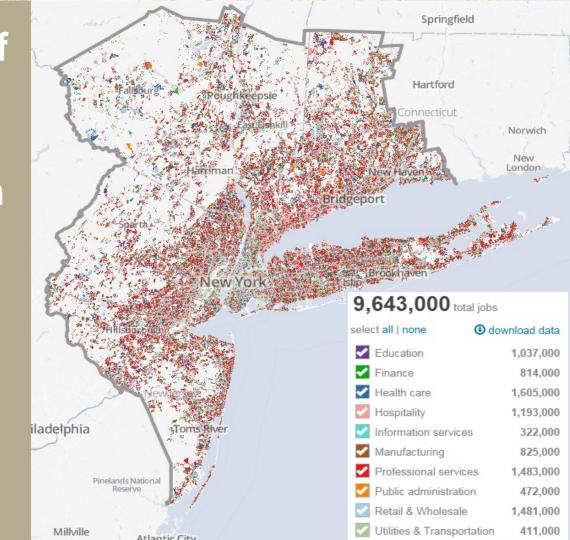
# Dynamic Mapping of Job and Labor Access in the NY Metropolitan Region

Christopher Jones,
Vice President for Research
Sharai Lewis-Gruss,
GIS Manager



3 states

31 counties

783 towns and cities

23 million residents



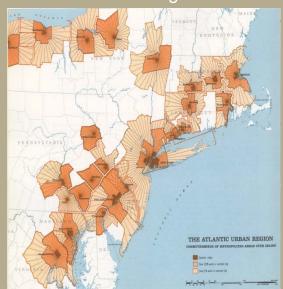


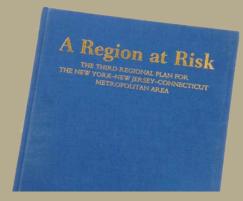
1929 First Regional Plan





1968 Second Regional Plan





1996 Third Regional Plan



## Fourth Regional Plan Goals

- create communities that are dynamic, livable and resilient
- expand the region's economic prosperity in an equitable and sustainable way
- reform the financial, institutional and regulatory structures necessary to implement smart planning decisions

# Public engagement challenge

How can we relate large-scale, long-term regional issues to immediate, place-specific concerns?



