

Submission of James M Cooper  
To the General Government and Licences Committee of the City of Toronto

For consideration in respect of agenda item GL27.19  
Meeting of November 30th 2021

## 1.0 Background

This submission is made by Dr. James M. Cooper, Lead Scientist for Transport Research Partners, formerly Taxi Research Partners, author of the 2013 study report: “Determining the Appropriate Number of Taxicabs and its Impacts for the City of Toronto” (the 2013 report). I have used the term Vehicle For Hire (VFH) in this submission to include both Taxis and Private Transportation Companies (PTCs).

The 2013 report was followed, in 2016, by the revision of the Toronto municipal code, Chapter 546 (the bylaw), allowing the unlimited entry of PTCs<sup>1</sup> into the market; with significant growth in the number PTC vehicles operating in subsequent years, rapidly overtaking the number of taxis operating in the city. Pre-pandemic peaks of 90,000 PTC drivers are reported compared to 13,000 taxi drivers (Municipal Licensing and Standards, 2021<sup>2</sup>).

In 2019 MLS staff completed a review of the bylaw, leading to a series of amendments, including an Accessibility Fund Programme, Data reporting requirements, and mandated driver training. A moratorium on new PTC and VFH driver license issuance was put in place on November 10, 2021, ‘*until such time as the driver training program is established*’ (MLS, Nov 16, 2021).

The demand for and supply of VFH transport has been severely impacted by Covid-19 (the pandemic), as patterns of work, travel and tourism have all changed significantly. MLS estimating a decline in available drivers of around 50%, to 47,000 PTC and 7,500 taxi drivers (*ibid*). The decline in drivers plying for hire does not necessarily equate their loss to the city, but rather the lack of opportunity to operate profitably, a market response based on available trips.

## 2.0 Theoretical Foundations

The VFH market relates to the transport of individuals and/or small groups on trips defined at, or close to, the time of use. This pattern of transport is generally supplied on-demand and may also be referred to as a form of Demand Responsive Transport (DRT). VFH transport has traditionally been supplied by the Taxi and Limousine sectors operating under a license structure of regulated competition. Market and technology developments within the last 12 years have seen the introduction of TNCs across many North American cities, including Toronto (PTCs) though the newer market entrants tend to be subject to a differing regulatory structure, described in some cities as free-market competition. The existence of both Regulated Competition and Free Market Competition in the same market, that of VFH supply, has created a mismatch between market participants, and a sense of unfair competition amongst some.

Likewise the structure of the market for travel is not limited to the VFH market alone, with impacts in one transportation mode being felt by others, whether as a direct consequence, or knock on effect, the key point being that a change as affecting the VFH industry may have further impacts across the wider transportation market that need be considered.

Prior to PTC development many (most) taxi markets operated under a form of regulated competition, in which a licensing authority (the city) took a role in the control of the taxi market. Controls were frequently applied to Quality, Quantity and Economic aspects (QQE) of the market in the form of market interventions that (sought to) support the delivery of a taxi service in the

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<sup>1</sup> PTCs can be referred to by a variety of names, dependent on jurisdiction and author, of which Transportation Network Companies (TNCs) is a commonly applied term. The PTC sector is dominated by US based companies Uber and Lyft.

<sup>2</sup> Update on Outstanding Vehicle-for-Hire Directives, report dated Nov 16, 2021. Municipal Licensing and Standards (MLS) submission to General Government and Licensing Committee.

public interest. This was the case at the time of the 2013 report, with many (most) of the extant controls remaining in place for the taxi industry in 2021. PTCs, in contrast, face relatively fewer regulations though are not without regulation, as will be detailed below.

The PTC market differs from the taxi market in the extent of regulatory controls applied. The PTC mode is often argued as operating in free-market competition, though this is also an exaggeration as both taxi and PTC modes face a variety of market controls illustrated, as an example, by the universal need for drivers (of any vehicle) to qualify for and hold a drivers license, being an example of a regulation affecting Quality. Differing approaches to fares and pricing are apparent between the modes, and these will be discussed below.

Given the history, and likely as a result of the differing patterns of taxi and PTC development, taxis and PTCs operate under differing levels of regulation, with differences in regulated control being identified, by some, as competitive advantage / disadvantage. The real effect being a shift in the point of equilibrium between the modes, and potential for repetition of over-supply, one of the factors that led to taxi regulation in the first place. It is noted all modes need be considered in relation to this shift, including transit, identified as having the greatest loss of passengers to PTCs (City of Toronto, 2019)<sup>3</sup>.

