The Platform Economy and Regulatory Disruption: Estimating the Impact on Municipal Revenue in Toronto

Zachary Spicer
Institute on Municipal Finance and Governance
The Platform Economy and Regulatory Disruption: Estimating the Impact on Municipal Revenue in Toronto

By Zachary Spicer
About IMFG

The Institute on Municipal Finance and Governance (IMFG) is an academic research hub and non-partisan think tank based in the Munk School of Global Affairs at the University of Toronto.

IMFG focuses on the fiscal health and governance challenges facing large cities and city-regions. Its objective is to spark and inform public debate, and to engage the academic and policy communities around important issues of municipal finance and governance. The Institute conducts original research on issues facing cities in Canada and around the world; promotes high-level discussion among Canada’s government, academic, corporate, and community leaders through conferences and roundtables; and supports graduate and post-graduate students to build Canada’s cadre of municipal finance and governance experts. It is the only institute in Canada that focuses solely on municipal finance issues in large cities and city-regions.

IMFG is funded by the Province of Ontario, the City of Toronto, Avana Capital Corporation, Maytree, and TD Bank Group.

Author

Zachary Spicer is a Visiting Researcher with the Institute on Municipal Finance and Governance.

Acknowledgements

I would like to thank Enid Slack, Selena Zhang, Shauna Brail, and Tracey Cook for their helpful comments on earlier versions of this paper. Additionally, I would like to thank Vanessa Fletcher from the City of Toronto for her time and assistance with all of my many questions and for sharing a number of documents with me. Many thanks as well to Vass Bednar at Airbnb for all her help securing data as well as her helpful comments early in the research process. In December 2017 I was able to present some of this work in the Department of Geography at the University of Toronto, which helped develop some of the arguments in the paper. Thanks to Austin Zwick for the invitation and for organizing the event. Despite the help of so many with this project, any errors, omissions, or misinterpretations, remain my own.
Abstract
Platform economy firms such as Uber and Airbnb have attracted attention in cities around the world, given the impact of these firms on the existing taxi industry or the rental market, but little has been written about the effects of the platform economy on municipal fiscal health. This paper estimates the regulatory cost and potential revenue opportunities of the platform economy, examining the impact of three firms in Toronto: Uber, Airbnb, and Rover. Overall, I expect that the approaches that the City of Toronto has taken to regulate the activities of firms, such as Uber and Airbnb, will be revenue-neutral. Since neither of these services directly competes with other city services, I examine only the costs of the regulatory scheme put in place. The third platform firm, Rover, does compete with the City's Green P parking service. However, Rover's operations are not at the scale necessary to meaningfully disrupt Green P services. If regulated effectively, the platform economy would have a minimal impact on municipal revenue. However, regulatory delay has a cost. The lesson learned from Toronto's experience is to not delay the creation of a regulatory regime. Municipalities need to be proactive in researching the appropriate regulatory approach and matching the regulatory reach to the platform in question, namely a digital regulatory approach for a digital service.

Keywords: platform economy, regulatory disruption, municipal revenue, Toronto

JEL codes: H25, H71, O33, O38
The Platform Economy and Regulatory Disruption: Estimating the Impact on Municipal Revenue in Toronto

1. Introduction
The platform economy consists of firms using digital platforms to connect independent contractors with customers. Often the firm is a connector, rather than a traditional service provider. Hundreds of firms are included in the “platform economy.” Most disrupt existing business models. Platform economy firms, such as Uber and Airbnb, have also disrupted the regulatory structures of hundreds of local governments.

Researchers have examined the platform economy from a number of angles, including participation (Hamari, Sjöklint, and Ukkonen 2015; Lamberton and Rose 2012), consumer protection (Koopman, Mitchell, and Thierer 2015), safety (Feeney 2015), inequality (Rogers 2015), and business strategy (Cohen and Kietzmann 2014). However, little has been written about the finance and governance implications of the platform economy. When regulations are rewritten and new regulations put in place for platform economy firms, there are costs for cities. Meanwhile, new regulations may relieve cities from existing regulatory costs, potentially freeing revenue to be directed elsewhere.

This paper estimates the regulatory cost and potential revenue opportunities of the platform economy for cities. I examine three platform economy firms in Toronto – Uber, Airbnb, and Rover – documenting their entry into the market and calculating the costs for the City of Toronto.

I find that the approaches the City has taken to regulating the activities of firms, such as Uber and Airbnb, will be revenue-neutral. Since both regulatory regimes are new, there is little implementation history to evaluate, but the regulatory approach towards both firms is unlikely to have a negative impact on City revenue. Given that neither of these services directly competes with other city services, I examine only the costs of the regulatory scheme put in place.²

The third firm, Rover, does compete with services offered by the City, namely its Green P parking service. However, Rover’s operations are not at the scale necessary to meaningfully disrupt Green P services. Overall, I argue that if regulated effectively, the platform economy would have a minimal impact on municipal revenue.

In the next section I review the literature on regulation in the platform economy, detailing several strategies governments have developed when confronted with disruptive technology. I then introduce the study method and present findings from Toronto before drawing conclusions.

² While arguments have been made that Uber and other ride-hailing services are disrupting public transportation services and drawing riders away from public transit, much of the empirical evidence used to test these claims is inconclusive (see Rayle et al. 2016). I therefore excluded public transit from the analysis.
In examining each service, I focus solely on the impact to municipal revenue. The platform economy is undoubtedly controversial. Uber, for instance, has disrupted traditional taxicab operations, causing many to argue its presence has made it harder for taxicab drivers to earn a living. Airbnb has also attracted negative attention from the hotel industry, which argues that it has taken away patrons from their operations. Others argue that Airbnb has had a negative impact on the rental market, taking needed rental housing units off the market as travellers rent rooms by the night, allowing landlords to avoid laws that govern their relationships with tenants. These are genuine concerns, but the focus here is on municipal fiscal health, not on the impact of the platform economy on other industries.

2. Regulating the Platform Economy
The introduction of new, innovative products into established marketplaces is often contentious. From the invention of margarine to the widespread adoption of automobile technology, innovation has the potential to disrupt markets, provoking resistance from established industries and often intervention by regulatory authorities (Biber et al. 2017; Juma 2016). Because the rate of technological progress can often exceed the performance demanded in a market, existing firms often fail to recognize new competition, leaving their marketplace open to disruptive technologies (Christensen and Bower 1995).

The process of introducing new products to certain markets becomes all the more complicated if a particular market is heavily regulated. Government regulators shape not only the strategy of existing actors, but also that of newer firms. New companies encounter resistance from established firms in nearly all marketplaces (Aldrich and Baker 2001; Lawrence 1999). Incumbent firms often attack new competitors directly by introducing new products or service improvements and by trying to restrict market access by pressuring institutional regulators to impose new restrictions on newcomers and enforce existing regulations (Aldrich and Baker 2001; Edelman and Suchman 1997).

Established businesses may attempt to frame new market entrants as destructive or destabilizing to the market (Gurses and Ozcan 2015). These businesses often have deep connections with institutional regulators who have a vested interest in maintaining the regulated environment (De Figueiredo and Tiller 2001; Lippmann 2007; Schuler 1996).

Confronted with new and potentially innovative but disruptive firms, institutional regulators may respond in one of three ways. The first response is to do nothing, allowing the new firm to operate freely. This option reduces the

---

2 There are a number of examples of this in existing markets. For instance, in the 1980s established airlines successfully appealed to the Civil Aeronautics Board to get new airlines rejected when they requested new interstate routes (Derthick and Quirk 1985). In the 1930s, independent grocery stores were successful in getting a temporary ban against grocery chains entering the retail industry after framing them as disconnected to local community goals (Ingram and Rao 2005).
regulator’s costs, in that doing nothing costs nothing, but could jeopardize the existing marketplace and undercut the existing regulatory regime. The jurisdiction would also lose any associated benefits of regulation, potentially putting public safety at risk.

The second is to maintain the policy goals of the current regulatory framework. While this approach keeps the regulatory regime in place, ensures public safety, and maintains consumer protection, it may put new and potentially innovative firms at a disadvantage in an established marketplace.

A third option is to redesign or alter the existing regulations to fit or accommodate new firms. This approach may negatively impact existing firms but would provide flexibility for new, innovative firms to operate. As such, municipal regulators could see this option as a middle-ground approach, allowing both old and new firms to operate within a revised regulatory framework.

The platform economy provides a peculiar policy challenge for municipal regulators. From parking restrictions to zoning bylaws, municipal regulation often concerns the use of local resources (Rauch and Schleicher 2015). Municipalities have traditionally aimed at managing local resources and urban public goods. As Rauch and Schleicher (2015) argue, the platform economy fundamentally disrupts this practice, leading to more intensive resource use than originally expected. For instance, they contend that Airbnb and other short-term rental firms transform residential neighbourhoods into de facto commercial areas, where guests may use neighbourhood resources more intensely than local residents by virtue of homes being occupied more frequently, sometimes by more guests than there would normally be residents in the home.

Municipal regulators need to find a regulatory path that mitigates the intensification of local resource use and balances the marketplace between new and old firms. Biber et al. (2017) present a “regulators’ toolkit,” consisting of four policy strategies: Block, Free Pass, OldReg, and NewReg (see Table 1).

