Urban Sharing in Toronto

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2020

URBAN SHARING

in TORONTO

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City report no. 2

URBAN SHARING TEAM:

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1 INTRODUCTION

This city report is the result of a Mobile Research Lab (MRL) (Mont, 2018) conducted in the frame of the five-year research programme Urban Sharing (UrbanSharing, 2018), funded by the European Research Council (2018-2023). MRL involves a combination of methods, including case studies, interviews, observations, expert panels, and in-situ field work. This report presents insights gained by the team of eight researchers from the International Institute of Industrial Environmental Economics at Lund University, Sweden: Oksana Mont, Andrius Plepys, Yuliya Voytenko Palgan, Jagdeep Singh, Matthias Lehner, Steven Curtis, Lucie Zvolska, and Ana Maria Arbelaez Velez.

The *urban sharing organisations (USOs)* examined were selected by purposeful and snowball sampling (Patton, 2002), scouting online databases (e.g. Shareable Network Hub and the Sharing Cities Network) and homepages of sharing organisations,

analysis of academic and grey literature, and interviews with experts and practitioners. The USOs were selected to represent three sectors of the sharing economy for physical goods: 1) space sharing (including accommodation, parking and working space), 2) mobility sharing (including car and bike sharing), and 3) sharing of physical goods (including DIY tools and food).

In theory, these three sectors have significant potential to reduce the environmental impacts of production and consumption. Depending on the context, the sharing solutions usually vary significantly in terms of prominence in a city or their reputation among different actors. The selected sectors also follow different institutionalisation pathways and are subject to different types of engagement by and interaction with cities and other actors. Although sharing physical assets also causes environmental, social or economic impacts, these can potentially be reduced by different organisational solutions and business model designs.

In our research we employ a rather strict definition of the sharing economy. *First*, sharing business models must support a temporary use of idling assets (Curtis & Lehner, 2019), i.e. resources that already exist and are not deliberately purchased for pecuniary rental or sharing. *Secondly*, ownership must remain with the resource owner and not be transferred to new owners through a series of subsequent uses, as in the case of second-hand markets. *Thirdly*, sharing takes place between resource owners and resource users in a peer-to-peer (P2P) business model.

We investigate different USOs where users may have different motivations for sharing their idling resources: pecuniary, non-pecuniary, or reciprocal. In some of our examples we also include business-to-consumer (B2C) sharing cases, where businesses own shared resources and the assets are procured for commercial purposes. Although these examples fall outside our definition of the sharing economy, we used them as a reference point to compare with P2P sharing.

The Mobile Research Lab of Toronto involved five researchers from Lund University, and took place on 10-15 November 2019. During the visit and its preparatory phase, 20 interviews were held with experts from several departments of the city, sample organisations from all three sharing sectors, sharing users, researchers, and various third-party organisations. All interviews were transcribed, generating over 300 pages of analytical materials. A workshop, with researchers working on the sharing economy, was arranged in collaboration with the Munk School of Global Affairs & Public Policy at the University of Toronto. The latest insights about the sharing economy in Toronto, and in Canada in general, were presented and discussed.

Figure 1. City of Toronto staff present the regulatory work by the municipality at the workshop organised by the mobile research lab team.

This report, presenting our findings from the MRL, is structured as follows. Section 2 describes the city context of Toronto that shapes the sharing economy in the city. Section 3 presents a short overview of the sharing economy in Toronto, including levels of awareness and acceptance among the public. Sections 4-6 describe our findings and observations from the three selected sectors, and we discuss the drivers and barriers relating to USOs, the sharing economy in general, the associated sustainability impacts, the impacts on incumbent sectors, and the institutional and regulatory context of each sector. Section 7 analyses governance mechanisms that the city council employs for engaging with the sharing economy. Section 8 offers some concluding remarks.

2 THE CITY CONTEXT

2.1 Geography and demographics

2.1.1 TOPOGRAPHY AND URBAN SPRAWL

Toronto is the provincial capital of Ontario, Canada's most populous province. The city is a dynamic metropolis with several adjacent suburbs and neighbouring towns (Figure 2).

Figure 2. Map of the Greater Toronto Area.
Source: Data Management Group, University of Toronto. URL: http://dmg.utoronto.ca

The city is located on the north-west shore of Lake Ontario with a 46-km waterfront. It covers an area of 630 km^2, while the metropolitan area of the city has a total area of 5,906 km^2 (World Population Review, 2019). The city is mostly flat, with a slight slope upwards away from the lake. A large ravine system cuts through the city, and most of the ravines and valleys are recreational land and parks.

In recent years, the population of the city of Toronto and the GTA in general has grown considerably. The increasing demand for accommodation and office space has created a boom in construction, both in the city centre and on the peripheries. Today, the city is growing both vertically and radially outwards to its suburbs. More and more people commute daily in and out of the city to work or school.

2.1.2   SOCIO-DEMOGRAPHICS

Toronto's population is over 2.8 million, making it the largest city in Canada (World Population Review, 2019). Up to 6.14 million live in the greater census metropolitan area (CMA) of Toronto (World Population Review, 2019), the largest urban and metropolitan area in Canada. Because of the growing population and stable economy, more people are choosing to stay in the city rather than leave to surrounding areas. The population density is 4,150 people per km2 (World Population Review, 2019).

The city has a diverse population, reflecting its historical role as an important destination for immigrants to Canada. Nearly half of the population of Toronto are foreign-born, and over 200 ethnic origins are represented among its residents (World Population Review, 2019).

2.1.3   TOURISM

Toronto is an international centre of business, finance, arts, and culture, and is one of the most multicultural and cosmopolitan cities in the world. With its multi-ethnic and multicultural background, the city boasts a rich cultural life and is fifth among Canadian cities as tourism destinations (Reid, 2019). In 2017, 43.7 million tourists visited the Toronto area, including 10.4 million domestic visitors. Of the visitors, 15.5 million stayed overnight and 28.2 were same-day visitors (City of Toronto, 2019c). The turnover of the tourism industry in 2017 was CAD 8.84 billion (City of Toronto, 2019c).

2.2   City governance

2.2.1   GOVERNANCE STRUCTURE

The governance system in Canada is tiered in several layers, comprising local and regional municipalities, provincial government, and the federal government. The City of Toronto is the major municipality, surrounded by other single municipalities and some regional municipalities forming the Greater Toronto Area (GTA). Regional municipalities in GTA can consist of 3-6 local municipalities with some jurisdiction on any given issue.

The governance power is divided between the local municipalities, the regional municipalities and the province, but the latter usually has the final voice on governance matters. For instance, taxation powers are vested in the Parliament of Canada, while provincial legislatures have a more restricted power to collect direct taxes to raise revenue for provincial purposes. Provincial governments authorise municipal councils to levy specific taxes, e.g. property tax. Corporate taxes are collected by provincial as well as federal governments, depending on the province. Property tax is the main revenue source for any municipality in Canada. Municipalities have limited power to set up their own revenue tools (Int #7) and need to seek approval from the province to make any major changes. This allocation of power is written in the Canadian constitution.

Governance of the sharing economy has some similarities. Since other levels of government have primary responsibility for these issues, cities in Canada tend to assume a regulator role, rather than developing a holistic policy frame on what the sharing economy is and how it could help cities to reach their socio-economic goals (Int #5).

> *"…that especially a new issue where they're not used to working together on it and something that's moving quickly. … our system works really well and the things we do about it have been happening for decades, but our system falls apart a little bit when a new thing pops up that (…) involves every level of government and it's happening really quickly because you don't have the processes or the tables in place to coordinate and converse about things. (…) you can drive between Toronto and Mississauga (…) and you'd have a totally different set of rules for what Uber can and cannot do. It can't be that I cross a highway and I'm in a different municipality and now I'm in the illegal service versus what was a legal service when I started my trip." (Int #5)*

Aligning all three levels of government around issues on which they have not worked together is usually rather challenging, and is especially difficult for dynamic areas and issues like the sharing economy. Cooperation between authorities on sharing economy issues, even within the same level of governance, is sometimes difficult. For instance, different municipalities often have their own sets of rules for sharing organisations, instead of rules common to a province or even the country (Int #5). The tiered governance system and complex system of responsibility allocation sometimes makes it hard for the City of Toronto to strategically develop comprehensive policies for the sharing economy.

Toronto municipality is governed by a mayor-council system. The Mayor of Toronto is elected by direct popular vote and the Toronto City Council is comprised of 25 councillors. The Mayor does not have the leadership role of mayors of other cities, e.g. in New York, where the mayor is an executive director. Political power is concentrated with the council. The mayor, like every other member of council, has one vote and a limited power independent of the council (Int #15). Some of our interviewees see this lack of power for the Mayor as politicisation of the decision-making process and a "too generous system of appeals" as reasons for frequent political deadlocks in many urban planning and infrastructure issues.

2.2.2 CITY REGULATORY POLICIES FOR SHARING

The Toronto City's municipal *Long Term Waste Management Strategy, Resilience Strategy* and the climate emergency declared in October 2019 put climate change, growing inequities, zero waste, and the circular economy on the municipal agenda. Sharing is regarded as part of the circular economy. The city webpage features case studies of companies that have been working with sharing and repairing (City of Toronto, 2019a). The City has been a member of the Sharing Cities Alliance since 2017, but there is no citywide agenda on the sharing economy.

> *"…the mayor certainly mentions Toronto as a leader ... city. [But]…even though (the city) had an earlier approach to regulation of the taxi industry … there hasn't been any Committee focused on the sharing economy, … not really any thinking about this in a holistic sense. It's true the ridehailing and the short-term accommodation are regulated by the same department in the city, but it's not as if the mayor or council or anyone in the bureaucracy said: "Let's think deeply about sharing as something that could help the sustainability or affordability". … They're saying: "Okay, there's this instance of it, let's address that or the other instance let's address that." While some of the same people are working on it, there isn't, at a conceptual level, a strong sort of idea that these are instances of the same phenomenon that need to be thought of as a connected movement..." (Int #2)*

In 2018, the Ontario Ministry of Finance developed *The Sharing Economy Framework* and produced *The Home Sharing Guide for Municipalities.* These, however, were not yet implemented, largely due the change of government after the Ontario general election in 2018.

Some interviewees indicated that the city has a reactive approach to the developments of the sharing economy and arrival or emergence of different sharing organisations in the city:

> *"… [I]t does tend to be a little bit more reactive. … we don't really get into regulation until there's a problem …. The regulations are fairly hands-off, especially, when compared to other parts of Canada." (Int #6)*

The tiered power structure and responsibility allocation described in section above also affects the types of measures the City of Toronto can introduce when developing policies for sharing. However, lack of clarity in responsibility allocation might result in

inaction causing controversies with the sharing initiatives. The provincial government seem to employ a certain degree of a "hands-off approach" in governing some of sharing activities and levelling the playing field with the incumbent services. For instance, for a rather long period of time Uber did not charge the value-added tax of their rides (Int#2).

In total, around 100 people work with the sharing and platform economy at the Municipal Licensing and Standards (MLS) division of the City of Toronto, including managers of various ranks, IT support and frontline staff, who enforce regulations. MLS is the main division at the City of Toronto working with the sharing economy, mainly regulating short-term rentals and the so-called 'vehicle-for-hire' industry, which include taxis, limousine services and the ridehailing platforms Uber and Lyft. The MLS is also working with other City divisions to investigate the introduction of e-scooters in Toronto, including questions around possible future placements and their potential to provide last-mile mobility and reduce the use of private cars in the city (Int #16).

MLS focuses primarily on commercial forms of the sharing economy through regulation and licensing to address community nuisances, ensure public safety, and consumer protection.

> *"…Our main purpose... is to make sure that any new industries or businesses that are operating on the road or in any way are safe for the public …" (Int #16)*

Another municipal division working with the sharing economy is Transportation Services, whose tasks include issuing parking permits for free-floating car sharing organisations. The Innovation Office and Planning and Development were mentioned among municipal divisions whose activities are relevant for sharing economy practices (Int #16).

The City of Toronto does not engage directly with the sharing of physical goods, and we did not come across any municipal support for non-profit or community-based sharing initiatives.

The presence of knowledge institutes that inform local and regional policy-making on the sharing economy has been positive for the development of the sharing economy in the city, and its regulations in particular. For example, since 2016, research by the

MaRS Solutions Lab and the former Mowat Center at the University of Toronto advised municipal and provincial governance on urban sharing in the city.

In 2017 A *Best Practice Guide for the Sharing Economy* was written, identifying best practice examples from different cities around the world. An implementation tool for policy-makers was also developed, containing principles for the sharing economy and checklists for implementing them. The checklists aimed to assist policymakers when they were developing regulations for the sharing economy or making decisions about the development of the sharing economy in Toronto. However, these reports have not been made public and whether they have been of use for the City of Toronto remains unclear. However, the change of government has led to interest in the provided insights diminishing somewhat (Int #6&7).

Another relevant actor for knowledge sharing is The Sharing Economy Today, a network organisation that spreads knowledge about the sharing economy in the city for those interested and that connects sharing economy actors.

2.3 Economy

The city hosts the headquarters of many large Canadian and multinational corporations. The city's economy is highly diversified, focusing on technology, design, financial services, research and education, arts and fashion, business services, environmental innovation, food services, and tourism. The city houses the third largest tech sector and is the second largest financial as well as food and beverage industry centre in North America. The main city' revenues come from property and land transfer taxes, subsidies from the Government of Canada and the Government of Ontario, and various other tax revenues and user fees (Wikipedia, 2020).

2.3.1 ECONOMIC VIBRANCY

Toronto ranks 15th among the top 1,000 global cities in terms of the strength of its start-up ecosystem (City of Toronto, 2019b). The ranking accounts for the number and quality of start-ups, the ease of doing business and the general institutional and administrative environment that facilitates business start-ups. In 2016 the GDP of Toronto was around CAD 332 billion (Toronto Global, 2019) (USD 310 billion) and, since 2009, has been growing by an average of 2.4% annually, which is higher than the national rate of 1.8%. In 2017, the GDP of Toronto grew even faster, reaching about 3.3% (City of Toronto, 2017e).