The equilibrium point between modes has been further disrupted by the effect of the pandemic. Demand for VFH services has been directly impacted with a consequential loss of supply as drivers find themselves unable to make a sufficient income to cover costs. The pandemic effects being one part of a market adjustment to oversupply, while potentially masking the need for a longer term adjustment to support a more cohesive or integrative approach to the sector. In short the pandemic may serve to focus regulation in the public interest, a process described in some countries as '*building back better*', but should be reviewed with care so as to avoid market exploitation, increased regulatory (dis)advantage, or avoidance of standards designed to be in the public interest.

### 3.0 Service levels, and the use of waiting time as a measurement

In our 2013 study we analysed the relationship between stated passenger service levels, being the desired quality of service, using waiting time as a metric, and its reality. Service levels at the time of the analysis suggested an average desired waiting time of around 7 minutes, with some variation between trip purposes, location and time of day; and a service delivery of 9 minutes, again with some variation by time and place. The measurement was taken under a differing set of market circumstances, not least the absence of PTCs, but followed from a logic that a regulated market where Significant Unmet Demand (SUD) was identified could be supported by a measured increase / decrease in vehicle numbers. The concept is supported by a range of analyses completed at and around the same time in a series reviews undertaken by the UK Department for Transport (DfT).

The 2013 report concluded that SUD had not been identified, and that the extant fleet was sufficient, at the time, to provide service levels reported in the public surveys.

The 2013 report also made reference to limitations in following a wait time measure alone, not least the impact of external traffic on the ability to provide reduced service times, and the exponential nature of licence increase required, an interaction reported as the 'Bang and Olufsen effect' (B+OE) in some papers, based on the increased difficulty and increasing expense of achieving a declining marginal improvement. Effectively that the cost of improvement increases as the (remaining) ability to improve decreases. In traffic terms this is the equivalent of many more licences being required to achieve a declining improvement in waiting time, and the ultimate truth that to achieve a wait time measured in seconds, each and every vehicle would need to be a Vehicle For Hire!

<sup>3</sup> City of Toronto. (2019). The Transportation Impacts of Vehicle-for-Hire in the City of Toronto. Retrieved from [https://www.toronto.ca/wp-content/uploads/2019/06/96c7-Report\\_v1.0\\_2019-06-21.pdf](https://www.toronto.ca/wp-content/uploads/2019/06/96c7-Report_v1.0_2019-06-21.pdf)

Whilst reaching for a minimum of delay it is also apparent that an excess of VFH vehicles would also have severe knock on impacts, not least on the drivers themselves, as increased numbers of vehicles dilutes the waiting time for the passenger it will also dilute the ability of each driver to make a living, as the actual number of passengers is unlikely to change in line with the number of vehicles, though some diversion and market growth is clearly possible. It should be noted at this point that diversion as did occur will impact on the numbers of passengers making use of other transportation services, including the TTC (49%)<sup>4</sup> on top of the loss from taxis (33%) and personal cars (5%), creating a potential for consequential losses from publicly funded services at the expense of all of the community, tax payers, and potential loss of service for specific user types including wheelchair services. It is also notable that the real effect on traffic flow is a significant increase in the numbers of private cars on the road, with only 5% of trips being diverted from private cars. A series of reviews demonstrate losses in accessibility in Californian cities in similar circumstances. The extent of such a loss is measurable including in the diversion effect, though this has not been calculated in the preparation of this paper.

Further impacts are possible as an increase in the number of vehicles will likely impact the total level of pollution, only partially offset by new vehicle technologies, congestion and public safety impacts including an increase in the rate of road traffic incidents.

#### 4.0 Regulatory relaxation(s)

The extent to which the regulatory authority may act is limited, though some suggestions have been voiced in terms of a relaxation of safety controls, specifically a suspension of safety training as a pre-requisite of licensing. The actual impact of such a move is more likely, in our opinion, to lead to a reduction in quality standards than a notable change in wait times, not least that the actual growth in market supply could follow from a willingness of existing drivers to return to driving, negating the need for any such relaxations, as renewals amongst existing licence holders qualify through their existing status.

