Ride-Hailing: Global Economic Geography & Canada's Opportunity

Key Research Questions / Major Findings:

Question #1: Globally, what is the economic geography of ride-hailing and how have its early phases of development impacted Canada's digital opportunity for participating in this 'new' industry?

When we first began this research in 2015, ride-hailing was considered a nascent yet disruptive, mobility option. Today, ride-hailing is undisputedly disruptive but also innovative, global, and part of a major transformation currently taking place in mobility.

A complicated web of partnerships, investments and acquisitions between ride-hailing firms, automotive firms and technology companies signals the expected convergence of ride-hailing and autonomous vehicles. Furthermore, ride-hailing firms have demonstrated an eagerness to expand to both vertical and horizontal markets. From food delivery to fintech, and motorcycles to micro-loans, ride-hailing firms are rapidly scaling and building complementary capacity leveraging the platform economy, proprietary software, networks and new technologies. In addition, ride-hailing is seen as an opportunity to reduce congestion and automobile emissions, address first and last mile challenges for transit operators, and create seamless app-based connections between transit, bikes / scooters and ride-hailing. Ride-hailing, to date, serves these goals with mixed results – varying by geography and dependent on policy direction and guidance.

Our research has identified 11 privately-held ride-hailing firms that have achieved a market valuation of $1B or more. The global reach of ride-hailing is indisputable. Collectively, these 11 firms provide ride-hailing services in 85 countries and in more than 2600 municipalities around the world. While cities in which ride-hailing operates are abundant, operations activities alone are not considered to comprise a significant economic opportunity in terms of investment or job creation. The location of high-level activities in ride-hailing, including headquarters, R&D and engineering, and to a lesser extent regional and national operations, are concentrated in 29 cities globally. The only Canadian city in this group is Toronto.

This research suggests that the digital platform economy, and ride-hailing in particular, has led to expanded opportunities for participation in the global economy for a select group of cities and a select cohort of talent. As such, the economic geography of ride-hailing is emblematic of the twenty first century: highly concentrated, highly uneven, driven by talent and innovation, dynamic and challenging.

Question #2: What challenges and opportunities does ride-hailing pose to Canadian cities in terms of regulation, innovation, and economic development?

The answer to this question remains elusive – in large part because the sector continues to be characterized by dynamism and rapid evolution both internally and externally, and there is a paucity of comparable, reliable, accessible data. The table and description below present a partial summary:

	Regulation	Innovation	Economic Development
Challenges	- Determining legal framework and municipal/provincial responsibilities - Rapid response time while also embedding flexibility - Meeting multiple, complex goals through regulatory levers	- Job loss / job precarity associated with industry model + use of algorithms, automation - Industry concentration in small # of firms - Connection between policies to enable ride-hailing and policies to enable firm-level innovation in sector	- Costs of ride-hailing on labour force, climate change, existing industry (eg: taxi, auto, tech), congestion - This will also be the subject of a future SSHRC
Opportunities	- Lead on policy innovation through regulation - Local, provincial and international best practice sharing amongst regulators	- Federal/provincial & municipal policy tools to support local firms / universities in this space (eg: Smart Cities Challenge / Vancouver proposal) - One example: local firm transform existing services using ride-hail style software (eg: on demand bus routes)	- Key economic opportunity appears to be isolated to small number of 'superstar' cities - No made-in-Canada success story yet in ride-hailing – opportunity lies in a select number of cities as secondary centres

In July 2015, no Canadian municipalities had regulations in place to govern ride-hailing, there was no reliable data to assess the impact and extent of ride-hailing activities from either a production or consumption perspective across the country, and there was little to no strategic thinking on the part of Canadian-based firms to consider how they might evolve or emerge to participate in the newly developing platform economy with respect to ground transportation.

By fall 2018 – 22 of 30 largest Canadian cities had ride-hailing operations and 20 of 30 had ride-hailing regulations in place. Statistics Canada has begun to collect and report on the 'sharing economy', and our automotive and tech sectors (mainly in Toronto, the Toronto-Kitchener-

Waterloo corridor and to some extent in Montreal) are positioned to leverage opportunities to participate as secondary players in this transformation. At the same time, we are witnessing some of the early stages of disruption to jobs and employment opportunities in taxi and in automotive manufacturing in particular as a direct result of the most recent phases of technological change.

Our research highlights and emphasizes the key role that governments play with respect to ride-hailing in terms of regulation, pilot projects, investment attraction efforts, partnerships, investments in infrastructure, data collection, research and more. With respect to regulation, policies that permit ride-hailing operations as a component of local ground transportation are clearly dynamic, evolving over ride-hailing's short history. We can think of ride-hailing regulations as having 3 phases: launch, regulation 1.0 and regulation 2.0.

