HIRE CONGESTION, LOWER SPEEDS

Is It Time to Cap For-Hire Vehicles?

TRI-STATE TRANSPORTATION CAMPAIGN

Mobilizing the Region

Acknowledgements

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Introduction

Recently-proposed New York City Council legislation to regulate transportation network companies (TNCs) such as Uber, Lyft, Via and their competitors has the potential to reshape the landscape of for-hire vehicles in New York City. Most notably, proposed caps on the numbers of TNC vehicles on New York City streets would reverse the trend of increasing numbers of for-hire vehicles in the five boroughs, which between 2013 and 2017 have increased 59%.[1]

Restricting the number of TNCs allowed to operate on New York City's streets is just one of a few strategies to mitigate traffic in the city; others include hourly fees on TNCs, additional per-passenger fees in congested zones, GPS-assisted fees on empty vehicles, and congestion pricing on all vehicles driven into Manhattan below 60th Street.

In order to assess the viability of a cap on TNC vehicles in New York City, Tri-State Transportation Campaign analyzed publicly-available data from the Taxi and Limousine Commission (TLC) in order to determine whether TNCs make significantly more pick-ups and drop-offs in congested parts of Manhattan than yellow or green cabs. The data reveal a noteworthy trend: while TNCs do accumulate in Manhattan's most congested areas, they also serve low-income communities otherwise poorly-served by yellow cabs; in effect, their service patterns more closely resemble the street-hail liveries (SHLs) more commonly known as borough taxis or green cabs. By contrast, yellow cabs disproportionately serve higher-income communities.

This year, the governor and State Legislature approved a new surcharge on for-hire vehicle trips within the heavily-congested zone below 96th Street in Manhattan, with revenues dedicated toward public transit. Public transit remains the most equitable means of transportation within the five boroughs, and raising revenues to improve transit performance is the best means of ensuring all New Yorkers have access to transportation options. We have some concerns that an overly-aggressive citywide cap on FHVs would not only reduce availability in lower-income communities; it would potentially depress revenues from the congestion surcharge as well, thereby impacting funding for transit. In light of these facts, we argue that a citywide cap on the number of for-hire vehicles (FHVs) allowed to operate within the five boroughs is a suboptimal solution, and that instead of a cap, the City should explore advocating for congestion pricing and other traffic controls in order to meet the goals of reducing congestion and improving equitable forms of transportation for all New Yorkers.

Congestion and its Causes

Three bills moving through the New York City Council could dramatically restrict ride-hailing service operations, aiming to rein in the rapid growth of companies such as Uber and Lyft in an attempt to address congestion and ensure yellow cab operation remains profitable. The bills would have a significant impact on the TNC market, including new licensing charges, capping the number of drivers affiliated with a TNC, and capping the number of taxi bases and FHVs affiliated with those taxi bases citywide. Aggressive restrictions on TNCs might ameliorate the challenges faced by yellow cab owner-operators—but actually solving the city's congestion problem will require a far broader approach.

It is true that FHVs have contributed in part to a recent increase in traffic congestion— according to the latest New York City Department of Transportation Mobility Report, the city has added more than 44,000 for-hire vehicle registrations since 2010.[2] At the same time, midtown Manhattan traffic is now 23% slower than in 2010, according to research by transportation expert Bruce Schaller.[3] However, New York City, and Manhattan in particular, suffered from congestion long before Uber and Lyft came on the scene. Equally importantly, use of TNCs and private vehicles has increased as subway and bus service have declined: the Mobility Report shows that subway ridership fell by just under one percent in 2017, while bus ridership continued its decline from 697 million rides in 2010 to 638 million today.[4] Meanwhile, 50% of TNC users surveyed said they had replaced a mass transit journey with a trip in a for-hire vehicle.[5] Clearly, improving public transit is a core strategy to reduce traffic congestion not just in Manhattan, but citywide.

A multi-pronged strategy that is anchored around a comprehensive congestion pricing plan that charges all vehicles entering the central business district below 60th Street in Manhattan (the "CBD") is far more likely to produce positive results than imposing artificial caps on FHVs. In conjunction with congestion pricing, City Council should consider new rules for on-street parking; dedicated delivery zones; potential time-of-day restrictions on certain vehicular traffic, including delivery vehicles; and better enforcement of existing laws on parking and lane violations. In combination, these approaches can augment the benefits of congestion pricing, relieving city streets clogged with not just for-hire vehicles, but delivery trucks, personal vehicles, and other traffic.

