Mobility, Economic Opportunity and New York City Neighborhoods

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Introduction

- 56% of New York City residents commute by public transit

- Larger percentage than any other metropolitan area in the US

- Economic opportunity in various neighborhoods is governed by the quality of public transit options available to residents

Purpose

- To explore the relationship between public transit access and economic opportunity in New York City

- To recommend meaningful transportation policy measures to improve economic opportunity across New York City
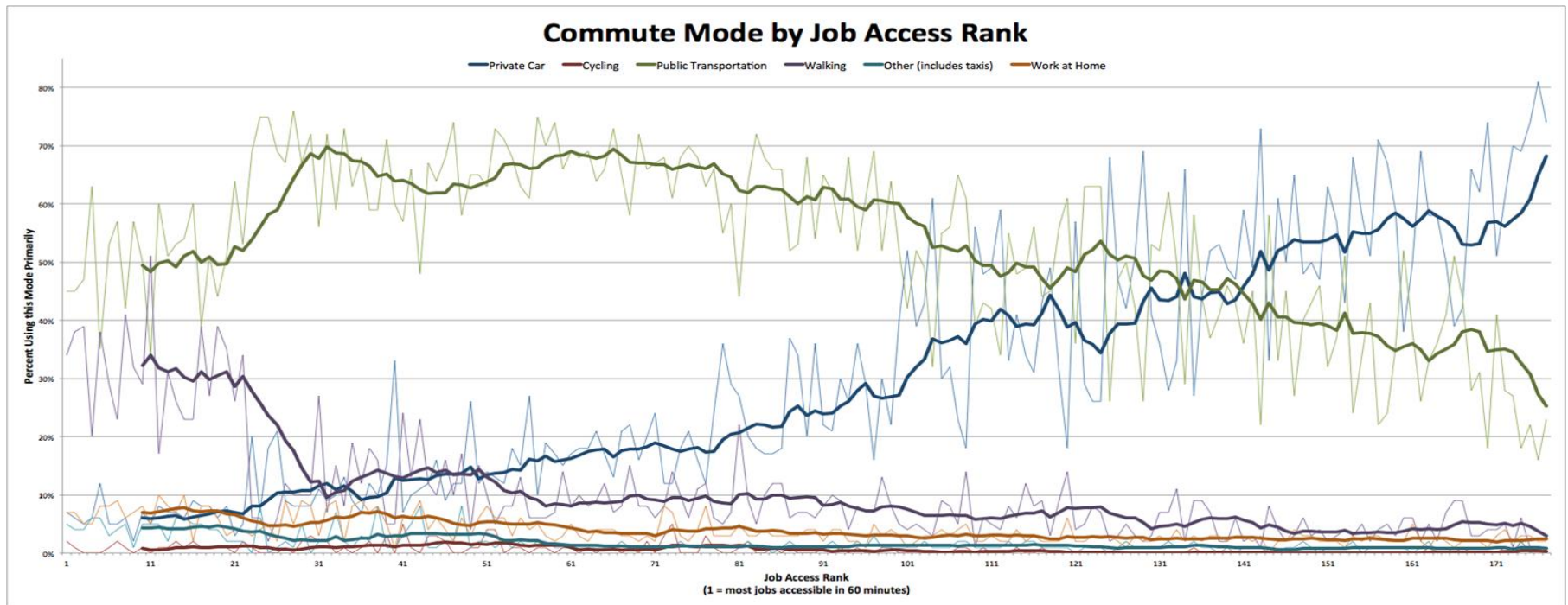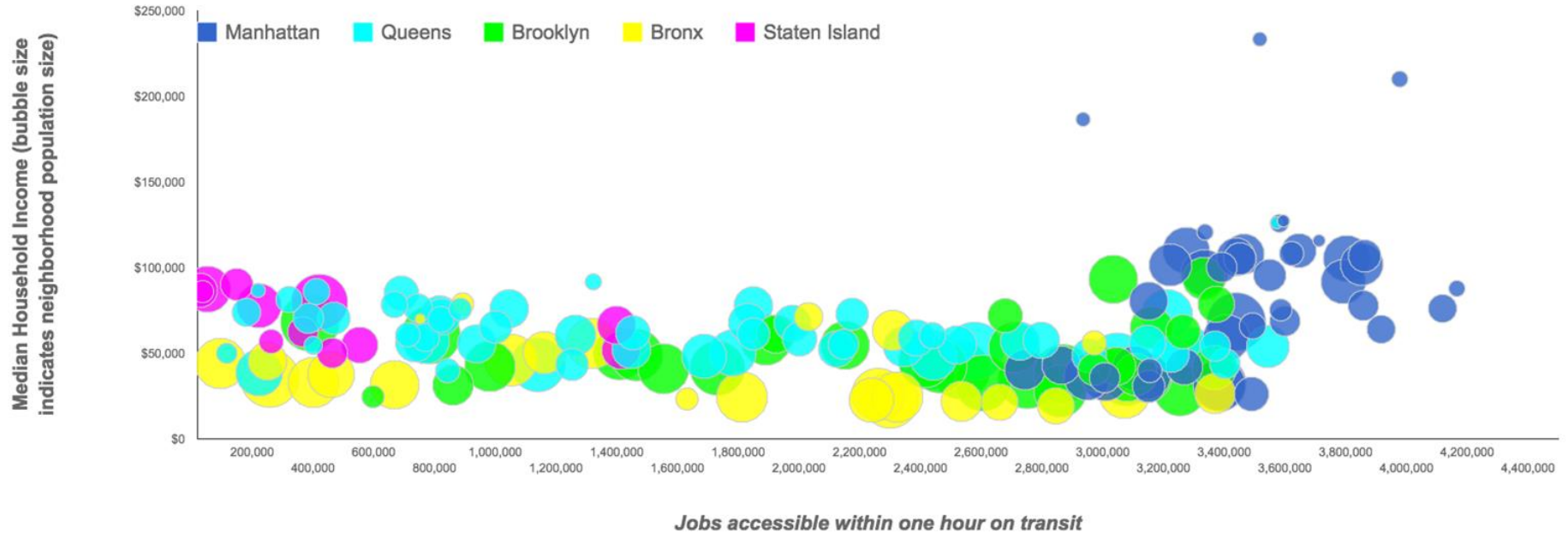
Data Sources