According to the KPMG Competitive Alternatives 2016 Report, the corporate tax rates in Toronto are one of the most competitive in the world, and total tax costs are 48% lower than the US.

2.3.2   JOBS

The region of Toronto attracts diverse and highly educated immigrant labour from all over the world. Toronto is home to 18% of all recent immigrants to Canada, the largest number of any Canadian city (Wikipedia, 2020). In the period 2008-2017, the employment rate in the region was twice the national average. According to the Toronto Employment Survey, during this period employment at businesses grew by 16% from 1.31 to 1.52 million (City of Toronto, 2018).

2.3.3   INCOME AND THE COST OF LIVING

In 2015, the median total annual household income in Toronto was CAD 65,829, 74.4% of which came from employment. Besides the employment income, a greater share of private income in the city came from market sources (e.g. investments or private retirement income) compared to the rest of Canada. The average annual cost of living in Toronto is around CAD 32,900 per person. In the global ranking of cost of living, the city ranks 27th out of the 365 cities assessed (Numbeo, 2020).

2.4   Infrastructure

2.4.1   TECHNOLOGY READINESS

Canada is one of the most technology savvy nations in the world, enjoying high internet access rates and high ownership rates of computers and smart handheld devices. A vast majority of people in Canada are familiar with mobile payment systems or digital wallet services and about one-third feel comfortable with using them (CIRA, 2019). In 2019, over 90% of Canadians had internet access (31.8 million users) (CIA, 2019) and about 28 million were active mobile internet users (Statista, 2019a) (Statista, 2019c). Canada also ranks 26th in the world in terms of average internet speed (29 MBps) (Statistics Canada, 2019b). The advent of new 5G mobile networks is expected to radically improve the speed of mobile networks and facilitate even greater use of internet services, along with increased interconnectivity of smart networked devices.

Access to internet in Toronto is virtually omnipresent, both in terms of wireless and fixed-line access. An average standard plan from a typical ISP provider in Toronto costs CAD 35-70 a month, plus tax. There are at least nine large internet providers in Toronto, with varied market shares. About 85% of households in Toronto have fixed internet in their homes, and virtually anyone with a smartphone has a wireless access (Statistics Canada, 2017). Almost 98% of its residents are online at least once per week. Especially frequent are mobile uses of internet, without which modern life in any city can be less convenient. The top ten apps used by Torontonians relate to sport

scores, entertainment, parking, public transit, food, ridehailing, navigation and social media (Siu, 2016).

2.4.2 MOBILITY PATTERNS AND INFRASTRUCTURE

In 2015, the city's public transit authority operated 1,860 buses, 250 trams (streetcars) and 824 metro and railway train carriages. Since then, these numbers of vehicles have remained more or less stable (Bow, 2015).

The Toronto Parking Authority (TPA) operates approximately 19,000 on-street parking spaces. However, parking spaces are still insufficient and parking costs are high – anywhere between CAD 1 and 4 per hour depending on location (Lakey, 2019). This makes taxis and ridehailing platforms important replacements for personal car trips.

In 2014, there were approximately 4,900 taxicabs and 10,000 licensed taxicab drivers in Toronto. The number of licensed private transportation company (PTC) drivers registered on e.g. Uber or Lyft platforms is estimated at around 90,000, but on average about 5,000 PTC drivers are operating at any given time in the city, who are in strong competition with taxi services (Int #12).

In addition, an estimated 1,700 shared private vehicles in Toronto operate on different platforms, but the role of car sharing in catering to daily mobility needs is very marginal (Vancity, 2018). Biking also has a marginal role in the city, and is highly seasonal.

The daily mobility needs in Greater Toronto Area (GTA) rely on both private cars and public transit. The public transit services within the Greater Toronto and Hamilton Area (GTHA) are relatively well developed, but car travel still dominates, with over 57% daily trips made in personal cars compared with 27% in public transit (Figure 2) (Malatest, 2018). In 2016, the average number of daily trips provided by the public transit system was 5.14 million/day in the city and up to 10.62 including GTA (Malatest, 2018). Rides on buses, metro and trams are 45%, 43% and 11% of daily trips respectively (Bow, 2015).

About 57% of the total distance travelled by public transit in 2016 was by bus, 36% by metro, 6% by tram, and 1% by GO train (Figure 3). However, the main mobility option in Toronto and GTA is car-based. Only about 0.5 million km travelled in GTA was by bus, while the distance travelled by car was over 132 million km each weekday (2011 data) (MITL, 2014). Long-distance commuter travel typically involves train, metro and bus. The average commuting distances per person by train is 17.9 km, local public transit (buses, metro, trams) 6.5 km, private car 5.5 km, and ridehailing services 4.1 km. Average commuting time to workplaces was 26.2 minutes. Commuting time by car averaged 24.1 minutes, and by public transit 44.8 minutes (Malatest, 2018).

Modal split of trips in Toronto in 2016
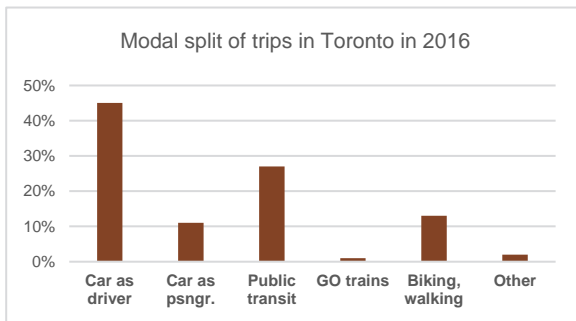
Figure 3. Modal split of daily travels in Toronto and GTA (share of trips per weekday).

About a quarter of all adult residents (24% male and 26% female) in Toronto have transit passes, but many also regularly use the ridehailing services, such as Uber and Lyft. Transport modal split depends on travel purposes. Trips to work by ridesharing platforms are gradually increasing, while other trips are more likely to be made in a personal vehicle (Int #10). Parking in the city, especially the centre, is pricy, which partly deters the use of personal cars. Long-distance travel is normally by public transit, while mobility within the city relies on both public transit and ridehailing or walking.

A single ticket for public transit in Toronto costs CAD 3.25 for adults, with various discounts for seniors and young people, and there are various multiple use tickets and pre-paid cards. A monthly transit pass costs around CAD 150 (TTC, 2019).

The city has improved many aspects of the transit infrastructure and services, but these may be insufficient in the light of the rapid population growth, including the densification of the central area and the radial growth into suburbs. Transit services are well developed in the city centre, but less so towards the suburbs, where many travellers prefer moving by car (Int #10). However, commuting times by public transit are becoming longer and street congestion is a serious problem, as the public transportation infrastructure does not serve the city as well as it should (Int #12). The development of the public transit is sometimes perceived as being politicised, and there is often little consensus over investment priorities (Int #10).

While the public transit system might be overburdened in various places, the role of the new mobility solutions, including ridehailing services, might gradually become important, though this is not yet entirely clear (Int #10). However, while ridehailing might complement the public transit system and alleviate some bottlenecks. Low-density suburban areas have poor transit services with low frequencies, slow and long routes, which makes ridehailing or a personal car popular alternatives (Int #10).

The future role of autonomous vehicles is another aspect – how their services can be regulated and directed to ensure that they complement and support public transit, particularly in providing first mile-last mile solutions in suburban areas that traditionally have poor transit service. The City of Toronto has a strategy for autonomous vehicles, which prioritises transit and emphasises that other alternatives must not cannibalise or undermine it (Int #10).

2.4.3   ACCOMMODATION AND RENTAL SEGMENT

Toronto is currently facing a large population increase that is projected to continue in the future (CANCEA & CIU, 2019). The speed of building new rental accommodation infrastructure does not match the population growth rate. Today, the city's rental housing deficit is over 9,000 rental units, which together with increasing costs is contributing to the current housing crisis (RBC Economics, 2019). Housing developments in the city are partially restricted by a greenbelt of protected nature areas in the north, east, and west, as well as by Lake Ontario in the south. This is forcing the city to densify its accommodation infrastructure and build more high-rise buildings with tenant ownership.

The short-term rental market today comprises nearly 20,000 listings, 64% of which are entire homes/apartments, and nearly half are multiple listings where one host offers more than one home. Most short-term rental listings are located in central Toronto (Inside Airbnb, 2019).

Currently, an average renter household would need to save between 11-27 years to be able to afford the 10% down payment required to buy own property (CANCEA & CIU, 2019). Many new housing developments end up in short-term rental market (Statistics Canada, 2019). According to the Municipal Licensing and Standards, 72% of all listings rented in 2016 were in condominiums, apartments or lofts (City of Toronto, 2017c). The city plans to regulate this situation by issuing restrictions on short-term rentals, which is expected to return some 5,000 units to the long-term rental market (Wieditz, 2017). As of early 2020, there is a delay in the implementation as a result of a zoning bylaw appeal.

2.5   Innovation and sustainability

Toronto has been ranked first among global cities in terms of innovation and talent strengths, according to the recent research from JLL on Innovation Geographies. The recent annual PwC Cities of Opportunities report ranked Toronto fourth of 30 global cities in terms of education, technology, quality of life, and the economic ease of doing business in a city (City of Toronto, 2017d). In the World Economic Forum's Innovation Cities Index of 2019 Toronto ranks tenth among 500 global cities for

innovation support (JLL, 2019), while CBRE's Scoring Tech Talent places the city third in North America (CBRE, 2019). The city catalyses about 30,000 start-up businesses a year, and facilitates their work through a network of over 50 business incubators and accelerators (Gibson et al., 2015). The start-ups represent new businesses, comprising everything from digital and high-tech companies to restaurants testing new methods of food delivery. The city is also doing well in terms of supporting female entrepreneurs, ranking ninth among 50 global cities in the latest (2019) Women Entrepreneur Cities (WE Cities) Index compiled by Dell Technologies (DELL Technologies, 2019).

Toronto has also been developing and implementing innovative policies and programmes to make the city an environmentally sustainable city. The plans (City of Toronto, 2017a) include Toronto's ambitious climate action strategy TransformTO and the resilience strategy ResilientTO, and initiatives to green city operations and thereby contribute to Toronto's greenhouse gas reduction target of 80% by 2050. Toronto City Council adopted the Electric Vehicle Strategy January 29, 2020 (Dunsky Energy Consulting, 2019).

The City of Toronto has also developed a Carbon Credit Policy as means of reducing emissions from its own operations. As part of this policy the City has identified the conditions under which it will sell its carbon offset credits (City of Toronto, 2017f). Among new innovative projects supported by the municipality is the Quayside project, which received support from both the City of Toronto, Ontario province, and the Canadian government (Int #10). The project created Sidewalk Labs, a sister company of Google, to convert the Toronto waterfront's derelict far eastern end, currently full of car parks and construction waste, into a modern and futuristic part of the town that, with the help of ubiquitous technology, can run on its own (Sidewalk Toronto, 2019).

In October 2019, the City Council endorsed and declared a climate emergency in Toronto, thereby committing to accelerated action in the next two years. The sharing economy has not been framed as a way to reduce the sustainability challenges the city is facing, such as congestion and affordable housing. The current Mayor is keen on positioning and branding the City of Toronto as a tech hub, and the sharing economy fits well with the idea of Toronto being innovative and open to innovation. Engaging with the sharing economy organizations by the city is believed to add value by offering services that fill current gaps in service (Int #2).

2.6 Socio-cultural conditions

Toronto is seventh in the world among the 140 most liveable cities in terms of stability, healthcare, culture and environment, education and infrastructure (EIU, 2019a). Stability, healthcare and education received the highest scores (100), and infrastructure the lowest (89.3) (EIU, 2019b).

Hofstede's Cultural Theory model (Hofstede Insights, 2019) has been suggested for identifying systematic differences in national cultures of different countries along four dimensions – power distance (PDI), individualism (IDV), uncertainty avoidance (UAI), and masculinity (MAS). According to scoring based on this theory, Canada scores highly on individualism, similar to the Netherlands (both score 80), but lower than the US, which scores 91. The high score on individualism still indicates that individuals feel mainly responsible for themselves and their immediate families. High scores on individualistic norms may clash with some of the traits of the sharing economy, such as the sense of belonging to a group and participation. However, high scores on the sense of self-reliance support the sharing economy, which offers possibilities for earning extra income and staying financially independent. The low score for power dimension (39) means that Canadians dislike hierarchies and class structures, which enables a sharing mentality among people. Hierarchies in organisations are created merely for convenience and efficiency, and open and clear communication is expected in organisations and among people.

The high score on the Masculinity-Femininity dimension (52 compared to 14 in the Netherlands) indicates moderately masculine dominant values in the society, i.e. success, achievement and winning are relatively important. Canadians also care more for maintaining a life/work balance, yet they pursue success through longer working hours and by striving for higher incomes.

Canada's score of 48 on Uncertainty Avoidance shows a slight preference for accepting uncertainty and letting the future just happen. Canadians are generally open to new ideas, business models and products, but the score on Long Term Orientation (36) means that Canadian society shows great respect for maintaining traditions. Canadians also focus on today, and are not inclined to save or invest for the future. Maintaining traditions may also be seen as conflicting with the ideas of the sharing economy, yet the ideas of sharing among people have a long tradition. On Indulgence, Canada again scores similar to the Netherlands (68), which indicates that Canadians are willing to realise their desires and impulses in terms of leisure time, having fun, and spending money as they please.

3   URBAN SHARING IN TORONTO

3.1   The urban sharing landscape

The urban sharing landscape in Toronto is diverse, involving a range of mobility sharing platforms, space and accommodation sharing, physical goods, food and other assets. Most are enabled by various digital platforms.

The shared mobility sector is dominated by two ridehailing organisations – **Uber** and **Lyft**. There are four larger car-sharing organisations, but their role in mobility service provision is rather marginal. One of the larger ones, Car2Go, left Toronto in 2018 after failing to get the requested support from the city in terms of parking space allocation. **CommunAuto** came to an agreement with the city on parking and is currently in operation, though in a fairly limited sense, as many city areas are off limits for its operation. **Turo** is another car-sharing organisation, providing private vehicles for short-term real from private individuals.