FOURTH
REGIONAL
PLAN

# Fragile Success

TAKING STOCK OF THE NEW YORK METROPOLITAN REGION

fragile-success.rpa.org

#### **Individual Profiles**

Place of residence

Gender

Age

Ethnicity

Place of birth

Educational attainment

Household income

Children in household

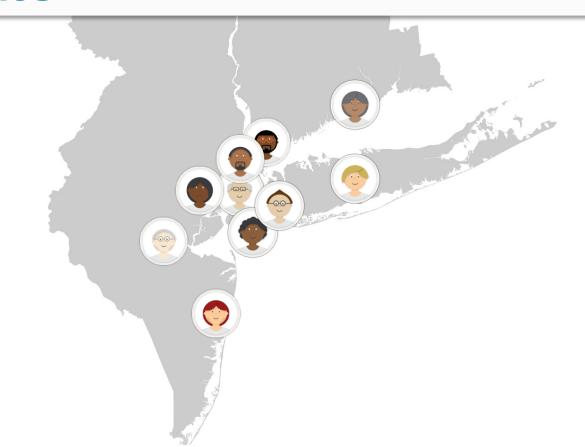
Rent or own

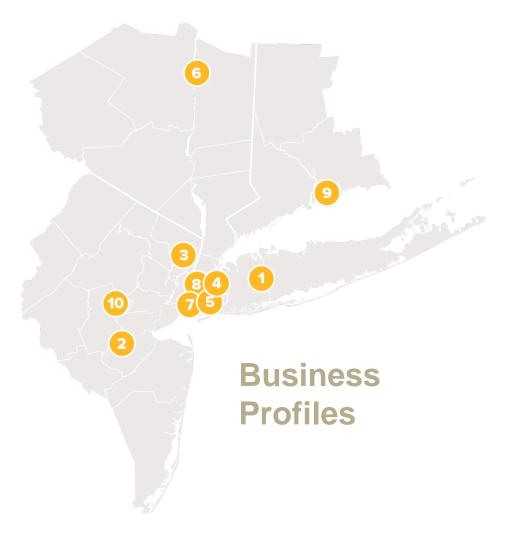
**Employment industry** 

Place of employment

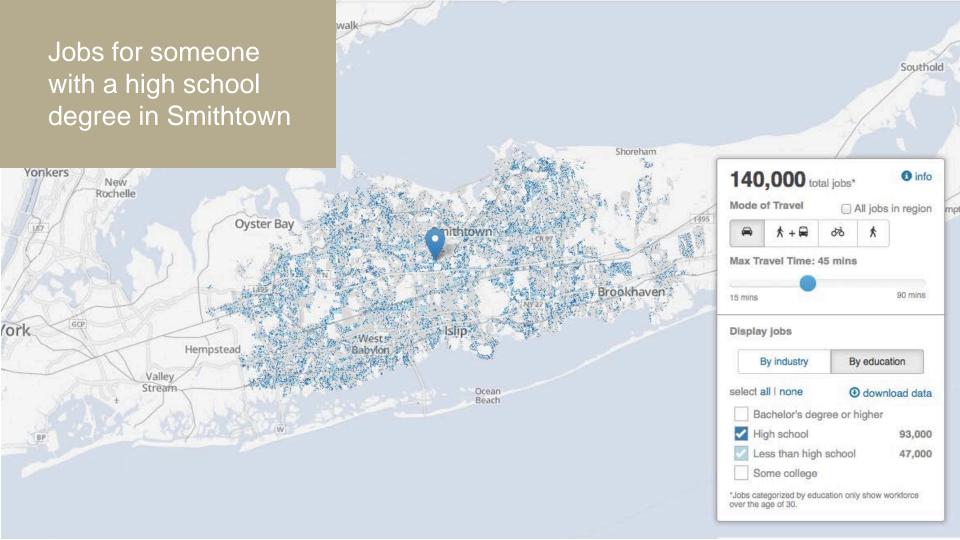
Commute mode

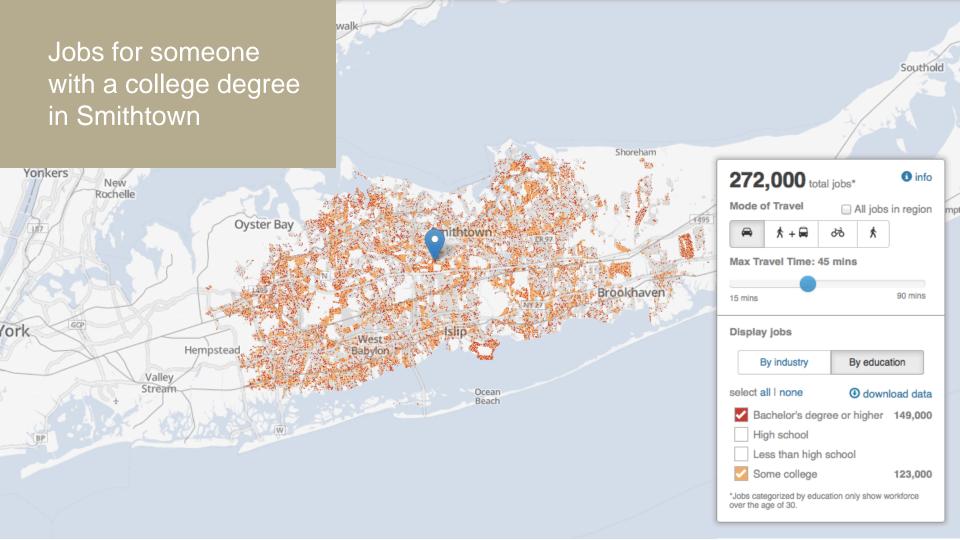
Commute time



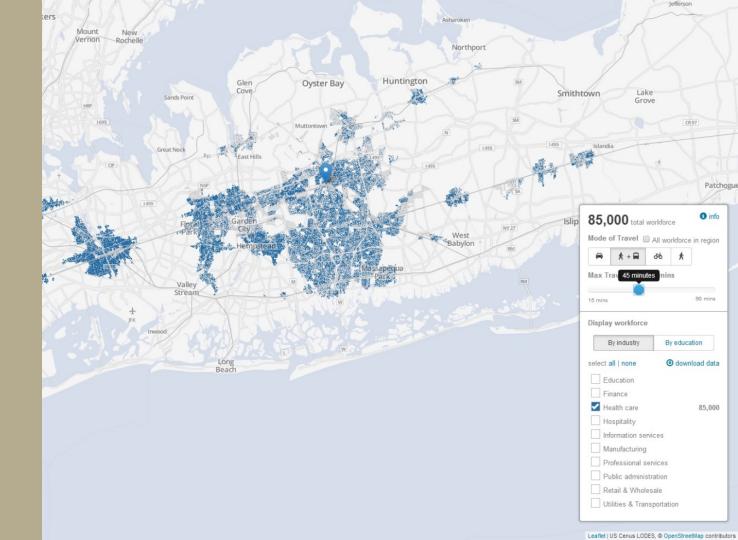


- 1 Health Care & Social Assistance
  Community Hospitals
- Health Care & Social Assistance
  Oldenberg Medical Research Labs
- 3 Retail Trade Selena's Women's Clothing
- 4 Educational Services
  Mid-Queens Academy: Public School
- **Professional Services**DigitalLogistics: Software Developer
- Accommodation & Food Services
  Mi Casa: Restaurant
- Administrative & Support Services
  Kay Travel Unlimited
- 8 Finance & Insurance: Global Securities
  Investment Bank
- Manufacturing Advertool: Fabricated Metal Plant
- Wholesale Trade
  Central Jersey Bottlers

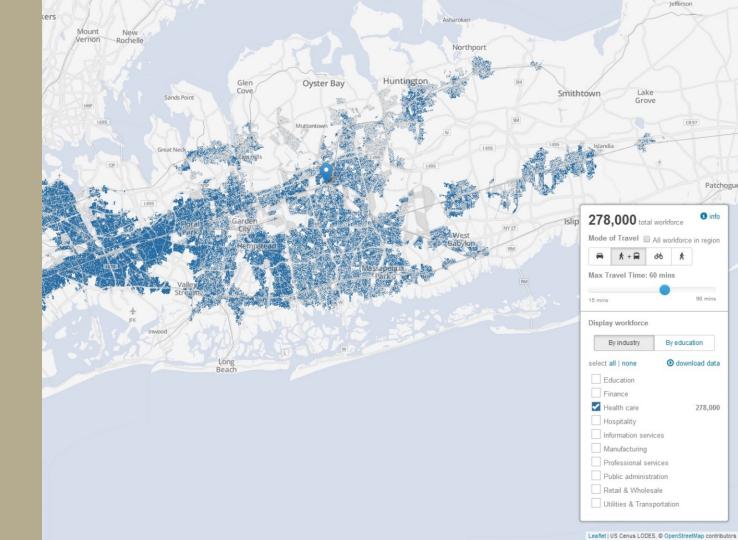




Health care workforce within a 45 minute transit commute of Hicksville



How many health care workers could get to Hicksville in 45 minutes if transit times were improved by 15 minutes?



Using the latest Census data as well as traffic and transit data from local transportation agencies.

RPA's new map unpacks job access with excruciating detail. Drop the pin anywhere in the tri-state area and you get a realistic picture of available jobs -- filtered by industry, education level, transit mode, and commute time.

Aside from showing unsurprising big-picture observations... the map can also uncover nuanced scenarios ripe for further study.

-Washington Post 7

### Data sources and methodology

- Jobs/Workers/Industry/Education: 2011 LEHD Origin-Destination Employment Statistics (LODES)
- Tool development and creation: Kevin Webb of Conveyal
- Travel times (approximate a typical morning commute):
- -Public transit : publicly-available GTFS (General Transit Feed Specification) data sets
  - -Biking and Walking: OpenStreetMap data set
    - -Driving: OpenStreetMap (road infrastructure), OpenTripPlanner (travel times)

\*NYMTC (NY Metropolitan Transportation Council) and NJTPA (NJ Transportation Planning Authority) Regional Transportation model used to determine rush hour travel times.

