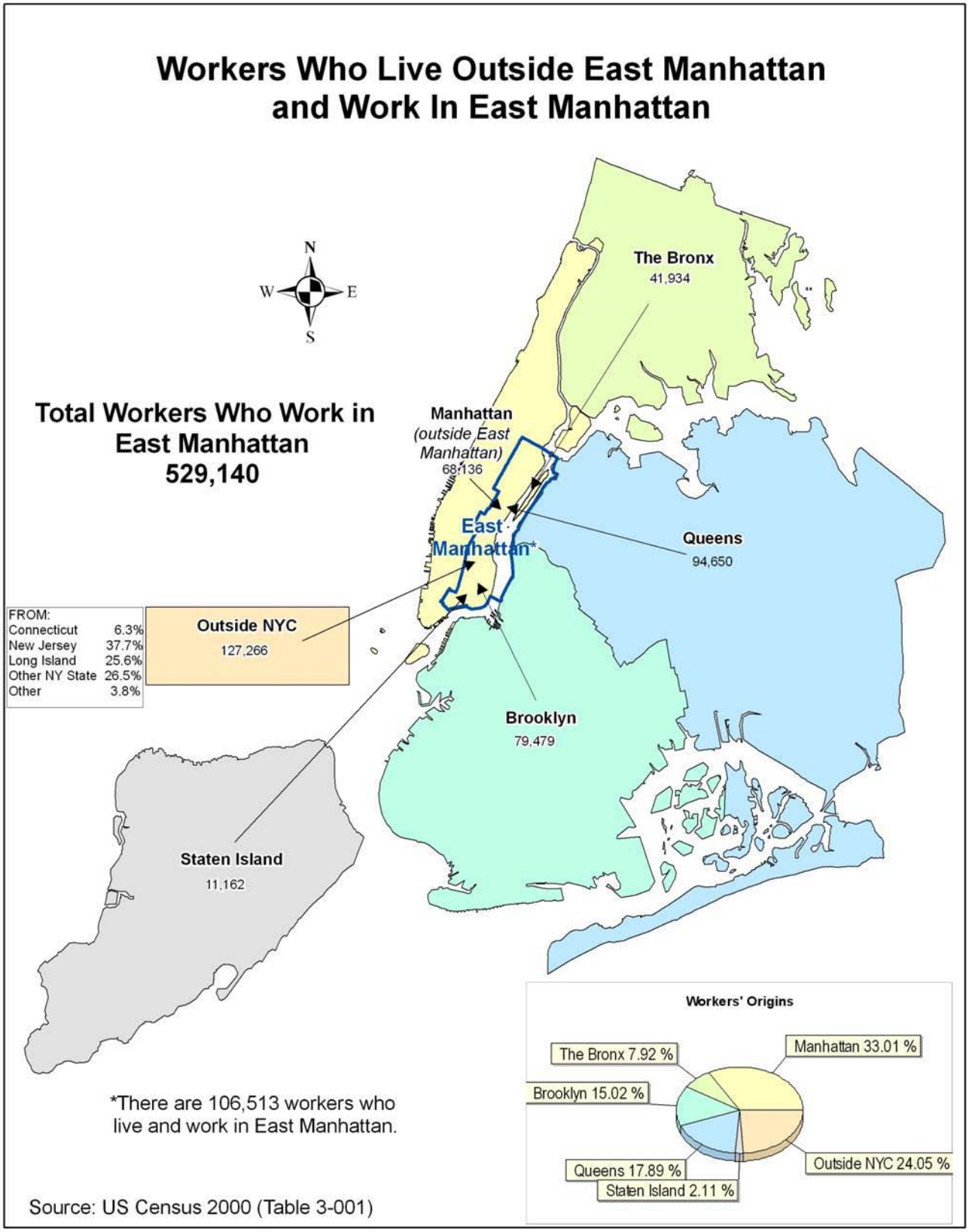
Map 22. Workers Who Live Outside North Manhattan and Work in North Manhattan



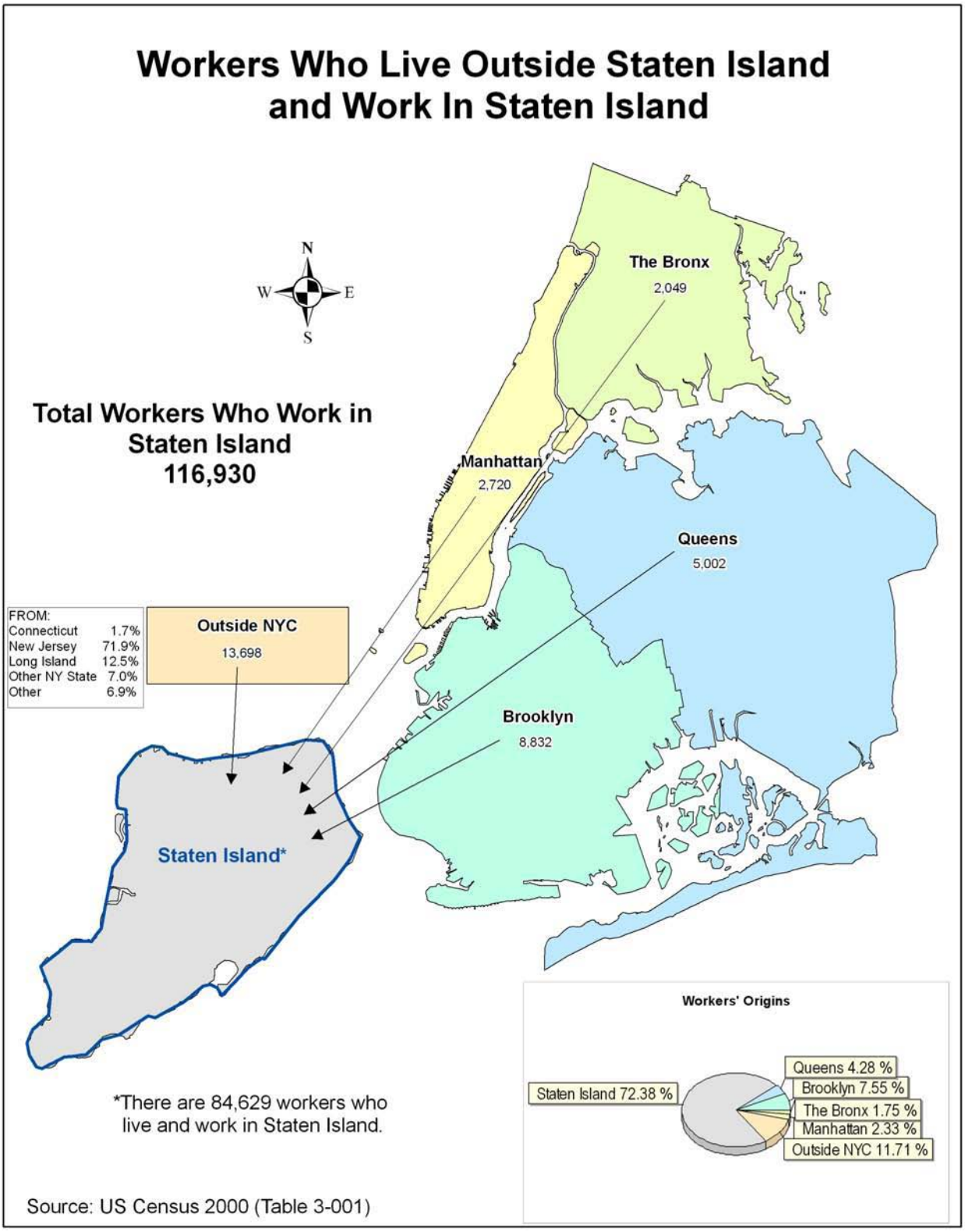
Map 23. Workers Who Live Outside West & Lower Manhattan and Work in West & Lower Manhattan



Map 24. Workers Who Live Outside East Manhattan and Work in East Manhattan



Map 25. Workers Who Live Outside Staten Island and Work in Staten Island



Study Area to Borough Work Trips by NYC Workers

The following Table 6 and Maps 26-40 display the number of workers who travel from their home Study Area to their borough of work. Table 6 shows the outbound travel of workers from each Study Area to NYC boroughs and Outside New York City. The Table highlights that most Study Area residents live and work in the same borough.

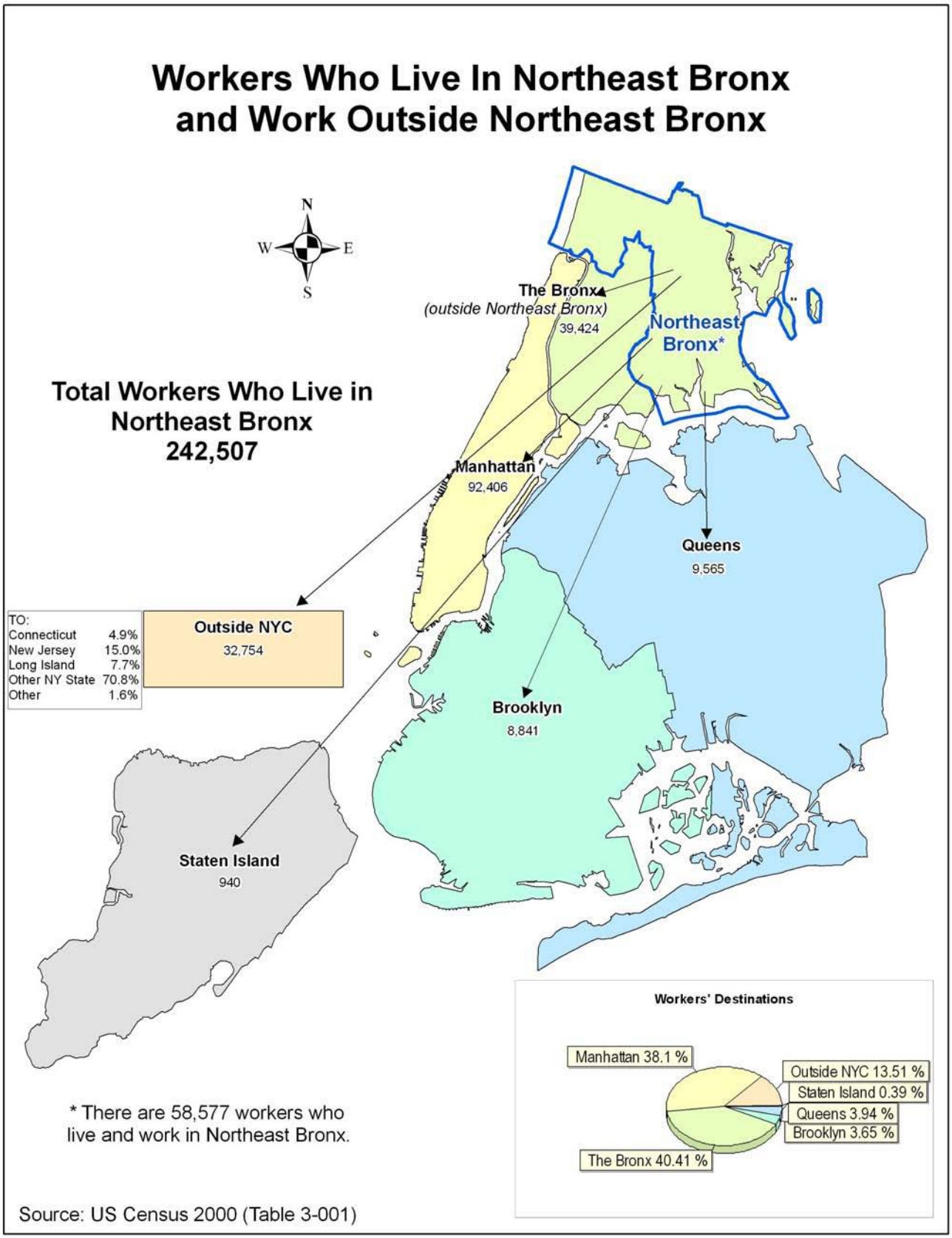
Table 6. Workers in Each Study Area by Borough of Work

Origin: Workers by Study Areas of Residence	Destination: Workers' Borough of Work					
	Bronx	Brooklyn	Queens	Staten Island	Manhattan	Outside NYC
Bronx						
91- Northeast	**98,001**	8,841	9,565	940	92,406	32,754
92- Southwest	**70,049**	7,931	7,590	1,109	64,797	14,837
Total	168,050	16,772	17,155	2,049	157,203	47,591
Brooklyn						
121- Greenpoint/Brownsville	2,241	**68,821**	14,099	928	52,230	6,188
122- Ft. Greene/Bay	1,908	**86,737**	8,391	2,322	100,349	9,361
123- Crown Heights/Flatbush	3,369	**95,458**	13,887	2,052	73,613	9,541
124- Gravesend/East New York	1,936	**90,064**	15,748	1,802	56,932	8,558
125-Boro Park/Coney Island	1,359	**76,874**	7,586	1,728	50,255	7,555
Total	10,813	417,954	59,711	8,832	333,379	41,203
Queens						
111- Northwest	4,617	17,648	**97,038**	1,399	129,042	15,952
112- Northeast	5,110	13,491	**95,030**	968	71,250	31,538
113- Southeast	3,938	25,295	**80,902**	1,332	52,834	35,007
114- Southwest	3,832	27,338	**84,711**	1,303	85,885	17,628
Total	17,497	83,772	357,681	5,002	339,011	100,125
Manhattan						
101- North	13,300	8,228	7,157	774	**139,172**	14,999
102- West & Lower	3,199	7,265	5,154	860	**233,164**	16,214
103- East	3,719	9,561	7,380	1,086	**255,759**	17,972
Total	20,218	25,054	19,691	2,720	628,095	49,185
Staten Island						
130- Staten Island	1,028	28,173	5,368	**84,629**	52,236	14,503
Total	1,028	28,173	5,368	84,629	52,236	14,503

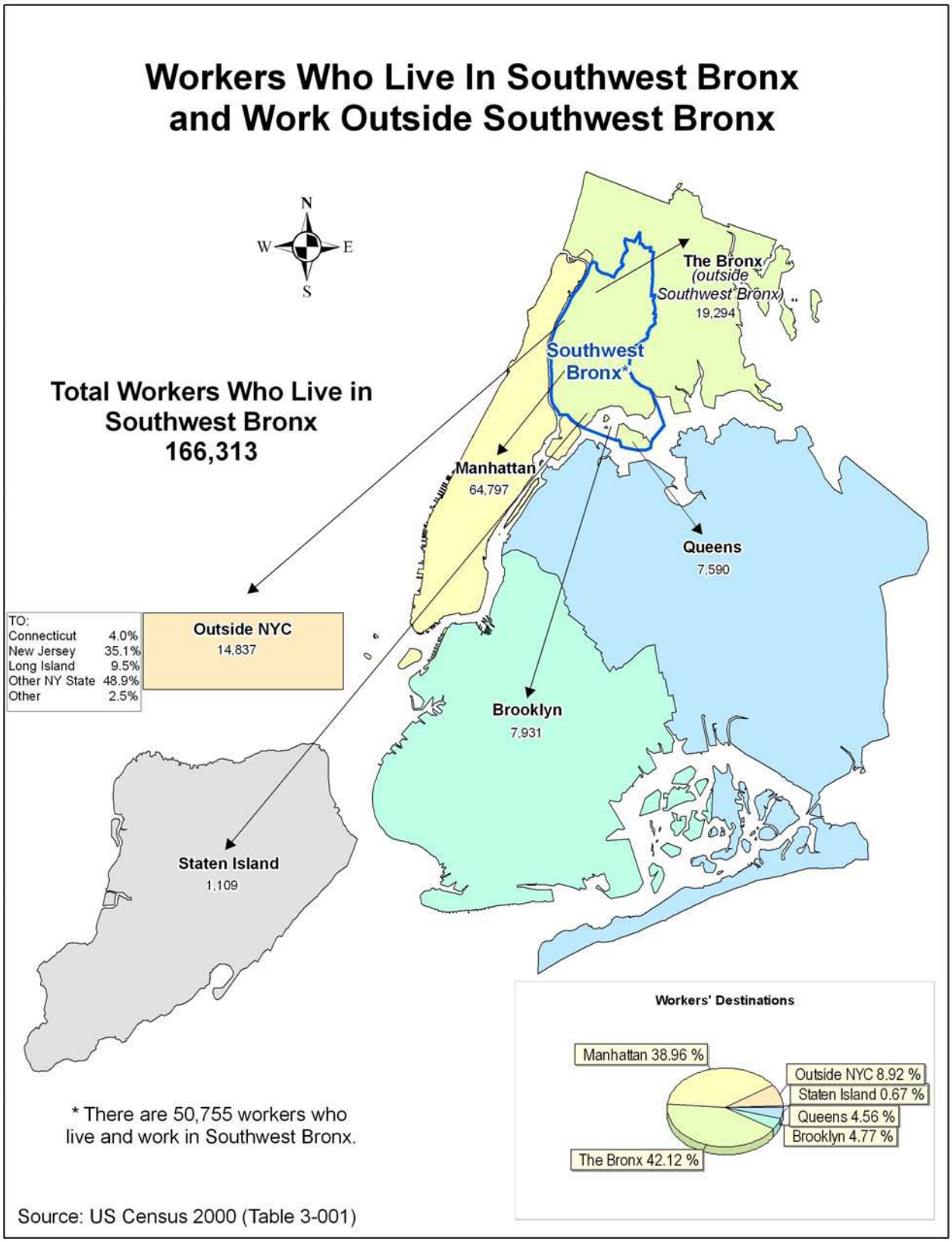
Source: U.S. Census 2000

- Excluding intra-borough and Manhattan trips, workers who live in Northeast and Southwest Bronx and commute to other boroughs are working primarily in Queens and Brooklyn, with a total of 17,155 and 16,772 workers respectively (Map 26, Map 27, and Table 6).
- Bronx workers who live in Staten Island comprised the smallest number of "peripheral" trips, with 1,028 workers (Table 6).

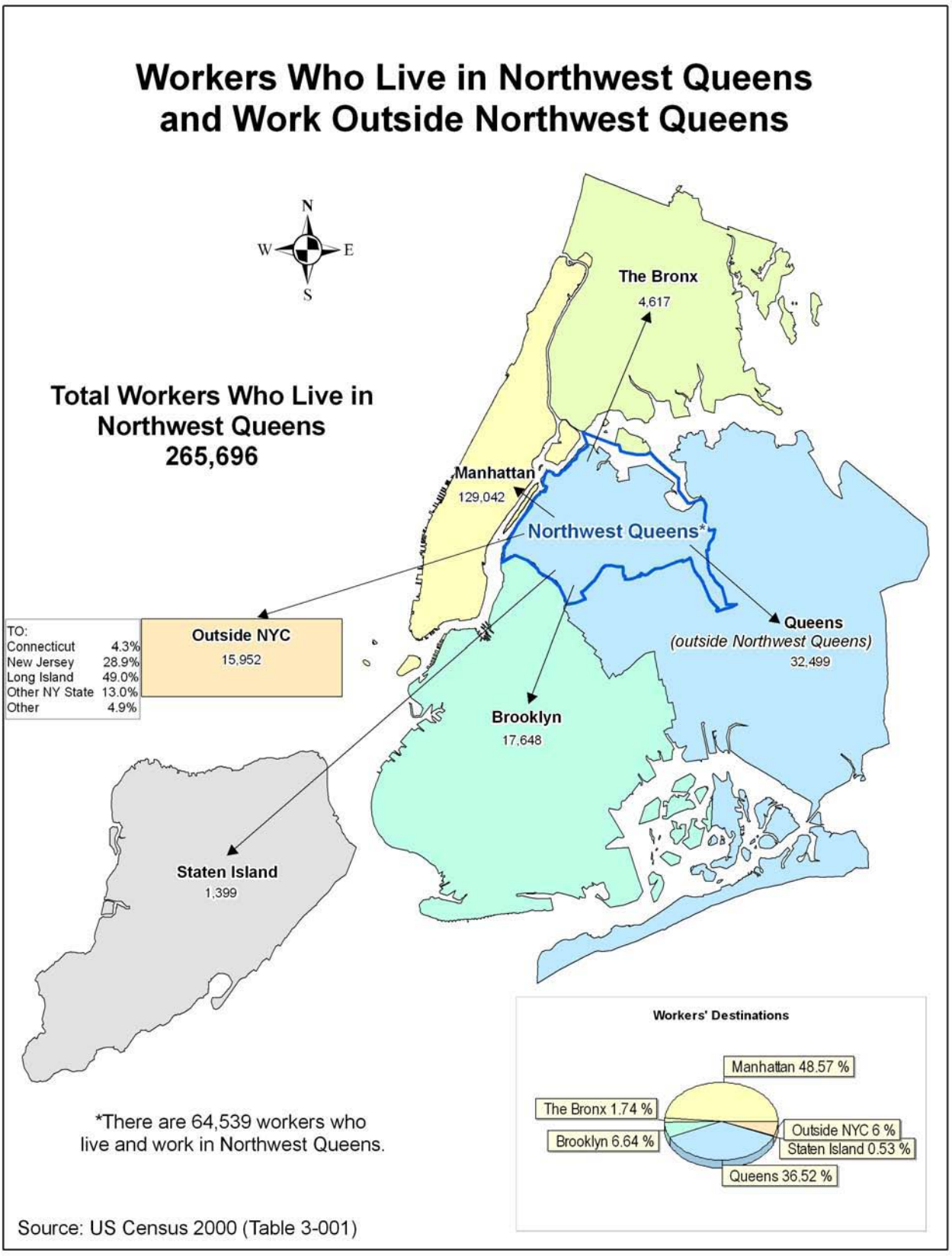
Map 26. Workers Who Live in Northeast Bronx and Work Outside Northeast Bronx



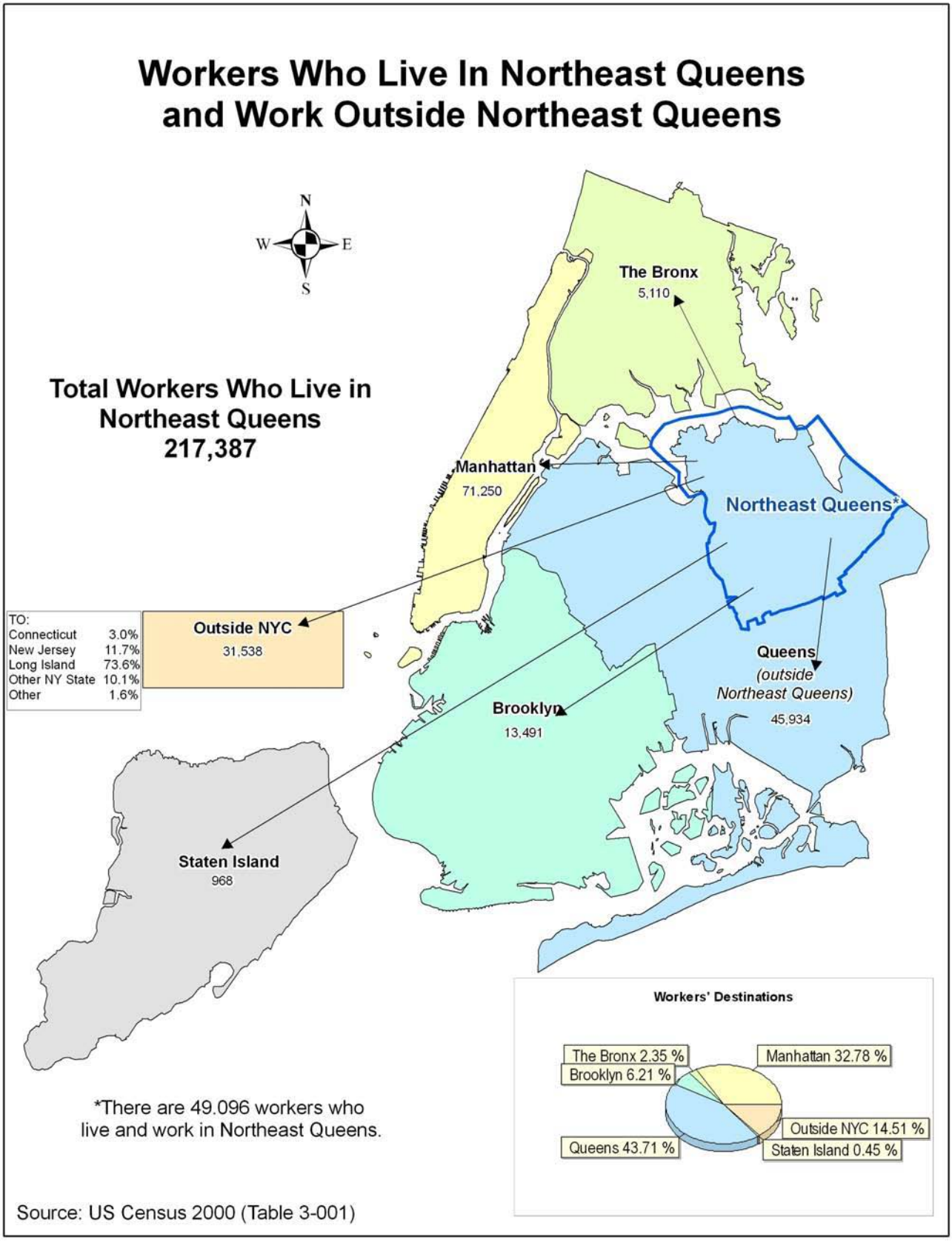
Map 27. Workers Who Live in Southwest Bronx and Work Outside Southwest Bronx



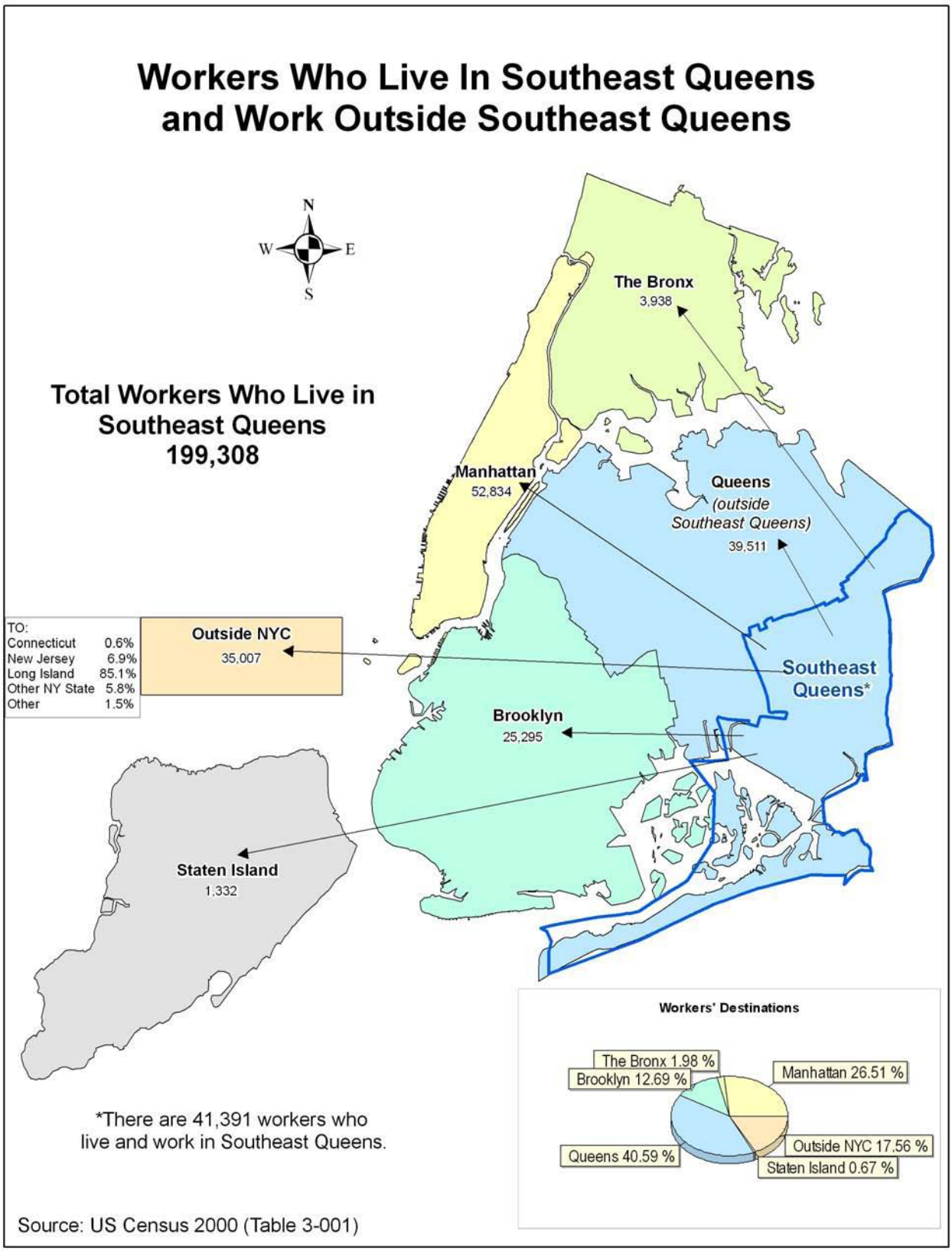
Map 28. Workers Who Live in Northwest Queens and Work Outside Northwest Queens



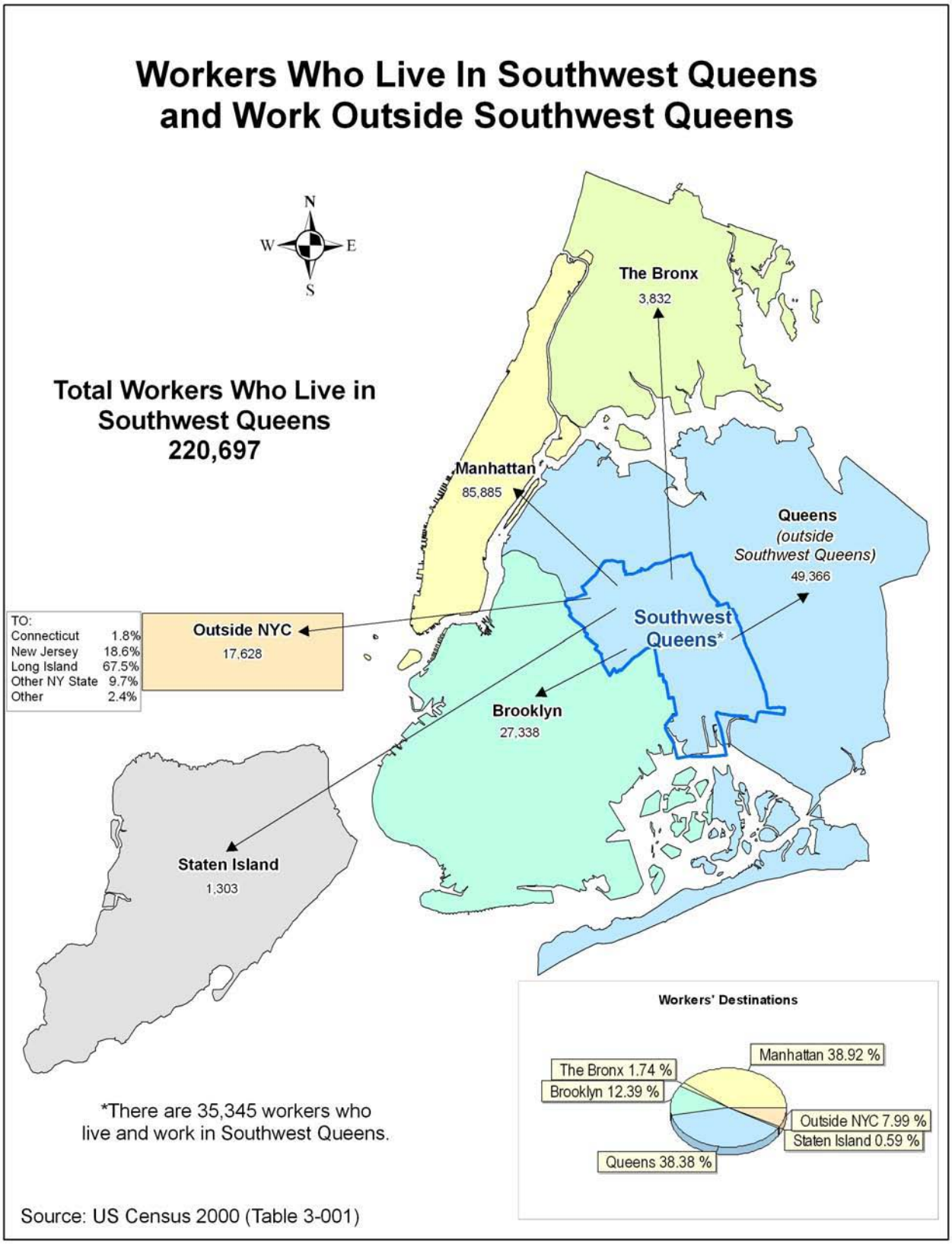
Map 29. Workers Who Live in Northeast Queens and Work Outside Northeast Queens



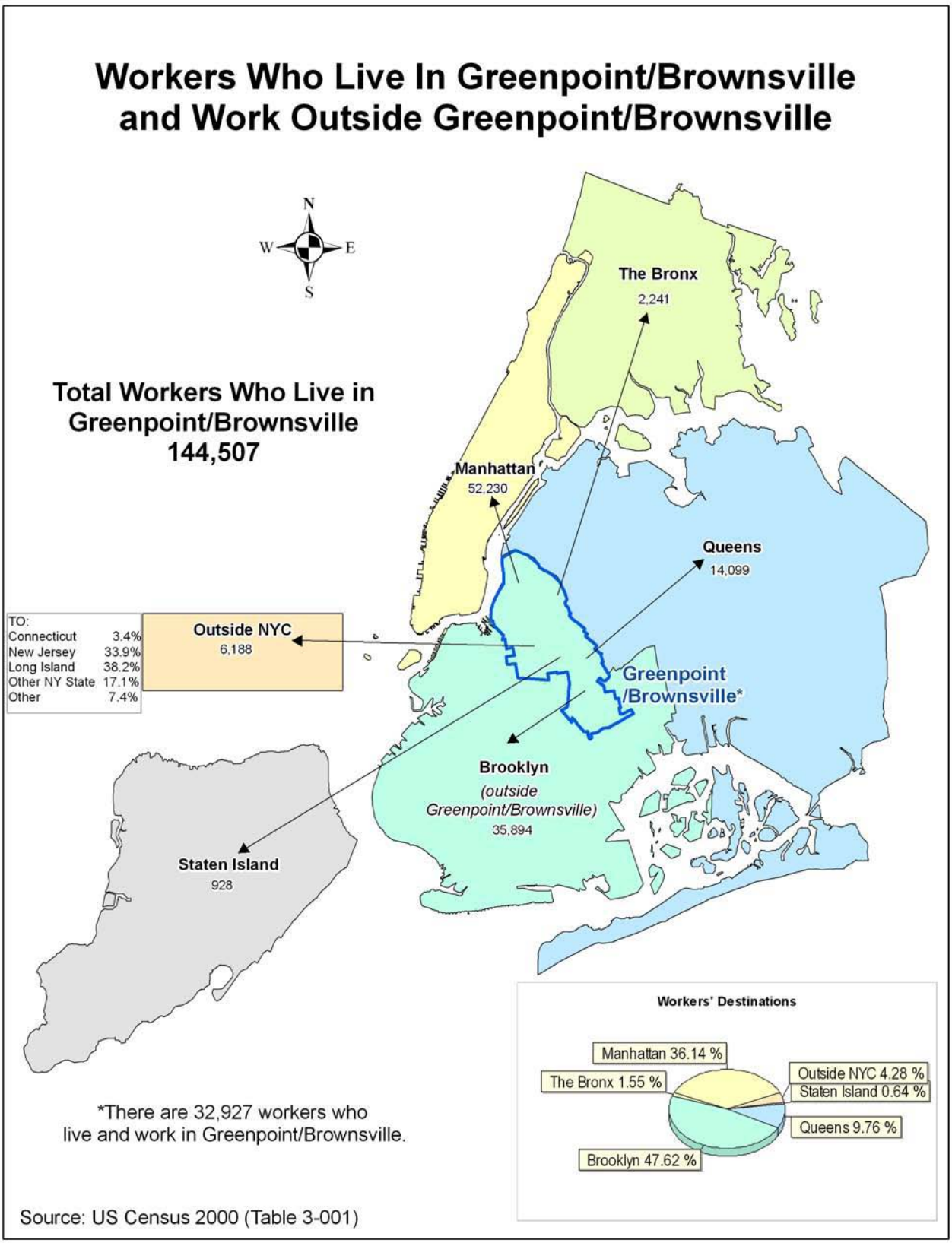
Map 30. Workers Who Live in Southeast Queens and Work Outside Southeast Queens



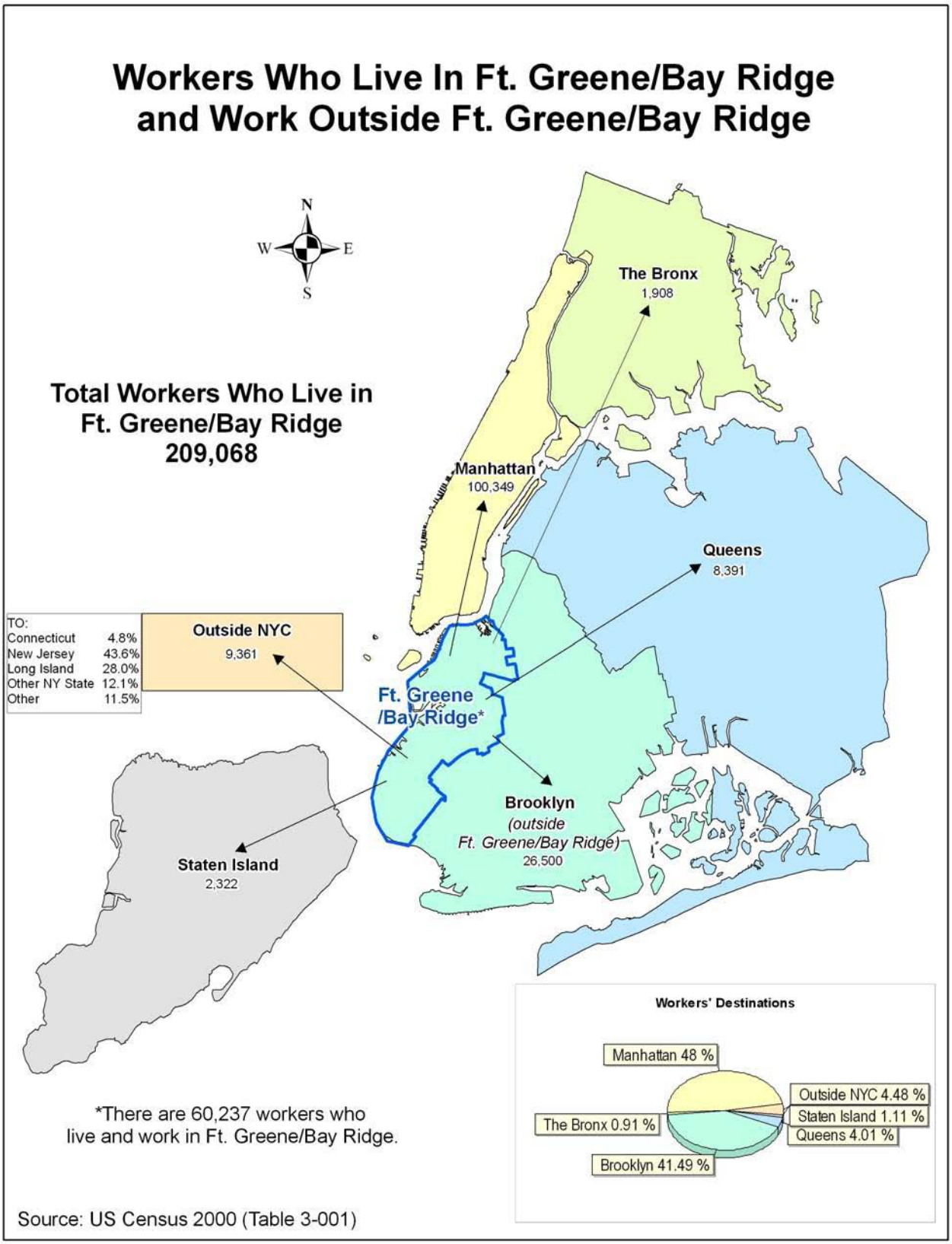
Map 31. Workers Who Live in Southwest Queens and Work Outside Southwest Queens



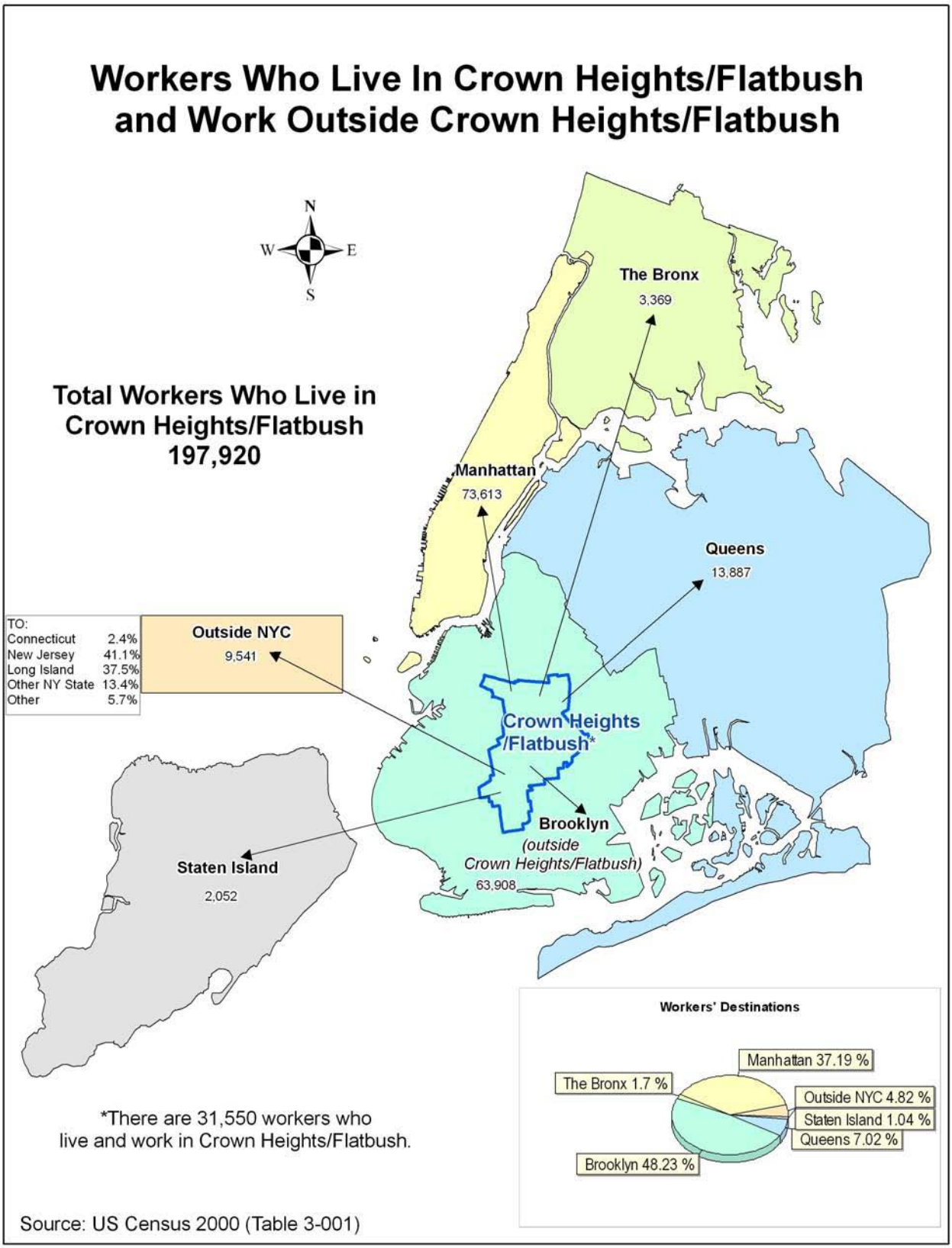
Map 32. Workers Who Live in Greenpoint/Brownsville and Work Outside Greenpoint/Brownsville



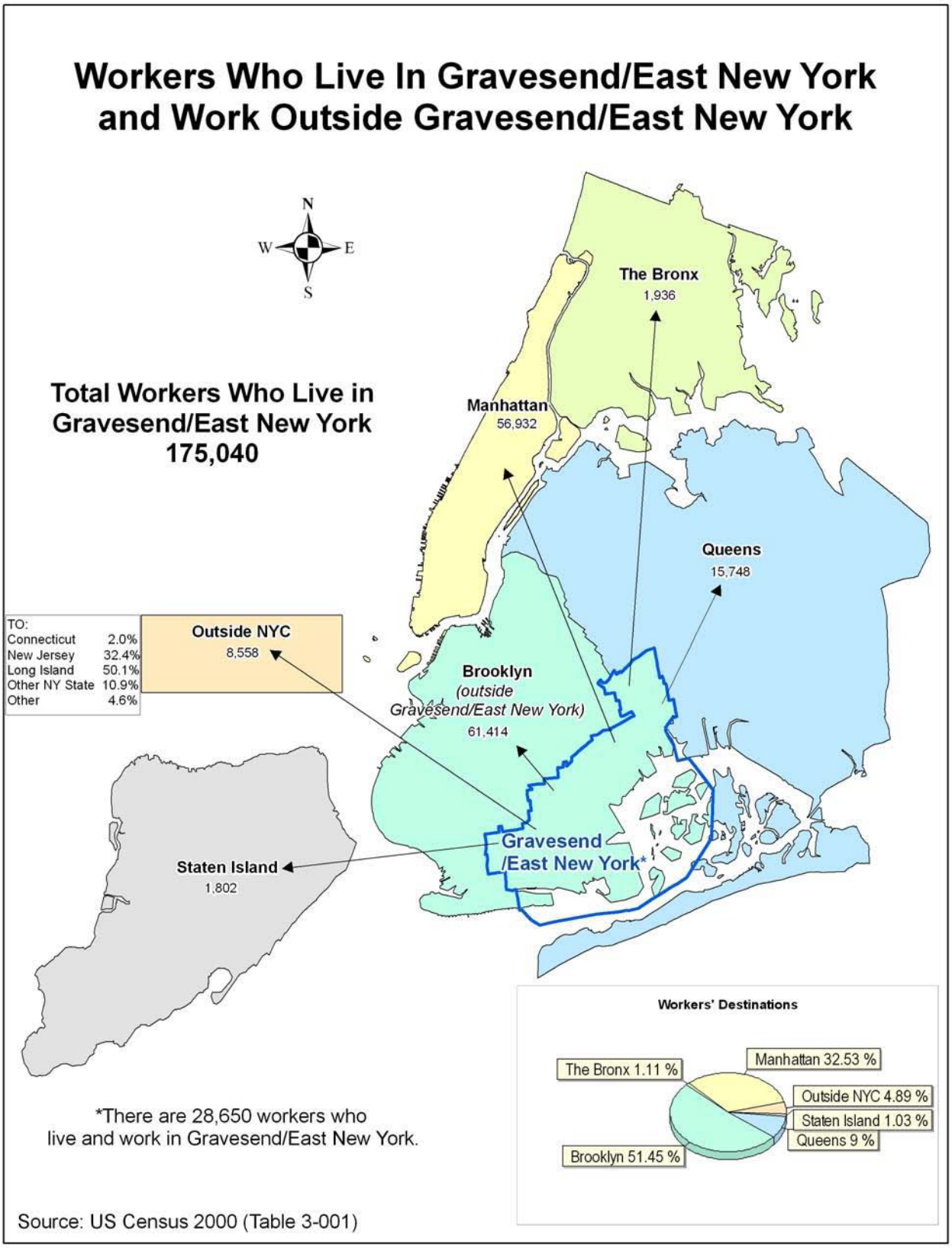
Map 33. Workers Who Live in Ft. Greene/Bay Ridge and Work Outside Ft. Greene/Bay Ridge



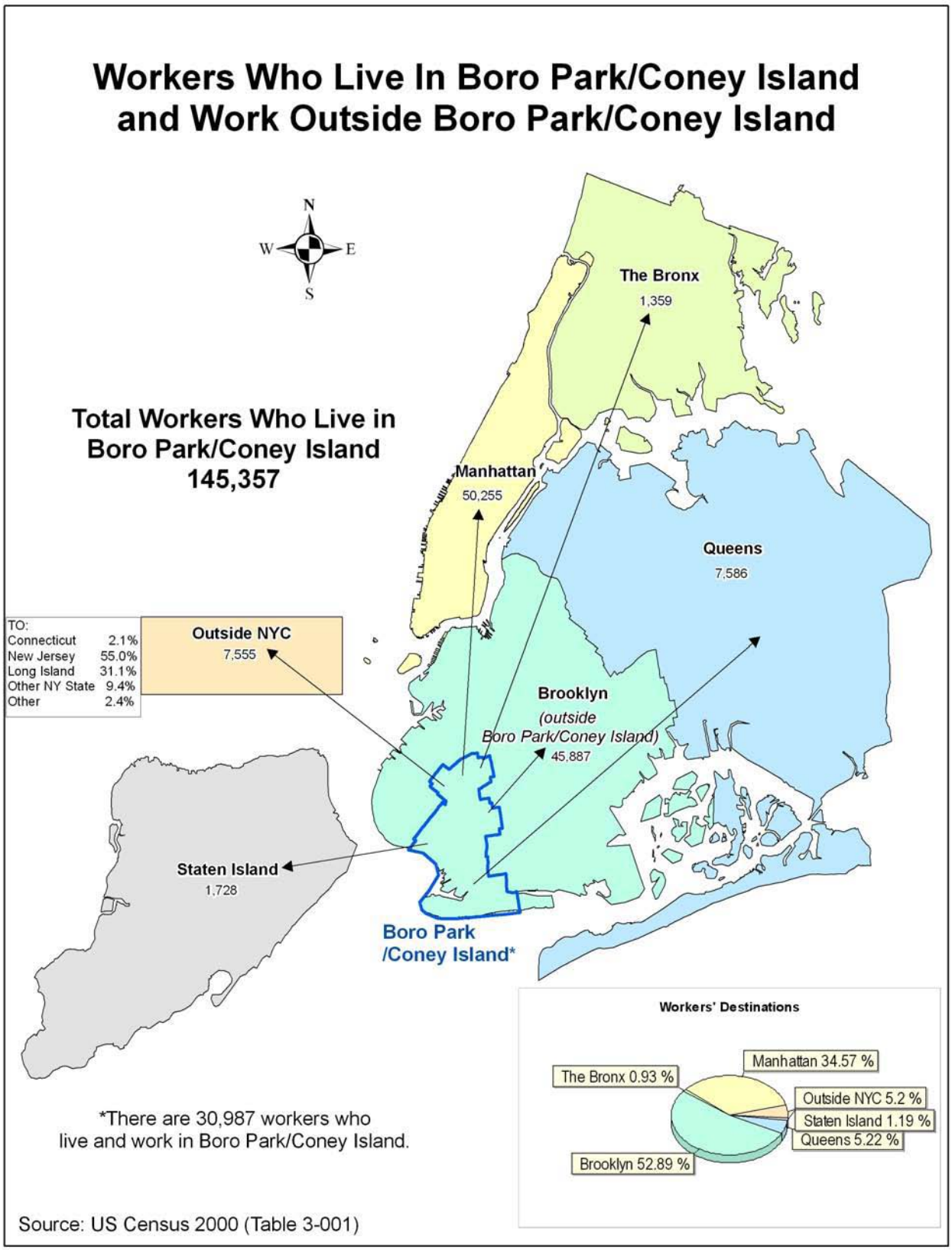
Map 34. Workers Who Live in Crown Heights/Flatbush and Work Outside Crown Heights/Flatbush