Toronto also has a municipal bike sharing scheme, **Bike Share Toronto**, which has seen an explosive growth in the last couple of years (Figure 4). Both Bike Share Toronto and CommunAuto bike sharing schemes are situated largely in the central area where there is the necessary infrastructure and suitable demographics of people who do not own cars. Beyond that limited geography the schemes "wouldn't function" *(Int #5)* due to impracticality and unsuitable demographics*.*

Figure 4. Bike sharing station in Toronto.

Another platform for sharing private parking spaces is **Rover,** enabling individuals to rent their private parking spaces. Rover experienced rapid growth from the start, and is now seeking new opportunities to expand its offerings by increasing collaboration with businesses willing to rent their parking spaces to private individuals.

Airbnb is the most prominent platform for short-term rental, although other platforms such as **VRBO** are also present. An interesting sector for sharing spaces that is particular to Toronto is the sharing of space for creative industry activities, such as theatre performances, exhibitions, and film shootings, e.g. **Spacefy**. There are also several platforms for sharing luggage storage space and associated services, ranging from the international **BagBnB** to the local **AJ Self Storage.**

There is a much more limited landscape for the sharing of physical goods, represented by the iconic **Toronto Tool Library**. There are some other smaller-scale platforms that have started in Toronto, sharing clothes, cooking oil, farms, and land and urban farms.

Other sharing organisations are shared finance and gig-economy services equivalent to e.g. TaskRabbit, i.e. the convenient services where people pay for some specific tasks, run errands or have services delivered. Another growing area is the food sharing and delivery services.

There is no regional association for the sharing economy in Toronto, or even in Canada. In 2015-2016, the **Mowat Centre** at the University of Toronto and **MaRS Labs** produced work related to the sharing economy that may have informed City of Toronto and Provincial decision making including some ministries of the Ontario province (Int #15). Non-profits most often choose environmental and resource saving or social rhetoric as important arguments for operation in the city.

3.2 Public perception of urban sharing

Our overall impression of the public perception of urban sharing is that people are very familiar with and use it on a daily basis, especially the private transportation (ridehailing) companies, which are very popular among young people. These platforms offer convenient and affordable mobility services and fill gaps in urban transit services (Int #2).

Individual voices have been heard about the sustainability of replacing public transit with ridehailing options – whether the latter are indeed replacing the public transit rather than "filling a gap left vacant by transit operations" (Young et al., 2020), and what it means for the environment and sustainability (Int #6). An interesting perspective was provided on the various ways people of different ages adapt to the sharing economy.

One interviewee mentioned an inter-generational conflict where the older generation is "*trying to live in the city the way it used to be, where everyone had a car and street parking*" *(Int #6)* while the younger generation living in the city centre prefers not to own a car at all. This influences the types of services that get acceptance and support from different groups of the population.

> "*…younger people under 30-35, they're growing up with this so it's not a new thing, it's just like they're doing everything with a mobile now - twittering, I need a place to stay, ordering a car*". (Int #5)

However, smaller (often non-profit) sharing organisations find it difficult to get started and survive. Several interviewees suggested that Toronto is a relatively wealthy city and so "*sharing is a little bit low, because people have the means to not share*" *(Int #6)*. Others agreed with that but also suggested that:

> *"…it's just not in the "zeitgeist" of the city of Toronto potentially to be thinking in a sharing way. …it requires a change in mindset and …the most interesting innovations are our needs-based innovations. We have a lot of space in Canada and generally, …people buy their own things. Yes, there's trading going on, but … the concept of sharing one's own assets is still in its baby stages compared to other cities where there is a clear need for sharing and sharing assets, because the city is just so packed." (Int #15)*

Social media channels have also been employed to create informal groups for mobility, space and goods sharing. It has played an important role in the public's perception of the sharing economy. According to our interviewees, the media has kept a neutral and investigative tone rather than taking a position on different issues. During the hype of the sharing economy around 2015, there was:

> *"…a big debate around Uber … [that] was operating illegally and the drivers were engaging in various forms of protest. There was quite a bit of media attention … it was very much on radio, talk shows, people were phoning about it, writing about it in the newspapers…" (Int #2)*

One interviewee reported being interviewed by media about the sharing economy about 200 times during the first 2-3 years. Since then, both the interest and the perceived controversies around the sharing economy have subsided, especially after the City Council began developing policies regulating sharing organisations offering ridehailing and short-term rentals (Int #10).

Some activists started creating their own websites for the sharing economy, such as Kangaride (Kangaride, 2019) – a website for long-distance ride sharing in Canada. Some have grown into organisations and become institutionalised in people's everyday lives, while others remain in the shadow.

> " *…it just kind of reached like a kind of quiet equilibrium almost where there's not the controversy, it's not in the news every day. It's not something people are talking about. It's kind of like more of an accepted feature of life in a number of areas: oh, we've got Uber, we've got Lyft. You can get your food delivered." (Int #5)*

3.3 Urban sharing and incumbent businesses

When the urban sharing organisations first came to Toronto, the regulatory situation in several sectors was unfair. For instance, there were multiple regulations and requirements for hotel and taxi operations, but no regulations for Uber and Airbnb.

This has led to several protests by, for instance, taxi drivers campaigning against unfair competition with (largely unregulated) ridehailing platforms (Int #20). Several taxi companies tried copying the ridehailing business model, introducing apps similar to Lyft and Uber. However, ridehailing companies usually managed to offer more comprehensive services that included not only the app, but car rides at lower prices, a rating system and convenience. In principle, the ridehailing platforms compete with taxis in large segments of the market.

Opinions diverge on the impact on the hotel industry. Some sources mentioned that Airbnb has negatively impacted hotels in the centre of Toronto, while others believe that business travellers still stay in hotels because of the large number of business conferences and events (Int #5, Int #15). A report from 2017 suggested that short-term rentals are one of the reasons for stagnation in the number of available hotel rooms in the city of Toronto since 2000 (City of Toronto, 2017b).

Realising the potentially unsustainable situation regarding competition between the incumbent and the sharing economy businesses, the City initiated policy measures to level the playing field by developing new or simplifying old rules and regulations. The goal of the City Council was to develop a "*moderate and smart regulation for everybody so that they all can play by the same rules. It's a level playing field" (*Int #5). Today, several regulations are in place regarding the operations of ridehailing platforms and short-term renting.
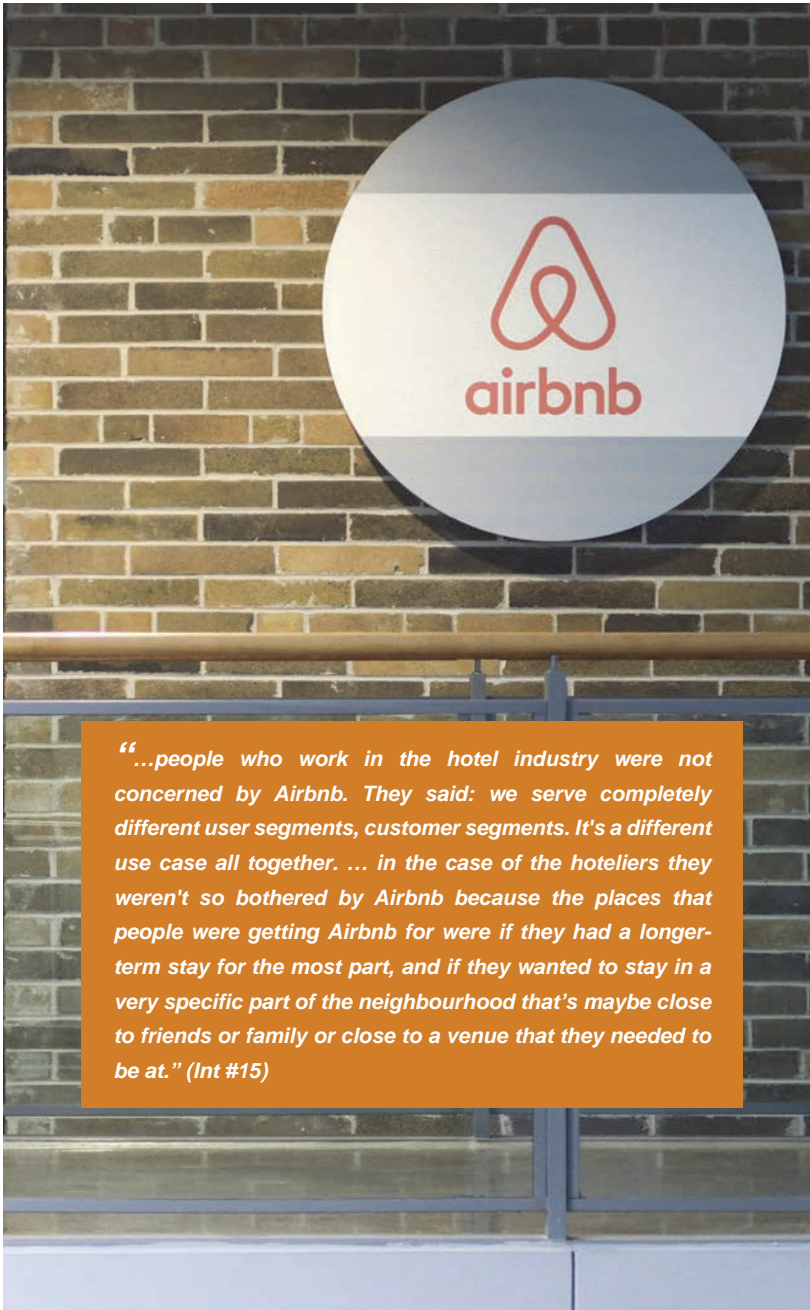
> **"***…people who work in the hotel industry were not concerned by Airbnb. They said: we serve completely different user segments, customer segments. It's a different use case all together. … in the case of the hoteliers they weren't so bothered by Airbnb because the places that people were getting Airbnb for were if they had a longer-term stay for the most part, and if they wanted to stay in a very specific part of the neighbourhood that's maybe close to friends or family or close to a venue that they needed to be at." (Int #15)**

4   SPACE SHARING IN TORONTO

The landscape of space sharing largely covers the short-term accommodation market. Long- and mid-term accommodation, workspaces, and other forms of space sharing are not addressed in this report.
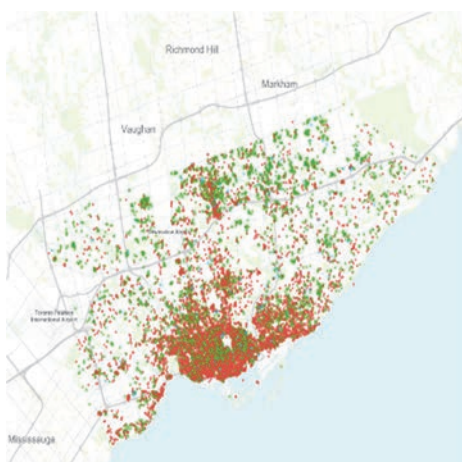
As of October 2019, there were 19,255 active listings in Toronto (Figure 55). Of these, 65% were entire homes with an average price of CAD 162/night. Private rooms comprised 33% of the listings, and less than 2% were shared rooms. Frequently booked listings average about 200 nights/year, with an average price of CAD 133/night, 55% average occupancy, and estimated average income of CAD 2,203/month. The average price of all listings was CAD 140/night, 101 nights/year and estimated monthly income of CAD 1,110/month (Inside Airbnb, 2019).

Figure 5. Locations of AirBnB listings in Toronto City. Source: AirBnB.

Multinational space sharing organisations, such as *Airbnb*, are present in Toronto and have an impact on other sectors. Other space sharing includes *Spacefy*, a platform where any space, commercially or privately owned, can be rented. The platform's niche are spaces for artists, and its listings offer recording studios, gallery and exhibition spaces, photo and film studios, gym, yoga, dance and fitness studies, and meeting spaces, illustrating how the sharing economy is branching out into new market segments. A sharing platform for car parking, *Rover*, allows individuals and businesses to list unused driveways and parking spaces for extra income. Other forms of space sharing, such as kitchen space, is also available in Toronto.

Key players influencing the space sharing scene in Toronto include the space sharing organisations and their users, Fairbnb, the City of Toronto, the Toronto Tourism

Association, Ontario Tourism, the Coalition of Hotels in Ontario, different community groups and associations, or workers' unions, especially for hotel workers (Int #8, 13).

Some Airbnb hosts have multiple listings, which could be separate rooms in the same apartment, or multiple apartments or homes. Hosts with multiple listings are more likely to be running a business and are unlikely to be living in the property, which is in violation of the existing regulations for short-term rentals designed to protect residential housing. About 45% of all listing in Toronto (October 2019) are multi-listings, and the rest are single listings (Inside Airbnb, 2019).

4.1   Drivers and barriers to space sharing

The obvious drivers to space sharing in Toronto are the availability of idling spaces such as empty rooms and homes, recording and yoga studios, or restaurants and bars outside their opening hours, the possibility to earn extra money, and the willingness of property owners to share and of consumers to explore novel business models.

4.1.1   DRIVERS AND BARRIERS TO ACCOMMODATION SHARING

There is a large number of driving forces to accommodation sharing. For example, it offers unique experiences, can be a cheaper alternative to the traditional hotel industry and give visitors access to more amenities than a standard hotel, or allow them to stay in neighbourhoods outside the city centre. According to Int #8, demographic trends can also be driving people to use accommodation sharing platforms. For example, the demand side might consist of divorced people who want to rent and stay closer to their children, people renovating their homes, people travelling for conference or those visiting friends and relatives in urban areas who do not have a guest room.

Others, however, believe the uptake of accommodation sharing is attributed to the rising costs of living in cities. According to Int #8, space sharing is no longer taboo because people are looking for extra way to earn money.

According to Int #13, Toronto has undergone an immense real estate development boom over the last 15-20 years, which sets it apart from other cities. Taking a closer look at the drivers of accommodation sharing in Toronto, we learnt that this real estate development boom has given rise to a high volume of smaller apartments, the so-called condominiums, which offer a great substitute to hotel rooms.