The first strategy is to block the firm. In practice, this means forcing newer firms out of the market, generally with the argument that the firm either disrupts the marketplace or presents an undue risk for the public or consumers. The opposite strategy is to provide new firms with a free pass. With this option, the regulator argues that new firms do not conform to the existing business operations of established firms that adhere to current regulations. As a result, new firms fall outside the existing regulatory scope and may therefore operate without regulatory oversight.

Under the OldReg strategy, newer firms are allowed to enter the marketplace and operate, but only if they conform to existing regulatory standards, no matter how cumbersome they may be for a new company with a potentially innovative business model. In this model, competition is enhanced, but public safety and
consumer protection are not sacrificed. The opposite approach would be **NewReg**, in which regulators develop a new regulatory structure in response to market disruption.

To Biber et al. (2017), choosing among these strategies depends upon the legitimacy and continuing relevance of the substantive goals of the existing regulatory structure. If the old regulatory structure did not achieve its overall policy goals, Biber et al. argue that regulators should welcome the disruption as an opportunity to re-examine and rewrite existing laws. However, if the policy goals of the original regulatory structure are still legitimate, policymakers should consider a response that preserves these fundamental interests.

If the decision is made to regulate a platform economy firm or sector, regulators need to determine an appropriate taxation and enforcement scheme. Finding the right approach is challenging, because the platform economy consists of two main actors: the vendors operating on the platform, who are local, and the platforms themselves, which are generally global. In short, those involved operate on a number of scales, making regulation, compliance, and enforcement complex.

Regulators generally use pricing mechanisms and mandated reporting to ensure policy ends are met. For instance, if a municipality is concerned about Uber’s impact on congestion or Airbnb’s impact on the rental market, it could use a combination of user fees and regulations on participation in the industry to scale back the size of the operations of either firm within its jurisdiction.

The intensity of the regulatory and enforcement regime, however, comes with a cost. The platform economy differs from other industries under municipal regulatory control in that its major firms are not physically located within their jurisdictions. Traditional taxicab firms and hotels, for instance, were either locally owned or physically located within the jurisdiction regulating them, meaning they could not escape enforcement and compliance with local regulation.

---

**Table 1: Municipal regulatory strategies**

<table>
<thead>
<tr>
<th>Block</th>
<th>Interpret legal rules to block the new form of business and preserve existing regulatory and business structures.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free Pass</td>
<td>Allow the business innovation to proceed without changing the regulatory structure, potentially consigning the previous business model and its associated regulatory structure to extinction.</td>
</tr>
<tr>
<td>OldReg</td>
<td>Allow these new firms to enter the market, but apply existing legal rules. This approach imposes additional regulatory costs on new business models, but aims for a level playing field between incumbents and innovators.</td>
</tr>
<tr>
<td>NewReg</td>
<td>Develop new regulatory structures and legal categories. Like OldReg, NewReg can strive for neutrality between incumbents and innovators.</td>
</tr>
</tbody>
</table>

Source: Biber et al. (2017)
Platform economy firms largely operate on a global, rather than a local scale.\(^3\) A complete ban on a particular service is a resource-intensive approach that is unlikely to be successful. A digital approach to regulation is much less resource-intensive than an “on-the-street” approach and shows evidence of higher rates of compliance (Cannon and Chung 2014). Not all technological innovations necessitate a policy response. A common example given is Netflix (and other video-streaming services), a firm that fundamentally disrupted the video rental market, eventually forcing Blockbuster and other video rental businesses into bankruptcy. Netflix’s displacement of Blockbuster certainly disrupted the marketplace, but did not fundamentally require a response from regulators, as the new service did not flout any existing regulations (see Biber et al. 2017; Gans 2016).\(^4\)

However, not all technology firms can disrupt a marketplace without eliciting a regulatory response. Most platform economy firms necessitate some type of evaluation from institutional regulators. Regulators need to ask: How disruptive is the new firm? Could public safety or consumer protection be put at risk if existing regulations are not upheld? Who is being displaced in the market? What is the impact on existing firms? What is the political response?

Another consideration is cost. How much will regulatory disruption cost the city? Will the city lose revenue? Will the city need to spend more resources regulating new platform economy firms?

3. The Platform Economy and Municipal Revenue: Three Case Studies

In this section, I examine the cost of the platform economy in Toronto, looking specifically at three of the most prominent firms: Uber, Airbnb, and Rover. Table 2 shows the date of market entry for each, as well as the date of regulation.

Since 2016, the City of Toronto has brought in regulations for private transportation companies, like Uber, and for short-term rental platforms, such as Airbnb. Rover, however, remains unregulated, even though municipal regulators have demonstrated some interest in developing terms for its operation within the city (Bonifacic 2015).

For Uber and Airbnb, I explore the City of Toronto’s regulatory approach and estimate the regulatory cost for each service. As Rover is not yet regulated, I examine the impact of Rover’s presence on revenue of the City of Toronto’s own parking service, Green P.

---

\(^3\) Not every platform economy firm operates on a global level. Many are regional or, as we will see below with Rover, generally local actors. However, most operate on a scale that defies local boundaries, making regulation much more difficult for services that are traditionally firmly under municipal control, such as taxicabs.

\(^4\) Biber et al. (2017) note that some copyright regulation needed revising. In Canada, the issue of applying a sales tax to Netflix has been a recurring theme of debate for the federal government. For more information, see Tencer (2017).
3.1 Estimating Costs: Uber

Uber launched in Toronto in September 2012. The San Francisco-based tech giant, valued at $62.5 billion in 2015 (Newcomer 2015), is currently available in more than 500 cities in 70 countries around the world. The digital ride-hailing service, which sidesteps existing taxi regulations by directly connecting passengers and drivers through mobile devices, has proven extremely popular with consumers; Uber claims that users have taken more than 2 billion rides since 2009 (Alba 2016).

As soon as Uber arrived in Toronto, the City charged Uber with 25 municipal licensing offences, including operating an unlicensed taxi brokerage and unlicensed limo service (Winsa 2012).5 Uber ignored the charges, and added its UberX service, which connected passengers to drivers using personal, unmarked vehicles, in September 2014 (Lu 2014). This time, the City sought a court injunction on the grounds that Uber was jeopardizing public safety.

Newly elected mayor John Tory disagreed with this approach, insisting that companies like Uber were “here to stay.” As he put it, “it is time our regulatory system got in line with evolving consumer demands in the 21st century… As mayor, I intend to see that it does, while being fair to all parties, respecting the law and public safety” (Pagliaro 2014).

In July 2015, a provincial superior court dismissed the injunction against Uber, concluding that City officials had failed to prove that Uber had broken any bylaws or that it was operating as an illegal taxicab company (Hui 2015). The Canadian Competition Bureau, a federal agency that enforces fair business practices, urged municipal regulators to modernize rules concerning traditional taxis and companies like Uber (Henderson 2015).

A private member’s bill was also introduced in the provincial legislature to encourage more app-based businesses in Ontario, including “Transportation Networking Companies” like Uber (Leslie 2015). Feeling pressure from all three levels of government, cab drivers from across the city staged a massive protest in

5 In total, the city filed 36 bylaw infractions against Uber between the time it launched and fall 2014 (Pagliaro 2014).
early December 2015, slowing traffic and shutting down several roadways in the downtown core (Husser 2015). Table 3 provides an estimate of the size of the transportation-for-hire industry at that time (March 2016).

<table>
<thead>
<tr>
<th>Table 3: Comparison of transportation-for-hire industry in Toronto</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Approximate number of vehicles</td>
</tr>
<tr>
<td>Approximate number of licensed drivers</td>
</tr>
<tr>
<td>Approximate trips per day</td>
</tr>
</tbody>
</table>

* The City of Toronto does not require the collection or submission of this information.

Source: City of Toronto

City-led consultations on Uber regulation began in July 2015. A staff report on recommended regulations introduced to Council in March 2016 aimed at reducing the regulatory burden for taxicabs and limousines while introducing regulations for “Private Transportation Companies” (PTCs), a new class of vehicle-for-hire businesses such as Uber and related firms (Balca 2015; Bateman 2015). The major components of the new staff-proposed bylaw are shown in Table 4.

These changes reduced the regulations placed upon the current taxicab industry. For instance, taxicab brokers would no longer be responsible for filing brokerage fees. Nor would drivers be required to submit three photographs when applying for a taxicab licence. Overall, A New Vehicle-For-Hire Bylaw to Regulate Toronto’s Ground Transportation Industry removed 11 requirements for the taxicab and limousine industry.

The removal of such provisions reduced enforcement costs for the City, especially in the areas of digital licensing approval and the implementation of the alternative vehicle inspection program, transferring this responsibility to private garage operators licensed by the Ontario Ministry of Transportation. In total, Municipal Licensing and Standards estimates $650,000 in cost savings for the City from removing such regulatory requirements (Municipal Licensing and Standards 2017: 33).

For more information on the consultation process, see the Staff Report for Action on Vehicle-for-Hire bylaw (City of Toronto 2016: 24–25).

The proposed bylaw also included many comparatively minor changes, including new categories of taxicab licences and changes to accessible cab provisions. For the full staff recommendations, see Staff Report for Action on Vehicle-for-Hire bylaw (City of Toronto 2016: 3–5).