- 2008-2012 5-Year American Community Survey

- 2011 LEHD Origin-Destination Employment Statistics (LODES)

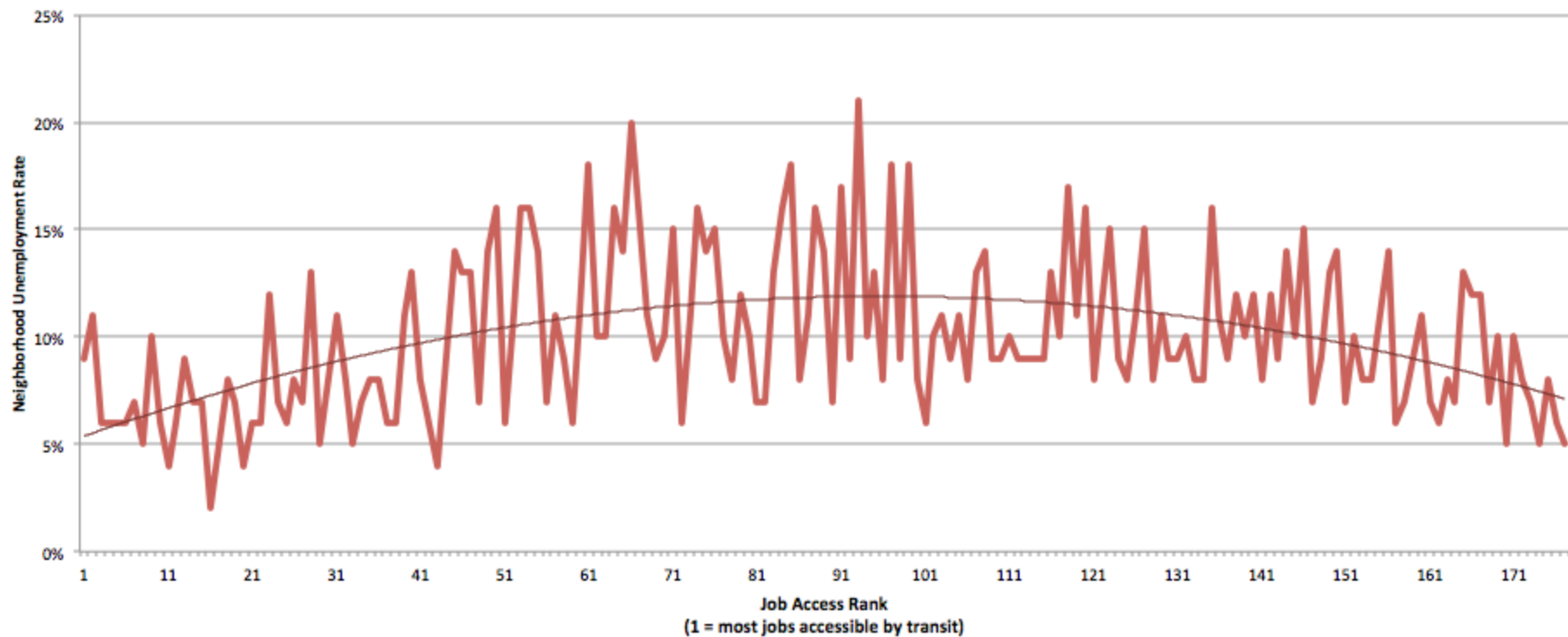- Google Maps Routing Application Programmer Interface