The development of formal regulatory frameworks around space sharing, particularly around short-term accommodation sharing, seems to be lagging behind other cities. This regulatory delay encourages more private people to list their homes on accommodation sharing websites, but it also drives the transformation of housing units into short-term tourist accommodation. A question arises whether tenant-absent holiday rentals still qualify as space 'sharing'. Discussions about regulatory frameworks at municipal level are ongoing. The city is organising roundtables and

inviting many key stakeholders to participate, which makes the process lengthy. According to Int #8, in such roundtables, the municipality may want to get people's opinion on different regulatory options and policy proposals, and make sure that everyone can share their perspective. The development of regulatory frameworks for accommodation sharing, which constitutes a major barrier accommodation sharing, is discussed in greater detail below.

4.1.2   DRIVERS AND BARRIERS TO SHARING OF PARKING SPACES

Int #14 highlighted the media publicity to the sharing of parking spaces as a major driving force. They saw a lot of excitement about their business model and received interest from national press. They would also welcome further support from local governments in the form of supporting behavioural change. Currently, parking in the centre of Toronto is difficult and expensive. However, the City does not actively prevent or deter cars from entering the city centre in an attempt to reduce traffic congestion, and to support other, more environmentally friendly forms of transportation. Therefore, it might be controversial to introduce additional parking spaces in private driveways in the city centre. As a response, a Toronto-based company for the sharing of parking space wants to promote parking spaces outside the city centre and encourage their users to supplement driving with other forms of transportation.

4.1.3   DRIVERS AND BARRIERS TO OTHER FORMS OF SPACE SHARING

The largest driving force behind the sharing of other forms of spaces on platforms such as Spacefy is the financial compensation for the service. They do not face the same regulatory barriers as short-term rentals, because this type of space sharing creates lower risks to public safety, consumer protection, and community nuisance. As such, it is unlikely it will create the same negative consequences for the housing market as accommodation sharing.

4.2   Sustainability impacts of space sharing

In this section, we discuss the perceived social, economic and environmental impacts of space sharing. We do not provide a quantitative assessment of actual impacts, and instead present a variety of perceptions on the issue from different actors in space sharing. Overall, a worry about the negative impact of accommodation sharing on the housing market becomes apparent, but other forms of space sharing are also discussed.

4.2.1   SOCIAL IMPACTS

Rising housing prices in major cities are partly being attributed to the rise of accommodation sharing platforms, which became apparent not only in Toronto, but

also in our other case cities. According to Int #3, residents are being priced out of the housing market as new owners come in, buy housing and rent them out to travellers, making short-term rentals more profitable than long-term. This process makes cities less affordable for people who have lived there before. Compared to other cities in the world, it is relatively easy for foreign investors to buy properties in Toronto. Canada has a relatively safe economy and the costs of property are rising at a steady rate, being insulated from market crashes, which makes them a safe investment option. Int #2 believes that renting houses that used to be left empty is made easier by cleaning companies that take care or short-term rental properties. This has resulted in the transition of many city quarters from residential areas to tourist areas.

Other than gentrification, a new phenomenon that was often discussed was the reduction in perceived safety around short-term holiday rentals (Int #20). However, the issue of somehow regulating accommodation sharing platforms is made difficult by lengthy legal processes. According to Int #13, any Toronto resident can appeal new zoning bylaws. The appeal is then scheduled to the tribunal that oversees land-use disputes, which delays the implementation of new regulations. Positive social impacts have also been discussed, such as the ability of residents to make extra money in increasingly more expensive cities. Short-term rentals also offer a wider variety of accommodation at affordable prices to their guests.

4.2.2   Economic impacts

The economic benefits of space sharing were often discussed by our interviewees. They are also a major driving force behind space sharing. It is easy to list properties on space sharing websites and the risks are rather low (Int #13). While some forms of space sharing are associated with many negative social and environmental impacts, there appears to be a discrepancy between what the city wants to regulate and what it wants to support. On the one hand, accommodation sharing might bring about rising rents and housing prices but, on the other, the City wants to support tourism as it brings economic growth to communities (Int #8).

In Ontario, there is a harmonised sales tax (HST), which is a combination of a provincial and a federal tax, and is similar to VAT. Private individuals do not pay it unless they earn more than CAD 30,000 per year. While some hosts of accommodation sharing platforms might exceed this limit, users of other space sharing platforms are unlikely to do so, therefore averting the risk of tax avoidance (Int #14). At the same time, because of the large volume of revenue passing through accommodation sharing platforms, they have started to pay the taxes themselves, administering the municipal tax of 4% automatically and passing it to the guest. This makes the exchange easier for the property owners. If not, homeowners would have to do it themselves, presenting an administrative burden for some small-scale renters. Issues with taxation are not unique to Toronto, but have been observed in our other case cities as well.

4.2.3   ENVIRONMENTAL IMPACTS

The perceived environmental benefits of parking space sharing were voiced by Int #14 who believes that the amount of fuel is reduced as people park in others' driveways and then walk to get further. The miles that were going to be driven by a vehicle are therefore substituted by other means. The environmental impacts of accommodation sharing could be compared to the hotel sector, but almost no estimates are available specifically for Toronto. Generally, hotels might have higher heat and electricity consumption per unit of living space when auxiliary spaces, such as conference halls, receptions/lobbies, corridors, health, food and entertainment facilities, are included. On the other hand, accommodation sharing generates savings for guests, which may translate in other consumption activities, such as more travel, dining out, or entertainment. To fully understand the impacts of space and especially accommodation sharing, a careful analysis of the wider systemic impacts and of changed consumer behaviour is needed.

4.3   Regulatory framework for space sharing and impact on incumbent sectors

The impacts of various sharing platforms on incumbent businesses in Toronto and society at large give rise to various initiatives that aim to create regulations that would level the playing field. This mostly concerns ridehailing and short-term accommodation rental sharing segments. Some of our interviewees mentioned possible negative impacts on the housing market, the hotel and conference industry, or labour conditions. Attempts have been made to regulate accommodation sharing in Toronto, but this has proved to be difficult:

> "*The former government brought in a package of changes to the laws about real estate, which was seen as … an attempt to address the affordability crisis …[since] a lot of housing stock was being taken out of the long-term rental market and put into the short-term rental market …. The city regulations … have been held up by appeals to the provincial [ordinance] which govern some of the uses of real estate and housing. So that's one example of how the city has been constrained in its ability to regulate spaces by the higher level of government.*" (Int #2)

Recently, the City Council adopted a new zoning bylaw concerning short-term rentals, despite an appeal to the Local Planning Appeal Tribunal (LPAT). Currently, short-term rentals are only allowed in principal residences, i.e. where the homeowner lives, where up to three rooms can be rented. The City is currently implementing the bylaw, as adopted by the City Council. It will also introduce a registration system whereby accommodation sharing platforms will have to obtain a license, and homeowners will have to register with the City and pay a 4% Municipal Accommodation Tax. The regulation is to be implemented in phases and, in addition to the registration system, it will also introduce licensing and registration systems (City of Toronto, 2017c).

The new regulation is a result of extensive research and consultation with the public and stakeholders, including non-profit and grassroots organizations. The main arguments were the lack of rental units and high rental prices (Int #7). The wish to protect the housing market from professional short-term rentals was apparent during our interviews.

The stagnating hotel industry was also highlighted as a problem. The Department of Economic Development and Culture wrote a report, "*Ensuring a Robust Hotel Supply to Strengthen Tourism*" (City of Toronto, 2017b), linking the growth of short-term rentals to the stagnating hotel industry in Toronto. The report argued that the stagnation in the number of hotel rooms can be attributed to high costs of operating a hotel, better ROI for other projects, and proliferation of accommodation sharing. Tourism in Toronto has been growing despite the stagnating hotel industry and short-term rentals are replacing traditional hotels – 49% of Airbnb users substituted hotels with Airbnb (Nowak et al., 2015). One interviewee explains this trend:

> "*It's the first time in history … when we've not seen any reinvestment in hotel stock… and we attribute this to the existence of companies like Airbnb, because investors (ask): 'Why would we invest here? We may not actually get the money back and we may just build residential apartments, because they're going to be picked up very fast and then these units turn into a hotel anyway.' … The downtown core has been stagnant – … no new hotel rooms added to the core since 2000. … People say (Airbnb) does have an impact on the hotel industry, because there's a lack of investment. …more and more people apply for hotel zoning and hotel licenses, and they build deliberately short-term rental (properties) and use them as hotel stock with very low overheads.*" (Int #13)

According to the Department of Economic Development and Culture in Toronto, as well as Int #13, hotel workers are being impacted by the growth of short-term rentals, as gig economy work does not offer the same quality of jobs.

4.4 Institutional work

We now consider institutional work, to assess how sharing economy actors are working to shape the space sharing in Toronto (Zvolska et al., 2019). Urban sharing organisations deliberately try to institutionalise new forms of distributing resources, including work that creates or maintains regulatory, normative and socio-cognitive institutions. Institutional work might involve educating stakeholders about the benefits of the new business models, lobbying for favourable regulatory conditions, or creating new coalitions. So far, we have focused on the institutional work of urban sharing organisations and of local governments, but we also include some of the institutional work of a third-party lobby organisations, such as *Fairbnb* and of incumbent companies. Acquisition and creating narratives are two new mechanisms of how space sharing becomes institutionalised in Toronto that have emerged from our interviews.

Lobbying and litigation. One example of how urban sharing organisations use lobbying and litigation in their institutional work is when some citizens appealed after Toronto proposed a new zoning law, and their legal fees were covered by Airbnb. In addition to urban sharing organisations, a number of actors have also been working together to shape a regulatory framework for sharing. For example, Fairbnb and its partners, i.e. housing organisations, tenant unions, residents' associations, housing association boards, small hoteliers, and community legal clinics, lobby against tenant-absent short-term rentals. Some of them have strong bargaining power on a municipal political level, and use it to lobby against short-term rentals to reduce the negative impact they believe these rentals have on labour conditions (Int #13).

> *"The idea … was to put a framework around ... [short-term rentals] and let the rental companies operate within it. ... Rein it back into the sharing of ones' home, rather than running ... an illegal ghost hostel business. … … if you and I want to rent out a place while we go away on vacation we should be allowed to do so. But we should not be allowed to buy up, lease out... or ... use properties that are ... planned, zoned, billed as residential properties as hotel inventory." (Int #13)*

Creation of narratives. In order to present strong arguments, all parties involved in the development of accommodation sharing engage in the creation of narratives. This can be a powerful mechanism to form and shape the sharing economy in the desired trajectory. For example, some urban sharing organisations might emphasise the positive aspects of resource sharing, such as economic and social benefits. Opponents focus on the negative impacts. The creation of narratives, often facilitated by the media, has become an important part of legitimacy creation among sharing economy actors. For example, when Airbnb emerged in Toronto, little was known about its potential negative impacts on the citizens (Int #13). Fairbnb has engaged in institutional work by drawing attention to the negative sides of short-term rentals:

> *"I think because of the unique situation in Toronto where people are suffering in the housing market, we were able to … frame the narrative in a different way, where we could show that there's a relationship between ... rising rents, decreasing levels of vacancy rates and the growth of the commercially-used residential units… we were also able to [show this to] Airbnb …, because Airbnb says: 'We are here to help ordinary people make ends meet.' But the research ... (says) the revenue comes from those that are high volume hosts with multiple, dozens and dozens of listings and that's where their revenue comes from."*
> *(Int #13)*

Acquisition. Sharing companies might be acquired by larger, incumbent companies. Being backed by a large-scale organisation that is already embedded in institutional structures is likely to increase legitimacy of the shared business models. This phenomenon has already taken place with other sharing economy business models.

> *"I would say, we'll probably end up getting acquired, if it keeps up at this pace because there's other bigger parking companies that are now starting to see that there's a need for this kind of distributed sort of model of parking. (…) There's actually quite a few companies that are interested in taking this (…) piece of their portfolio." (Int #14)*

Previously, we have also seen examples of sharing economy companies acquiring other sharing economy companies to gain access to their user base. In Toronto, we discovered for the first time a sharing economy company that acquired an incumbent business. The creative space platform Spacefy acquired an established filming locations company called Toronto Film Locations, which had been on the market for around 20 years.

Imitation. Imitation of other sharing economy business models leads to a multiplication of sharing organisations. For example, Airbnb served as a role-model for Rover.

> *"Airbnb was really starting to get notoriety, I started to use it when I travelled, I use[d] it here in my own home … my gut feeling would (…) tell me that this idea of taking an asset that you already own and being able to monetise it is going to take off (…). There's going to be other areas that are going to be utilising the same business model, whether it's your home or assets that you own. And (…) seeing all these driveways sitting empty in sort of conjunction with or in comparison to these parking spots that were being monitored and ticketed... It (…) was almost a visual kind of epiphany that parking is going to be one of the big next things for this." (Int #14)*

Rover has also engaged in many discussions with other a number of other companies in an attempt to collaborate. They have held negotiations with both traditional and sharing companies both within the mobility sector and beyond.

5   MOBILITY SHARING IN TORONTO

The city of Toronto has a well-developed network of public transit services within the Greater Toronto and Hamilton Area (GTHA). Today it averages about 6 million trips per day within the city and up to 10.62 million including GTHA (Malatest, 2018). Cars still comprise the largest proportion (57%) of daily trips, while public transit accounts for about 30% of all trips. About 15% of daily trips are by walking and biking and the rest (approximately 2-3%) by other means of transport (Malatest, 2018).

A growing proportion of daily trips are now covered by various ridehailing services such as those provided by Uber and Lyft. There are not many statistical records detailing the magnitude of ridehailing service in daily mobility in Toronto. According to some unvalidated sources, private transportation company trips (e.g. Lyft/Uber) count for about 3% of trips that originate in the City of Toronto.

However, economic forecasts for Canada indicate that nationwide revenues of ridehailing services will reach CAD 1.96 billion dollars in 2020, with an expected annual growth rate of 12% (CAGR 2020-2023). User penetration in 2020 is expected to reach 21% and growth to 26% by 2023. The average revenue per user currently amounts to USD 251 (Statista, 2019b).