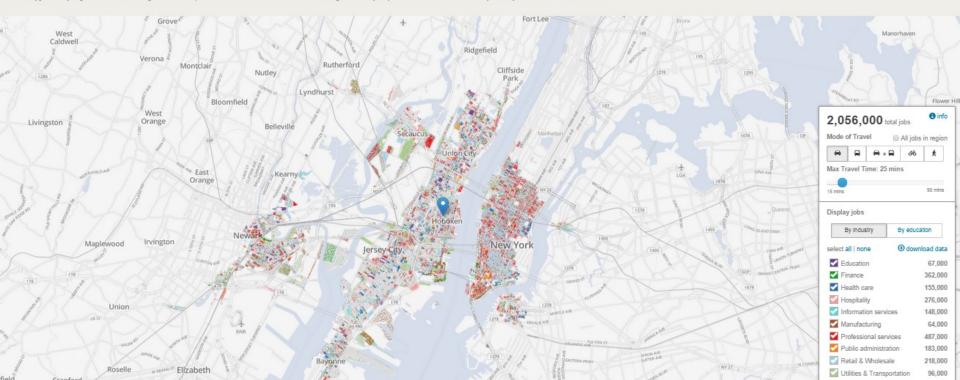
### Challenges

- Travel times are an estimate and combine multiple transit preferences.
- Drive times: morning rush hour drive time estimates available for NY and NJ but CT only has daily average drive times (does not reflect rush hour commute).
- 2 types of public transit needed in our region: one for the urban core and another for everywhere else
- Public Transit: calculated using fastest travel time via any combination of walking and public transit use.

#### Access to Jobs: Live!

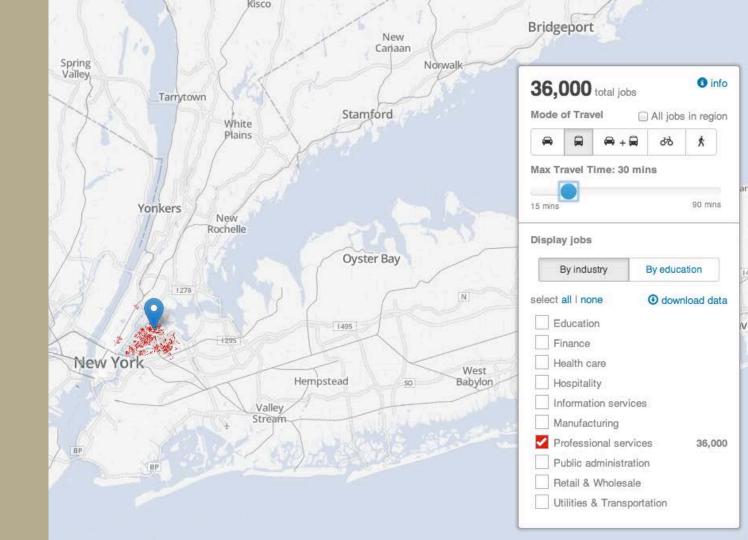
#### Access to jobs

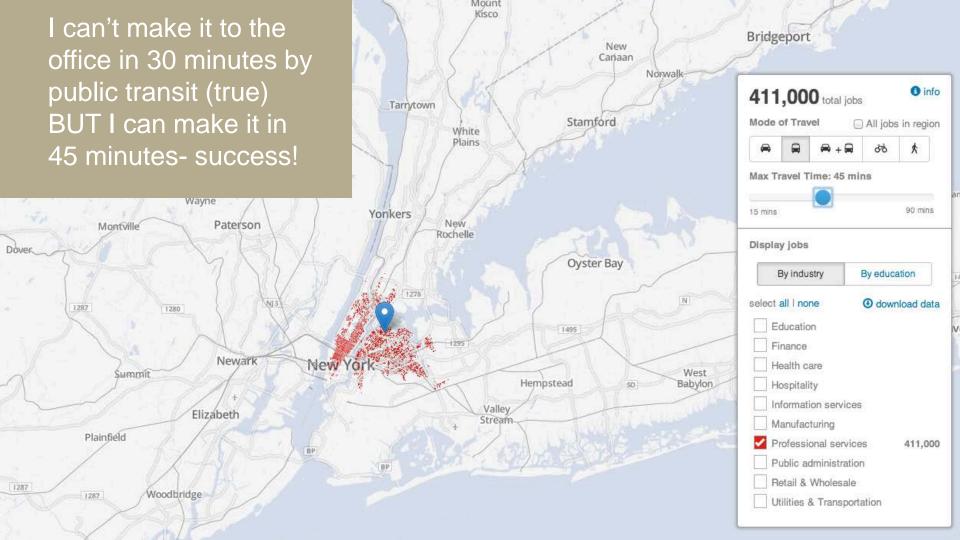
How many jobs can you get to in the tri-state region? Move the pin to a new location and see the number change. Click on your preferred travel mode and filter by industry or education level to learn more.