For more information on these provisions, see Attachment 3 to the bylaw (“Amendments to Reduce Administrative Requirements TMC Chapter 545”). See City of Toronto (2016).
<table>
<thead>
<tr>
<th></th>
<th>Taxicab</th>
<th>Limousine</th>
<th>PTC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fare/rate</strong></td>
<td>Continue to charge the current regulated rate for all trips taken through street-hail or at cabstands. If booked through a broker, fare may be discounted by broker.</td>
<td>Able to set rates that may vary over time periods. Passengers must accept rates prior to dispatch of vehicle.</td>
<td>Able to set rates that may vary over time periods. Passengers must accept rates prior to dispatch of vehicle.</td>
</tr>
<tr>
<td><strong>Metering</strong></td>
<td>Required to have taximeter.</td>
<td>Not regulated by City.</td>
<td>Not regulated by City.</td>
</tr>
<tr>
<td><strong>Vehicle operation</strong></td>
<td>Can operate independently or affiliate with a taxicab broker.</td>
<td>Cannot operate independently. Must affiliate with a limousine broker.</td>
<td>Cannot operate independently. Must affiliate with a PTC.</td>
</tr>
<tr>
<td><strong>Vehicle requirements</strong></td>
<td>Required to have roof light, taxicab licence plate, and exterior markings identifying vehicle as taxicab.</td>
<td>Must have limousine licence plate. Cannot have any markings or advertising.</td>
<td>PTC responsible for ensuring all vehicles affiliated with it submit an annual Safety Standards Certificate issued by a Ministry of Transportation licensed garage.</td>
</tr>
<tr>
<td><strong>Licence limit</strong></td>
<td>Continue limit on number of taxicab licences issued.</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Vehicle standards</strong></td>
<td>Any four-door vehicle less than 7 model years old.</td>
<td>Any four-door vehicle less than 7 model years old.</td>
<td>Any four-door vehicle less than 7 model years old.</td>
</tr>
<tr>
<td><strong>Vehicle inspection</strong></td>
<td>No longer required to attend City-run mechanical inspections. Required to submit an annual Safety Standards Certificate issued by a Ministry of Transportation licensed garage.</td>
<td>No longer required to attend City-run mechanical inspections. Required to submit an annual Safety Standards Certificate issued by a Ministry of Transportation licensed garage.</td>
<td>PTC responsible for ensuring all vehicles affiliated with it submit an annual Safety Standards Certificate issued by a Ministry of Transportation licensed garage.</td>
</tr>
<tr>
<td><strong>Safety requirements</strong></td>
<td>Required to have camera and emergency light.</td>
<td>None.</td>
<td>None.</td>
</tr>
<tr>
<td><strong>Criminal background checks for drivers</strong></td>
<td>Yes, collected by City.</td>
<td>Yes, collected by City.</td>
<td>Yes, collected by PTC. Records subject to audit by City.</td>
</tr>
<tr>
<td><strong>Driver screening</strong></td>
<td>Yes, collected by City.</td>
<td>Yes, collected by City.</td>
<td>Yes, collected by City through PTC licence procedure.</td>
</tr>
<tr>
<td><strong>Driver training</strong></td>
<td>Waived, except for accessible vehicle operators.</td>
<td>Waived, except for accessible vehicle operators.</td>
<td>None.</td>
</tr>
<tr>
<td><strong>Insurance</strong></td>
<td>Minimum $2 million of collision and passenger hazard insurance.</td>
<td>Minimum $2 million of collision and passenger hazard insurance.</td>
<td>Minimum $2 million of collision and passenger hazard insurance. PTC also required to carry $5 million of commercial general liability insurance.</td>
</tr>
</tbody>
</table>

*Source: City of Toronto*
Table 5: Proposed fee structure for ground transportation in Toronto, 2016

<table>
<thead>
<tr>
<th>Fee</th>
<th>2016 budgeted fees</th>
<th>Proposed fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxicab broker application fee</td>
<td>$403.00</td>
<td>$403.00</td>
</tr>
<tr>
<td>Taxicab broker renewal fee</td>
<td>$271.00</td>
<td>$271.00</td>
</tr>
<tr>
<td>Limousine service company licence application fee</td>
<td>$403.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Limousine service company licence renewal fee</td>
<td>$271.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Taxicab driver licence application fee</td>
<td>$587.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Taxicab driver licence renewal fee</td>
<td>$338.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Limousine driver licence application fee</td>
<td>$381.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Limousine driver licence renewal fee</td>
<td>$282.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Ambassador owner licence application fee</td>
<td>$1,009.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Ambassador owner licence renewal fee</td>
<td>$810.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Accessible taxicab owner licence renewal fee</td>
<td>$419.00</td>
<td>$348.00*</td>
</tr>
<tr>
<td>Standard taxicab owner licence renewal fee*</td>
<td>$1,279.00</td>
<td>$1,062.00*</td>
</tr>
<tr>
<td>Toronto taxicab owner licence application fee</td>
<td>$4,908.00</td>
<td>$4,073.00*</td>
</tr>
<tr>
<td>Toronto taxicab owner licence renewal fee</td>
<td>$1,279.00</td>
<td>$1,062.00*</td>
</tr>
<tr>
<td>Limousine owner licence application fee</td>
<td>$1,147.00</td>
<td>$1,147.00</td>
</tr>
<tr>
<td>Limousine owner licence renewal fee</td>
<td>$768.00</td>
<td>$768.00</td>
</tr>
<tr>
<td>Taxicab operator renewal fee</td>
<td>n/a</td>
<td>$300.00</td>
</tr>
<tr>
<td>Taxicab operator application fee</td>
<td>n/a</td>
<td>$500.00</td>
</tr>
<tr>
<td>Vehicle-for-hire driver</td>
<td>n/a</td>
<td>$130.00</td>
</tr>
<tr>
<td>Limousine broker renewal fee</td>
<td>n/a</td>
<td>$270.00</td>
</tr>
<tr>
<td>Limousine broker application fee</td>
<td>n/a</td>
<td>$405.00</td>
</tr>
<tr>
<td>PTC application fee</td>
<td>n/a</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Annual PTC fee per driver</td>
<td>n/a</td>
<td>$15.00</td>
</tr>
<tr>
<td>PTC fee per trip</td>
<td>n/a</td>
<td>$0.30</td>
</tr>
</tbody>
</table>

* Waived fee for accessible vehicle

Source: City of Toronto

9 There was also an associated application fee of $4,900.00 that was eliminated by Council during this transition.
The biggest changes in this new licensing regime came with the incorporation of PTCs. Under the proposed regulations, PTCs would be charged a non-refundable application fee of $20,000. The initial licensing fee would be calculated by a fee of $15.00 per driver based upon the number of drivers on the platform at the time the provincial licence was issued, $15.00 per driver reconciled after the first three months of operation based upon the average number of drivers on the platform for the prior three months, and $0.30 per trip on all trips originating in Toronto, commencing on the date the provisional licence was issued. In addition, PTCs would be charged an annual renewal fee of $15.00 per driver based upon the average number of drivers on the platform for the three months preceding the date of licence expiry and $0.30 per trip. The proposed fee revisions are shown in Table 5.

The changes proposed by staff would have resulted in an overall net increase of 10 full-time City employees (most of whom would be new bylaw officers and licensing compliance officers), resulting in an additional $1.315 million in annual expenditures. An additional $400,000 would be required in one-time start-up costs for the IT infrastructure necessary for PTC record keeping and electronic licensing. The total figures are presented in Table 6.

It is difficult to evaluate the licensing platform put in place to regulate ride-hailing services in the City of Toronto, since the system has been in operation for such a short time. However, estimates provided by City staff suggest that the licensing strategy will be cost-neutral. The City’s approach to pricing offers flexibility if the number of rides declines over time. Because the City has a pricing scheme for drivers, trips, and firms, it may be possible to adjust the licensing fees if the number of rides declines.

<table>
<thead>
<tr>
<th>Category</th>
<th>Budgeted revenue</th>
<th>Proposed revenue</th>
<th>Total change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxicab licensing</td>
<td>$10,146,000</td>
<td>$6,671,000</td>
<td>−$3,475,000</td>
</tr>
<tr>
<td>Limousine licensing</td>
<td>$1,094,000</td>
<td>$713,000</td>
<td>−$381,000</td>
</tr>
<tr>
<td>PTC licensing</td>
<td>n/a</td>
<td>$5,173,000</td>
<td>+$5,173,000</td>
</tr>
<tr>
<td>Total revenue impact</td>
<td>$11,240,000</td>
<td>$12,556,000</td>
<td>+$1,316,000</td>
</tr>
</tbody>
</table>

Source: City of Toronto

10 For more information on the finances of city licensing based upon these proposed changes, see Staff Report for Action on Vehicle-for-Hire bylaw (City of Toronto 2016: 21–22).
11 Through the new PTC licensing program, drivers may apply digitally. Driver information arrives directly from the PTC. The new IT costs are to partially cover this system and allow for digital enforcement. Taxicab drivers will still need to apply in person at the Municipal Licensing and Standards office.
changes in the industry occur. With this licensing approach in place, it is unlikely that the presence of private transportation companies, such as Uber and Lyft (a recent addition to the Toronto market), will negatively impact the City's revenue.

