

PERIPHERAL TRAVEL STUDY

NYC Department of City Planning
Transportation Division
March 16, 2010



OUTLINE



PURPOSE



SUMMARY OF FINDINGS



METHODOLOGY



FINDINGS



IMPLICATIONS

PURPOSE

A

Identify commuting patterns other than the traditional trip to and from the Manhattan CBDs

B

Determine the patterns of commuting into and within the other four boroughs

C

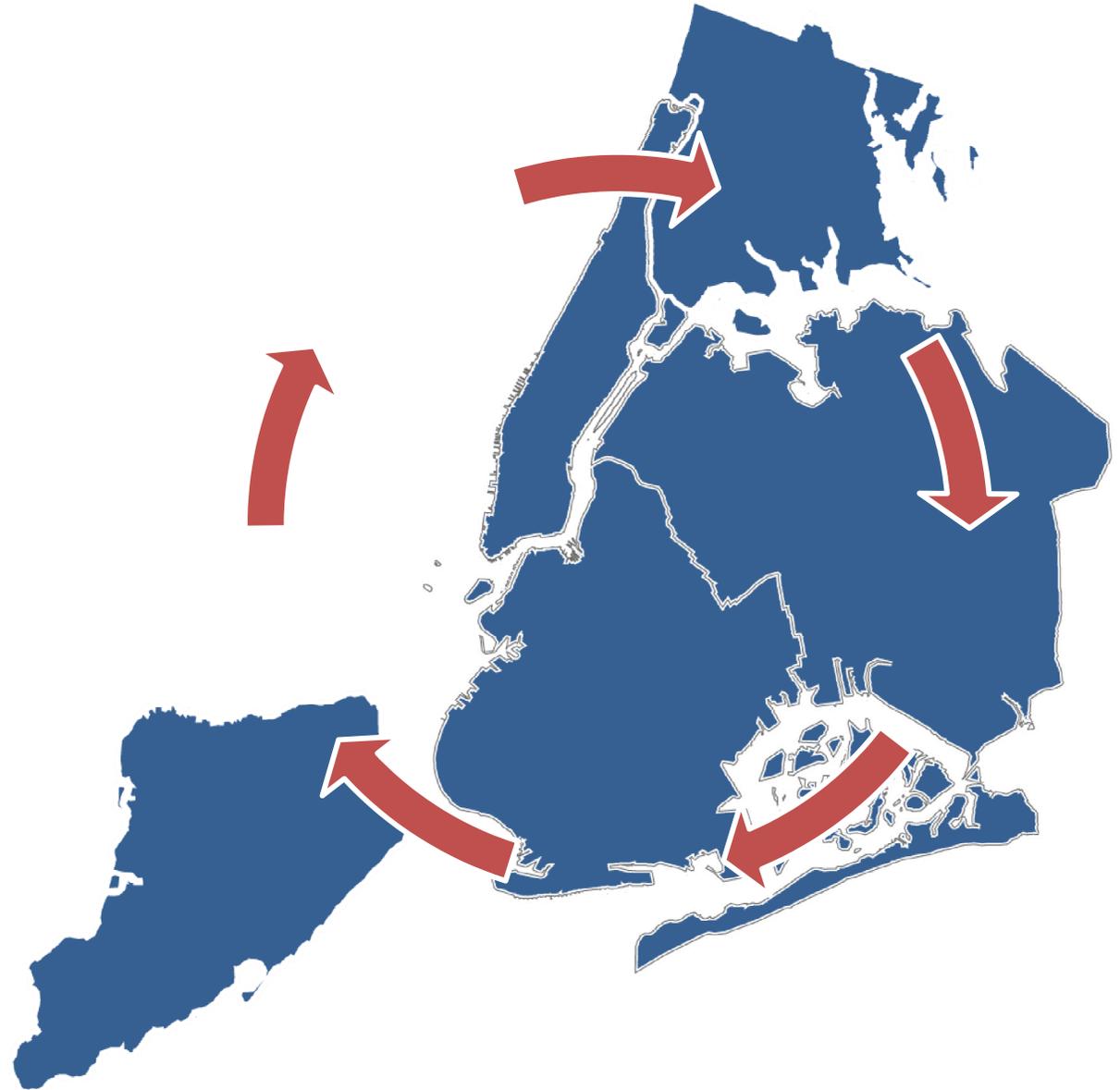
Identify origin and destination pairs with large number of commuters and high auto modal splits

D

Identify opportunities to encourage alternative modes of transportation

E

Identify areas of additional research





SUMMARY OF FINDINGS

Commuters tend to work relatively close to where they live

Commuters living in areas closest to the core are less likely to drive to work

Over 300,000 people commute between boroughs outside Manhattan (44% of these between Brooklyn and Queens), with auto the dominant mode

Longest travel times for commuters who live in SE Queens and Staten Island

Workplaces outside Manhattan have a significant auto share, even in areas close to the core

Commuters from outside NYC tend to drive to work; overwhelmingly so if they work outside Manhattan

METHODOLOGY

Relies on 2000 Census journey-to-work data

- A > At place of Residence
- > At place of Work
- > Workers from Home to Work

B Looks at each borough as a whole and also divides each borough into "Super-PUMAs"

C Examines origins and destinations of commuters, as well as modal splits

D Uses 2000 Census data instead of more recent ACS data because ACS data is limited for areas with population below 20,000.



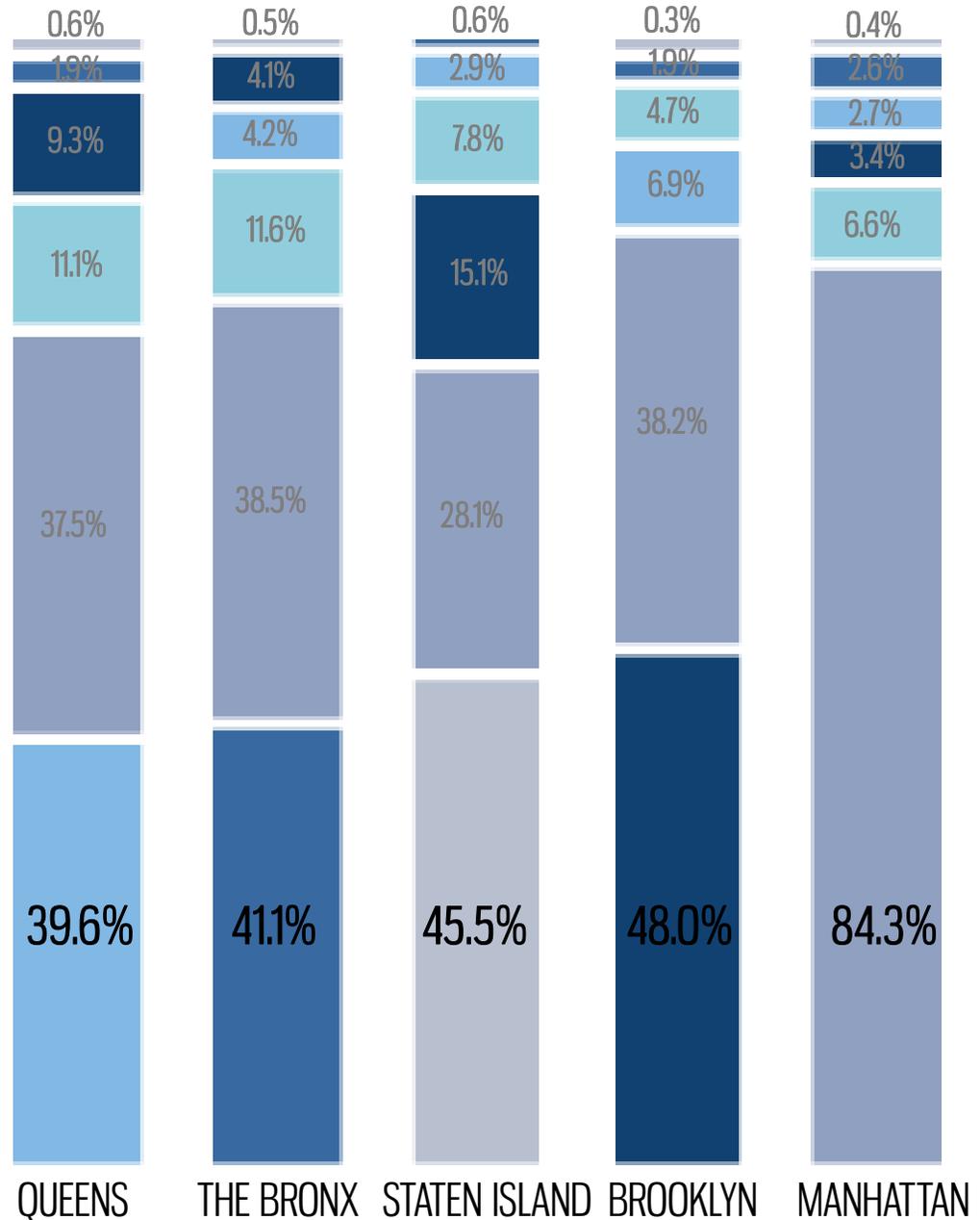
NYC RESIDENTS – JOURNEY TO WORK



FINDINGS

More people live and work in the same borough than commute to work in any other borough

Most people that live in Manhattan, work in Manhattan



NYC Residents by Borough and Location of Workplace by Borough

NYC RESIDENTS – MODAL SPLIT



FINDINGS

Except Staten Island, workers commuting to work rely on transportation other than cars

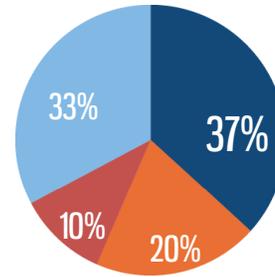
Subway/Railroad/Ferry is the largest mode among workers commuting outside of their borough of residence, except on Staten Island

Residents that live in Brooklyn and Manhattan do not use car, bus or subway as their main mode when commuting within their home boroughs, but rely heavily on subway when commuting outside of their home boroughs.

