



3rd Annual Econometrics Game

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INTRODUCTION

- **RCC** hosted the **3rd Annual Econometrics Game** organized by **Oeconomica**, the undergraduate economics research society at the University of Chicago
- The game was held on **April 15th, 2017, from 9 am to 11:59 pm** at the Saieh Hall for Economics at the University of Chicago
- Fourteen teams participated from the University of Chicago, Northwestern University, University of Michigan, Harvard, Princeton, and MIT
- Each team, of up to four participants, wrote an economic paper based on the **New York City Taxi and Limousine Commission 2009 to 2016 trip dataset**, which corresponded to approximately **250 GB of data hosted on RCC's Midway cluster**
- **RCC allocated one compute node on the Midway cluster to each team, which included access to 28 X Intel E5-2680v4 2.4GHz CPUs and 64GB of memory. Teams made use of the software tools R, Stata, Python, and Matlab in analyzing the data**

RESULTS

1st PLACE

"2019 is the year Williamsburg dies"?

- Estimate changes in the NYC transit market in response to unexpected transit delays
- Finds small changes in response to public transit delays => people value commuting time at a relatively low value
- Created heat maps of taxi drop-offs using a multivariate kernel density estimator

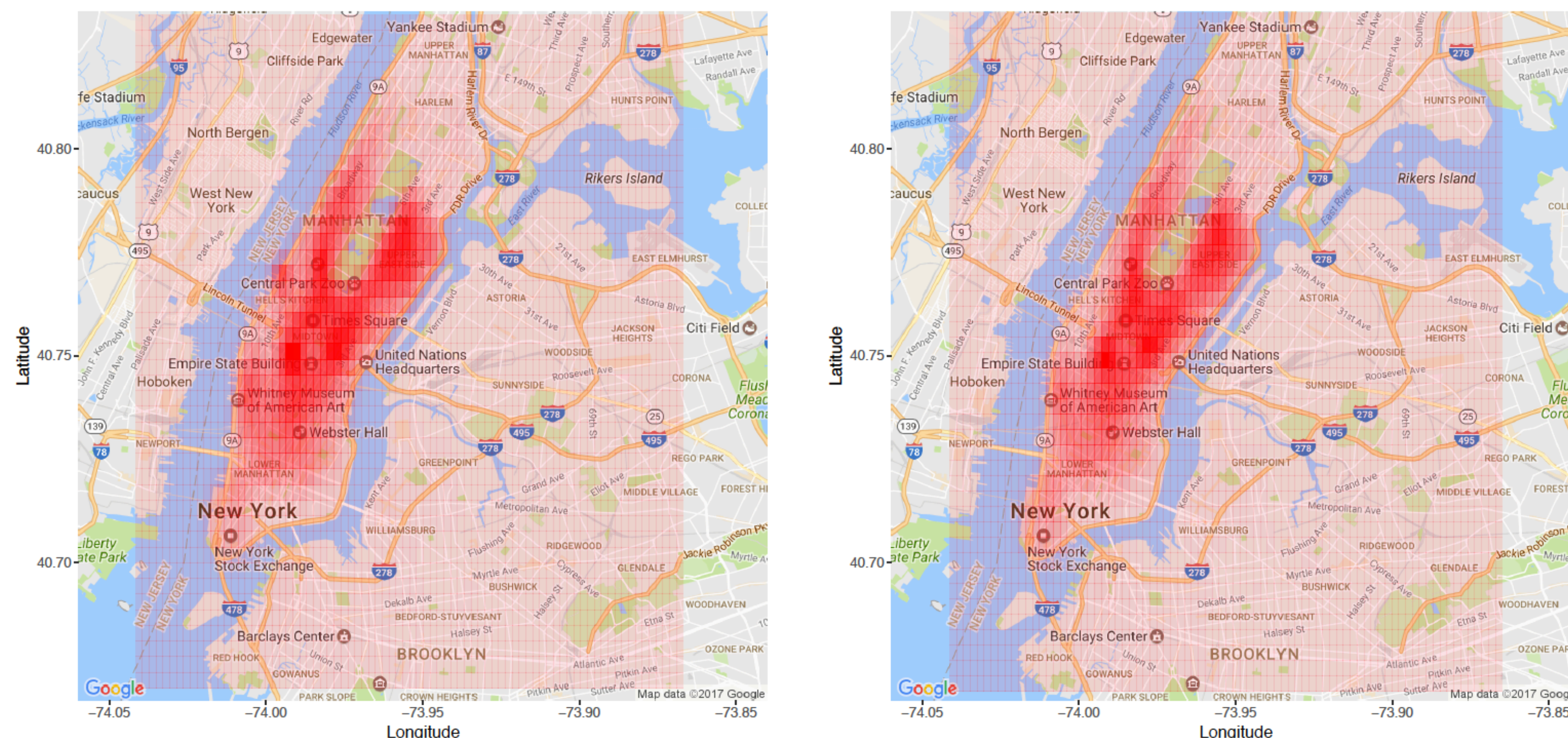


Figure 1: Nonparametric density (normal kernel, binwidth via normal score rule due to computational time limits) plots of drop-offs during the evening rush hours of March 4 (left) and March 11 (right). Most trips end in Manhattan, although, as is hard to see, there is some density elsewhere as well.

2nd PLACE

Behavioral Mechanism of Tipping with Default Options: Evidence from New York City Taxis

- Study of behavioral biases in taxi tipping
- Evidence in support of anchoring. Default tip options serve as anchors for passengers when selecting their tip amounts
- Finds a difference in tip of \$0.09 due to the different anchors set by the control and treatment (higher default options) taxi tipping screens
- This difference is significant and accounts for at least 30% of the observed discontinuity between treatment and control among those who did not select the default options
- The study is restricted to the marginal consumer who would never use the default tipping options in either the control and treatment groups