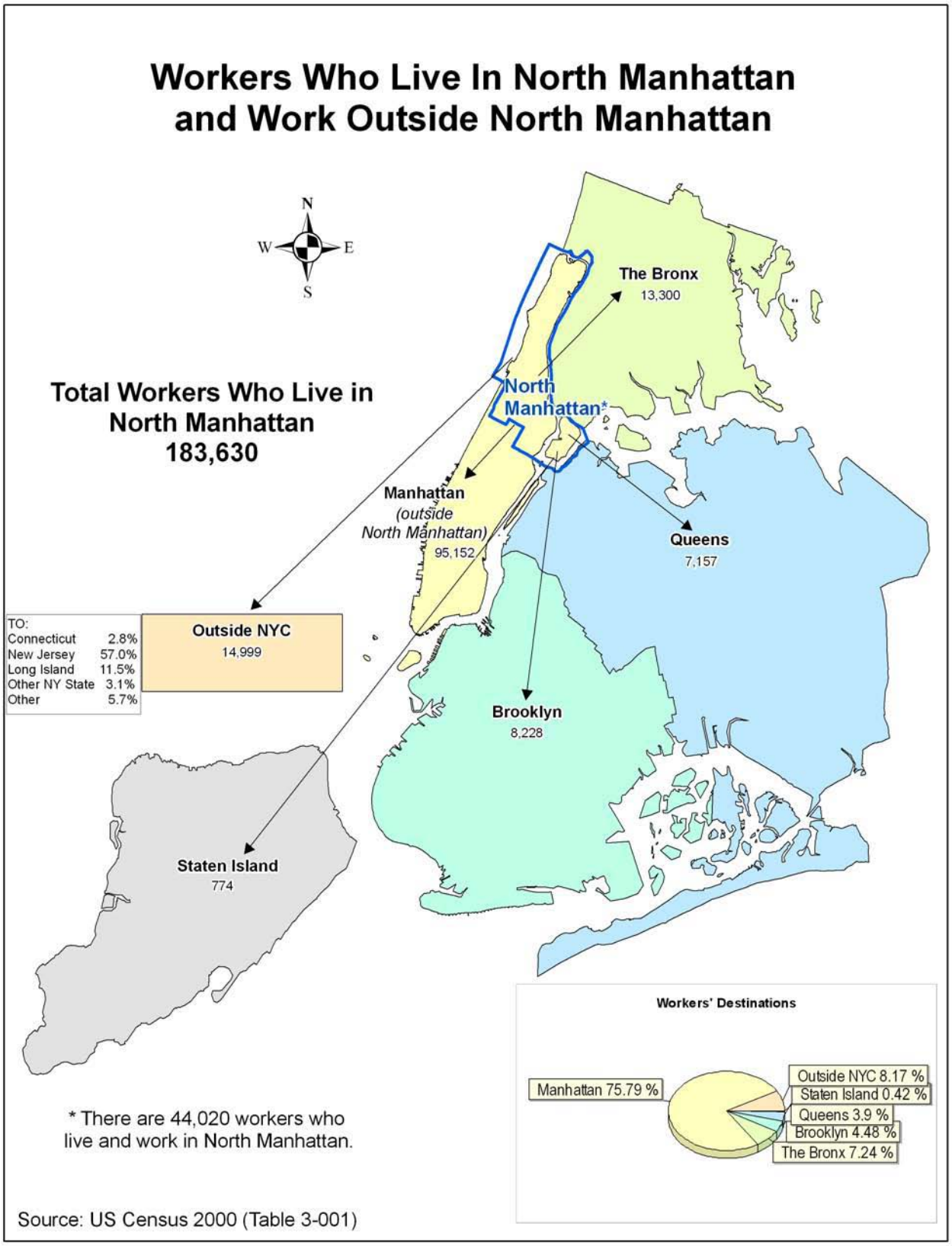
Map 35. Workers Who Live in Gravesend/East New York and Work Outside Gravesend/East New York



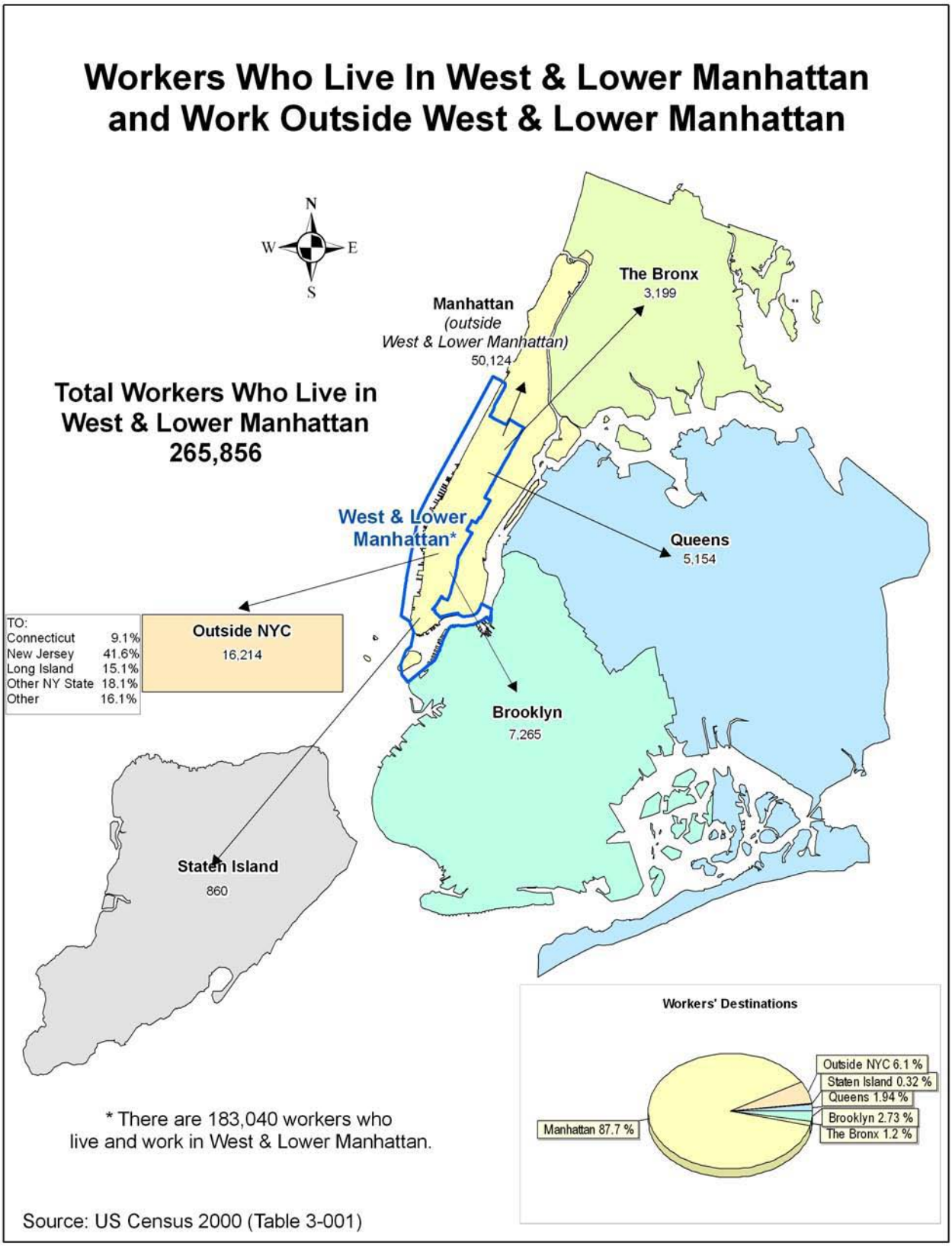
Map 36. Workers Who Live in Boro Park/Coney Island and Work Outside Boro Park/Coney Island



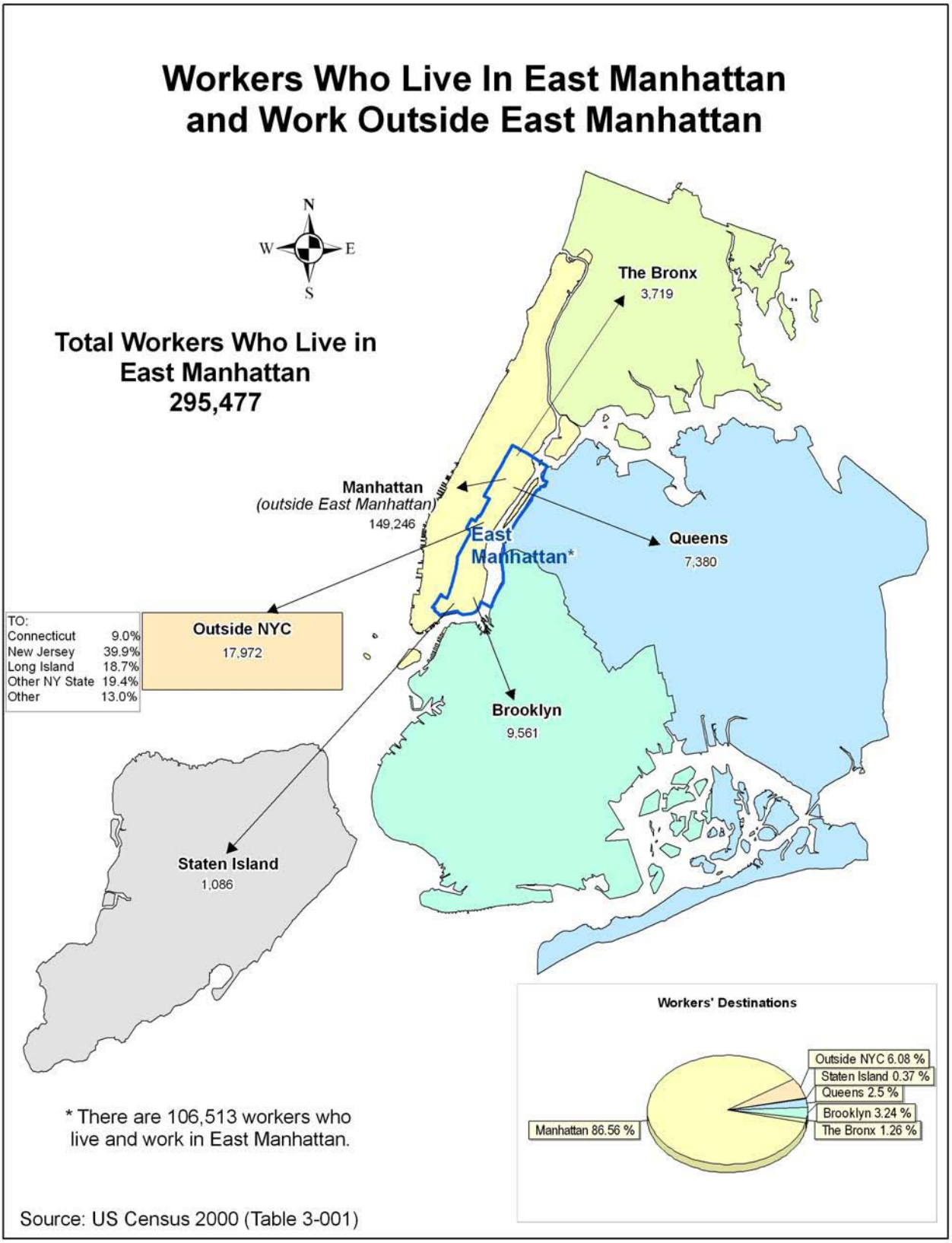
Map 37. Workers Who Live in North Manhattan and Work Outside North Manhattan



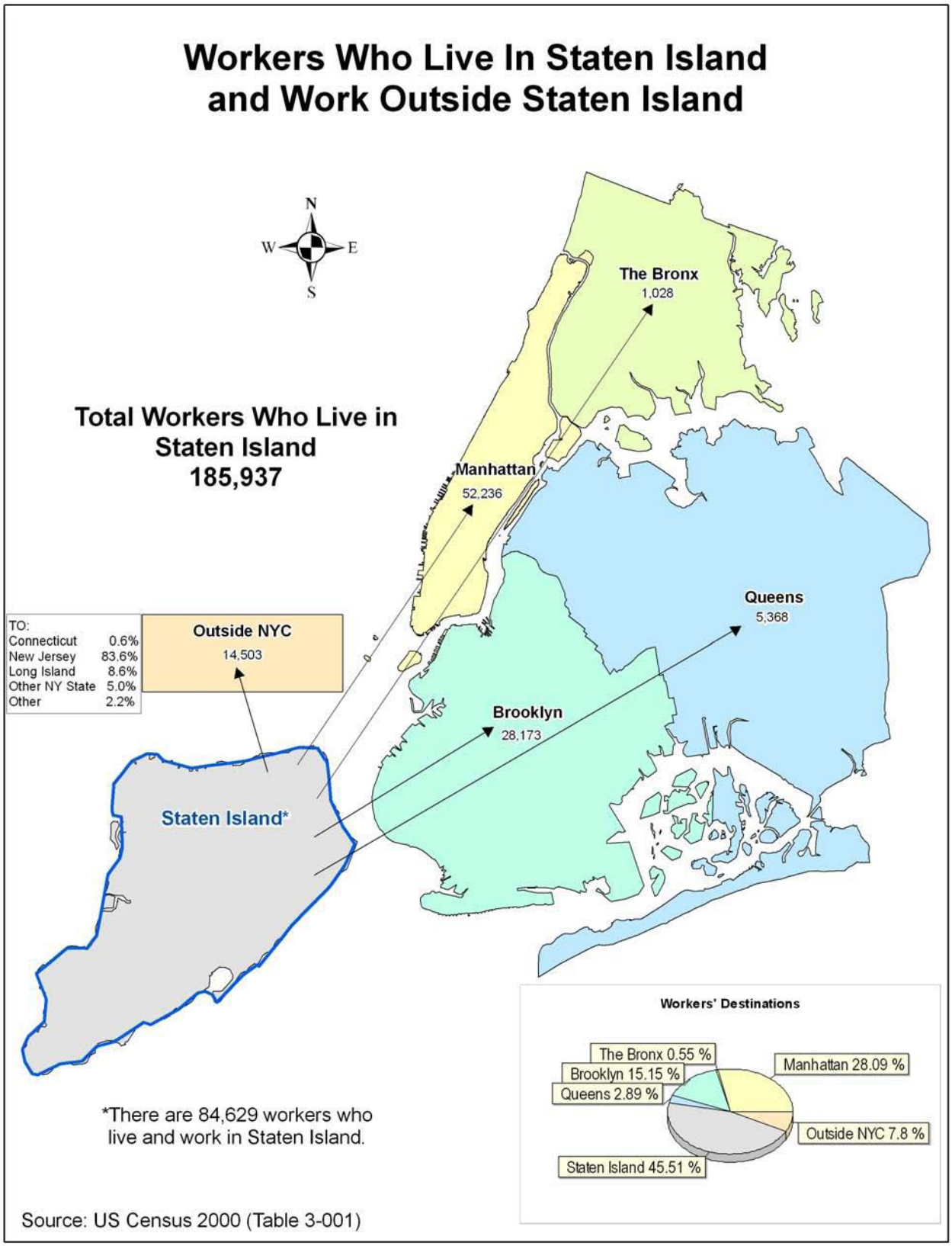
Map 38. Workers Who Live in West & Lower Manhattan and Work Outside West & Lower Manhattan



Map 39. Workers Who Live in East Manhattan and Work Outside East Manhattan



Map 40. Workers Who Live in Staten Island and Work Outside Staten Island



Study Area Residents: Mode of Transportation to Work

This section examines the mode of transportation to work and average travel time for The Bronx, Brooklyn, Queens, and Staten Island residents, by Study Area.

While the previous Maps and Tables provided worker flows to a Study Area or borough, the following Table 7, Figures 22 and 23, and Maps 41-42 show the number of workers who travel by a particular mode of transit and their average travel time, but not the location of the final destination for the workers.

Table 7. Study Areas' Residents: Mode of Transportation to Work and Travel Time

Origin: Workers by Study Areas of Residence	Mode of Transportation to Work						
	Car	Bus	Subway/ RR/Ferry	Walk	Others	Total	Avg. Travel Time (Min)
Bronx							
091- Northeast	110,122 (44.7%)	37,192 (15.7%)	71,824 (29.2%)	13,887 (5.6%)	13,352 (5.4%)	246,377 (100.0%)	42.8
092- Southwest	42,478 (24.8%)	28,500 (16.7%)	71,983 (42.1%)	16,337 (9.6%)	11,563 (6.8%)	170,861 (100.0%)	43.0
Total	152,600 (36.6%)	65,692 (15.7%)	143,807 (34.5%)	30,224 (7.2%)	24,915 (6.0%)	417,238 (100%)	
Brooklyn							
121- Greenpoint/Brownsville	35,356 (23.7%)	17,639 (11.8%)	70,764 (47.3%)	17,409 (11.6%)	8,308 (5.6%)	149,476 (100.0%)	41.1
122- Ft. Greene/Bay Ridge	51,789 (24.1%)	13,323 (6.2%)	113,034 (52.6%)	23,263 (10.8%)	13,489 (6.3%)	214,898 (100.0%)	38.8
123- Crown Heights/Flatbush	53,268 (26.1%)	28,536 (14.0%)	96,870 (47.6%)	12,556 (6.2%)	12,481 (6.1%)	203,711 (100.0%)	47.0
124- Gravesend/East New York	81,440 (44.7%)	22,011 (12.1%)	61,055 (33.6%)	9,775 (5.4%)	7,555 (4.2%)	181,836 (100.0%)	46.1
125- Boro Park/Coney Island	52,092 (34.7%)	13,947 (9.3%)	61,605 (41.0%)	15,900 (10.6%)	6,660 (4.4%)	150,204 (100.0%)	42.7
Total	273,945 (30.4%)	95,456 (10.6%)	403,328 (44.8%)	78,903 (8.8%)	48,493 (5.4%)	900,125 (100%)	
Queens							
111- Northwest	74,429 (27.5%)	15,326 (5.7%)	147,870 (54.6%)	20,618 (7.6%)	12,516 (4.6%)	270,759 (100.0%)	39.0
112- Northeast	127,262 (56.6%)	24,182 (10.8%)	45,059 (20.1%)	11,993 (5.3%)	16,137 (7.2%)	224,633 (100.0%)	41.1
113- Southeast	110,929 (53.9%)	32,588 (15.8%)	43,585 (21.1%)	7,564 (3.7%)	11,433 (5.5%)	206,099 (100.0%)	48.0
114- Southwest	101,589 (44.2%)	22,617 (9.9%)	82,700 (36.0%)	12,615 (5.5%)	10,055 (4.4%)	229,576 (100.0%)	41.8
Total	414,209 (44.4%)	94,713 (10.2%)	319,214 (34.3%)	52,790 (5.7%)	50,141 (5.4%)	931,067 (100%)	
Staten Island							
130-Staten Island	126,857 (66.4%)	36,762 (19.2%)	4,880 (2.6%)	5,539 (2.9%)	16,946 (8.9%)	190,984 (100.0%)	43.9
Total	126,857 (66.3%)	36,762 (19.3%)	4,880 (2.6%)	5,539 (2.9%)	16,946 (8.9%)	190,984 (100%)	

Source: U.S. Census 2000

- Most Staten Island, Northeast Queens and Southeast Queens residents commute by car. (Figure 22)
- Almost a quarter of residents in the five study areas closes to Manhattan commute by car. These are the lowest percentages for any study area. (Figure 22)

- Study areas closer to Manhattan are more likely to take the Subway/RR/Ferry to work with the two study areas best connected to Manhattan by subway having the highest share of residents commuting by Subway/RR/Ferry. (Figure 23)
- The biggest share of residents in the Brooklyn Study Areas except Gravesend/East New York, commute by subwaySubway/RR/Ferry (342,273 residents) in contrast to the Queens Study Areas, excluding Northwest Queens, where car travel is the primary mode to work (339,780 residents). Furthermore, more workers who live in Staten Island (66.4%) tend to commute by car than any other mode (Table 7).
- Residents in Brooklyn's Gravesend/East New York (45%) and Northeast (57%) and Southeast Queens (54%) depend on cars for most of their work trips due to their limited access to subway stations (Map 42 and Table 7).
- Residents from the Southeast Queens Study Area have the highest mean travel times (48.0 minutes) while Ft. Greene/Bay Ridge residents have the shortest mean travel times (38.8 minutes) (Table 7).
- Excluding Manhattan, Northwest Queens residents use the subwaySubway/RR/Ferry for work trips (55%) more than any other borough's Study Area (Maps 41 and 42, Table 7).
- Staten Island residents have the highest number of car commuters (66.4%, 126,857) than any other borough's Study Area. It is followed by residents of Northeast and Southeast Queens with 127,262 (56.6%) and 110,929 (53.9%) respectively (Maps 41 and 42, Table 7).
- Within the Bronx borough, more Northeast Bronx residents commute by car for work trips than any other mode (45%) while Southwest Bronx residents commute by subwaySubway/RR/Ferry (42%) (Map 43, Table 7).
- Northeast Bronx has the highest number of residents commuting by bus than any other borough's Study Area, with a total of 37,192 residents (Table 7).
- Excluding Manhattan, Brooklyn residents have the highest subwaySubway/RR/Ferry use for their commute to work. Brooklyn subwaySubway/RR/Ferry riders surpass car users by approximately 14% (Table 7).

Figure 22. All Workers - Area of Residence Modal Split (Auto)

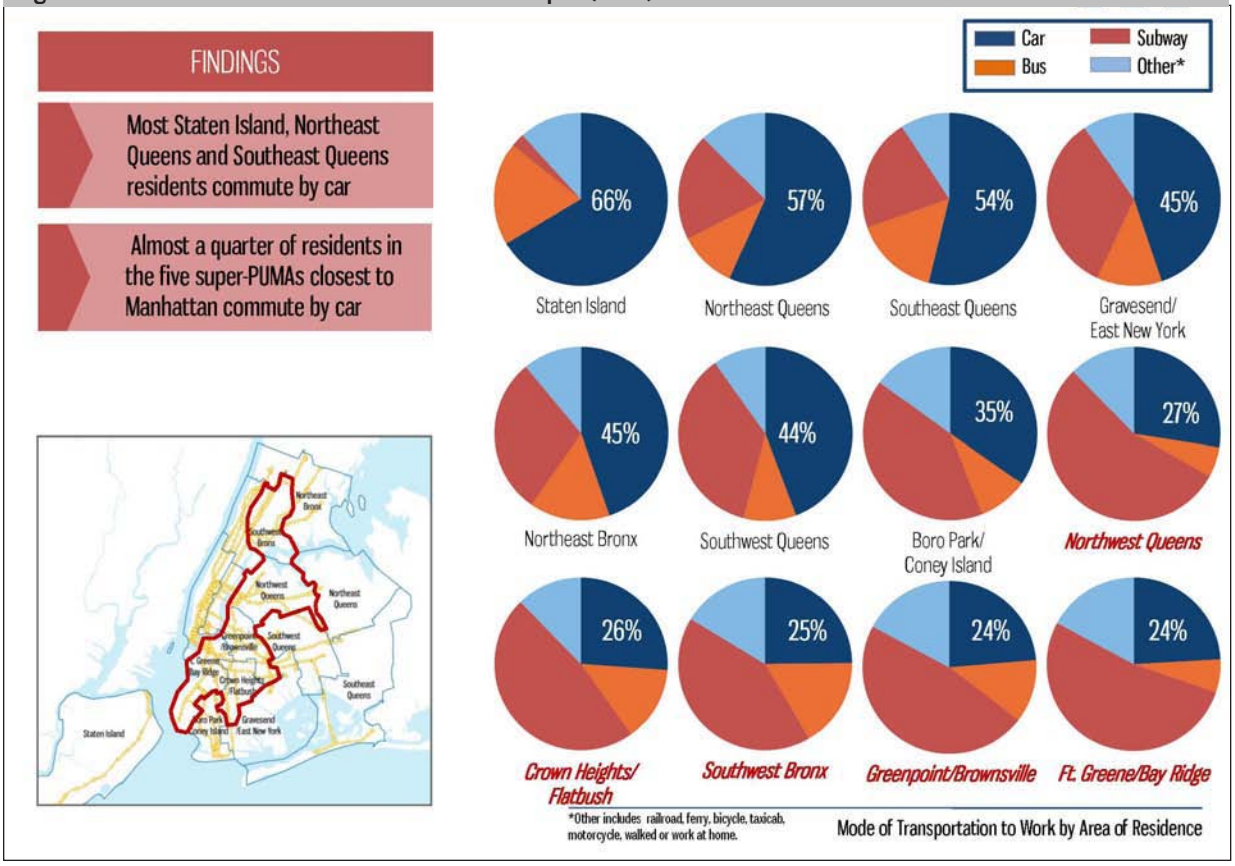


Figure 23. All Workers - Area of Residence Modal Split (Subway)

FINDINGS

- Most **Northwest Queens** and **Ft. Greene/Bay Ridge** residents commute by subway
- Study areas closer to Manhattan or those better served by subways are more likely to take subways to work

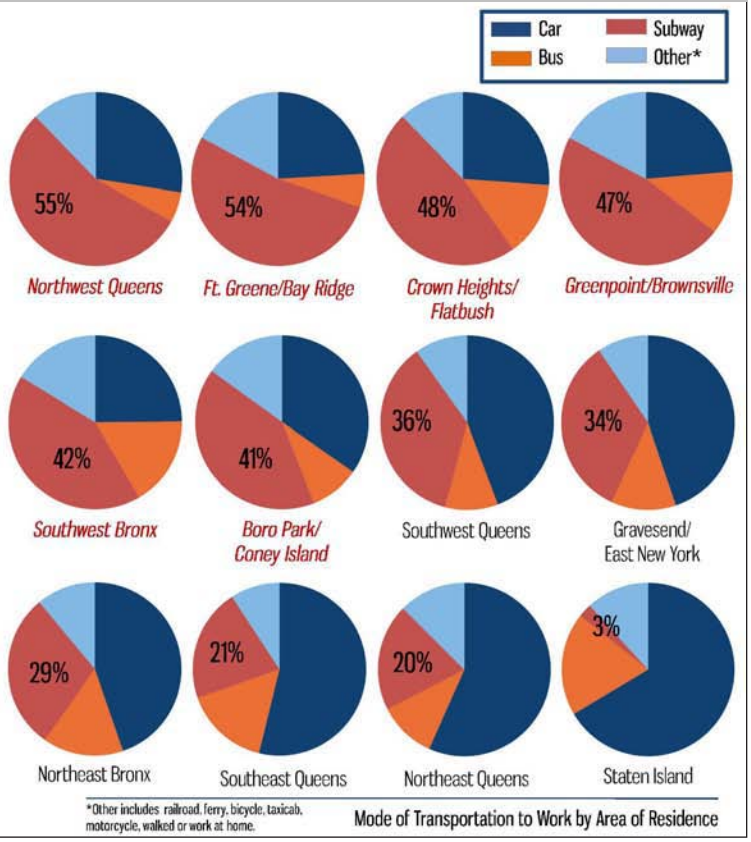
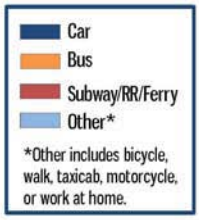
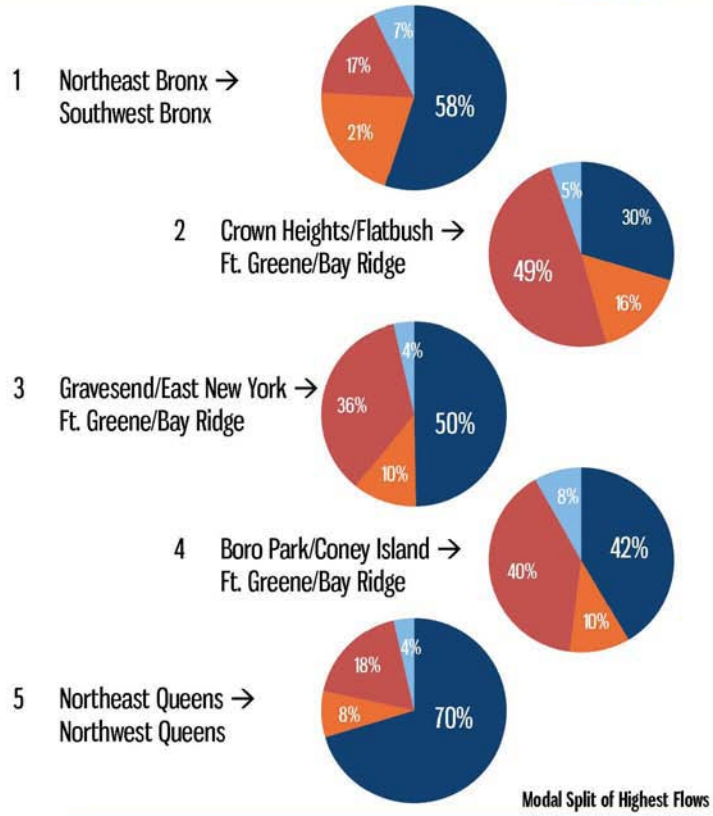


Figure 24. Inter Study Area - Modal Split for Five Highest Flows

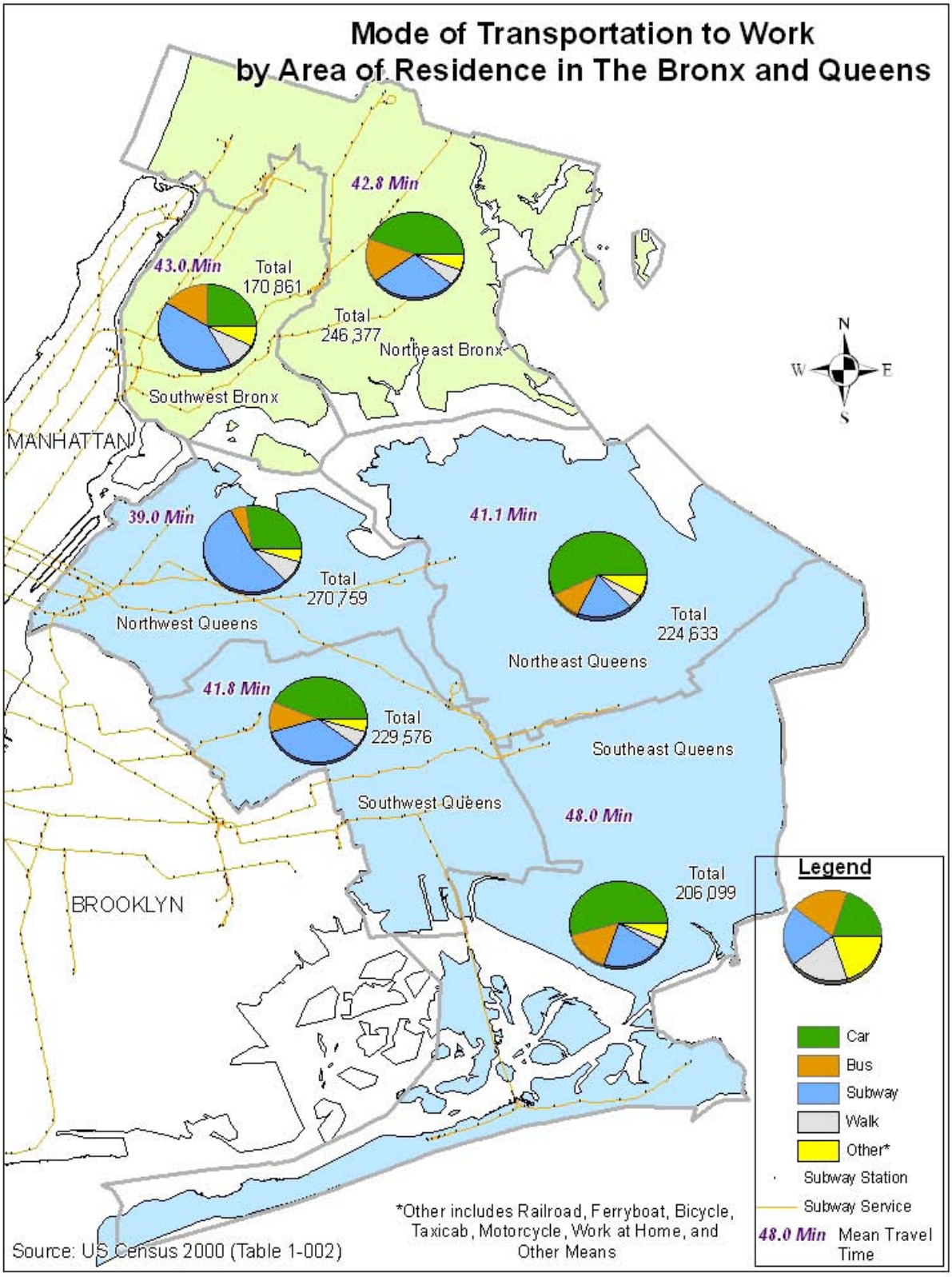
FINDINGS

- Cars are the leading mode of transportation in 4 of the 5 highest commuter flows.
- Flows to Ft. Greene/Bay Ridge super-PUMA have the highest shares of public transit use
- Two-thirds of Crown Heights /Flatbush residents use public transit to commute to Ft. Greene/Bay Ridge

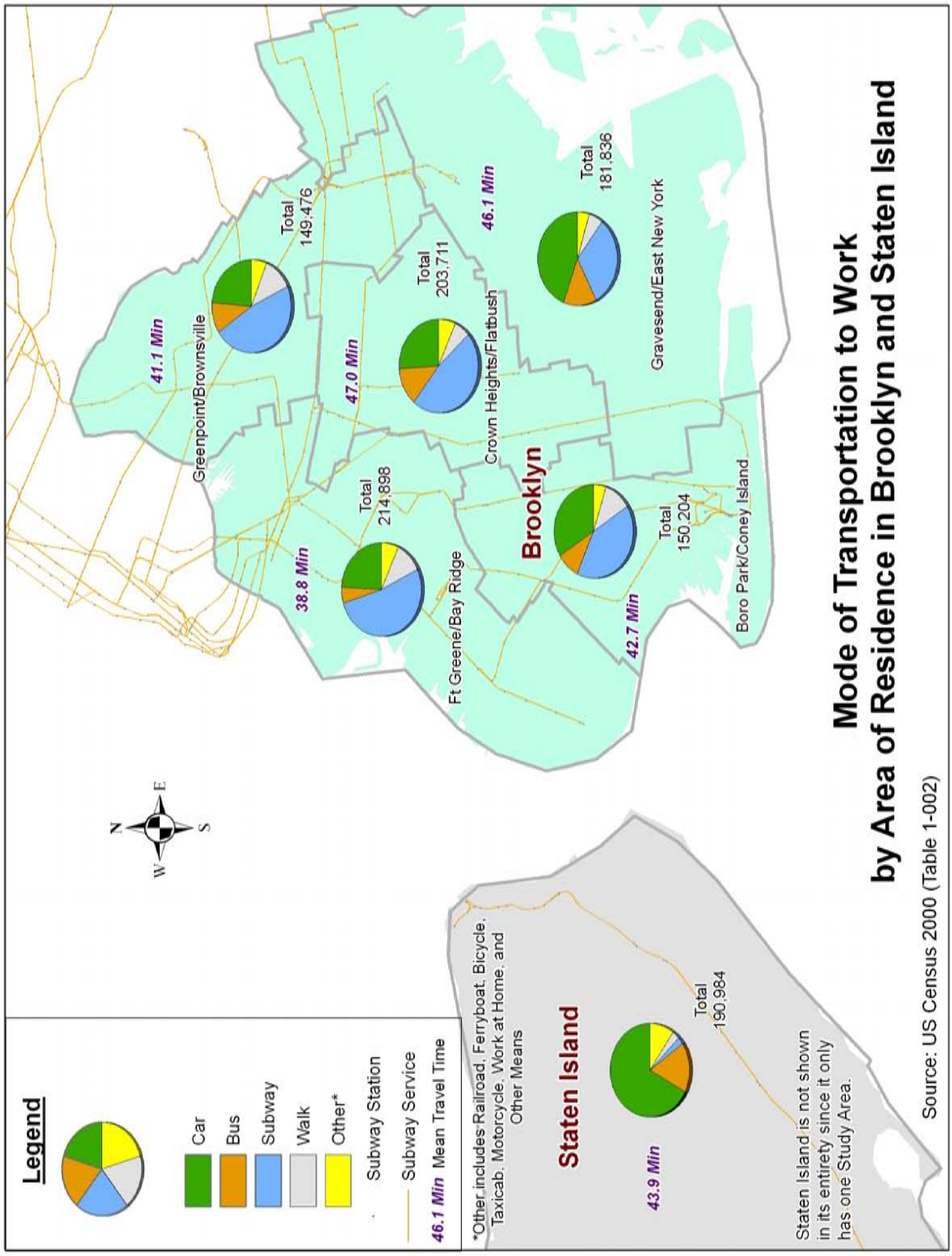




Map 41. Mode of Transportation to Work by Area of Residence in The Bronx and Queens



Map 42. Mode of Transportation to Work by Area of Residence in Brooklyn and Staten Island



Workers in Study Areas: Mode of Transportation to Work

This section examines the mode of transportation to work and average travel time for The Bronx, Brooklyn, Queens, and Staten Island workers, by Study Area.

While the previous Maps and Tables provided worker flows to a Study Area or borough, the following Table 8 and Maps 43-44 show the number of workers who travel by a particular mode of transit and their average travel time, but not the location of the workers' home Study Area.

Table 8. Workers in Study Areas: Mode of Transportation to Work and Travel Time

Destination: Workers by Study Areas of Work	Mode of Transportation to Work						
	Car	Bus	Subway/RR/ Ferry	Walk	Others	Total	Avg. Travel Time (Min)
Bronx							
091- Northeast	74,089 (57.6%)	19,356 (15.1%)	13,690 (10.7%)	13,199 (10.3%)	8,062 (6.3%)	128,396 (100.0%)	34.7
092- Southwest	75,307 (49.0%)	25,035 (16.3%)	27,608 (18.0%)	15,720 (10.2%)	9,961 (6.5%)	153,631 (100.0%)	38.3
Total	149,396 (53.0%)	44,391 (15.7%)	41,298 (14.6%)	28,919 (10.3%)	18,023 (6.4%)	282,027 (100%)	
Brooklyn							
121- Greenpoint/Brownsville	53,200 (47.0%)	14,197 (12.5%)	22,289 (19.7%)	15,794 (14.0%)	7,738 (6.8%)	113,218 (100.0%)	40.0
122- Ft Greene/Bay Ridge	108,318 (39.5%)	28,106 (10.3%)	88,796 (32.4%)	24,482 (8.9%)	24,283 (8.9%)	273,985 (100.0%)	43.9
123- Crown Heights/Flatbush	44,856 (45.5%)	16,750 (17.0%)	17,436 (17.7%)	11,484 (11.7%)	7,973 (8.1%)	98,499 (100.0%)	38.1
124- Gravesend/East New York	52,206 (56.3%)	13,137 (14.2%)	11,332 (12.2%)	10,115 (10.9%)	5,913 (6.4%)	92,703 (100.0%)	35.8
125- Boro Park/Coney Island	44,758 (50.7%)	10,578 (12.0%)	12,299 (14.0%)	14,687 (16.7%)	5,819 (6.6%)	88,141 (100.0%)	34.0
Total	303,338 (45.5%)	82,768 (12.4%)	152,152 (22.8%)	76,562 (11.5%)	51,726 (7.8%)	666,546 (100%)	
Queens							
111- Northwest	116,992 (54.1%)	17,200 (7.9%)	47,895 (22.1%)	19,962 (9.2%)	14,524 (6.7%)	216,573 (100.0%)	40.8
112- Northeast	82,526 (61.9%)	15,328 (11.5%)	14,265 (10.7%)	11,862 (8.9%)	9,265 (7.0%)	133,246 (100.0%)	34.4
113- Southeast	96,819 (66.8%)	18,393 (12.7%)	12,572 (8.7%)	7,013 (4.8%)	10,215 (7.0%)	145,012 (100.0%)	38.8
114- Southwest	58,666 (58.1%)	10,643 (10.5%)	13,299 (13.2%)	11,560 (11.4%)	6,856 (6.8%)	101,024 (100.0%)	34.9
Total	355,003 (59.5%)	61,564 (10.3%)	88,031 (14.8%)	50,397 (8.5%)	40,860 (6.9%)	595,855 (100%)	
Staten Island							
130- Staten Island	86,041 (71.6%)	12,607 (10.5%)	7,615 (6.3%)	5,951 (5.0%)	7,960 (6.6%)	120,174 (100.0%)	31.8
Total	86,041 (71.6%)	12,607 (10.5%)	7,615 (6.3%)	5,951 (5.0%)	7,960 (6.6%)	120,174 (100%)	

Source: U.S. Census 2000

- The pluralityof workers arriving in the Bronx, Brooklyn, Queens, and Staten Island Study Areas commute by car. (Map 44, Table 8 Figure 25).

- Although commuting by car is the primary method to arrive to work, Ft. Greene/Bay Ridge has the highest number of its workers using Subway/RR/Ferry (88,796) and bus (28,106) than any other Study Area in The Bronx, Brooklyn, or Queens (Table 8).

- Brooklyn's Ft. Greene/Bay Ridge workers have the longest commute time (43.9 minutes) whereas workers commuting to the Boro Park/Coney Island Study Area have the shortest commute time (34 minutes) (Table 8).

- Ft. Greene/Bay Ridge, where downtown Brooklyn is located, has the highest Subway/RR/Ferry share (32.4%) among workers arriving to this borough. Northwest Queens, which contains Long Island City, has the second highest subway share amongst the "peripheral" boroughs (22.1%) (Table 8).

- When public transit is combined (Subway/RR/Ferry/Bus), its mode share is still smaller than cars among arriving workers in all study areas except Ft. Greene/Bay Ridge. (Figure 26)

- Among New York City residents, the majority of workers arriving in the Bronx, Brooklyn, Queens and Staten Island commute by car except for Ft. Greene/Bay Ridge Study area. (Figure 27)

- Auto modal share in all study areas decreases when workers residing outside of New York City are removed. (Figure 27)

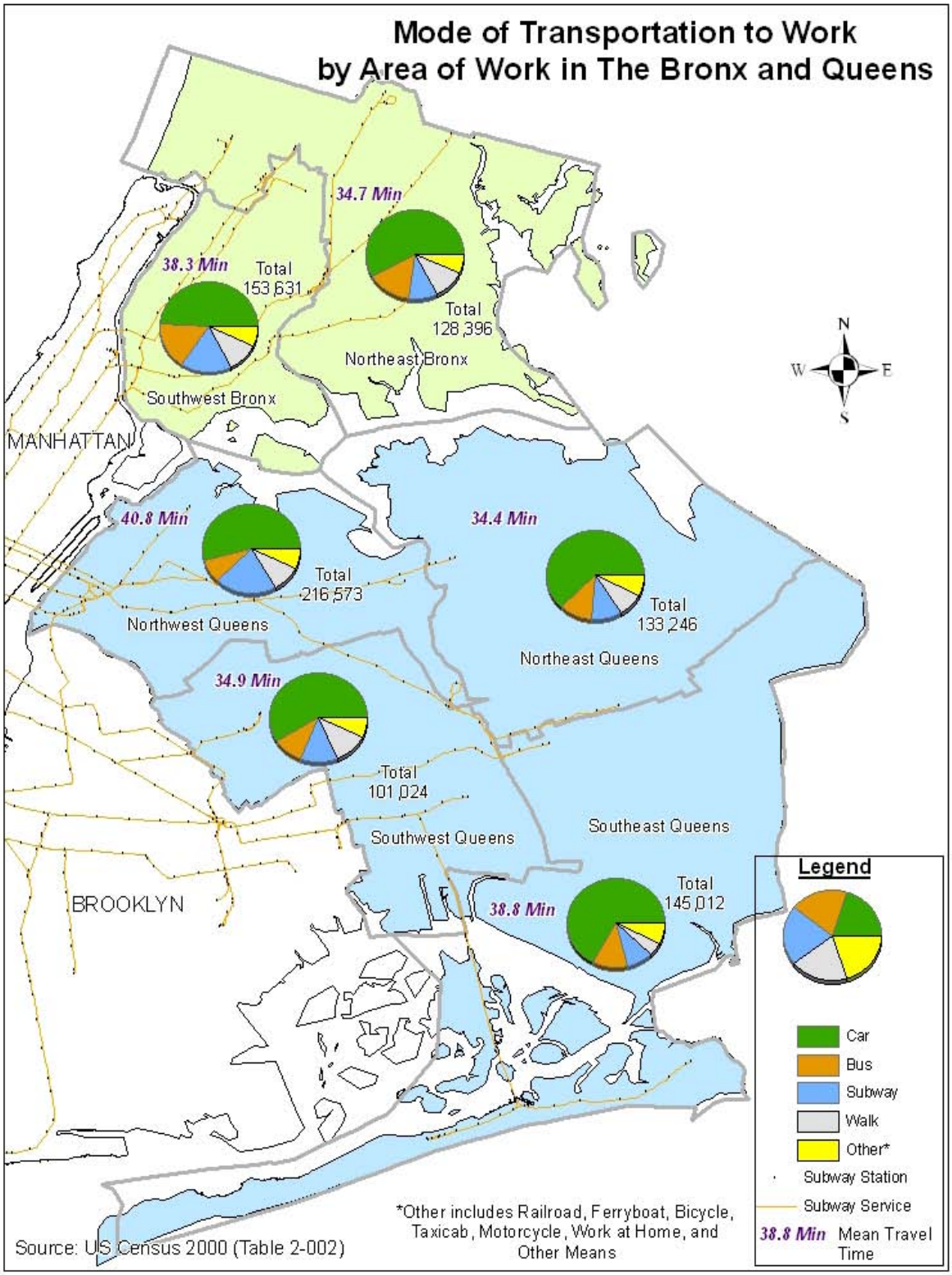
- Workers who reside outside of New York City and work in the city comprise the largest number of workers who make inbound trips in each borough except Brooklyn, where the largest share (37%) of the inbound workers are from Queens. (Figure 28)

- Except for people who work in Manhattan, most workers who reside outside of the city and work in the city commute by car. (Figures 29, 30)

- Most workers who reside outside of New York City and work in Manhattan commute by Subway/RR/Ferry (51%). Including bus the transit share for these workers is XXXX% (Figure 29)

- Among commuters originating outside of New York City, only those commuting to the Ft. Greene/Bay Ridge study area have a car modal split of less than 75%. (Figure 30)

Map 43. Mode of Transportation to Work by Area of Work in The Bronx and Queens



Map 44. Mode of Transportation to Work by Area of Work in Brooklyn and Staten Island

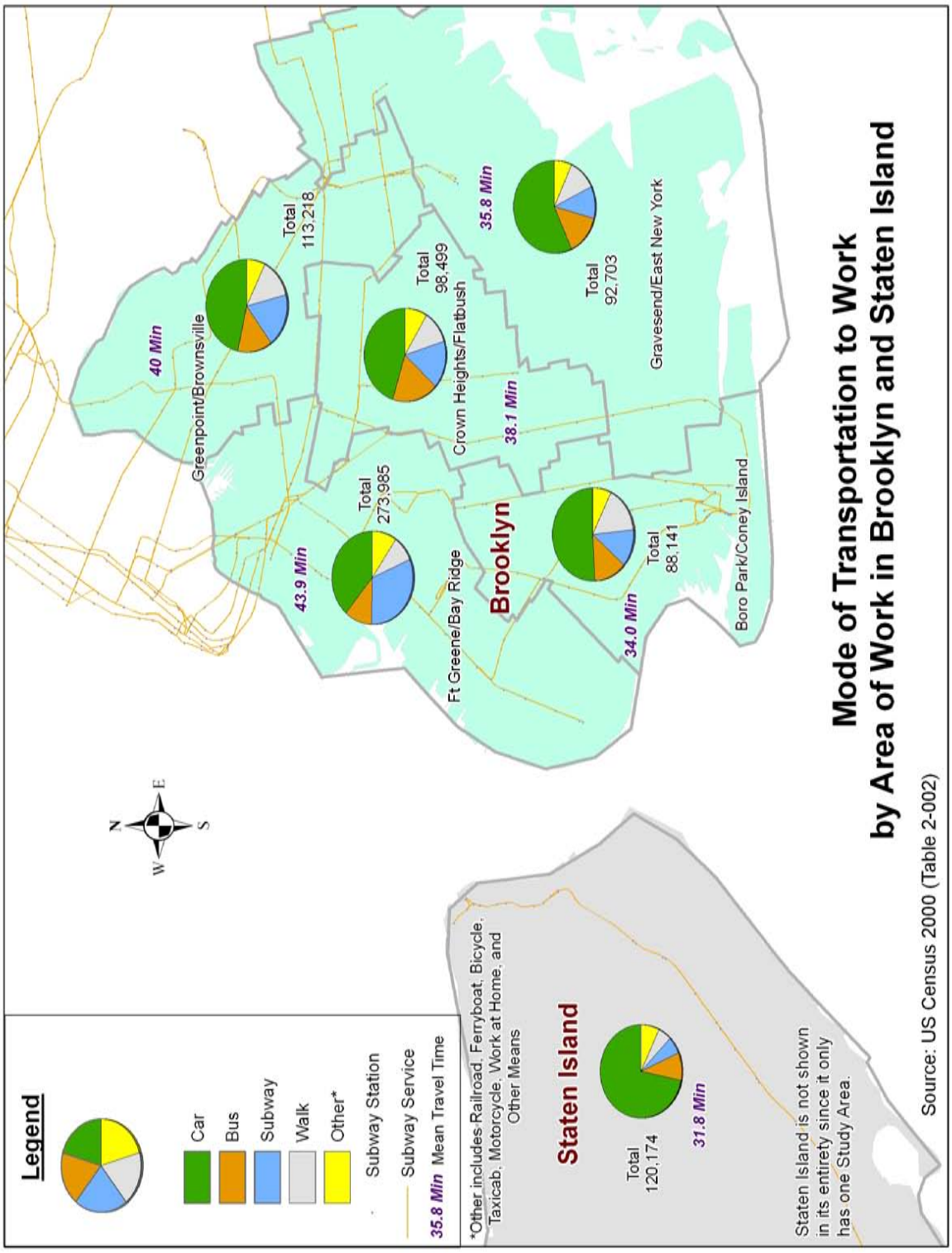


Figure 25. All Workers - Area of Work Modal Split (Auto)

FINDINGS

The plurality of workers arriving in the **Bronx, Brooklyn, Queens** and **Staten Island** commute by car

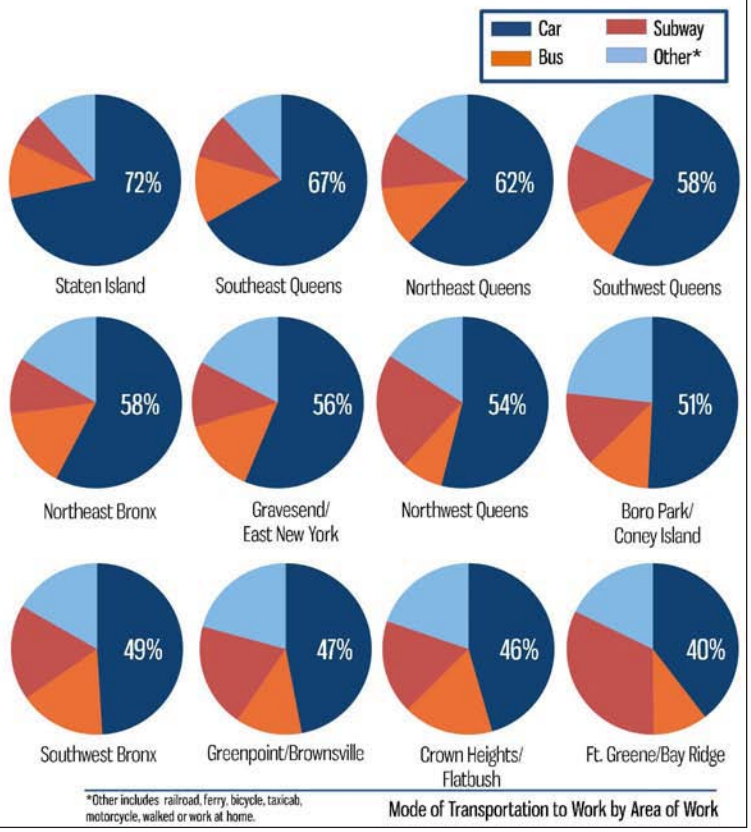


Figure 26. All Workers - Area of Work Modal Split (Subway)

FINDINGS

Nearly one-third of workers in Ft. Greene/Bay Ridge arrive by subway, the highest percentage of any study area

When public transit (bus and subway) is combined, its mode share is still smaller than cars in all super-PUMAs, except Ft. Greene/Bay Ridge

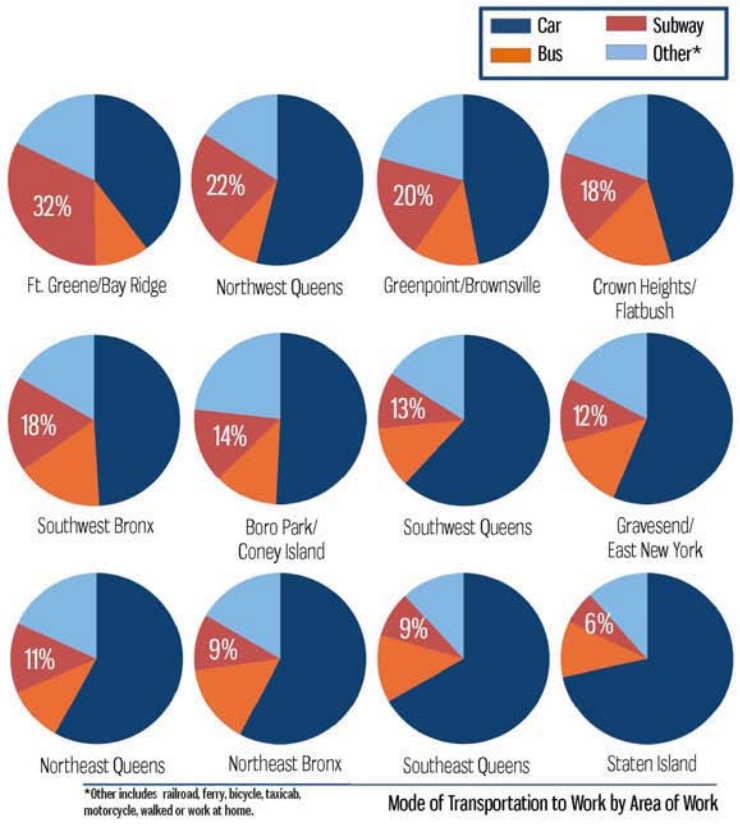


Figure 27. NYC Residents - Area of Work Modal Split (Auto)