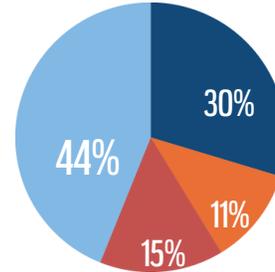
In Queens and Staten Island, the plurality of workers use cars for commuting within their borough of residence and to other boroughs.

Workers Living and Working in Same Borough

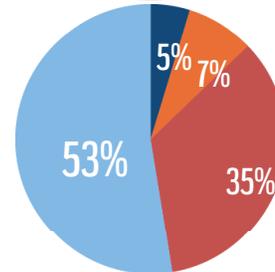
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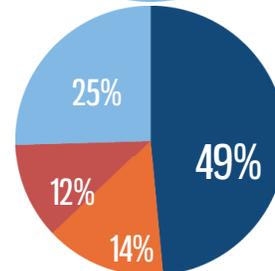
BROOKLYN



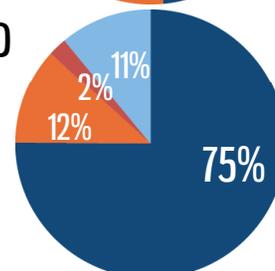
MANHATTAN



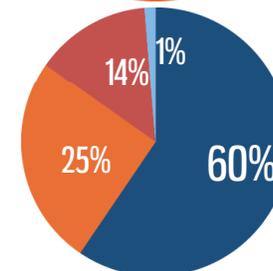
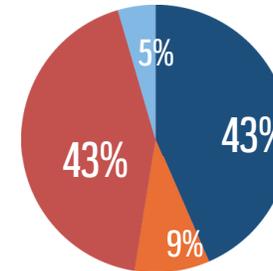
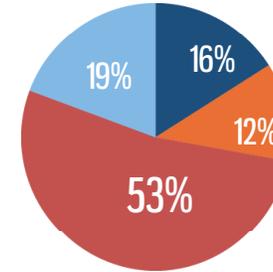
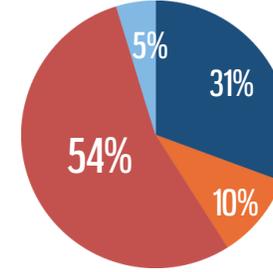
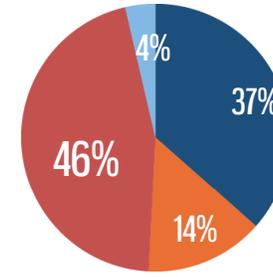
QUEENS



STATEN ISLAND



Workers Commuting Outside of their Borough of Residence



- Car
- Bus
- Subway/RR/Ferry
- Other*

*Other includes bicycle, walk, taxicab, motorcycle, or work at home.

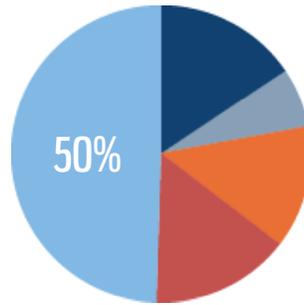
WORKERS LIVING AND WORKING IN SAME SUPERPUMA – MODAL SPLIT (OTHER)



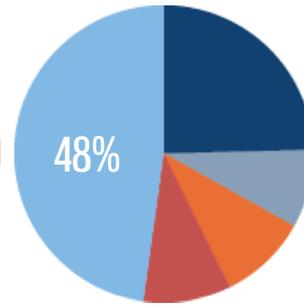
FINDINGS

The four highest shares of Other were in the central and inner superpumas in Brooklyn

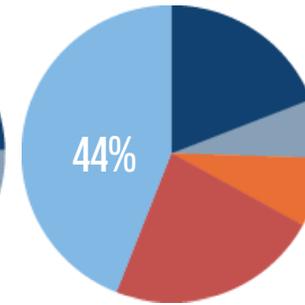
The same superpumas that are closer to Manhattan and are more likely to have residents that use subways to travel to work have the highest concentration of “Other” as the mode for journey-to work travel



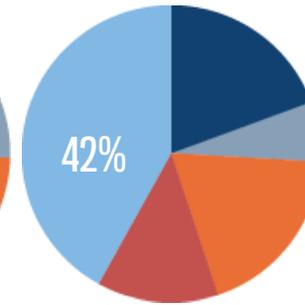
Greenpoint/Brownsville



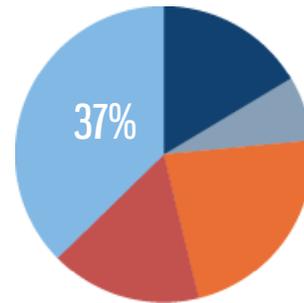
Boro Park/Coney Island



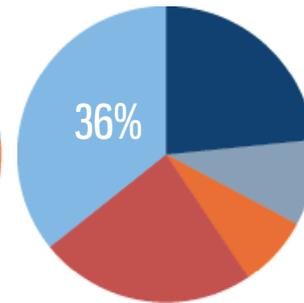
Ft. Greene/Bay Ridge



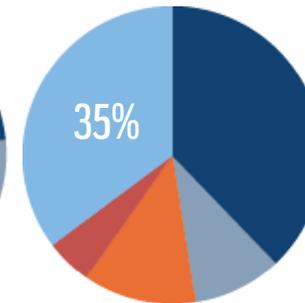
Crown Heights/Flatbush



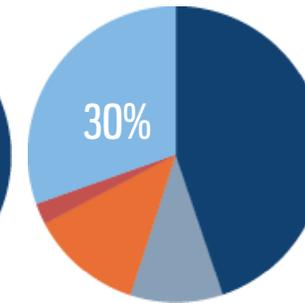
Southwest Bronx



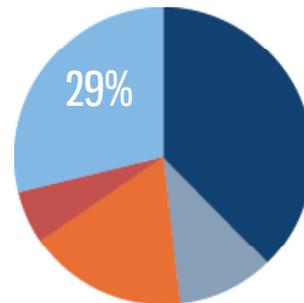
Northwest Queens



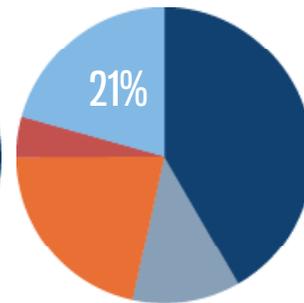
Gravesend/
East New York



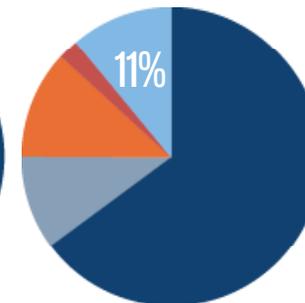
Northeast Queens



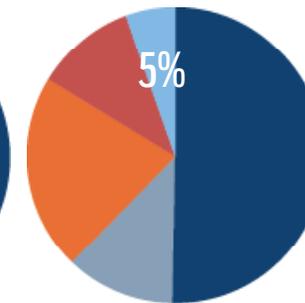
Northeast Bronx



Southeast Queens



Staten Island



Southwest Queens

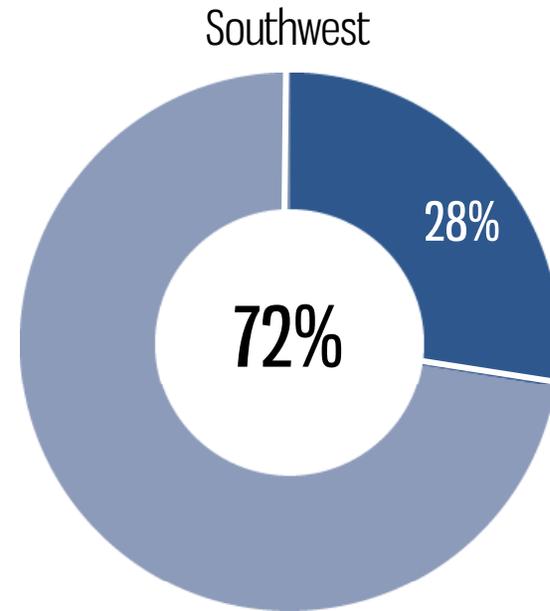
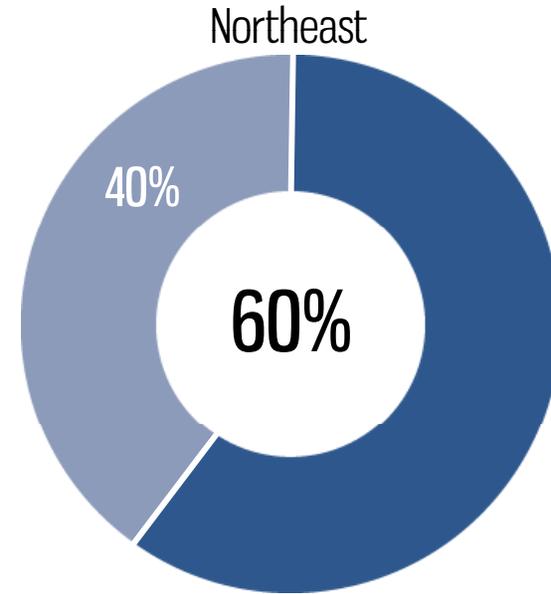
*Other includes bicycle, taxicab, motorcycle, walked or work at home.