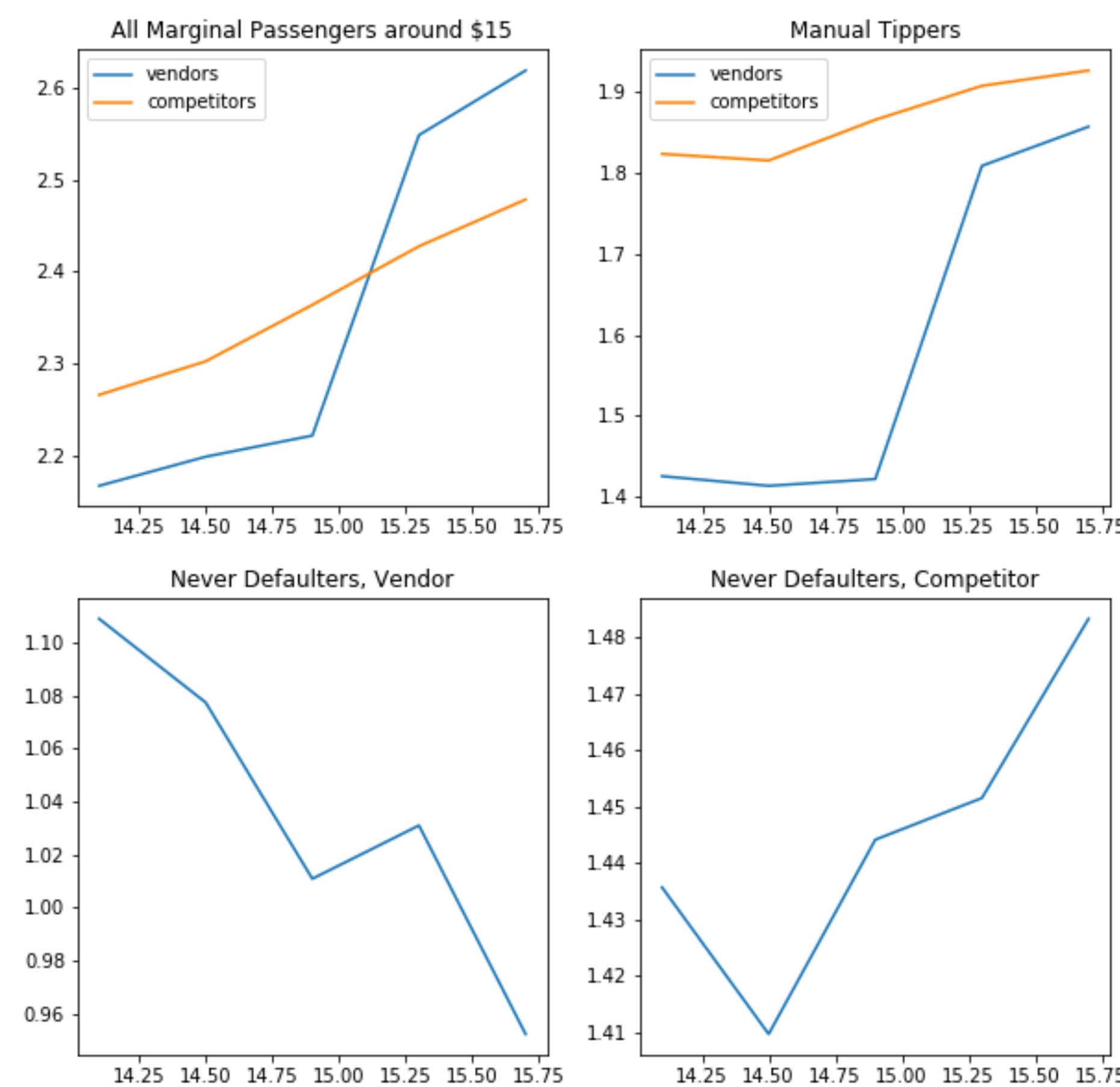


Figure 2: Average Tip Amount In the Marginal Passenger Group around \$15

3rd PLACE

Taken for a Ride? Overcharging in the NYC Taxi Market

- Study of taxi overcharging
- Overcharging is the fourth most prominent reason for contacting the New York City Taxi and Limousine Commission and composes almost one-fifth of the total number of complaints
- Finds taxi drivers are more likely to overcharge passengers by taking longer routes when (1) dropping off at a destination where it is difficult to pick up new customers and (2) when the rider is less knowledgeable about the city

Location	Overcharge Incidents Per 150,000 Rides
Laguardia	79
Penn Station	30
Ground Zero	8
JFK	7

Table 1: Overcharge Incidents in Top 10 Lat-Long Grid Locations

BEST VISUALIZATION

Where are My Tips ?