Box 1: Congestion pricing for Uber?

Many cities around the world have grappled with how best to regulate ride-hailing firms like Uber. Most have settled on some combination of licensing fees for the company and/or the operator and a per-trip fee. Usually, these fees are designed to offset the cost of enforcement, but a growing case has been made for charging a congestion fee for ride-hailing services.

Nowhere has this debate been livelier than in New York City, where the average speed of cars in Manhattan has reached as low as 4.7 miles per hour (Hu 2017). Congestion pricing has been discussed in New York City for decades, but ride hailing has made the debate more urgent, with estimates from the City’s Taxi and Limousine Commission showing that the introduction of firms like Uber has more than doubled the number of for-hire vehicles in the city, from 47,000 in 2013 to 103,000 in 2017 (Hu 2017).

A consultant’s report shows that 68,000 of these cars are affiliated with ride-hailing companies, whose operators often drive around while awaiting a fare, increasing congestion within the city without providing any transportation benefit. In fact, both ride-hailing cars and taxicabs were found to have had a significant amount of idling time between fares – 11 minutes of unoccupied time for ride-hailing cars and 8 minutes of unoccupied time for taxicabs (Schaller 2017). Ride hailing has been shown to cause similar amounts of congestion in other major U.S. cities, such as Boston, Chicago, Los Angeles, San Francisco, Seattle, and Washington, D.C. (Clewlow and Mishra 2017).

To address this new source of congestion, Governor Andrew Cuomo struck a state task force, called Fix NYC, that examined measures, including a new per-ride fee for all for-hire vehicles in Manhattan, to be paid by passengers (Hu 2017). Certain observers, however, argue that all cars on the road should pay congestion fees, not simply ride-sharing services (Bliss 2017).

Governor Cuomo’s panel proposed a congestion charge for vehicles driving in Manhattan below 60th Street of $11.52 for private cars, between $2.00 and $5.00 for taxis or other for-hire vehicles, and $25.34 for trucks. The congestion charge is expected to raise $1.5 billion annually (Rosenberg 2018). Based upon the City of Toronto’s estimates of an average of 45,000 daily ride-hailing trips taken within the city, a similar pricing system in Toronto could raise between $32.8 million and $82.1 million (CAD) per year.
Box 2: Should we compensate taxicab drivers through pricing mechanisms?

One of the most vocal critics of firms like Uber is the taxi industry. Wherever ride-hailing companies have established operations, taxicab companies have generally resisted and protested their entry, arguing mainly that ride-hailing firms create an uneven regulatory landscape and ultimately take away their business and make it harder for licensed taxicab drivers to make a living.

One particularly contentious aspect of this debate is the price of taxicab licences. While the municipal licensing fee itself may be modest, the number of licences available is frequently capped, meaning that many drivers have to turn to the aftermarket, where prices may inflate massively, and licences often sell for hundreds of thousands of dollars (Spicer and Eidelman 2017). For drivers who recently purchased a licence on the aftermarket, getting an optimal return on their investment once a ride-hailing firm like Uber enters their jurisdiction becomes more challenging. While most regulators have pushed ahead with legalizing ride-hailing firms, some have taken measures to compensate taxicab drivers for the loss of business. One such jurisdiction is the State of Victoria in Australia, where a $2.00 AUS fee is applied to every ride-hailing trip with the goal of compensating taxicab owners for their licences up to $400,000 AUS each (Galloway 2017). However, certain drivers hoping to be compensated under similar programs have been left disappointed. In Perth, Australia, taxicab drivers expected $250,000 AUS to return their cab licences to state regulators, but have been offered as little as $80,000 AUS, leaving many to argue they feel “a bit cheated” or “totally betrayed” (Kagi and O’Flaherty 2017). Others have criticized the entire scheme, arguing that the compensation idea is poorly designed because it puts the onus on consumers to compensate drivers for a system consumers had no hand in designing (de Percy 2016).

Based upon the City of Toronto’s March 2016 estimates of an average of 45,000 trips taken a day, a similar pricing system in Toronto would raise approximately $35 million (CAD) over the course of a year. This would provide an average of $3,500 in compensation for each of the city’s 9,500 licensed taxicab drivers over the course of the year, falling short of what some drivers would want to receive from such a plan, given the high aftermarket costs of purchasing a taxicab licence in the past, which was close to $360,000 at its peak in 2012 (Cain 2015).

12 In Toronto, one cannot sell a taxi licence directly. The seller must sell the taxicab, and as long as the purchaser of the taxicab meets the requirements of the bylaw, the City would transfer the licence.
3.2 Estimating Costs: Airbnb

Airbnb entered the Toronto market in 2012. The San Francisco–based start-up is now effectively the world’s largest hotel chain, although it does not own a single hotel room. Airbnb (short for “air bed and breakfast”) has more than 800,000 listings in 34,000 cities, has housed more than 20 million people, and is valued at close to $20 billion, thanks to rounds of venture capital injection and rapidly expanding global revenues (Ross 2016: 91).

Airbnb offers three main categories of listings: a shared room, a private room, or an entire home, which can be a house, a condo unit, or an apartment (Jamasi and Hennessy 2016). Airbnb has two groups of users: “hosts,” who offer space for rent for an advertised and agreed-upon rate, and “visitors,” who book accommodation through the platform (Jamasi and Hennessy 2016). Airbnb facilitates the transaction.

Airbnb’s growth in Toronto has been remarkable. The Canadian Centre for Policy Alternatives (CCPA) estimated that the number of listings in Toronto grew by 288 percent between December 2013 and July 2016 (Jamasi and Hennessy 2016). In July 2016, the CCPA estimated there were 10,156 Airbnb listings in Toronto. Another study conducted by the Urban Politics and Governance research group at McGill University’s School of Urban Planning estimated 36,301 listings in Toronto between November 2014 and May 2017 (Wachsmuth et al. 2017).

While it is not known how many people are using the service, what is clear is that Airbnb is now a fixture in Toronto’s tourism industry. As one would expect given the proximity of tourist sights, bars, restaurants, and entertainment venues, most rentals on the platform are clustered around the downtown core and entertainment district (see Figure 1). On the map, properties marked in red are entire houses or apartments, while those in green are private rooms in a shared accommodation. Properties marked in blue are shared rooms.

---

13 Airbnb, like most private companies, protects user data. The company is approaching its initial public stock offering and the release of user data could influence its valuation.

14 Much of the data for such studies come from a website called Inside Airbnb (www.insideairbnb.com), which reviews the Airbnb platform periodically and estimates usage. Airbnb maintains that data-scraping sources like Inside Airbnb are not credible, because they cannot distinguish between available and booked listings. As a result, the company argues that these sources inflate earnings and availability, thereby overestimating the platform’s demand and revenues.

15 While the impacts of Airbnb on the long-term rental market and the hotel industry are real concerns, I do not consider either in this analysis, but focus entirely on the impact of Airbnb on municipal revenue.

16 This is consistent with past findings, demonstrating that most of the Airbnb listings in the city are clustered in the southern portion of Toronto, mainly around popular tourist destinations (Jamasi and Hennessy 2016).

17 It should be noted that the mapping is not precise and could vary by up to 100 metres from the actual listing, which is why certain markers may appear in the lake.
Given its potential to disrupt both the rental market and affect the tourism industry, municipalities may adopt a range of regulations for short-term rental services (see Table 7). These options range from permissive to restrictive. On the permissive side, municipal regulators could take no position and apply no regulations or fee structure on hosts. Moving up the scale, regulators may opt to apply certain regulations, but allow unit owners to rent not only their principal residence, but also others they own. Regulators may also not require a licence or business licence. On the opposite end of the scale, municipal regulators may institute a total ban on Airbnb operations within the city or require that the property owner be present during the rental.

### Table 7: Sample regulatory approaches to Airbnb

<table>
<thead>
<tr>
<th>Permissive</th>
<th>Restrictive</th>
</tr>
</thead>
<tbody>
<tr>
<td>No applicable regulations</td>
<td>Total ban</td>
</tr>
<tr>
<td>No principal residence requirement</td>
<td></td>
</tr>
<tr>
<td>Operators do not need a licence</td>
<td></td>
</tr>
<tr>
<td>Operators require a business licence</td>
<td></td>
</tr>
<tr>
<td>Apply business licence conditions</td>
<td></td>
</tr>
<tr>
<td>Partial zoning restrictions</td>
<td></td>
</tr>
<tr>
<td>Operator must be present during stay</td>
<td></td>
</tr>
</tbody>
</table>
Responding to numerous arguments that Airbnb’s presence in Toronto was adversely affecting the rental market, Toronto City Council began to examine the issue in June 2017 (Shum 2017). How should the City respond? A good place to start this discussion is to examine the regulatory response from other North American provinces and cities (see Table 8). Most of the municipalities included have taken a “middle-of-the-road” approach to regulation, allowing Airbnb hosts to operate legally, but requiring licensing and the collection of various fees and taxes.

Most cities listed in Table 8 have taken an approach that creates a licensing structure and fees for those renting units on Airbnb and other home-sharing platforms. A starting point for Toronto’s debate, however, focused on taxation. Mayor John Tory laid out his concerns about revenue at the introduction of the new short-term rental bylaw, arguing that, “Hotels are presently paying commercial [property] taxes to the city, which is a substantially increased rate of tax over residential [property] taxes… a condominium owner who puts his or her condo into Airbnb is only paying residential taxes” (Shum 2017).

