

# Lowering Livery Vehicle Emissions: The Taxi Industry as a Model for Uber and Lyft

By Caravaggio Canigalia, Roosevelt @ Columbia

## Thesis

New York City should impose caps on the number of vehicles that can be operated at any given time by ride-sharing companies such as Uber and Lyft. In conjunction, tax incentives, vouchers, and driver and company privileges should be used to encourage the taxi vehicle fleet as well as the ride-sharing companies to lower their share of carbon emissions.

## Background Analysis

Medallions are required licensing for all taxis in some cities in the U.S.<sup>1</sup> Medallions are owned by individuals who buy them as long-term investments, and medallion owners receive leases from operators of their cars. These medallions were introduced in the 1920s and 1930s as a way of “cleaning up” the taxi industry.<sup>2</sup> By limiting the number of medallions available and thus the number of taxis on the road, cities like New York and Chicago reduced the competition between individual drivers, resulting in safer and less congested streets, and incentivizing medallion owners to choose reliable drivers.

By evading taxicab regulations and creating ride-sharing options, companies like Uber and Lyft have lowered prices significantly for consumers and, in some cases, made treatment of customers from impoverished areas of cities more equitable.<sup>3</sup> Because only a limited number of taxi medallions are available in New York, the number of Uber drivers in the city has ballooned past the number of active taxis in the New York fleet.<sup>4</sup> While this arguably makes Uber even more convenient than a taxi, it also means an increased number of livery vehicles on the road in New York at any given time serving roughly the same number of potential customers as earlier in the decade. This results in increased carbon emissions and traffic congestion.<sup>5</sup>

## Talking Points

- Incentives exist for increasing fuel efficiency and electric vehicle (EV) numbers in the New York taxi fleet.<sup>6</sup> These incentives are non-existent for Uber and Lyft.
- Taxis are quickly becoming obsolete, making former Mayor Bloomberg’s plans for decreasing the New York taxi fleet’s emissions less impactful.
- Creating a driver quota for companies like Uber and Lyft and incentives for lowering carbon emissions would assist the dying taxi industry while using it as a model for incentivizing the use of greener vehicles.

## KEY FACTS

- While the size of New York City’s cab fleet is 13,237<sup>9</sup>, there are more than 14,000 Uber drivers in the city.<sup>10</sup>
- The average taxi emits as much CO<sub>2</sub> per year as eight private cars.<sup>11</sup> Emission rates per shift are similar for Uber and Lyft.
- The city’s current taxi emissions plan would reduce taxi emissions by 18 percent by 2030<sup>12</sup>, but this is unimportant if taxis become uncompetitive.
- Per 12-hour shift, the average EV recharge costs \$5, while the average taxi refueling costs \$40<sup>13</sup>, so EV taxis save New York money.

## Policy Idea

New York City should cap the number of cars certain companies can have active in the city at any given time. The city should also require these companies to demonstrate their fleets' energy efficiency through both the promotion of ride-sharing options and the use of environmentally friendlier vehicles. Companies failing to meet emission requirements (based on taxi fleet emissions goals) over five-year periods would see a reduction in their allowed fleet capacity, while companies operating with even fewer emissions than required would be allowed to increase their fleet size, incentivizing greater use of hybrid cars and EVs in Uber and Lyft vehicle fleets. Such a policy should reduce vehicle emissions in New York City by even more than proposed taxi upgrades in the next 15 years.

## Policy Analysis

Since recharging an electric taxi is over 85 percent less costly than refueling an average New York taxi<sup>7</sup>, there is a clear incentive for New York City to support electric vehicle infrastructure (in particular charging stations). Since companies such as Uber and Lyft do not control the types of cars their drivers use, such an incentive does not exist for these companies. As the convenience of Uber and Lyft, combined with the cost-lowering ride-sharing option provided by these services, increasingly makes medallion taxi fleets obsolete in large cities, ensuring that livery vehicle emissions are lowered necessitates making taxis more competitive, incentivizing companies like Uber and Lyft to create emissions standards for their drivers, or both.