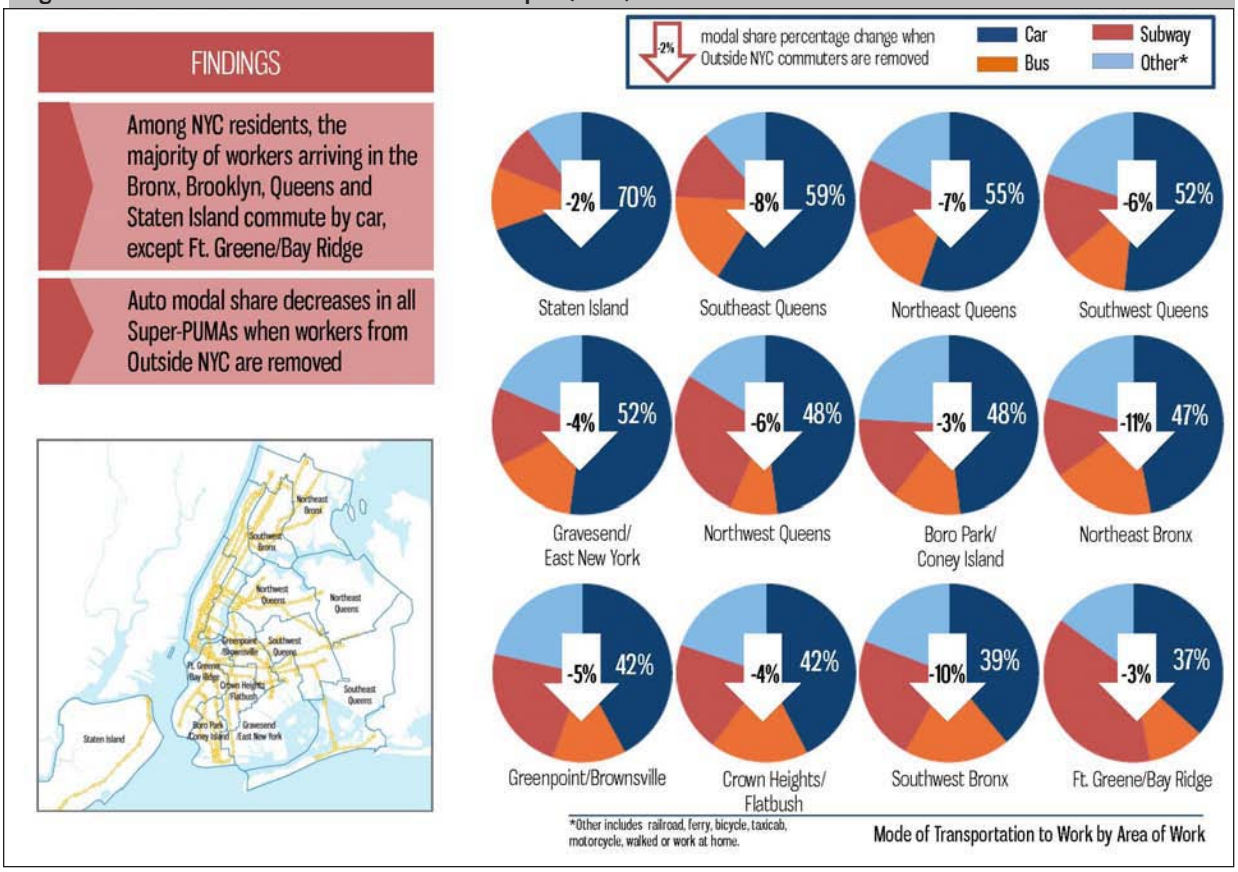


Figure 28. Outside NYC - Journey to Work

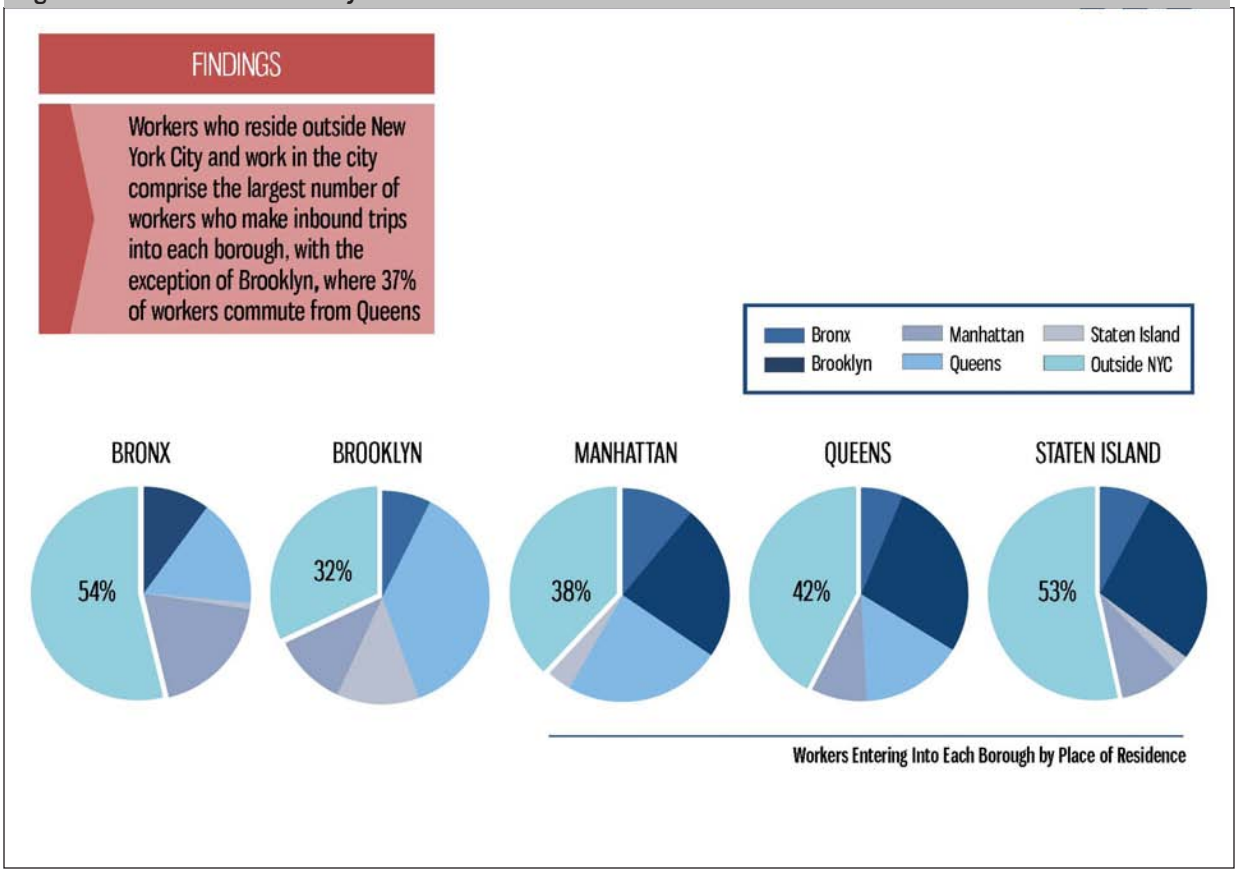


Figure 29. Outside NYC - Journey to Work Modal Split

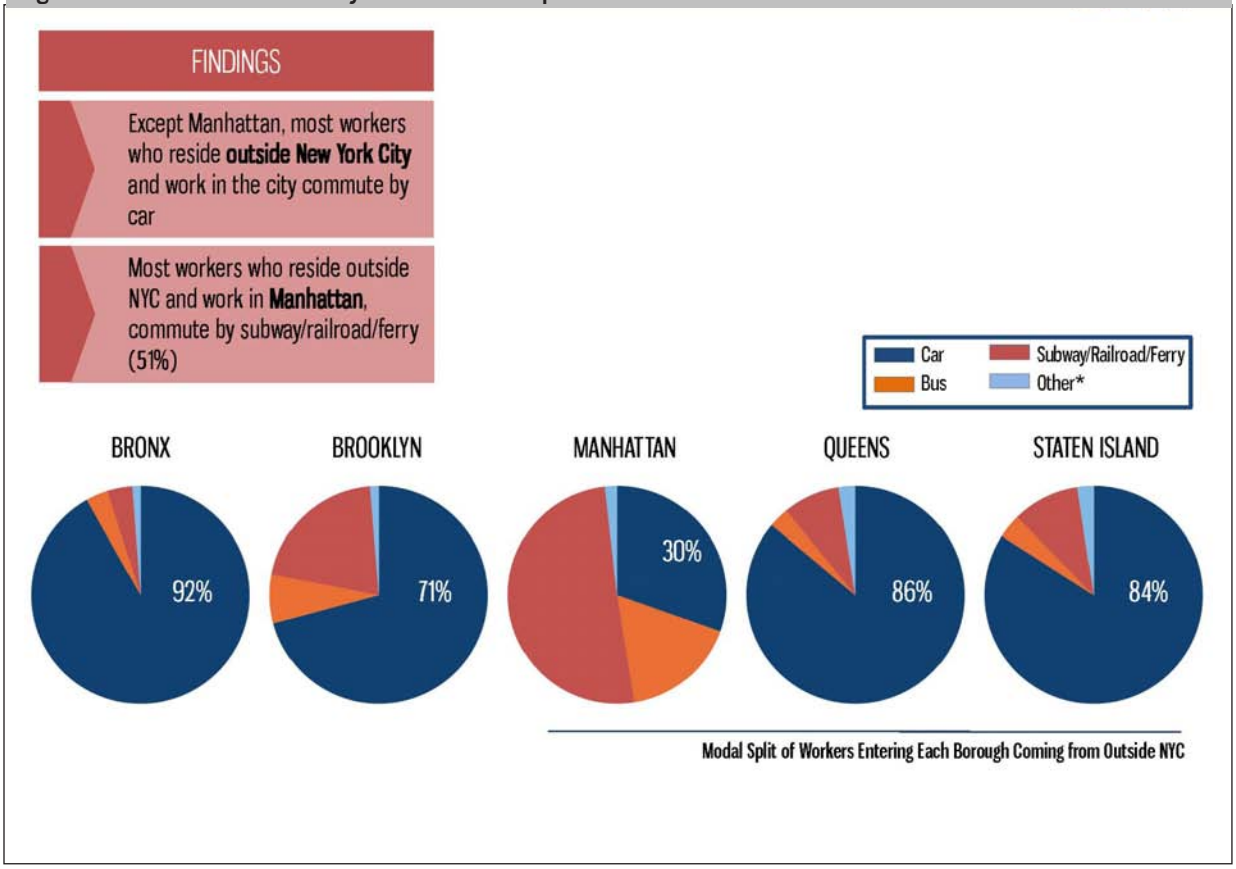
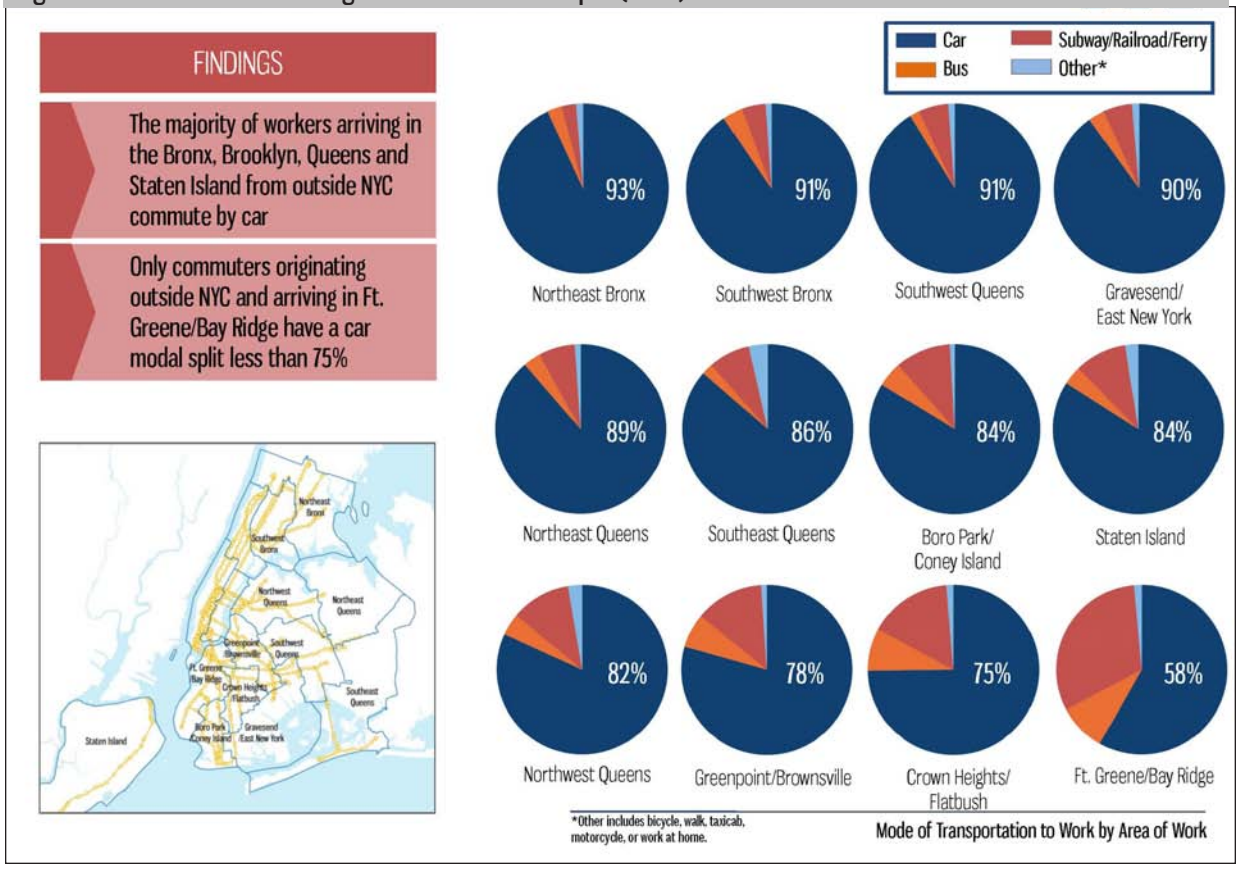


Figure 30. NYC Workers Residing Outside NYC Modal Split (Auto)



Study Area to Study Area: Brooklyn-Queens Outbound Travel to Place of Work

This section examines, for the workers residing in each Study Area, the distribution among other study area in Brooklyn and Queens.

The following Table 9 and Maps 45-53 show the number of workers in the Brooklyn and Queens Study Areas and their outbound travel to their place of work. The highlights in Table 9 represent the largest number of commuters for each Brooklyn and Queens' Study Area.

Table 9. Brooklyn-Queens Residents: Place of Work

Origin: Study Area of Residence	Destination: Place of Work								
	Brooklyn Study Area					Queens Study Area			
	121	122	123	124	125	111	112	113	114
Brooklyn									
121- Greenpoint/Brownsville	**32,927**	19,862	7,204	5,554	3,274	**5,784**	1,856	2,872	3,587
122- Ft. Greene/Bay Ridge	6,707	**60,237**	6,275	5,037	8,481	**3,636**	1,771	1,789	1,195
123- Crown Heights/Flatbush	10,798	31,637	**31,550**	11,679	9,794	4,989	2,556	4,065	**2,277**
124- Gravesend/East New York	9,438	25,151	15,303	**28,650**	11,522	**5,425**	2,407	4,712	3,204
125- Boro Park/Coney Island	5,470	24,028	6,894	9,495	**30,987**	**3,184**	1,383	1,693	1,326
Total	65,340	160,915	67,226	60,415	64,058	23,018	9,973	15,131	11,589
Queens									
111- Northwest	4,324	**8,525**	1,742	1,792	1,265	**64,539**	13,304	9,109	10,086
112- Northeast	2,905	**5,714**	1,706	2,054	1,112	23,919	**49,096**	12,798	9,217
113- Southeast	4,527	**11,115**	3,936	3,660	2,057	16,387	13,469	**41,391**	9,655
114- Southwest	8,759	**9,705**	2,930	4,241	1,703	22,840	10,265	16,261	**35,345**
Total	20,515	35,059	10,314	11,747	6,137	127,685	86,134	79,559	64,303

Source: U.S. Census 2000

Table 9 shows the largest number of residents work in the same Study Area that they reside in.

Figure 31 shows that among people that live and work in Queens more people live and work in the same study area than any other. Queens residents tend to work locally, the second highest intra-brorough commute is to an adjacent study area.

Figure 32 shows that among people that live and work in Brooklyn generally more people live and work in the same study area than in any other. Brooklyn residents tend to work locally, the second highest intra-brorough commute is to an adjacent study area for four of the five study areas.

Maps 45-53 represent the mode of transportation to work for Brooklyn and Queens residents. Brooklyn residents who work in Northwest Queens Study Area primarily commute by Subway/RR/Ferry than any other mode of transportation, with the exception of Gravesend/East New York. Northwest and Southwest Queens residents who work in Ft. Greene/Bay Ridge Study Area primarily commute to work by Subway/RR/Ferry (64% and 42%) while Northeast and Southeast Queens residents are more likely to drive (see Maps 45-53 or Appendix B). These trends are correlated to Subway/RR/Ferry accessibility in the Study Areas.

Brooklyn and Queens residents who live and work in the same Study Area have the highest share of 'Other' than residents who commute outside of their Study Area, as their means of transportation (see Maps 45-53 or Appendix B).

Workers who live in Northwest Queens and work in Brooklyn tend to use the subway more than workers who live in Northwest Queens and work in Queens. Brooklyn workers who live in Queens Study Areas are more inclined to drive alone (see Maps 45-48 or Appendix B)

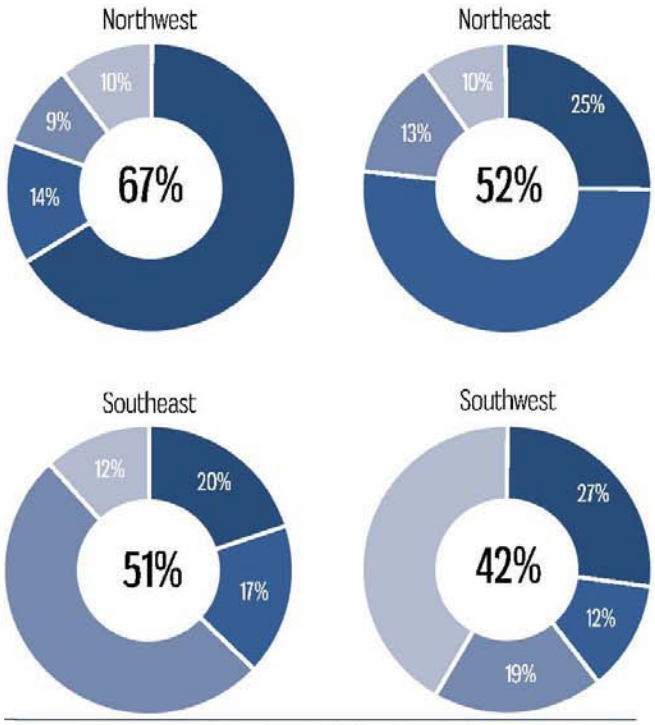
Workers who live in Gravesend/East New York have the highest share of driving alone than any other Brooklyn Study Area (see Map 52 or Appendix B).

Figure 31. Intraborough - Queens

FINDINGS

Among people that live and work in **Queens**, more people live and work in the same Super-PUMA than any other

Queens residents tend to work locally – the second highest intra-borough commute is to an adjacent Super-PUMA



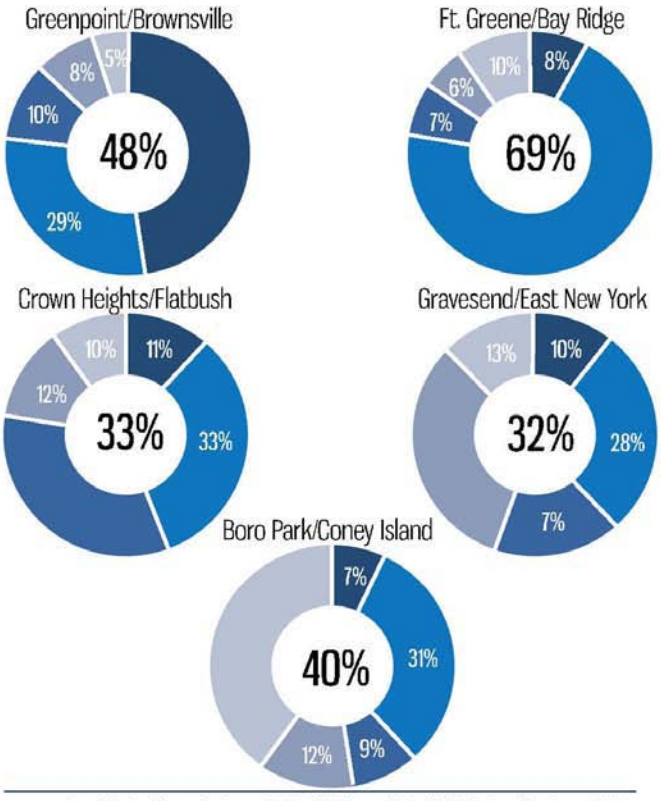
Queens Residents by Super-PUMA with Place of Work Within Queens Super-PUMAs

Figure 32. Intraborough - Brooklyn

FINDINGS

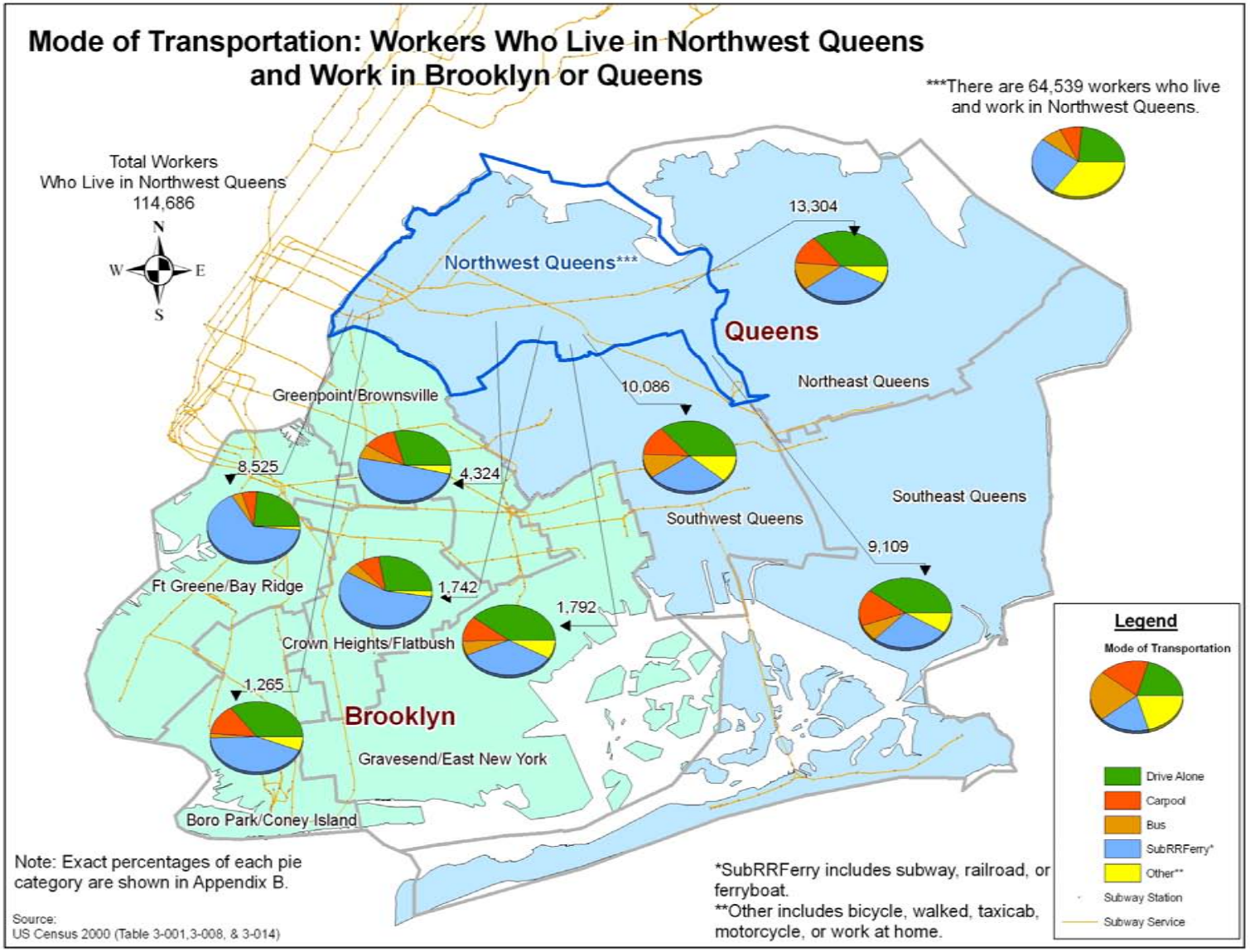
Among people that live and work in **Brooklyn**, generally more people live and work in the same Super-PUMA than any other

Brooklyn residents tend to work locally – the second highest intra-borough commute is to an adjacent Super-PUMA, except in Gravesend/East New York

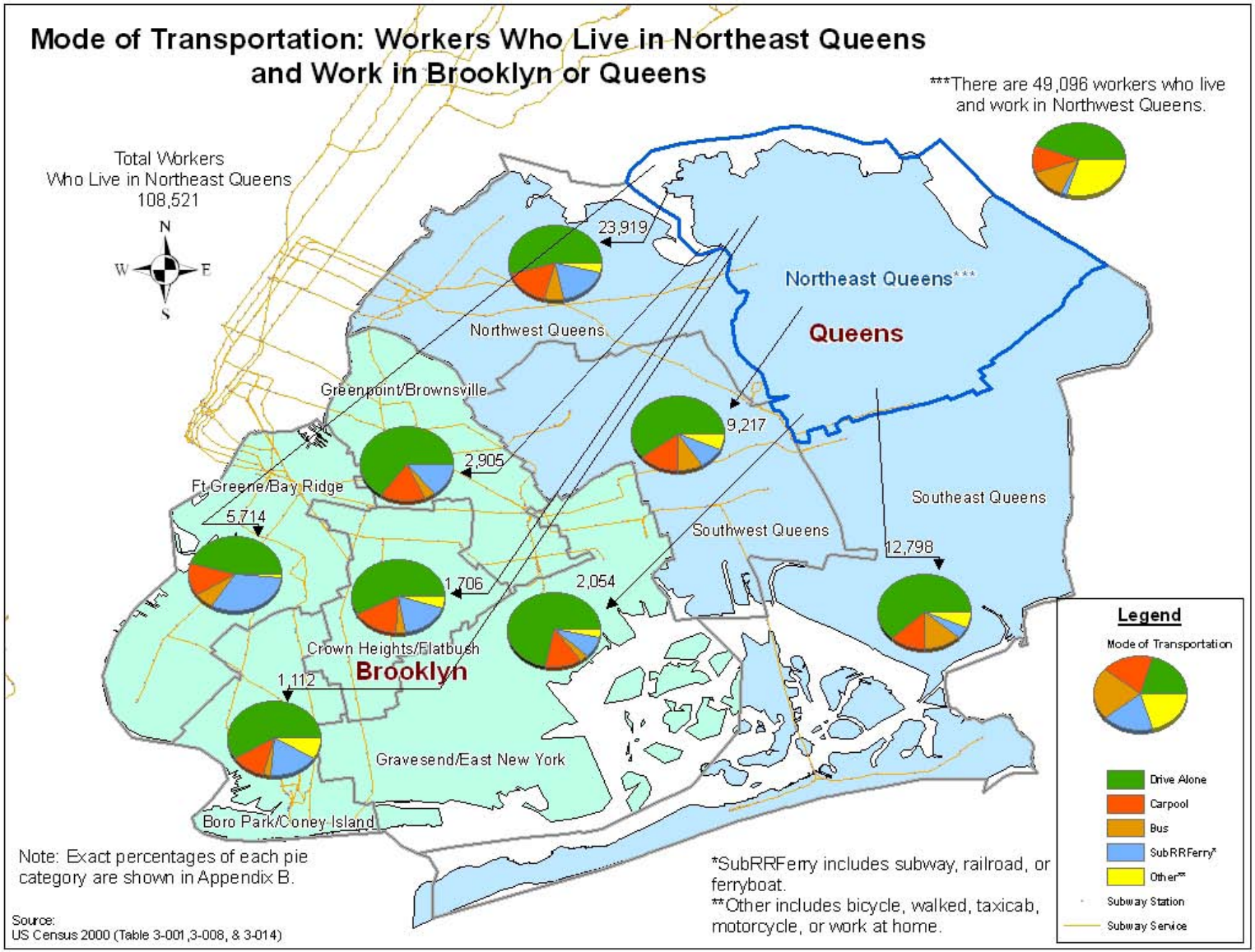


Brooklyn Residents by Super-PUMA with Place of Work Within Brooklyn Super-PUMAs

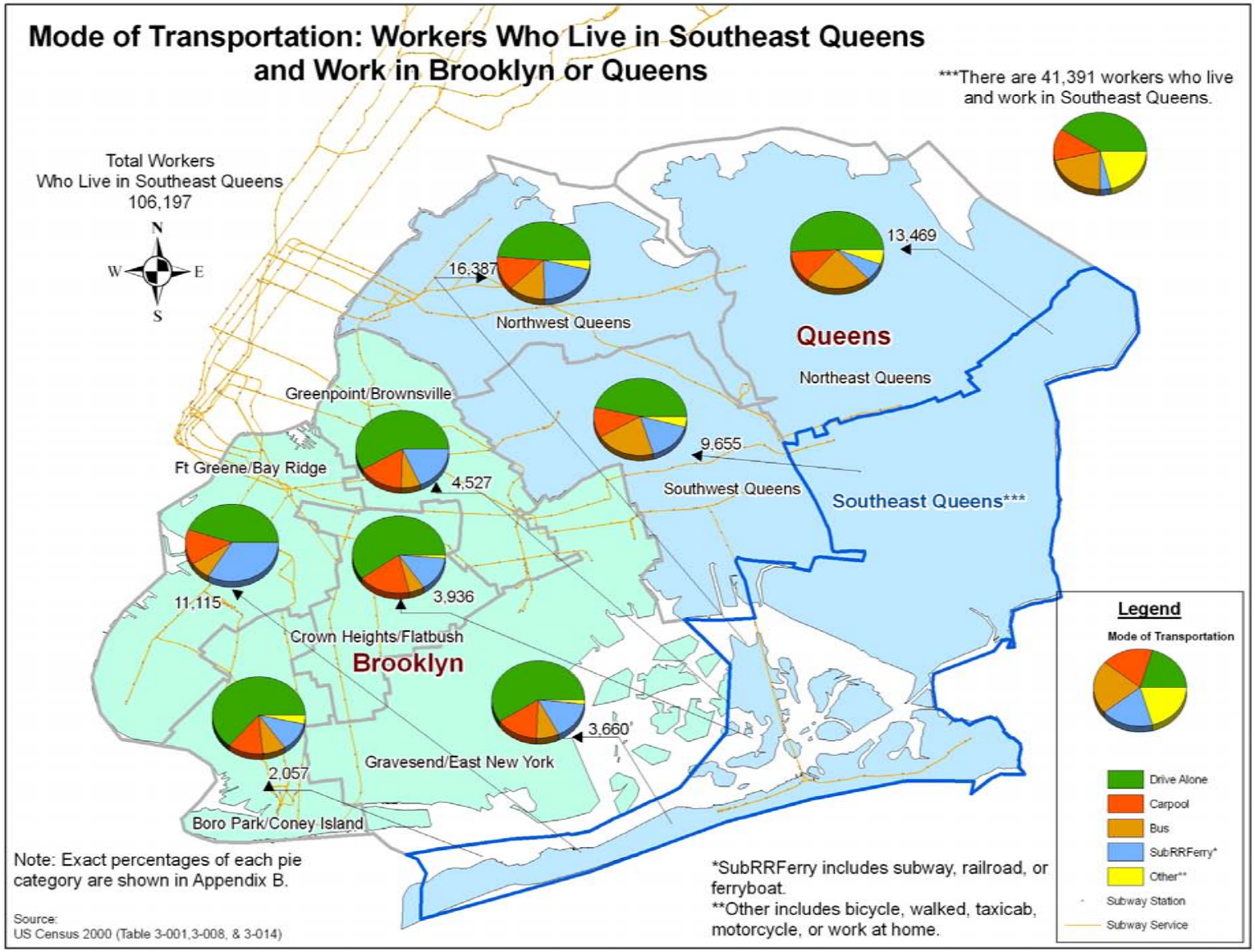
Map 45. Mode of Transportation: Workers Who Live in Northwest Queens and Work in Brooklyn or Queens



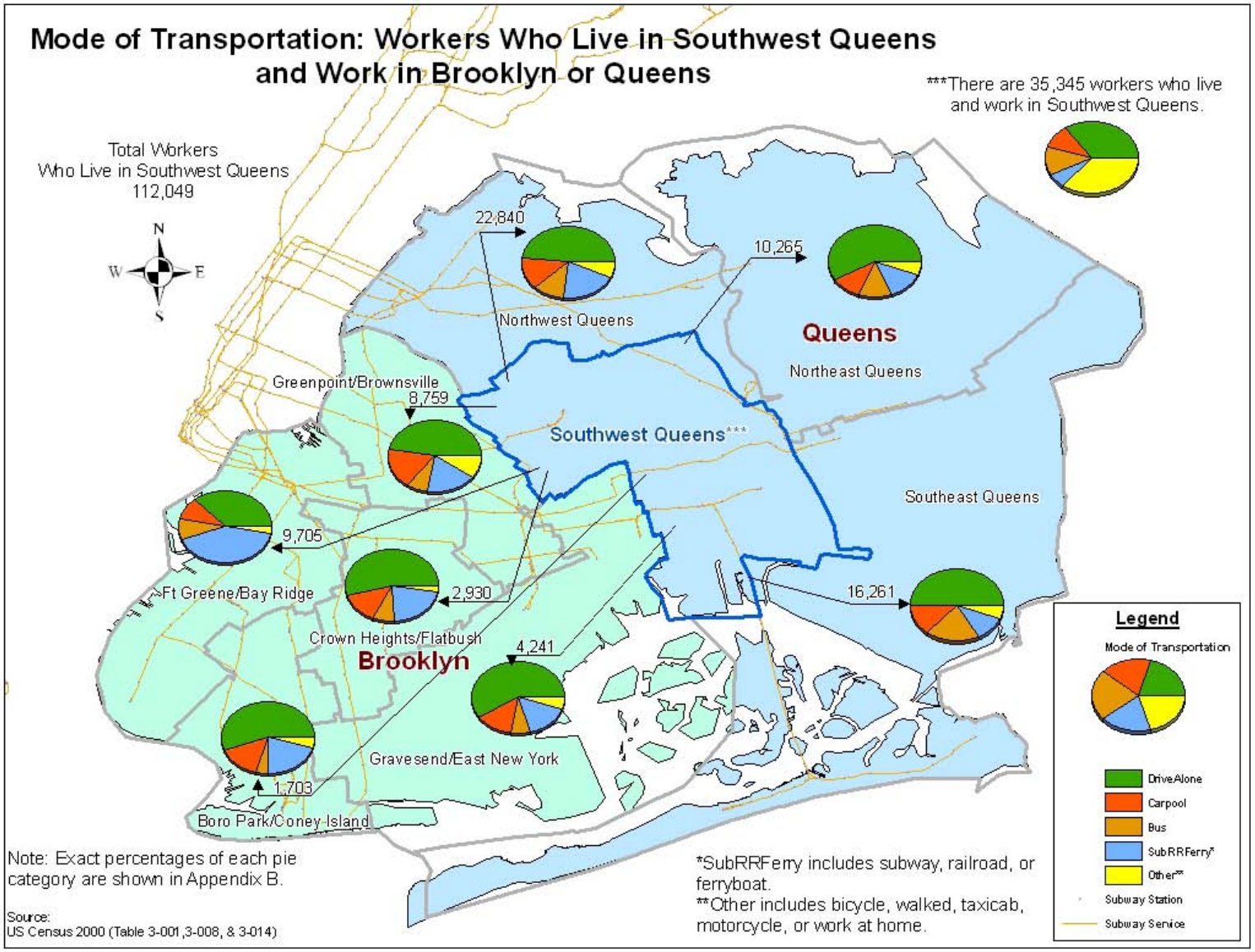
Map 46. Mode of Transportation: Workers Who Live in Northeast Queens and Work in Brooklyn or Queens



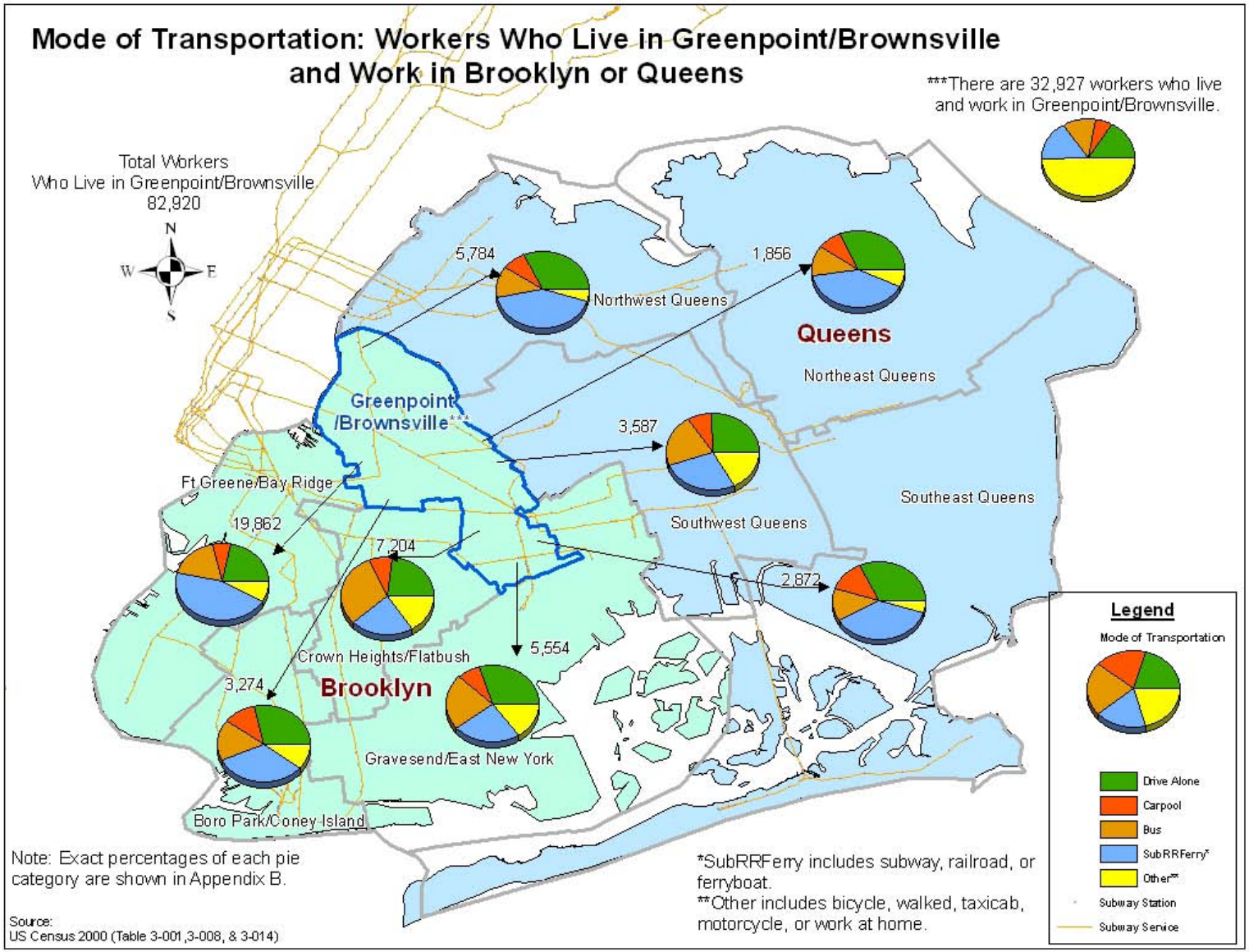
Map 47. Mode of Transportation: Workers Who Live in Southeast Queens and Live in Brooklyn or Queens



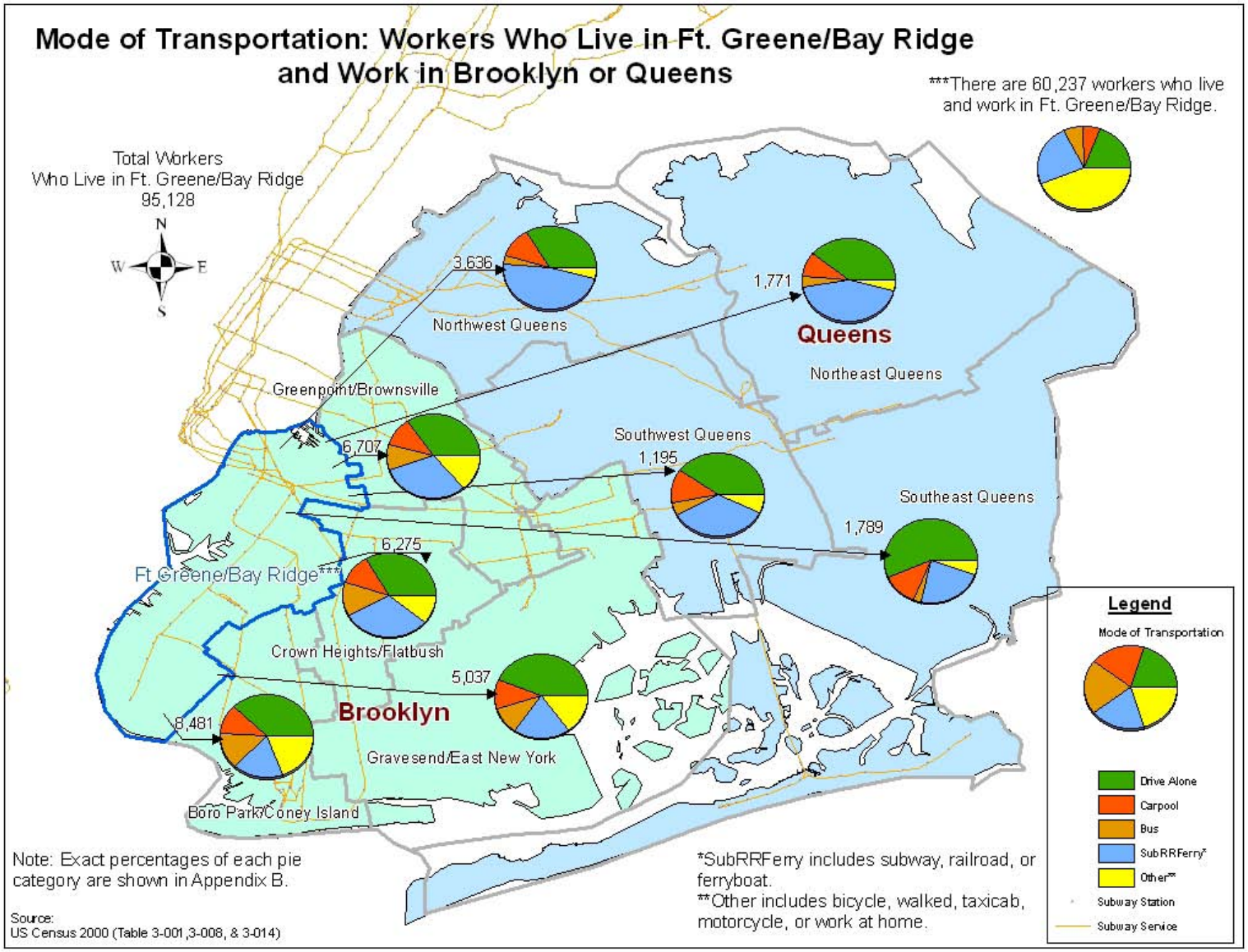
Map 48. Mode of Transportation: Workers Who Live in Southwest Queens and Work in Brooklyn or Queens



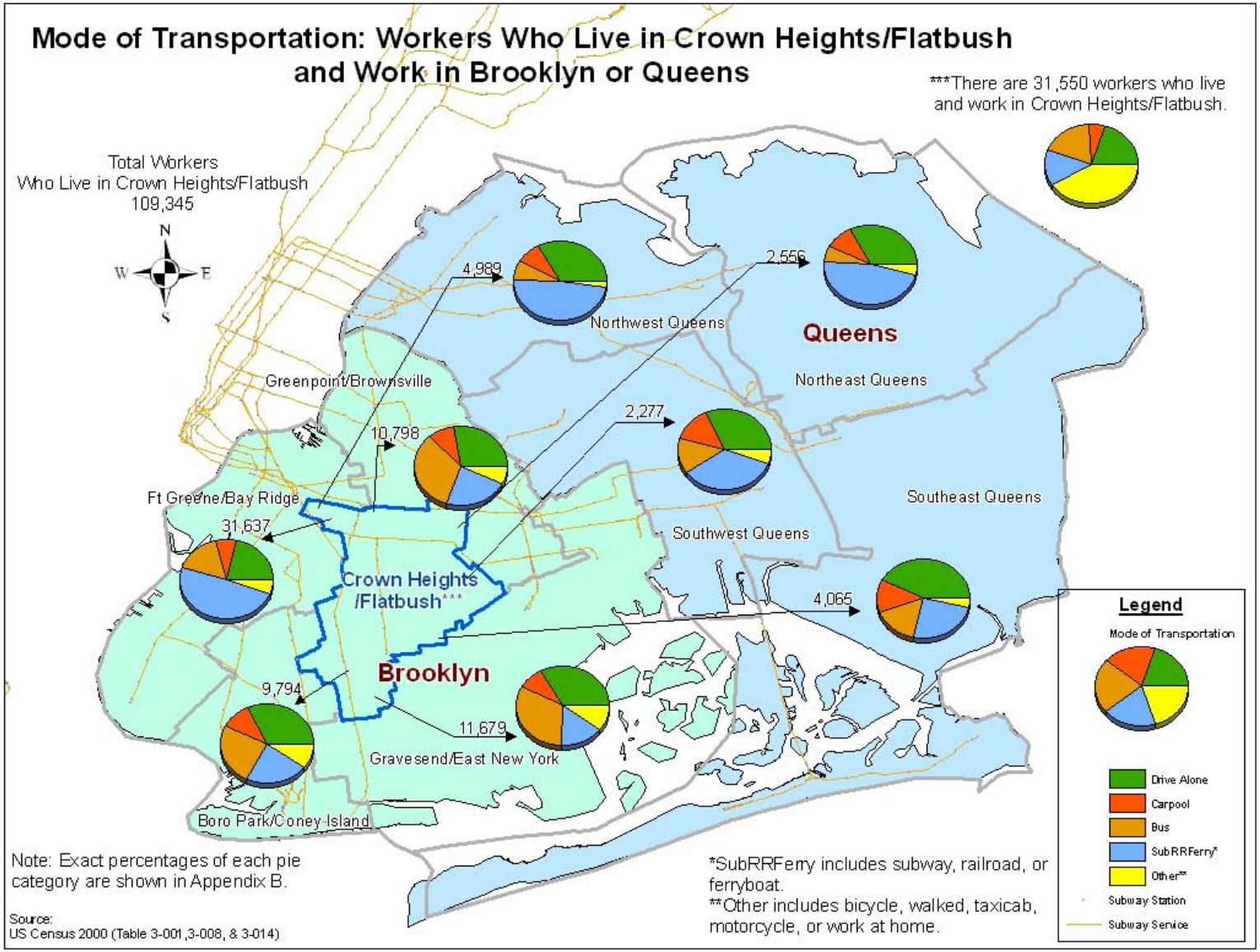
Map 49. Mode of Transportation: Workers Who Live in Greenpoint/Brownsville and Work in Brooklyn or Queens



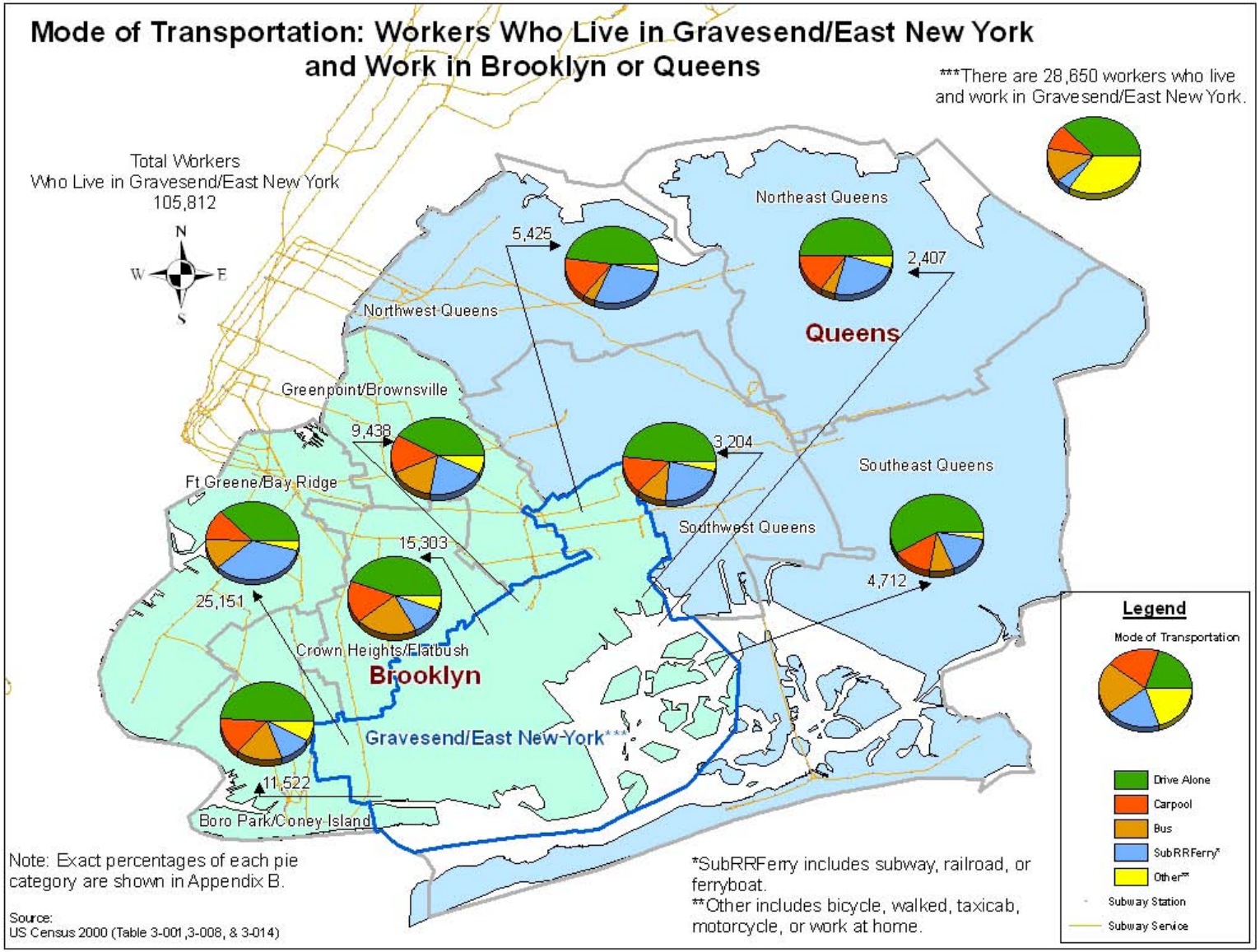
Map 50. Mode of Transportation: Workers Who Live in Ft. Greene/Bay Ridge and Work in Brooklyn or Queens



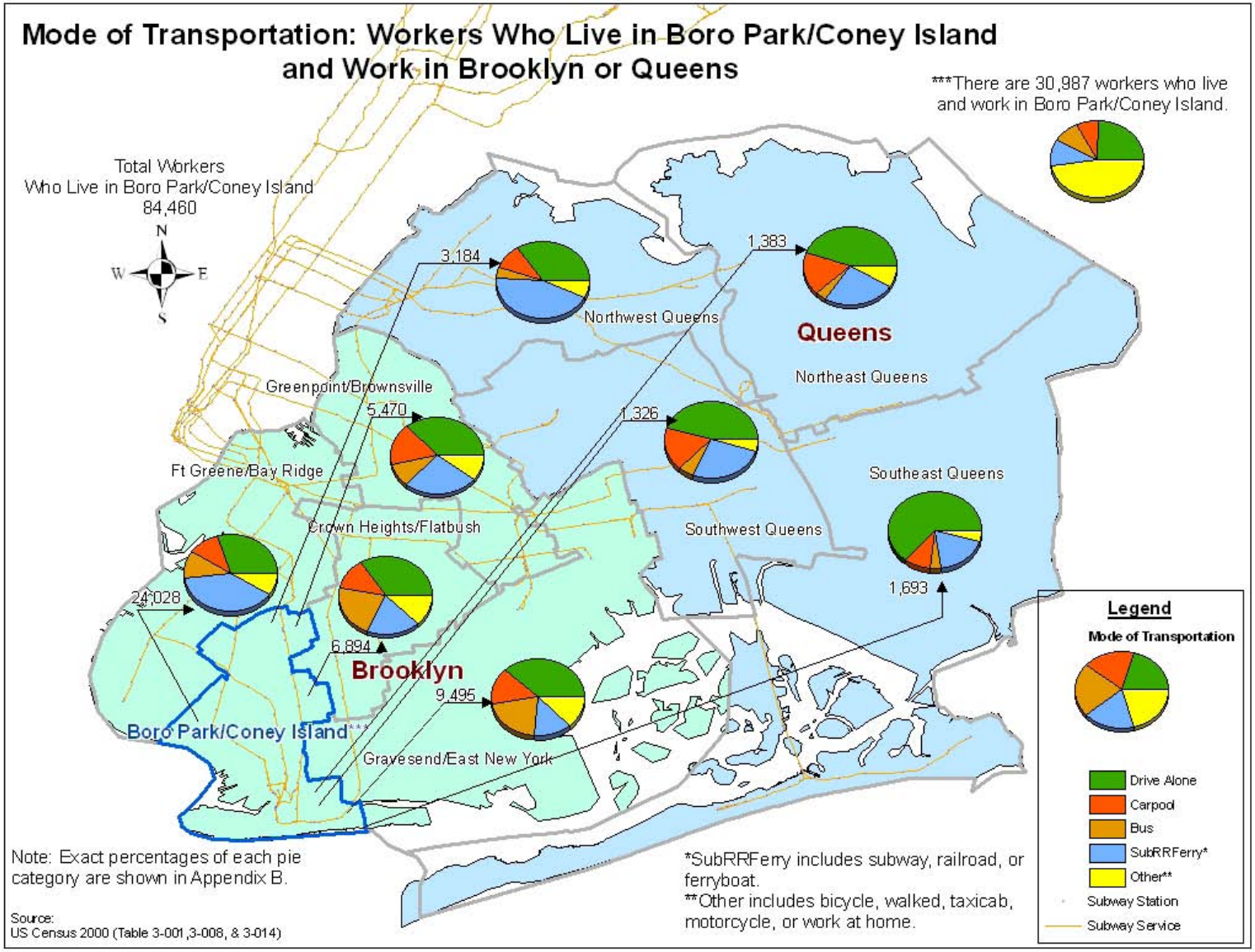
Map 51. Mode of Transportation: Workers Who Live in Crown Heights/Flatbush and Work in Brooklyn or Queens



Map 52. Mode of Transportation: Workers Who Live in Gravesend/East New York and Work in Brooklyn or Queens



Map 53. Mode of Transportation: Workers Who Live in Boro Park/Coney Island and Work in Brooklyn or Queens



Study Area to Study Area: Brooklyn-Queens Inbound Travel by Workers

This section explains where the workers in each Study Area live in Brooklyn or Queens,and their mode of transportation to work.