Cars. Although Torontonians make 57% of their daily trips using cars, car ownership is showing a downward trend. Households owning zero cars increased by 5% from 2011 to 2016 and, in the same period, there was a reduction in households that owned 1 and 2 vehicles by 1% and 4% respectively (Malatest, 2018). This is mainly due to increasing car ownership costs in the city, mainly due to the costs of parking. Another factor is the availability of public transit and increasingly – ridehailing services, which are sufficiently convenient and inexpensive options for commuters within the inner city. Commuters in the GTHA area, however, more reliant on private vehicles and public transit.

There are several business models for car sharing organisations operating in the city. There is peer-to-peer and business to consumer companies offering car sharing or ride share. Although there are not many statistics available that measure the penetration of one business model or the other in the market, there is a perception that ridehailing has been more successful than car sharing due to regulations around

parking spaces (Int #10). The following table shows the main companies offering shared car mobility in Toronto:

Model	Company	Design	Segment	Assets ownership
Car sharing	Turo	Station-based	P2P	Private cars
	Communauto	Free floating	B2C	Commercial fleet
	Zipcar			
	Enterprise CarShare	Station-based		
	Options for cars			
Ride share	Kangaride		P2P	Private fleet
	SmartCommute		B2C	

Due to a change in city regulations regarding parking spaces of shared vehicles, one of the companies that offered free-floating car sharing, car2go, decided to shut down its operations in the city (Int #7).

A special mobility solution in Innisfil

Innisfil is a town in Ontario, north of Toronto, with approximately 36,600 residents. The town had an underdeveloped public transit system and was looking for an affordable solution. A decision was taken to enter into a contract with a ridehailing platform, Uber, and subsidise rides for the residents and visitors (Int #5).

Citizens are generally happy with the quality of the services and the overall effect on the availability and convenience of transit services offered by the flat-rate Uber rides instead of public transportation. However, since the town subsidises each ride, the more successful the scheme is, the more it has to pay to Uber. For 2019, it was projected that the total cost for the town would reach CAD 1.2 million, which is more than the bus programme would have cost. This cost is also above the allocated budget of CAD 0.9 million (Pentikainen & Cane, 2018). The town has implemented various measures to gain more control over the costs of the service, including capping the total number of subsidised rides and reducing the subsidies for different zones. The measures so far seem to be effective in slowing the growth of the town's expenses (HDR, 2018).

Bicycles. The bike sharing market is dominated by business to consumer companies. The main company, Bike Share Toronto, is owned by the City. This company was launched in 2011 with 5,000 bikes and 465 docking stations, and is subsided by the city. The bikes are available 24 hours, 365 days a year. Over a million trips were taken by bike in the first 18 months of this bike sharing programme.

Dropbike is the only free-floating bike company in the city. There have been various attempts in the past to make this scheme work and grow, but the business side did not work out. According to one of our interviewees (Int #2), the main barrier to growth is the existing shared bike system offered by the city, which largely covers the existing (still rather marginal) demands.

The City envisions that bike sharing can be a solution for the first and last mile travel. It has tried to strengthen the available infrastructures, such as bike storage and parking. Over 17,000 bicycle racks are installed across Toronto – more than any other North American city. The city also has Toronto's Union Bicycle Station, a high-security bicycle parking facility that helps transit users travel their final mile into Toronto's core. New zoning by-laws and developer guidelines require all new buildings to provide secure bike storage (City of Toronto, 2015). However, regardless of these efforts compared to other global cities, the biking culture in Toronto is not the strongest. This is largely because biking as a transport option is still a recent trend, and some basic infrastructure such as dedicated bike lanes is still underdeveloped. Many streets in the city centre are comparatively narrow, and developing bike lanes clashes with the need to widen the streets to reduce vehicle congestion while still accommodating pedestrians (Int #9).

Scooters. Electric scooters are not yet allowed in Toronto, but there is an ongoing debate about this option as part of the public transit system, especially for the first/last mile travel. The province of Ontario started a five-year pilot scheme to analyse how scooters might work, but the municipalities are able to decide if they will allow them on their roads. So far, the city of Toronto is reviewing experiences (e.g. accidents, littering, congestion) in other North American cities before permitting shared e-scooter services to operate (Int #2).

5.1 Drivers and barriers to mobility sharing

Shared mobility in Canada is an emerging trend driven partly by the attractiveness of carless lifestyles, the relative cost advantages, and convenience of ridehailing and similar services, as well as gaps in public transit services in some cities and regions. In Toronto, with its relatively well-developed public transit system, the gaps are less pronounced, although some suburbs are underserved by the existing public transport system and the residents are more dependent on private cars or ridehailing services, especially to cover the first and last mile (Int #7).

Growing congestion and the climate emergency that the City has recently declared could also be stimulating the growing interest in shared mobility. Traffic congestion and commuting times here rank as sixth worst in the world (Hanstke, 2018). According to Statistics of Canada, in 2016 about 11% of commuting trips by cars took 60 minutes or longer (Statistics Canada, 2019a).

Commuting bottlenecks, aggravated by relentless population growth, open up opportunities for increasing the City's support to solutions, cycling or car sharing, that reduce the number of vehicles on the roads. In general, active ways of travel (walking,

biking) are preferred by the government (Int #10), and promoting cycling is seen as a means to address the declared climate emergency (Int #7). At the same time, there is a perception that the support that the shared biking scheme has received is not promoted by the politicians but by the citizens (Int #7). Ridehailing services might also have a positive impact on reducing private car ownership and reducing commuting times, although impacts on road congestion are not clear (Int #2).

So far, the growth of car sharing services in the city is limited. An important factor here are high costs of parking and the City's restrictive parking policy on issuing parking permits for discounted locations. Parking costs are especially crucial for commercial free-floating sharing platforms. Recent changes by the City on parking regulations for vehicles in free-floating car sharing schemes have resulted in one of the global platforms, car2go, shutting down its operations in the city (Int #7).

There is little consensus among, for example, city officials and researchers on whether or not car sharing is effective in reducing traffic congestion (Int #5). Car sharing is effective only in cases when car ownership falls and there is a shift towards car-free lifestyles. Even though literature reports one shared car replacing anywhere between 5 to 13 private cars in different cities, any palpable effect on street congestion would be felt only if car sharing becomes more than a marginal practice by niche consumers.

Another limitation for car sharing seems to be related to administrative and market entry barriers for car-sharing companies. Business viability often requires a simultaneous roll-out of a large number of vehicles, which might be challenging for smaller local players. The arrival of large multinational car-sharing companies might, on the other hand, be deterred by the specific local regulatory landscape in the city. Economic and market entry barriers make it hard for small car-sharing companies to survive (Int #10).

5.2   Sustainability impacts of mobility sharing

Perceptions vary on the sustainability impacts of shared mobility solutions in Toronto, but very few studies quantify these impacts and how they change over time. In this section we consider the perceptions that we came across in our field work and also refer to impacts studied in similar cities.

5.2.1   SOCIAL IMPACTS

Car sharing could potentially bring certain social benefits, such as car access for carless households or an additional income for peer-to-peer sharers. However, the

extent of such benefits in Toronto is difficult to estimate due to the lack of empirical data and the marginal scale of car sharing.

Ridehailing in the city is on a much bigger scale. It provides an additional income to low-income or unemployed drivers. A 2019 study on transportation impacts of vehicles-for-hire in the City of Toronto estimated that the number of daily trip s by private transportation companies (PTCs) increased from 62,000 (Sep 2016) to 176,000 (Jan 2019), which is about half of that of Chicago, a city with comparable population. The number of licensed PTC drivers (both active and passive) in Toronto can be as high as 80-90,000 (Int #12). A possible positive effect is that the magnitude of ridehailing services might be effective in deterring car ownership. A large proportion of people using ridehailing services are young persons with a driving licence and transit pass but not necessarily a car, thanks to Uber or Lyft (Int #12).

Some interviewees drew attention to potentially poor working conditions, very little social protection, a relatively low rate of hourly income, and potentially long working hours if someone needs to generate sufficient income for their livelihood. One interviewee suggested that the income of ridehailing drivers could be below the minimum wage (Int #7). The City and the provincial governments seem to acknowledge such concerns, but entering into a discussion about the issue does not seem to be high on their agendas (In #10).

The City of Toronto completed an economic impact analysis on transportation in 2019, in which, according to a self-reported survey, taxicab drivers stated that the average hours of driving per week has remained stable since the introduction of private transport companies (PTCs), but the average driver earnings per week and average number of trips per week continues to decrease (by 4.3% and 7.5%, respectively), indicating a relative decrease in earnings per hour (BDIT et al, 2019). However, employment standards, including minimum wage, are governed by the provincial government. The City does not have the authority to restrict or limit an industry in order to raise the minimum wage of its workers.

The general public in the city seem to be content with the arrival of ridehailing platforms. Convenience and affordability are the prime reasons for the soaring demand. At the same time, there are concerns that ridehailing might be contributing to congestion and diverting riders from public transit. Some claim that drivers of ridehailing use the bicycle lanes to park their cars and generate chaos (Int #10). The City gained access to data from Uber. According to the latest transport impact study (BDIT et al, 2019) in 2019, the introduction of PTCs in Toronto has not conclusively increased travel times on downtown streets and changes in transport congestion are within normal year-to-year ranges. Between October 2017 and March 2019, downtown travel times on major streets have increased by 4% in the morning peak

hours (7 a.m. to 10 a.m.), and decreased by 1% in both the afternoon peak period (4 p.m. to 7 p.m.) and on Friday and Saturday nights (10 p.m. to 1 a.m.).

5.2.2   ECONOMIC IMPACTS

Shared mobility can generate economic benefits for some actors. However, while ridehailing drivers get additional income, taxi drivers are affected negatively due to a shrinking customer base and falling prices (Int #5).

The income of ridehailing drivers depends on the number of hours they work and their skill at efficiently sourcing the rides. According to our few conversations with Uber or Lyft drivers, a 4-5-hour daily engagement including somewhat longer hours on weekends could bring an additional income anywhere between CAD 200-400 per week. These numbers are not reliable, and indicative at best, as they are based on estimates by a handful of drivers.

Toronto has received some investments from the shared mobility firms (Int #10). Uber, for instance, has started a self-driving hub in the city, investing CAD 150 million, and Didi is also opening a second research lab in Toronto (Int #10). At the same time, there could be some potential economic losses for the city if ridehailing reduces the number of people using the transit system.

According to the economic impact study (BDIT et al, 2019), with the arrival of PTCs, there has been an overall increase in economic valuation from $363.5 million (2011) to $503.2 million (2016) in the vehicle-for-hire industry. The combined total consumer surplus for all taxicab and PTC users increased from $255.7 million to $368.6 million in the same period, which is mainly attributable to the entrance of PTCs in 2012 and their role in making the Toronto vehicle-for-hire market more competitive. The added consumer surplus means that consumers benefited from the entrance of PTCs by paying less for a vehicle-for-hire trips.

The introduction of PTCs has raised relevant questions regarding fairness in residents' access to mobility, such as an unintended financial burden for some of the City's poorest and most vulnerable residents, since PTCs play an increasing role in filling gaps in mobility and accessibility. According to the recent impact study by the City (BDIT et al, 2019), PTCs have clearly increased mobility options and are providing a service that residents are using with increasing frequency across the City, which may suggest lower social impacts than may be expected.

5.2.3   ENVIRONMENTAL IMPACTS

Although there is a perception that there are more cars on the roads due to greater shared mobility, such as ridehailing services, little is known about the emissions. Overall, according to several interviewees, the City of Toronto has committed to

monitoring both ridehailing contributions to road congestion, and greenhouse gas emissions. City staff are currently exploring possible incentive-based approaches to reduce emissions from the vehicle-for-hire industry and support Toronto's climate action goals

A study conducted by MaRS reported a reduction potential for road transport-related emissions in a scenario where a certain shared mobility scheme would be implemented in GTHA. The estimated reduction was 588 tons CO_2-eqv. over a five-year period (MaRS, 2016). However, the City has declared a climate emergency, so it has expressed a preference to incentivise active modes of transport, such as biking and walking.

We were unable to gather sufficient information regarding the environmental impacts of specific shared mobility solutions in Toronto. Based on several interviews (Int #12, #Int17), there seems to be some shared understanding that travel in a car is worse for the environment than travelling on public transit, but better than car ownership. In shared mobility solutions, the existing cars are utilised at a much higher rate, reducing the need for parking spaces and reducing car ownership among certain user groups if their carless lifestyle becomes feasible.

In September 2018, PTCs in downtown Toronto made up 5-8% of total traffic. On Sep 13th, 2018, PTCs made 149,000 daily trips accounting for ca. 1,230,000 VKT (vehicle-kilometres), which was estimated to be 1.9% of the total 67,200,000 VKT travelled in Toronto on this day. Based on the survey conducted by University of Toronto Transportation Research Institute (UTTRI) with 723 valid responses, the second-choice alternative for 41% of PTC trips would be driving or taking a taxi. This means that 59% of this VKT, or 726,000 VKT per day could be considered new VKT due to PTCs (BDIT et al, 2019).

Shared mobility options might be an effective complement to public transit, especially addressing the needs for certain travel purposes at certain times or filling the first/last mile transit gaps. Travel by PTCs in Toronto is made up of mostly short distance trips, with almost 50% of trips being less than 5 km and over 70% less than 10 km. Meanwhile, only a quarter of overall PTC trips use shared ride services (BDIT et al, 2019).

PTCs in Toronto are competing with transit services, but are also are filling gaps in public transit service (BDIT et al, 2019). An integration of public and shared mobility solutions in a single system based on concepts such as "mobility as a service" (MaaS) could become an environmentally beneficial solution for any city aiming to reduce the need for private cars.