Mode of Transportation to Work by Area of Residence

INTRA-BOROUGH - BRONX

FINDINGS

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



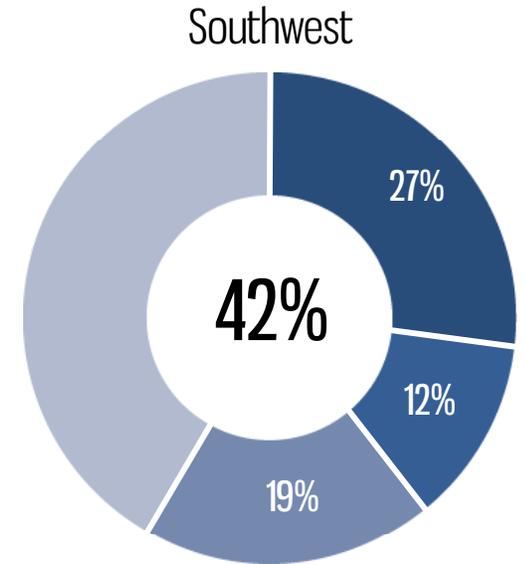
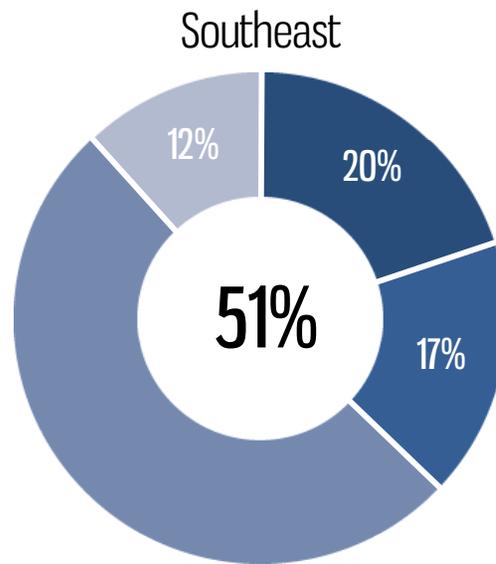
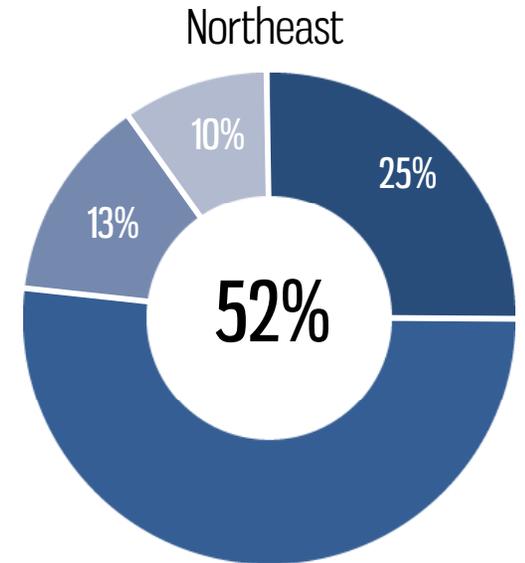
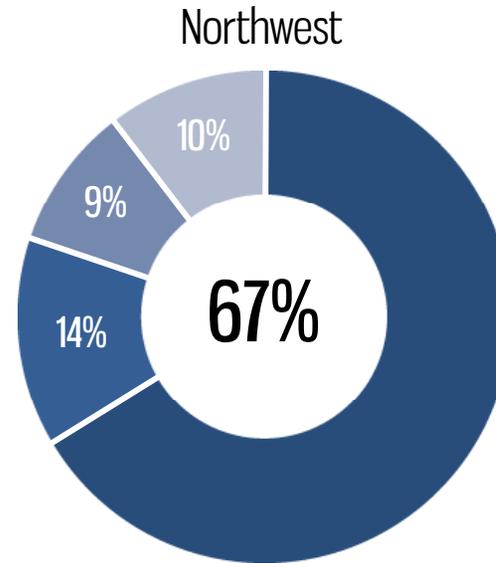
Bronx Residents by Super-PUMA with Place of Work Within Bronx Super-PUMAs

INTRA-BOROUGH - 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



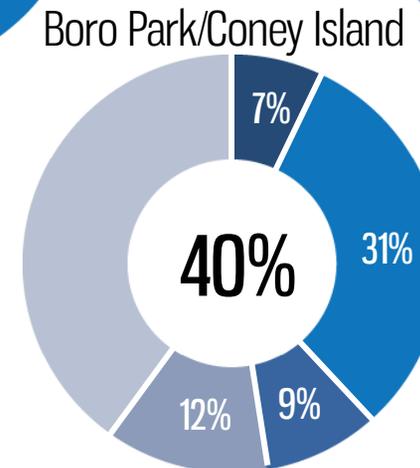
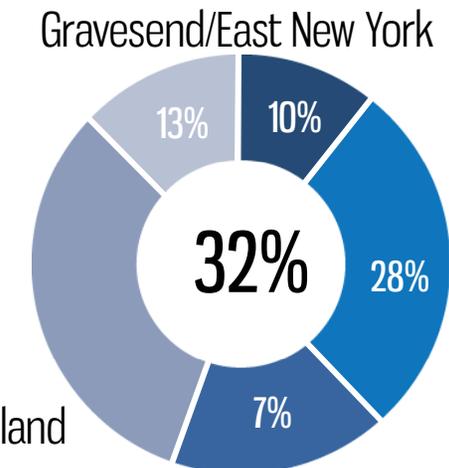
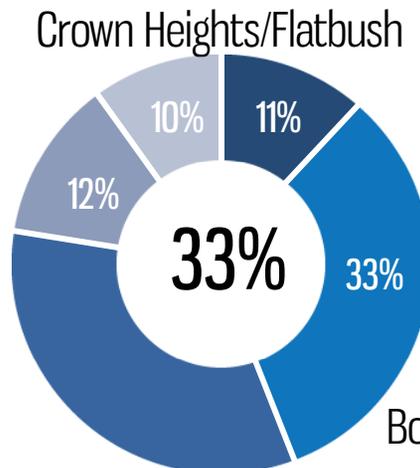
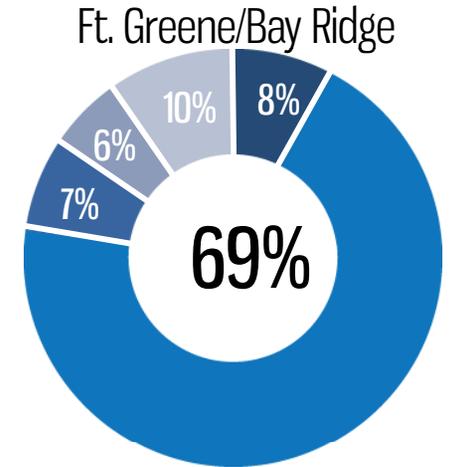
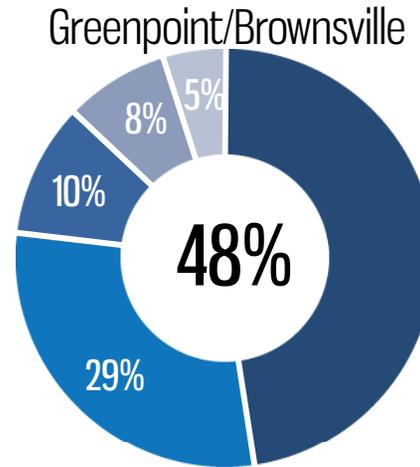
Queens Residents by Super-PUMA with Place of Work Within Queens Super-PUMAs

INTRA-BOROUGH - 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

INTRA-BOROUGH – FIVE HIGHEST FLOWS

FINDINGS

3 of the 5 highest flows are to Ft. Greene/Bay Ridge super-PUMA from other Brooklyn super-PUMAs

Highest Flows

- 1 **Northeast Bronx → Southwest Bronx**
39,434 residents
- 2 **Crown Heights/Flatbush → Ft. Greene/Bay Ridge**
31,637 residents
- 3 **Gravesend/East New York → Ft. Greene/Bay Ridge**
25,151 residents
- 4 **Boro Park/Coney Island → Ft. Greene/Bay Ridge**
24,028 residents
- 5 **Northeast Queens → Northwest Queens**
23,919 residents



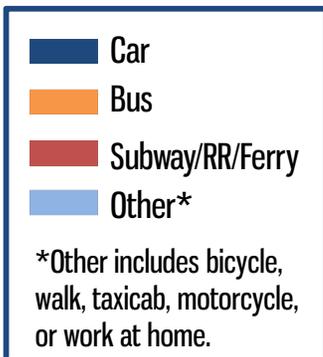
INTRA-BOROUGH - MODAL SPLIT FOR FIVE HIGHEST FLOWS

FINDINGS

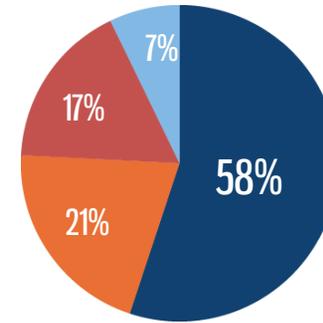
Cars are the leading mode of transportation in 4 of the 5 highest commuter flows.