The following Table 10 and Maps 54-62 show the number of workers in the Brooklyn and Queens Study Areas and their inbound travel to work from their place of residence. The highlights in Table 10 represent the largest number of inbound travelers from a Brooklyn-Queens Study Area into a Brooklyn-Queens Study Area.

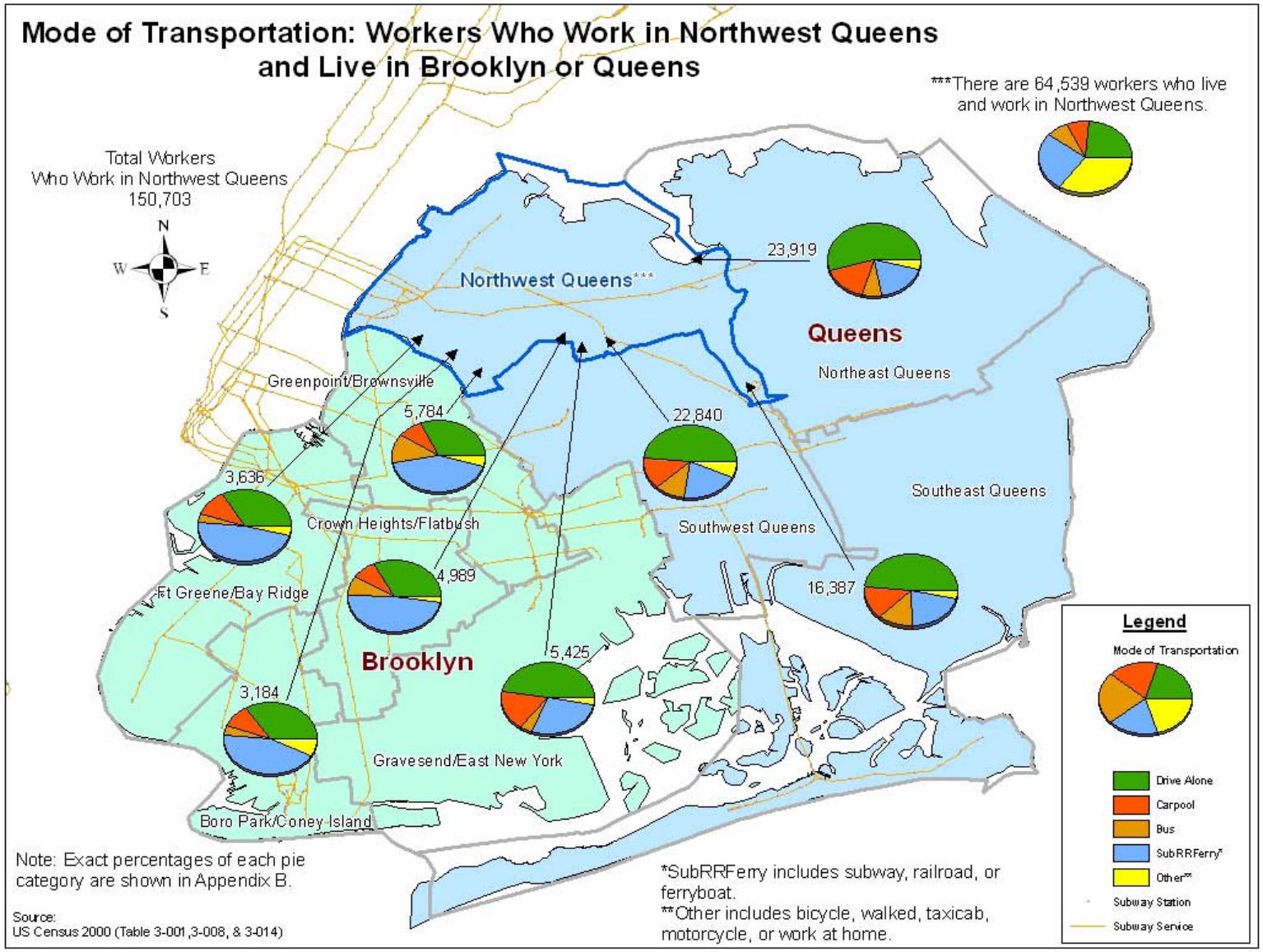
Table 10. Brooklyn-Queens Workers: Place of Residence

Destination:	Origin: Place of Residence								
	Brooklyn Study Area					Queens Study Area			
Study Areas of Work	121	122	123	124	125	111	112	113	114
Brooklyn									
121- Greenpoint/Brownsville	**32,927**	6,707	10,798	9,438	5,470	4,324	2,905	4,527	**8,759**
122- Ft. Greene/Bay Ridge	19,862	**60,237**	31,637	25,151	24,028	8,525	5,714	**11,115**	9,705
123- Crown Heights/Flatbush	7,204	6,275	**31,550**	15,303	6,894	1,742	1,706	**3,936**	2,930
124- Gravesend/East New York	5,554	5,037	11,679	**28,650**	9,495	1,792	2,054	3,660	**4,241**
125- Boro Park/Coney Island	3,274	8,481	9,794	11,522	**30,987**	1,265	1,112	**2,057**	1,703
Total	68,821	86,737	95,458	90,064	76,874	17,648	13,491	25,295	27,338
Queens									
111- Northwest	**5,784**	3,636	4,989	5,425	3,184	**64,539**	23,919	16,387	22,840
112- Northeast	1,856	1,771	**2,556**	2,407	1,383	13,304	**49,096**	13,469	10,265
113- Southeast	2,872	1,789	4,065	**4,712**	1,693	9,109	12,798	**41,391**	16,261
114- Southwest	**3,587**	1,195	2,277	3,204	1,326	10,086	9,217	9,655	**35,345**
Total	14,099	8,391	13,887	15,748	7,586	97,038	95,030	80,902	84,711

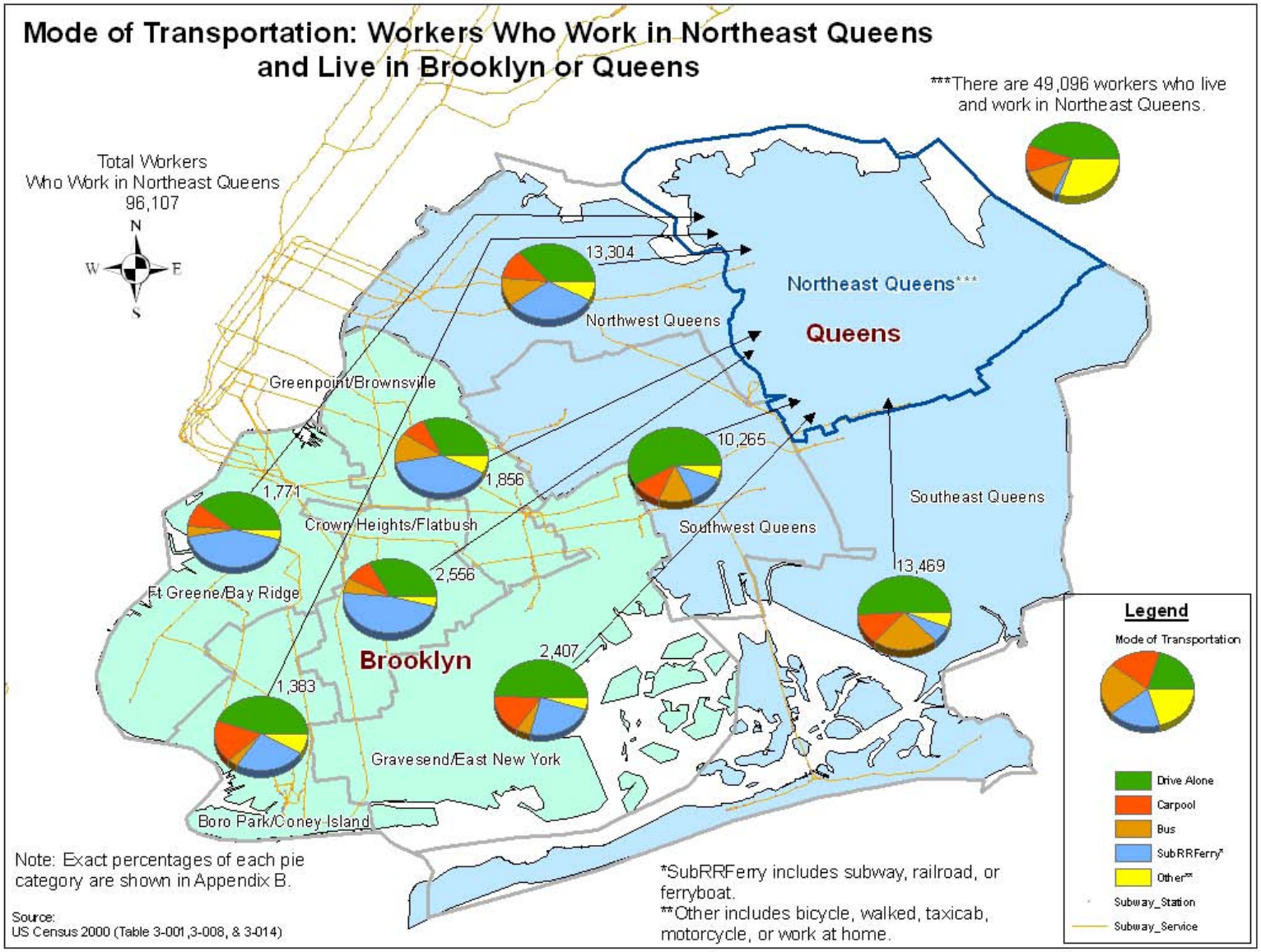
Source: U.S. Census 2000

- Table 10 shows Brooklyn and Queens Study Area workers predominantly live in the same Study Area as their jobs. The next largest number of workers from the Brooklyn Study Areas lives in Southeast and Southwest Queens (see Table 10).
- Maps 54-62 represent the mode of transportation to work for Brooklyn and Queens workers. The largest flow of Brooklyn workers commuting from Southeast and Southwest Queens use car as their primary mode of transportation (see Maps 58-62 or Appendix B).
- Northwest Queens workers who live in Brooklyn primarily commute by Subway/RR/Ferry, with the exception of Gravesend/East New York Study Area. Northwest Queens workers who live in other Queens Study Areas tend to drive for their commute to work (see Maps 54-57 or Appendix B).
- Workers who live or work in Southeast Queens tend to drive alone to their jobs (see Maps 54-62 or Appendix B).
- Of all the Study Areas in Brooklyn and Queens, Fort Greene/Bay Ridge has the biggest inbound Subway/RR/Ferry share (see Map 59 or Appendix B).
- After the workers who reside within a study area, the next highest number of workers comes from the adjoining Study Areas (Maps 54, 56-58, 61).

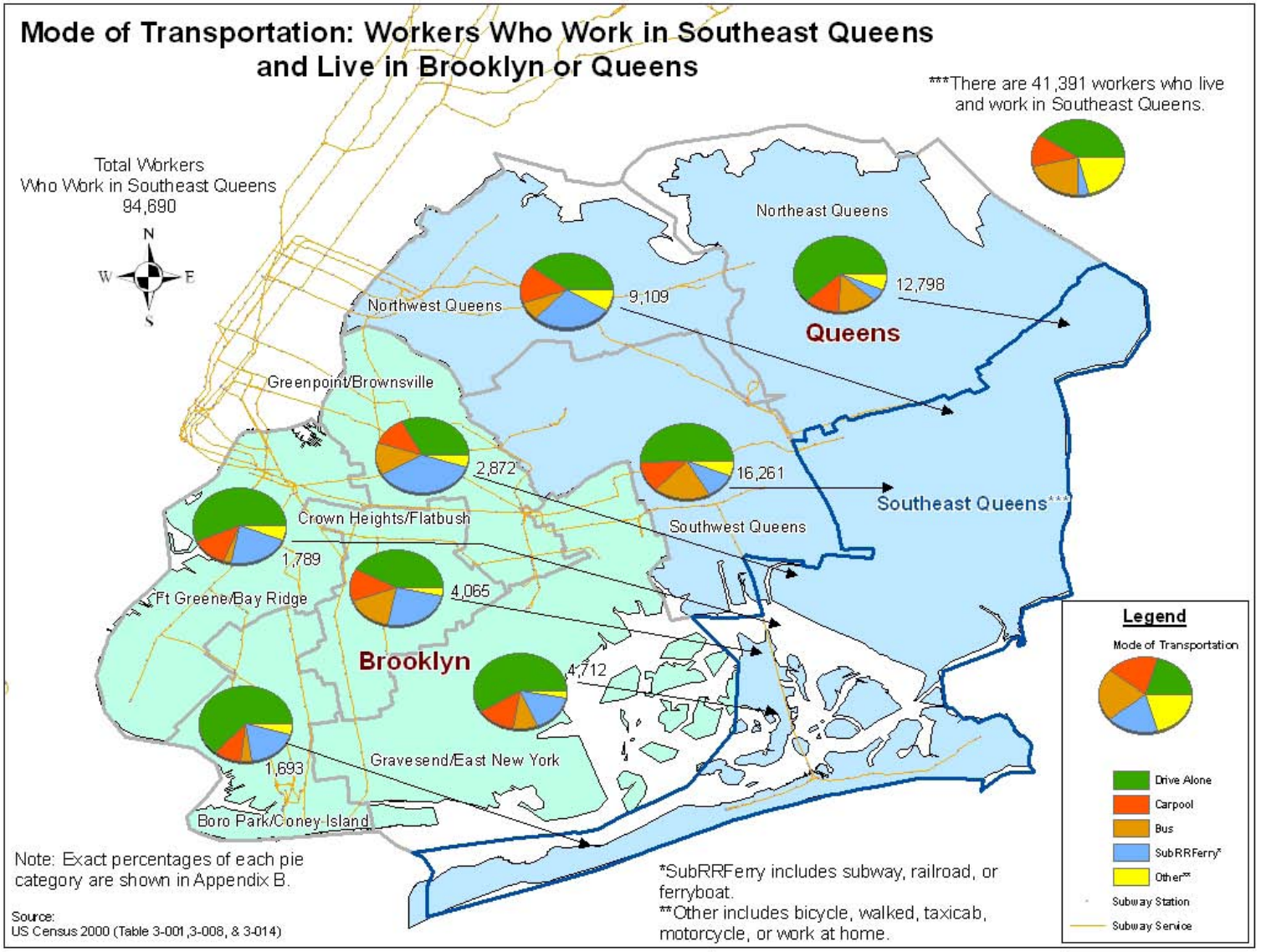
Map 54. Mode of Transportation: Workers Who Work in Northwest Queens and Live in Brooklyn or Queens



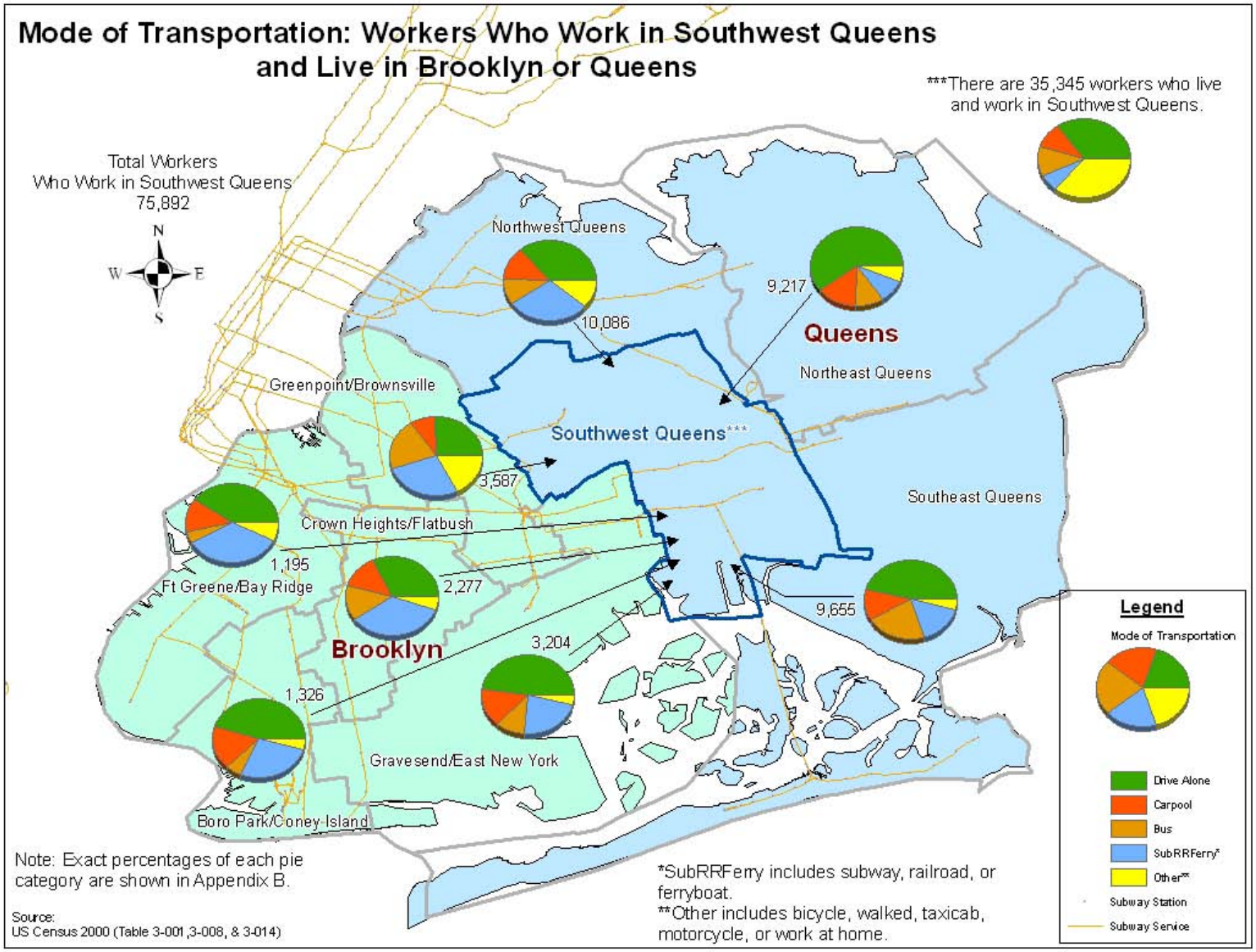
Map 55. Mode of Transportation: Workers Who Work in Northeast Queens and Live in Brooklyn or Queens



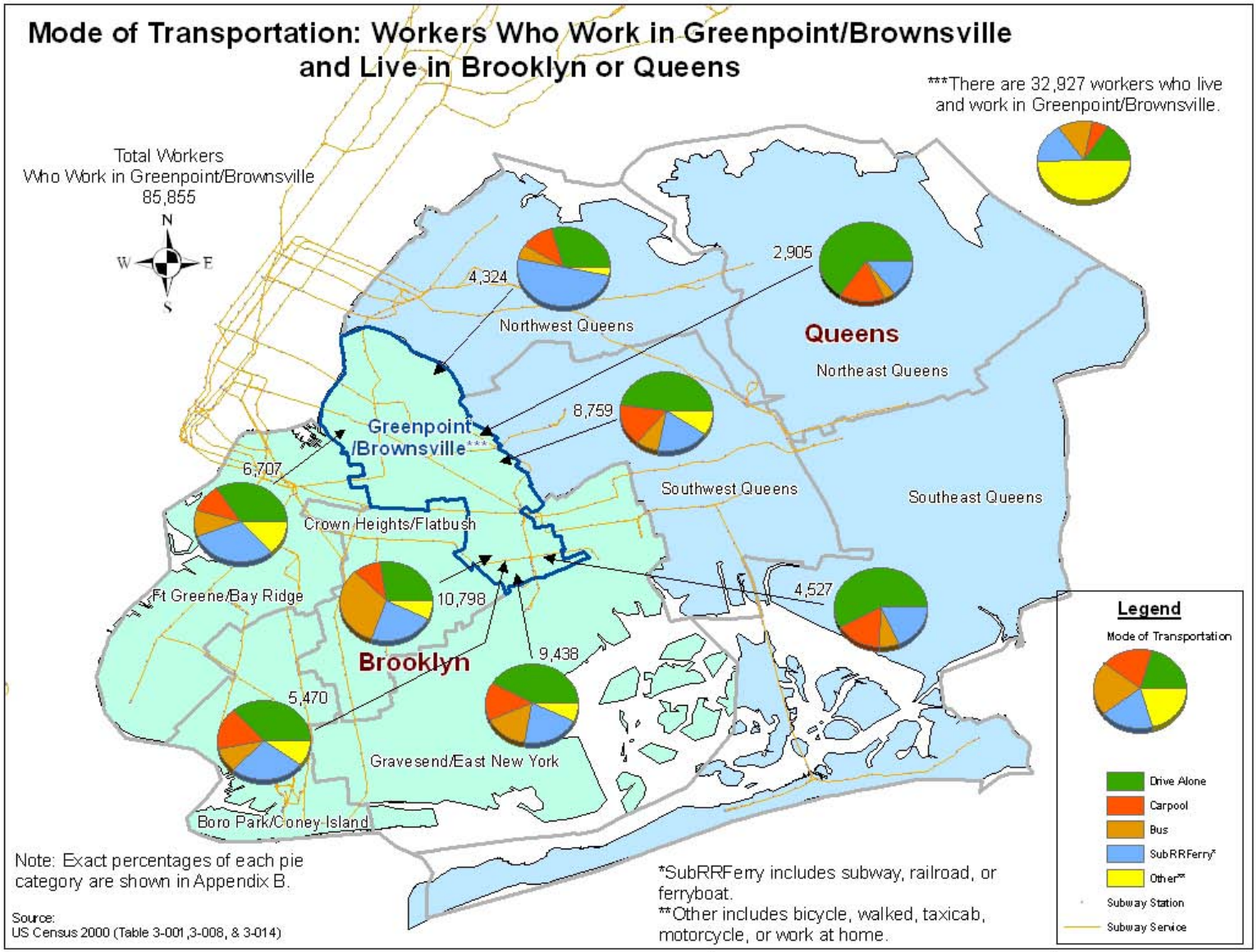
Map 56. Mode of Transportation: Workers Who Work in Southeast Queens and Live in Brooklyn or Queens



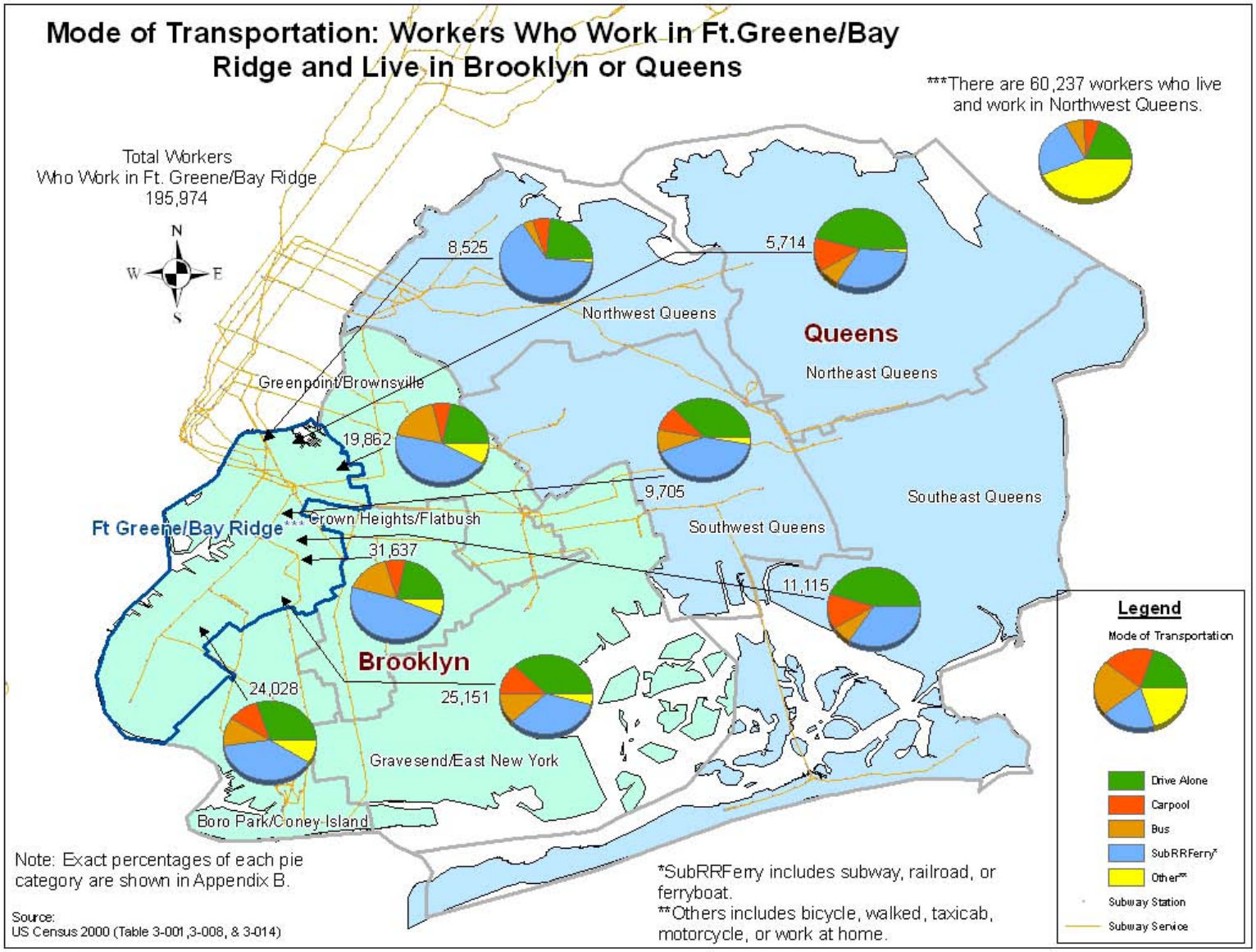
Map 57. Mode of Transportation: Workers Who Work in Southwest Queens and Live in Brooklyn or Queens



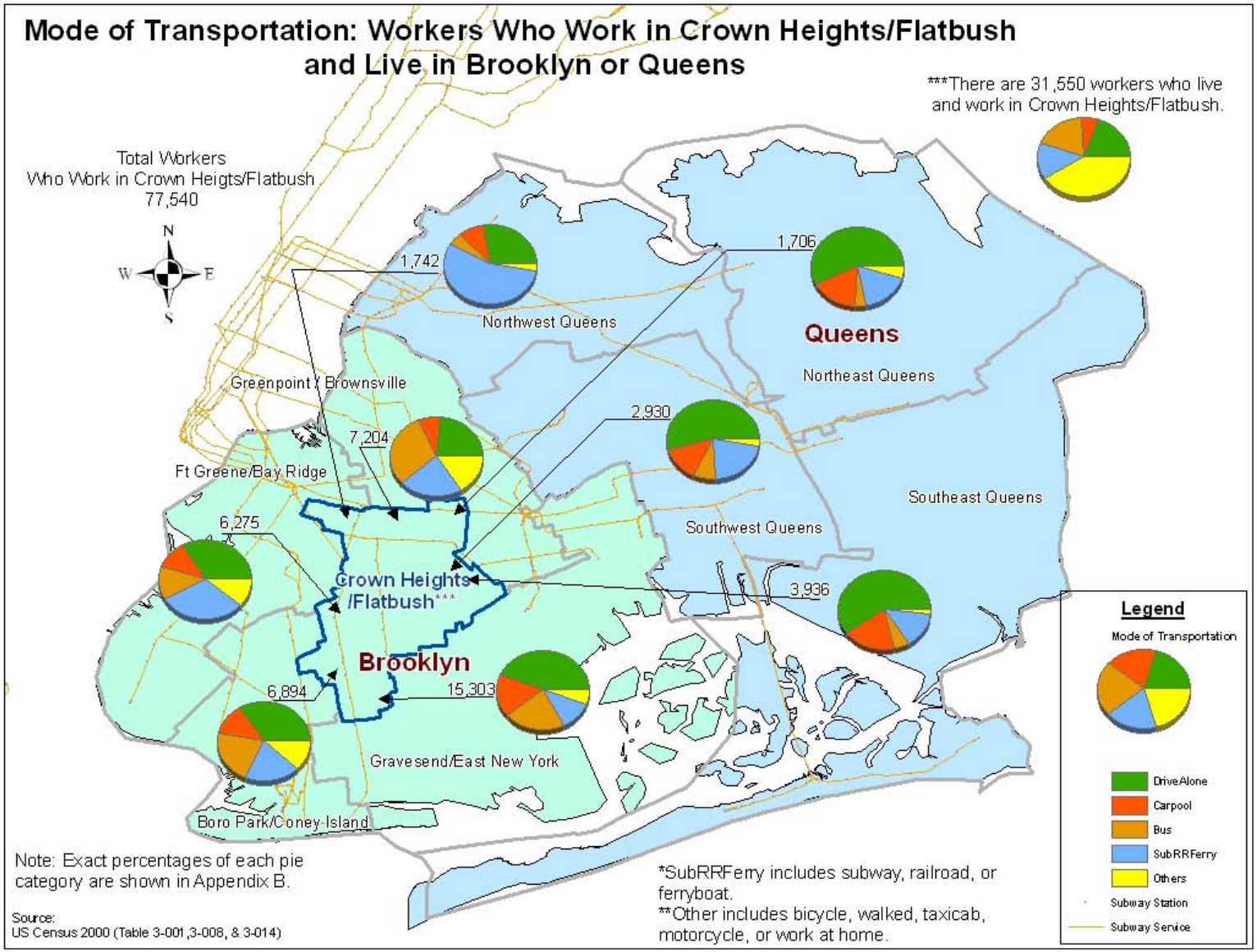
Map 58. Mode of Transportation: Workers Who Work in Greenpoint/Brownsville and Live in Brooklyn or Queens



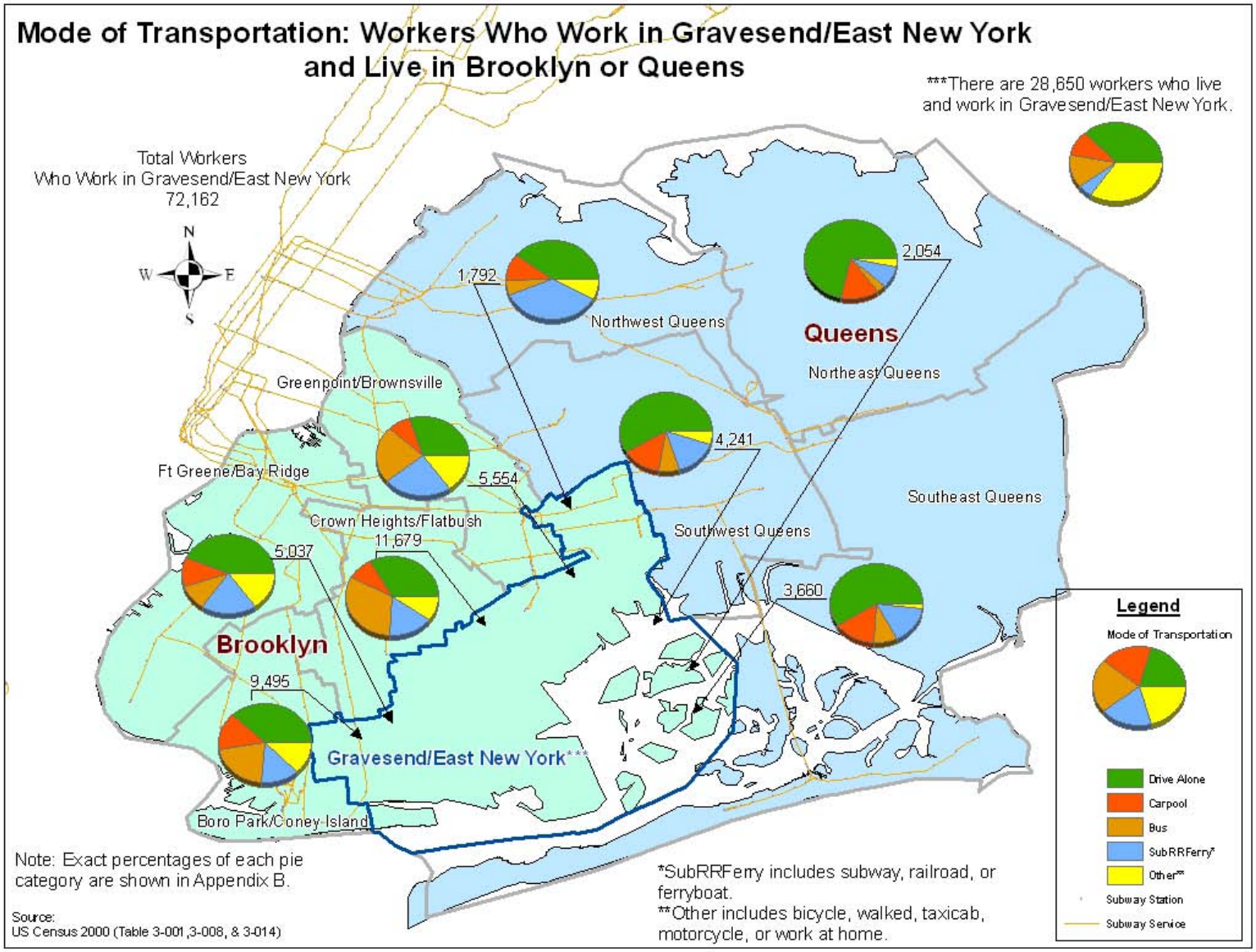
Map 59. Mode of Transportation: Workers Who Work in Ft. Greene/Bay Ridge and Live in Brooklyn or Queens



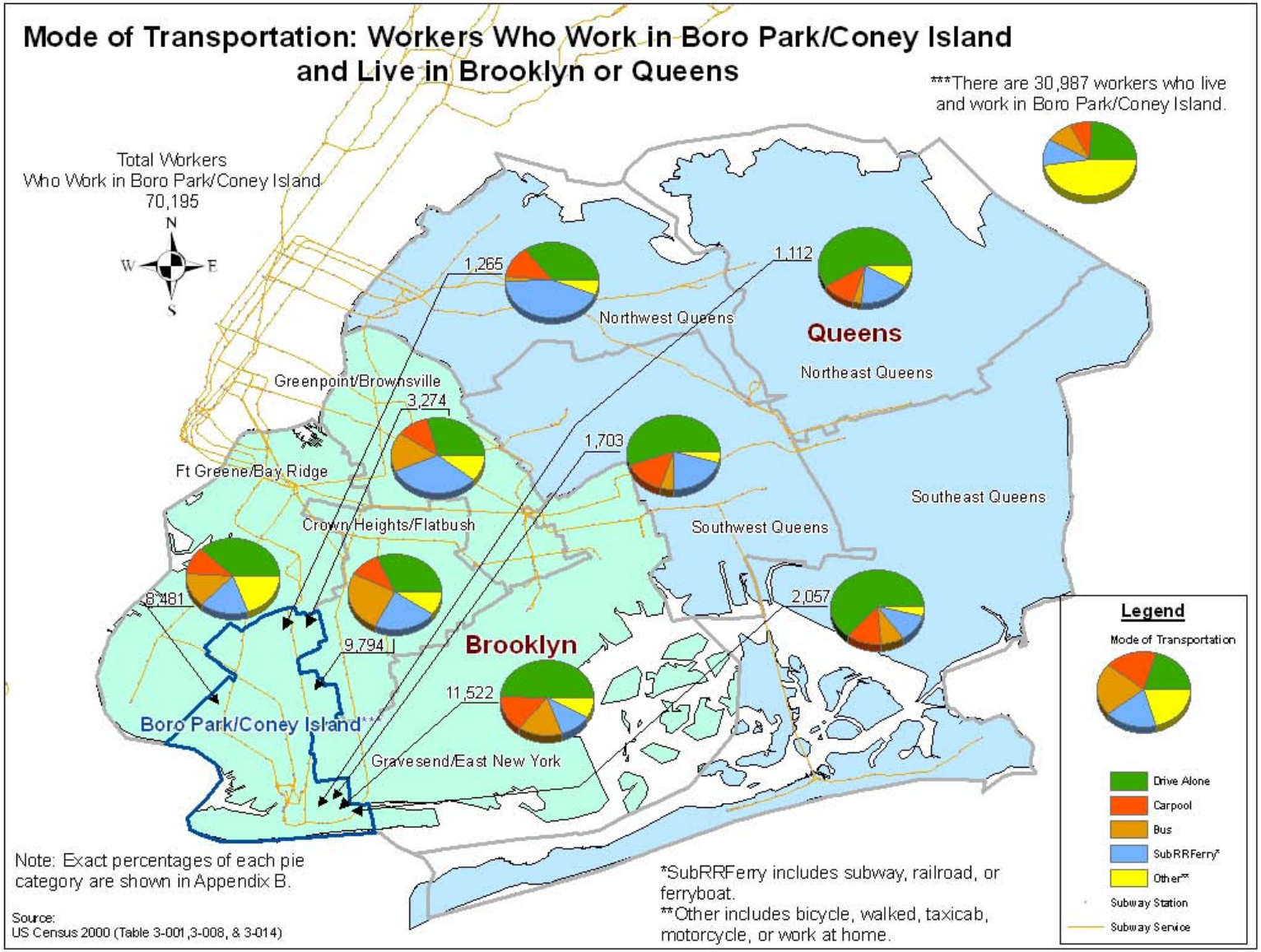
Map 60. Mode of Transportation: Workers Who Work in Crown Heights/Flatbush and Live in Brooklyn or Queens



Map 61. Mode of Transportation: Workers Who Work in Gravesend/East New York and Live in Brooklyn or Queens



Map 62. Mode of Transportation: Workers Who Work in Boro Park/Coney Island and Live in Brooklyn or Queens



Study Area to Study Area: Bronx-Queens Outbound Travel to Place of Work

This section explains, for the workers reside within each Study Area, where such workers have their place of work located in Bronx and Queens, in addition to their mode of transportation to work.

The following Table 11 and Maps 63-68 show the number of workers in the Brooklyn and Queens Study Areas and their outbound travel to their place of work. The highlights in Table 11 represent the largest number of commuters for each Bronx and Queens' study area.

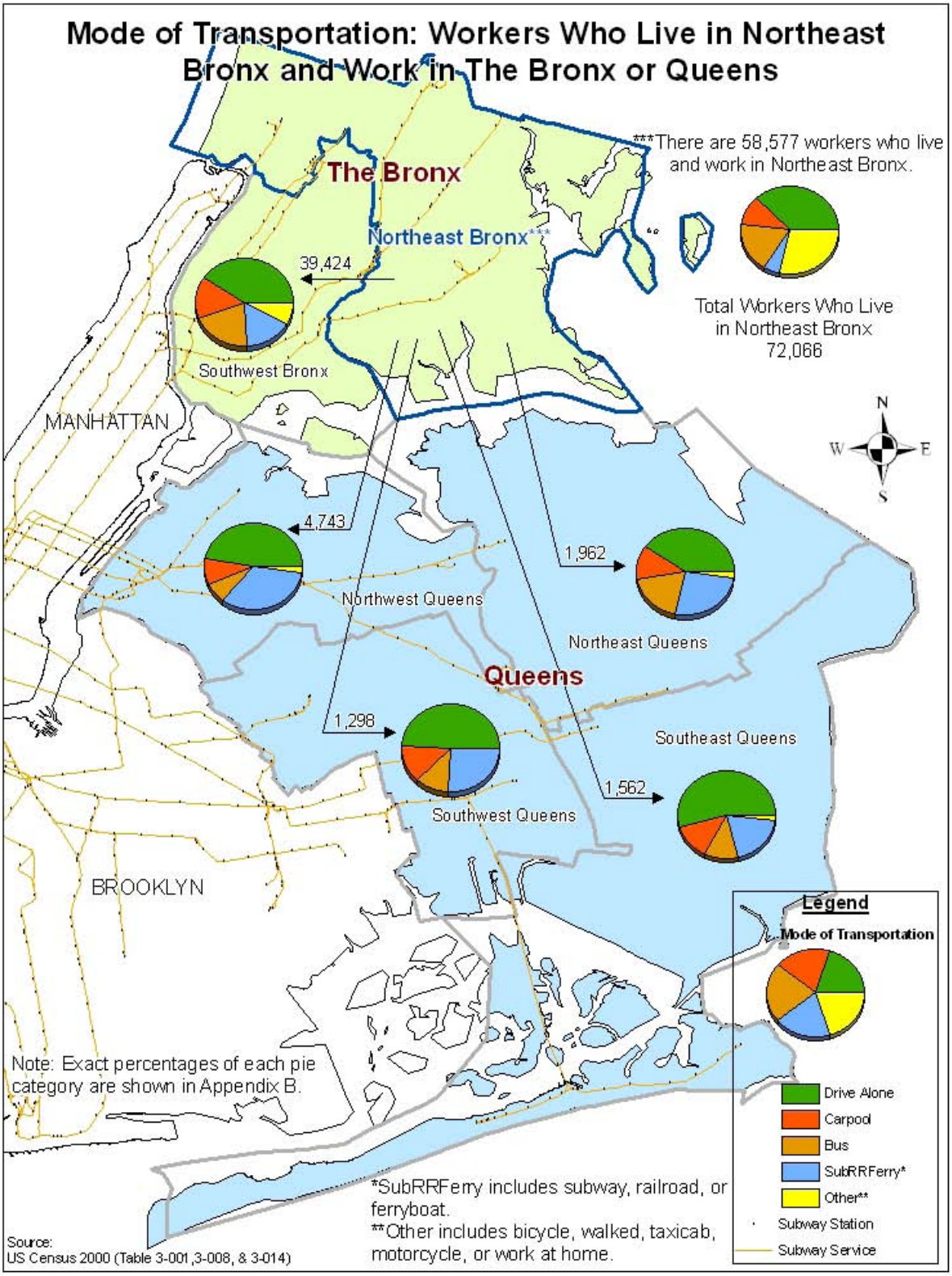
Table 11. Bronx-Queens Residents: Place of Work

Origin:	Destination: Place of Work					
	Bronx Study Area		Queens Study Area			
Study Area of Residence	91	92	111	112	113	114
Bronx						
91- Northeast	**58,577**	39,424	**4,743**	1,962	1,562	1,298
92- Southwest	19,294	**50,755**	**4,291**	1,192	1,122	985
Total	77,871	90,179	9,034	3,154	2,684	2,283
Queens						
111- Northwest	1,855	**2,762**	**64,539**	13,304	9,109	10,086
112- Northeast	2,249	**2,861**	23,919	**49,096**	12,798	9,217
113- Southeast	1,652	**2,286**	16,387	13,469	**41,391**	9,655
114- Southwest	1,605	**2,227**	22,840	10,265	16,261	**35,345**
Total	7,361	10,136	127,685	86,134	79,559	64,303

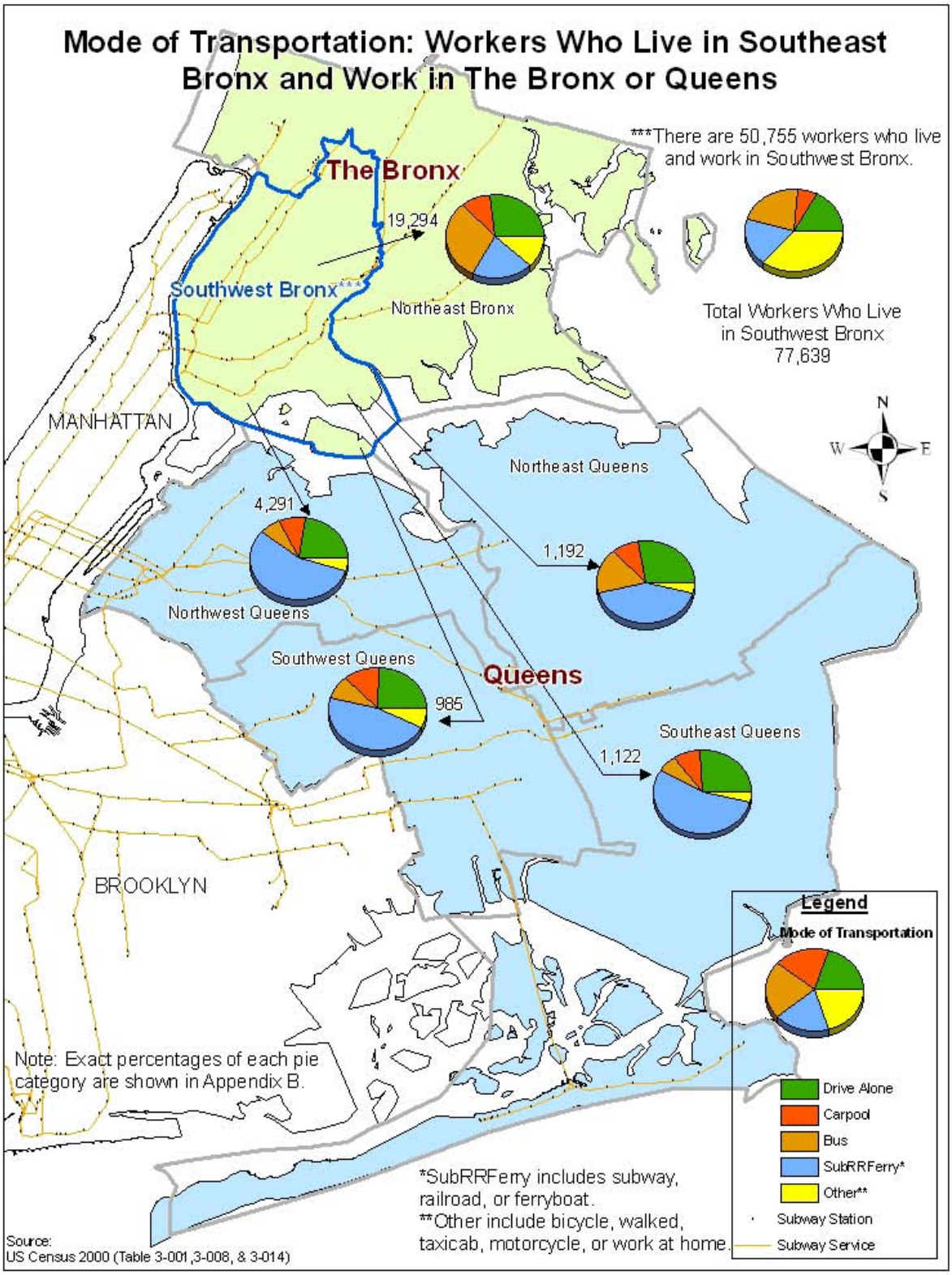
Source: U.S. Census 2000

- Table 11 shows the greatest number of Bronx and Queens Study Area residents also work in the same area as their home. Bronx Study Area residents who commute to Queens are more likely to work in the Northwest Study Area whereas Queens Study Area residents who commute to the Bronx are more likely to work in the Southwest Study Area.
- Maps 63-68 represent the mode of transportation to work for Bronx and Queens residents. Queens residents who work in the Southwest Bronx Study Area predominantly commute by car than any other mode of transportation (see Map 70 or Appendix B).
- Bronx and Queens residents who live and work in the same Study Area have the highest share of 'Other' than any other Study Area as their means of transportation (see Maps 63-68 or Appendix B).
- Workers who live in Queens Study Areas and work in Northeast Bronx tend to drive alone for their commute. Workers who live in Northeast, Southeast, and Southwest Queens Study Areas and work in Southwest Bronx tend to commute by car, with the exception of Northwest Queens residents who choose to commute by Subway/RR/Ferry (see Maps 65-68 or Appendix B).
- Workers who live in Southwest Bronx and work in Queens tend to commute by Subway/RR/Ferry while workers who live in Northeast Bronx and work in Queens tend to drive alone (see Maps 63-64 or Appendix B).
- The destination number to study areas, within the same borough, is higher than those from adjacent borough are.