Methodology

- We calculated the travel time between NYC Metro ZIP Code Tabulation Areas (ZCTAs) via public transit using Google Maps API

- We then calculated the number of jobs available in each destination ZCTA using LODES data

- Finally we calculated a Job Access Rank for the 177 NYC ZCTAs with population greater than 2,500
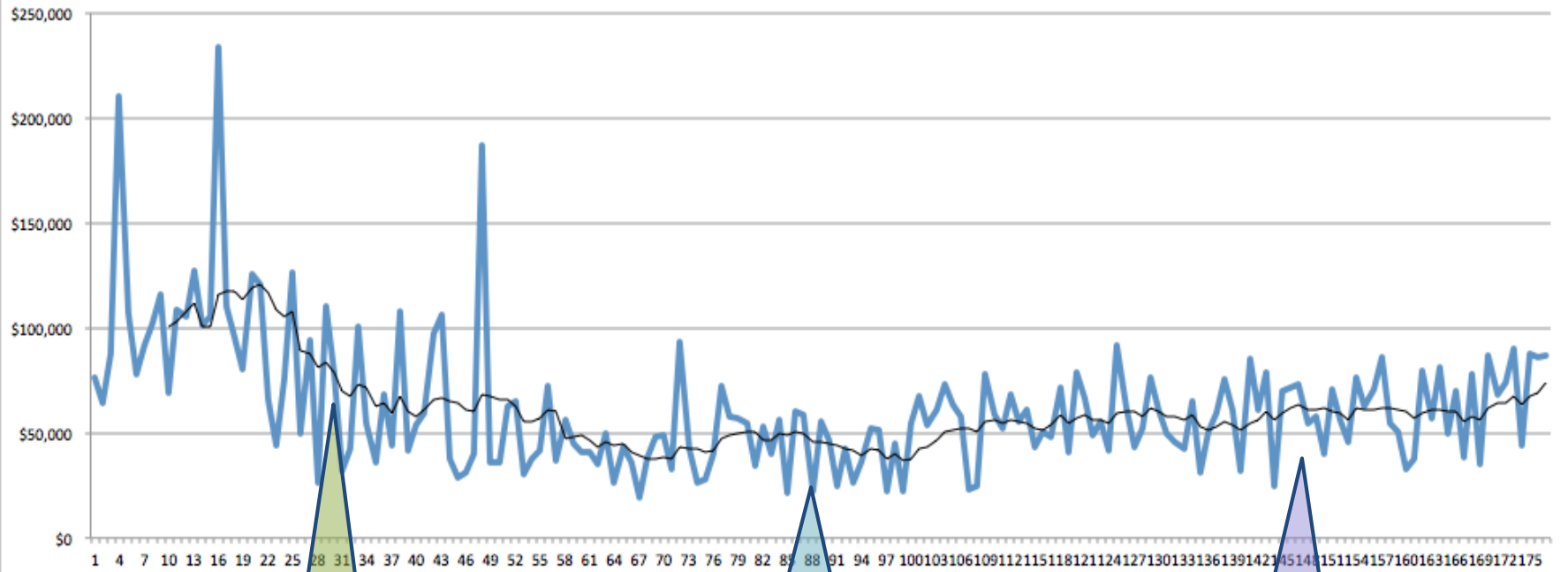
RESULTS