Fundamentally, the best solution to congestion is to ensure mass transit remains the best option for the majority of commuters. To that end, we must guarantee that revenues raised from new measures to combat congestion are lockboxed for public

transit: improving our subways and buses is the only way we will both reduce congestion by taking people out of vehicles while simultaneously ensuring the most affordable transit option of all is reliable and available to any New Yorker, regardless of where they live or what time of day they travel.

The Cost of Artificial Capping

Artificial caps on for-hire vehicles, while a well-known phenomenon in New York, have questionable efficacy. The original limits placed on taxis limited their contribution to congestion on city streets, but also led to inflated values for the medallions required to operate a licensed yellow cab. Today, there are only 13,587 yellow taxis allowed to operate in New York City.[6] That limited supply artificially inflated the cost of medallions for decades; a single taxi medallion was worth as much as $1.3 million each in 2014, before the TLC established regulations for app-based services and the resultant increase in TNC vehicles. Now, taxi medallions sell at foreclosure auctions for as low as $150,000.[7]

The end result? As TNCs pick up ever-larger shares of for-hire passengers, yellow cab operators' revenues have dropped precipitously. Owner-operators, while representing less than 25% of all medallion owners[8], are nonetheless struggling to pay down loans on their medallions, many of which were purchased when medallions were valued at over a million dollars. Those exorbitant costs, along with the decline in passenger revenue, has contributed to a tragic pattern of well-publicized taxicab driver suicides. The city must step up and ensure that this subset of medallion owners, who bought medallions at the artificial peak of the market (and in turn provided millions of dollars of revenue to the city's general fund), are provided with programs and subsidies to mitigate the costs they unfairly bear as a result of the caps employed by the city to artificially depress supply. But the answer is unlikely to be yet another round of blanket artificial caps on for-hire vehicles, which would create a second class of vehicles as vulnerable to disruption as medallion owners.

For-Hire Vehicles and Equity

Another effect of artificial limits on yellow cabs is their relative frequency in high-income parts of New York, especially Manhattan below 96th Street, versus the more widely-distributed network of green cabs and transportation network company vehicles. In fact, the green cab network, known as Street Hail Liveries (SHLs), was
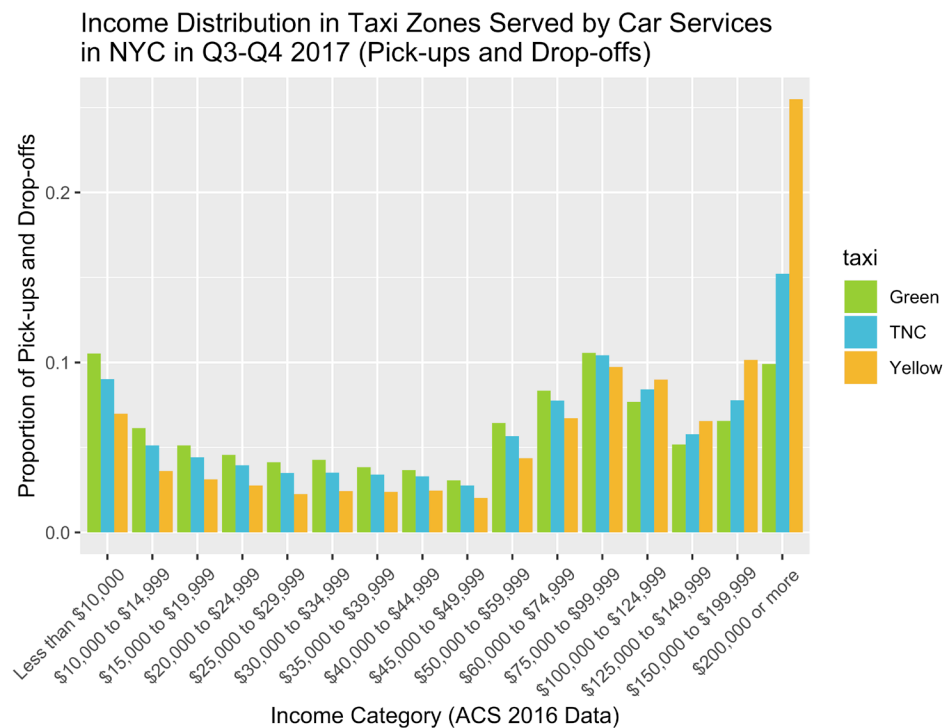
created in part to address the lack of availability of medallion taxis in lower-income communities and the outer boroughs. SHLs, with their lower startup costs thanks to a much less expensive SHL permit versus traditional medallions, proved profitable even when operated outside of high-income neighborhoods. That pattern is also true for TNCs, which Taxi and Limousine Commission data show serve a higher proportion of low-income neighborhoods than yellow cabs.