5.3   Impacts of mobility sharing on incumbent systems

As in many other cities in the world, in Toronto there was noticeable friction between shared mobility platforms and taxi drivers, as the latter are heavily outcompeted by ridehailing services. Several demonstrations have been organised during 2015-2016 by taxi drivers at the time when the City was determining if Uber should be licenced. The protesters were showing their discontent over what they regard as unfair playing conditions. In response, the City has tried to level the playing field by changing regulations for both taxis and shared mobility drivers. Certain standards and requirements were introduced for the latter, and some requirements simplified for the taxi industry (Int #2).

Another incumbent business that has reacted to the expansion of shared mobility services are car manufacturing companies. On the one hand, they might experience a drop in car sales, but on the other, it offers an underexploited business opportunity to market their brands. Several automotive manufacturers have started acquiring some of the shared mobility companies and adapted their business models so that customers can rent cars from their brand (Int #14). This is not unique to Toronto and is taking place globally.

5.4   Regulatory context and institutional systems for mobility sharing

The City of Toronto has come a long way in regulating shared mobility. One of the aspects that has changed are the requirements for taxis and for ridehailing companies. There was a need to modernise the requirements for taxi drivers and to regulate companies such as Uber or Lyft, but this did not mean that they have to comply with the same requirements (Int #5). Some specific regulations differ between taxi and PTC (rideshare) industries due primarily to differences in business models. One important reason to regulate shared mobility companies is to guarantee accessibility for citizens with disabilities to this service (Int #10).

> "*I believe that ridehailing policy is one of the most dynamic forms of urban policy that we see because of how rapidly it's changing, and because of the impacts that the industry sort-of causes.*" *(Int #10)*

Other aspect that has been regulated and causes considerable polemic is the parking permits for car sharing companies. The City decided that, due to the lack of public parking spaces, each free-floating car sharing company could have up to 500 parking permits. The city would have a total of 2,000 car sharing parking permits. The new regulation affected the operations of car2go because they would need people to move cars around Toronto to ensure the cars were parked in the permitted areas. Another issue is that the rules about parking permits are not homogeneous in the city. Each of the city's 36 boroughs can decide how and if they will adopt these new regulations (Int #9). This complicated the car2go operations, so it abandoned the city.

The fact that each borough can decide whether or not to adopt some regulation that the City wants to promote has not only impacted the development of car sharing but also bike sharing. Although the city promoted bike sharing, the infrastructure has not been developed because the roads are not owned by the City. Each borough can decide if they will build bike lanes.

5.5   Institutional work of USOs

Organisations have used different strategies to institutionalise shared mobility. One is how they present themselves to the consumers and the City. In our interviews, we came across a marketing argument that approached younger consumers in the city centre who need a car occasionally. The car sharing organisations showed that it was practical to use their service instead of using the traditional rental service (Int #7). The shared mobility organisations compare their service to the existing ones, and present themselves as a better option that is more sustainable, although there is little evidence to support this statement (Int #10).

Another strategy is to ask their users to contact the City and advocate for them; this was the case with car2go. When car2go was moving towards shutting down, they asked their customers to tell the City that they liked their service. There are also inter-industrial collaborations that can help shared mobility become institutionalised. This is done by linking companies and helping them to use the available resources in a more efficient way. One option could be to use the empty parking spaces for shared cars when these cars are not using them (Int #14).

6 SHARING PHYSICAL GOODS IN TORONTO

The sharing of physical goods in Toronto could be described as quite marginal in comparison to the use of Airbnb and Lyft/Uber. In our estimation, these platforms seem more institutionalised, as they serve a greater role in providing added income and filling the gap of public transportation. In contrast, platforms that facilitate sharing of physical goods have to compete on price and convenience with more traditional forms of consumption, with limited success.

A handful of platforms facilitated consumption practices relating to the sharing economy in general. However, we only looked at platforms that facilitated access, a criterion of our investigation, so we excluded those that facilitated transfer of ownership.

There were several examples of platforms that facilitated access in Toronto, many of which were no longer operating. For example, Kiinzel, Skipping Gem, and the Kitchen Library were operating in 2013-2015, but have since closed. Lendora was another platform operating in Toronto, now closed, that promoted itself as a lending and borrowing marketplace for friends. Its goal was to make it easier to share than to buy new things.

Much of our findings therefore pertain to the cultural and contextual barriers for the sharing of physical goods. Of those platforms still operating, much of our focus is based on our experience with the Toronto Tool Library. However, the Toronto Tool Library is also facing its own challenges. While this chapter reflects on the drivers and barriers of sharing of physical goods in Toronto, we will also briefly reflect on our experience when seeking to understand the sustainability impact as well as the impact on incumbent businesses in Toronto. Finally, we reflect on the regulatory context that hinders, supports, or is neutral to the sharing of physical goods, and the ongoing as well as potential work of sharing platforms to institutionalise in the Toronto context.

6.1 Drivers and barriers in relation to sharing of physical goods

From our experiences in Toronto – and similar to other North American cities – there is more of a culture of consumption than may be the case in other global urban contexts. People are generally affluent, with the ability and the pressure to consume new goods rather than considering to access shared goods. There are too many institutionalised barriers for sharing platforms, and high transaction costs for their users.

Space is a limiting factor for those platforms where ownership of the asset rests with the sharing platform (e.g. Toronto Tool Library, FreshRents). This would be the case in any urban centre, but especially in Toronto where there is a housing crisis and high real estate costs. The Toronto Tool Library operates in three locations around the city. They were asked to leave their first location and now have a new site with 3,000 ft^2 (280 m^2) of space. This location is housed at and partly subsidised by the Centre for Social Innovation, so this relationship is essential to the availability of space and the continued operation of their service. Clothing rental platforms face similar challenges:

> *"The fashion library really struggled because they couldn't serve everyone. It's hard to know what sizes of stuff are needed or how many people would come through. You need a huge inventory and a ton of space. Honestly, part of the battle is storage. The tool library is 3000 ft^2 right now but they're packed to the brim. There's no part of that space that's not being used. They've got tools up to the ceiling. Square footage is expensive, especially in the downtown city. So, if you're trying to store things, you're already paying such a high cost that to create a membership model is difficult. It's tough to find a way to make enough money really to make up for the cost of square footage." [Int #11]*

Access to adequate space is also a barrier for sharing platforms that do not own the assets. There was indication that food swapping events or Really Free Markets also compete for space, requiring a permit to be in a public space or the permission of

commercial property owners. Both approaches can be difficult and onerous, especially for those without previous knowledge or experience of the process of acquiring the necessary permissions. Access to space appears to be a strong barrier to sharing in Toronto.

Access to capital is also a barrier faced by sharing platforms for physical goods. Any sharing platform either needs to develop a viable business model, often based on membership or transaction fees, or rely on available grants or other tangible forms of support. Our interviewees indicated that both these were difficult in Toronto. Many platforms have closed because they could not develop viable business models. One interviewee told us of a platform that shut down overnight because they did not secure a grant they were counting on.

While access to capital is one aspect of viability, a committed and passionate team is also vital. The success of sharing platforms is often based on one or a group of champions but, when capital cannot compensate for a person's time, people must balance the work of the platform with earning a living.

Tension between the platform and its users over the future direction of a platform can erode trust and support. While in Toronto, we learned that Bunz is facing some challenges aligning visions of its stakeholders. Bunz describes itself as "a trusted community where thousands of people meet every day to trade everything from clothing and furniture to houseplants and haircuts" (Bunz, 2019). What started organically as a grassroots initiative to build stronger and more sustainable communities has now evolved into a profit-seeking firm. This has caused tension between the business end of the platform and its community moderators.

As platforms scale up and seek to become more institutionalised, they face the challenge of remaining economically viable while adhering to their founding principles, often altruistic. Altruism is certainly a driver of physical goods sharing in Toronto. Those we interviewed expressed the need for sharing platforms to reduce the environmental impact of our consumption and improve social cohesion in communities. Toronto City Council has declared a climate emergency (Rodrigues, 2019) and the sharing of physical goods may help the city reduce its carbon emissions.

The Toronto Tool Library is facing its own pressure to be economically viable. Like other sharing platforms for physical goods, its users only represent a small proportion of the population. Transaction costs are still too high for users to engage in these platforms. Part of this is access to information – awareness that these platforms and services exist. Another aspect is convenience. With only three locations, the Toronto Tool Library serves its local communities, but people must be committed to the cause to go out of their way to access goods if they do not live nearby. Quite simply, it is still more convenient to buy new than to rent, borrow, or access shared goods.

Platforms need support to overcome these challenges. Cities must enable platforms that deliver environmental and social value, but not yet economic value. Space must be made available for platforms that is consistent and reliable, to ensure sustained support among users. Insurance models for the sharing of physical assets can ensure we all stay friends, even if there is an accident. Toronto has some way to go in overcoming these barriers, but the City acknowledging the climate crisis can be an impetus to encourage municipal and business actors to do more to promote a sharing economy for sustainability.

6.2   Sustainability impacts of sharing physical goods

In this section, we review the motivation and perception of the sustainability impact of sharing physical goods. The focus will be on the Toronto Tool Library as one of the few platforms still operating.

6.2.1   SOCIAL IMPACTS

We experienced several activities associated with the Toronto Tool Library and observed a strong social community. People expressed a sense of belonging to a community that did not judge the diversity of the community. They were able to learn new skills either by using the available tools themselves, taking advantage of the makerspaces, and learning from others in the community.

One aspect that stands in contrast to a simple tool rental programme is that many of the tools are donated to the Library. These tools are often donated from the estate after someone dies, providing an opportunity for family members to see their loved-one's legacy live on through the donation.

The Toronto Tool Library also partners with other local initiatives, including repair cafés, run within their own community spaces.

6.2.2   ECONOMIC IMPACTS

The argument is that people can access shared items for less money than buying new items. However, this could not be seen in our investigation of sharing of physical goods in Toronto, probably due to the small number of platforms and limited usage. These platforms do not seem to be more convenient or cheaper than traditional consumption practices, limiting the direct economic impact of these platforms.

6.2.3 ENVIRONMENTAL IMPACTS

New research is emerging, studying the sustainability potential of sharing platforms. In a recent study, a life-cycle assessment demonstrated a reduction in greenhouse gas emissions across various sharing platform business models (Amasawa et al., 2019). The environmental potential of the Toronto Tool Library is through reducing net consumption by facilitating access to tools. As many of these tools are donated, the Library prevents the discarding of tools that might otherwise have been thrown away, extending the product lifetimes. The Library has been visible in the community at waste drop-off points, with permission to save tools from being thrown away that could be fixed. Some of these tools require repair, which are done by members, again extending the lifetime of products as well as providing an opportunity for members to learn repair skills.

6.3 Regulatory context and institutional systems for sharing of physical goods

There appeared to be very limited regulation around the sharing of physical goods. It seems that the city would only regulate these platforms if they were posing a threat to public or consumer safety.

However, for example, the Toronto Tool Library has found a partner in the local solid waste management authority. Through collaborative efforts, the Library has received funding for specific initiatives. In addition, the waste management authority has proposed a strategy, which includes promoting sharing and swapping events.

While a single authority may see the potential of sharing platforms to contribute to their remit, a coordinated and strategic effort to provide tangible support is lacking, beyond goodwill.

6.4 Institutional work of USOs

There is limited data and experiences to draw from, so it is difficult to describe the institutionalisation work being undertaken by sharing platforms facilitating the sharing of physical goods. However, one anecdote to share is the use of a support organisation to legitimise a sharing platform. For example, we met with and toured the Centre for Social Innovation. Our impression was that their members benefit from belonging to the Centre as it is a legitimising organisation, which supports platforms' efforts to secure funding, partnerships, and/or users.

The Toronto Tool Library hosts fundraising events, engages in outreach, and advertises at public transport stops around Toronto, in an effort to legitimise and raise awareness of its efforts. However, this legitimisation is more focused on using its services as opposed to a broader institutionalisation of the sharing of physical goods.

7   THE ROLE OF THE CITY IN GOVERNING SHARING ORGANISATIONS

The City of Toronto has been a member of the Sharing Cities Alliance since 2017, but lacks a citywide agenda on the sharing economy. In 2018, the Ontario Ministry of Finance developed *The Sharing Economy Framework* and produced *The Home Sharing Guide for Municipalities*. These documents have never been implemented, due to the change of government after the 2018 general election in Ontario.

The municipal *Long Term Waste Management Strategy*, *Resilience Strategy* and climate emergency, which was declared in October 2019, put climate change, growing inequalities, zero waste and circular economy on the municipal agenda. However, we could not identify any clear links between these policies and the sharing economy. According to researcher, the City of Toronto and the Ontario Provincial Government seem to demonstrate a mainly reactive approach and little strategic coordination in response to socio-economic and environmental outcomes of the sharing and the platform economies in the city (Int#6).

> *"…[I]t does tend to be a little bit more reactive. … we don't really get into regulation until there is a problem that we think might emerge… The regulations are fairly hands-off, especially when compared to a few other parts of Canada." (Int #6)*

At the same time, the key motivation for the City of Toronto, and its Municipal Licensing and Standards (MLS) division in particular, to engage with the sharing economy is based on whether these new activities pose any public risks. In other words, public safety, consumer protection, and community nuisance are the overarching principles underlying all actions towards the sharing economy by the MLS.

The MLS is the main division at the City of Toronto working with the sharing economy. Its key tasks in this regard encompass regulating short-term rentals and the "vehicle-for-hire" industry, which includes taxicabs, limousine services and private transportation companies (ridehailing platforms, such as Uber and Lyft). The MLS is also working with other City divisions to investigate the introduction of e-scooters in Toronto including their potential to fill in the last mile for multi-modal trips and in this way substitute a private car use. The Transportation Services specifically leads the work on exploring locations for e-scooter placement in the city.

As mentioned earlier, the primary goal and mandate of the MLS is to ensure public safety and consumer protection through regulation and licensing, so its focus is primarily on commercial forms of the sharing economy in accommodation and mobility sectors while it does not engage with non-commercial sharing of physical goods:

> "*I think, early on, we tried to have a sense of what the landscape looked like. Several years ago... 2015... we met the folks behind the Toronto Tool Library and there were a lot of different business models that were popping up. And, then occasionally, the question of whether MLS needs to be involved or the City needs to be involved at all would come up. We would consider it and decide based on what we think the risks are associated with that activity… I think it really... clarified what the City's role should be. And, because we don't necessarily want to stand in the way of something like the Toronto Tool Library..." (Int #16)*

In total, around 100 people work with the sharing and platform economy at the MLS, including managers of different ranks, IT support and frontline staff, who enforce regulations (Int #16). We met five officials working at the MLS, and our impression is that the division has dedicated and highly competent personnel working with licensing short-term rentals and shared mobility.