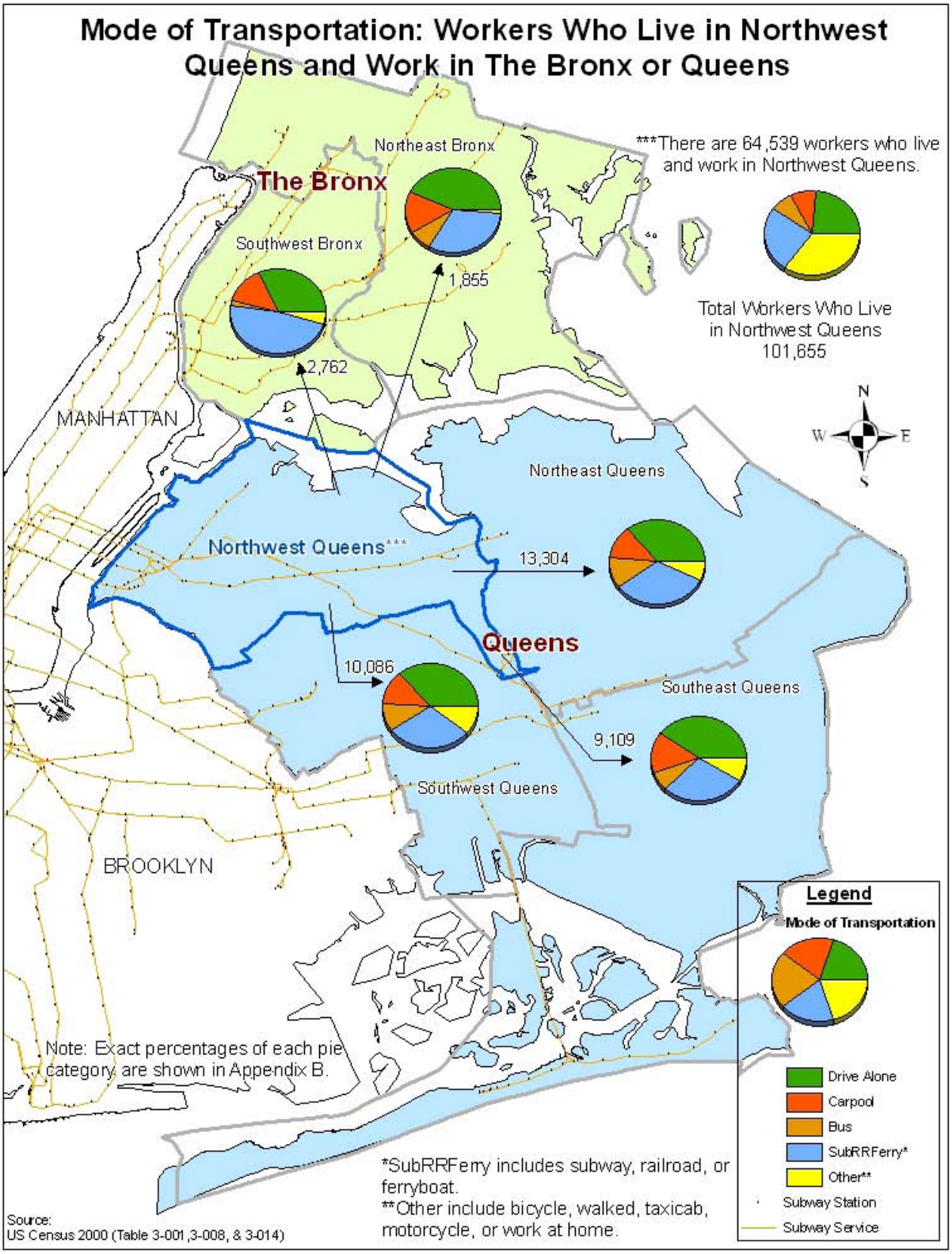
Map 63. Mode of Transportation: Workers Who Live in Northeast Bronx and Work in The Bronx or Queens



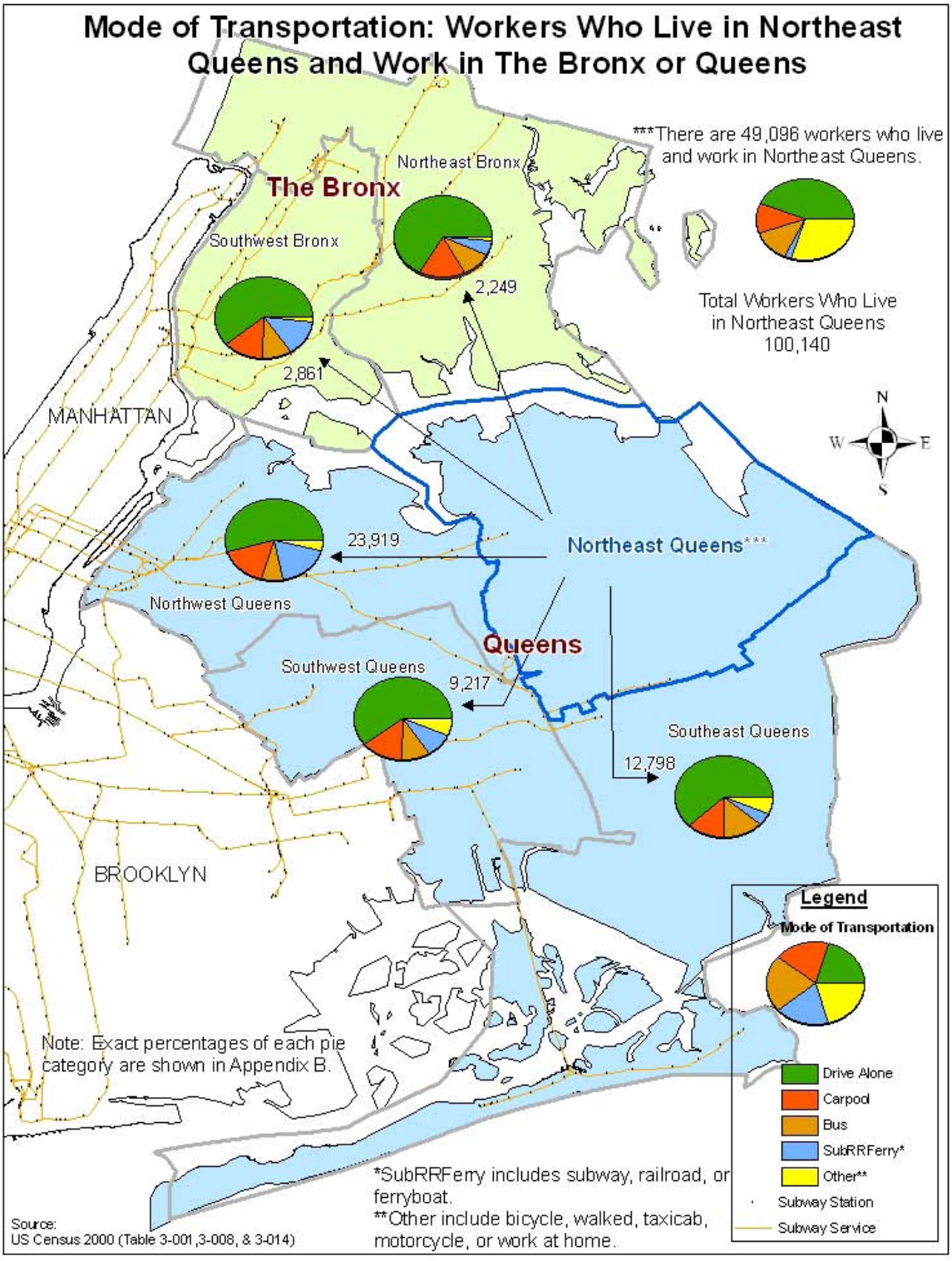
Map 64. Mode of Transportation: Workers Who Live in Southeast Bronx and Work in The Bronx or Queens



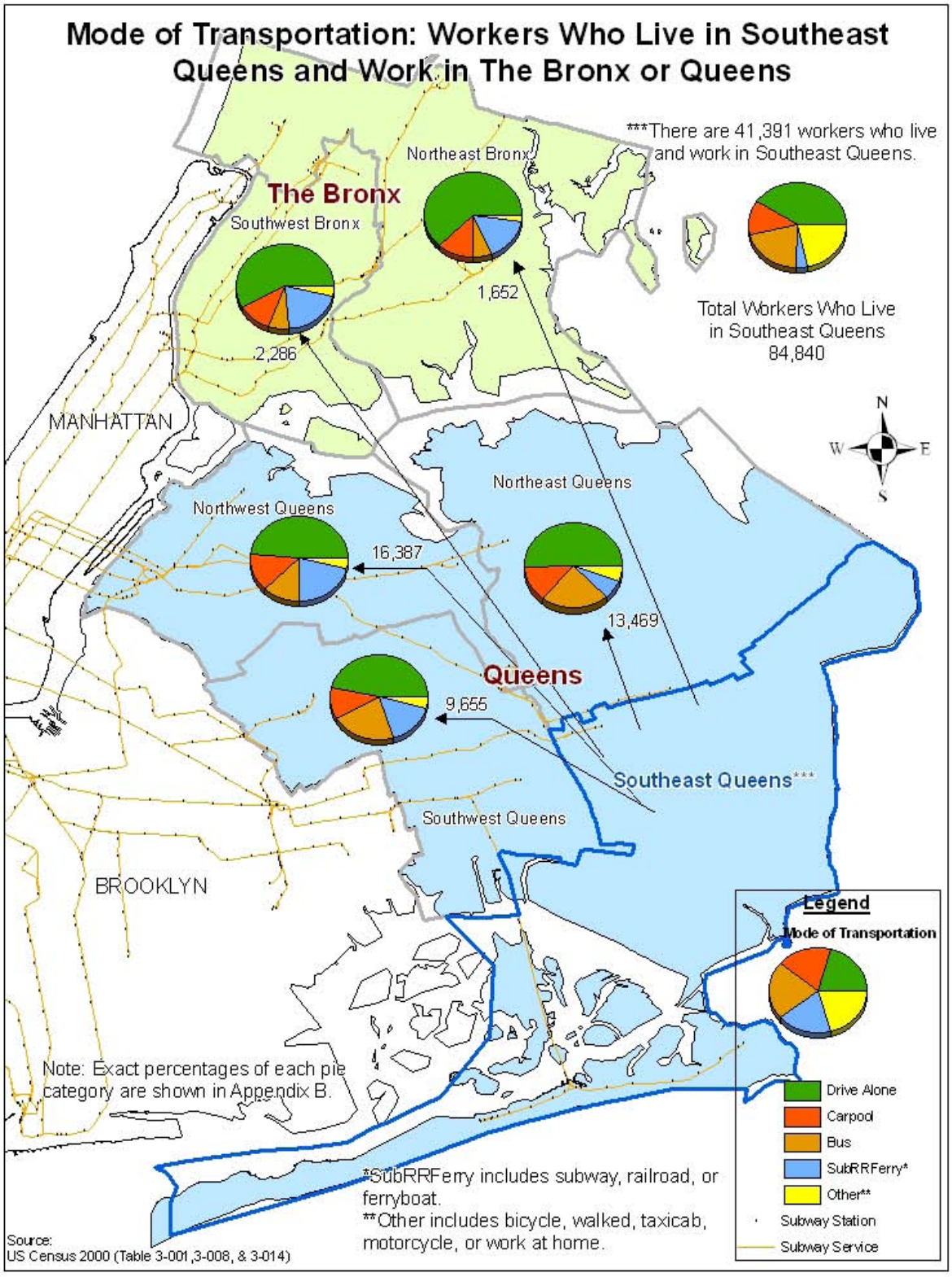
Map 65. Mode of Transportation: Workers Who Live in Northwest Queens and Work in The Bronx or Queens



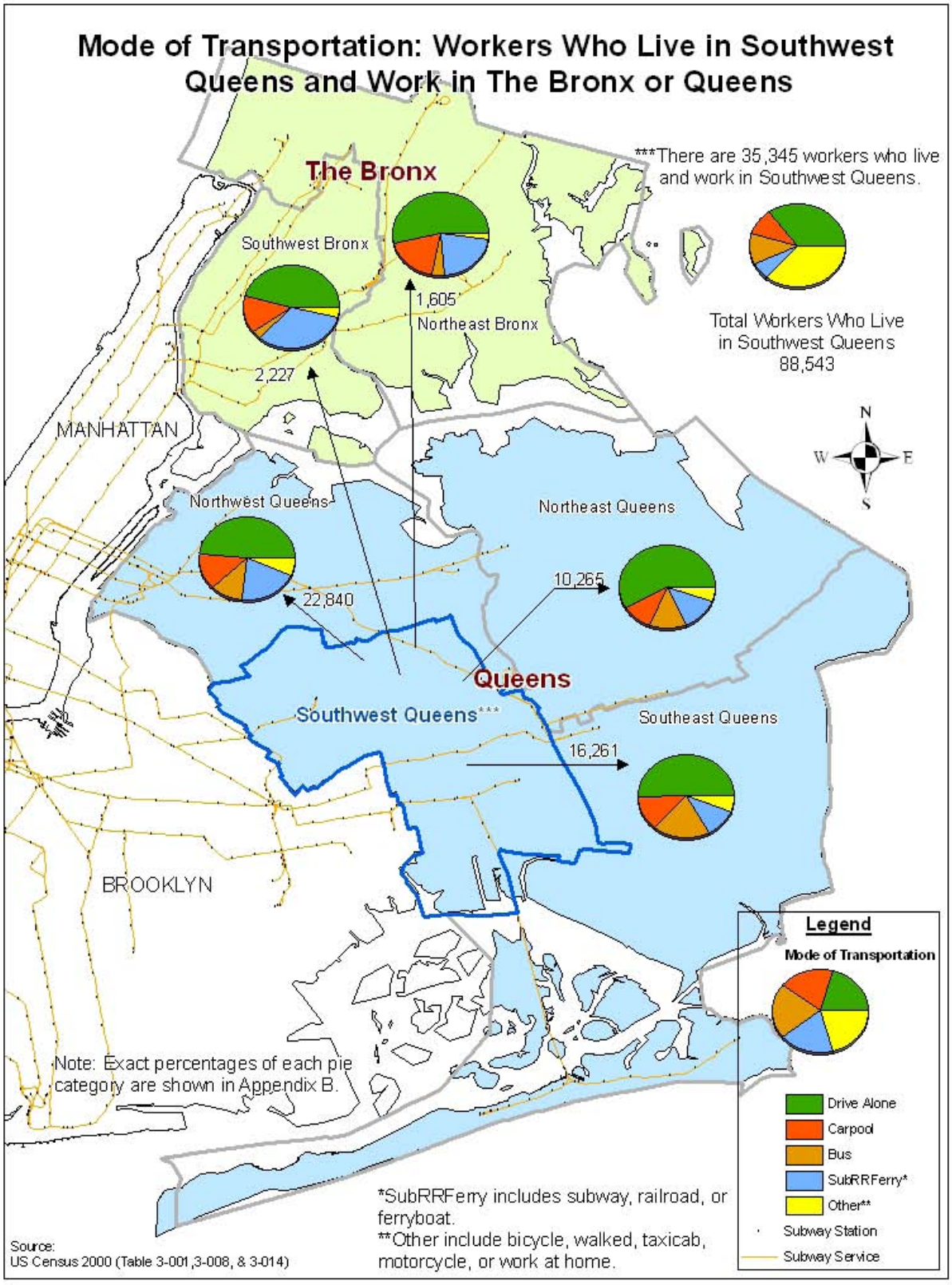
Map 66. Mode of Transportation: Workers Who Live in Northeast Queens and Work in The Bronx or Queens



Map 67. Mode of Transportation: Workers Who Live in Southeast Queens and Work in The Bronx or Queens



Map 68. Mode of Transportation: Workers Who Live in Southwest Queens and Work in The Bronx or Queens



Study Area to Study Area:
The Bronx-Queens Inbound Travel by Workers

This section analyzes The Bronx and Queens Study Area workers and their place of residence in The Bronx or Queens Study Area, along with their mode of transportation to work.

The following Table 12 and Maps 69-74 show the number of workers in The Bronx and Queens Study Areas and their inbound travel to work from their place of residence. The highlights in Table 12 indicate the largest number of inbound travelers from a Study Area to a Brooklyn or Queens Study Area for work..

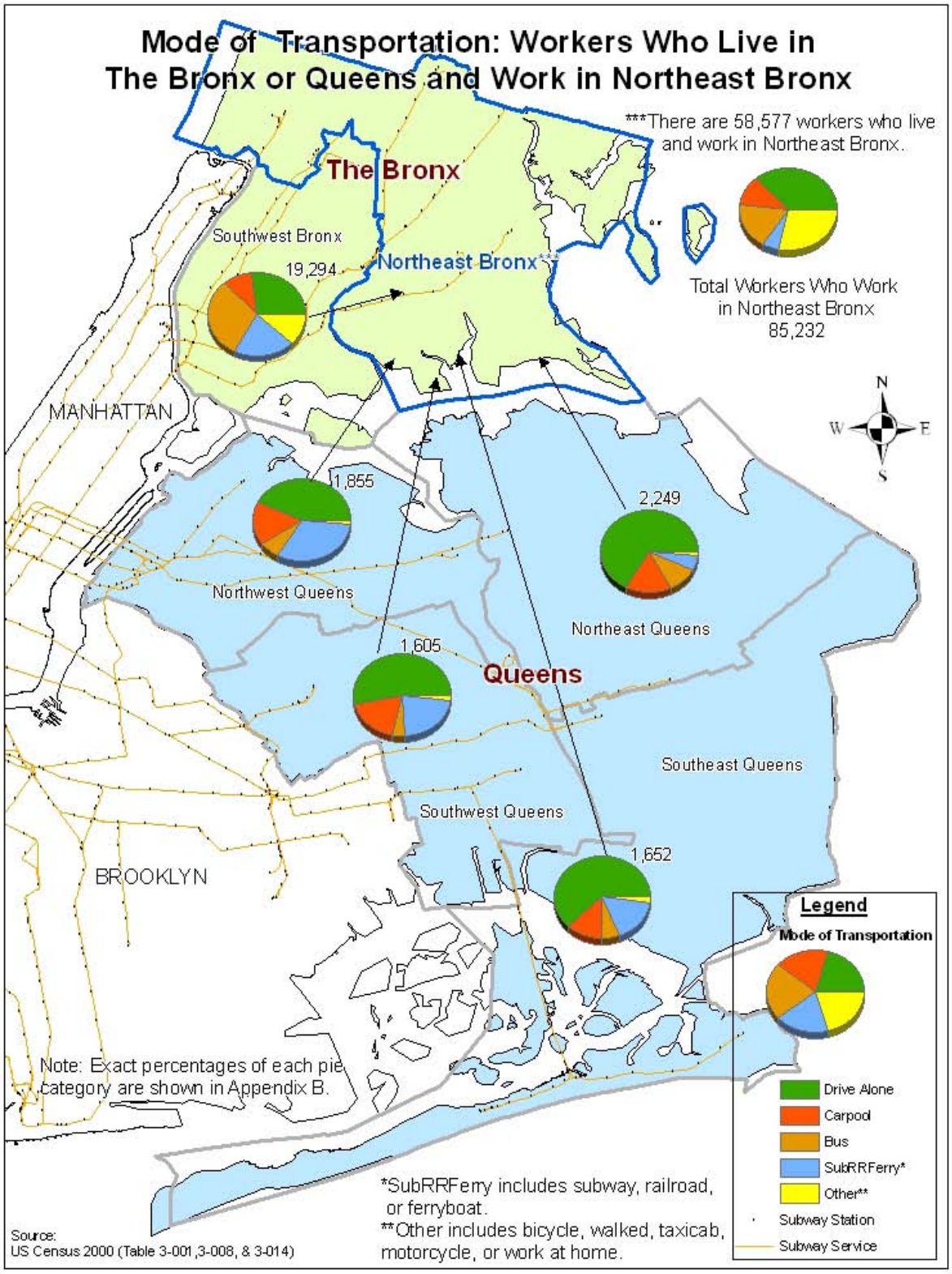
Table 12. Bronx-Queens Workers: Place of Residence

Destination:	**Origin: Place of Residence**					
	Bronx Study Area		**Queens Study Area**			
Study Areas of Work	91	92	111	112	113	114
Bronx						
91- Northeast	**58,577**	19,294	1,855	**2,249**	1,652	1,605
92- Southwest	39,424	**50,755**	2,762	**2,861**	2,286	2,227
Total	98,001	70,049	4,617	5,110	3,938	3,832
Queens						
111- Northwest	**4,743**	4,291	**64,539**	23,919	16,387	22,840
112- Northeast	**1,962**	1,192	13,304	**49,096**	13,469	10,265
113- Southeast	**1,562**	1,122	9,109	12,798	**41,391**	16,261
114- Southwest	**1,298**	985	10,086	9,217	9,655	**35,345**
Total	9,565	7,590	97,038	95,030	80,902	84,711

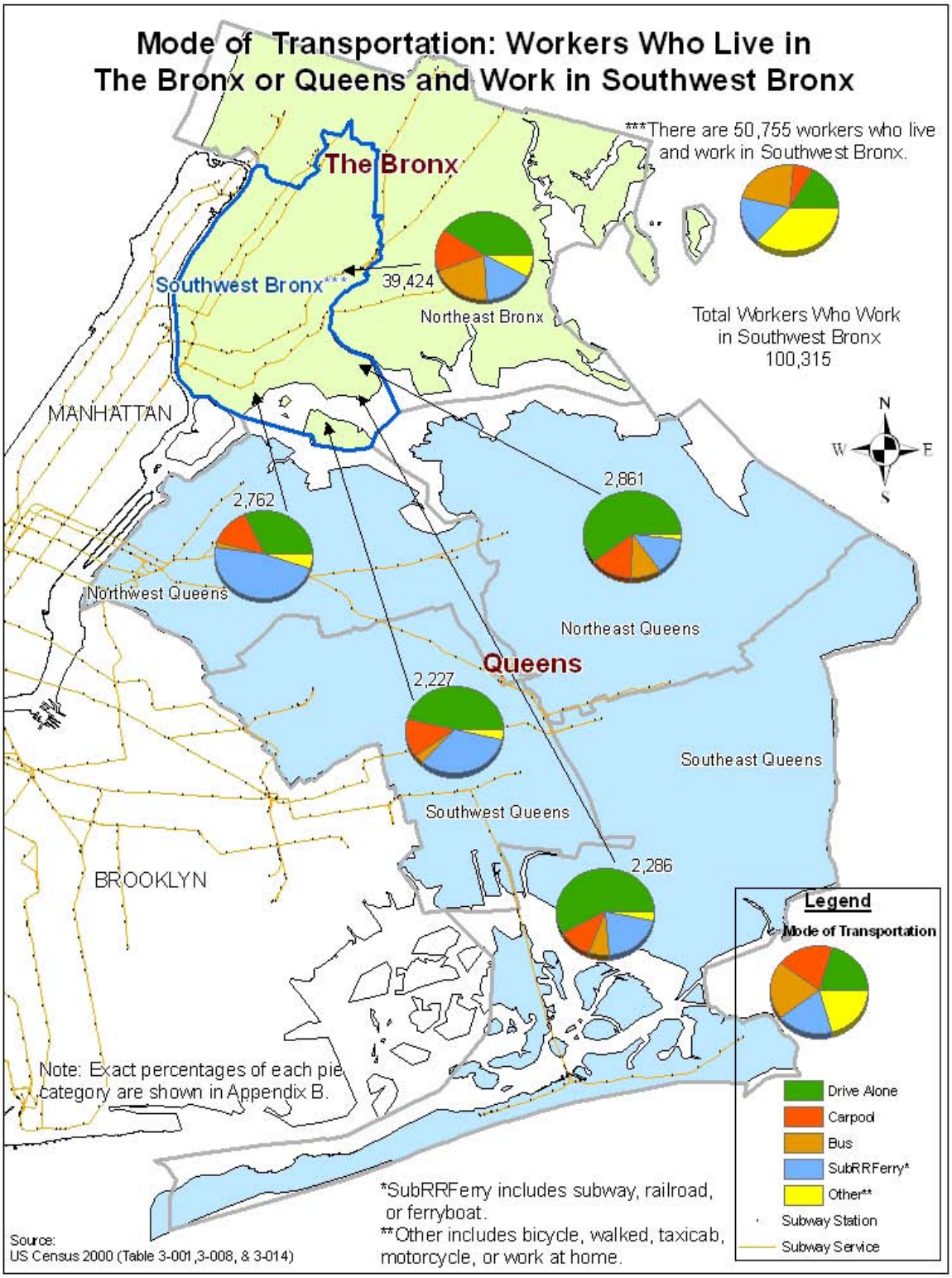
Source: U.S. Census 2000

- Table 12 also shows most Bronx and Queens Study Area workers also live in the same Study Area as their jobs.
- Maps 69-74 represent the mode of transportation to work for Bronx and Queens workers. The largest flow of Bronx workers commuting from Northeast Queens Study Area use car as their primary mode of transportation (see Maps 69-70 or Appendix B).
- The largest flow of Queens workers commuting from Northeast Bronx Study Area use car as their primary mode of transportation (see Maps 71-74 or Appendix B).
- Workers who live and work in Queens or work in The Bronx tend to drive alone. Workers who live in Northwest Queens and work in Southwest Bronx tend to choose Subway/RR/Ferry (see Maps 69-74 or Appendix B).

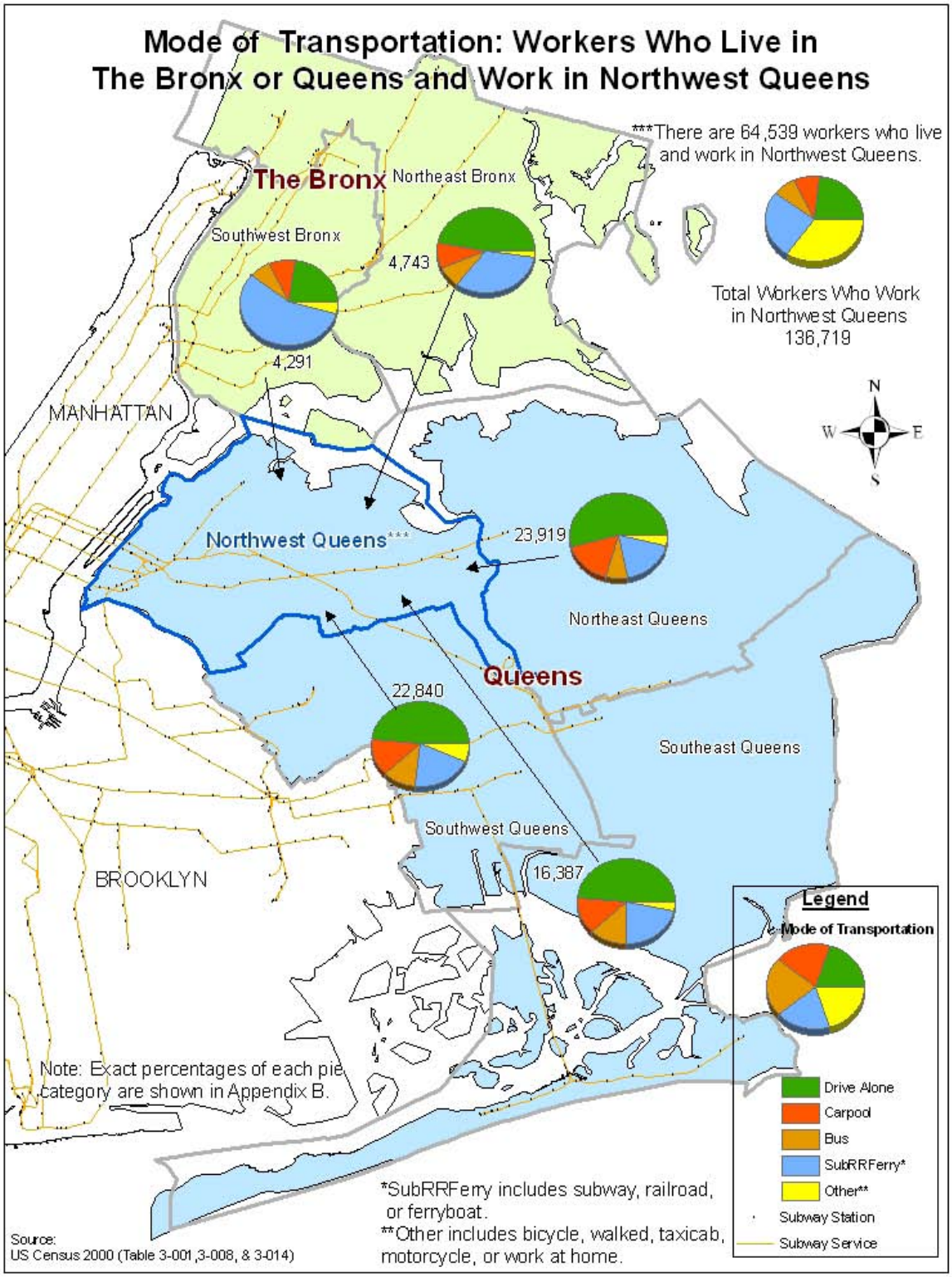
Map 69. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Northeast Bronx



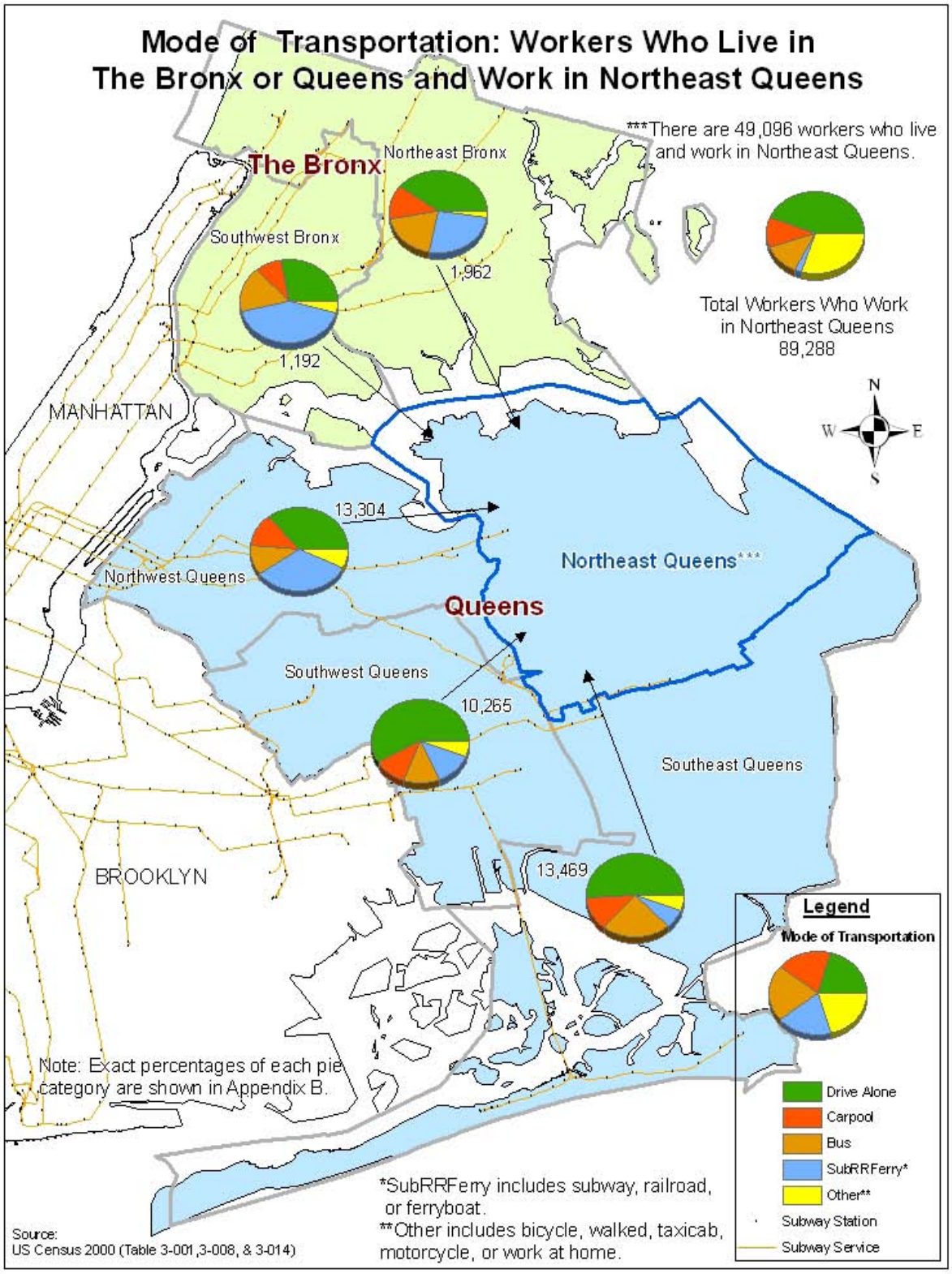
Map 70. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Southwest Bronx



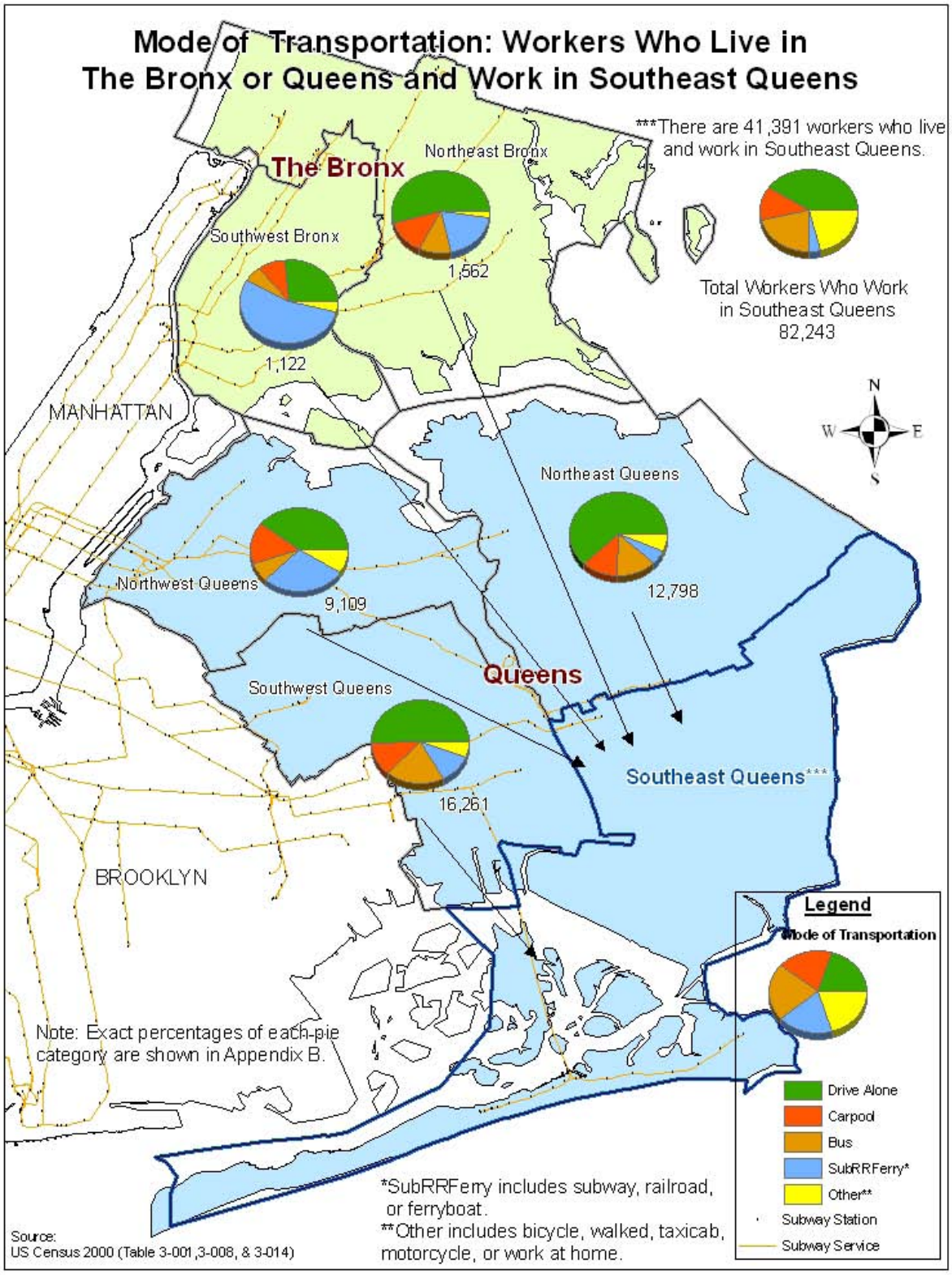
Map 71. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Northwest Queens



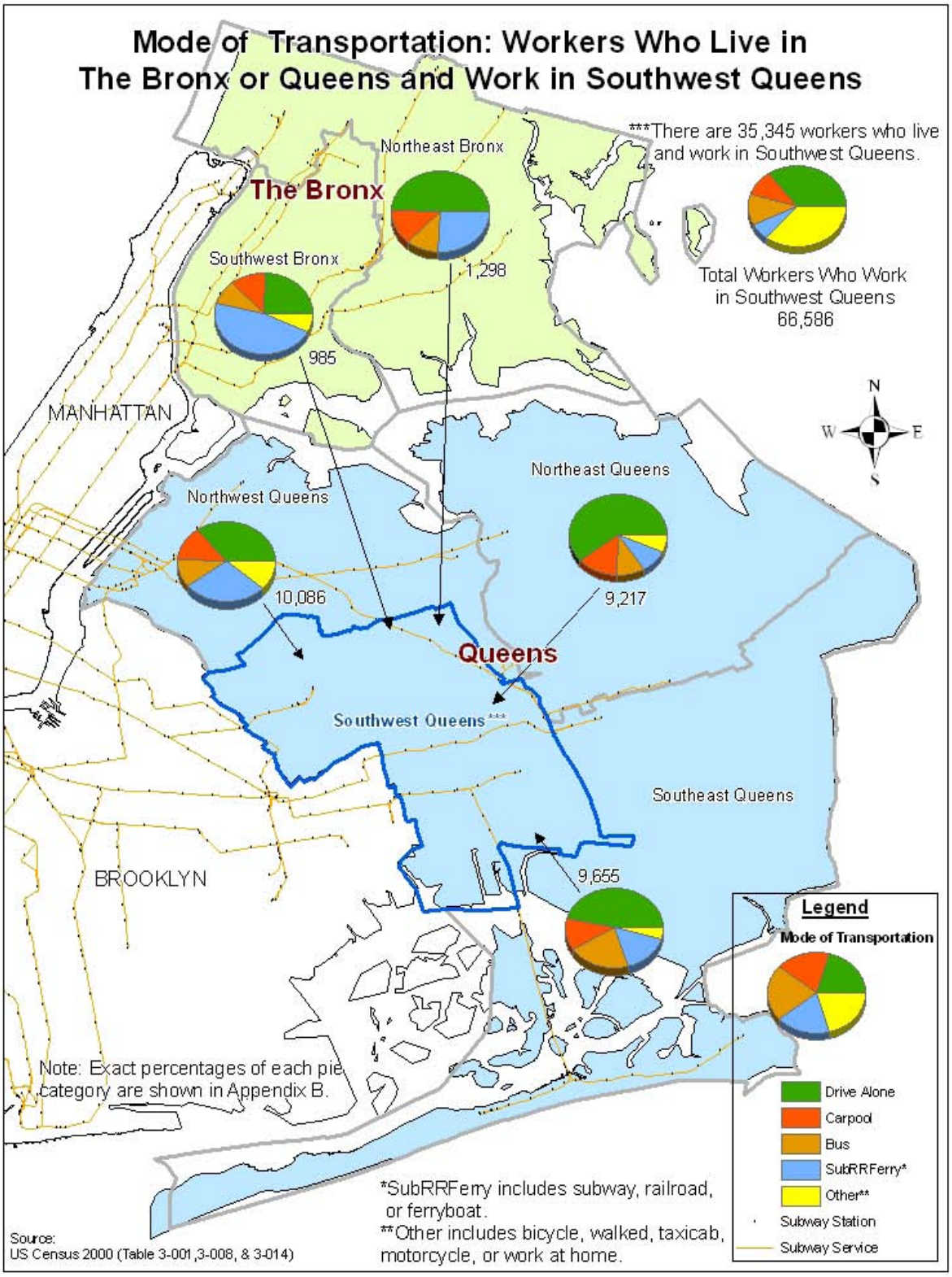
Map 72. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Northeast Queens



Map 73. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Southeast Queens



Map 74. Mode of Transportation: Workers Who Live in The Bronx or Queens and Work in Southwest Queens



Study Area to Study Area: Brooklyn-Staten Island Travel by Workers (Inbound/Outbound)

This section explains, for the workers reside within each Study Area, where such workers have their place of work located in Brooklyn and Staten Island, in addition to their mode of transportation to work.

The following Table 13 and Maps 75-76 show the number of workers in the Brooklyn and Staten Island Study Areas and their travel to work from their place of residence. The highlights in Table 13 correspond to the largest trip number of workers from the origin into the study area in Brooklyn and Staten Island.

Table 13. Brooklyn-Staten Island

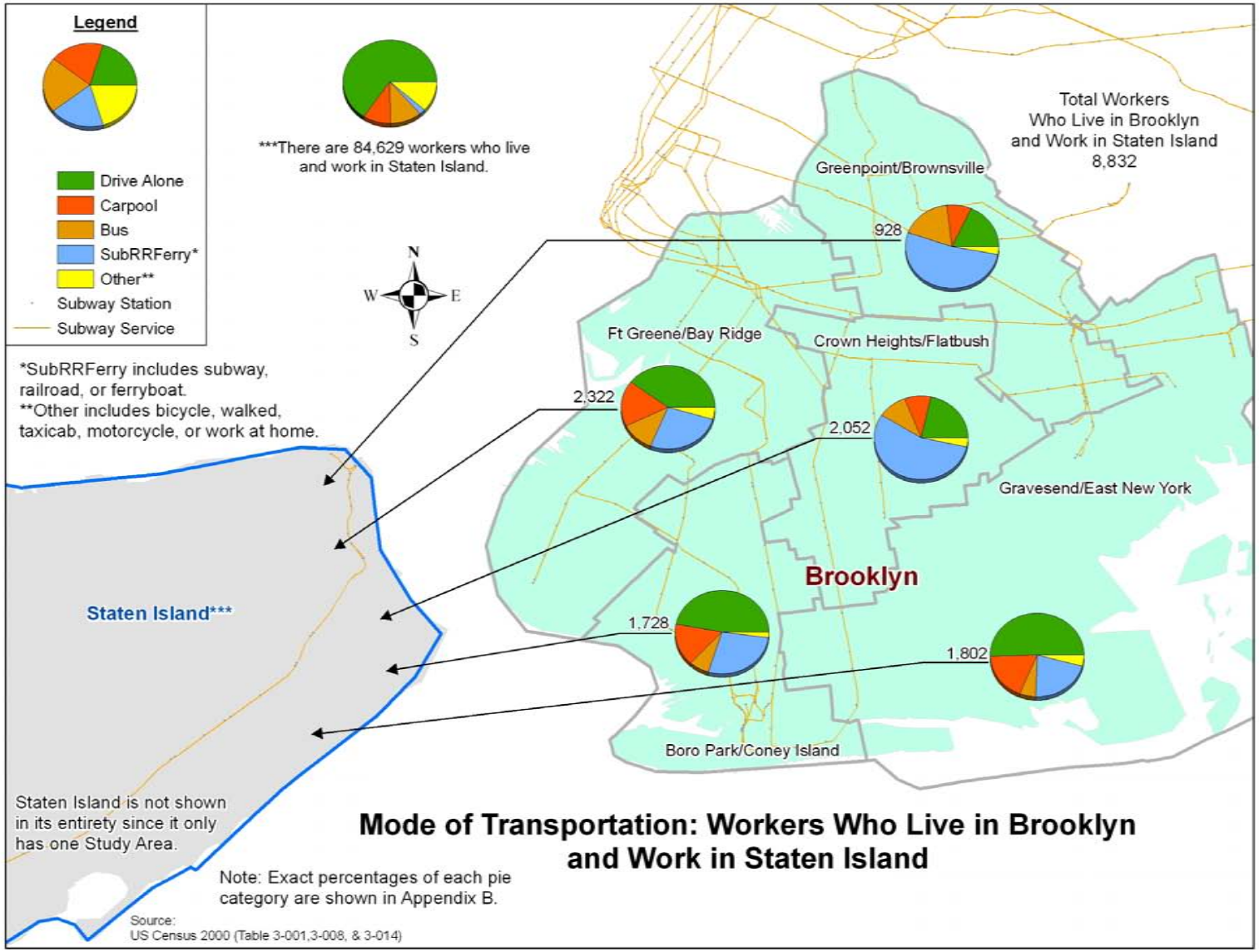
Origin: Study Area of Residence	Destination: Place of Work					
	Brooklyn Study Area					Staten Island
	Greenpoint/ Brownsville	Ft. Greene/ Bay Ridge	Crown Heights/ Flatbush	Gravesend/ East New York	Boro Park/ Coney Island	Staten Island
Brooklyn						
Greenpoint/Brownsville	**32,927**	19,862	7,204	5,554	3,274	928
Ft. Greene/Bay Ridge	6,707	**60,237**	6,275	5,037	8,481	**2,322**
Crown Heights/Flatbush	10,798	31,637	**31,550**	11,679	9,794	2,052
Gravesend/East New York	9,438	25,151	15,303	**28,650**	11,522	1,802
Boro Park/Coney Island	5,470	24,028	6,894	9,495	**30,987**	1,728
Total	65,340	160,915	67,226	60,415	64,058	8,832
Staten Island						
Staten Island	2,383	13,829	2,651	3,657	5,653	**84,629**
Total	2,383	13,829	2,651	3,657	5,653	84,629

Source: U.S. Census 2000

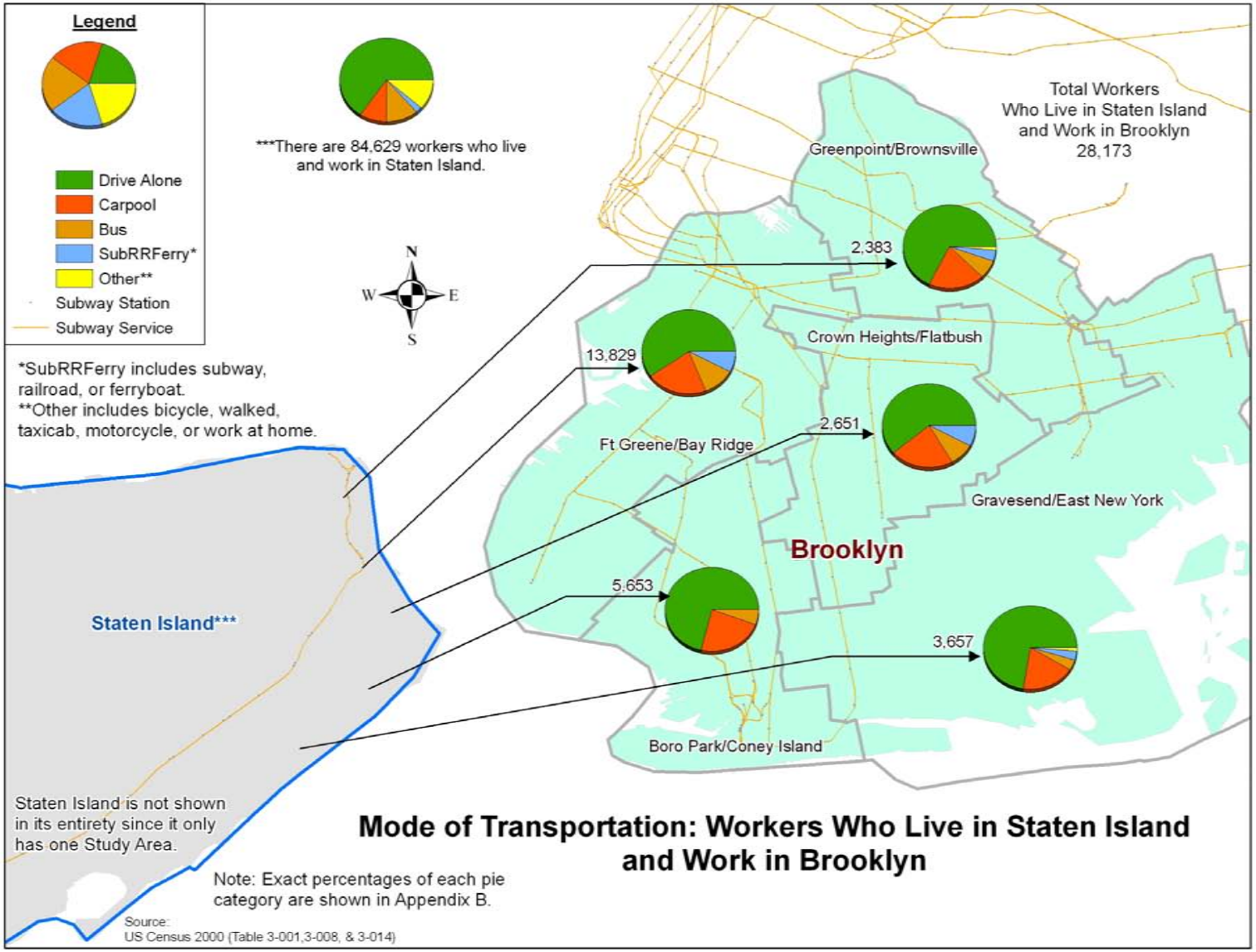
Live in Brooklyn and Work in Staten Island

- Ft. Greene/Bay Ridge, at 2,322 workers, has the largest number of its residents working in Staten Island than any other Brooklyn study area (Table 13).
- Greenpoint/Brownsville and Crown Heights/Flatbush residents who work in Staten Island have more than half its population commuting by Subway/RR/Ferry while Gravesend/East New York has at least half its population commuting by car (Map 75). Live in Staten Island and Work in Brooklyn
- Workers who live in Staten Island and work in Brooklyn Study Areas primarily commute by car (Map 76).
- The Ft. Greene/Bay Ridge Study Area has 13,829 workers commuting from Staten Island, the largest number out of all the Brooklyn study areas (Table 13 or Map 76).

Map 75. Mode of Transportation: Workers Who Live in Brooklyn and Work in Staten Island



Map 76. Mode of Transportation: Workers Who Live in Staten Island and Work in Brooklyn



Study Area to Study Area:
The Bronx-Brooklyn Travel by Workers (Inbound/Outbound)

This section explains, for the workers reside within each Study Area, where such workers have their place of work located in The Bronx and Brooklyn, and their mode of transportation to work.

Table 14 and Maps 77-80 show the number of workers in The Bronx and Brooklyn Study Areas and their travel to work from their place of residence. . The highlights in Table 14 represent the largest number of The Bronx and Brooklyn Study Area residents who work in The Bronx or Brooklyn Study Area.

Table 14. Brooklyn-Bronx

Origin: Study Area of Residence	Destination: Place of Work						
	Brooklyn Study Area					Bronx Study Area	
	Greenpoint/ Brownsville	Ft. Greene/ Bay Ridge	Crown Heights/ Flatbush	Gravesend/ East New York	Boro Park/ Coney Island	Northeast	Southwest
Brooklyn							
Greenpoint/Brownsville	**32,927**	19,862	7,204	5,554	3,274	779	1,462
Ft. Greene/Bay Ridge	6,707	**60,237**	6,275	5,037	8,481	674	1,234
Crown Heights/Flatbush	10,798	31,637	**31,550**	11,679	9,794	**1,282**	**2,087**
Gravesend/East New York	9,438	25,151	15,303	**28,650**	11,522	673	1,263
Boro Park/Coney Island	5,470	24,028	6,894	9,495	**30,987**	478	881
Total	65,340	160,915	67,226	60,415	64,058	3,886	6,927
The Bronx							
Northeast	1,149	**5,229**	1,238	737	488	**58,577**	39,424
Southwest	1,338	**4,119**	1,068	879	527	19,294	**50,755**
Total	2,487	9,348	2,306	1,616	1,015	77,871	90,179

Source: U.S. Census 2000

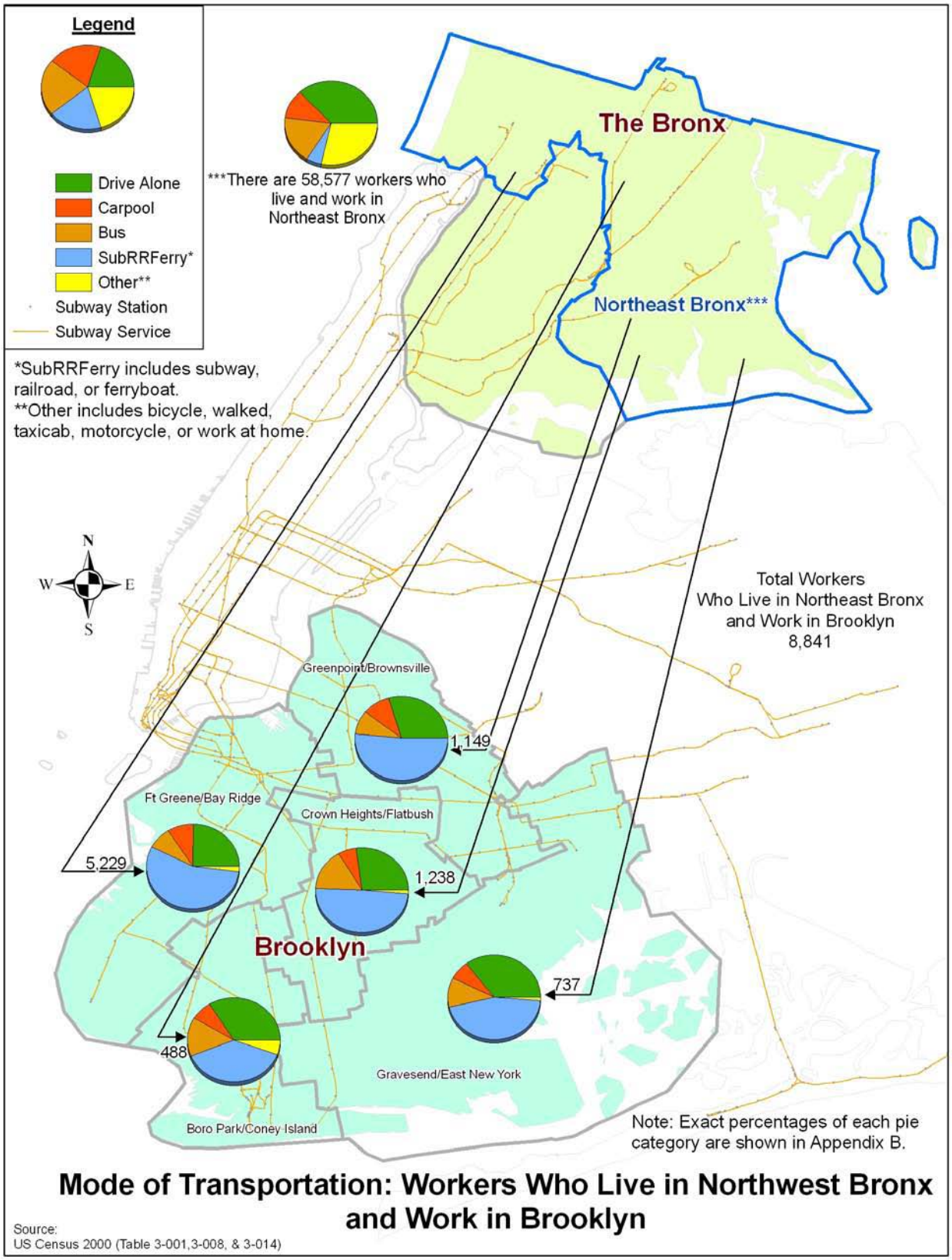
Live in The Bronx (Northeast or Southwest) and Work in Brooklyn

- Only a small number of The Bronx and Brooklyn workers commute between these two boroughs (Table 14).
- Ft. Greene/Bay Ridge has the greatest number of workers commuting from Northeast Bronx (5,229) and Southwest Bronx (4,119) than any other Brooklyn study area (Table 14).
- At least half of the workers who live in The Bronx and work in Brooklyn commute by Subway/RR/Ferry, with the exception of Northeast Bronx residents who work in Boro Park/Coney Island and Gravesend/East New York (Maps 77-78).