Our analysis aggregated hundreds of thousands of individual pick-ups and drop-offs in the last six months of 2017, which is the most recently available data that includes information for TNCs, SHLs, and yellow cabs (before mid-2017, TNCs were not required to report this data). We then overlaid the geo-tagged taxi data with Census districts in order to analyze the income level of the neighborhood where a pick-up or drop-off occurred. To do that, we broke census tracts apart as they intersected taxi zones, dividing up the people in each income category based on the percentage overlap, and then re-aggregated these by taxi zones. The end result is an approximate sixteen-category income breakdown per taxi zone.

Income Distribution in Taxi Zones Served by Car Services in NYC in Q3-Q4 2017 (Pick-ups and Drop-offs)
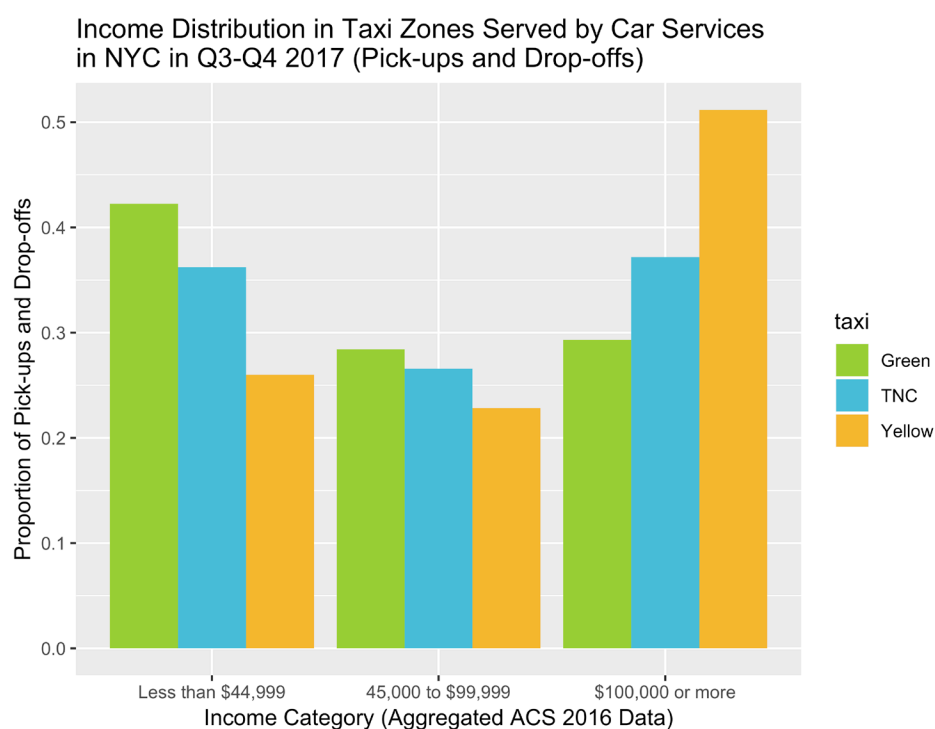
As seen in the chart above, TNCs (in blue) draw 36% of their customer base from neighborhoods with an average income below $45,000. By contrast, yellow cabs only draw 26% of their customer base from those same neighborhoods. At the other end of the income scale, TNCs serve barely more passengers in neighborhoods with high average incomes: 37%. Yellow cabs, however, draw over half of their customer base from those high-income neighborhoods.

