Getting to Work in New York City

New York City is home to about eight and a half million residents, almost four million of whom are employed. These employees rely on a well-functioning and easily-accessible transportation network. New Yorkers take public transit in much higher proportions than residents of any other major city in the United States. They are also far less likely as a whole to drive to work. Employees' choices among transportation modes likely depends, in large part, upon the location of their workplaces. It is critical that decision makers take into account where people live in relation to where they work.

While a number of surveys conducted by the U.S. Census Bureau are able to identify where people live and answer questions about the duration and mode of travel for their commute, these statistics do not provide any geographic information on the employment destination. Recognizing the limitations of existing surveys, the U.S. Census Bureau launched the Longitudinal Employer-Household Dynamics program to combine data from federal and state agencies with their own data. This initiative resulted in the partnership with state Departments of Labor to create the Local Employment Dynamics (LED) database, which reveals the neighborhoods where people live and where they work. The data are available at the census block level, and we aggregate it to sub-borough areas in order to capture larger neighborhood trends.[2]

This year, we add three new indicators to the *State of the City* for selected neighborhoods that are relevant to New York City's employment and transportation trends; destination-origin ratio which measures the degree to which a neighborhood employs people who live outside the neighborhood, locally employed residential share which measures the degree to which people in the neighborhood are able to live and work within a close proximity (defined as either within the same neighborhood or within a half-mile of one another), and city-employed residents share which provides insight on how connected a neighborhood is with the world beyond the five boroughs. Each of these indicators relies on data from LED's *OnTheMap* tool, the publicly available extract of the LED data.[3] Our first two measures explore employed residents of New York City who also work in the city.

THE DATA

OnTheMap uses worker origin and destination data and Quarterly Workforce Indicator data files created by the U.S. Census Bureau as part of the LED partnership.[4] The Quarterly Workforce Indicators are derived from the U.S. Census Bureau's merge of data already collected from state agencies (such as unemployment insurance wage records and the Quarterly Census of Employment and Wages firm records) with current demographic information. In total, the dataset contains data about approximately 2.3 million jobs in New York City in 2008. The appendix outlines the limitations and shortcomings of the data.

Figure A at right indicates the distribution of jobs for our dataset throughout New York.

Destination-Origin Ratio

Knowing which neighborhoods are the predominant places of work in the city and which pairs of neighborhoods experience the highest rates of employee flow (and which direction that flow goes) is important to policy formation and implementation.

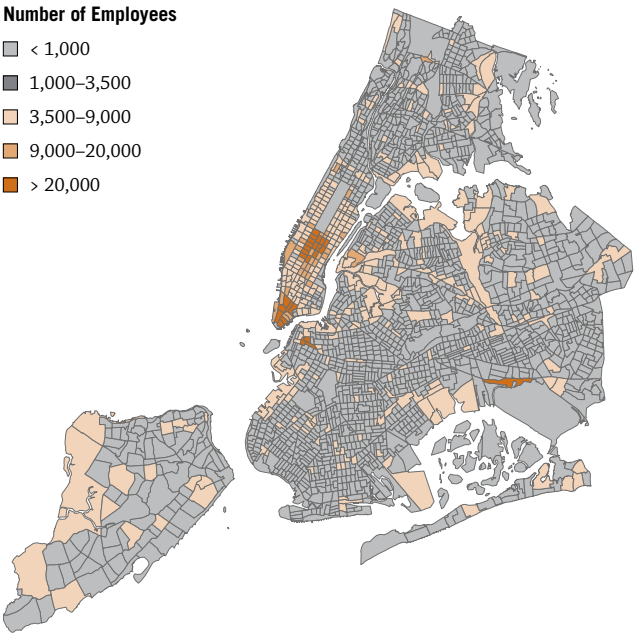
1 U.S Department of Labor Bureau of Labor Statistics: Current Employment Statistics from the Establishment Survey (September 2010): http://www.bls.gov/ro2/nycces9465.pdf

2 With the addition of New Hampshire on December 13th, 2010, all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands are now members of the partnership.