Another municipal division working with the sharing economy is Transportation Services, whose tasks include issuing parking permits for free-floating car sharing organisations. However, our several attempts to interview personnel from this division were unsuccessful. The Innovation Office and Planning and Development

were mentioned among municipal divisions whose activities are relevant for sharing economy practices (Int #16), but we were unable to interact with representatives from these divisions.

The City of Toronto does not engage directly with the sharing of physical goods, as we found no municipal support for non-profit or community-based sharing initiatives.

The presence of knowledge institutes that inform local and regional policy-making on the sharing economy has been positive for the development of the sharing and platform economy in the city, and its regulation in particular. For example, since 2016, research by the MaRS Solutions Lab and the former Mowat Center at the University of Toronto has informed municipal and provincial governance of urban sharing in the city.
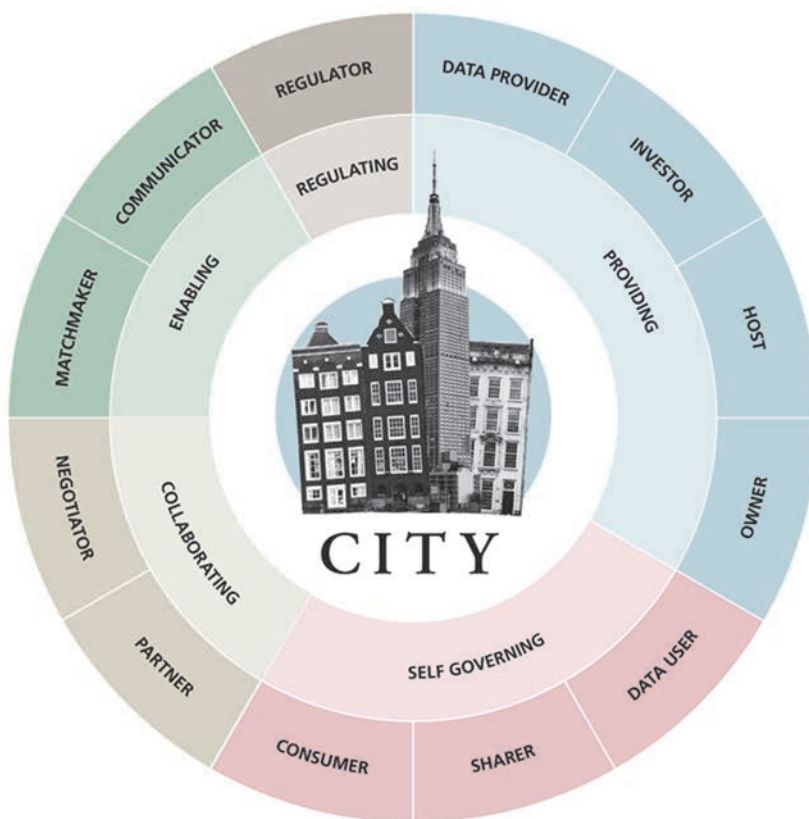

Figure 6. City roles and governance mechanisms in urban sharing (Voytenko Palgan et al., 2019).

The Sharing Economy Today is a network organisation that spreads awareness of the sharing economy in the city for those interested, and connects sharing economy actors. However, communication between the City of Toronto and the Sharing Economy Today has been limited (Int #14).

In our research, we have developed a framework for how municipalities govern the sharing economy (UrbanSharing, 2019). We distinguish between five key governance mechanisms, which include 12 governance roles. These mechanisms include regulating, self-governing, providing, enabling and collaborating (Figure 6).

Municipal governments can employ any of the five mechanisms and combine them in various constellations when dealing with various governance issues (Zvolska et al., 2018). The roles could explicitly or implicitly promote or inhibit the emergence and operation of urban sharing organisations. In the next section, we present our data on how the City of Toronto is governing urban sharing using this framework.

7.1   Regulating urban sharing organisations

City governments often regulate urban sharing through the mechanisms of enforcement and sanction, using regulatory tools such as laws, taxes, bans and policies to govern the establishment and operation of USOs. In this way, cities may constrain the sharing economy, encourage emergence or spreading, or support certain types of sharing organisations (Brail, 2018).

Regulating governance mechanisms and '*the regulator'* role is the most prominent method in Toronto.

> "*[T]he regulation is there to enable the companies to work in the city legally." (Int #16)*
>
> *"Essentially in 2016... [Uber and Lyft] didn't have a licence and they were effectively operating a vehicle-for-hire, which existed in the form of taxis and limos, they were illegal. … by giving them a licence class and …bringing everything into this "vehicle-for-hire" umbrella [enabled] them to continue [operating]." (Int #6)*

The City of Toronto primarily regulates short-term rentals and ridehailing services, represented by large multi-national platforms (e.g. Airbnb, Uber, Lyft). These organisations have arguably contributed to exacerbating some of the city challenges, including housing shortage, hotel industry stagnation, and greenhouse gas emissions.

> ❝ *At the city level... there's a big focus on Uber and Airbnb, and that makes sense because it's important to regulate these businesses getting there. Given the impacts that they're having on employment standards and also on sustainability and transit use as well." (Int #7)*

One common challenge in regulation is when the platforms oppose this by arguing that, since they do not have a physical office in a city, their operations should not be subject to local regulations. The MLS holds a strong position on this, stating firmly that their division definitely can and wishes to regulate such services:

> ❝ *With our very strong legal team, we've been able to say: "we can absolutely regulate you, if you don't have an office here, we're going to make you have an office here as one of our regulations. It doesn't have to be an office, but you need somewhere that we can mail you your ticket or your notice or whatever we're going to send to you". So, I think sometimes, depending on the authorities and the jurisdiction, it takes a courageous legal team or courageous leadership to really put their foot down to say, "we're going into this" and not say "we can't." (Int #16)*

Due to rapid urbanisation, Toronto is facing a challenge of housing affordability and availability, which has grown in the past few years (Int #6). Since short-term rentals are seen as contributing to this challenge, multiple divisions at the City of Toronto regulate rental platforms and renters using three main regulatory approaches: zoning, registration and licensing, and taxation.

Zoning concerns the operation of short-term rentals in a residential setting, which is seen as a zoning infraction (Int #6). Hosts will be required to register with the city. No zoning permit required. The City requires short-term rental companies (platforms) to become licensed with the City, and operators (hosts) to become registered with the City. Licensed companies must pay a one-time CAD$5,000 licence application fee, plus CAD$1 licence fee for every night booked on the company platform (City of Toronto, 2017c). Residents can register their property for 50 Canadian dollars and obtain a registration number that they are required to include in listings on company platforms (Int #6). Only principal residences are allowed to be used as short-term rentals (Int #6). The third regulatory approach is taxation. Operators (hosts) are required to pay a 4% tax on their short-term rental revenues.

> *"…We want to make sure we have adequate regulation over the industry while also enabling those people who want to actually share their homes and rent it out on a... short-term basis... enable that, facilitate that, while with the proper regulations in place, while containing or preventing from commercial operations from happening"*
> *(Int #16)*

The requirements discussed above are contained in the Licensing and Registration of Short-Term Rentals By-law (Toronto Municipal Code, 2018a), which is built on top of more general pieces of regulations at Ontario Province level including The Residential Tenancies Act and The Condominium Act. During our mobile research lab in Toronto in November 2019, the Local Planning and Appeal Tribunal upheld the City of Toronto zoning bylaw amendments related to short-term rentals. It thereby rejected an appeal from the owners of multiple appellants, who argued that it was not clear nor easy to distinguish between short- and long-term rentals and thus it was unclear to who and how the taxation should apply (Int #6). The regulations, which the City will gradually implement in 2020, (apart from the ones discussed above) allow hosts to rent up to three bedrooms in their principal residence for an unlimited number of nights per year (short-term rental is defined when rental is less than 28 days) or their entire home for a maximum of 180 nights per year (City of Toronto, 2017c).

Figure 7. Typical view in Toronto central area

MLS also regulates vehicles-for-hire, such as taxicabs, limousines and, since 2016, private transportation companies (ridehailing platforms), such as Uber and Lyft. The regulations are stipulated in the Vehicle-for-Hire bylaw (Toronto Municipal Code, 2018b), on top of more general legislation at Ontario Province level – The Highway Traffic Act, which regulates e-scooters as well.

The regulations of vehicles-for-hire were then updated in 2019 to include the updated requirements for public safety, such as training and accessibility (e.g. the Accessibility Fund program). As of 2020, all vehicles-for-hire must pay a fee to support accessible vehicles.

> *"…So, one of the complaints is that people in wheelchairs or with mobility challenges, with physical disabilities, that they can't actually use ridehailing because the vehicles aren't equipped for them. And so, there's going to be an incentive to develop more accessible vehicles." (Int #10)*

The regulatory provisions in the Vehicle-for-Hire bylaw mainly concern passenger and pedestrian safety by requiring, for example, proper training for all drivers (taxicabs, limousines and PTCs), and more recently the safety of cyclists.

> *"…[The City] put back in a requirement for training, which had been taken out in the first set of regulations. They added a digital check requirement for cyclists...[R]ide-hailing... firms... can send you a reminder when... you're about to get out to check for a bike so that you're not driving over a cyclist... Uber actually implemented this on their own, and then the City wrote it into the regulation that it was required that in addition to a sticker on the window of a taxi...you also had to be able to send a digital reminder for ridehailing passengers." (Int #10)*

At the same time, the City removed prescriptive requirements to enable fair competition:

> *"…And so [the City] tried to work with the taxi industry to relax some of the rules for the taxis, and at the same time create some rules for Uber... [T]hey set in some accessibility requirements for Uber, for example, that they had to be able to provide the same level of service, accessible service within the city... And then at the same time they reduce some of those requirements for the taxi industry to not be so heavily regulated." (Int #7)*

The General Manager of Transportation Services at the City of Toronto issues parking permits for free-floating car sharing organisations. These are regulated by Chapter 950 of the Traffic and Parking regulation, which authorises parking of a particular car-share vehicle in locations designated for permit parking under the provisions in that chapter. There is a cap on how many parking spaces an organisation can own. Some residential permit parking locations at or above 100% capacity are excluded from this permit scheme, along with permit parking areas excluded from parking by free-floating car-share permit holders under Schedule C in that chapter.

Regulations under the Ontario Highway Traffic Act outline conditions for a five year electric scooter pilot project. Ontario municipalities may opt-in to allow e-scooter use

by passing a by-law that permits e-scooters on municipal roads, something that the City of Toronto is currently exploring:

> *"…[E]-scooters, kick e-scooters, are common in many cities around the world but we don't have them in Ontario or Toronto yet. So, I've been supporting... [MLS] and our Transportation Services division, and looking at how we can bring them to Toronto, and how we can ensure that it is done in a way that is good for the environment, supports a lot of the city broader goals. And, yes reducing some of that community nuisance." (Int #16)*

One interesting example of a local deregulation for the sharing economy can be drawn from a Toronto neighbouring town, Innisfil. The local government incentivised citizens to use the services of Rover (a parking space sharing platform) by temporarily exempting drivers with Rover signs from fines for inappropriately parked vehicles:

> *"[T]hey were giving tickets, they actually stopped ticketing the first wave of people who put a Rover notice on their car. So, it says "you could get a ticket today, you just saved 45 bucks" or whatever it was..." (Int #14)*

7.2 Providing for urban sharing organisations

Municipalities also govern USOs through the provision or withdrawal of practical, material and infrastructural means. The mechanism of provision includes at least four roles: city as an owner, city as a host, city as an investor, and city as a data provider.

'City as an owner' implies that a municipality owns or co-owns an urban sharing initiative. We found no examples of this city role in Toronto, although we have learned that the municipality was interested in opening its own tool library.

In the '*city as a host*' role, municipalities provide infrastructure or space to sharing economy initiatives. In Toronto, one example includes a publicly procured station-

based bicycle pool called Bike Share Toronto, for which the municipality provides parking stations (Bike Share Toronto, 2019).

The MLS division acknowledges that integrating shared mobility options with public transit is outside their area of expertise and is being worked with by other divisions in the City of Toronto, which, for instance, are exploring where to place e-scooters to ensure the best connection to the public transit:

> "*Integrating the systems or promoting a certain industry in order to... make the transit system flow a little bit better, that's outside the scope of what we do on a day to day basis. But we are working with... the e-scooter review." (Int #16)*

Although the role of the city as a host is essentially limited to the example of Bike Share Toronto (Figure 8), a platform for sharing parking spaces expressed a desire for the municipality to act as a host by providing the platform with parking spots for shared cars:

> "*One of the things they, in my opinion, could have done to help that was just come to support us and say: "Ok, what parking spots do you have in this area? Can we help you acquire any more so that the people that were tending to drive down there and park down there, that they can't get there anymore, they have another place to park?" (Int #14)*

Figure 8. Municipal bike sharing scheme Bike Share Toronto.

In their roles as *investors*, municipalities provide funding to urban sharing initiatives. We found no examples of this city role in Toronto. However, an example of the *'city as an investor'* is the neighbouring Town of Innisfil, where the municipality subsidises Uber rides by a fixed amount within the town, and to and from Barrie, to deliver on-demand transportation to the community (Uber, 2019). However, due to its success, the scheme required more subsidies than had been initially budgeted for (Int #17). The Town of Innisfil therefore had to introduce caps on how many rides each rider can take as well as reduce the level of the subsidy. Nonetheless, the town planners are happy with the scheme, and they justify its cost by the much larger coverage compared to a single bus alternative (Int #17).