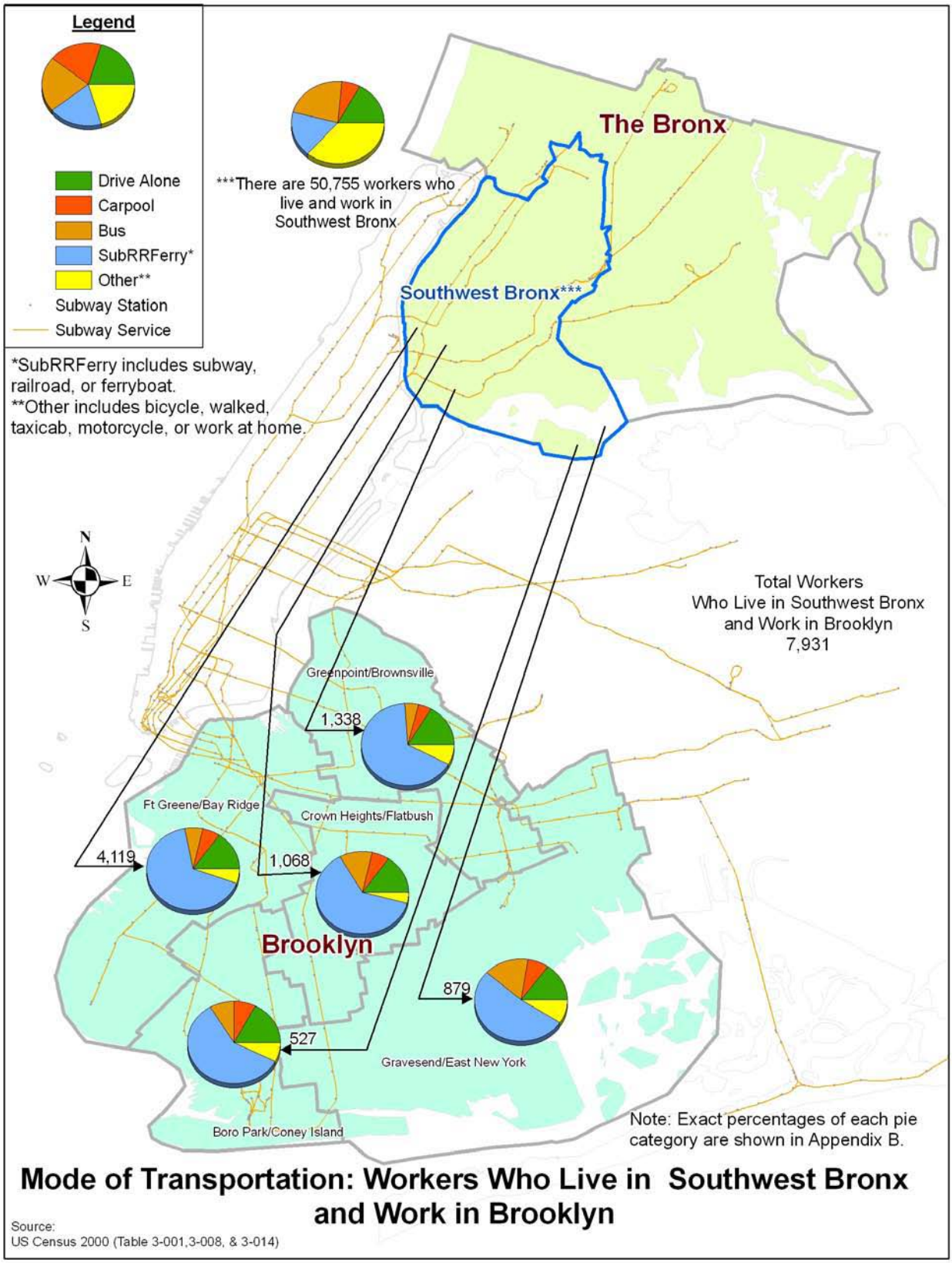
Live in Brooklyn and Work in The Bronx (Northeast or Southwest)

- The greatest number of Northeast Bronx and Southwest Bronx workers commute from Crown Heights/Flatbush Study Area with 1,282 and 2,087 workers, respectively (Table 14).
- Northeast Bronx workers who live in Greenpoint/Brownsville and Crown Heights/Flatbush prefer commuting by Subway/RR/Ferry while the car is the preferred mode in Gravesend/East New York and Boro Park/Coney Island Study Areas (Map 79).
- Southwest Bronx workers who live in Brooklyn primarily commute by Subway/RR/Ferry (Map 80).

Map 77. Mode of Transportation: Workers Who Live in Northwest Bronx and Work in Brooklyn



Map 78. Mode of Transportation: Workers Who Live in Southwest Bronx and Work in Brooklyn



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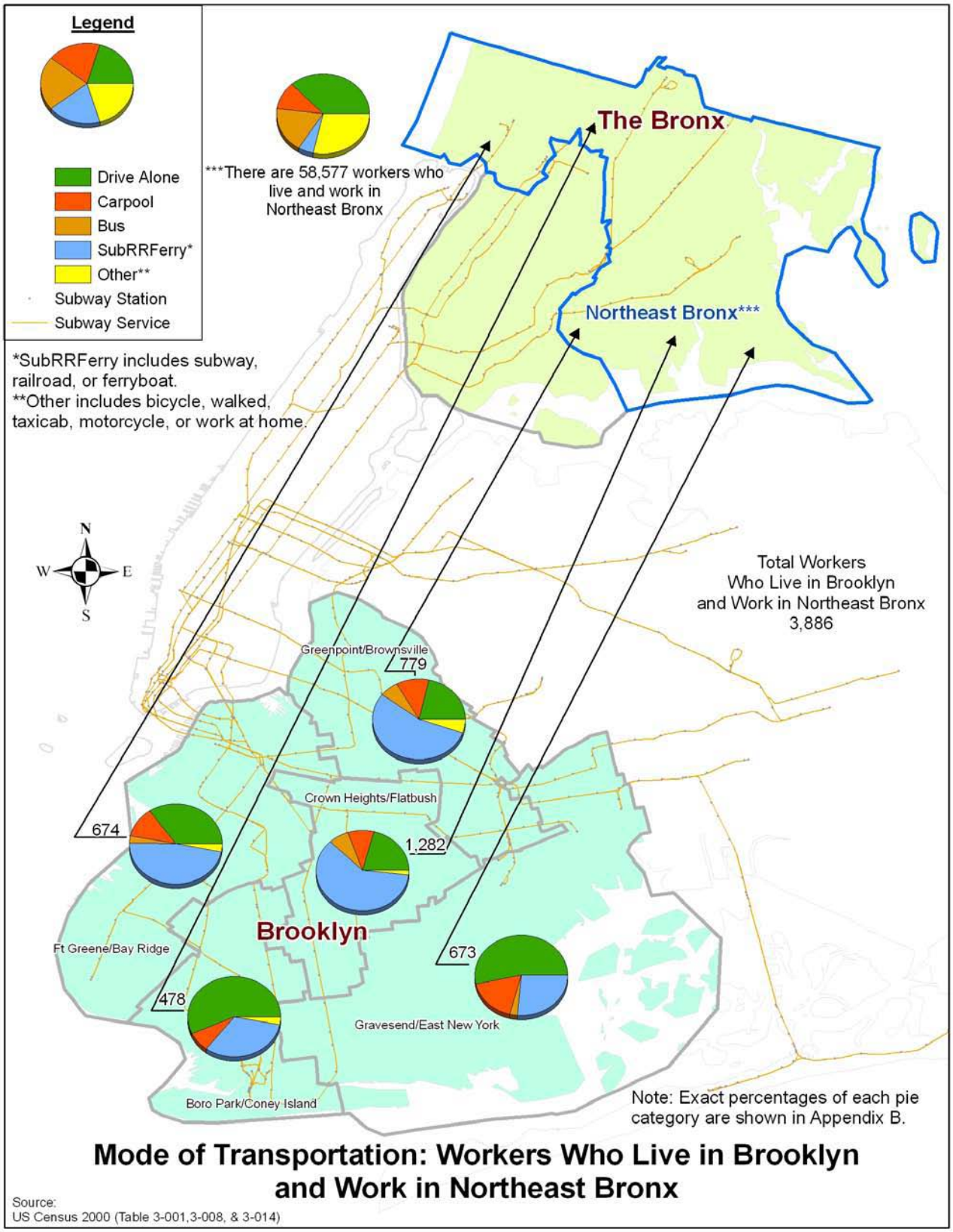
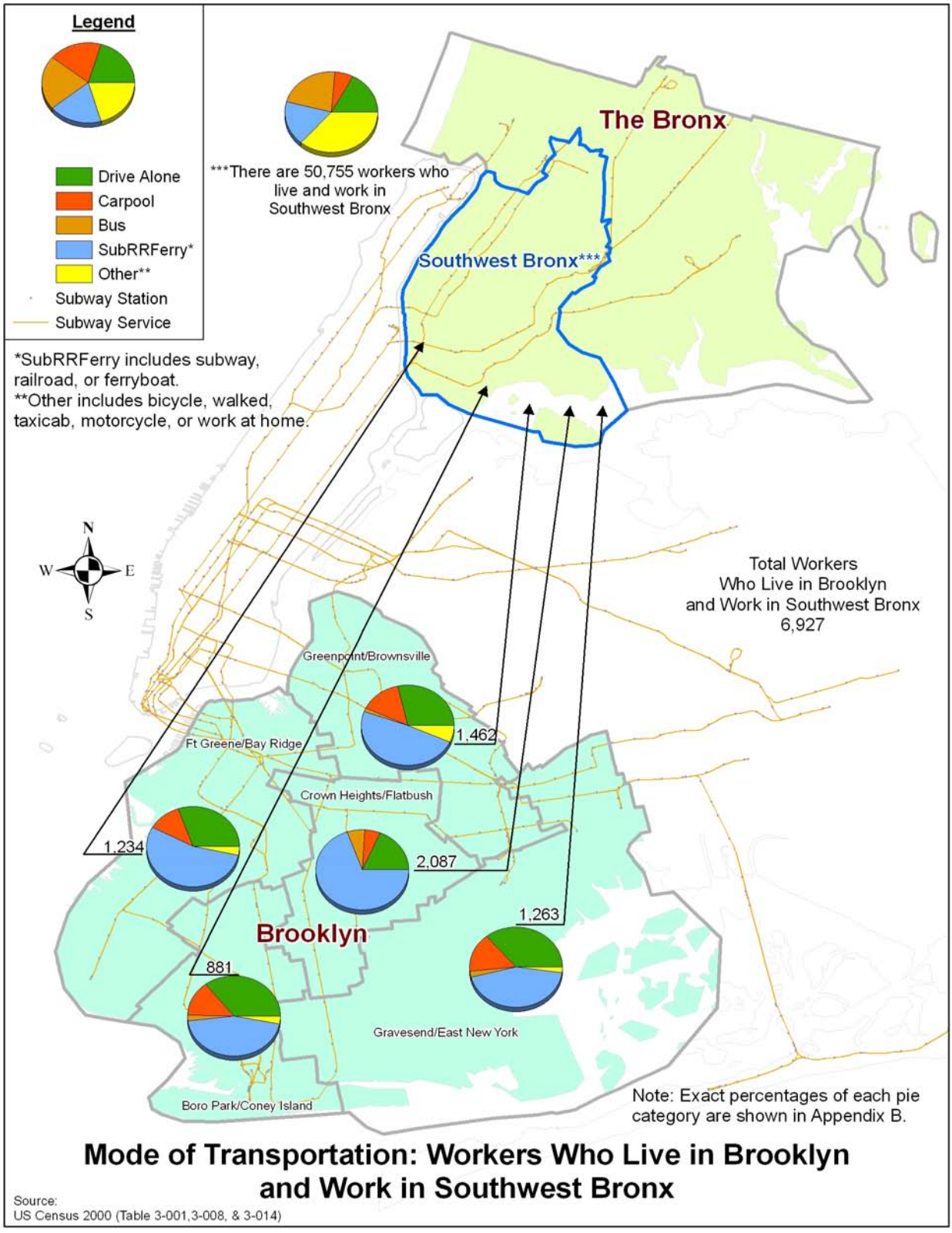
Map 79. Mode of Transportation: Workers Who Live in Brooklyn and Work in Northeast Bronx



Map 80. Mode of Transportation: Workers Who Live in Brooklyn and Work in Southwest Bronx



Study Area to Study Area: Queens-Staten Island Travel by Workers (Inbound/Outbound)

This section examines, for the workers reside within each Study Area, where such workers have their place of work located in Queens and Staten Island, in addition to their mode of transportation to work.

Table 15 and Maps 81-82 show the number of workers in Queens and Staten Island Study Areas and their travel to work from their place of residence. . The highlights in Table 15 represent the largest number of residents who work in Queens and Staten Island Study Area.

Table 15. Queens-Staten Island

Origin: Study Area of Residence	Destination: Place of Work				
	Queens Study Area				Staten Island Study Area
	Northwest	Northeast	Southeast	Southwest	
Queens					
Northwest	**64,539**	13,304	9,109	10,086	**1,399**
Northeast	23,919	**49,096**	12,798	9,217	968
Southeast	16,387	13,469	**41,391**	9,655	1,332
Southwest	22,840	10,265	16,261	**35,345**	1,303
Total	127,685	86,134	79,559	64,303	5,002
Staten Island					
Staten Island	**2,689**	876	1,091	712	**84,629**
Total	2,689	876	1,091	712	**84,629**

Source: U.S. Census 2000

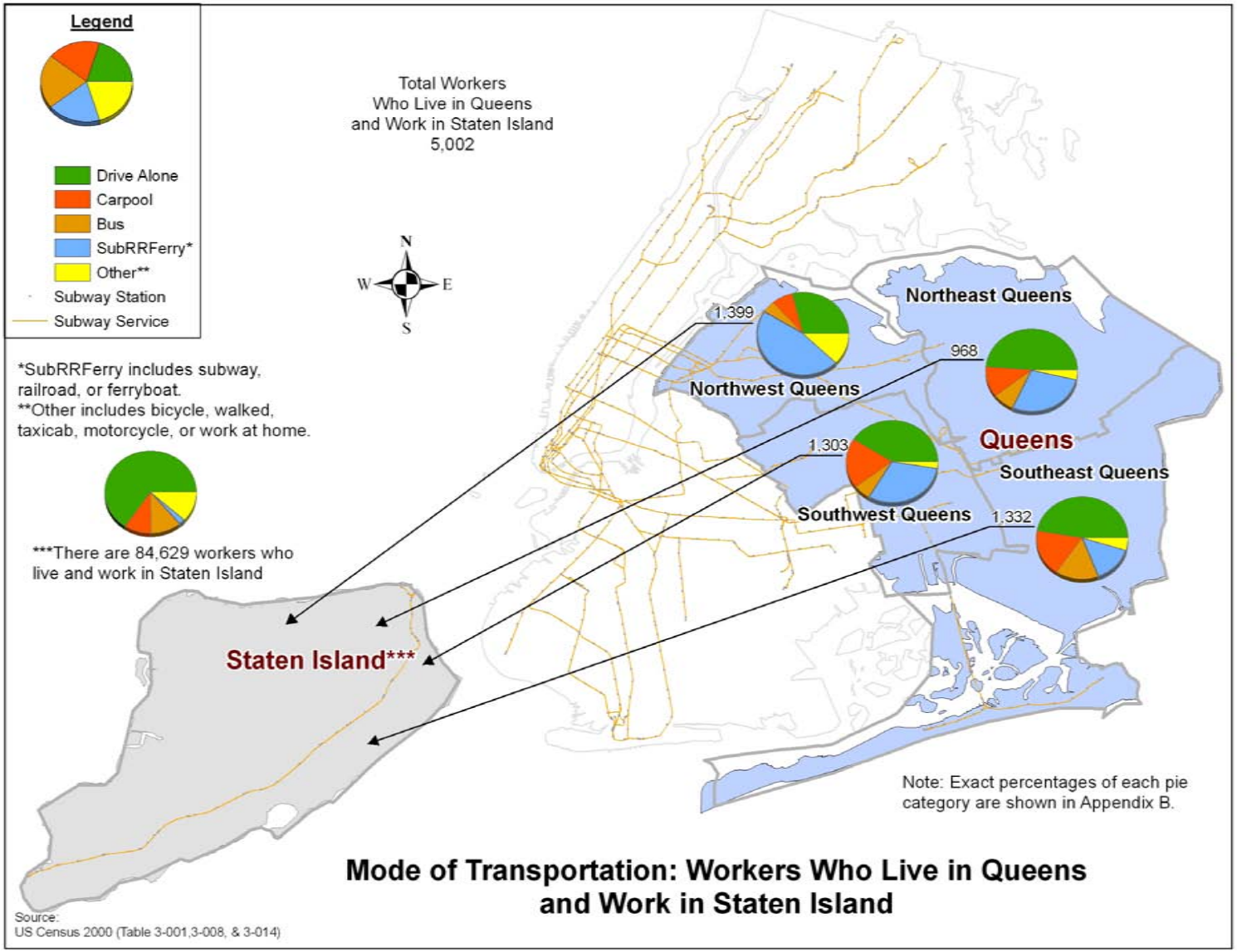
Live in Queens and Work in Staten Island

- Northwest Queens is the only Study Area in Queens where Subway/RR/Ferry, has the biggest share of workers commuting to Staten Island. The rest of the Study Area workers in Queens tends to use the car as preferred mode on their trips to Staten Island (Map 81).

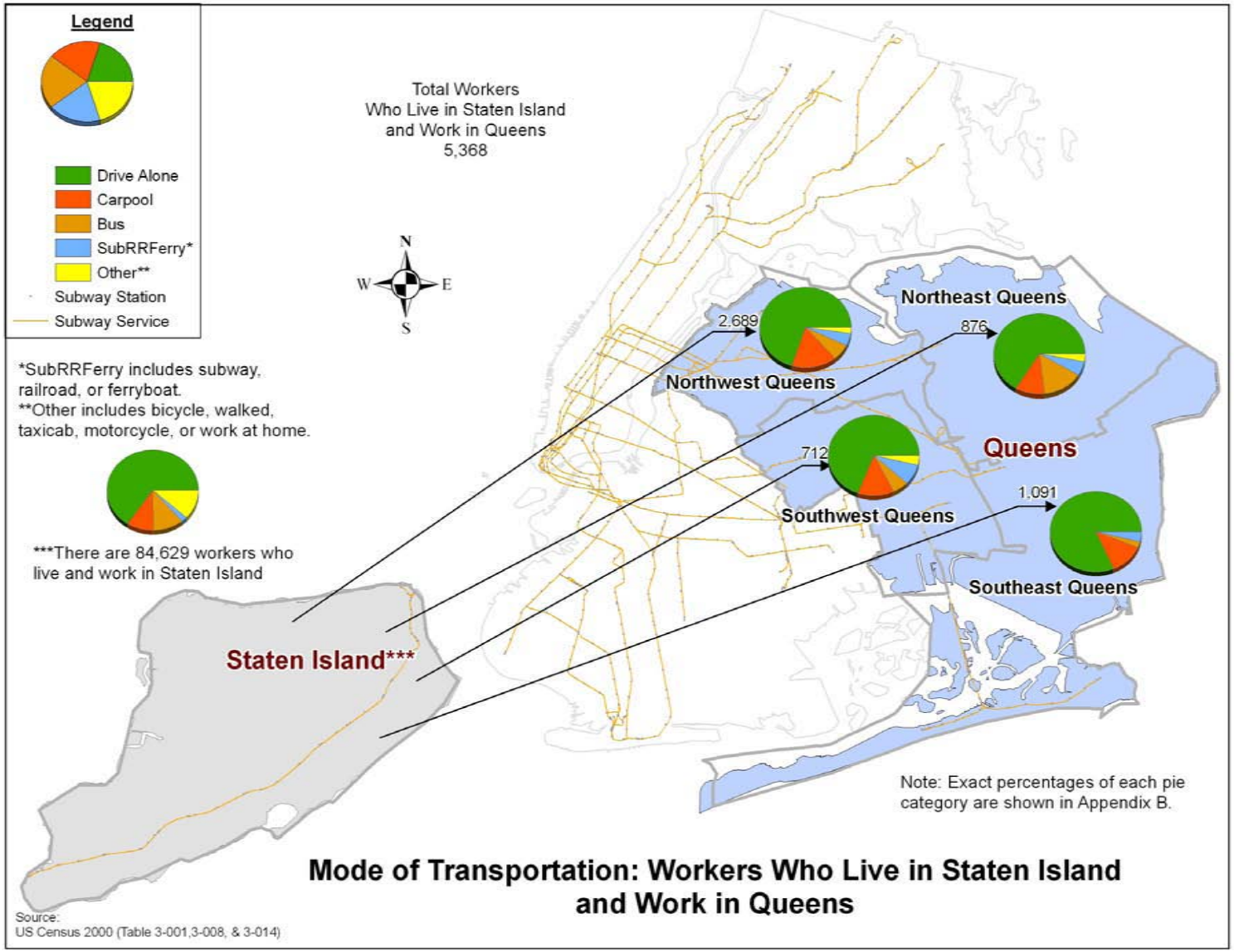
Live in Staten Island and Work in Queens

- Workers who live in Staten Island and work in Queens Study Areas primarily commute by car (Map 82.
- Northwest Queens Study Area has 2,689 workers commuting from Staten Island, the largest number of workers to a Queens study is from Staten Island (Table 15 or Map 82).

Map 81. Mode of Transportation: Workers Who Live in Queens and Work in Staten Island



Map 82. Mode of Transportation: Workers Who Live in Staten Island and Work in Queens



Study Area to Study Area:
Bronx-Staten Island Travel by Workers (Inbound/Outbound)

This section examines, for the workers reside within each Study Area, where such workers have their place of work located in The Bronx and Staten Island, in addition to their mode of transportation to work.

Table 16 and Maps 83-84 show the number of workers in The Bronx and Staten Island Study Areas and their travel to work from their place of residence. . The highlights in Table 16 represent the largest number of residents who work in The Bronx and Staten Island Study Area.

Table 16. Bronx-Staten Island

Origin: Study Area of Residence	Destination: Place of Work		
	Bronx Study Area		Staten Island Study Area
	Northeast	Southwest	
Bronx			
Northeast	**58,577**	39,424	940
Southwest	19,294	**50,755**	1,109
Total	77,871	90,179	2,049
Staten Island			
Staten Island	361	667	**64,629**
Total	361	667	64,629

Source: U.S. Census 2000

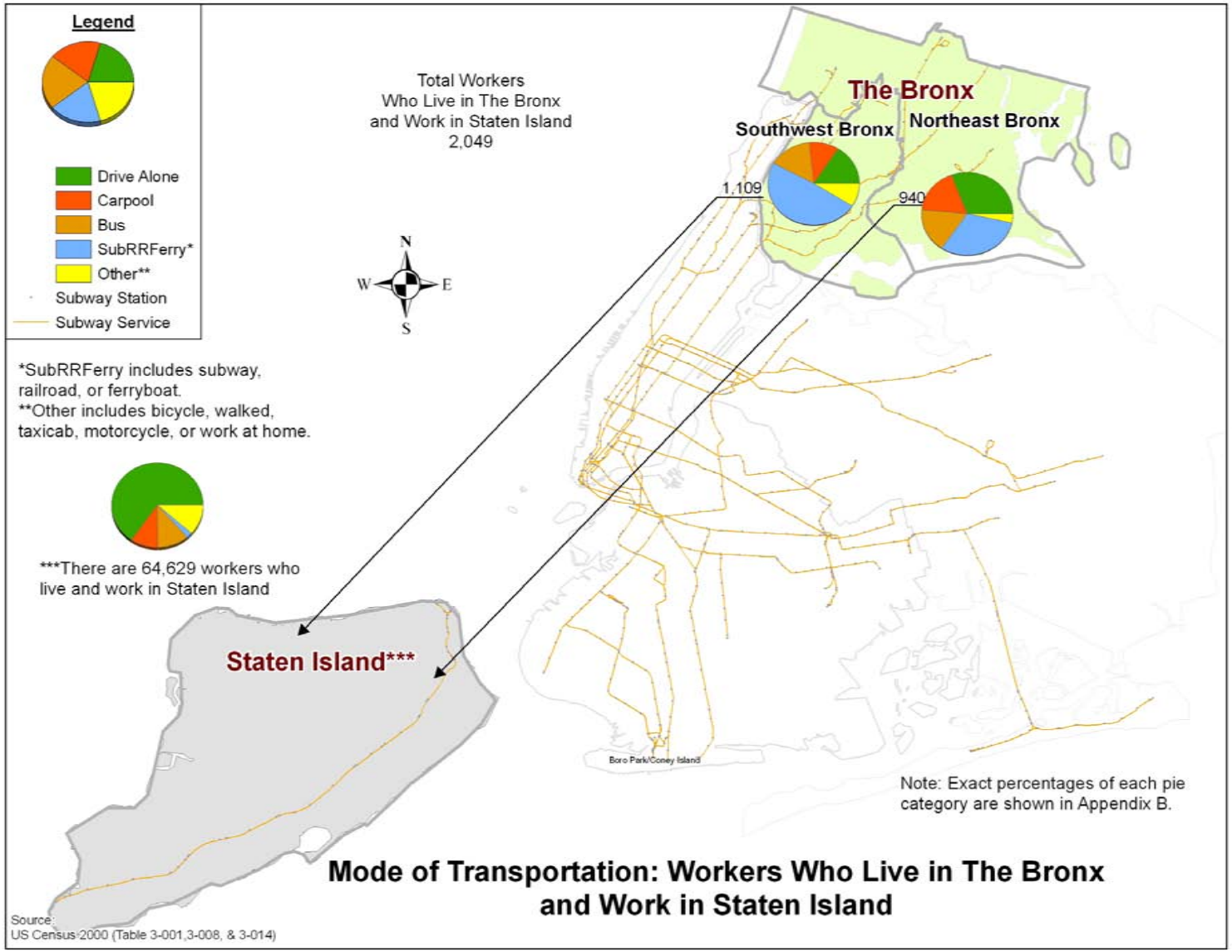
Live in The Bronx and Work in Staten Island

- Workers who live in Southwest Bronx Study Area and work in Staten Island primarily commute by Subway/RR/Ferry (Map 83).
- Subway/RR/Ferry mode is the primary mode for those worker commuting from The Bronx to Staten Island (Map 83).

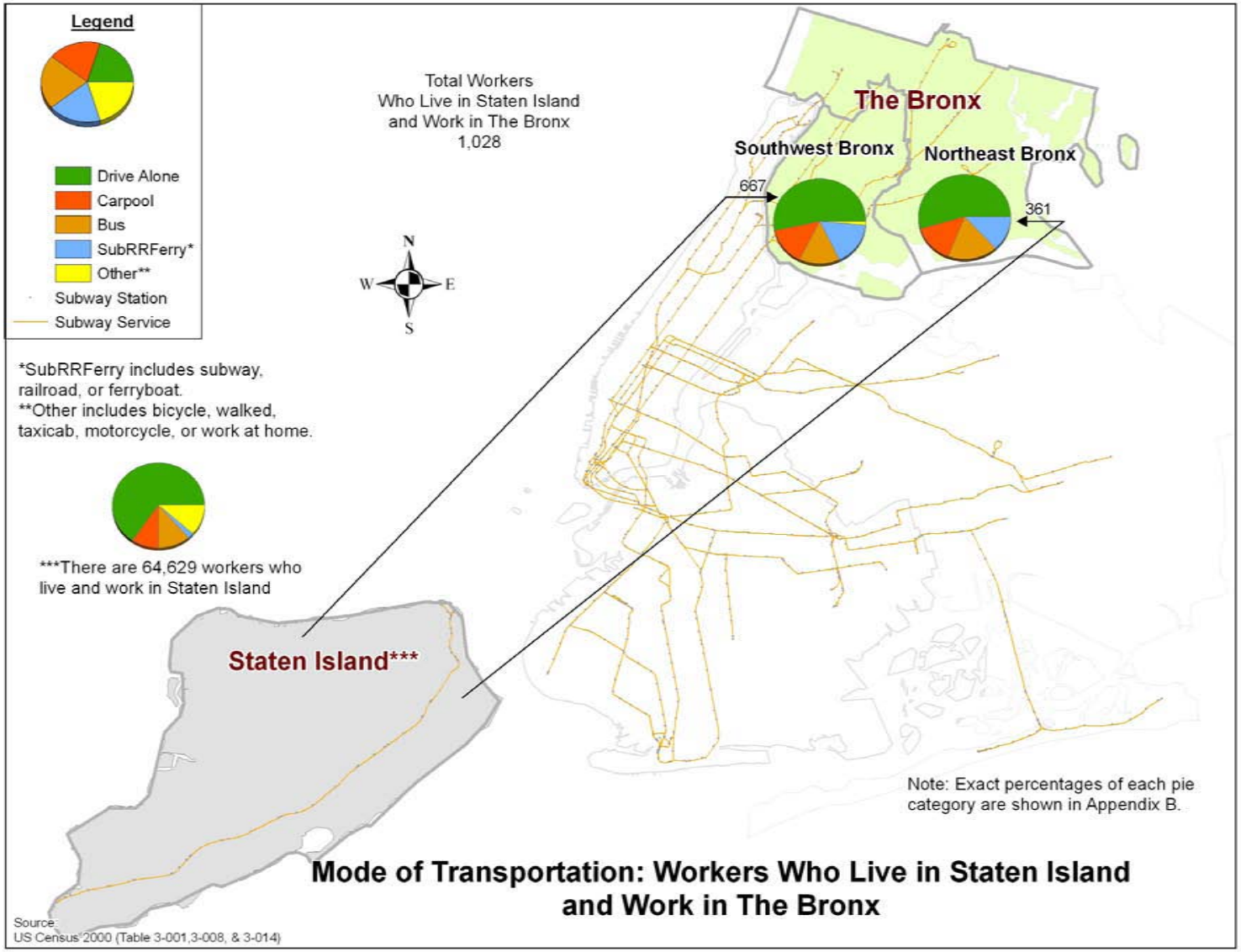
Live in Staten Island and Work in The Bronx

- Car is the primary mode for workers commuting to The Bronx from Staten Island (Map 84).
- Southwest Bronx Study Area has the biggest flow of worker coming from Staten Island (Table 16 and Map 84).

Map 83. Mode of Transportation: Workers Who Live in The Bronx and Work in Staten Island



Map 84. Mode of Transportation: Workers Who Live in Staten Island and Work in The Bronx



PUMA (Community Districts)

This section examines the travel patterns between the "PUMA" areas in New York City for work trips. The PUMA analysis in this section refers to a smaller geography than previously shown in this report; PUMA areas generally have a minimum population of 100,000 and are thus smaller than the Super-PUMA or Study Areas that were used for the previous analyses in this report. The following reference map diagrams the corresponding boundaries between these "PUMA" areas and the "Community Districts" boundaries in NYC. This reference map was developed by the NYC Department of City Planning, Population Division, and the corresponding Community Districts names are used in the section to describe the PUMA to PUMA travel patterns, instead of listing the PUMA area numbers.

Figure 33. New York City PUMAs and Community Districts

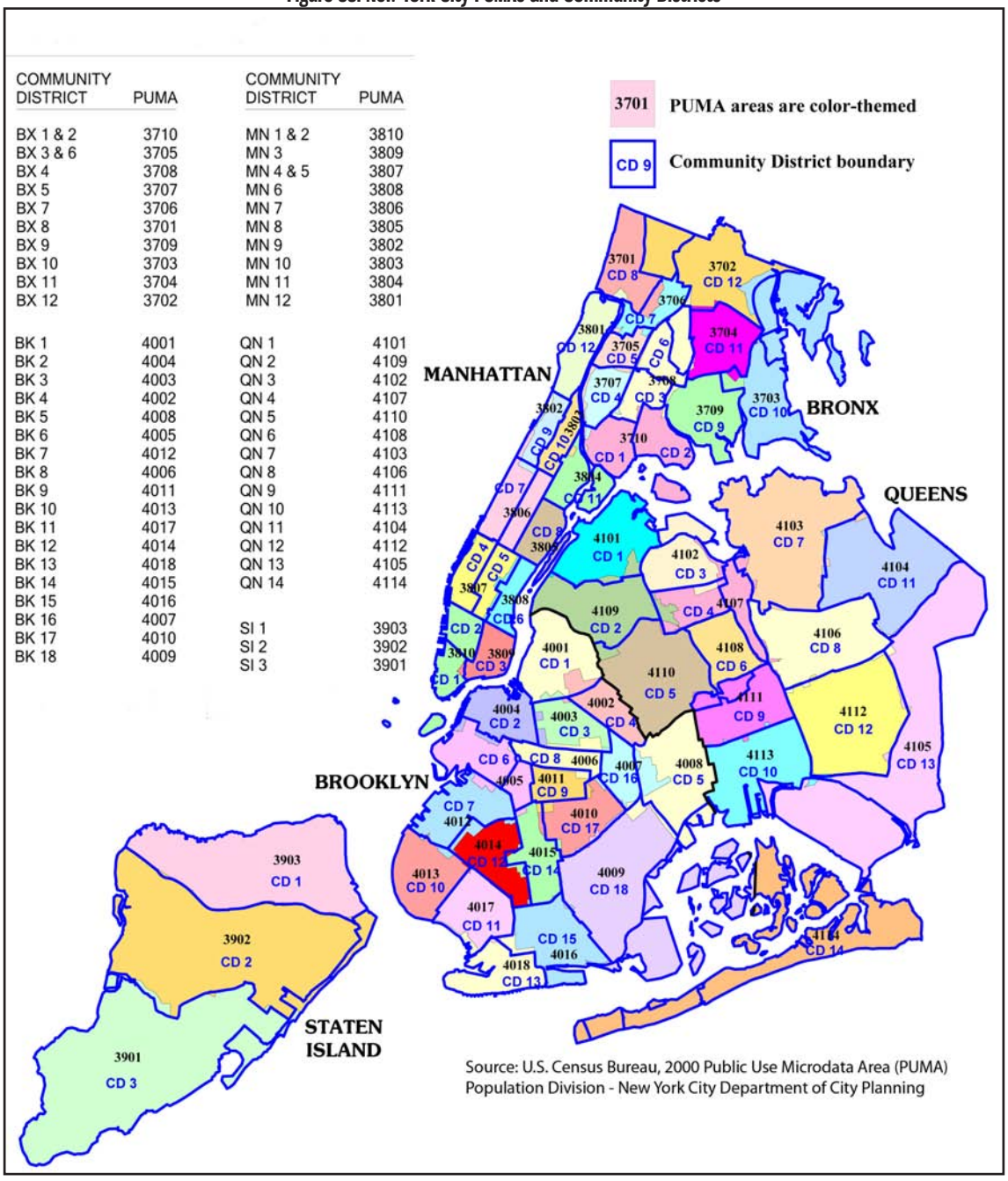


Table 17 details worker flows between community districts, with an origin in Brooklyn and destination in Queens. Additionally, the highlighted community district represents the place of work with the highest number of Queens workers coming from Brooklyn. In this case, the highlighted community district corresponds to Queens Community District 2 where 20% of Brooklyn residents work in Queens. Long Island City is located in this Community District (Map 85).

Table 17. Workers Locations by Community Districts
Live in Brooklyn and Work in Queens - 62,257 Workers

Brooklyn to Queens

Place of Residence	Place of Work														TOTAL
Community Districts	QN 1	QN 2	QN 3	QN 4	QN 5	QN 6	QN 7	QN 8	QN 9	QN 10	QN 11	QN 12	QN 13	QN 14	
BK 1	590	1,335	162	288	687	185	470	201	103	38	102	172	300	32	4,665
BK 2	195	411	166	66	95	88	225	144	76	31	71	226	238	56	2,088
BK 3	266	619	138	199	289	77	232	139	77	47	25	352	374	33	2,867
BK 4	426	775	156	189	1,491	154	275	90	179	57	108	273	425	86	4,684
BK 5	492	992	282	275	540	255	396	345	564	360	211	514	1,118	276	6,620
BK 6	211	361	112	104	42	51	240	71	45	23	32	113	104	83	1,592
BK 7	316	586	111	119	250	53	353	148	49	54	59	147	212	77	2,534
BK 8	336	535	194	194	198	122	307	139	118	57	89	256	375	107	3,027
BK 9	194	346	73	169	204	128	331	209	84	63	132	317	484	70	2,804
BK 10	289	544	97	121	161	76	394	97	115	44	43	151	401	75	2,608
BK 11	409	772	110	141	151	162	574	107	88	136	97	162	557	84	3,550
BK 12	155	489	138	101	228	93	168	96	100	39	40	140	128	129	2,044
BK 13	298	519	136	67	102	145	209	64	33	80	51	154	314	90	2,262
BK 14	411	677	257	173	255	226	328	182	135	60	64	390	509	208	3,875
BK 15	351	586	83	205	304	100	406	98	157	76	80	228	492	130	3,296
BK 16	194	485	99	157	170	96	137	116	95	27	64	387	458	105	2,590
BK 17	430	811	211	207	275	251	523	245	137	90	69	365	875	230	4,719
BK 18	576	1,037	378	338	249	192	445	326	280	314	200	672	1,126	299	6,432
TOTAL	6,139	11,880	2,903	3,113	5,691	2,454	6,013	2,817	2,435	1,596	1,537	5,019	8,490	2,170	62,257

Map 85. Workers Who Live in Brooklyn and Work in Queens Community District 2

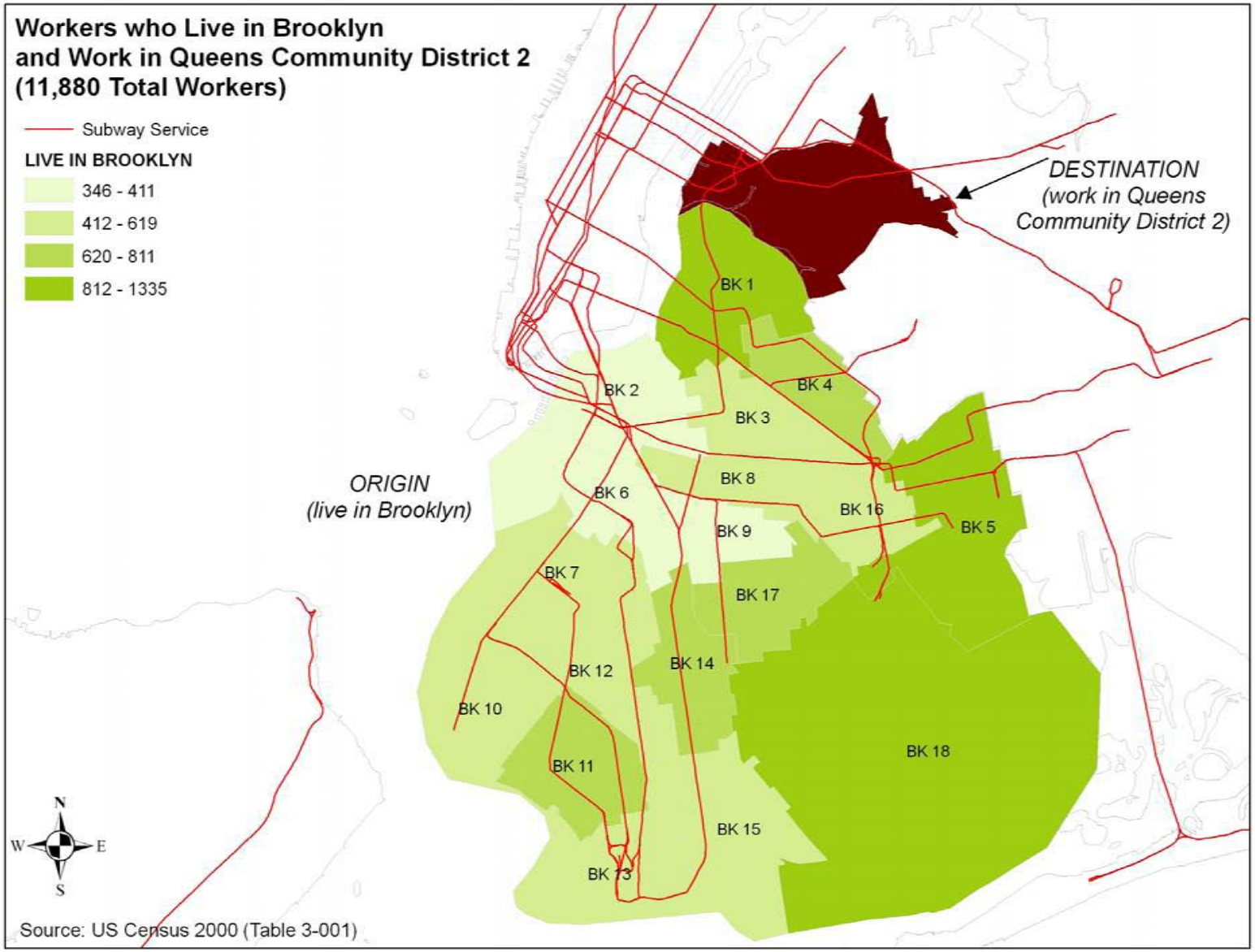


Table 18 details worker flows between community districts, with a origin in Queens and destination in Brooklyn. Additionally, the highlighted community district represents the place of work with the highest number of Brooklyn workers coming from Queens. In this case, the highlighted community district corresponds to Brooklyn Community District 2 where 26% of those Queens residents work. Downtown Brooklyn is located in this Community District (Map 86).

Table 18. Workers Locations by Community Districts
Live in Queens and Work in Brooklyn -87,356 Workers- Source: U.S. Census 2000

Queens to Brooklyn

Place of Residence	Place of Work																		TOTAL
Community Districts	BK 1	BK 2	BK 3	BK 4	BK 5	BK 6	BK 7	BK 8	BK 9	BK 10	BK 11	BK 12	BK 13	BK 14	BK 15	BK 16	BK 17	BK 18	
QN 1	554	1228	172	130	153	345	451	61	153	213	120	188	94	96	70	72	145	80	4,325
QN 2	531	940	238	167	124	276	398	88	58	150	40	62	63	120	78	74	111	157	3,675
QN 3	676	1267	189	418	326	475	779	126	97	118	122	283	78	146	160	109	164	188	5,721
QN 4	438	1072	106	385	227	260	588	48	121	187	92	93	72	103	108	219	177	132	4,428
QN 5	2193	1864	379	2246	652	251	470	206	159	195	113	165	173	179	179	178	180	297	10,079
QN 6	430	1020	76	197	112	177	258	103	46	121	50	112	103	166	99	105	151	146	3,472
QN 7	659	1468	148	354	407	287	542	114	118	138	145	181	161	141	194	179	291	230	5,757
QN 8	459	1609	177	288	479	371	253	97	204	134	39	209	93	201	255	134	177	130	5,309
QN 9	897	1879	321	544	1094	460	464	211	148	182	153	233	125	205	176	200	279	248	7,819
QN 10	547	1731	237	352	903	415	441	167	239	191	104	212	252	296	214	356	336	377	7,370
QN 11	410	795	68	174	209	139	167	71	144	51	82	161	98	81	132	38	142	107	3,069
QN 12	550	3305	390	469	795	400	425	434	506	250	262	283	276	217	254	759	520	313	10,408
QN 13	545	3144	341	471	774	435	589	376	592	146	171	315	237	189	198	505	526	285	9,839
QN 14	195	1800	92	179	314	399	347	167	154	158	130	165	337	196	342	268	319	523	6,085
Total	9,084	23,122	2,934	6,374	6,569	4,690	6,172	2,269	2,739	2,234	1,623	2,662	2,162	2,336	2,459	3,196	3,518	3,213	87,356

Map 86. Workers Who Live in Queens and Work in Brooklyn Community District 2

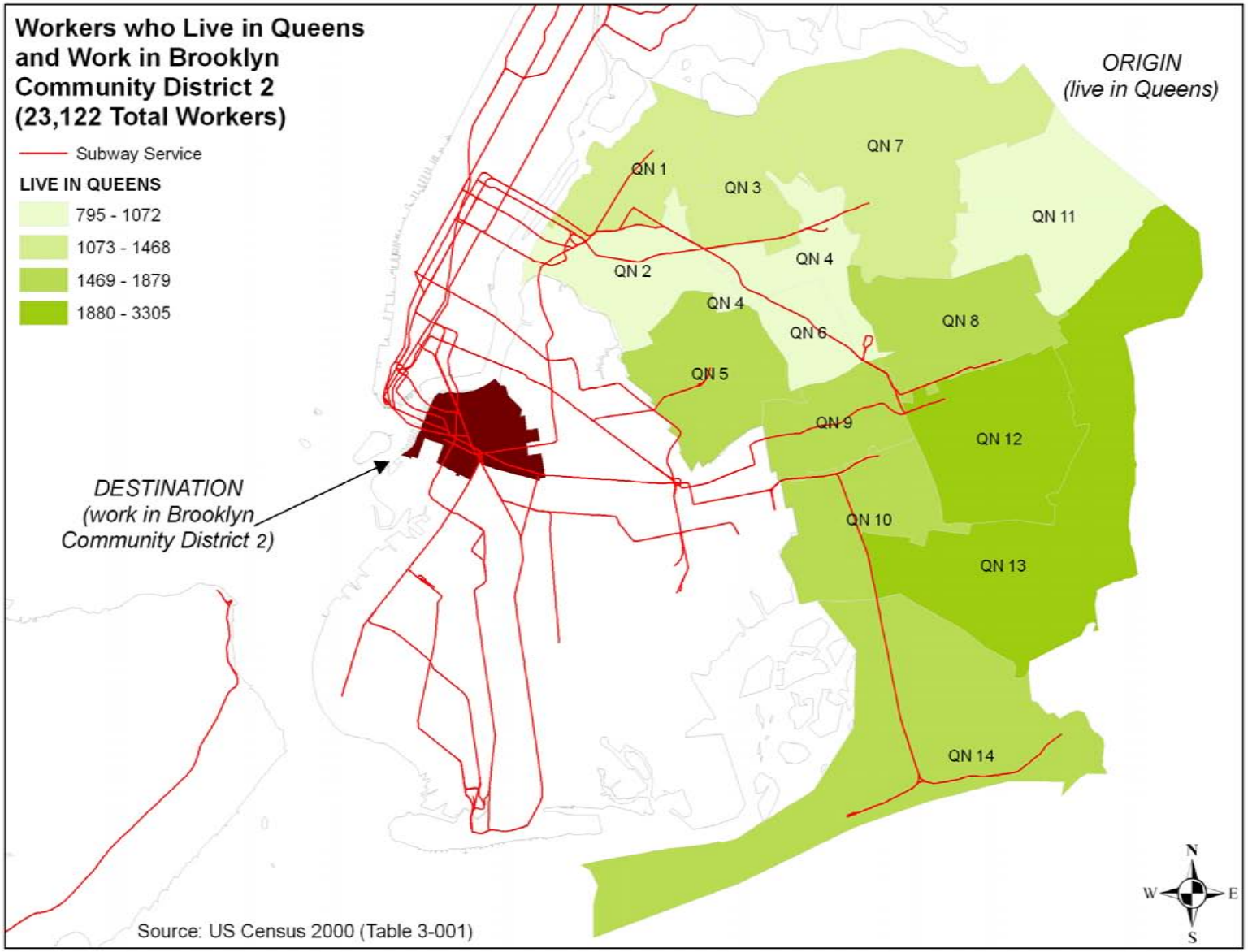


Table 19 details worker flows between community districts, with origin in Queens and destination in The Bronx. Additionally, the highlighted community districts represent the place of work with the highest number of Bronx workers coming from Queens. In this case, highlighted community districts correspond to Bronx Community District 1&2 where 55% of those Queens residents work (Map 87).

Table 19. Workers Locations by Community Districts

Live in Queens and Work in The Bronx – 7,801 Workers - Source: U.S. Census 2000

Queen to Bronx

Place of Residence	Place of Work										Total
Community Districts	BX 1 & 2	BX 3 & 6	BX 4	BX 5	BX 7	BX 8	BX 9	BX 10	BX 11	BX 12	
QN 1	322	163	112	85	122	151	136	67	104	48	506
QN 2	185	120	86	110	42	45	87	61	92	88	373
QN 3	355	198	95	143	151	118	72	152	170	40	552
QN 4	259	48	109	91	111	92	168	39	133	63	495
QN 5	344	70	60	28	61	69	137	126	118	93	543
QN 6	170	109	79	48	109	68	20	15	184	56	343
QN 7	638	376	259	120	163	116	292	195	409	191	1,203
QN 8	256	92	81	140	124	80	108	161	141	83	573
QN 9	245	108	74	130	55	88	77	99	113	64	441
QN 10	236	134	93	114	50	48	74	92	124	80	418
QN 11	256	262	80	126	108	64	132	181	159	71	607
QN 12	513	138	120	94	138	64	209	135	241	95	744
QN 13	423	211	145	172	214	144	160	186	194	132	816
QN 14	44	60	50	28	9	36	37	55	34	25	187
TOTAL	4,246	2,089	1,443	1,429	1,457	1,183	1,709	1,564	2,216	1,129	7,801

Map 87. Workers Who Live in Queens and Work in Bronx Community District 1 & 2

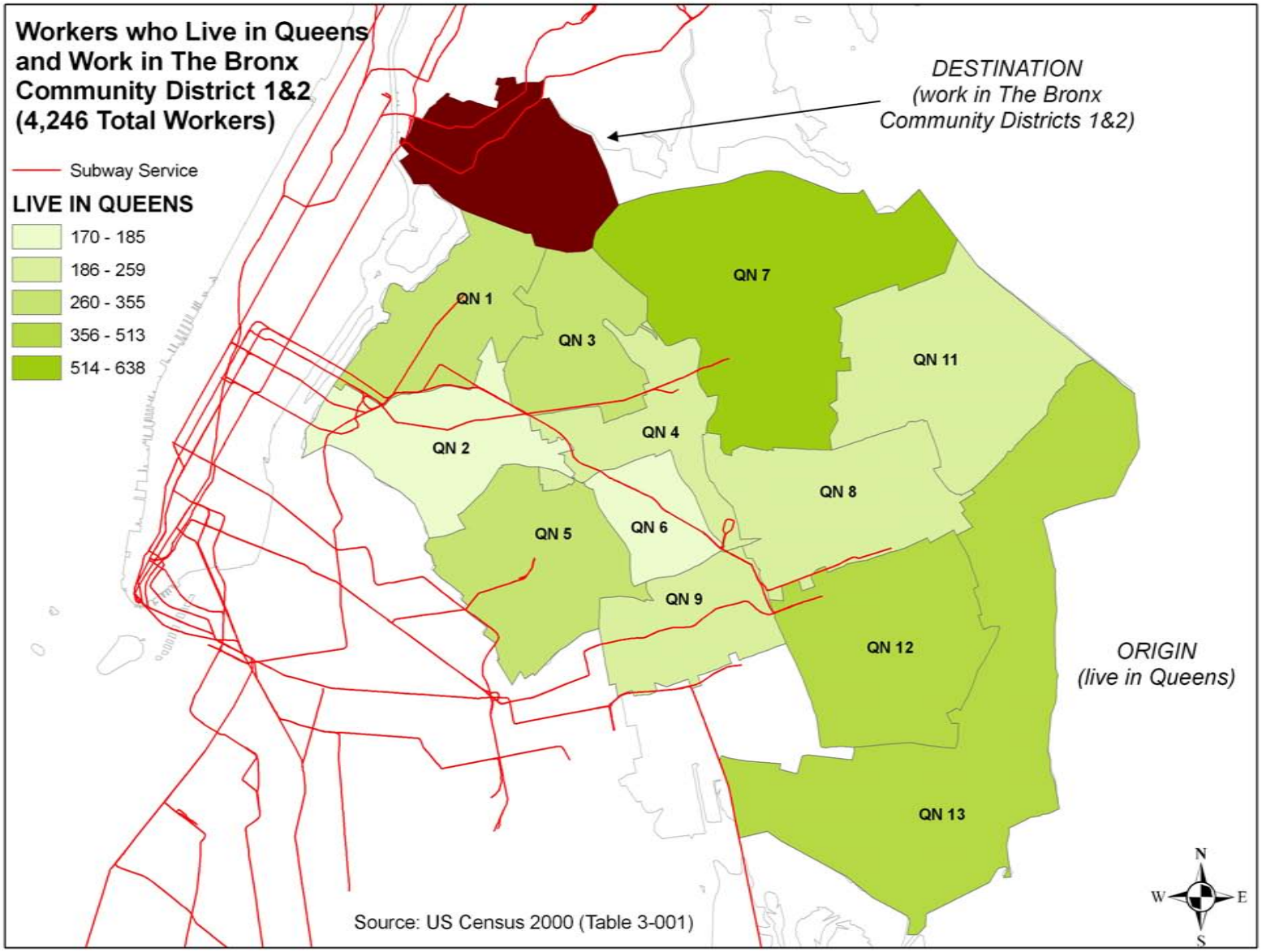


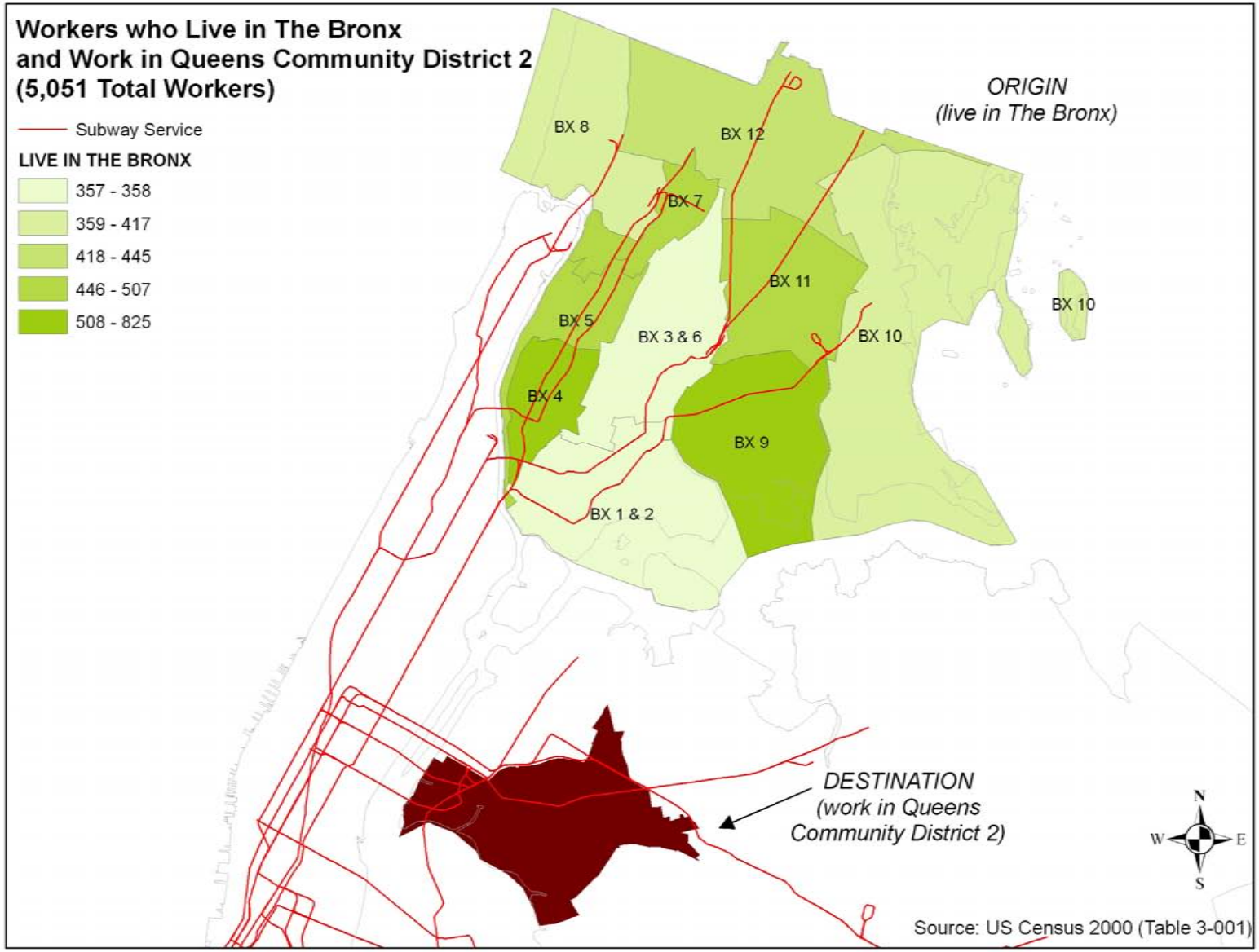
Table 20 details worker flows between community districts, with a origin in The Bronx and destination in Qeens. Additionally, the highlighted community district represents the place of work with the highest number of Queens workers coming from Bronx. In this case, the highlighted community district corresponds to Queens Community District 2 where 29% of those Bronx residents work (Map 88).