3 U.S. Census Bureau OnTheMap: http://lehdmap4.did.census.gov/themap4/

4 By combining data from different administrative sources, censuses and surveys, the U.S. Census Bureau produces previously unavailable local employment information. For more information on the LED see: http://lehd.did.census.gov/led/datatools/qwi-online.html

Figure A: Number of Employees by Census Tract, 2008



Source: U.S. Census Bureau, Department of City Planning, Furman Center

Figure B: Destination-Origin Ratio

Highest Ratio

	SBA		Destination-Origin Ratio
1	303	**Chelsea / Clinton / Midtown**	8.94
2	301	**Greenwich Village / Financial District**	5.67
3	304	**Stuyvesant Town / Turtle Bay**	3.45
4	202	**Brooklyn Heights / Fort Greene**	2.90
5	402	**Sunnyside / Woodside**	1.38
6	302	**Lower East Side / Chinatown**	1.28
7	306	**Upper East Side**	1.26
8	212	**Borough Park**	0.96
9	305	**Upper West Side**	0.94
10	207	**Sunset Park**	0.89

Lowest Ratio

	SBA		Destination-Origin Ratio
45	503	**South Shore**	0.31
45	107	**Soundview / Parkchester**	0.31
45	216	**Brownsville / Ocean Hill**	0.31
48	208	**North Crown Heights / Prospect Heights**	0.29
48	403	**Jackson Heights**	0.29
50	103	**Highbridge / South Concourse**	0.27
51	110	**Williamsbridge / Baychester**	0.26
51	308	**Central Harlem**	0.26
53	209	**South Crown Heights**	0.24
53	203	**Bedford Stuyvesant**	0.24
55	104	**University Heights / Fordham**	0.21

Source: U.S. Census Bureau, Department of City Planning, Furman Center

To obtain the destination-origin ratio, we calculate the ratio of the number of New Yorkers employed in a neighborhood divided by the number of employed New Yorkers that live in the neighborhood. A number greater than one indicates that the neighborhood has a net inflow of workers from other neighborhoods while a number less than one indicates that the neighborhood has a net outflow of workers towards other neighborhoods. Figure B indicates which neighborhoods have the highest and lowest destination-origin ratios in the city.

In New York City, there are only seven neighborhoods with a ratio over one. With the exception of Brooklyn Heights/Fort Greene and Sunnyside/Woodside, both of which are designated as borough central business districts, all are in Manhattan. Chelsea/Clinton/Midtown has by far the highest ratio of any neighborhood in the city; for every employed resident living in this neighborhood, almost nine New York City residents work there.

At the other end of the spectrum, we see that eight neighborhoods have a ratio below 0.3, meaning that for every 10 employed residents of those neighborhoods, three or fewer New Yorkers work there. Three of these neighborhoods are in the Bronx, and three are in central Brooklyn. Central Harlem is the only Manhattan neighborhood in the bottom 10.

Locally Employed Residents Share

Many New Yorkers work in the same neighborhood in which they live. Understanding which neighborhoods are both home and work for their residents is important to help policymakers plan, zone, and provide infrastructure for mixed-use neighborhoods. We explore this topic by calculating the number of residents that are employed within the neighborhood in which they live and divide this number by the total number of residents in the neighborhood that work in New York City. Because the sub-borough boundaries may not be small enough to be considered local by some, we also provide an alternative indicator. For each neighborhood, we calculate the percentage of employed residents that live in the neighborhood and who work within a half mile of their homes. Figures C and D present the neighborhoods with the highest and lowest locally employed residents shares according to our two different measures.

Unsurprisingly, Figures C and D show a great degree of overlap for those neighborhoods with the highest ratios. Seven sub-borough areas are in the top 10 for both lists and five sub-borough areas appear in the top six for both. More surprisingly perhaps is the amount of overlap between those neighborhoods with a high locally employed residents share and those neighborhoods with a high destination-origin ratio. Of the top 10 neighborhoods in Figure B, all but Brooklyn Heights/Fort Green and Sunnyside/Woodside are in the top 10 according to one of our measures of the locally employed residents share and half are actually in the top 10 for both.

City-Employed Residents Share

The last indicator acknowledges the segment of the New York City population that we have hitherto ignored: New York City residents who work outside the five boroughs. These workers choose to live in the city but work in other areas. In order to explore this topic, we identify those neighborhoods low city-employed residents share, or small percentages of workers who work within the five boroughs. We calculate City-Employed Residents Share by counting the number of residents that work within the five boroughs and dividing that by the total number of residents in the neighborhood that are employed.