Spatial Analysis of Tipping in Taxi Rides in New York City

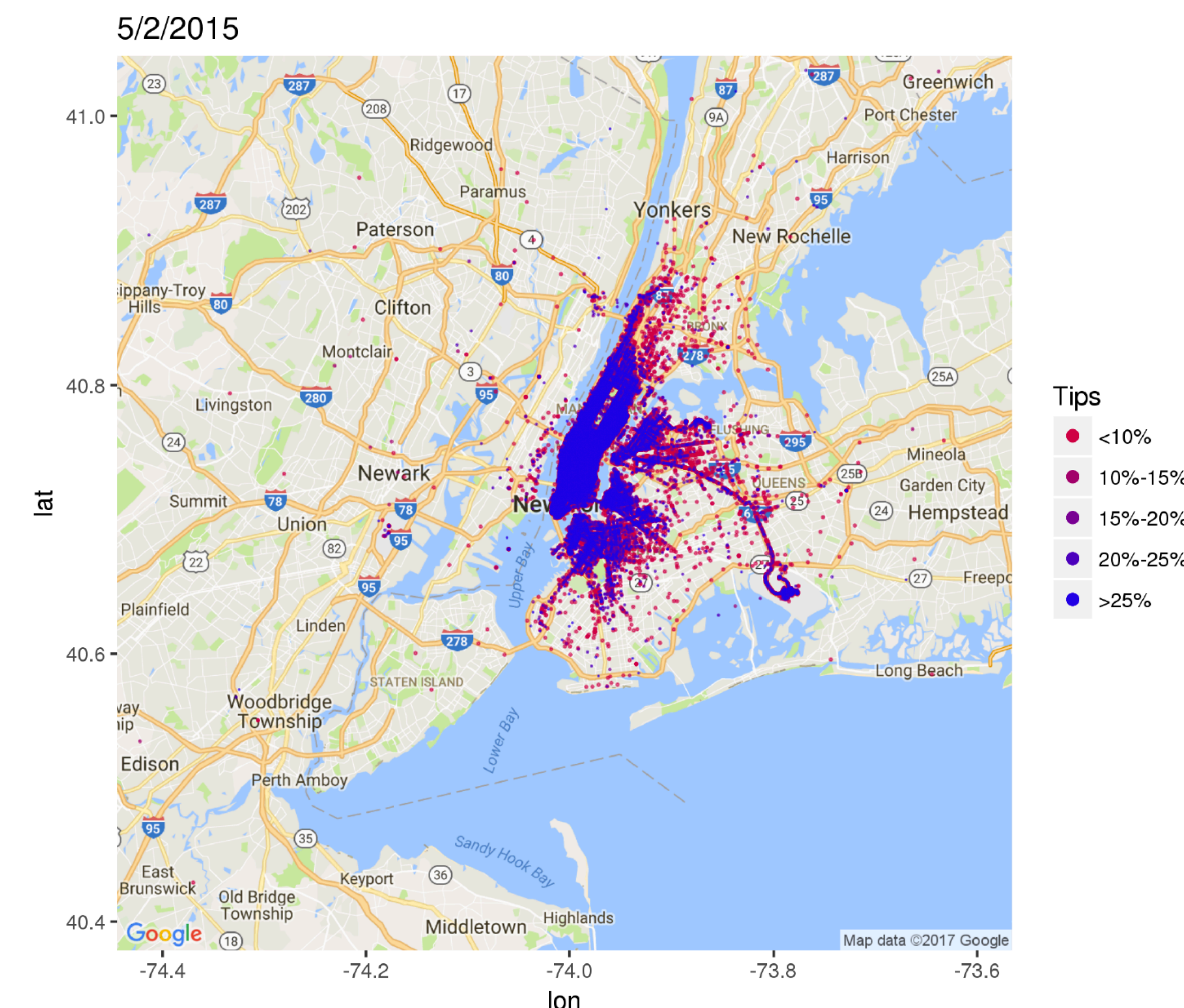


Figure 3: Tipping by Yellow Taxi Customers in NYC in May 2nd, 2015, based on pickup location

CONCLUSIONS

- Judging team: Professor Bonhomme (Econometrics), Professor Lafferty (Statistics and Comp Sci), Eliot Abrams (PhD Candidate), and two guest expert judges Professor Kareem Haggag (CMU) and Professor Nicholas Buchholz (Princeton)
- Winning teams: In 1st place from UChicago: **Sylvia Klosin, Cameron Taylor, Jacob Dorn, and Weian Wang**. In 2nd place from Harvard: **Eric Yang, Kevin Chen, Vinnie Chen, and Angela Ma**. In 3rd place from UChicago: **Shyam Vasudevan, Kevin Guo, Brandon Kaplowitz, and Salman Arif**. Honorable mentions to **Richard Liu and Thomas Yu** (UChicago) for best data visualization, and **Jasmine Zhang, Zhenying Tian, Sophia Mo, and Jihong Song** (UChicago) for runner-up