Household Income and Job Access by NYC Neighborhood

Median Household Income (bubble size indicates neighborhood population size)

Legend: ■ Manhattan ■ Queens ■ Brooklyn ■ Bronx ■ Staten Island

Y-axis: $0, $50,000, $100,000, $150,000, $200,000, $250,000

X-axis (Jobs accessible within one hour on transit): 200,000; 400,000; 600,000; 800,000; 1,000,000; 1,200,000; 1,400,000; 1,600,000; 1,800,000; 2,000,000; 2,200,000; 2,400,000; 2,600,000; 2,800,000; 3,000,000; 3,200,000; 3,400,000; 3,600,000; 3,800,000; 4,000,000; 4,200,000; 4,400,000

Commute Mode by Job Access Rank

Legend: Private Car, Cycling, Public Transportation, Walking, Other (includes taxis), Work at Home

Y-axis (Percent Using this Mode Primarily): 0%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%

X-axis (Job Access Rank, 1 = most jobs accessible in 60 minutes): 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121, 131, 141, 151, 161, 171

Unemployment by Job Access Rank

Neighborhood Unemployment Rate

Job Access Rank
(1 = most jobs accessible by transit)

INTERACTIVE VISUALIZATION

NYC Neighborhoods: Mobility & Economic Opportunity

JOBS IN RANGE (IN MINS.):
<= 30   <= 45   <= 60

Job Centers

CREDITS
NYU Rudin Center , linepointpath and Datapolitan , with support from the Rockefeller Foundation

SOURCES
Google Maps Routing API, U.S. Census, 2008-2012 American Community Survey and U.S. Census, 2011 LEHD Origin-Destination Employment Statistics Version 7.0.

NEIGHBORHOOD
Chelsea (North)

ZIPCODE 10001

JOB ACCESS RANK
1 of 177

JOBS ACCESSIBLE IN 60 MINS:
4,839,253

TOP 5 JOB TYPES BY INDUSTRY
Health Care : 743,740
Educational Services : 485,651
Finance : 425,691
Professional Services : 424,515
Retail : 393,042

POPULATION
20,579
UNEMPLOYMENT
9%
MEDIAN HOUSEHOLD INCOME
$76,138
1,391
RESIDENTS 25YRS +
HAVE ONLY A HIGH SCHOOL DIPLOMA & ACCESS TO
720,527 jobs