Creating a cap on the number of Uber or Lyft cars active at any given time in the city would decrease the number of vehicles on the road, reducing traffic congestion in New York. This in turn would result in lower emissions. Since the number of Uber or Lyft cars on the road directly affects the companies' ability to provide convenient service, they would have an incentive decrease their emissions in exchange for the ability to increase their market share. Additionally, taxi drivers and retired, medallion-owning former taxi drivers have been hurt financially by the proliferation of Uber and Lyft. (The cost of a medallion in New York City has fallen about 50 percent.)<sup>1</sup> Capping the number of cars operated by competitors would help soften the impact of the taxi industry's decline on small investors.

## Next Steps

The New York City Department of Motor Vehicles already runs routine emissions check on most vehicles in the city.<sup>3</sup> Along with the New York City Taxi and Limousine Commission, it could work to identify and enforce proper emissions standards and set guidelines for cap numbers on active vehicles from companies such as Uber and Lyft. This policy should appeal to the Taxi and Limousine Commission in particular due to its ability to decrease the newfound obsolescence of taxis in New York City. It should also appeal to the environmentally minded efforts of the De Blasio administration to reduce emissions and the urban heat island effect in New York. In order to implement this policy, crafting company descriptions to tailor environmental incentives to target companies like Uber and Lyft would be necessary. Since New York City controls its taxis and Uber and Lyft are cutting into taxi markets and emissions targets, finding support should not be difficult.

## End Notes

---

<sup>1</sup> Badger, Emily. "Taxi Medallions Have Been the Best Investment in America for Years. Now Uber May Be Changing That." *Washington Post*. June 20, 2014. Accessed November 30, 2016.

[https://www.washingtonpost.com/news/wonk/wp/2014/06/20/taxi-medallions-have-been-the-best-investment-in-america-for-years-now-uber-may-be-changing-that/?utm\\_term=.3d092f2de35a](https://www.washingtonpost.com/news/wonk/wp/2014/06/20/taxi-medallions-have-been-the-best-investment-in-america-for-years-now-uber-may-be-changing-that/?utm_term=.3d092f2de35a).

<sup>2</sup> Ibid

<sup>3</sup> Ibid

<sup>4</sup> "NYC's 'Taxi of Tomorrow' Is Still the Yellow Cab, Not Uber." *CityLab*. 2015. Accessed November 20, 2016.

<http://www.citylab.com/commute/2015/03/nycs-taxi-of-tomorrow-is-still-the-yellow-cab/388215/>.

<sup>5</sup> Rampell, Catherine. "The Dark Side of Uber and Lyft." *Chicago Tribune*. 2014. Accessed November 20, 2016.

<http://www.chicagotribune.com/news/opinion/commentary/ct-the-downside-of-ridesharing-perspec-1006-20141003-story.html>.

<sup>6</sup> "TAKE CHARGE: A Roadmap to Electric New York City Taxis." Nyc.gov. December 2013. Accessed November 29, 2016.

[http://www.nyc.gov/html/tlc/downloads/pdf/electric\\_taxi\\_task\\_force\\_report\\_20131231.pdf](http://www.nyc.gov/html/tlc/downloads/pdf/electric_taxi_task_force_report_20131231.pdf).

<sup>7</sup> "The Case for the Electric Taxi." New York. 2015. Accessed December 2, 2016.

<http://newyork.thecityatlas.org/lifestyle/the-case-for-the-electric-taxi/>.

<sup>8</sup> "New York State Vehicle Safety/Emissions Inspection Program." New York State DMV. Accessed November

30, 2016. <https://dmv.ny.gov/brochure/new-york-state-vehicle-safetyemissions-inspection-program>.

<sup>9</sup> Harden, Seth. "Taxi Cab Industry Statistics." Statistic Brain. 2016. Accessed December 2, 2016.

<http://www.statisticbrain.com/taxi-cab-statistics/>.

<sup>10</sup> CityLab 2015

<sup>11</sup> NYC Government 2013

<sup>12</sup> Ibid

<sup>13</sup> The Case for the Electric Taxi 2015