As reported in Figure E, seven of the 10 neighborhoods with the lowest city-employed residents share sit on the border of the city and the other three neighborhoods are adjacent to a neighborhood that does. In Queens Village and Williamsbridge/Baychester, over one third of employed residents work outside of the city. Of the 11 neighborhoods with the highest city-employed residents share, half are in the top 10 in terms of the destination-origin ratio while the others are located in parts of Brooklyn with little direct contact with areas outside of the five boroughs. Even in these neighborhoods, however, more than one in 10 employed residents works outside of the city.

Figure C: Locally Employed Residents Share: Percentage of Employed Residents Who Live and Work in the Same Neighborhood

Highest Share Neighborhoods			
	SBA		*Percent*
1	303	**Chelsea / Clinton / Midtown**	50.3%
2	301	**Greenwich Village / Financial District**	30.2%
3	212	**Borough Park**	23.5%
4	304	**Stuyvesant Town / Turtle Bay**	23.2%
5	414	**Rockaways**	18.5%
6	307	**Morningside Heights / Hamilton Heights**	18.4%
7	502	**Mid-Island**	18.3%
8	407	**Flushing / Whitestone**	17.7%
9	201	**Williamsburg / Greenpoint**	16.5%
10	306	**Upper East Side**	15.5%
Lowest Share Neighborhoods			
	SBA		*Percent*
46	403	**Jackson Heights**	5.4%
47	217	**East Flatbush**	5.1%
48	103	**Highbridge / South Concourse**	4.8%
49	404	**Elmhurst / Corona**	4.6%
50	308	**Central Harlem**	4.4%
51	209	**South Crown Heights**	4.3%
52	216	**Brownsville / Ocean Hill**	4.0%
53	208	**North Crown Heights / Prospect Heights**	3.5%
54	203	**Bedford Stuyvesant**	3.1%
55	104	**University Heights / Fordham**	2.9%

Source: U.S. Census Bureau, Department of City Planning, Furman Center

Figure D: Locally Employed Residents Share: Percentage of Employed Residents Who Work Less Than Half a Mile From Their Home

Highest Share Neighborhoods			
	SBA		*Percent*
1	303	**Chelsea / Clinton / Midtown**	17.1%
2	301	**Greenwich Village / Financial District**	14.9%
3	307	**Morningside Heights / Hamilton Heights**	14.7%
4	304	**Stuyvesant Town / Turtle Bay**	13.4%
5	212	**Borough Park**	11.9%
6	302	**Lower East Side / Chinatown**	10.2%
7	201	**Williamsburg / Greenpoint**	9.2%
8	306	**Upper East Side**	8.6%
9	305	**Upper West Side**	6.4%
10	207	**Sunset Park**	6.3%
Lowest Share Neighborhoods			
	SBA		*Percent*
45	107	**Soundview / Parkchester**	2.5%
45	412	**Jamaica**	2.5%
45	217	**East Flatbush**	2.5%
45	501	**North Shore**	2.5%
45	205	**East New York / Starrett City**	2.5%
50	110	**Williamsbridge / Baychester**	2.4%
51	104	**University Heights / Fordham**	2.3%
52	208	**North Crown Heights / Prospect Heights**	2.2%
53	218	**Flatlands / Canarsie**	2.1%
54	503	**South Shore**	1.7%
55	413	**Queens Village**	1.6%

Source: U.S. Census Bureau, Department of City Planning, Furman Center

CONCLUSIONS & POLICY IMPLICATIONS

The *OnTheMap* feature of the LED partnership allows us tremendous insight into the relationships between New York City employees' home and work locations and the flows between the two.

Our analysis of the flows between New York City neighborhoods confirms our assumptions: middle and lower Manhattan act as the main economic drivers for the city. The area is the most popular destination for workers from the vast majority of the city's neighborhoods. However, we also find that Brooklyn Heights/Fort Greene and Sunnyside/Woodside, both designated as borough central business districts, also act as major attractors. In total, only seven neighborhoods have a destination-origin ratio greater than one, indicating that they are a net attractor of employees. At the other end of the spectrum, there are eight neighborhoods with a ratio below 0.3, suggesting that far more people leave the neighborhood for employment than travel to the neighborhood for work.