vehicle
transit
walking

http://wagner.nyu.edu/rudincenter/job-access/

5-digit ZIP code

Leaflet

Key Findings

- Low transit access typically leads to a car commute
  - The percentage of people who commute by private car increased to 81% in the city's lowest-access areas in Staten Island
- In nearly 40 neighborhoods, walking is a more common commute mode than driving
  - Public transportation remained the primary commute mode in the vast majority of NYC neighborhoods
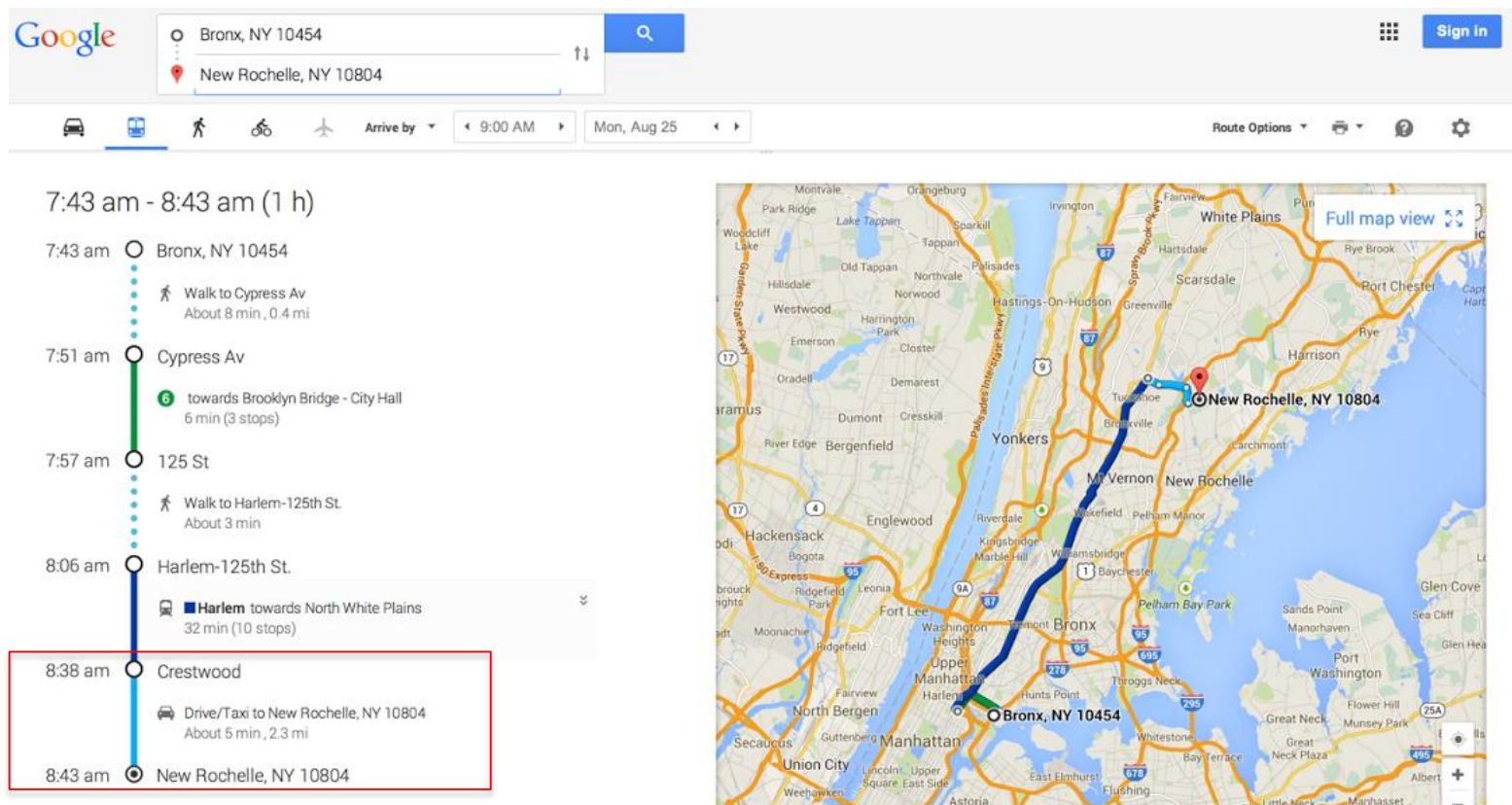
Key Findings

- Limited transit access is linked to higher unemployment
  - Neighborhoods with some, but not sufficient transit access – those in the middle third – faced higher rates of unemployment than those in the top or bottom third

Proposed Solutions

- Develop intelligent, informal transit
- Bus Rapid Transit is essential
- Make incremental improvements to transit
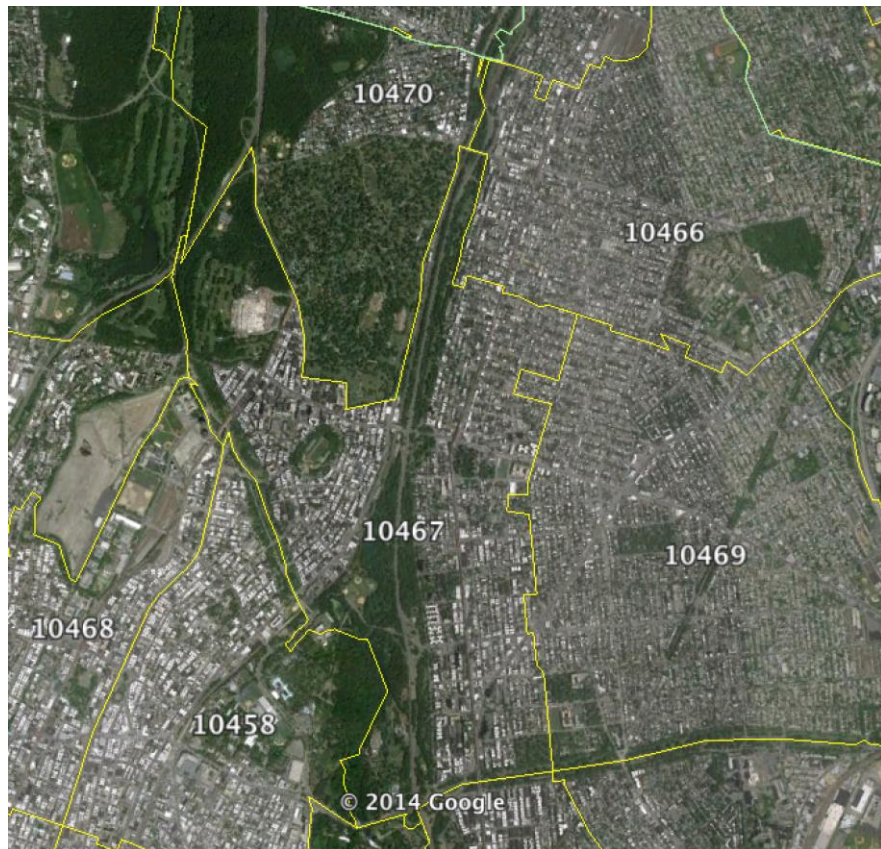- Foster smart, efficient workplaces