As the mayor correctly points out, hotels pay commercial property tax, but those listing properties on Airbnb do not. This argument suggests that if someone is running a commercial enterprise in the city, that person should be taxed like other commercial ventures. The challenge with applying this argument to Airbnb, however, is that not every host on the site is listing a property in order to generate commercial revenue in the same manner as a restaurant or convenience store. Some, as the platform notes, are casual hosts, with a handful of rentals per year at their primary residence. Applying a different class of property tax may also create a challenge for the Municipal Property Assessment Corporation – the organization responsible for assessing and classifying property across Ontario – in determining the appropriate assessed value for a residential property, since the use may not be easily identifiable without data provided from the City or platforms like Airbnb.

What would the difference between commercial and residential property tax income be if we were to apply Tory’s initial argument? This is a challenging question to answer, as Airbnb provides only the neighbourhood location of properties in the listings available on their platform. Only after users have booked do they receive the actual address, which makes calculating the tax rate impossible without knowing the valuation of the property.

18 At the time of this comment, the City of Toronto did not collect taxes other than property taxes from hotels, bed and breakfasts, and other operators of short-term rentals. City staff argued that the City of Toronto Act, 2006 prohibited the City from levying a lodging or hotel tax, although the Province of Ontario had indicated it was willing to explore regulatory change in this area to allow such a tax. Certain members of the Greater Toronto Hotel Association (GTHA) voluntarily contributed up to 3 percent of room revenues to a destination marketing program, which was administered by the GTHA and remitted to Tourism Toronto. As discussed later in the paper, the City has since attached a fee structure to short-term rentals.
Table 8: Comparison of short-term rental (STR) regulation, taxes, and fees

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Operator licence</th>
<th>Operator fees</th>
<th>Company licence</th>
<th>Hotel tax applied to STRs</th>
<th>STR-specific tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province of Quebec</td>
<td>Classification certificate</td>
<td>$247.78 annually; $5.22 per unit annually</td>
<td>No</td>
<td>3.5% lodging tax</td>
<td>No</td>
</tr>
<tr>
<td>Austin, Texas</td>
<td>STR licence</td>
<td>$443.00 application fee; $236.00 renewal fee</td>
<td>No</td>
<td>9% municipal hotel occupancy tax; 6% state hotel occupancy tax</td>
<td>No</td>
</tr>
<tr>
<td>Chicago, Illinois</td>
<td>Vacation rental licence</td>
<td>$250.00 every 2 years</td>
<td>$10,000 per year; $60.00 per unit listed</td>
<td>4.5% municipal hotel tax; 1% state hotel operators occupancy tax</td>
<td>4% shared housing surcharge*</td>
</tr>
<tr>
<td>Denver, Colorado</td>
<td>STR licence</td>
<td>$50.00 every 2 years for a lodger's tax ID; $25.00 annually for STR business licence</td>
<td>No</td>
<td>10.75% municipal lodger's tax; 2.9% state lodger's tax</td>
<td>No</td>
</tr>
<tr>
<td>Nashville, Tennessee</td>
<td>STR property use permit</td>
<td>$50.00 annual fee</td>
<td>No</td>
<td>6% municipal hotel tax; $2.50 per night per unit fee</td>
<td>No</td>
</tr>
<tr>
<td>New Orleans, Louisiana</td>
<td>STR rental licence</td>
<td>$50.00 for principal residence; $150.00 for non-principal residence</td>
<td>No</td>
<td>4% municipal hotel/motel sales tax; $0.50 hotel occupancy tax per night per unit</td>
<td>$1.00 per night, dedicated to housing improvement fund</td>
</tr>
<tr>
<td>New York City, New York</td>
<td>STRs illegal except when owner-occupied</td>
<td>No</td>
<td>No</td>
<td>5.875% municipal hotel room occupancy tax; $2.00 per room per night; $1.50 state fee per day per unit</td>
<td>No</td>
</tr>
<tr>
<td>San Francisco, California</td>
<td>Business registration certificate</td>
<td>$50.00 annually; business registration certificate fee ranging from $91.00 to $251.00 annually based on family income</td>
<td>No</td>
<td>14% transient occupancy tax</td>
<td>No</td>
</tr>
</tbody>
</table>

* Not applied to shared space within the unit of a permanent residence.
Toronto Life magazine recently began to run an “Airbnb of the Week” feature. Nine of the properties listed include addresses in Toronto (see Table 9).\(^{19}\) With the addresses in hand, I was able to retrieve an approximate value of each property using zolo.ca, a real estate listing website. The residential and commercial tax was calculated for each property using the 2017 property tax rates and fees guide provided by the City of Toronto.\(^{20}\) According to the guide, the residential property tax rate for 2017 is 0.6616472%; the commercial rate is 2.5202233%.

<table>
<thead>
<tr>
<th>Neighbourhood</th>
<th>Home type</th>
<th>Airbnb rate per night</th>
<th>Approximate value</th>
<th>Residential property tax</th>
<th>Commercial property tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Portugal</td>
<td>House</td>
<td>$250</td>
<td>$810,550</td>
<td>$5,362.98</td>
<td>$20,427.67</td>
</tr>
<tr>
<td>Trinity Bellwoods</td>
<td>House</td>
<td>$249</td>
<td>$1,440,000</td>
<td>$9,527.72</td>
<td>$36,291.22</td>
</tr>
<tr>
<td>King West Village</td>
<td>House</td>
<td>$275</td>
<td>$822,690</td>
<td>$5,443.31</td>
<td>$20,733.63</td>
</tr>
<tr>
<td>Queen West</td>
<td>House</td>
<td>$188</td>
<td>$1,065,481</td>
<td>$7,049.73</td>
<td>$26,852.50</td>
</tr>
<tr>
<td>Leslieville</td>
<td>Condo</td>
<td>$179</td>
<td>$871,101</td>
<td>$5,763.62</td>
<td>$21,953.69</td>
</tr>
<tr>
<td>Liberty Village</td>
<td>Condo</td>
<td>$1,000</td>
<td>$1,490,920</td>
<td>$9,864.63</td>
<td>$37,574.51</td>
</tr>
<tr>
<td>Corktown</td>
<td>Loft</td>
<td>$205</td>
<td>$343,140</td>
<td>$2,270.38</td>
<td>$8,647.89</td>
</tr>
<tr>
<td>Trefann Court</td>
<td>House</td>
<td>$335</td>
<td>$1,002,219</td>
<td>$6,631.15</td>
<td>$25,258.16</td>
</tr>
<tr>
<td>Brockton Village</td>
<td>Loft</td>
<td>$84</td>
<td>$406,503</td>
<td>$2,689.62</td>
<td>$10,244.78</td>
</tr>
</tbody>
</table>

Source: Zillow, Toronto Life\(^{22}\)

---

19 For more information on the “Airbnb of the Week,” see the Toronto Life website: https://torontolife.com/tag/airbnb-of-the-week/. The feature began on June 1, 2017. Twenty-four properties have been listed since its inception, of which 11 are outside the city. Of the 13 Toronto properties, nine included an address, allowing me to calculate the property tax rate. It should be noted that the properties listed are probably not representative of the average Airbnb listing. Toronto Life highlights extraordinary properties, but the information is still helpful, as it is possible to demonstrate the difference between the commercial and residential tax rates for certain properties being used on the Airbnb platform.

20 The 2017 City of Toronto property tax rates and fees guide can be found here: https://www.toronto.ca/services-payments/property-taxes-utilities/property-tax/property-tax-rates-and-fees/2017-property-tax-rates/

21 The addresses used for this table were provided online in the Toronto Life feature. However, we have removed the addresses for these properties to ensure the privacy of the owners. Instead we have listed the neighbourhood in which the property is located to provide the reader with some point of reference.

22 Zillow.com is a website that allows users to retrieve the value of homes. This website was used in this project to obtain the value of the homes listed in the Toronto Life feature.
Table 9 shows that the difference in tax paid for residential and commercial properties is substantial. This ought not be surprising, but if we envision all Airbnb listings as commercial properties, it seems that the City of Toronto is losing mightily on the revenue front. Again, the challenge is deciphering which Airbnb hosts are running a commercial enterprise and which are casual users of the platform.

Certain users add their property to the Airbnb platform for a handful of nights a year, which makes it hard to justify charging a commercial property tax rate, as the property would be used for residential purposes the vast majority of the time. Other hosts are undoubtedly running a commercial enterprise through the Airbnb platform. For instance, Toronto Life mentions that the owner of the condo in Liberty Village, mentioned in Table 9, has 18 other Airbnb listings in Toronto, mostly at other upscale condo buildings in the downtown core of the city. While a case could be made that hosts such as this ought to be paying commercial property tax given the nature of their use of the property, it would be hard to argue that someone listing a home for a weekend or two each year should be subject to commercial property taxes all year long.