Table 20. Workers Locations by Community Districts
Live in The Bronx and Work in Queens – 17,699 Workers- Source: U.S. Census 2000

Bronx to Queens

Place of Residence	Place of Work														TOTAL
Community Districts	QN 1	QN 2	QN 3	QN 4	QN 5	QN 6	QN 7	QN 8	QN 9	QN 10	QN 11	QN 12	QN 13	QN 14	
BX 1 & 2	276	357	43	25	88	47	178	28	39	21	29	125	84		1,340
BX 3 & 6	171	358	44	81	55	63	128	43	51	50	50	99	84	37	1,314
BX 4	280	754	196	94	63	54	197	20	67	15	12	115	113	36	2,016
BX 5	154	500	70	103	79	30	273	35	55	44	41	142	43	38	1,607
BX 7	270	507	124	44	88	96	128	15	6	6	51	73	174	16	1,598
BX 8	164	417	128	97	31	68	187	41	42		14	76	84	7	1,356
BX 9	203	825	216	104	108	48	346	219	144	89	84	147	239	31	2,803
BX 10	290	406	192	152	110	133	234	187	24	52	16	192	136	33	2,157
BX 11	162	482	86	167	90	84	141	101	46	17	41	97	189	14	1,717
BX 12	147	445	78	75	92	85	225	144	47	18	46	143	202	44	1,791
TOTAL	2,117	5,051	1,177	942	804	708	2,037	833	521	312	384	1,209	1,348	256	17,699

Map 88. Workers Who Live in The Bronx and Work in Queens Community District 2



Census Tracts 2000 - Journey to Work - Maps Summary

This section analyzes Journey-to-Work trips at the Census Tract level for Bronx, Brooklyn, Queens, and Staten Island boroughs. Census tracts usually have a population between 2,500 and 8,000 and can vary in size depending on the population density. This section also analyzes the availability and proximity of public transportation to the workers in the Census Tracts, as well as an emphasis on the Downtown Brooklyn and JFK Airport; two large employment centers in the Brooklyn and Queens boroughs.

As previously noted, the largest number of inter-borough work trips, excluding Manhattan, were between Queens and Brooklyn boroughs.

Table 21 lists the total number of workers commuting between boroughs, excluding Manhattan. In 2000, the greatest flow of inter-borough workers lived in Queens and work in Brooklyn, with 83,722 workers.

Table 21. Location of Residence and Location of Work, by Borough

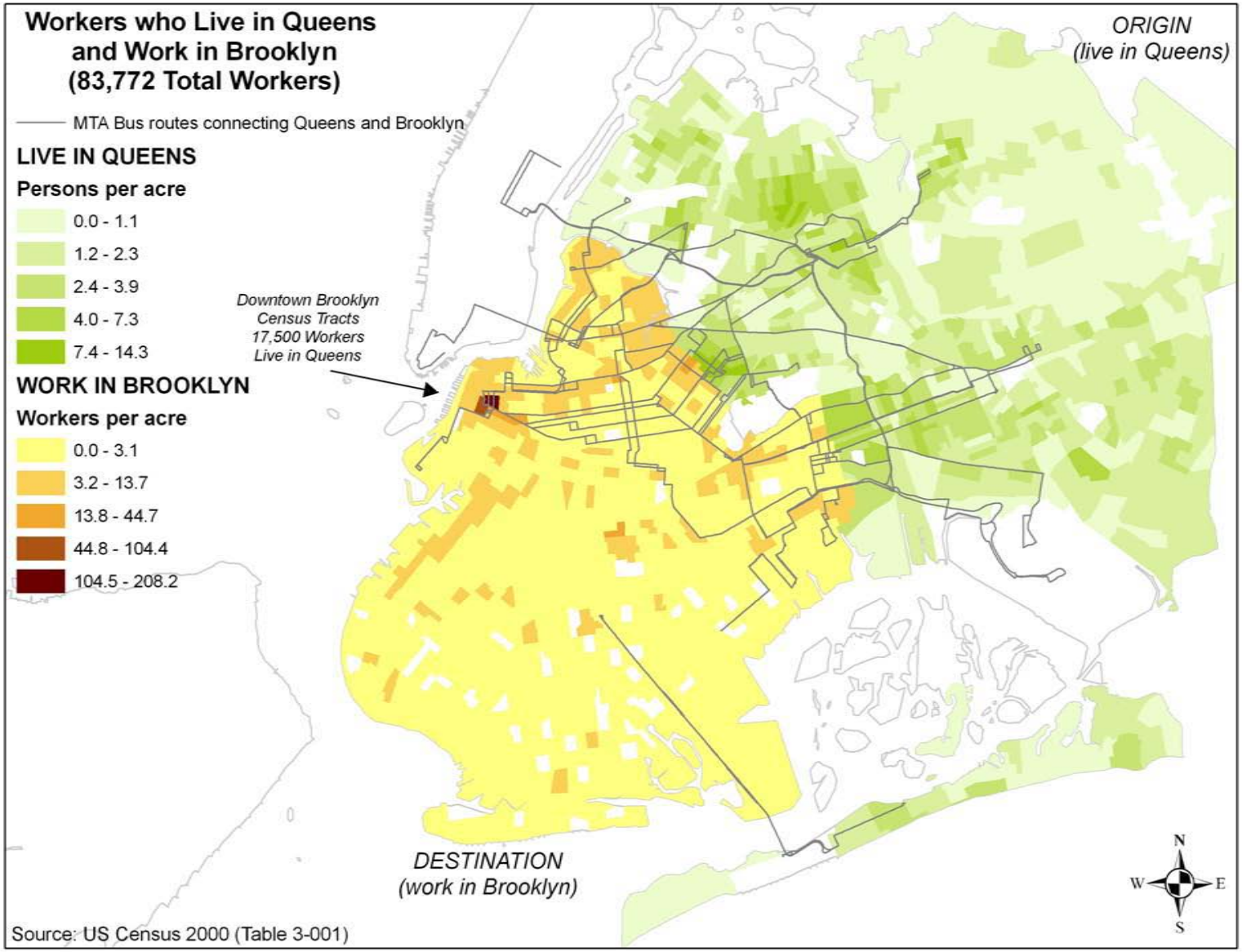
Source: U.S. Census 2000

LIVE	WORK	Total # of workers
Queens	Brooklyn	83,722
Brooklyn	Queens	59,711
Staten Island	Brooklyn	28,173
Queens	Bronx	17,479
Bronx	Queens	17,155
Bronx	Brooklyn	16,772
Brooklyn	Bronx	10,813
Brooklyn	Staten Island	8,832
Staten Island	Queens	5,368
Queens	Staten Island	5,002
Bronx	Staten Island	2,049
Staten Island	Bronx	1,028

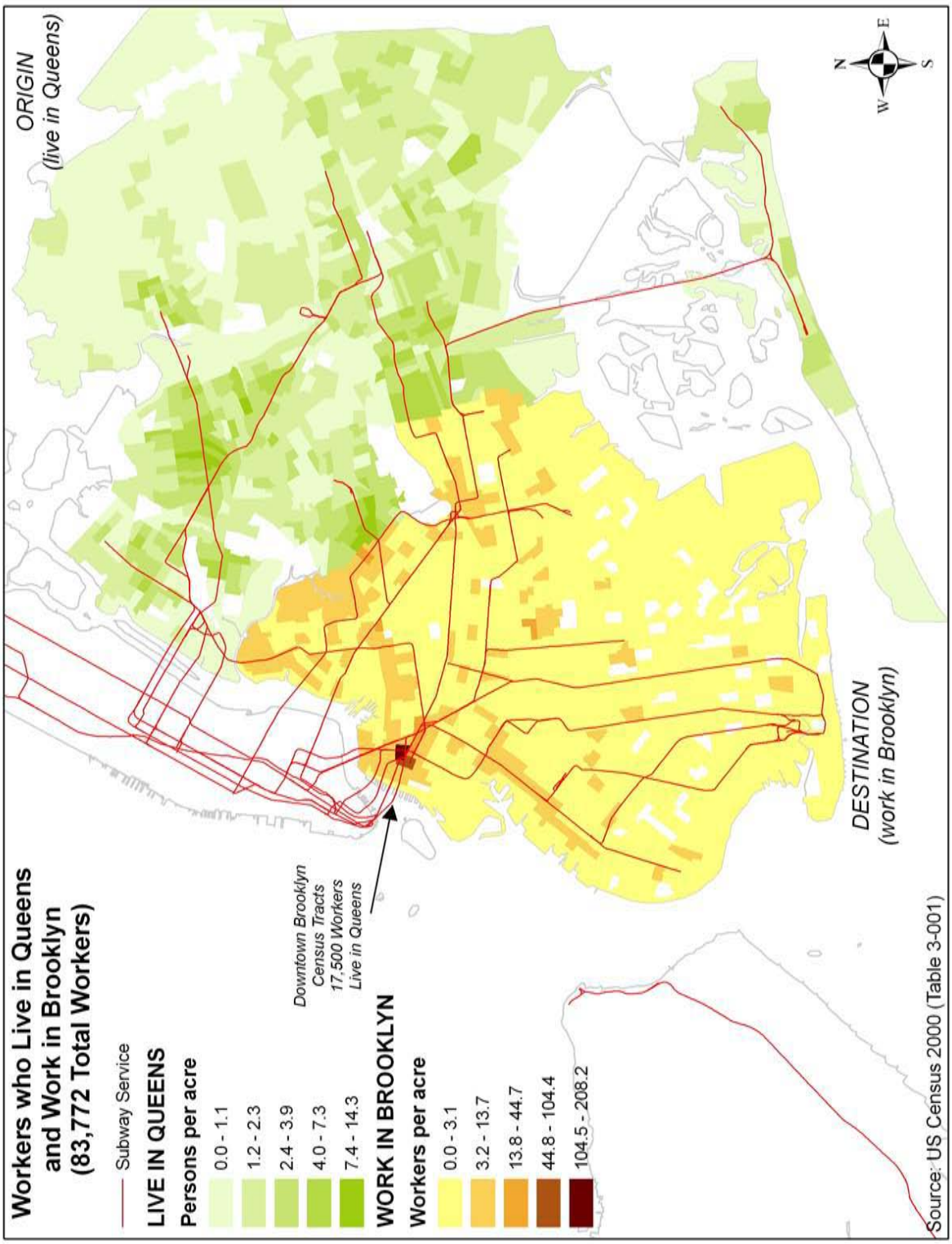
The "Census Transportation Planning Package" of 2000 US Census "Journey to Work" data was used to further study the concentrations of where workers both lived and worked, by census tracts, for inter-borough trips. The maps in this section display the density per acre of where the workers live and work in the respective census tracts in each borough. Maps 89 and 90 show the concentration of the 83,722 workers who live in Queens and work in Brooklyn, displayed by density per 2000 census tracts.

The greatest concentrations of workers, who live in Queens and work in Brooklyn, are the approximately 17,500 workers who work in the area of downtown Brooklyn. The network of MTA bus lines connecting Queens and Brooklyn, and the MTA subway routes, connect this high employment concentration in downtown Brooklyn with a majority of the high concentrations of where these workers live in Queens.

Map 89. Workers Who Live in Queens and Work in Brooklyn--(with Bus Routes)

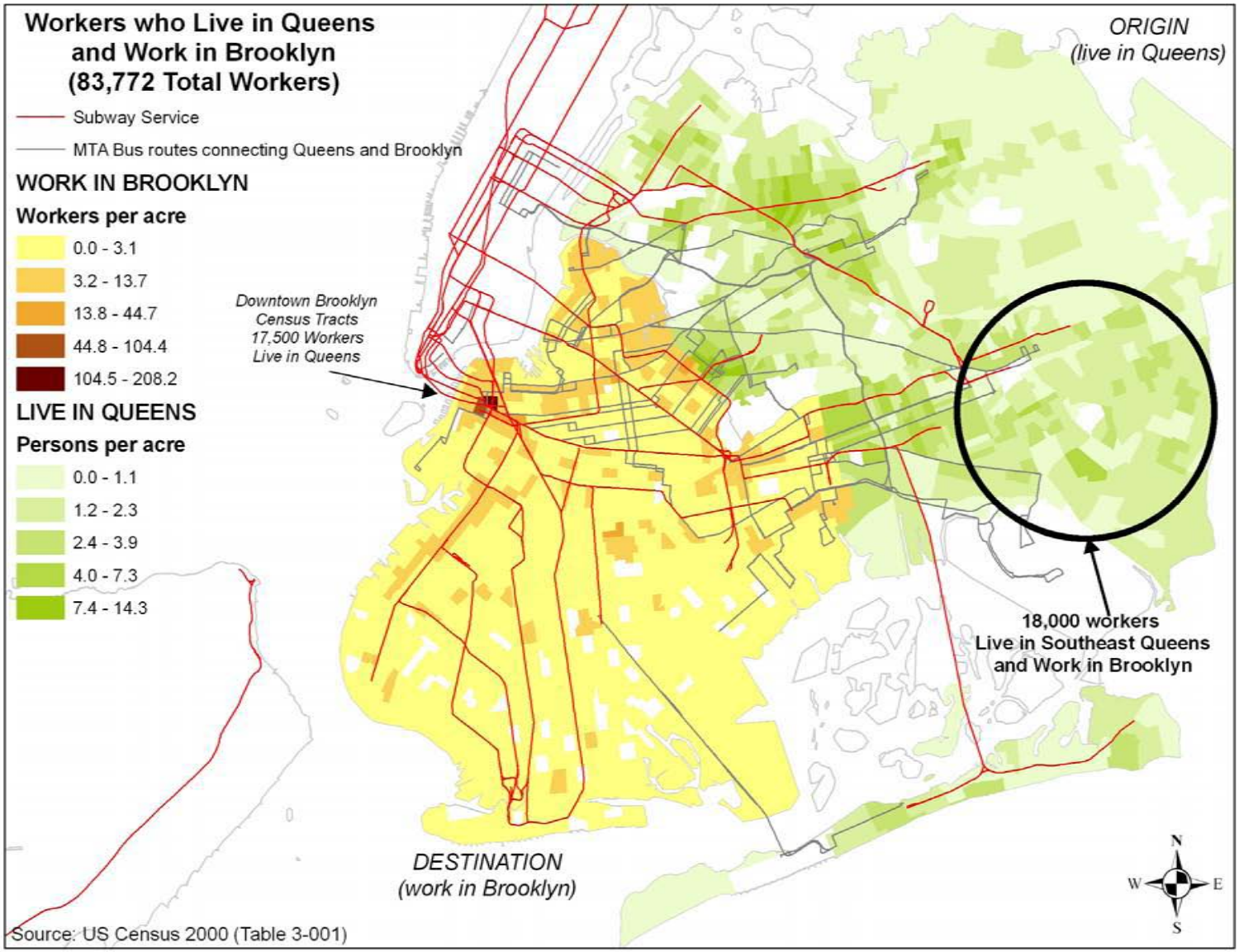


Map 90. Workers Who Live in Queens and Work in Brooklyn--(with Subway Routes)

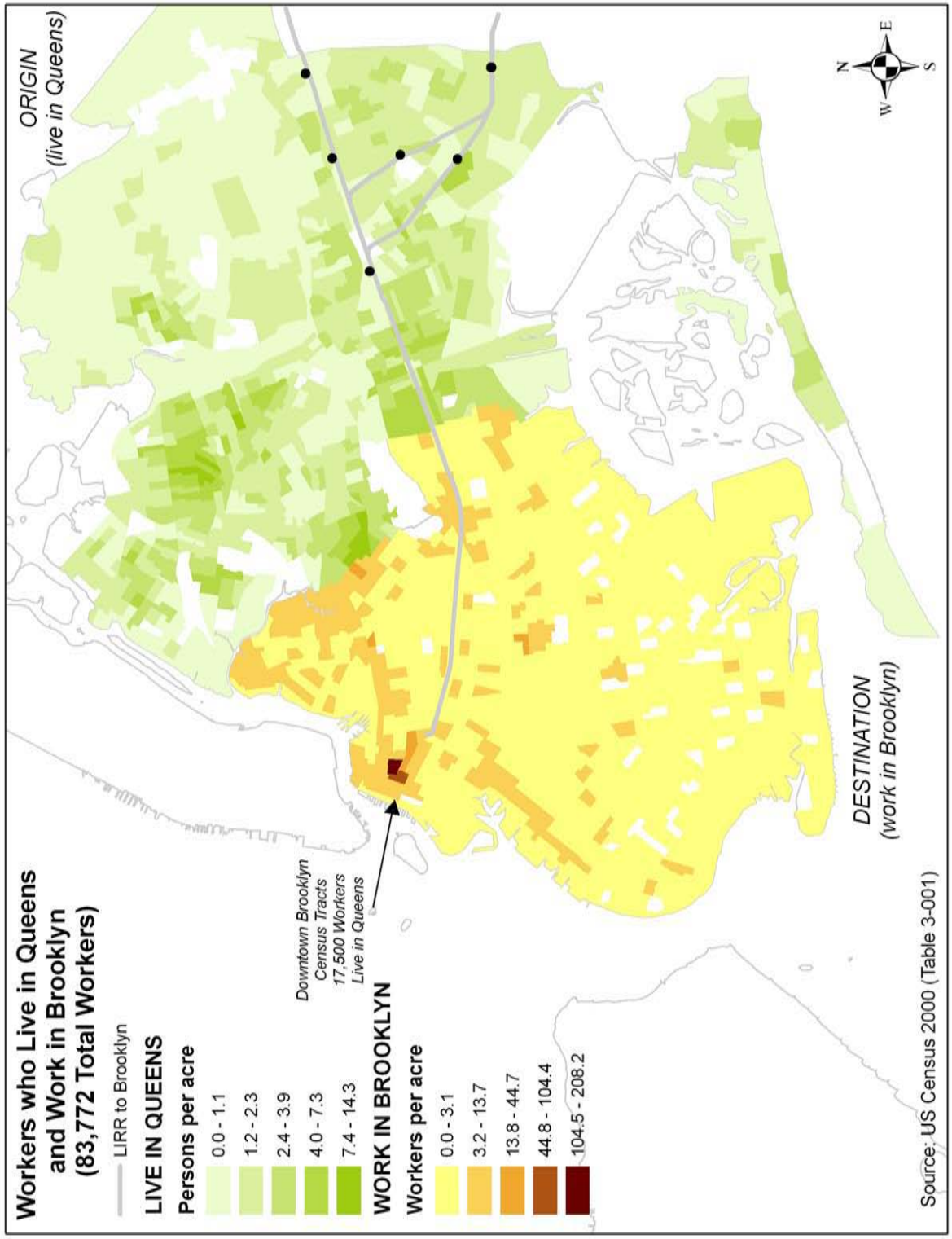


However, as noted on Map 91, the area of Southeast Queens contains approximately 18,000 workers that work in Brooklyn. This area is not directly connected with any subway routes, nor do any MTA bus routes in this area directly connect to Brooklyn. The Long Island Railroad (LIRR) does connect this area in Southeast Queens to the Atlantic Avenue station in Brooklyn, as shown on Map 92.

Map 91. Workers Who Live in Southeast Queens and Work in Brooklyn--(with Bus Routes)

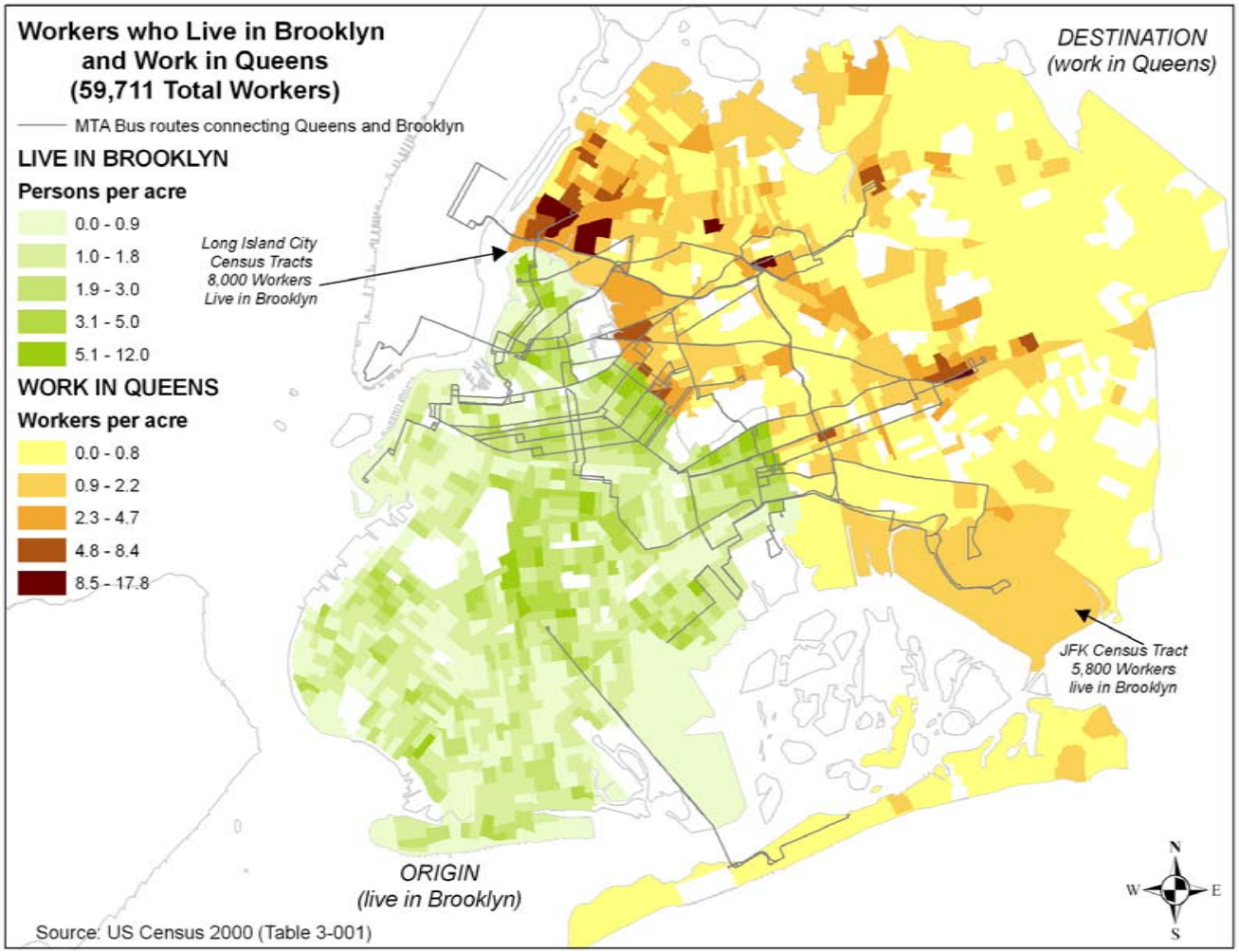


Map 92. Workers Who Live in Southeast Queens and Work in Brooklyn—(with LIRR Routes)

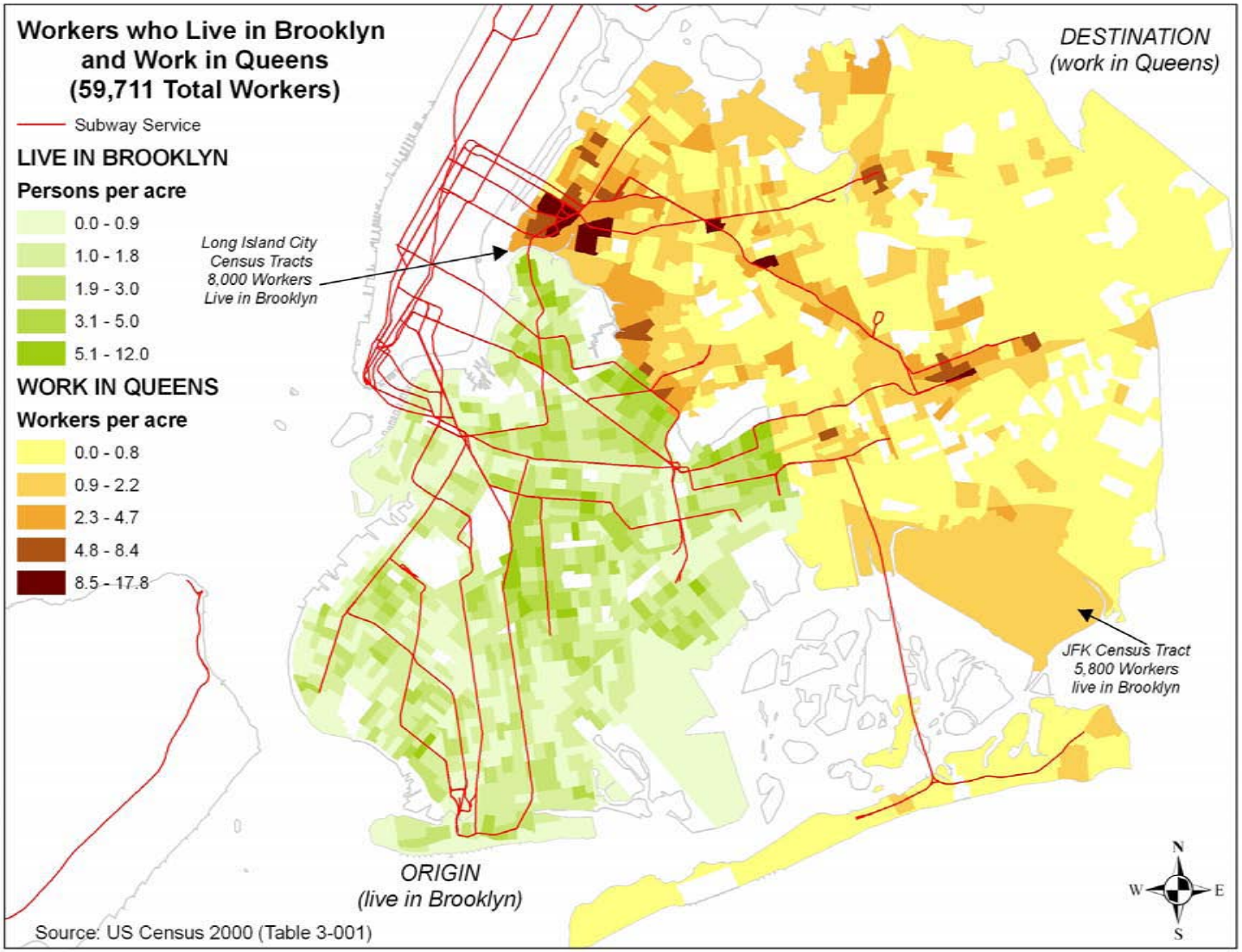


Maps 93 and 94 show the concentration of the 59,711 workers who live in Brooklyn and work in Queens, by 2000 census tracts. The greatest concentrations of workers, who live in Brooklyn and work in Queens, are the approximately 8,000 workers who work in Long Island City, and the 5,800 workers who work in JFK. The network of bus and subway lines appears to adequately connect these workers who live in Brooklyn and work in Long Island City.

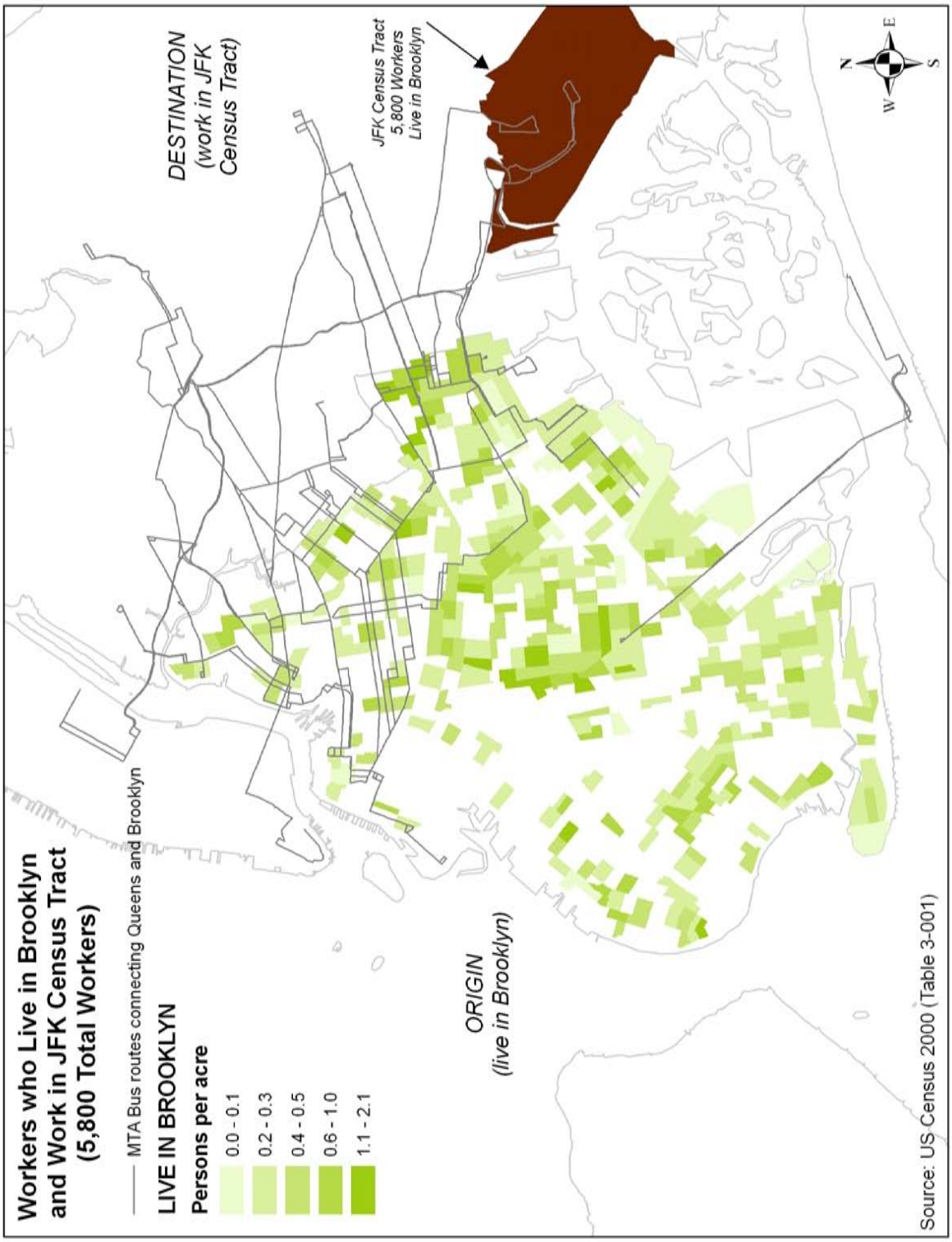
Map 93. Workers Who Live in Brooklyn and Work in Queens--(with Bus Routes)



Map 94. Workers Who Live in Brooklyn and Work in Queens-- (with Subway Routes)

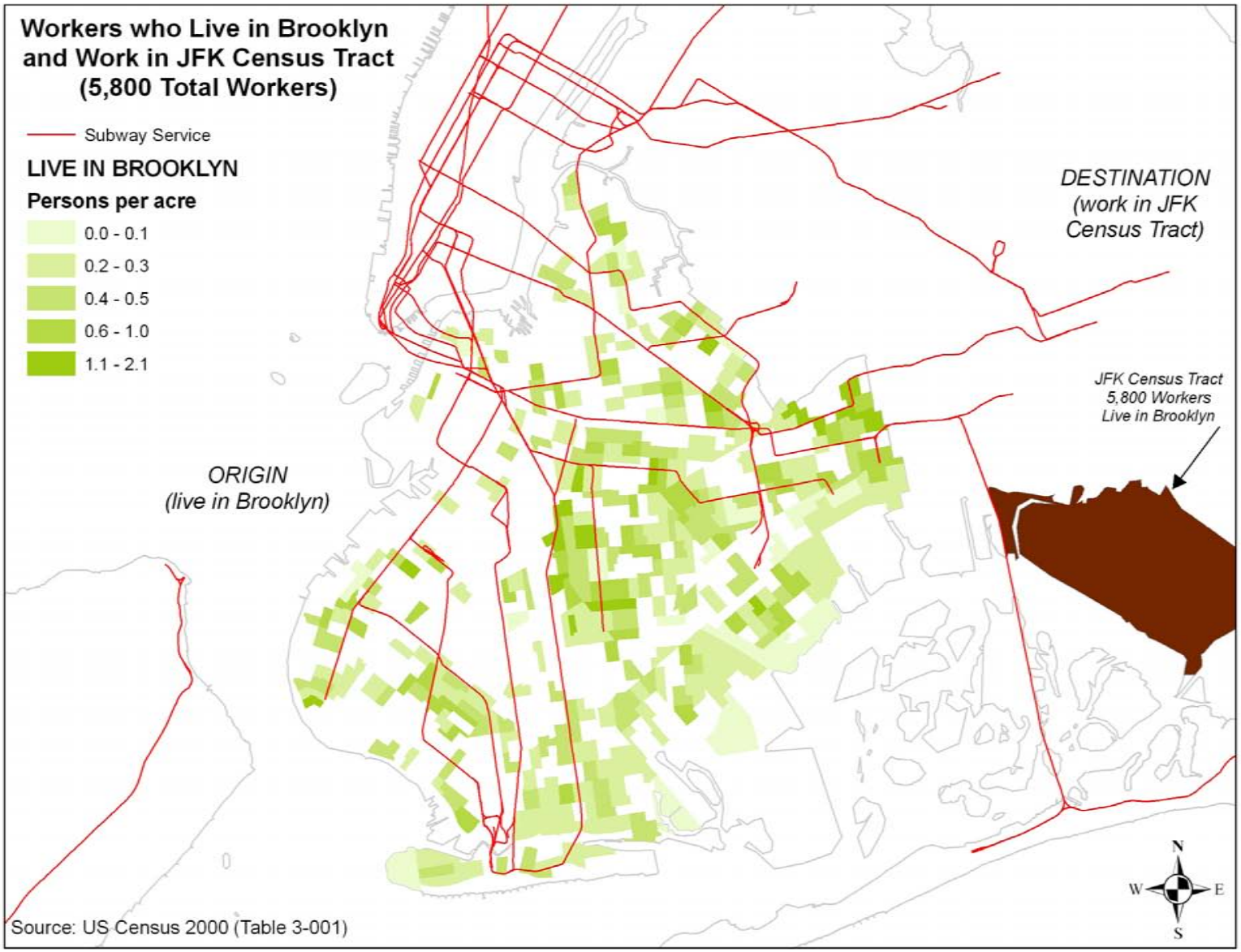


Approximately 5,800 workers live in Brooklyn and work in the JFK census tract. Although JFK is connected by the MTA Subway "A" train and "AirTrain" from Brooklyn, there still exists a concentration of workers in Brooklyn who must make multiple bus and/or subway transfers to reach JFK. Maps 95 and 96 show the concentration of these 5,800 workers who live in Brooklyn and work in the JFK census tract, displayed by 2000 census tracts.



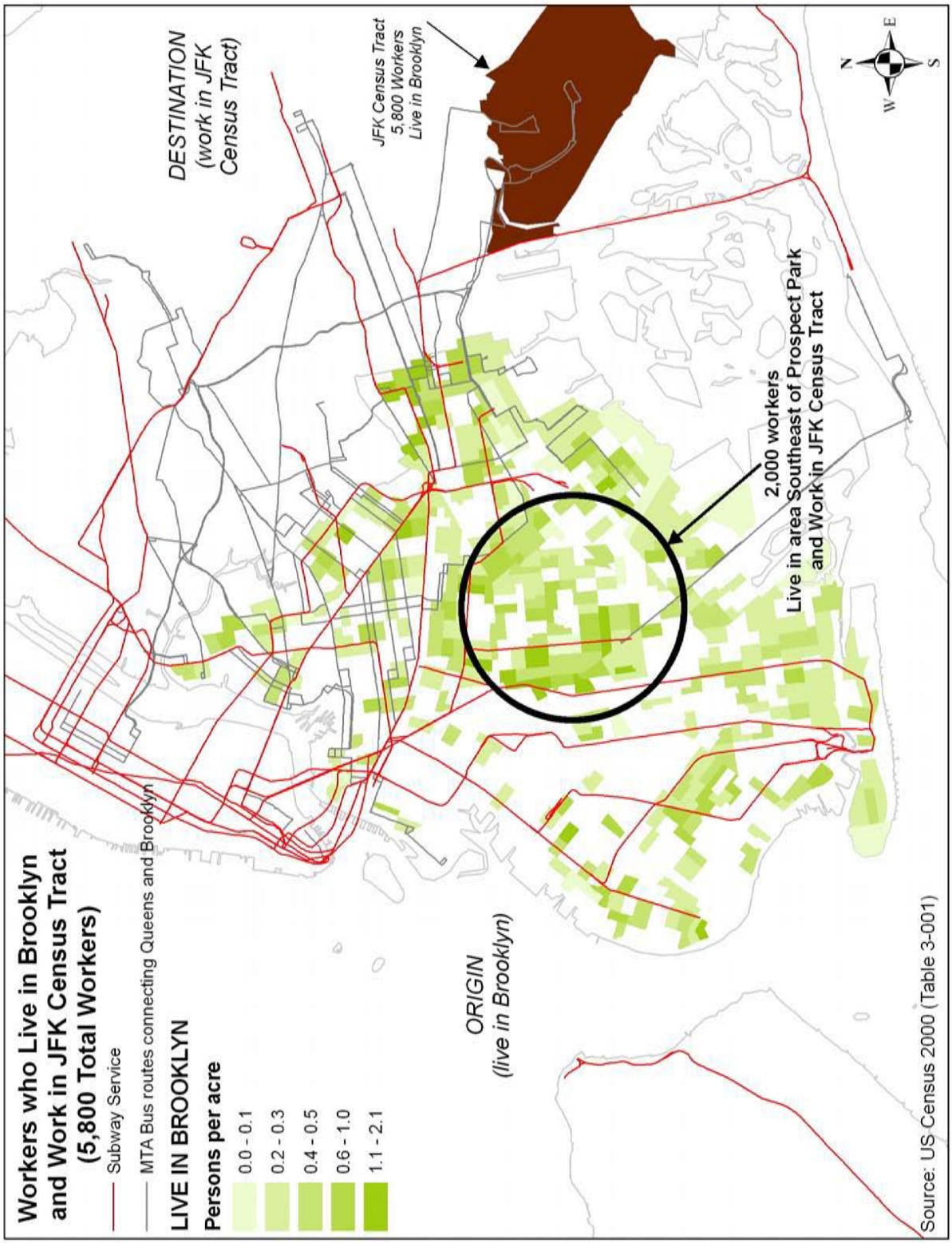
Map 95. Workers Who Live in Brooklyn and Work in JFK Census Tract-- (with Bus Routes)

Map 96. Workers Who Live in Brooklyn and Work in JFK Census Tract--(with Subway Routes)



Map 97 illustrates, approximately 2,000 workers live in the area south east of Prospect Park and work in the JFK census tract. This area is served directly by the MTA Subway "2" and "5" routes, however these routes do not connect directly to JFK. Workers living in this area must travel in the opposite direction from JFK towards downtown Brooklyn to connect to the "A" subway route.

In addition, Map 97 illustrates there are no direct bus routes connecting this area to JFK. Thus workers residing in this area and working in the JFK census tract must make multiple connections via bus and/or subway routes. A direct bus route from this area in Brooklyn to the "A" train and/or the "AirTrain" would enhance work trips to JFK.



Map 97. Workers Who Live in Brooklyn and Work in JFK Census Tract –(with Bus & Subway Routes)

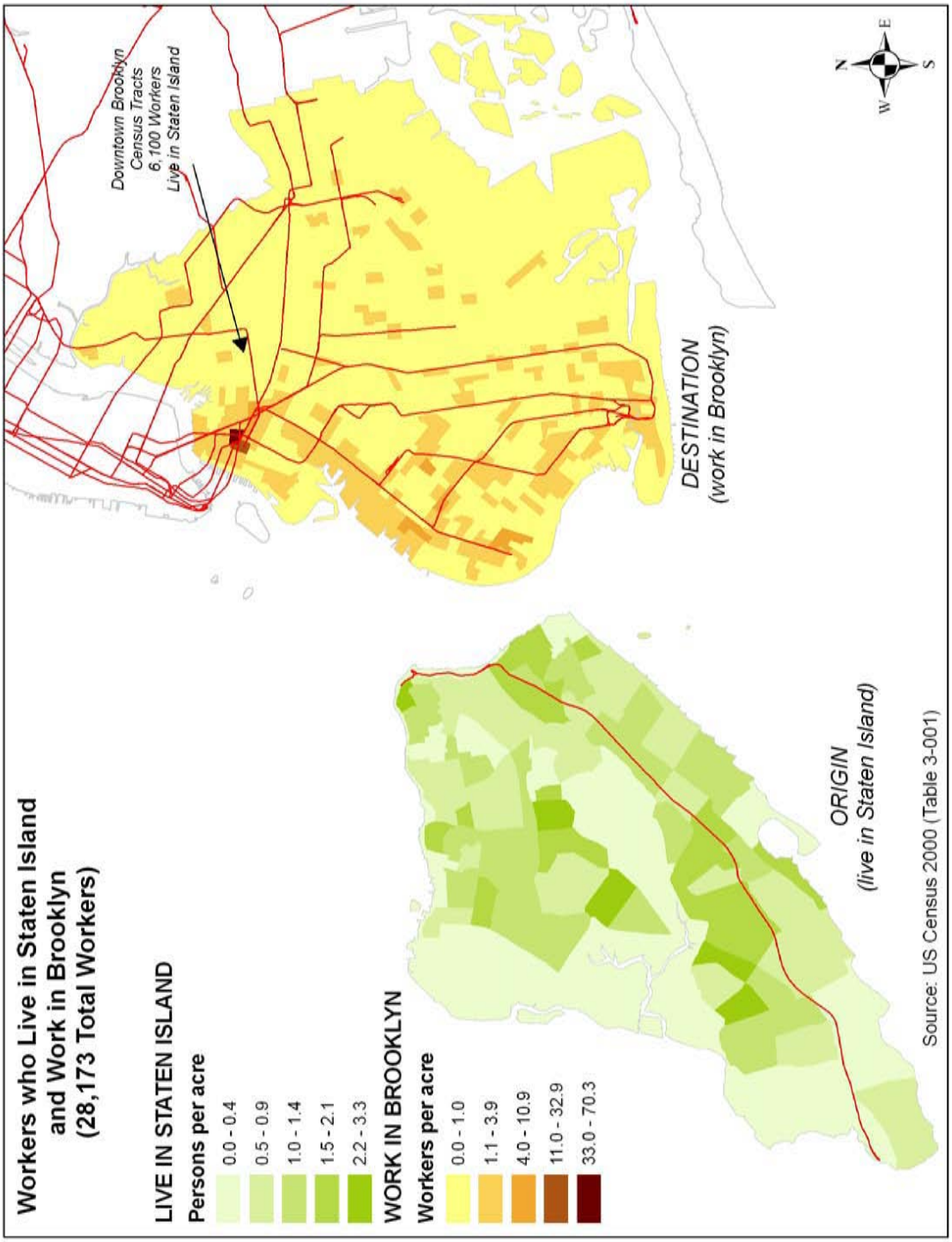
As noted in Table 21, excluding Manhattan, the trips of workers living in Staten Island and working in

Brooklyn had the 3rd highest inter-borough work trip rate. Maps 98 and 99 display the concentration of the 28,173 workers who live in Staten Island and work in Brooklyn, by 2000 census tracts.

The greatest concentrations of workers, who live in Staten Island and work in Brooklyn, are the approximately 6,100 workers who work in downtown Brooklyn.

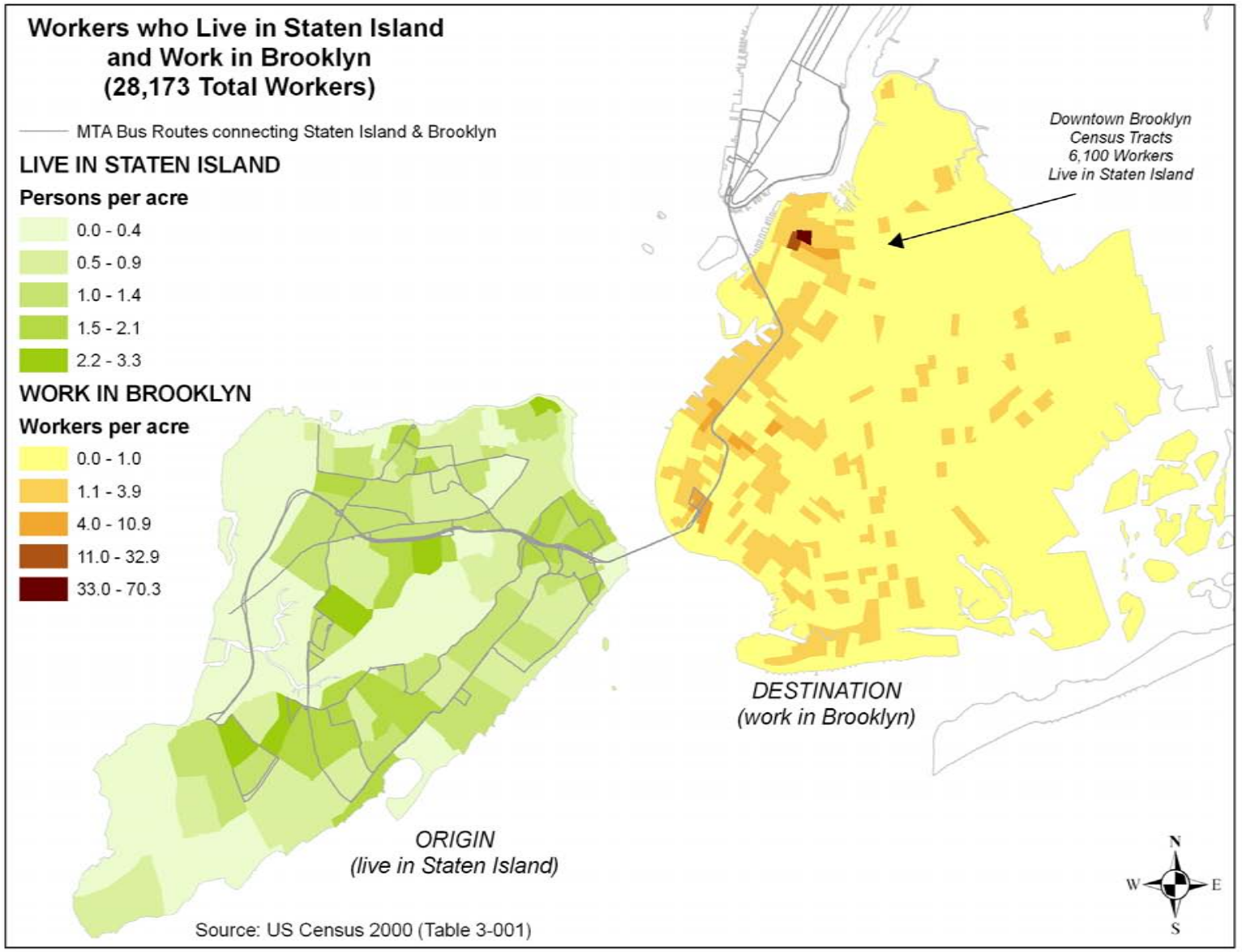
The network of bus routes connects workers who live in Staten Island and work in lower Manhattan, however there is no direct bus or subway route between Staten Island and downtown Brooklyn. Workers who live in Staten Island and work in downtown Brooklyn are required to make at least one transfer between bus and subway to connect to downtown Brooklyn.

A direct express bus between Staten Island and downtown Brooklyn would provide incentive to these 6,100 workers by decreasing the required transfer time.