Flows to Ft. Greene/Bay Ridge super-PUMA have the highest shares of public transit use

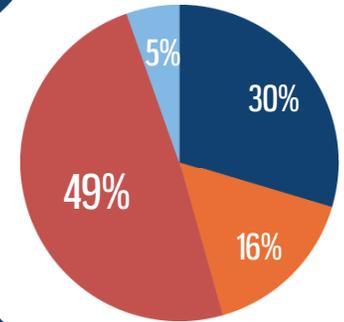
Two-thirds of Crown Heights /Flatbush residents use public transit to commute to Ft. Greene/Bay Ridge



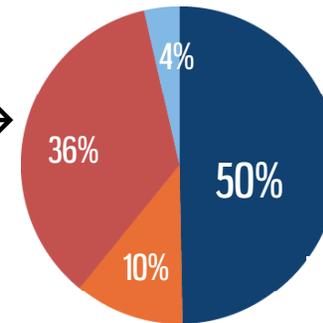
1 Northeast Bronx → Southwest Bronx



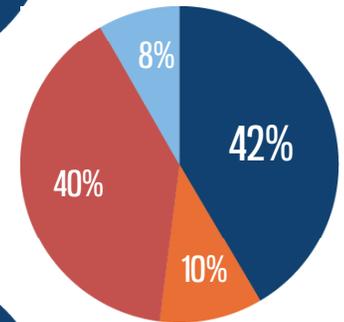
2 Crown Heights/Flatbush → Ft. Greene/Bay Ridge



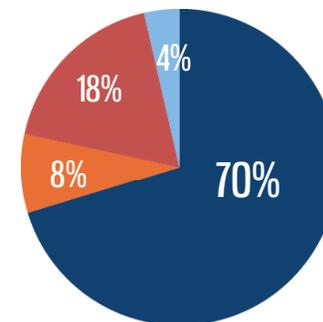
3 Gravesend/East New York → Ft. Greene/Bay Ridge



4 Boro Park/Coney Island → Ft. Greene/Bay Ridge



5 Northeast Queens → Northwest Queens



Modal Split of Highest Flows

INTER-BOROUGH – HIGHEST FLOWS

FINDINGS

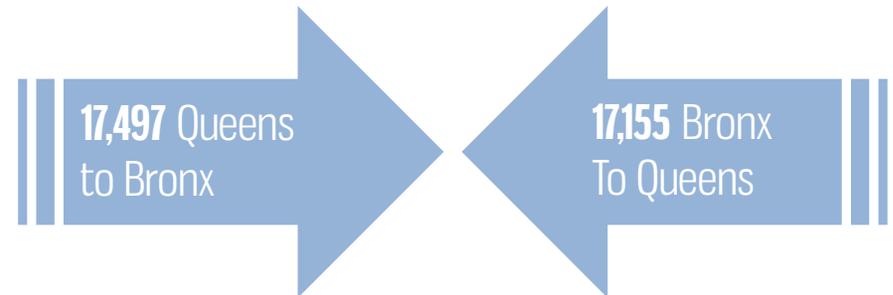
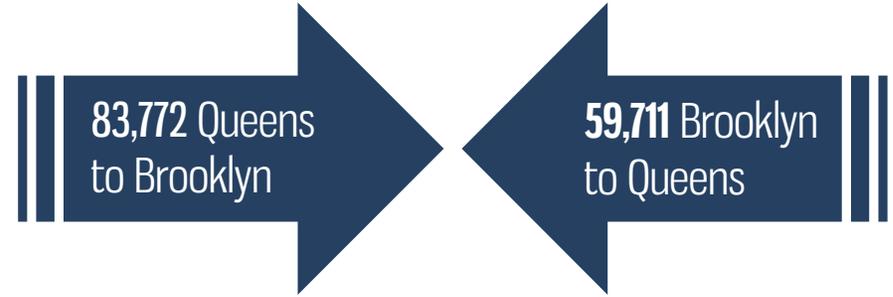
Excluding Manhattan as a place of work, Brooklyn-Queens has the greatest number of interborough work trips, followed by Brooklyn-Staten Island and Bronx-Queens, respectively

Highest Interborough Flow

83,772 Queens residents work in Brooklyn
+ 59,711 Brooklyn residents work in Queens
143,483 Brooklyn-Queens

28,173 S. Island residents work in Brooklyn
+ 8,832 Brooklyn residents work in S. Island
37,005 Brooklyn-Staten Island

17,497 Queens residents work in the Bronx
+ 17,155 Bronx residents work in Queens
34,562 Bronx-Queens



NYC Workers with Interborough Work Trips (Excluding Manhattan as a Work Destination)

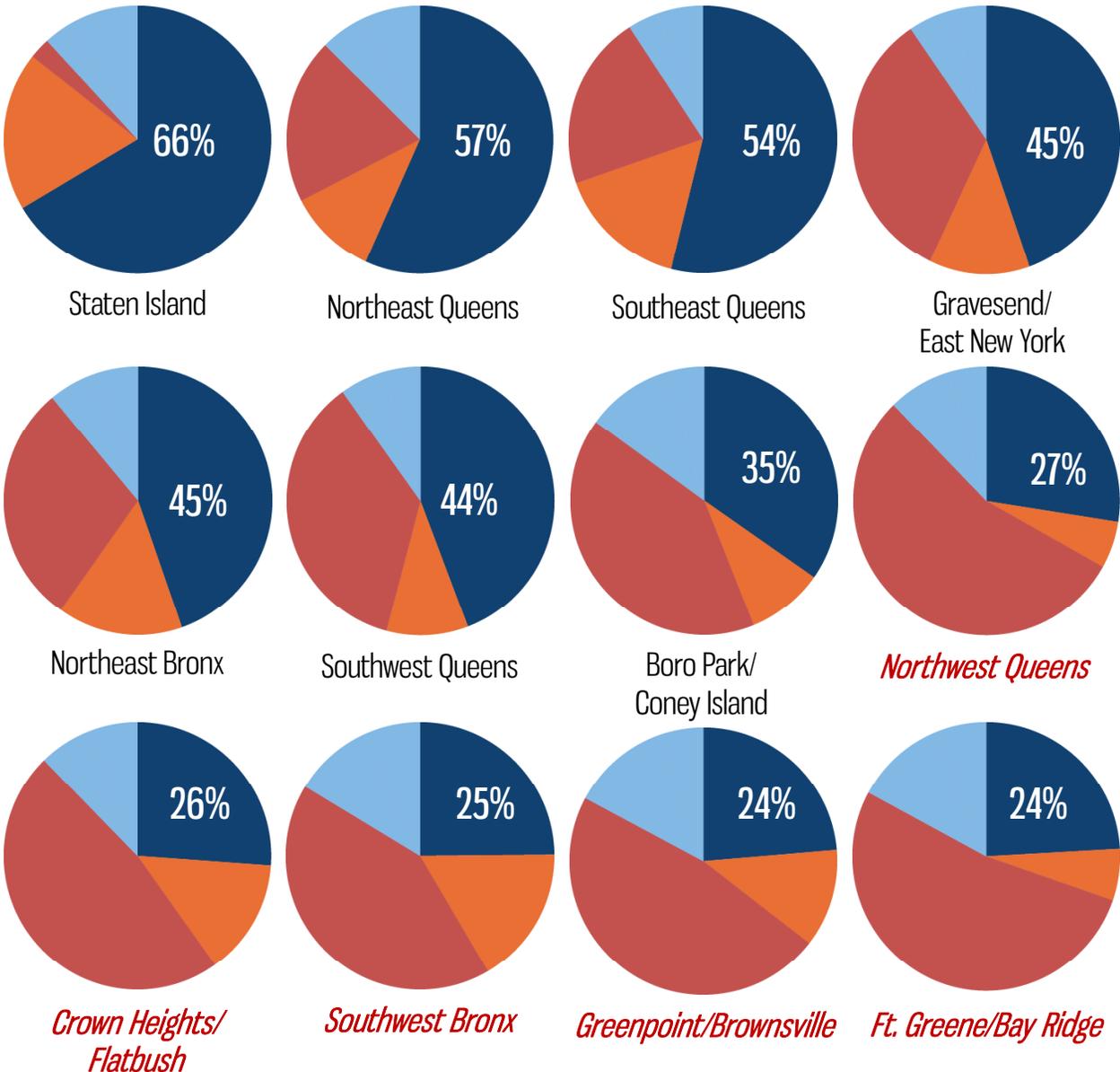
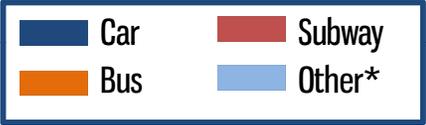
ALL WORKERS – AREA OF RESIDENCE MODAL SPLIT (AUTO)



FINDINGS

Most Staten Island, Northeast Queens and Southeast Queens residents commute by car

Almost a quarter of residents in the five super-PUMAs closest to Manhattan commute by car



*Other includes railroad, ferry, bicycle, taxicab, motorcycle, walked or work at home.