The data becomes even starker when income categories are broken down further:

Income Distribution in Taxi Zones Served by Car Services
in NYC in Q3-Q4 2017 (Pick-ups and Drop-offs)

Over 25% of yellow cabs' customer base comes from neighborhoods with average incomes above $200,000. While TNCs also skew toward higher income levels, and SHLs serve a higher proportion of low-income neighborhoods than either, the disparity between TNCs and SHLs is much narrower than between TNCs and yellow cabs. It is clear that the licensing model governing SHLs and TNCs—one that has not dramatically over-inflated the cost of entry into the market—has benefited lower-income customers, who are more likely to find a green cab or an app-based vehicle in their neighborhood than a yellow cab.

The data are clear: yellow cabs pick up and drop off customers in higher income categories—over 25% of the income distribution for their pick-ups and drop-offs is in the "$200,000 or more" category, compared to about 15% of pick-ups and drop-offs for TNCs and 10% for SHLs. The inflection point where the proportion of trips switches is around $99,999. Below that threshold, SHLs and TNCs derive a larger share of their customers from those income levels than yellow cabs. Above $100,000, the reverse is true.

It is generally the case that SHLs serve low-income communities at higher rates than either yellow cabs or TNCs. To determine how much service those neighborhoods

receive from each FHV category, we also examined the absolute number of pick-ups and drop-offs provided by TNCs, SHLs, and yellow cabs. Again, while SHLs provided more service as a proportion of their total in those neighborhoods, TNCs offer orders of magnitude more service overall, given their greater numbers citywide:
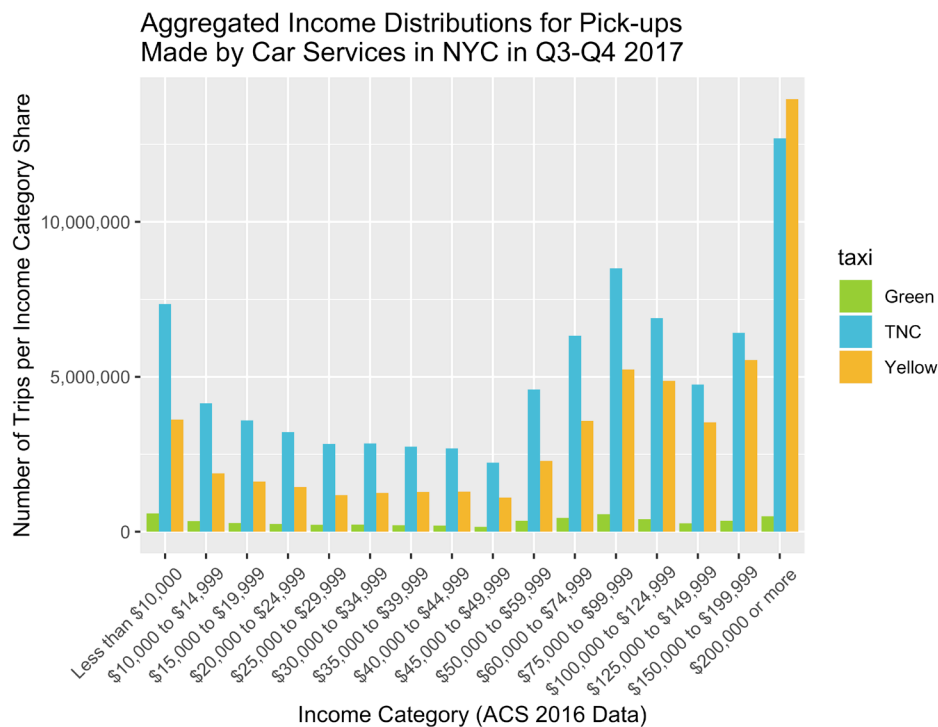
An Alternative Proposal: Congestion Pricing

The most important action legislators can take is ensuring that we improve the most equitable form of transportation in New York City: public transit. Congestion pricing offers the most effective mechanism for doing so, and revenues generated from FHV surcharges will play a key role in transit funding. Support for congestion pricing has been growing, with support from Governor Andrew Cuomo, numerous state legislators, and over eighty civic groups, labor unions, and advocacy organizations. This year, the New York State Legislature passed a surcharge on taxis, for-hire vehicles, and pooled rides. While the state legislature did not pass a congestion pricing program that would include private vehicles, as recently as a few weeks ago Governor Cuomo reiterated his support for such a congestion pricing proposal and his desire to pass congestion pricing legislation next year.

