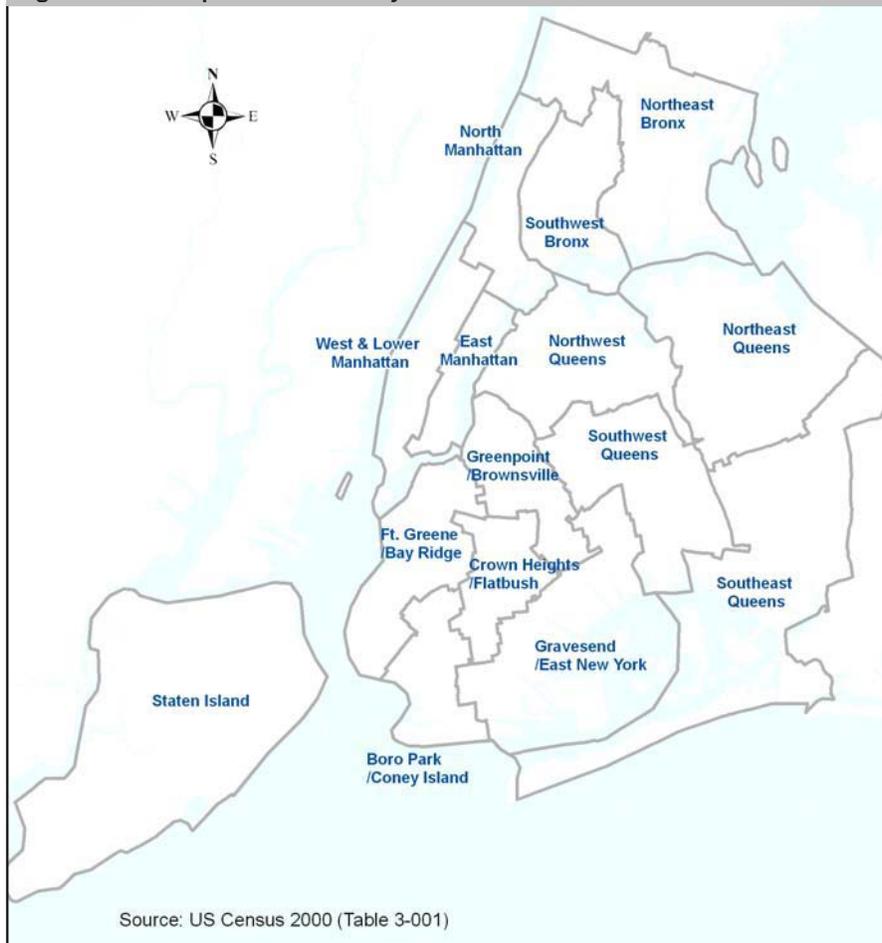




EXECUTIVE SUMMARY



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						Avg. Travel Time (Min)
		Car	Bus	Subway/RR/ Ferry	Walk	Others	Total	
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
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	67,226	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

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.