Mode of Transportation to Work by Area of Residence

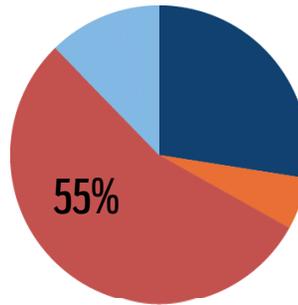
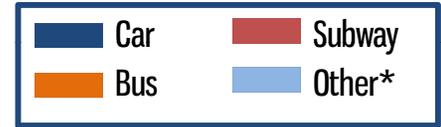
ALL WORKERS – AREA OF RESIDENCE MODAL SPLIT (SUBWAY)



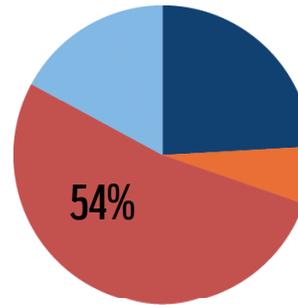
FINDINGS

Most Northwest Queens and Ft. Greene/Bay Ridge residents commute by subway

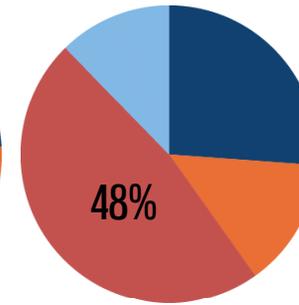
Study areas closer to Manhattan or those better served by subways are more likely to take subways to work



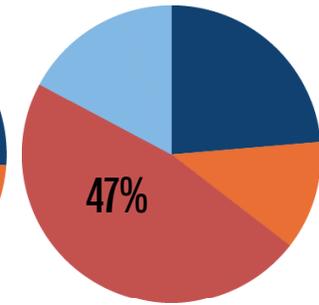
Northwest Queens



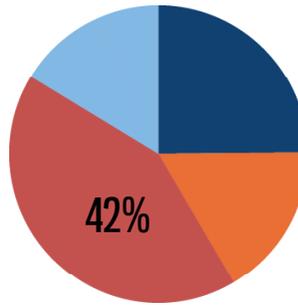
Ft. Greene/Bay Ridge



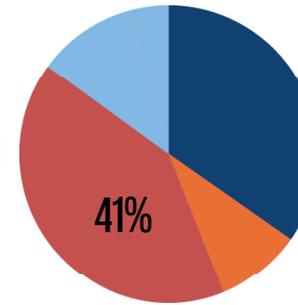
Crown Heights/
Flatbush



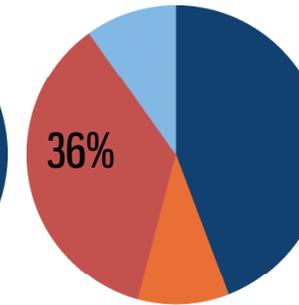
Greenpoint/Brownsville



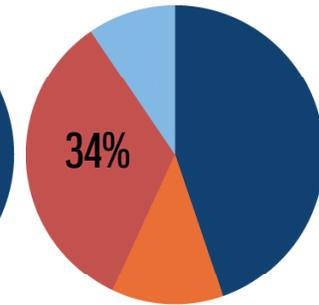
Southwest Bronx



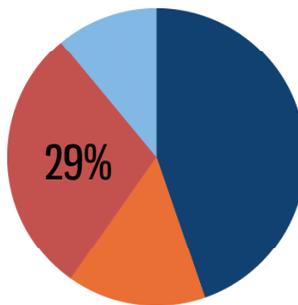
Boro Park/
Coney Island



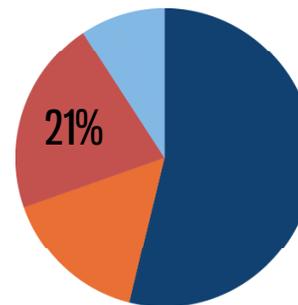
Southwest Queens



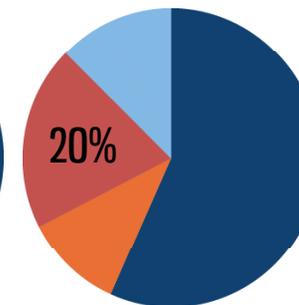
Gravesend/
East New York



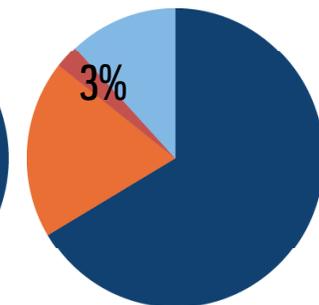
Northeast Bronx



Southeast Queens



Northeast Queens



Staten Island

*Other includes railroad, ferry, bicycle, taxicab, motorcycle, walked or work at home.

ALL WORKERS – TRAVEL TIMES TO WORK BY AREA OF RESIDENCE

FINDINGS

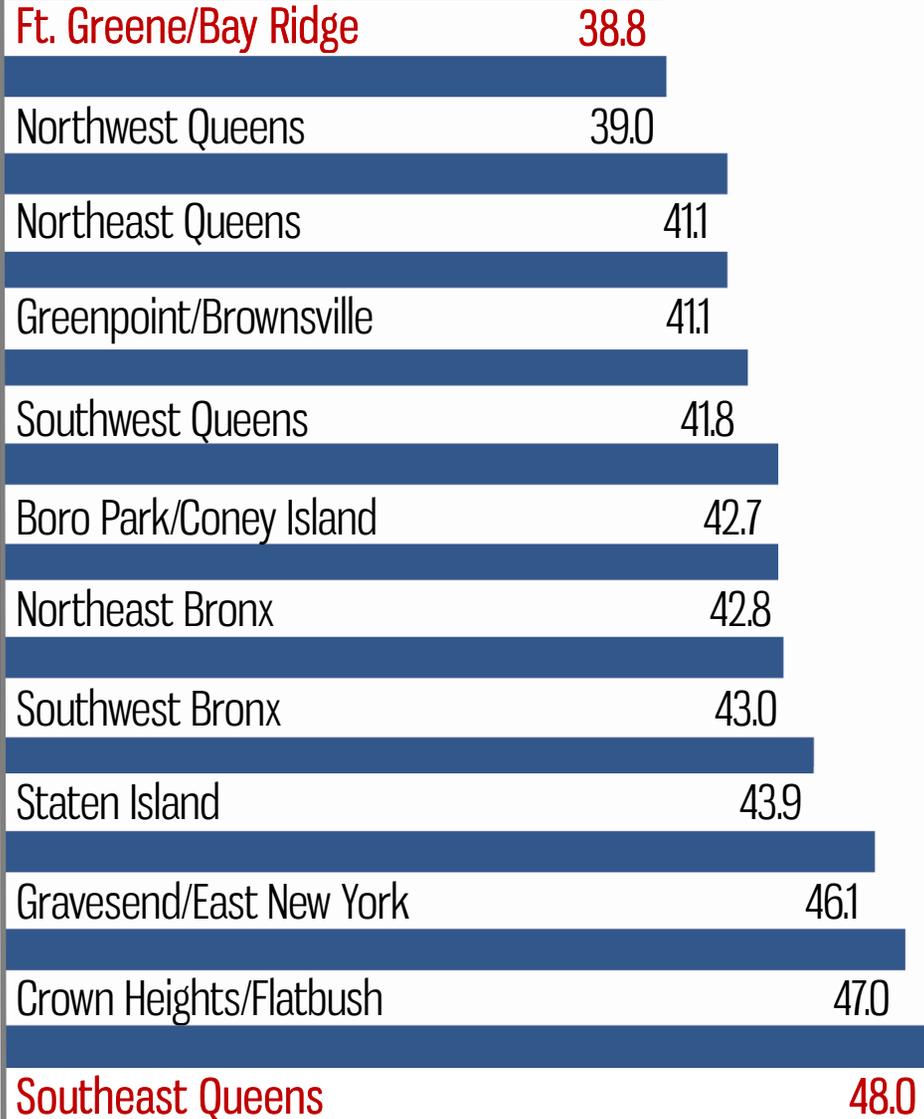
Residents in study areas closest to downtown employment centers generally have shorter travel times to work