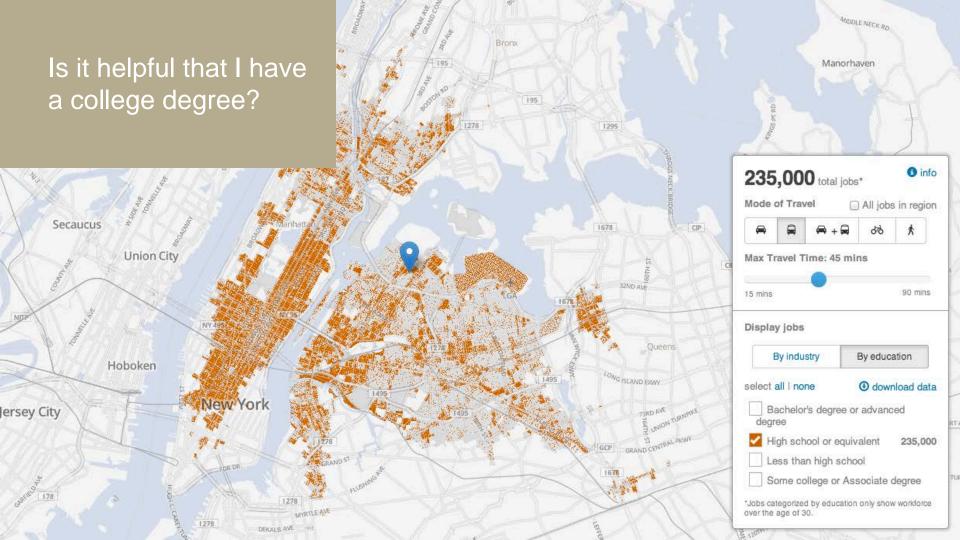
Does the model reflect the lived experience?

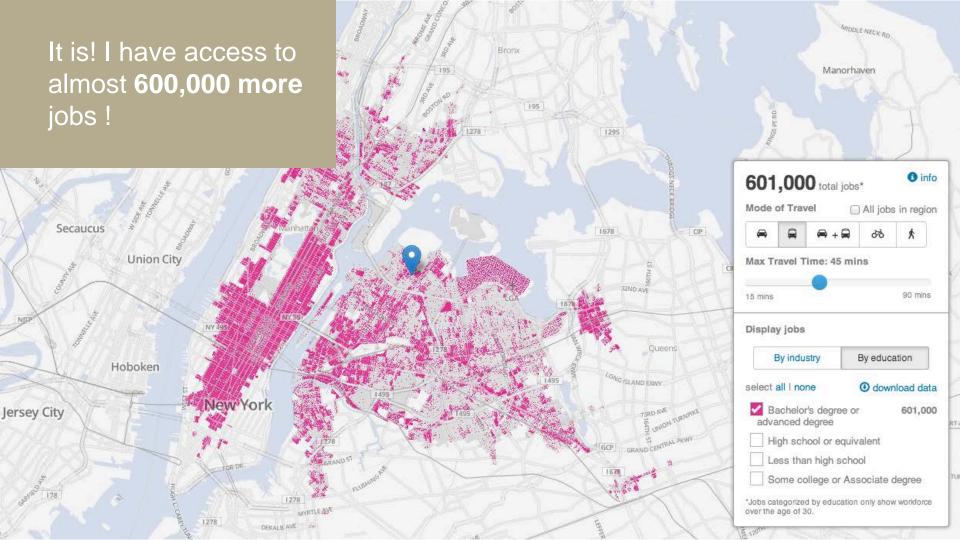
Let's explore my commute from Astoria, Queens to Union Square, NYC











#### Next steps:

Use Conveyal's Open Trip Planner to visualize future infrastructure

Consider how to incorporate job prediction

Release Access to Workforce Map