Lessons Learned

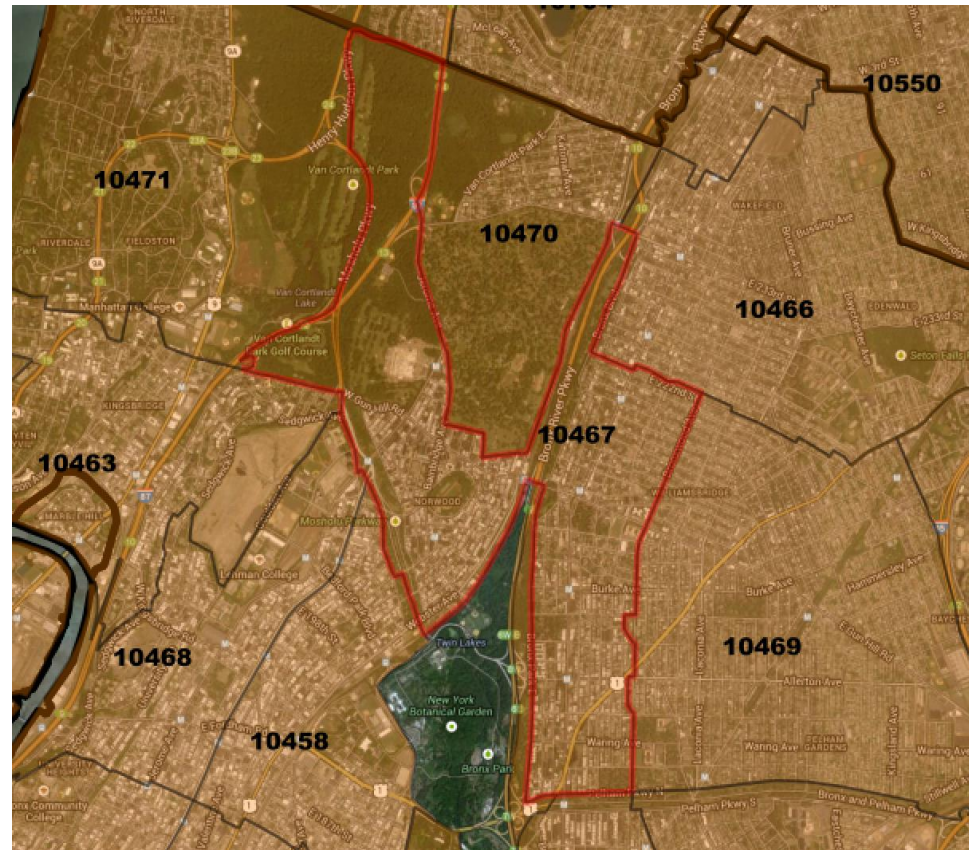- Google Maps API includes taxi trips in it's public transit directions

Lessons Learned

- Google doesn't use ZCTAs

Google's ZIP Code Boundaries

ZCTA Boundaries

THE FULL REPORT IS AVAILABLE AT:

http://wagner.nyu.edu/rudincenter/2015/02/mobility-economic-opportunity-and-new-york-city-neighborhoods/

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THANK YOU