In December 2017, the City of Toronto enacted a set of regulations aimed at short-term rental firms. The City placed a number of restrictions on those using such platforms, including new licensing fees. The requirements include:

- Hosts may rent their primary residence only.
- Each host must pay a $50.00 annual fee.
- Entire homes may not be rented for more than 180 nights per year.
- Hosts may share their home for an unlimited number of nights when renting up to three rooms.
- The platform must pay a one-time $5,000 licence fee and a $1.00 fee per night for each booking.
- Each host must post a City-issued registration number in all advertisements for short-term rentals.

In January 2018, City Council opted to place a 4 percent tax on both hotels and short-term accommodations, a plan Toronto Mayor John Tory called “fair and consistent” (Rieti 2018). The Municipal Accommodation Tax (MAT) would be collected by the Revenue Services Division of the City and would not replace any fees on short-term rentals, including the $1.00-per-night fee for each booking.

23 For more information on this property and owner, see the original Toronto Life feature here: https://torontolife.com/real-estate/condos/airbnb-week-1000-per-night-three-bedroom-penthouse-panoramic-water-views/

24 For more information on the bylaw, see the City of Toronto background file “Licensing and Registration Regulations for Short-Term Rentals” (Revised LS203.1). See City of Toronto (2017).

25 For more information, see the City of Toronto background file “Implementation of Municipal Accommodation Tax (Hotel and Short-Term Rental Tax).” See City of Toronto (2017).
The MAT would also be directed towards general revenue and would not be intended to cover the costs of enforcement. The purpose is revenue generation, not influencing user behaviour or achieving other policy goals in the short-term rental market. From the perspective of platforms like Airbnb, regulation provides legitimacy, allowing the firm to claim a place alongside the City’s other tourism offerings (Kelecy 2018).

City staff recommended that short-term rental firms collect and remit the fees (Rieti 2018). While some councillors argued they would prefer that the City collect the tax, others argued the City lacked the capacity to do so (Rieti 2018) and that placing the onus for collection on companies like Airbnb would reduce the cost of the initiative to the City. A staff report to council argued that while collection through the short-term rental platform was the most efficient and least costly, it was estimated that two new full-time positions would be required to administer the MAT on short-term rentals, at a cost of about $200,000 a year. The City estimates the MAT will generate approximately $2 million in revenue. The option of charging commercial property tax rates to those using the Airbnb platform was not introduced.

To register with the City, hosts must declare the property is their primary residence, keep records of short-term rental activity to show to the City upon request, provide contact information for a person available by phone 24 hours a day, and ensure the property complies with building and fire codes.

In terms of financial impact, this approach represents $1,172,000 in estimated annual costs for the City, including salaries, benefits, and overhead. This includes five full-time equivalent staff in the Municipal Licensing and Standards department, most of whom will be responsible for enforcement. It also requires $906,000 in estimated one-time expenditures, which includes three temporary full-time equivalent staff and equipment necessary for setting up digital applications for licensing and enforcement (much like the equipment used to license Uber and ride-hailing platforms).

Calculations of the annual revenue impact of the City’s short-term rental bylaw are shown in Table 10. Overall, there is a minimal impact on revenue. City staff estimate 8,000 short-term rental operators will register with the City, paying the annual registration fee of $50.00. One short-term rental firm is expected to register (Airbnb) and pay the one-time $5,000 application fee. Finally, the City estimates 765,000 nights booked, creating $765,000 in revenue based upon the $1.00 per night fee.

26 The Greater Toronto Hotel Association would be responsible for collecting and remitting the fee for hotels (Rieti 2018).
27 All of these estimates were based upon historical rental data provided by Airbnb.
The City of Toronto’s approach places accountability for compliance on both the host and platform. The City has taken a deliberately flexible approach for hosts, using a low yearly licensing fee and an enforcement-based compliance method, making the process to become a licensed host quite easy.

The idea behind this approach was to boost compliance with the bylaw, and avoid a situation such as that in Québec, where the province’s short-term rental regulation has seen a compliance rate of less than 5 percent, largely because the rules are seen by many as “onerous and overly complicated” (CBC News 2017). Airbnb and other short-term rental firms are regulated at the provincial level in Québec, creating a wide enforcement territory and slowing down the registration process.

In Toronto, much of the onus for collecting fees is placed upon the platform – including most importantly the per-night fee – individual hosts need only complete a yearly licence renewal and ensure that documentation about rental activity and compliance with the building and fire codes is available upon request. The City has also made the task of monitoring rentals more efficient than Québec, by means of an online registration system. In Toronto, registration numbers must be listed in each rental advertisement, thus making digital enforcement possible, in that bylaw officers can monitor the platform to ensure compliance instead of physically visiting properties. Of course, time will tell how successful the City will be in ensuring compliance with the bylaw.

<table>
<thead>
<tr>
<th>Table 10: Ongoing revenue impact for short-term rental regulations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost</strong></td>
</tr>
<tr>
<td>Operating costs</td>
</tr>
<tr>
<td>Operator licensing fees</td>
</tr>
<tr>
<td>Platform licensing fees</td>
</tr>
<tr>
<td>Per-night fee</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>Total revenue impact</strong></td>
</tr>
</tbody>
</table>

Source: City of Toronto
3.3 Estimating Costs: Rover

Rover, a platform similar to Airbnb but focused on allowing users to rent parking spaces, launched in Toronto in July 2015 (Mark 2015). Unlike Uber and Airbnb, Rover is a local firm, developed at Ryerson University’s Digital Media Zone (Saleh 2016). Rover’s app functions similarly to Uber or Airbnb, in that users register with a credit card and input their vehicle information. To operate the service, users search a map for available parking spots posted by owners during a chosen time slot. Rates were initially capped at $2.00 per hour. Rover’s founders claimed that after the service was launched, the app had more than 50,000 downloads and roughly 2,000 parking spots available in Toronto (Caton 2017). Rover currently operates only in Toronto, Montréal, and Ottawa.

To company founders Grant Brigden and Tom Wooten, the benefits of Rover were obvious; users could easily find a place to park, while owners could make additional income from empty parking spots (Caton 2017). Additionally, Rover claimed that the app could help reduce congestion and potentially limit drinking and driving in the city (Mark 2015).

The City of Toronto initially thought otherwise, with bylaw staff claiming that the app was “not legal” (Bonifacic 2015). Klaus Lehmann, who worked with the City’s zoning bylaws, argued that residents could face a fine of $5,000 if the City received a complaint, justifying the charge by arguing that filling a driveway with several cars would constitute illegally operating a parking lot (Mark 2015). Lehmann also warned homeowners against registering with Rover to rent out their parking spaces: “It's creative, but unfortunately I think the situation is one where the [software] developer isn't the one who ultimately will take the brunt of the charge, or the fine being levied against them if they're caught...for them, it's a very limited risk, but the homeowner is taking all the risk” (Mark 2015). Despite the chilly reception, Rover’s founders insisted they wanted to work with the City (Caton 2017).

Although regulatory staff were unsupportive, Toronto Mayor John Tory was generally in favour of Rover, but expressed concerns about the impact on residential streets, insisting that he did not want them to turn into “parking lots” (Mark 2015). Tory, however, insisted that the City not fight new technology firms: “the technology itself is what it is, it’s here to stay, it’s not going anywhere and we’d better find a way to make sure regulations catch up with it” (Mark 2015).

Unlike Airbnb and Uber, Rover is a competitor to a City-run agency, in this case The Toronto Parking Authority (known locally as Green P). Green P

---

28 Rover is also joined in the marketplace by Honk Mobile, which directs consumers to private parking lots and allows for in-app payment. However, it does not include private parking spaces, as Rover does. Honk Mobile was therefore not included in this study as it does not conform to the traditional conceptualization of the “sharing” or platform economy. For more information on Honk Mobile, see Chittley (2016).
is a public corporation owned by the City of Toronto. Green P’s operations are extensive; the corporation has about 20,000 off-street parking spaces in 150 facilities, as well as 17,500 on-street spaces (Toronto Parking Authority 2015). According to the 2015 Green P annual report, the corporation brought in more than $133 million in parking revenue that year.

To better understand Rover’s impact on Green P’s revenue generation, I examined a small sample of Green P lots and compared the cost and availability of Green P parking lots, street parking, and available Rover locations from November 15, 2017 to December 15, 2017, inclusive (31 days).

I began by selecting nine prominent locations around the City of Toronto: Rogers Centre, the Royal Ontario Museum, the Toronto-Dominion Centre, Union Station, Casa Loma, St. Lawrence Market, Sunnybrook Health Sciences Centre, North York Civic Centre, and Scarborough Town Centre. The locations allowed me to examine parking rates, availability, and usage in popular tourist locations (e.g., Casa Loma, Royal Ontario Museum), major sporting venues (e.g., Rogers Centre), places of work (e.g., Toronto-Dominion Centre), transportation hubs (e.g., Union Station), high-volume parking locations, such as hospitals (e.g., Sunnybrook Health Sciences Centre), as well as both urban (e.g., St. Lawrence Market) and suburban locations (e.g., Scarborough Town Centre, North York Civic Centre). The number of Green P lots within 1 kilometre of these locations, along with the average lot rate and the street parking rate is provided in Table 11. The address of each lot along with the corresponding lot rate is provided in the Appendix.