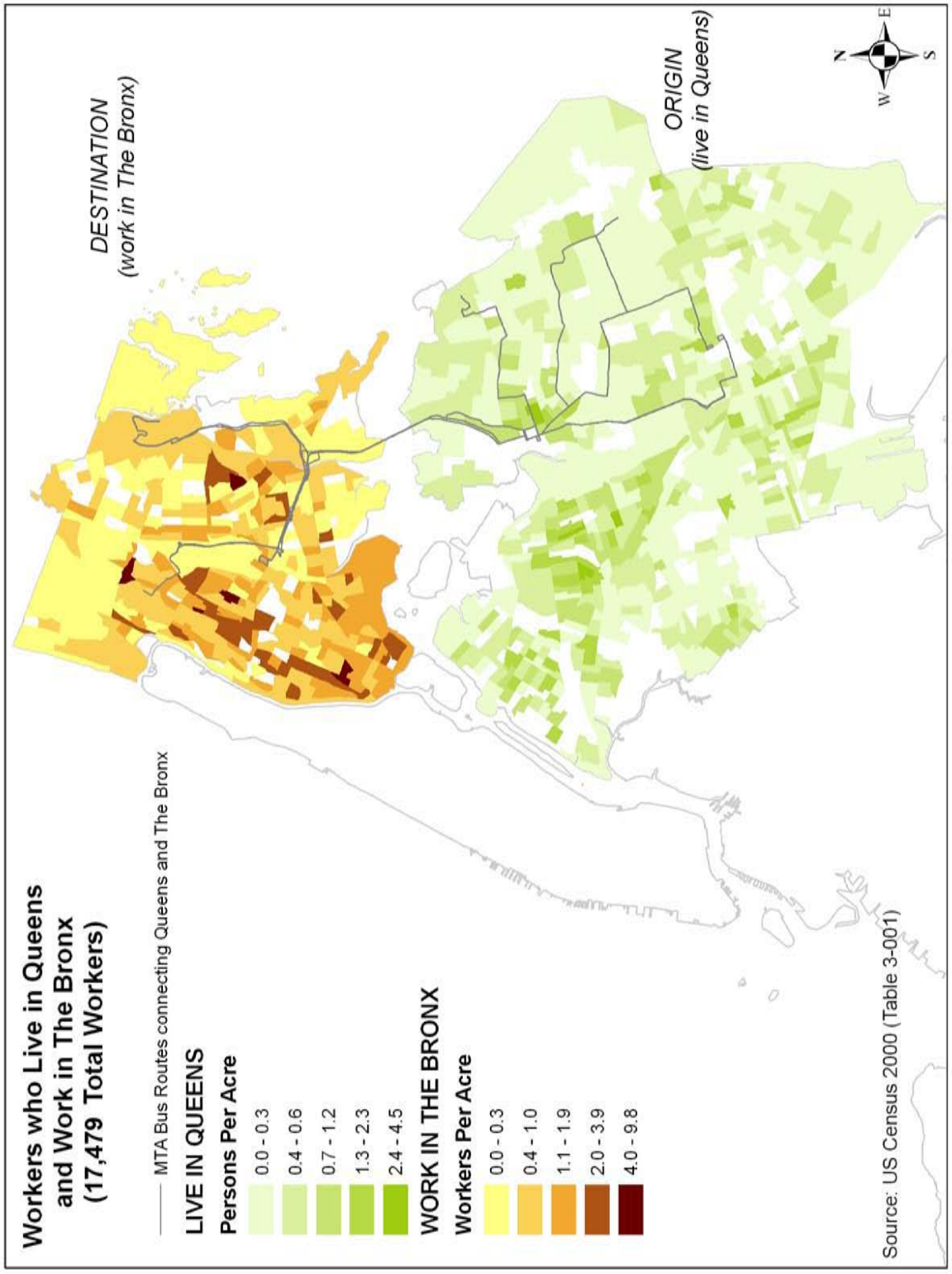
Map 98. Workers Who Live in Staten Island and Work in Brooklyn—(with Subway Routes)

Map 99. Workers Who Live in Staten Island and Work in Brooklyn---(with Bus Routes)



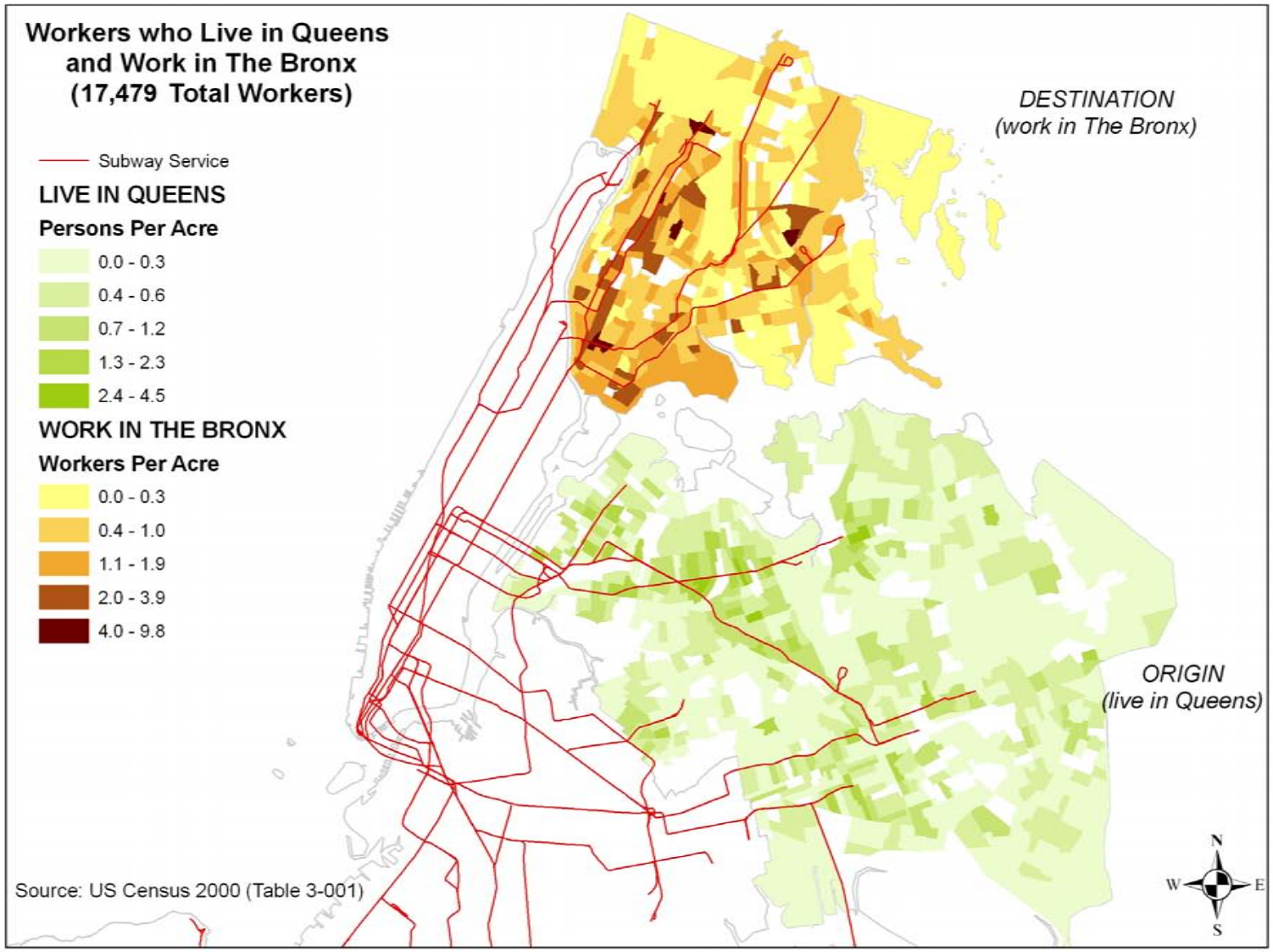
Maps 100 and 101 show the concentrations of the 17,479 workers who live in Queens and work in The Bronx. Due to the geographical separation of The Bronx and Queens only busses connecting the two boroughs travel over the Whitestone Bridge, as shown on Map 100. Map 101 shows the existing subway routes provide adequate connections from the higher residential and employment concentrations despite the limitations on direct bus service.

Equally important, Maps 102 and 103 show the concentration of the 17,155 workers who live in The Bronx and work in Queens. Map 102 shows bus routes, and the Map 103 the subway services.

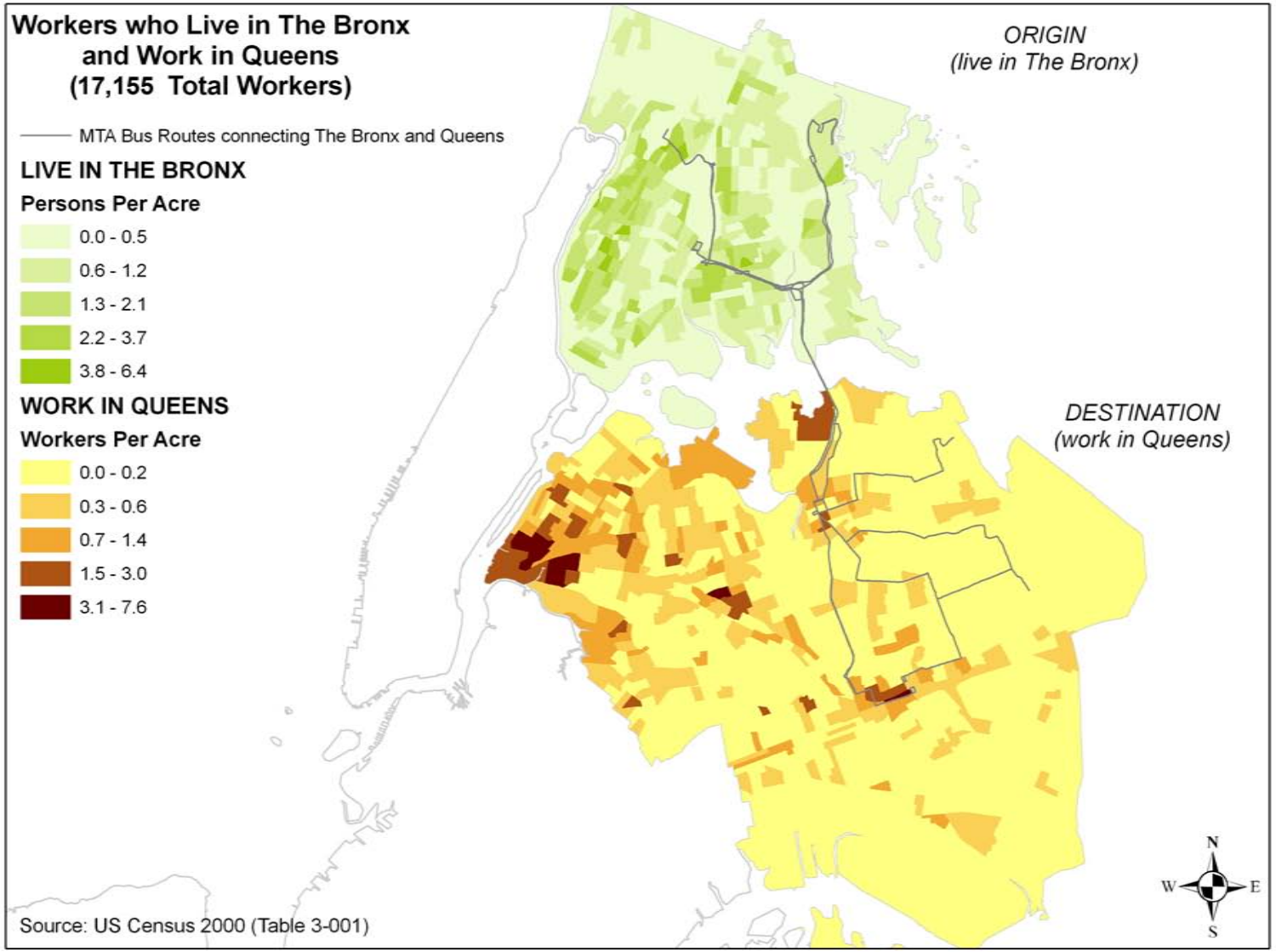


Map 100. Workers Who Live in Queens and Work in The Bronx--(with Bus Routes)

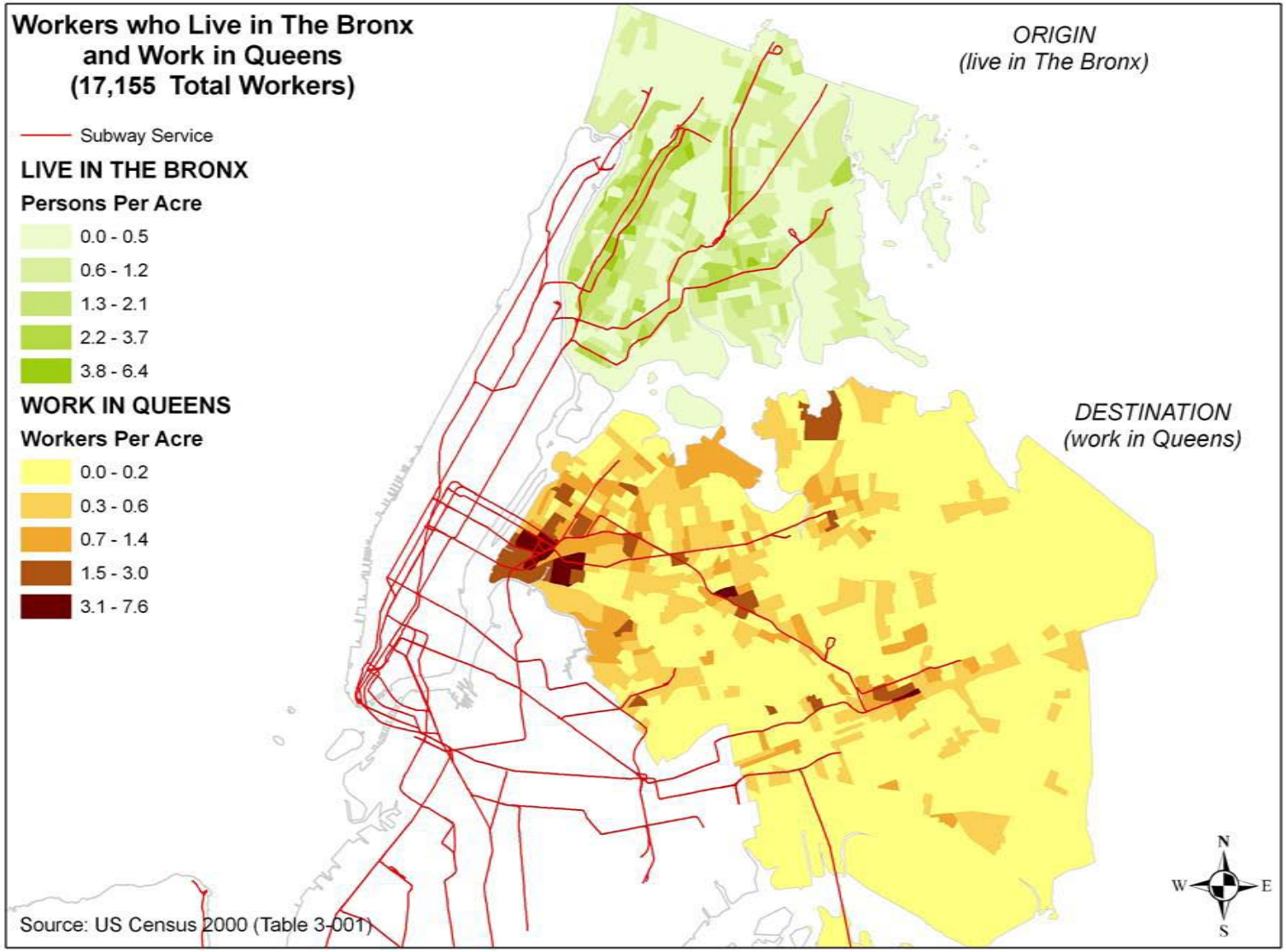
Map 101. Workers Who Live in Queens and Work in The Bronx---(with Subway Routes)



Map 102. Workers Who Live in The Bronx and Work in Queens---(with Bus Routes)

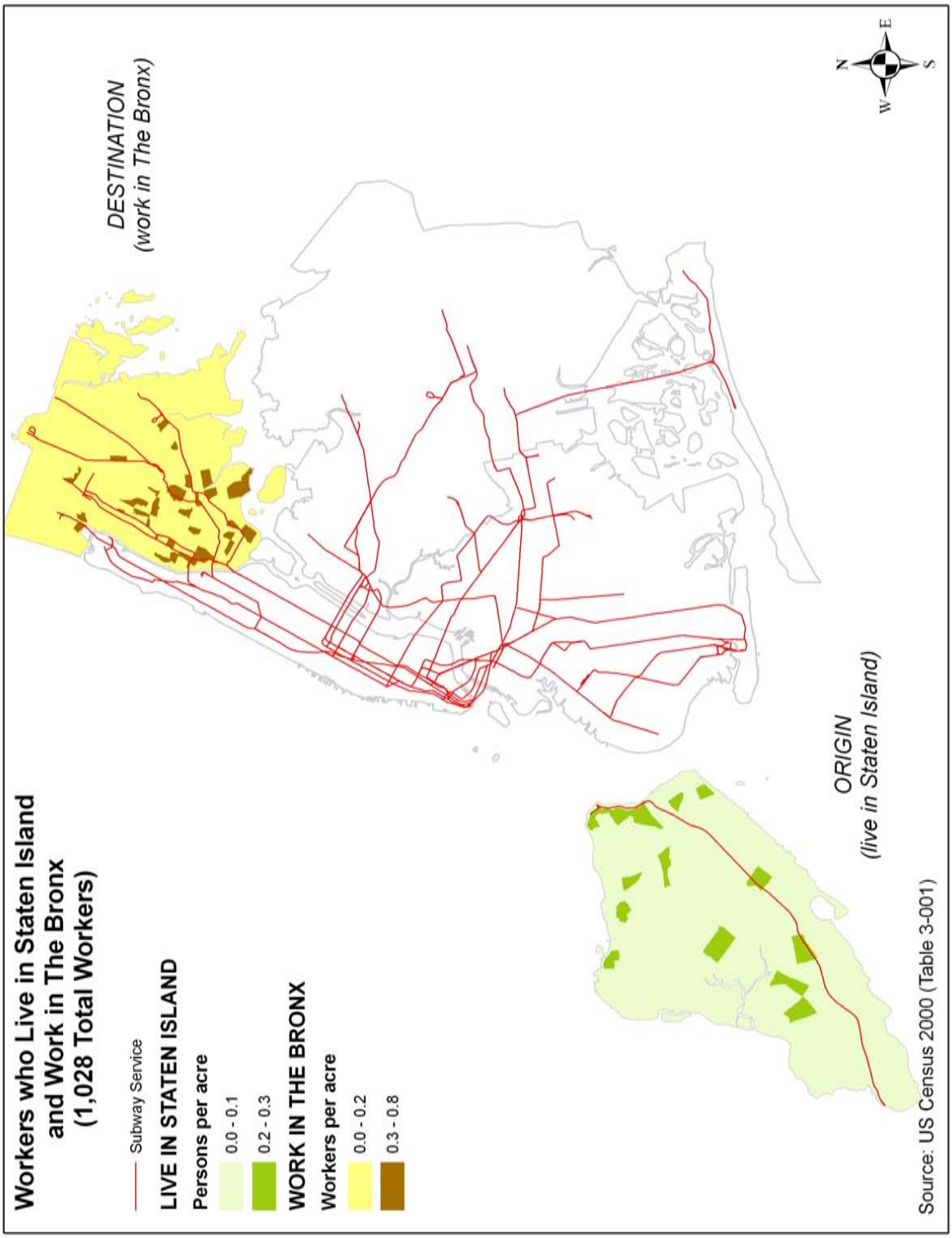


Map 103. Workers Who Live in The Bronx and Work in Queens--(with Subway Routes)

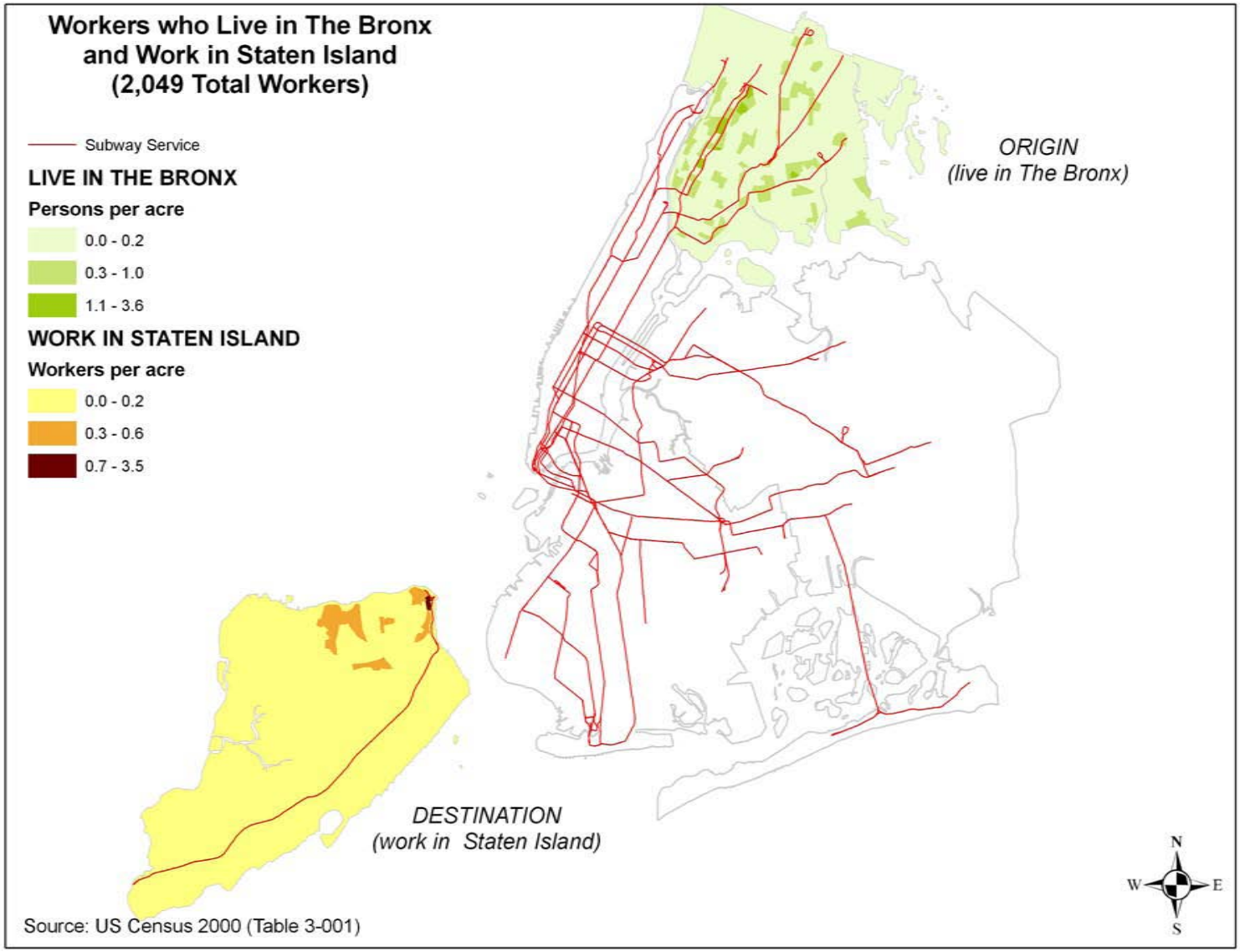


Maps 104 and 105 indicate the concentration of workers who commute between The Bronx and Staten Island. Map 104 shows 1,028 workers who live in Staten Island and work in The Bronx, and Map 105 indicates 2,049 workers commuting from The Bronx to Staten Island.

Map 104. Workers Who live in Staten Island and Work in Bronx—(with Subway Routes)



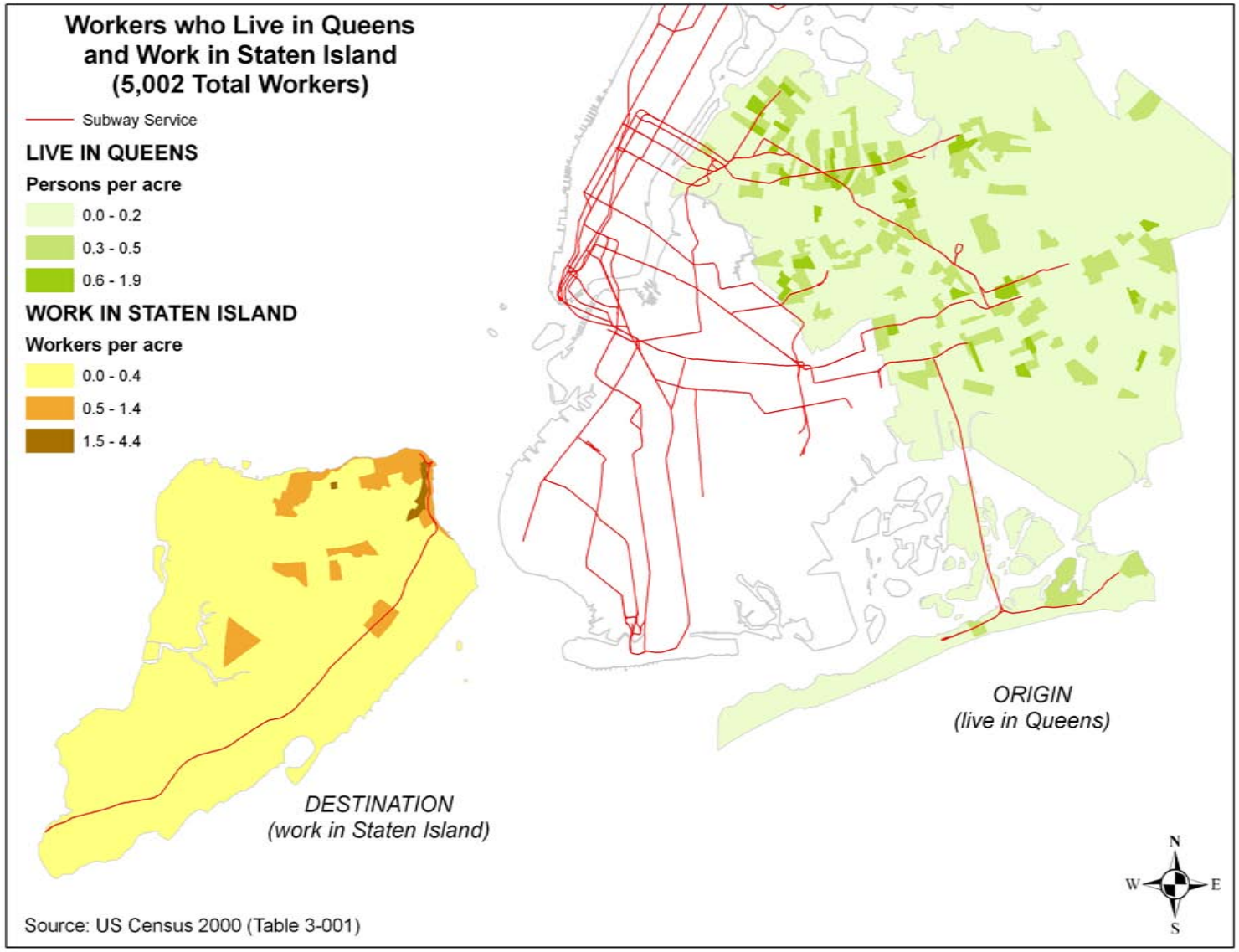
Map 105. Who Live in Bronx and Work in Staten Island ---(with Subway Routes)



Maps 106 and 107 indicate the concentration of workers who commute between Staten Island and Brooklyn. Map 106 shows concentration of workers living in Staten Island and working in Queens. On the other hand, Map 107 focuses on workers who live in Queens and work in Staten Island. In both maps, subway service lines can be observed.

Map 106. Who Live in Staten Island and Work in Queens--(with Subway Routes)

Map 107. Workers Who Live in Queens and Work in Staten Island ---(with Subway Routes)



03 CONCLUSION

This study was initiated to evaluate existing and long-term transportation needs in the boroughs other than Manhattan which are forecast to gain more than 550,000 residents between 2010 and 2030. These increases will impact travel in all boroughs. Together with a series of related parking and mobility studies completed or underway by the Department of City Planning and other public agencies, this study will inform public policy decisions on how to best maintain and improve mobility while minimizing congestion and greenhouse gas emissions.

New York City is already the least auto-dependent city in the nation. This study documents that a key factor in the City's limited reliance on the automobile, at least for the journey-to-work trips for which data is available, is the City's land use pattern with higher-density and more walkable neighborhoods concentrated in Manhattan and in the inner ring of communities of Brooklyn, Queens and the Bronx located near to Manhattan. These neighborhoods score high in walkability on the independent site, Walkscore.com™ which measures the availability of destinations such as retail and public facilities within walking distance. These are also the neighborhoods with the highest shares of Other as a means of travelling to work. Land use policies that foster development in walkable mixed-use communities that are well-served by transit offer considerable promise in promoting convenient, non-automotive travel. They also have the most robust subway service.

Since a significant share of people work relatively close to home, in the same Super-PUMA or adjacent Super-PUMA to the one in which they reside, public improvements, such as improved streetscapes, better bus service, safe bike routes and, perhaps, bike sharing, could provide practical and convenient means of travel for these modest-distance trips. Although not the subject of this study, it is anticipated that any improvements or land use policies that make nonautomotive trips better alternatives for journey-to-work trips are likely to provide better alternatives for other trips as well.

Some New Yorkers, particularly those in Staten Island and Southeast Queens have average commute times that are among the longest in the nation. Projects now underway or understudy, such as expanded LIRR service made possible by the East Side Access project and reuse of right-of-way of Staten Island's former North Shore rail line, may be able to reduce travel times for some residents of these areas. Using the Hellgate line for Metro North service could provide similar benefits to some Bronx residents. Provision of express buses or Bus Rapid Transit from some outer locations to employment clusters may also be worthy of consideration as would increased inter-borough connectivity.

This study documents that the automobile remains an important means of commuting to work for workers arriving in almost all of the Super-PUMAs in this study. Workers are coming from diverse locations which, at least to date, have made the automobile the most attractive means of commuting for many people. It is hoped that implementing a number of the suggestions in this report could provide convenient alternatives for some of these auto commuters. However, automobile commuting is likely to remain a preferred alternative for people traveling long distances especially from and to dispersed locations.

While the automobile is likely to remain important for many trips, reports by both the Department of City Planning (Changes in Employment and Commuting Patterns Among Workers in New York City and the New York Metropolitan Area, 2000-2007, http://nyc.gov/html/dcp/pdf/census/census_commute_patterns0007.pdf) and the Department of Transportation (2009 Sustainable Streets Index, http://www.nyc.gov/html/dot/downloads/pdf/sustainable_streets_index_09.pdf,) demonstrate that the City can absorb significant population and employment growth while holding steady and in some cases, decreasing automobile use.

04 APPENDICES

APPENDIX A.
Super-PUMA Names, Numbers and Study Areas

Super-PUMA Number	Super-PUMA Name	Study Area Name (for this report)
91	North & East Bronx	Northeast Bronx
92	South & West Bronx	Southwest Bronx
101	North Manhattan	North Manhattan
102	West & Lower Manhattan	West & Lower Manhattan
103	East Manhattan	East Manhattan
111	Northwest Queens	Northwest Queens
112	Northeast Queens	Northeast Queens
113	Southeast Queens	Southeast Queens
114	Southwest Queens	Southwest Queens
121	Greenpoint/Brownsville	Greenpoint/Brownsville
122	Ft. Greene/Bay Ridge	Ft. Greene/Bay Ridge
123	Crown Heights/Flatbush	Crown Heights/Flatbush
124	Gravesend/East New York	Gravesend/East New York
125	Boro Park/Coney Island	Boro Park/Coney Island
130	Staten Island	Staten Island

APPENDIX B.
Study Areas' Mode of Transportation to Work: Pie Percentages

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
Northeast Bronx	Northeast Bronx	37.6	10.6	17.3	5.7	28.8	100
Northeast Bronx	Southwest Bronx	41.2	13.9	20.7	17.0	7.2	100
Northeast Bronx	North Manhattan	38.6	13.7	11.8	33.3	2.6	100
Northeast Bronx	West & Lower Manhattan	13.9	5.1	14.4	65.4	1.2	100
Northeast Bronx	East Manhattan	19.0	6.6	14.0	59.0	1.4	100
Northeast Bronx	Northwest Queens	47.6	8.6	7.4	34.3	2.1	100
Northeast Bronx	Northeast Queens	40.9	11.4	19.2	26.5	2.0	100
Northeast Bronx	Southeast Queens	53.9	12.8	12.5	18.8	2.0	100
Northeast Bronx	Southwest Queens	49.4	12.8	11.9	25.9	0.0	100
Northeast Bronx	Greenpoint/Brownsville	29.7	9.9	8.4	51.0	1.0	100
Northeast Bronx	Ft. Greene/Bay Ridge	24.7	9.8	8.4	55.3	1.8	100
Northeast Bronx	Crown Heights/Flatbush	27.3	6.9	15.2	49.2	1.4	100
Northeast Bronx	Gravesend/East New York	35.9	7.1	10.4	45.4	1.2	100
Northeast Bronx	Boro Park/Coney Island	34.4	7.6	13.9	38.9	5.2	100
Northeast Bronx	Staten Island	31.1	17.5	16.2	31.9	3.3	100
Southwest Bronx	Northeast Bronx	27.2	10.4	29.2	22.1	11.1	100
Southwest Bronx	Southwest Bronx	16.4	7.1	22.7	16.5	37.3	100
Southwest Bronx	North Manhattan	22.7	8.8	22.2	40.4	5.9	100
Southwest Bronx	West & Lower Manhattan	6.3	2.6	7.9	81.6	1.6	100
Southwest Bronx	East Manhattan	9.1	3.9	10.0	74.4	2.6	100
Southwest Bronx	Northwest Queens	22.5	10.0	7.5	56.0	4.0	100
Southwest Bronx	Northeast Queens	27.7	9.9	16.0	42.5	3.9	100
Southwest Bronx	Southeast Queens	26.2	10.0	6.4	54.0	3.4	100
Southwest Bronx	Southwest Queens	24.6	13.1	8.8	46.8	6.7	100
Southwest Bronx	Greenpoint/Brownsville	15.9	4.9	5.4	66.4	7.4	100
Southwest Bronx	Ft. Greene/Bay Ridge	14.4	6.7	7.1	66.6	5.2	100
Southwest Bronx	Crown Heights/Flatbush	14.6	6.7	12.5	62.2	4.0	100
Southwest Bronx	Gravesend/East New York	14.2	8.0	17.0	52.3	8.5	100
Southwest Bronx	Boro Park/Coney Island	16.6	8.3	9.4	58.8	6.9	100
Southwest Bronx	Staten Island	15.2	11.5	15.8	49.2	8.3	100
North Manhattan	Northeast Bronx	21.3	8.2	25.0	36.5	9.0	100
North Manhattan	Southwest Bronx	20.9	8.5	26.2	35.5	8.9	100
North Manhattan	North Manhattan	8.4	3.5	13.7	15.5	58.9	100
North Manhattan	West & Lower Manhattan	5.8	2.9	7.2	77.7	6.4	100
North Manhattan	East Manhattan	6.5	3.8	16.1	64.2	9.4	100
North Manhattan	Northwest Queens	21.2	6.9	5.7	59.9	6.3	100
North Manhattan	Northeast Queens	23.8	9.6	10.5	50.0	6.1	100
North Manhattan	Southeast Queens	27.0	12.7	7.4	43.0	9.9	100
North Manhattan	Southwest Queens	21.1	12.3	7.8	50.6	8.2	100

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
North Manhattan	Greenpoint/Brownsville	20.0	8.4	7.2	56.0	8.4	100
North Manhattan	Ft. Greene/Bay Ridge	10.7	3.5	6.9	74.0	4.9	100
North Manhattan	Crown Heights/Flatbush	12.2	3.9	7.2	73.0	3.7	100
North Manhattan	Gravesend/East New York	21.3	3.9	12.4	53.8	8.6	100
North Manhattan	Boro Park/Coney Island	20.1	6.5	3.0	66.1	4.3	100
North Manhattan	Staten Island	9.9	4.3	10.9	67.2	7.7	100
West & Lower Manhattan	Northeast Bronx	30.0	8.5	2.7	53.8	5.0	100
West & Lower Manhattan	Southwest Bronx	25.9	4.9	2.8	63.2	3.2	100
West & Lower Manhattan	North Manhattan	9.5	1.9	13.8	49.3	25.5	100
West & Lower Manhattan	West & Lower Manhattan	1.9	0.9	4.4	47.1	45.7	100
West & Lower Manhattan	East Manhattan	3.5	1.7	12.9	55.7	26.2	100
West & Lower Manhattan	Northwest Queens	17.0	5.6	2.0	68.4	7.0	100
West & Lower Manhattan	Northeast Queens	30.5	4.3	3.1	46.2	15.9	100
West & Lower Manhattan	Southeast Queens	27.7	1.4	6.1	60.4	4.4	100
West & Lower Manhattan	Southwest Queens	12.5	9.0	5.2	62.6	10.7	100
West & Lower Manhattan	Greenpoint/Brownsville	21.5	1.6	3.8	59.3	13.8	100
West & Lower Manhattan	Ft. Greene/Bay Ridge	9.2	1.5	3.2	77.5	8.6	100
West & Lower Manhattan	Crown Heights/Flatbush	12.7	5.2	5.4	64.6	12.1	100
West & Lower Manhattan	Gravesend/East New York	24.4	5.1	5.4	59.0	6.1	100
West & Lower Manhattan	Boro Park/Coney Island	29.1	0.0	7.2	43.4	20.3	100
West & Lower Manhattan	Staten Island	17.0	2.6	7.8	52.9	19.7	100
East Manhattan	Northeast Bronx	33.2	7.2	17.7	35.0	6.9	100
East Manhattan	Southwest Bronx	20.5	9.9	9.9	51.4	8.3	100
East Manhattan	North Manhattan	10.6	4.4	16.6	32.0	36.4	100
East Manhattan	West & Lower Manhattan	3.4	2.3	13.7	49.6	31.0	100
East Manhattan	East Manhattan	3.3	1.7	12.2	21.0	61.8	100
East Manhattan	Northwest Queens	25.9	4.0	8.9	53.7	7.5	100
East Manhattan	Northeast Queens	29.7	7.0	11.5	36.9	14.9	100
East Manhattan	Southeast Queens	29.4	7.6	21.0	32.6	9.4	100
East Manhattan	Southwest Queens	31.3	7.2	5.2	49.9	6.4	100
East Manhattan	Greenpoint/Brownsville	20.9	7.1	14.8	40.3	16.9	100
East Manhattan	Ft. Greene/Bay Ridge	10.6	5.0	7.9	64.8	11.7	100
East Manhattan	Crown Heights/Flatbush	20.9	4.6	5.9	53.8	14.8	100
East Manhattan	Gravesend/East New York	36.6	5.5	6.9	29.8	21.2	100
East Manhattan	Boro Park/Coney Island	20.7	8.7	6.7	56.4	7.5	100
East Manhattan	Staten Island	14.4	11.8	5.6	40.8	27.4	100
Northwest Queens	Northeast Bronx	43.6	14.8	7.2	33.2	1.2	100
Northwest Queens	Southwest Bronx	31.7	14.4	1.7	47.5	4.7	100
Northwest Queens	North Manhattan	22.3	9.0	3.1	62.7	2.9	100
Northwest Queens	West & Lower Manhattan	6.4	2.8	3.0	86.2	1.6	100
Northwest Queens	East Manhattan	10.5	4.4	4.3	78.5	2.3	100
Northwest Queens	Northwest Queens	23.4	9.4	7.8	23.7	35.7	100
Northwest Queens	Northeast Queens	36.8	11.8	10.8	34.0	6.6	100

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
Northwest Queens	Southeast Queens	40.6	14.4	6.9	30.0	8.1	100
Northwest Queens	Southwest Queens	37.0	12.4	9.4	30.8	10.4	100
Northwest Queens	Greenpoint/Brownsville	29.7	12.0	5.4	49.6	3.3	100
Northwest Queens	Ft. Greene/Bay Ridge	23.5	6.6	4.3	64.3	1.3	100
Northwest Queens	Crown Heights/Flatbush	27.9	9.5	4.9	55.4	2.3	100
Northwest Queens	Gravesend/East New York	40.3	10.1	5.6	36.6	7.4	100
Northwest Queens	Boro Park/Coney Island	36.0	12.8	1.8	44.0	5.4	100
Northwest Queens	Staten Island	29.1	8.0	4.6	46.8	11.5	100
Northeast Queens	Northeast Bronx	66.0	17.4	9.9	5.4	1.3	100
Northeast Queens	Southwest Bronx	60.0	14.8	10.7	12.9	1.6	100
Northeast Queens	North Manhattan	37.8	18.9	6.5	34.3	2.5	100
Northeast Queens	West & Lower Manhattan	17.3	7.2	13.5	61.0	1.0	100
Northeast Queens	East Manhattan	23.7	11.1	14.0	50.3	0.9	100
Northeast Queens	Northwest Queens	53.9	16.4	8.1	18.0	3.6	100
Northeast Queens	Northeast Queens	44.8	10.2	12.3	2.3	30.4	100
Northeast Queens	Southeast Queens	61.3	13.5	14.4	4.8	6.0	100
Northeast Queens	Southwest Queens	59.6	15.1	10.4	8.9	6.0	100
Northeast Queens	Greenpoint/Brownsville	64.3	17.7	4.1	13.7	0.2	100
Northeast Queens	Ft. Greene/Bay Ridge	46.0	12.5	7.2	32.9	1.4	100
Northeast Queens	Crown Heights/Flatbush	56.9	17.2	4.3	17.1	4.5	100
Northeast Queens	Gravesend/East New York	71.4	14.5	3.1	8.0	3.0	100
Northeast Queens	Boro Park/Coney Island	57.7	12.6	3.3	18.4	8.0	100
Northeast Queens	Staten Island	48.9	11.1	7.8	28.9	3.3	100
Southeast Queens	Northeast Bronx	61.4	13.3	7.1	16.0	2.2	100
Southeast Queens	Southwest Bronx	57.5	11.3	7.8	20.1	3.3	100
Southeast Queens	North Manhattan	36.6	15.1	10.6	35.3	2.4	100
Southeast Queens	West & Lower Manhattan	16.9	7.2	12.2	62.6	1.1	100
Southeast Queens	East Manhattan	22.9	7.4	14.4	54.5	0.8	100
Southeast Queens	Northwest Queens	48.8	12.8	13.6	21.4	3.4	100
Southeast Queens	Northeast Queens	50.6	12.2	25.1	6.9	5.2	100
Southeast Queens	Southeast Queens	41.6	11.9	21.4	4.4	20.7	100
Southeast Queens	Southwest Queens	46.6	11.2	22.5	15.8	3.9	100
Southeast Queens	Greenpoint/Brownsville	57.2	16.6	7.5	17.8	0.9	100
Southeast Queens	Ft. Greene/Bay Ridge	44.7	12.9	7.2	34.2	1.0	100
Southeast Queens	Crown Heights/Flatbush	59.3	19.8	6.1	13.5	1.3	100
Southeast Queens	Gravesend/East New York	58.6	15.7	9.0	15.0	1.7	100
Southeast Queens	Boro Park/Coney Island	62.9	13.6	8.9	11.4	3.2	100
Southeast Queens	Staten Island	47.5	17.3	16.5	14.3	4.4	100
Southwest Queens	Northeast Bronx	53.2	18.2	4.9	21.7	2.0	100
Southwest Queens	Southwest Bronx	46.4	13.0	3.1	33.9	3.6	100
Southwest Queens	North Manhattan	28.8	7.4	5.9	56.2	1.7	100
Southwest Queens	West & Lower Manhattan	11.3	4.9	7.7	75.2	0.9	100
Southwest Queens	East Manhattan	15.5	7.0	9.1	67.2	1.2	100

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
Southwest Queens	Northwest Queens	48.5	12.6	11.8	20.8	6.3	100
Southwest Queens	Northeast Queens	57.6	10.8	13.8	12.6	5.2	100
Southwest Queens	Southeast Queens	50.3	12.0	21.4	10.9	5.4	100
Southwest Queens	Southwest Queens	36.1	9.7	10.7	6.3	37.2	100
Southwest Queens	Greenpoint/Brownsville	47.7	15.7	8.6	19.3	8.7	100
Southwest Queens	Ft. Greene/Bay Ridge	37.8	9.5	7.9	42.3	2.5	100
Southwest Queens	Crown Heights/Flatbush	53.8	13.4	8.9	21.3	2.6	100
Southwest Queens	Gravesend/East New York	57.9	14.1	8.2	15.2	4.6	100
Southwest Queens	Boro Park/Coney Island	54.8	14.9	5.2	21.2	3.9	100
Southwest Queens	Staten Island	41.4	18.4	6.1	31.7	2.4	100
Greenpoint/Brownsville	Northeast Bronx	21.1	12.6	6.6	54.6	5.1	100
Greenpoint/Brownsville	Southwest Bronx	28.9	14.8	1.3	48.8	6.2	100
Greenpoint/Brownsville	North Manhattan	18.0	8.1	3.6	67.0	3.3	100
Greenpoint/Brownsville	West & Lower Manhattan	5.3	2.5	4.8	85.4	2.0	100
Greenpoint/Brownsville	East Manhattan	8.0	3.3	5.9	80.8	2.0	100
Greenpoint/Brownsville	Northwest Queens	32.5	8.8	11.4	43.2	4.1	100
Greenpoint/Brownsville	Northeast Queens	32.2	9.2	11.0	41.0	6.6	100
Greenpoint/Brownsville	Southeast Queens	33.1	12.5	11.8	38.0	4.6	100
Greenpoint/Brownsville	Southwest Queens	25.5	9.7	19.8	28.7	16.3	100
Greenpoint/Brownsville	Greenpoint/Brownsville	15.6	6.5	13.3	15.1	49.5	100
Greenpoint/Brownsville	Ft. Greene/Bay Ridge	21.5	7.5	17.9	45.2	7.9	100
Greenpoint/Brownsville	Crown Heights/Flatbush	23.2	8.9	28.7	24.1	15.1	100
Greenpoint/Brownsville	Gravesend/East New York	30.2	8.6	21.0	26.0	14.2	100
Greenpoint/Brownsville	Boro Park/Coney Island	29.2	11.7	15.1	34.2	9.8	100
Greenpoint/Brownsville	Staten Island	17.7	9.2	18.0	52.2	2.9	100
Ft. Greene/Bay Ridge	Northeast Bronx	35.3	11.8	2.6	47.4	2.9	100
Ft. Greene/Bay Ridge	Southwest Bronx	30.4	12.1	0.9	53.4	3.2	100
Ft. Greene/Bay Ridge	North Manhattan	14.5	5.2	2.8	75.1	2.4	100
Ft. Greene/Bay Ridge	West & Lower Manhattan	4.8	2.4	4.4	86.0	2.4	100
Ft. Greene/Bay Ridge	East Manhattan	10.2	4.6	3.3	79.7	2.2	100
Ft. Greene/Bay Ridge	Northwest Queens	34.4	11.1	3.4	47.3	3.8	100
Ft. Greene/Bay Ridge	Northeast Queens	39.8	9.0	3.9	43.5	3.8	100
Ft. Greene/Bay Ridge	Southeast Queens	55.7	12.7	3.0	23.4	5.2	100
Ft. Greene/Bay Ridge	Southwest Queens	40.8	12.3	4.7	35.4	6.8	100
Ft. Greene/Bay Ridge	Greenpoint/Brownsville	34.8	11.0	9.3	32.0	12.9	100
Ft. Greene/Bay Ridge	Ft. Greene/Bay Ridge	19.1	6.4	7.5	23.0	44.0	100
Ft. Greene/Bay Ridge	Crown Heights/Flatbush	34.1	11.4	11.9	32.0	10.6	100
Ft. Greene/Bay Ridge	Gravesend/East New York	44.2	10.6	10.0	20.9	14.3	100
Ft. Greene/Bay Ridge	Boro Park/Coney Island	38.3	10.8	13.1	18.7	19.1	100
Ft. Greene/Bay Ridge	Staten Island	40.4	16.5	11.5	27.3	4.3	100
Crown Heights/Flatbush	Northeast Bronx	20.7	10.2	7.5	59.9	1.7	100
Crown Heights/Flatbush	Southwest Bronx	18.0	6.0	6.8	68.4	0.8	100
Crown Heights/Flatbush	North Manhattan	15.0	6.3	6.2	70.0	2.5	100

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
Crown Heights/Flatbush	West & Lower Manhattan	5.9	3.0	5.9	83.9	1.3	100
Crown Heights/Flatbush	East Manhattan	7.7	4.4	5.7	81.2	1.0	100
Crown Heights/Flatbush	Northwest Queens	33.7	8.6	7.5	47.7	2.5	100
Crown Heights/Flatbush	Northeast Queens	33.3	10.0	5.6	47.3	3.8	100
Crown Heights/Flatbush	Southeast Queens	43.1	12.1	16.0	25.4	3.4	100
Crown Heights/Flatbush	Southwest Queens	32.5	13.6	12.8	35.9	5.2	100
Crown Heights/Flatbush	Greenpoint/Brownsville	27.4	10.3	31.7	24.0	6.6	100
Crown Heights/Flatbush	Ft. Greene/Bay Ridge	21.6	8.0	16.0	49.0	5.4	100
Crown Heights/Flatbush	Crown Heights/Flatbush	19.4	6.5	19.0	13.2	41.9	100
Crown Heights/Flatbush	Gravesend/East New York	33.8	9.2	31.4	16.1	9.5	100
Crown Heights/Flatbush	Boro Park/Coney Island	32.5	10.8	23.9	23.7	9.1	100
Crown Heights/Flatbush	Staten Island	21.4	10.0	10.1	55.2	3.3	100
Gravesend/East New York	Northeast Bronx	52.5	17.3	3.0	26.2	1.0	100
Gravesend/East New York	Southwest Bronx	36.9	14.6	2.2	44.3	2.0	100
Gravesend/East New York	North Manhattan	25.2	8.7	5.6	57.6	2.9	100
Gravesend/East New York	West & Lower Manhattan	12.5	5.1	10.1	71.3	1.0	100
Gravesend/East New York	East Manhattan	16.7	5.6	11.3	65.3	1.1	100
Gravesend/East New York	Northwest Queens	47.7	15.9	4.6	29.1	2.7	100
Gravesend/East New York	Northeast Queens	49.7	15.3	5.5	25.0	4.5	100
Gravesend/East New York	Southeast Queens	58.0	14.1	9.6	15.9	2.4	100
Gravesend/East New York	Southwest Queens	48.0	14.5	11.1	22.9	3.5	100
Gravesend/East New York	Greenpoint/Brownsville	42.4	13.8	15.6	21.6	6.6	100
Gravesend/East New York	Ft. Greene/Bay Ridge	37.9	11.8	11.2	35.5	3.6	100
Gravesend/East New York	Crown Heights/Flatbush	44.8	15.2	23.3	11.4	5.3	100
Gravesend/East New York	Gravesend/East New York	37.8	9.7	12.3	5.0	35.2	100
Gravesend/East New York	Boro Park/Coney Island	49.2	14.2	17.6	11.6	7.4	100
Gravesend/East New York	Staten Island	50.5	17.9	6.1	21.5	4.0	100
Boro Park/Coney Island	Northeast Bronx	56.2	7.8	0.0	33.1	2.9	100
Boro Park/Coney Island	Southwest Bronx	36.2	13.4	2.0	45.5	2.9	100
Boro Park/Coney Island	North Manhattan	19.9	10.4	6.9	59.5	3.3	100
Boro Park/Coney Island	West & Lower Manhattan	7.2	5.3	5.9	80.4	1.2	100
Boro Park/Coney Island	East Manhattan	12.3	6.8	5.8	73.6	1.5	100
Boro Park/Coney Island	Northwest Queens	35.5	9.9	3.7	44.2	6.7	100
Boro Park/Coney Island	Northeast Queens	45.2	16.2	3.5	27.2	7.9	100
Boro Park/Coney Island	Southeast Queens	62.6	10.4	4.4	18.3	4.3	100
Boro Park/Coney Island	Southwest Queens	45.7	16.2	5.9	28.0	4.2	100
Boro Park/Coney Island	Greenpoint/Brownsville	37.3	15.9	9.4	27.9	9.5	100
Boro Park/Coney Island	Ft. Greene/Bay Ridge	30.2	11.3	10.5	39.7	8.3	100
Boro Park/Coney Island	Crown Heights/Flatbush	35.0	12.2	20.5	20.7	11.6	100
Boro Park/Coney Island	Gravesend/East New York	38.5	14.1	20.9	14.6	11.9	100
Boro Park/Coney Island	Boro Park/Coney Island	24.6	8.5	9.6	9.5	47.8	100
Boro Park/Coney Island	Staten Island	47.3	15.2	7.2	28.3	2.0	100
Staten Island	Northeast Bronx	54.2	14.6	18.5	12.7	0.0	100

Live	Work	Drive Alone	Carpool	Bus	SubRRFerry	Others	Total %
Staten Island	Southwest Bronx	53.4	13.9	15.1	16.2	1.4	100
Staten Island	North Manhattan	50.7	16.3	13.3	18.2	1.5	100
Staten Island	West & Lower Manhattan	20.9	7.9	45.3	25.1	0.8	100
Staten Island	East Manhattan	31.1	10.2	37.6	19.6	1.5	100
Staten Island	Northwest Queens	69.4	17.5	6.3	4.7	2.1	100
Staten Island	Northeast Queens	65.7	11.4	14.9	5.2	2.8	100
Staten Island	Southeast Queens	81.9	12.4	2.1	3.6	0.0	100
Staten Island	Southwest Queens	68.8	14.1	5.8	7.9	3.4	100
Staten Island	Greenpoint/Brownsville	67.2	20.7	6.9	3.9	1.3	100
Staten Island	Ft. Greene/Bay Ridge	58.7	22.0	11.1	7.3	0.9	100
Staten Island	Crown Heights/Flatbush	60.3	23.1	8.8	7.3	0.5	100
Staten Island	Gravesend/East New York	72.2	19.4	3.8	3.3	1.3	100
Staten Island	Boro Park/Coney Island	69.9	23.1	5.3	0.9	0.8	100
Staten Island	Staten Island	64.9	10.2	11.7	2.2	11.0	100

Source: US Census 2000: Mean Travel Time by Means of Transportation (Table 3-008); Aggregate Travel Time by Means of Transportation (Table 3-014)

Credits

Department of City Planning

Amanda M. Burden, FAICP, Chair

Richard Barth, Executive Director

Sandy Hornick, Deputy Executive Director of Strategic Planning

Howard Slatkin, Deputy Director of Strategic Planning

Elizabeth Mackintosh, Director of Planning Coordination

Transportation Division

Jack Schmidt, Director

Kevin Olinger, Deputy Director

Stratos Prassas, Team Leader

Emilio Feliz, former Project Manager

Dorian Statom, Project Manager

Jetal Bhakta, City Planner

Timothy Michalowski, former City Planner

Judith Ross, City Planner

Population Division

Joe Salvo, Director

Drew Minert, City Planner