At ride-hailing's launch, there are no regulations, and the service operates in a legal grey zone. Absent regulation, municipalities in Ontario were not permitted by the courts to apply taxi regulations to ride-hailing. Furthermore, without regulation, there were no rules whatsoever in place to govern ride-hailing, passenger safety, or insurance and municipalities/provinces were unable to collect revenues to offset costs of ensuring standards were being met. Regulation 1.0 represents early attempts at regulation – developed under heavy lobbying by ride-hailing firms and the taxi industry, and typically signaling a shift towards light regulation. In Toronto, this meant no driver training requirements, no controls on the number of vehicles operating or fares charged and management of some services offloaded to the ride-hailing firms themselves. Regulation 1.0 was enacted relatively quickly by many municipalities and provinces, often with built-in mandatory review periods or in the form of more flexible pilot projects. The current state of ride-hailing regulation – Regulation 2.0 – is characterized by more deliberate government oversight in an attempt to regroup and improve upon the negative perceived outcomes of early stage regulations. Some of the areas under redress relate to driver training, driver license requirements, vehicle caps, and fare governance. It can be reasonably expected that as the industry changes, matures and adapts that municipal and provincial regulation will continue to shift as well.

Meaning for understanding Canada's digital opportunity

The rise of ride-hailing coincides with the continued decline of automotive manufacturing in southern Ontario. As the automotive industry shifts increasingly towards electric, autonomous and shared vehicles, Canada's strategic advantage is in leveraging its institutional knowledge, expertise, networks and leadership that can be applied towards successfully managing this shift. There is a convergence and transition taking place that brings together the automotive and tech sectors, with substantial investment and attention being paid to the expected business model shift towards autonomous vehicles operating on shared ride-hailing platforms. Canada's history in automotive, combined with burgeoning strengths in tech, artificial intelligence and software – and the inputs of university talent particularly emanating from Toronto, Waterloo and Montreal are poised to serve Canada well in terms of investment and high skill jobs in this transition. Dramatic job losses and an inability to recover traditional employment in manufacturing, alongside an inability to recover investments and higher wage earnings in the taxi industry is difficult to overcome and has deep, negative and likely long-lasting spinoff effects.

In ride-hailing, at a global scale, there is a coupling of high-wage employment locations with concentrated entrepreneurial and engineering-related activities. Of 29 cities around the world that

we've identified as significant for the production of ride-hailing from a strategic and technological perspective, Toronto is the sole Canadian city on the world map. Yet, despite some opening of opportunity with the digital shift, Canada's cities remain secondary sites at best in the global ride-hailing economy. Furthermore, the same qualities that contribute to our second tier status on the production side, also lead to increasing inequality and widening divisions for labour and prosperity locally.

For most of Canada, the emergence and adoption of ride-hailing does not appear to have a positive economic impact at the local level. A SSHRC proposal has been submitted to investigate further the local economic impact of ride-hailing across Canada's largest municipalities.

Key Policy Implications

1. **Talent** is global: Toronto is a Canadian hotspot. Ride-hailing firms pursue talent acquisition strategies that create pipelines to talent through global office locations, with emphasis on specialized labour inputs, and accommodation of wage /talent variation in location decisions. Firms are locating to access talent rather than trying to draw all talent into a single region. Total global employment is low relative to market valuation.
2. **Customers & Markets**: Ride-hailing is unlike transit and taxi in that firms are decidedly global in operations. Yet, local operations offices do not include significant local investment or talent as strategic and tech development is centralized in a small number of global cities. In this respect, access to large markets is disconnected and decoupled from the production of tech, software, and strategy. In addition, firm location strategies are skill and wage dependent, and place-based qualities matter along with local openness to innovation, and wider innovation policy directions.
3. **Access to Knowledge**: The case of ride-hailing provides an example that in times of disruption and reinvention, path dependence matters. Toronto is home to research labs for the two largest ride-hailing firms, Didi and Uber, both with connections to UofT. Access to knowledge equals access to talent and infrastructure (both physical and unseen). Access to knowledge also includes concerns around data and collection, how that data is used, who owns it and who has the right to access it.
4. **Capital:** Other research has identified that venture capital is more global now than ever before, and the urban tech sector (which includes ride-hailing) is a sponge for venture capital. The role of government funding matters: for instance, Vancouver's only real hope of entering the landscape of investment in autonomous vehicles and ride-hailing is through the Smart Cities Challenge Fund.
5. **Social impact**: The example of ride-hailing both contributes to and emphasizes the growing socio-economic divides characteristic of the platform economy. The concentration of ride-hailing activities in a select number of world cities also contributes to a growing concern that a small number of superstar cities are absorbing an increasing proportion of investment, employment and wealth creation at the expense of other places. The implication for cities and people not included in this bounty however include rising inequality at the inter and intraurban scale. Policy interventions that help to spread economic opportunity are one attempt to redress imbalances, and extend well beyond the scope of ride-hailing.