<table>
<thead>
<tr>
<th>Landmark</th>
<th>Green P lots</th>
<th>Average lot rate</th>
<th>Street parking rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rogers Centre</td>
<td>4</td>
<td>$5.66/ Hour</td>
<td>$2.25/ Hour</td>
</tr>
<tr>
<td>Royal Ontario Museum</td>
<td>11</td>
<td>$4.66/ Hour</td>
<td>$3.00/ Hour</td>
</tr>
<tr>
<td>Toronto-Dominion Centre</td>
<td>8</td>
<td>$6.38/ Hour</td>
<td>$4.00/ Hour</td>
</tr>
<tr>
<td>Union Station</td>
<td>5</td>
<td>$5.80/ Hour</td>
<td>$4.00/ Hour</td>
</tr>
<tr>
<td>Casa Loma</td>
<td>1</td>
<td>$2.00/ Hour</td>
<td>$1.50/ Hour</td>
</tr>
<tr>
<td>St. Lawrence Market</td>
<td>13</td>
<td>$5.13/ Hour</td>
<td>$3.00/ Hour</td>
</tr>
<tr>
<td>Sunnybrook Health Sciences Centre</td>
<td>1</td>
<td>$4.00/ Hour</td>
<td>$1.50/ Hour</td>
</tr>
<tr>
<td>North York Civic Centre</td>
<td>6</td>
<td>$3.96/ Hour</td>
<td>$2.25/ Hour</td>
</tr>
<tr>
<td>Scarborough Town Centre</td>
<td>3</td>
<td>$2.33/ Hour</td>
<td>$1.50/ Hour</td>
</tr>
</tbody>
</table>

Source: Toronto Parking Authority
Over the 31-day period, I examined the availability of Rover parking locations within 1 kilometre of each location. This data is presented in Figure 2.

![Figure 2: Availability of Rover spots](image)

Source: Author’s data compiled from Rover platform

The number of available spots fluctuates for most locations. Note that these are availabilities only, not spaces booked through the platform. The Royal Ontario Museum (ROM) has the most available spots but also the most variation.

Rover relies upon privately owned parking spots. The ROM is close to many single-family homes with driveways in the Annex neighbourhood, which creates a number of potential locations for Rover. Areas with mainly condominium or office buildings generally have private gated parking that requires a pass for entrance. The Rover app would not allow users to access such spots. Neighbourhoods like the Annex are the only areas near the downtown core that provide an abundance of privately owned surface parking that a platform like Rover requires.

Other locations around the City generally have fewer than six spots available on a daily basis. One location, the Scarborough Town Centre, has a single spot that is available every day. Beyond this single location, there is some variation in the number of available spaces on the Rover platform. On a daily basis, I recorded between 350 and 600 spaces available on the Rover platform throughout the city.

The number of available spaces on Rover, however, pales in comparison to the available number of Green P locations. Table 12 compares Rover spaces and Green P lots around the city.

29 Information on the number of spaces booked through the Rover platform was requested from Rover but not provided.
There are considerably more spaces available at Green P lots at each of the nine locations selected. At first glance, it seems that drivers could more easily find a spot at a City-run Green P lot. However, Rover might increase activity on its platform when Green P lots are full. In Table 13, I explore this possibility, by listing the peak daytime weekday usage provided by the City for each Green P lot included in the study area.\textsuperscript{30}

Peak usage, as defined by Green P, is the greatest number of vehicles parked at any given hour in a day, expressed as a percentage of the number of available parking spaces. The figures in Table 13 are observed on a weekday. For any parking location, usage greater than 85 percent is considered by Green P as over capacity. There is a great deal of variation between the lots, but 14 of the lots where usage figures are available (36 percent) are over capacity, according to the City’s own 85 percent threshold. One more lot is at capacity and five more are approaching capacity (over 70 percent). This capacity challenge may potentially create an opportunity for Rover to gain business in certain areas of the city.

Another potential opening for Rover in the parking marketplace is price. Like most platform economy firms, Rover has attracted users by offering lower prices than market incumbents. By comparing the average price of a Rover spot with average Green P lots and street parking (see Table 14), it is clear that Rover is offering prices about 75 percent lower than Green P lots and 31 percent lower than street parking on average.

\textsuperscript{30} For more information on usage rates of Green P lots, see the City of Toronto’s 2017 Rate Review for Off-Street Municipal Parking Facilities. The usage rates for city lots (where available) are provided in the Appendix.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Location & Average Rover spaces & Average Green P spaces \\
\hline
Rogers Centre & 4.8 & 97.5 \\
Royal Ontario Museum & 11.1 & 220.2 \\
TD Centre & 1.4 & 664.5 \\
Union Station & 1.8 & 552.2 \\
Casa Loma & 2.1 & 20.0 \\
St. Lawrence Market & 2.8 & 498.2 \\
Sunnybrook & 2.0 & 69.0 \\
North York Civic Centre & 2.6 & 158.0 \\
Scarborough Town Centre & 1.0 & 163.7 \\
\hline
\end{tabular}
\caption{Comparison of average Rover and Green P availability}
\end{table}

Source: Author calculations, Green P
<table>
<thead>
<tr>
<th>St. Lawrence Market</th>
<th>Royal Ontario Museum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Capacity</td>
</tr>
<tr>
<td>2 Church St</td>
<td>n/a</td>
</tr>
<tr>
<td>87 Richmond St E</td>
<td>100%</td>
</tr>
<tr>
<td>323 Richmond St E</td>
<td>66%</td>
</tr>
<tr>
<td>37 Queen St E</td>
<td>39%</td>
</tr>
<tr>
<td>155 Queen’s Quay E</td>
<td>9%</td>
</tr>
<tr>
<td>185 Queen’s Quay E</td>
<td>15%</td>
</tr>
<tr>
<td>271 Front St E</td>
<td>94%</td>
</tr>
<tr>
<td>51 Dockside Drive</td>
<td>n/a</td>
</tr>
<tr>
<td>44 Parliament</td>
<td>116%</td>
</tr>
<tr>
<td>31A Parliament St</td>
<td>n/a</td>
</tr>
<tr>
<td>40 York St</td>
<td>n/a</td>
</tr>
<tr>
<td>110 Queen St W</td>
<td>n/a</td>
</tr>
<tr>
<td>20 Dundas Square</td>
<td>26%</td>
</tr>
<tr>
<td>Toronto Dominion Centre</td>
<td>Union Station</td>
</tr>
<tr>
<td>40 York St</td>
<td>n/a</td>
</tr>
<tr>
<td>110 Queen St W</td>
<td>n/a</td>
</tr>
<tr>
<td>37 Queen St E</td>
<td>39%</td>
</tr>
<tr>
<td>2 Church St</td>
<td>n/a</td>
</tr>
<tr>
<td>87 Richmond St</td>
<td>100%</td>
</tr>
<tr>
<td>121 St. Patrick St</td>
<td>102%</td>
</tr>
<tr>
<td>20 Dundas Square</td>
<td>26%</td>
</tr>
<tr>
<td>130 Elizabeth St</td>
<td>89%</td>
</tr>
<tr>
<td>Casa Loma</td>
<td></td>
</tr>
<tr>
<td>251 MacPherson Ave</td>
<td>67%</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunnybrook Health Sciences Centre</td>
<td>North York Civic Centre</td>
</tr>
<tr>
<td>2170 Bayview Ave</td>
<td>97%</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Scarborough Civic Centre</td>
<td></td>
</tr>
<tr>
<td>158 Borough Dr</td>
<td>52%</td>
</tr>
<tr>
<td>100 Grangeway Ave</td>
<td>85%</td>
</tr>
<tr>
<td>101 Grangeway Ave</td>
<td>81%</td>
</tr>
</tbody>
</table>

Source: Green P. Note that some lots have “above-capacity” percentages, that is, above 100%
While Rover may have a competitive advantage by offering lower prices than Green P and taking advantage of the limited availability in some Green P lots, Rover simply does not currently have enough spaces listed on its platform to disrupt Green P’s operations. Rover’s business model relies upon private, accessible surface parking. Most of the demand for parking is in Toronto’s downtown core, which already has limited amounts of parking and a very limited amount of privately owned surface parking. Green P or private, commercial lot owners who would not be inclined to use Rover own most of these spaces, however.

Could Rover disrupt Green P’s operations and impact the revenues the City receives from Green P? Certainly, but not in its current form. As it stands, Rover’s operations have limited scalability and the margins on its services are too low for the platform to grow to the point at which it could disrupt Green P’s operations. Rover has not meaningfully encountered local regulators yet, although the City of Toronto has indicated it is exploring options to do so. Rover may eventually find itself subject to a host of fees or restrictions on its operations, which may erode its ability to generate profit.

### 4. Discussion and Conclusion

This paper does not examine the broader impact of platform economy firms on the labour market, rental market, or individual business sectors. Those who charge that Uber is reducing the revenue of cab companies and competing with public transit or that Airbnb is affecting the bottom line of the hotel industry and reducing the size of the rental market have valid concerns. The focus here, however, is on the fiscal health of municipalities. I have found little negative impact on municipal revenues, with the exception of some districts experiencing a decrease in municipal revenue. However, this is largely due to the demographics of the districts rather than the operations of platform economy firms.
revenue after the introduction of select platform economy firms. Specifically, I draw the following conclusions:

• The City of Toronto's new regulations regarding ride-hailing are unlikely to have a negative impact on municipal revenue.