The *'city as a data provider'* role relates to municipalities sharing their data with the citizens by, for example, creating and operating open data platforms. In our research, we found no examples of this city role in Toronto, but the municipality did discuss challenges of data ownership and opening up the data provided by sharing economy platforms:

> *"…something that we've been working with internally is... open data. So, there's a question around this. If companies are collecting mass data in a licensed environment, who owns that data? Is it the company or is it the people? Because, although we have collected it, we have not released it as open data. And, I think that that's a broader conversation about data governance... we're facing these data issues... We don't have experts in this. Or, the ones we do, we have one or two at the City, are trying to make sure that we all have an understanding."*
> *(Int #16)*

7.3   Enabling urban sharing organisations

Municipalities may govern the urban sharing organisations by enabling or disabling them. Unlike the mechanism of providing, enabling relies on intangible methods, such as persuasion, argument and incentives. This mechanism includes at least two roles: 'city as a match-maker' and 'city as a communicator'.

The *'city as a matchmaker'* role is evident when municipalities facilitate collaboration between urban sharing organisations and other similar organisations, potential users, knowledge institutes. or venture capitalists. The City of Toronto acted as a matchmaker towards the platform for sharing parking spaces, Rover:

> *"[T]his is the one thing the City did do, pull us into meetings and speaking engagements that were going on...anything that the City was approached that was sharing economy related... It was almost all mobility and transportation because that's all that really exists."* (Int #14)

In their roles as *communicators*, municipalities may disseminate the best urban sharing practices and market them to different stakeholders. They may also organise competitions and offer voluntary certification schemes to recognise the best sharing

practices. While we have not discovered this role in relation to the City of Toronto, the nearby Town of Innisfil offers an interesting example of the 'city as a communicator' in relation to the parking space sharing platform, Rover. The municipality provided information about the service in the media, sent out information to its residents and put up public signs about Rover, which could be seen by numerous tourists coming from all over Canada for ice-fishing in Innisfil:

> *"…[T]he Town of Innisfil...pushed it, they promoted it, they sent out stuff to their residents, … they talked to the media, they talked to the news... they sent out messages … to their citizens about Rover... saying "Oh, I bet you have a spot!" (Int #14)*

Rover wishes the City of Toronto could support them by communicating more about the platform, and connecting its potential to existing urban sustainability challenges, e.g. congestion:

> *"…So, we've been involved with discussions with the top licensing authority in the City of Toronto... so they're well aware of who we are... All we really wanted was their support in the sense like they say, "We can support these activities, and we can actually support major priorities that the city already has in place, like reduction of congestion and all these other things." Because if we're a component of what you're trying to do, it's going to make that item either happen a lot faster, or happen at all." (Int #14)*

7.4   Self-governing urban sharing

Municipalities may engage with urban sharing through the 'self-governing mechanism'. At least three roles exemplify this mechanism: the city as a consumer, the city as a sharer, and the city as a data user.

The *'city as a consumer'* is the role where municipalities adopt urban sharing practices in their own operations, for example, through municipal public procurement. The *'city as a sharer'* is the role when municipal units offer assets they own for shared use by others. Often these are experimental initiatives. Neither of these roles has been identified in relation to the City of Toronto.

The *'city as a data user'* is a role where municipalities gain access to data collected and stored by the sharing economy platforms. This can be personal data about hosts on Airbnb or drivers of Uber, information about the number of rental days per year, or number and length of rides provided per day. Such data could empower municipalities to enforce their regulations or optimise their planning activities. However, there are very few examples of the sharing economy platforms willingly providing such data to city governments. This is often on the 'wish list' of the municipalities.

Sometimes the platforms would refuse providing data to the municipality arguing that the personal data is confidential. At the same time, the City has no interest in any private information and it has taken legal measures to ensure this commitment hold.

In Toronto, it became apparent that some data provided by the platforms to the City is not substantiated, and the challenge for the municipality has been to validate it through an independent third-party source or by commissioning its own study. For example, when Uber first came to Toronto, it pitched its services to the City in two ways. First, the company argued that it offered an opportunity for environmental gains since ridehailing services were likely to be used for the first or last mile of a trip, and therefore more people would use public transit. And second, the availability of Uber services would reduce drunk driving in the city as people would take a ride instead of driving their car from a pub or a party. Similarly, short-term rental platforms argued that people used their services in a very short-term way, and that renters get an opportunity to pay for their mortgages or are able to live in an expensive city like Toronto. The City of Toronto managed to validate the arguments by short-term platforms but discovered other pitfalls, which helped them develop current regulations of the segment.

7.5   Collaborating with urban sharing organisations

Municipalities may also engage with USOs through collaborative mechanisms, where both parties play active roles in the governance process. We distinguish two main roles under the collaborating governance mechanism: the city as a negotiator and the city as a partner.

The '*city as a negotiator*' role has been evident in the case of Toronto when it comes to deciding on the regulations for ridehailing, as well as obtaining data from the ridehailing platforms:

> "*…I think it demonstrates the negotiation that's required between the City and these kinds of firms. Cities are becoming much better at advocating for the things that they need... they're becoming much better at it.*" (Int #10)

The '*city as a partner*' role is often present when a municipality seeks to address its urban sustainability challenges through its engagement with the sharing community. We found no examples of the City of Toronto partnering up with sharing economy initiatives, but representatives from the MLS division mentioned that sometimes USOs would reach out to them to build relationships:

> "*I think sometimes they'll come to us wondering, if they're doing something that's not 100% legal or maybe it's not. It's kind of in a grey zone or they're not sure if they have the permission to do all the things, and sometimes they'll connect with the city, generally. Maybe, specifically, MLS, to meet with us, to build that relationship a little bit, and that's the context in which we hear from them.*" (Int #10)

The City has also reached out to the parking space sharing platform, Rover, to involve them in meetings and speaking engagements on the sharing economy, as well as to discuss their strategies:

> *" [T]he City did... pull us into meetings and speaking engagements that were going on...anything that… was sharing economy related... use more like 'a sounding board', I guess, for either their ideas or who could they talk to for help, or does the strategy make sense." (Int #14)*

An interesting example of the '*city as a partner*' role is the Canada's first ridehailing and transit partnership between the town of Innisfil and Uber, whereby Uber delivers on-demand transportation to the community (Uber, 2019). This is also (Uber, 2019). The municipality subsidises Uber rides within Innisfil, as well as to and from the neighbouring town of Barrie, with a fixed amount per ride. The partnership has been in place for two years. It is well-received by the population, and is especially well-used by the elderly and young persons who do not have a driving licence or have no access to a car (Int #17). This case has received a mixed reception among various sharing economy actors in Toronto: admiration (primarily among other USOs) and more critical opinions (primarily from knowledge experts):

> *"… in my opinion that was a short-sighted decision because now we see that people started using Uber as their means of transportation and there isn't enough capacity. The town has now put in place some limits saying "oh, you can only take a certain number of rides during a week..." And that's really not the point of transit. The point of transit is to ensure that people get out of their cars and take the bus, and use it more because the more you use it, the more it creates the rationale to reduce car use but also to increase transit. And it's done the opposite now ..." (Int #7)*

It has been difficult to set up any formal partnerships between the municipality and commercial USOs in Toronto for similar reasons to those we have seen in other cities. One of these is municipal bureaucracy and a silo mentality, and the other is the risk of market distortion through a potentially preferential treatment of one USO over the other by the City.

8 CONCLUDING REMARKS

Toronto is a multi-cultural metropolis and an international centre for business, finance, arts, and culture. The population is rapidly growing, and suburban areas are expanding. The development of the city's urban infrastructure is struggling to keep up with this growth, which is causing limited affordable housing and insufficient public transit services.

As an apparent way of coping with these challenges, Toronto residents use ridehailing, carsharing, and bike-sharing, as well as sharing of homes and space for temporary storage. Citizens use web-based interfaces and various mobile applications to access these services, which appear to be vigorously embraced by the residents as well as the visitors to the city.

Airbnb is the most prominent home-sharing platform, although other platforms such as VRBO are also present. Citizens and community groups suggest that Airbnb is causing reduced housing stock, increased housing prices, and issues with gentrification. Several large hotels in the city centre are closing or have closed, said to be a result of competition with Airbnb.

In recent years, ridehailing – facilitated by Uber and Lyft – has become a significant concept in the daily mobility of Toronto residents, but carsharing platforms have a marginal role in the city. A shortage of and expensive parking in the city, along with the restrictive policy by the local authorities, probably limit expansion of free-floating carsharing services. For example, a recent change in the city's parking policy resulted in Car2Go, a large global carsharing platform, shutting down its operations in Toronto.

There is also a municipal bike-sharing scheme, visible throughout the city, called Bike Share Toronto. The service serves a niche market catering to short-distance trips by residents and city visitors. Electric scooter platforms are not permitted in the city, pending an assessment of their socio-economic impact, but pilot projects are expected in the near future.

Platforms for sharing household items and workspaces also exist in the city. For instance, the Toronto Tool Library operates in three locations, providing access to tools and workspace for DIY projects and repair. Several other platforms facilitating the sharing of physical goods have existed, but have since closed, such as Skipping Gem, Kiinzel, and Boro It.

The City of Toronto and Ontario Province were early leaders in developing policies and programmes for the sharing economy. More recently, these actors have adopted a more reactive role, allocating limited resources to develop the sharing economy

strategically. At the same time, sharing and other digital platforms are advancing rapidly, often outpacing the reactions and regulations of local authorities.

Other important actors are present in the city, including advocacy groups, community initiatives, knowledge institutes and universities, but their role is less pronounced compared to other European cities, e.g. Amsterdam or London.

This *City Report* summarises a month-long study of the sharing economy in Toronto, as part of the Urban Sharing project. This project investigates the sharing economy in cities, with the aim to provide insights for municipal governments and practitioners to help improve the design and governance of sharing economy initiatives. The project is driven by the belief that we must transform our patterns of production and consumption to address our urgent environmental and social crisis.

The content of this report is based on a comprehensive literature review and over twenty interviews with different stakeholders, representing municipal and provincial governments, sharing organisations, knowledge institutes and academia. The research took place between July and November 2019, and included a week-long Mobile Research Lab in Toronto. During this Lab, five researchers observed, experienced, and interacted with the sharing economy in Toronto.

Based on our findings, we provide the following recommendations to the City and its citizens:

1.   LEVERAGE SHARING PLATFORMS TO SUPPORT CITY GOALS
There is tension between conflicting city goals, such as to increase employment, to support innovation and technology, and to reduce environmental impact. Cities and its citizens often want all of these things, and priorities must be established.

For example, if the City prioritises improved sustainability outcomes, sharing platforms must be designed and supported to help bring these about. Left unchecked, sharing platforms may also cause adverse environmental, social, and economic impacts. The City should be more proactive in engaging with the sharing economy to realise its potential benefits instead of responding to its harmful impacts. The City can do this by taking a more active role in monitoring sharing services, more closely collaborating with the sector and community groups, and leveraging its governance and regulatory mandate to shape a sharing economy for sustainability.

2.   ADDRESS THE CLIMATE EMERGENCY
With the City of Toronto declaring a climate emergency, the City and its citizens can leverage the sharing economy as a way to reduce net consumption, improve resource efficiency, and reduce climate impacts. If managed effectively, a sharing economy for

sustainability could bring about desirable effects that will help address the declared climate emergency.

3. COLLABORATION IS KEY

Collaboration and, at the very least, coordination, between actors is necessary. We see the need to coordinate across the various jurisdictions (e.g. local, provincial, national), as well as across departments at municipal and provincial levels, to allocate clear responsibilities, to develop and communicate a shared vision, to implement and execute this vision, and to coordinate responses. It is also important to meaningfully engage with and support civil society and relevant community groups.

4. CONSIDER CITY CONTEXT AND CITIZEN NEEDS

A sharing economy that enhances the public good will be one that is designed and regulated to match the city context, including its total population, density, culture, access to technology, affluence, and climate. Nonetheless, it is important to consider the needs of the citizenry, the business community, and progress towards any municipal goals. There is a need to conduct original research to understand city contexts and the needs of its citizens.

5. DEVELOP CONTINGENCIES

Cities must be designed and regulated to be resilient. A well-managed city must be able to respond to multidimensional social, economic and environmental disruptions. The sharing economy may be a part of this contingency. Where corporate sharing platforms perform public services, cities must also make contingencies for if and when these platforms cease operations. Such a situation exists in Toronto, where corporate ridehailing platforms fulfil transportation services underserved by public transportation.

These recommendations are intended for actors in Toronto; however, as many cities face similar challenges to those in Toronto, thee recommendations are probably relevant for other actors in other cities across the world. We hope these recommendations can inspire the necessary dialogue to respond to new business models, advancements in technology, and our environmental crisis.

The sharing economy has the potential to improve the quality of life among citizens of Toronto, but only though proactive regulatory mechanisms to support the design of sharing platforms in line with city and citizen goals. We must listen to the diversity of voices and needs in our communities if we are to attain a more sustainable, inclusive, and just city.

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URBAN SHARING in Toronto

City report no 2 by URBAN SHARING TEAM

"Urban Sharing in Toronto" explores the landscape of the sharing economy in the city context. This research is a result of a Mobile Research Lab conducted by 8 researchers from Lund university in 2019. Specific focus is on three sectors: sharing of space, mobility and physical goods. For each sector, we discuss the drivers and barriers to the sharing economy, the associated sustainability impacts, the potential impacts on incumbent sectors, and the institutional context of sharing. Then, attention is turned to the role of the city council in engaging with the sharing economy and specific governance mechanisms employed by the city council are described.

Since the sharing economy is not sustainable by default, urban sharing organisations, city governments and incumbents all have important roles to play in ensuring that the sharing economy positively impacts cities and their citizens. In the face of negative perceptions and possible impacts of the sharing economy, we may need to be more deliberate in thinking in terms of scaling the sharing economy to the size, needs, and capacities of cities. In this report we provide five recommendations to the City of Toronto and its citizens.

Insights contained within this report may support the City of Toronto and other Sharing Cities, as well as urban sharing organisations and third-party actors in Toronto and beyond in their strategic work with the sharing economy for sustainability.

URBAN SHARING
Sustainability & Institutionalisation