Residents in Ft. Greene/Bay Ridge have the shortest travel times

Residents in Southeast Queens have the highest travel times



25 mins



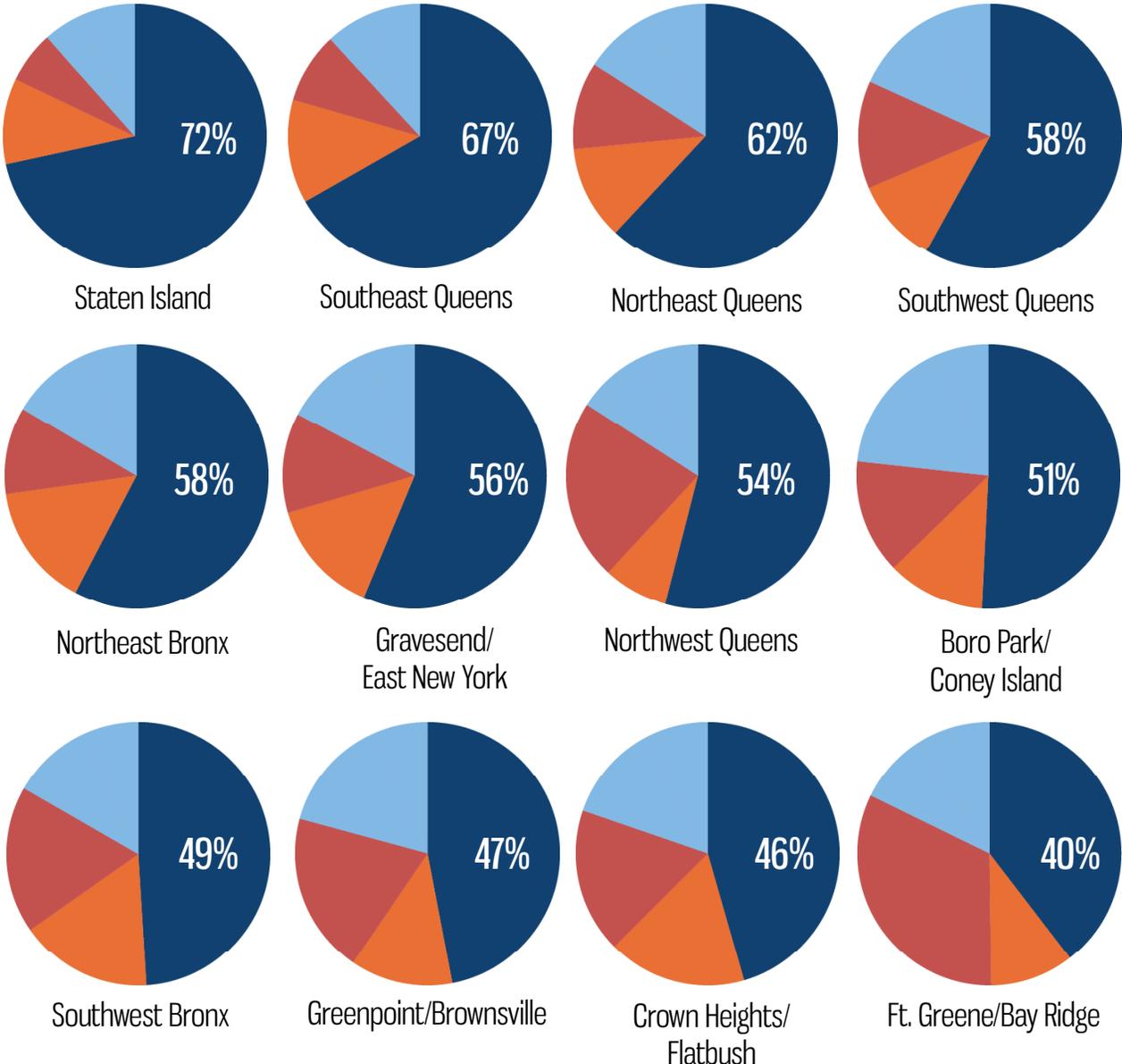
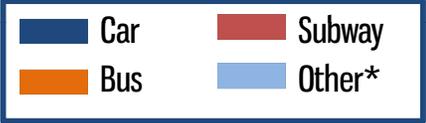
Travel Time to Work in Minutes by Area of Residence

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



*Other includes railroad, ferry, bicycle, taxicab, motorcycle, walked or work at home.

Mode of Transportation to Work by Area of Work

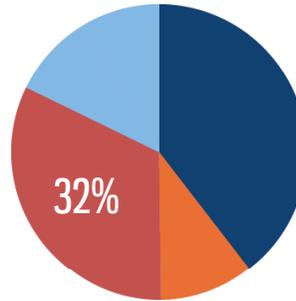
ALL WORKERS – AREA OF WORK MODAL SPLIT (SUBWAY)



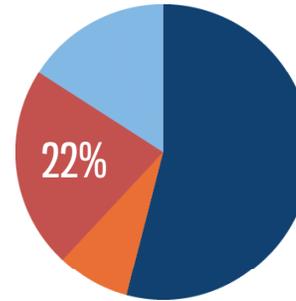
FINDINGS

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

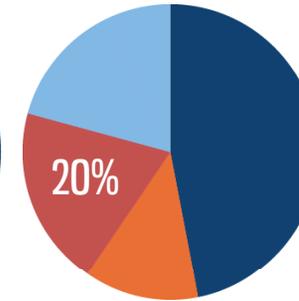
When public transit (bus and subway) is combined, its mode share is still smaller than cars in all super-PUMAs, except Ft. Greene/Bay Ridge



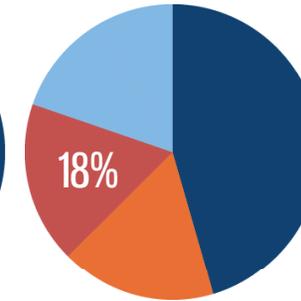
Ft. Greene/Bay Ridge



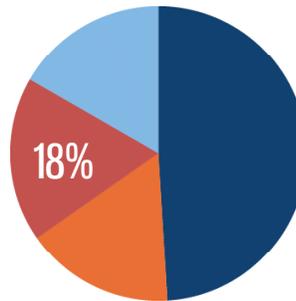
Northwest Queens



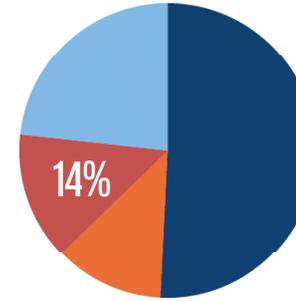
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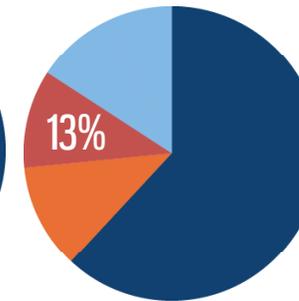
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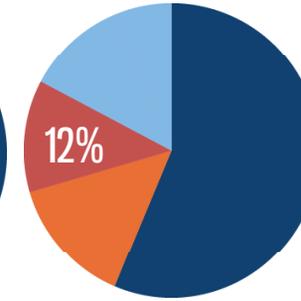
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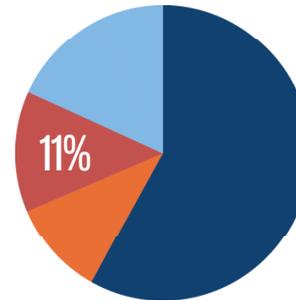
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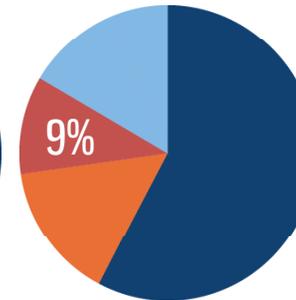
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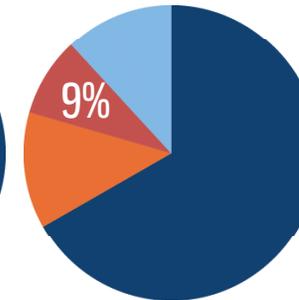
Gravesend/
East New York



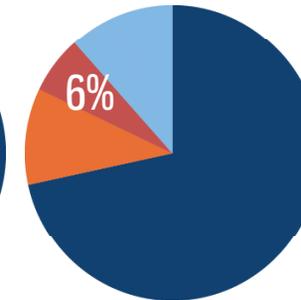
Northeast Queens



Northeast Bronx



Southeast Queens



Staten Island

*Other includes railroad, ferry, bicycle, taxicab, motorcycle, walked or work at home.