• Certain entities are using the Airbnb platform for purely commercial purposes and the City of Toronto is losing revenue by not charging them commercial property tax. However, it would be challenging to differentiate between commercial and casual hosts, and it would be illogical to charge casual hosts a commercial property tax rate throughout the year if they are listing a unit only occasionally.

• The City of Toronto’s new short-term rental tax is a good way to capture commercial activity conducted through the Airbnb platform and a flexible way to ensure those on the site are acknowledged as commercial operators.

• Rover likely reduces Green P revenues; however, this impact is small because currently Rover does not operate at a sufficient scale to meaningfully challenge Green P.

• Even if Rover scales up in the future, Green P has much more capacity. There are likely not enough private parking spaces around the city for Rover to reach a scale sufficient to meaningfully affect Green P’s revenues, unless Rover can access private parking lots.

• The regulatory and fee structure put in place for existing platform economy firms is not meant to generate revenue for the City. Instead, the focus is to achieve other policy ends, such as ensuring an adequate supply of rental housing in the city.

• Licensing fees are directly tied to the cost of administration and enforcement. The Municipal Accommodation Tax, however, may generate revenue for the City.

Overall, the regulatory path the City of Toronto has chosen to take is not resource-intensive. The City has decided to allow these firms to operate, avoiding costly attempts to remove them from the marketplace. The City has also chosen a regulatory route that uses digital compliance and enforcement, making it much less costly to monitor the operations of platform firms and operators.

Even though the City has appeared to take an optimal route to regulation, it took time to reach that point. Uber and Airbnb have been operating in Toronto since 2012, but were not regulated until four and five years later, respectively, mainly because their early operations (such as Uber’s black car service) complied with existing regulations. In the meantime, those involved in the hotel industry or the cab industry, and rental market advocates, and those using both platforms, were left in a state of uncertainty. The City lost revenue by not regulating these firms and by not setting up a proper regulatory regime more promptly.

The lesson learned from Toronto’s experience, then, is to not delay the creation of a regulatory regime. Municipalities need to be proactive in researching
the appropriate regulatory approach and matching the regulatory reach to the platform in question, namely a digital regulatory approach for a digital service.

5. Works Cited


City of Toronto. 2017. Licensing and Registration Regulations for Short-Term Rentals. Toronto: City of Toronto.


6. Appendix: Lot information for Green P cost comparison

<table>
<thead>
<tr>
<th>Landmark</th>
<th>Location and rates for Green P lot</th>
<th>Street parking rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rogers Centre</td>
<td>40 York St ($3.50/half hour); 105 Spadina Ave ($3.00/half hour); 10 Portland Street ($2.00/half hour); 363 Adelaide St W ($3.00/half hour)</td>
<td>$2.25/hour</td>
</tr>
<tr>
<td>Royal Ontario Museum</td>
<td>4 Spadina Road ($1.50/half hour); 9 Madison Ave ($1.50/half hour); 19 Spadina Road ($1.50/half hour); 465 Huron St ($2.00/half hour); 9 Bedford Road ($3.00/half hour); 74 Yorkville Ave ($3.00/half hour); 35 Yorkville Ave ($3.00/half hour); 15 Wellesley St E ($3.00/half hour); 13 Isabella ($3.00/half hour); 20 Charles St E ($2.50/half hour); 1010 Yonge St ($1.50/half hour)</td>
<td>$3.00/hour</td>
</tr>
<tr>
<td>Toronto-Dominion Centre</td>
<td>40 York St ($3.50/half hour); 110 Queen St W ($3.00/half hour); 37 Queen St E ($3.00/half hour); 2 Church St ($2.50/half hour); 87 Richmond ($2.50/half hour); 121 St. Patrick St ($4.00/half hour); 20 Dundas Sq ($3.00/half hour); 130 Elizabeth St ($4.00/half hour)</td>
<td>$4.00/hour</td>
</tr>
<tr>
<td>Union Station</td>
<td>40 York St ($3.50/half hour); 2 Church St ($2.50/half hour); 110 Queen St W ($3.00/half hour); 37 Queen St E ($3.00/half hour); 87 Richmond St E ($2.50/half hour)</td>
<td>$4.00/hour</td>
</tr>
<tr>
<td>Casa Loma</td>
<td>251 MacPherson Ave ($1.00/half hour)</td>
<td>$1.50/hour</td>
</tr>
<tr>
<td>St. Lawrence Market</td>
<td>2 Church St ($2.50/half hour); 87 Richmond St E ($2.50/half hour); 323 Richmond St E ($2.50/half hour); 37 Queen St E ($3.00/half hour); 155 Queen's Quay East ($2.00/half hour); 185 Queens Quay E ($2.00/half hour); 271 Front St E ($2.25/half hour); 51 Dockside Dr ($2.00/half hour); 44 Parliament St ($2.50/half hour); 31A Parliament Street ($2.00/half hour); 40 York St ($3.50/half hour); 110 Queen St W ($3.00/half hour); 20 Dundas Square ($3.00/half hour)</td>
<td>$3.00/hour</td>
</tr>
<tr>
<td>Sunnybrook Health Sciences Centre</td>
<td>2170 Bayview Ave ($2.00/half hour)</td>
<td>$1.50/hour</td>
</tr>
<tr>
<td>North York Civic Centre</td>
<td>180 Beecroft Rd ($2.00/half hour); 10 Empress Ave ($2.25/half hour); 10 Kingsdale Ave ($1.50/half hour); 95 Beecroft Rd ($2.00/half hour); 10 Harlandale Ave ($2.50/half hour); 68 Sheppard Ave W ($1.50/half hour)</td>
<td>$2.25/hour</td>
</tr>
<tr>
<td>Scarborough Town Centre</td>
<td>158 Borough Dr ($1.50/half hour); 100 Grangeway Ave ($1.00/half hour); 101 Grangeway Ave ($1.00/half hour)</td>
<td>$1.50/hour</td>
</tr>
</tbody>
</table>

Source: Green P
IMFG Papers on Municipal Finance and Governance

   by Richard M. Bird, 2011.

   by Enid Slack, 2011.

3. *Financing Large Cities and Metropolitan Areas*,
   by Enid Slack, 2011.

4. *Coping with Change: The Need to Restructure Urban Governance and Finance in India*,
   ISBN 978-0-7727-0870-0

5. *Revenue Diversification in Large U.S. Cities*,
   by Howard Chernick, Adam Langley, and Andrew Reschovsky, 2011.
   ISBN 978-0-7727-0870-4

6. *Subnational Taxation in Large Emerging Countries: BRIC Plus One*,
   ISBN 978-0-7727-0874-8

7. *You Get What You Pay For: How Nordic Cities are Financed*,

   by Hong-Loan Trinh and William J. McCluskey, 2012.
   ISBN 978-0-7727-0878-6

9. IMFG Graduate Student Papers. *Development Charges across Canada: An Underutilized Growth Management Tool?*
   by Mia Baumeister;
   *Preparing for the Costs of Extreme Weather in Canadian Cities: Issues, Tools, Ideas*,
   by Cayley Burgess, 2012.

    by Michael Smart, 2012.

11. *Hungary: An Unfinished Decentralization?*
    by Izabella Barati-Stec, 2012.
    ISBN 978-0-7727-0884-7

12. *Economies of Scale in Fire and Police Services*,
    ISBN 978-0-7727-0886-1
The Platform Economy and Regulatory Disruption: Estimating the Impact on Municipal Revenue in Toronto


25. Can Tax Increment Financing Support Transportation Infrastructure Investment?
   by Murtaza Haider and Liam Donaldson, 2016.
   ISBN 978-0-7727-0953-0

26. Good Governance at the Local Level: Meaning and Measurement,
   ISBN 978-0-7727-0956-1

27. More Tax Sources for Canada's Largest Cities: Why, What, and How?
   by Harry Kitchen and Enid Slack, 2016.

28. Did the Land Transfer Tax Reduce Housing Sales in Toronto?
   by Murtaza Haider, Amar Anwar, and Cynthia Holmes, 2016.

29. Financing the Golden Age: Municipal Finance in Toronto, 1950–1975,
   by Richard White, 2016.
   ISBN 978-0-7727-0971-4

30. Climate Change, Floods, and Municipal Risk Sharing,
   by Daniel Henstra and Jason Thistlethwaite, 2017.
   ISBN 978-0-7727-0973-8

31. The Evolving Role of City Managers and Chief Administrative Officers,
   by Michael Fenn and David Siegel, 2017.
   ISBN 978-0-7727-0977-6

32. (Re)creating Boundary Lines: Assessing Toronto's Ward Boundary Review Process,
   ISBN 978-0-7727-0979-0

33. Land Value Capture and Social Benefits: Toronto and São Paulo Compared,
   by Abigail Friendly, 2017.

34. Financing Urban Infrastructure in Canada: Who Should Pay?

35. Paying for Water in Ontario's Cities: Past, Present, and Future,

36. Re-imagining Community Councils in Canadian Local Government,
   by Alexandra Flynn and Zachary Spicer, 2017.

37. Climate Finance for Canadian Cities: Is Debt Financing a Viable Alternative?
   by Gustavo Carvalho, 2018.
by Austin Zwick, 2018.  

by Bernard Dafillon, 2018.  
ISBN 978-0-7727-0998-1