Rather than simply imposing geographic restrictions or numerical caps on TNCs, and thereby replicating systems that led to artificial inflation of medallion values and economic distress, congestion pricing would impose fees on drivers of personal, commercial, and for-hire vehicles. Revenues raised would be dedicated to improvements in public transit. However, any legislation which imposes caps on the number of TNCs or for-hire vehicles that can operate in the congestion zone could depress anticipated revenues the MTA would receive through the surcharge on for-hire vehicles. The FHV congestion fee is the only form of congestion pricing in place and is set to take place in January 2019. Given the importance of funding the MTA's new Fast Forward plan to modernize New York City's public transit system—which some estimates suggest might cost as much as $19 billion—legislators should avoid action which would limit the revenues earned from either FHV surcharges or comprehensive congestion pricing.

Given the growth of TNCs over the last several years, it may be necessary to impose some form of limit on the numbers of TNCs in the central business district of Manhattan below 60th Street, or limit the time they spend unoccupied in particularly congested areas during certain times where traffic is an issue. For instance, a report by Schaller Consulting found that overall traffic could be reduced by up to 11% if the city focused its legislative efforts on eliminating the unnecessary unoccupied time that FHVs spend between trips within the central business district of Manhattan. According to the report, mandating that TNC companies and yellow cab owners limit time spent in the CBD could have the effect of reducing the number of taxi and TNC vehicles in the CBD by 12-19%. By contrast, the impact of a simple cap on TNC numbers on lower-income communities might include significantly reduced availability of affordable on-demand transit for residents living in those areas. Compounding that concern, many of these low-income neighborhoods are places where transit service is infrequent.

No for-hire vehicle service—whether yellow cabs, green cabs, or TNCs—meets the same equity goals that public transit can. That's why priority number one for any legislator must be ensuring that transit is fixed and funded, and a well-functioning mass transit system will help reduce the number of people who rely on for-hire vehicles. Congestion pricing, and its surcharge on for-hire vehicles, remains the best means to ensure we can reduce congestion, reduce reliance on for-hire vehicles as substitute for transit use, and increase the numbers of New Yorkers citywide who can count on fast, reliable public transit as their primary means of travel throughout the five boroughs.

Methodology

We used NYC-provided data on green and yellow taxis, as well as TNCs. For all car services, we used only Q3-Q4 2017, because that's when TNCs started reporting the taxi zone for pick-ups and drop-offs (henceforth referred to as PUDOs) consistently.

Our goal was to look at the average income distribution of census tracts for different car services, weighted by the amount those car services served different neighborhoods. To do this, we broke census tracts apart as they intersected taxi zones, dividing up the people in each income category based on the percentage overlap, and then re-aggregated these by taxi zones, to create an approximate sixteen-category income breakdown per taxi zone.

For each car services, for every pick-up and drop-off, we treated the income distribution for the taxi zone where it occurred as a distribution, summed the income distribution for all PUDO. Aggregating the data in this manner gives us a rough income distribution for areas served by each type of car service, essentially weighting income distributions of NYC taxi zones by the number of pick-ups and drop-offs that occur there from a given car service.

A more detailed explanation, and all code used to download the data and reproduce the plots, is available on GitHub at https://github.com/toph-allen/tstc-taxi.

End Notes

[1] Shaller Consulting. "Empty Seats, Full Streets: Fixing Manhattan's Traffic Problem," December 21, 2017.

[2] NYC DOT. "New York City Mobility Report," June 2018.

[3] Shaller Consulting. "Empty Seats, Full Streets: Fixing Manhattan's Traffic Problem," December 21, 2017.

[4] NYC DOT. "New York City Mobility Report," June 2018.

[5] *ibid*.

[6] NYC TLC. "2016 TLC Factbook," January 2017.

[7] The New York Times. "Taxi Medallions, Once a Safe Investment, Now Drag Owners Into Debt," September 10, 2017.

[8] CNN Money. "How Uber Destroyed the NYC Cab Market," June 1, 2018.

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