ALL WORKERS – TRAVEL TIMES TO WORK BY AREA OF WORK

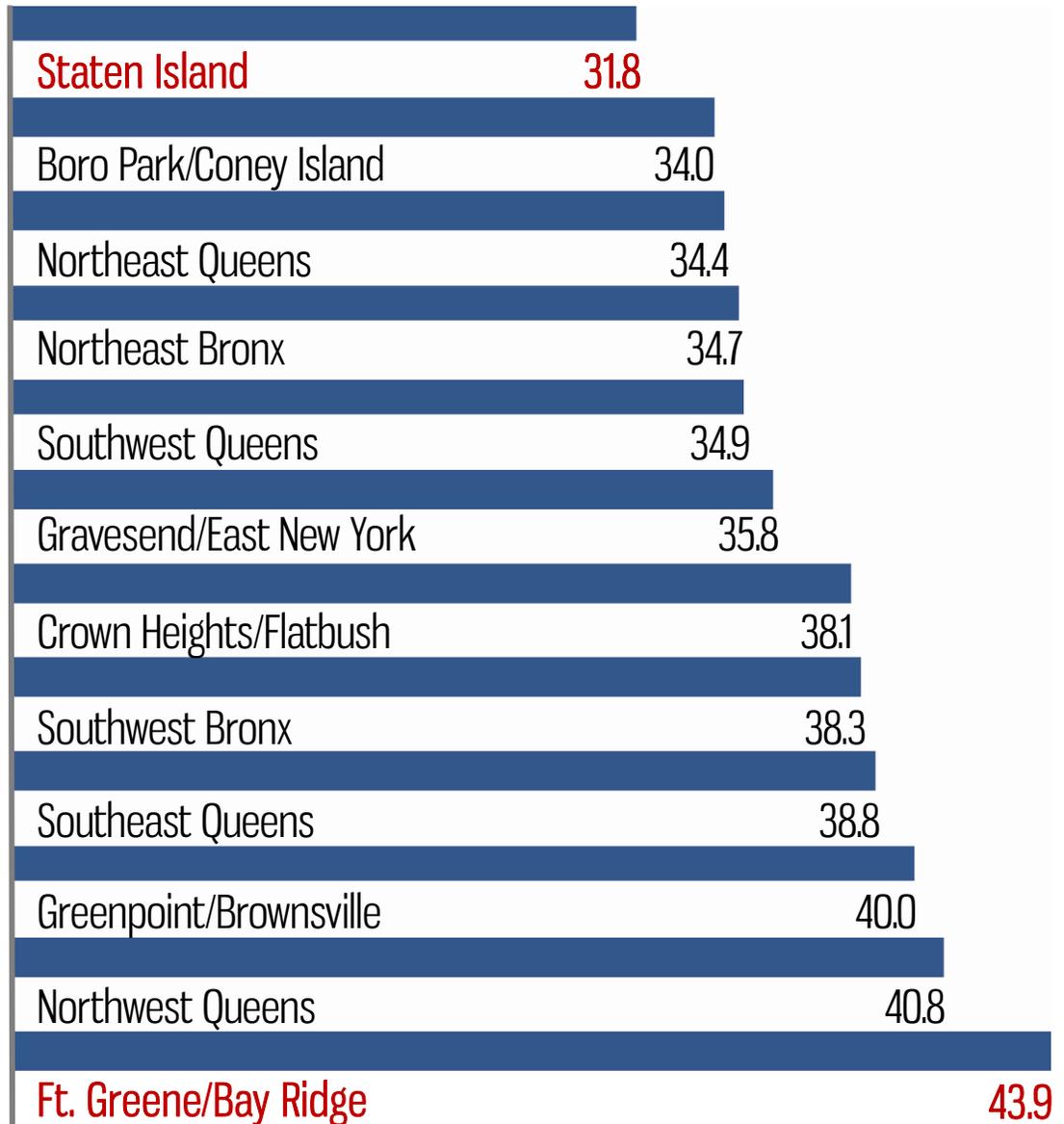
FINDINGS

Workers in Ft. Greene/Bay Ridge have the longest travel times

Workers on Staten Island have the shortest travel times



25 mins



Travel Time to Work in Minutes by Area of Work

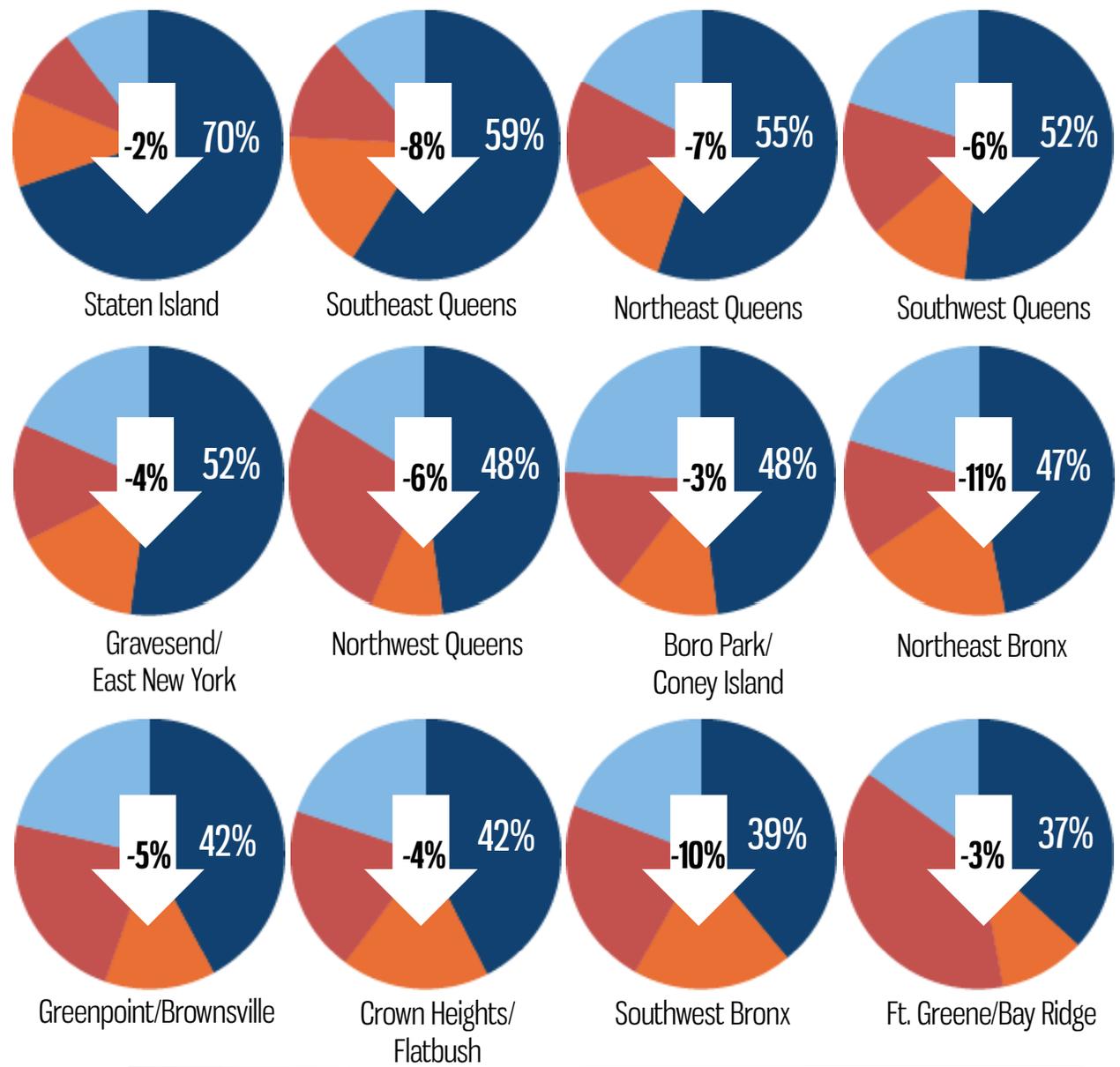
NYC RESIDENTS – AREA OF WORK MODAL SPLIT (AUTO)



FINDINGS

Among NYC residents, the majority of workers arriving in the Bronx, Brooklyn, Queens and Staten Island commute by car, except Ft. Greene/Bay Ridge

Auto modal share decreases in all Super-PUMAs when workers from Outside NYC are removed



*Other includes railroad, ferry, bicycle, taxicab, motorcycle, walked or work at home.

Mode of Transportation to Work by Area of Work

OUTSIDE NYC – JOURNEY TO WORK



FINDINGS

Workers who reside outside New York City and work in the city comprise the largest number of workers who make inbound trips into each borough, with the exception of Brooklyn, where 37% of workers commute from Queens



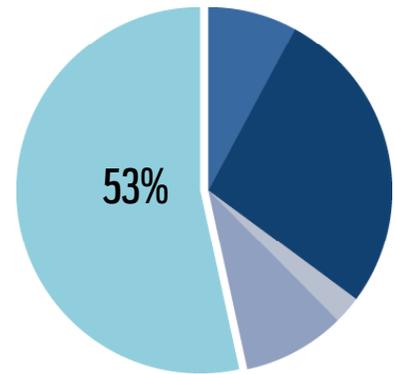
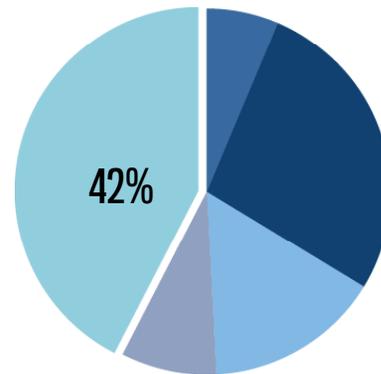
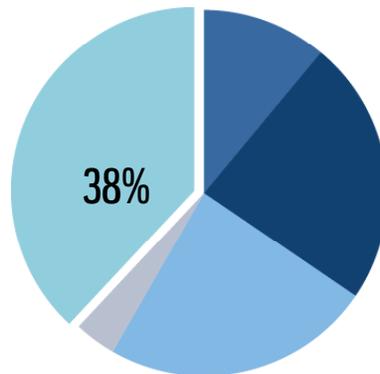
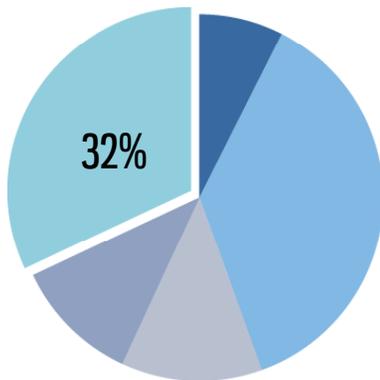
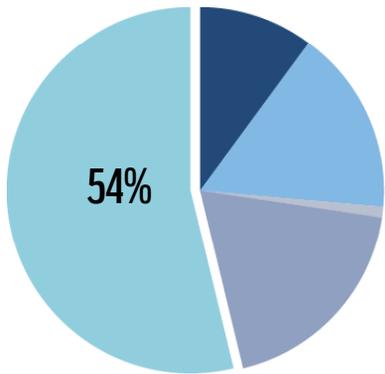
BRONX