It may also be reasonably argued that fleet efficiencies could be increased given a reported and relatively poor utilisation rate amongst Toronto drivers when compared to other large urban areas. In effect the Toronto driver makes fewer trips than their, let's say, New York equivalent, reflecting relatively poorly on the concept that the distribution of additional drivers across existing platform(s) would result in increasing efficiencies of use. It would be reasonable to suggest that the optimisation of supply across the same or similar platforms should result in similar patterns of utilisation in Toronto as in New York.

A potential further aspect being that the driver community and/or the distribution platform provider may be in a position to affect performance as a method of profit maximisation. This does not always result from a maximisation of trip number, but rather of trip income, particularly where passenger choice behaviour is limited to immediate monopolies in the case of hailed taxis, or as a result of a 'first screen preference' in the case of app based bookings. First Screen Preference relates to an observation amongst airline bookings that an agent would rarely proceed beyond the first screen presented, giving benefit for higher fares to be displayed first. The same concept applies to the app booking in that few passengers would proceed to compare app prices to taxi fares, effectively that once an app is clicked as transport of choice, few would not then proceed to book using that app.

Observations suggest a difference between the presentation of a higher fare as being in some way beneficial to the public, for example by dint of increasing supply, and its actual effect, of reducing selection to a game theory focused on profit maximisation. Moreover, the argument isolates focus to a single high profile measurement, in this instance the perceived supply of a service, without consideration of the cross-elasticity impacts on other forms of transport or the negative societal impacts as may arise and be measured in terms of congestion, injury accident, pollution and similar.

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<sup>4</sup> RideFair CA (2021), Budgeting for the Uber Impact: How Uber/Lyft cost the TTC \$74 million in 2019. Accessed from: [https://ridefair.ca/wp-content/uploads/2021/02/Ridefair-Report\\_Feb\\_2021\\_final.pdf](https://ridefair.ca/wp-content/uploads/2021/02/Ridefair-Report_Feb_2021_final.pdf)

In short a Pareto optimising solution, being one that supports incremental development to the extent that causes no additional harm, should be seen as a reasoned approach. This would imply a balanced review of impacts across sectors and impacts of any change to the VFH sector.

## 5.0 Review and conclusion

In making this submission it is important to highlight the role of and benefit arising from VFH services. The City of Toronto has a developed and mature VFH market offering good services to its residents and visitors. The emergence of the PTC market and in particular the technologies associated with app bookings are also significant in the development of the sector.

The operation of the market and its regulation have also developed in the period since our 2013 report, with the correct identification, in our view, of public safety and driver training as a key part of that regulation. As in all (legal) markets an element of regulation is integral to correct market operation, and should not be avoided where its outcome is demonstrably in the public interest.

This said the effects of the pandemic have had an effect both on the types of trips being made, their frequency and pattern. A decline in trip number has been visible and resulted in a reduction to both supply and demand as a consequence. A fall in the number of drivers seeking to provide services may be seen as a normal outcome of such a decline, while personal hardship amongst the driving community is also a real effect of the pandemic. A final point of recovery, which may be observed as a recovery in the number of trips demanded may also be delayed with various reoccurrences of the pandemic still possible. Indeed international travel restrictions and changed working patterns, including working from home are likely to continue despite a more liberal approach to lock-downs emerging. In short the patterns of demand for travel seen pre-pandemic may remain illusive for some time to come.

Against this backdrop it is reasonable to address the extent and nature of supply in the VFH industry. A decline in driver number does not mean a direct exodus from the industry, though it is clear that some loss will occur. Nor should this decline result in a removal of critical measures including training. A short term moratorium on license issuance does not equate a loss of ability within the industry to meet demand. Moreover as one of the fundamental benefits of the platform technology has been suggested as related to the efficient matching of supply to demand, the platform itself must have a role in the effective matching and optimisation of the fleet.

A more fundamental analysis of the market may also be called for, being based on the optimal delivery of the market for all, not simply for one or another group. This follows the concept of Pareto Optimisation, highlighted in brief above, being focused on the steady improvement of a market, including its regulation, being aware of and preventing harm from such an improvement. The market need be considered on a wider basis, where a city has responsibilities across disciplines, thus including harm to transit, the environment and wider communities not immediately identified as VFH users. A special focus also appears necessary to the vulnerable members of society, those who rely on the knowledge and sensitivities of their drivers, have accessibility needs and those who rely on the city itself to ensure drivers are competent, trained and responsible.