There is not necessarily a connection between a low destination-origin ratio and the rate of unemployment. For certain neighborhoods that are heavily residential, a low ratio just means that the neighborhood's transportation infrastructure is successfully channeling residents out of the neighborhood and into the central business districts. University Heights/Fordham has the lowest destination-origin ratio and it also has the highest unemployment rate. On the other hand, South Shore has only a marginally higher destination-origin ratio but boasts the lowest unemployment rate in New York City.

Our second measure, the locally employed residents share, identifies the proportion of workers who are employed in New York City who work close to where they live. We find that a New Yorker's home neighborhood is likely to be amongst his or her main choices for employment. This is true for almost every single neighborhood but is especially true for the core employment neighborhoods in Manhattan. It raises interesting questions about the city's strategies for encouraging local-based employment strategies and mixed-use development.

Figure E: City-Employed Residents Share

Highest Share Neighborhoods			
	SBA		*Percent*
1	201	**Williamsburg / Greenpoint**	89.8%
2	206	**Park Slope / Carroll Gardens**	89.5%
3	202	**Brooklyn Heights / Fort Greene**	88.9%
4	211	**Bensonhurst**	88.8%
5	301	**Greenwich Village / Financial District**	88.4%
6	212	**Borough Park**	88.3%
7	304	**Stuyvesant Town / Turtle Bay**	88.2%
7	303	**Chelsea / Clinton / Midtown**	88.2%
9	208	**North Crown Heights / Prospect Heights**	88.1%
9	213	**Coney Island**	88.1%
9	203	**Bedford Stuyvesant**	88.1%
Lowest Share Neighborhoods			
	SBA		*Percent*
46	105	**Kingsbridge Heights / Moshulu**	78.5%
47	503	**South Shore**	78.0%
48	106	**Riverdale / Kingsbridge**	77.7%
49	109	**Pelham Parkway**	77.6%
50	108	**Throgs Neck / Co-op City**	76.8%
51	414	**Rockaways**	75.4%
52	412	**Jamaica**	73.3%
53	411	**Bayside / Little Neck**	71.9%
54	110	**Williamsbridge / Baychester**	69.1%
55	413	**Queens Village**	66.6%

Source: U.S. Census Bureau, Department of City Planning, Furman Center

Finally, we also look at the city-employed residents share. Unsurprisingly, employees who live in neighborhoods close to the city limits and/or major transportation infrastructure (e.g., George Washington Bridge) are more likely to work outside the city. This has implications for a wide range of policy discussions, about employee and business taxes, economic development strategies, and sustainable transportation planning.

Overall, we see that many New Yorkers work close to where they live, which raises interesting questions and opportunities for the city's policymakers in spheres as diverse as transportation, housing, land use, sustainable policy and environmental performance. With these data, policymakers can better plan for New Yorkers' needs and living patterns.

APPENDIX

In constructing the database, the U.S. Census Bureau protects confidentially by modeling "synthetic data" for each work place, derived from the underlying data. The method ensures that the published data, while not exact, are more accurate as the number of businesses in a workplace area increases.[5] The *OnTheMap* reporting tool excludes employees who are not captured in state unemployment insurance wage datasets or the Quarterly Census of Employment and Wages. Workers such as informally employed workers, uniformed military, Federal civilian employees, self-employed workers, brokers, and individuals who are paid out of distributed partnership income do not appear in this dataset. If an employee has more than one job, all of the jobs are counted. For firms with multiple locations, the data may erroneously link the employee to the headquarters rather than the satellite location at which he or she actually works. While this may cause us to significantly overstate the city-employed residents share, it is less of an issue with the other indicators since we are only concerned with New York residents. Therefore, we would only be off in cases where a New York resident works outside New York City for a company that is based out of New York City.

5 The employment data for private employers are controlled to state-level totals provided by the Bureau of Labor Statistics. As a result, no actual business data are used for workplace reports. For more see: http://lehd.did.census.gov/led/datatools/aboutdata.html#DataSources

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