BROOKLYN

MANHATTAN

QUEENS

STATEN ISLAND



Workers Entering Into Each Borough by Place of Residence

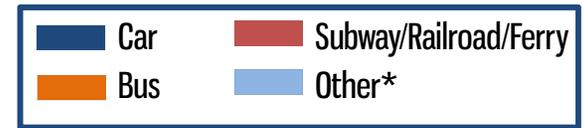
OUTSIDE NYC – JOURNEY TO WORK MODAL SPLIT



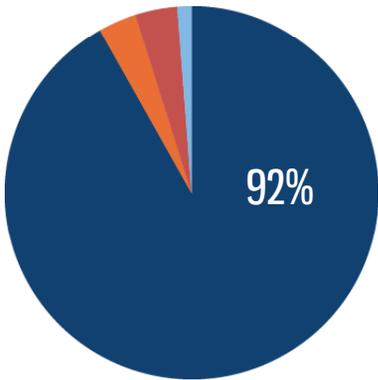
FINDINGS

Except Manhattan, most workers who reside **outside New York City** and work in the city commute by car

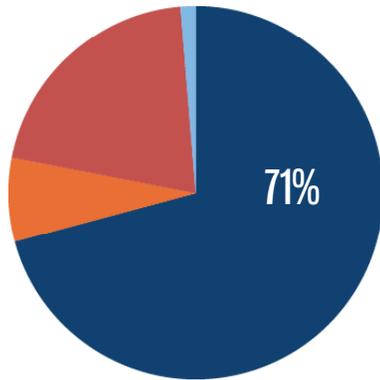
Most workers who reside outside NYC and work in **Manhattan**, commute by subway/railroad/ferry (51%)



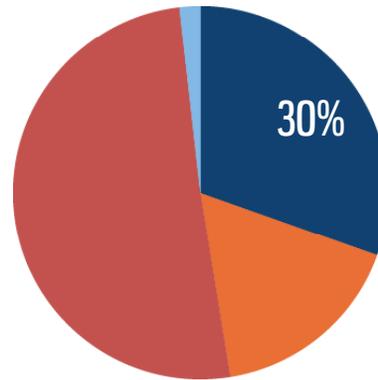
BRONX



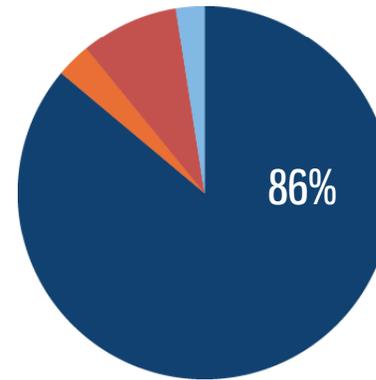
BROOKLYN



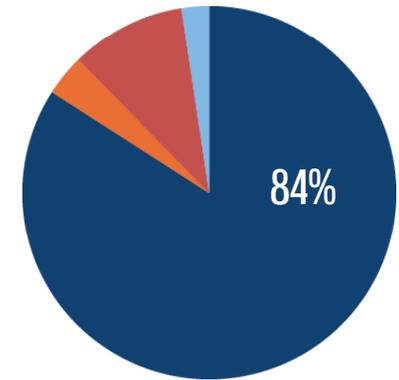
MANHATTAN



QUEENS



STATEN ISLAND



Modal Split of Workers Entering Each Borough Coming from Outside NYC

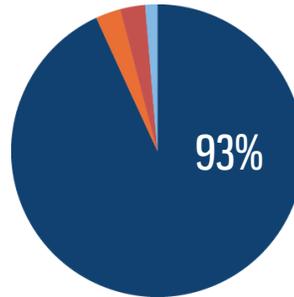
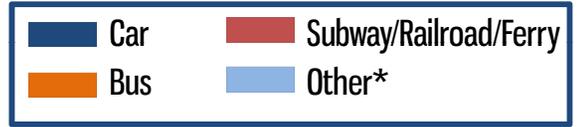
NYC WORKERS RESIDING OUTSIDE NYC - MODAL SPLIT (AUTO)



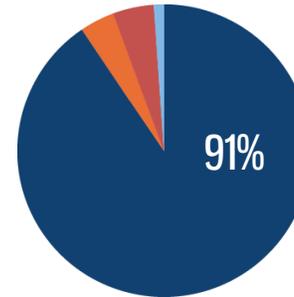
FINDINGS

The majority of workers arriving in the Bronx, Brooklyn, Queens and Staten Island from outside NYC commute by car

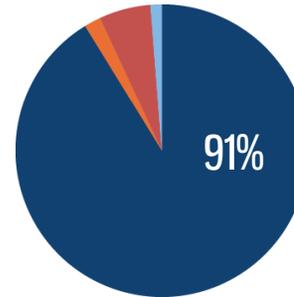
Only commuters originating outside NYC and arriving in Ft. Greene/Bay Ridge have a car modal split less than 75%



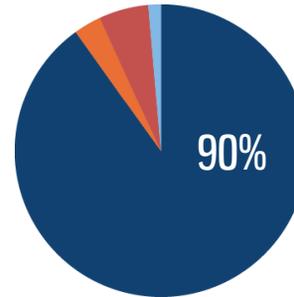
Northeast Bronx



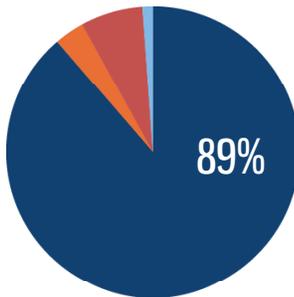
Southwest Bronx



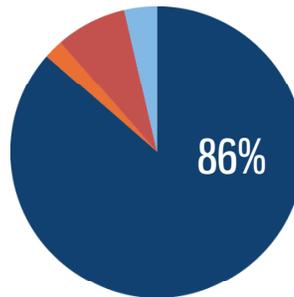
Southwest Queens



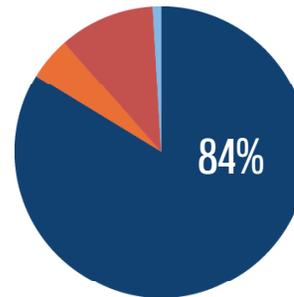
Gravesend/
East New York



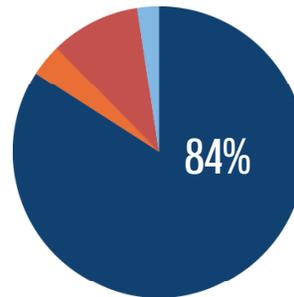
Northeast Queens



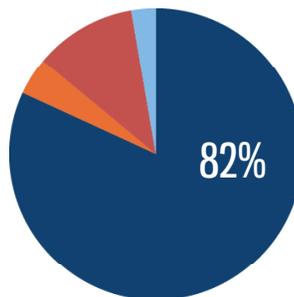
Southeast Queens



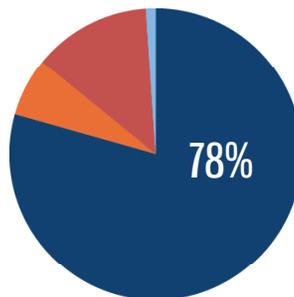
Boro Park/
Coney Island



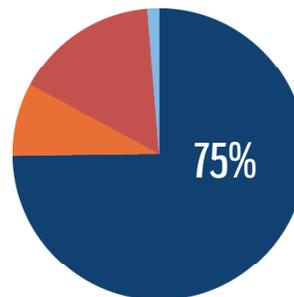
Staten Island



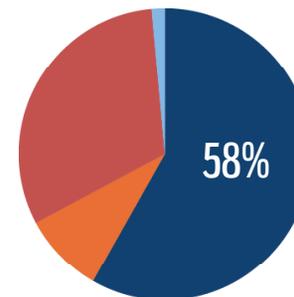
Northwest Queens



Greenpoint/Brownsville



Crown Heights/
Flatbush



Ft. Greene/Bay Ridge

*Other includes bicycle, walk, taxicab, motorcycle, or work at home.

Mode of Transportation to Work by Area of Work



IMPLICATIONS

Explore policies to encourage non-automotive modes for short journey-to-work trips, as well as non-work trips, outside the core.

Maintain land use policies that encourage dense, mixed-use growth in appropriate areas, which are key to promoting non-auto trips.

To reduce long travel times for residents of SE Queens and Staten Island, explore improvements that speed up transit portion of long multi-modal trips, and/or expansion of nearby employment (eg. Jamaica).

The automobile remains an extremely important means of travel among dispersed locations. For homes and workplaces farther from the CBD, additional study is needed to evaluate public policies toward automobile use.

Explore opportunities to expand use of other modes for people commuting between the boroughs, especially between Brooklyn and Queens:

- Potential bus and bicycle improvements
- Take better advantage of LIRR Atlantic Branch