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A review of regulations and media discourse on technology-enabled shared mobility in Canada

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Abstract

Ridesourcing is a shared mobility service with emerging operations around the world. Popular ridesourcing services such as Uber and Lyft use mobile applications to connect riders with drivers. Many Canadian municipalities have allowed the operation of technology-enabled shared mobility service operations. This study examines regulatory frameworks that public agencies have adopted over the years. Ridesourcing services have also generated considerable public discourse, highlighting the tensions among different stakeholders such as the taxi industry and their users, as documented in the media. This study conducts a systematic review to understand the dynamics of these perspectives. Public discourse analysis reveals that the common issues of concern include licensing requirements, safety, insurance, tracking, accessibility, and social issues such as gender equality and discrimination. There is limited analysis on the degree to which public discourse around ridesourcing services influences regulations. This study also investigates the extent to which public discourse issues influence regulatory frameworks adopted in Canadian jurisdictions. The research develops an inventory of ridesourcing regulations and compares them to discourse issues reported in the media through a thematic analysis. The study concludes that established ridesourcing regulations mention most discourse issues, but do not necessarily address them in practice.

Keywords: Shared mobility; Regulatory framework; Public discourse; Qualitative analysis

1. Introduction

Ridesourcing is an emerging service which is drastically changing transportation services in cities. One example of ridesourcing is Uber, an app-based service operating out of San Francisco which has gained momentum in 632

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other cities around the world (Uber, 2017). In 2016, Uber made a $6.5 billion profit, while its total booking revenue doubled to $20 billion (Fortune, 2017). When first introduced to the market, companies such as Uber were forecasted to fail due to low popularity among consumers. However, that has proven to be untrue. Their biggest challenge today is operating alongside city regulators and similar market competitors. Uber's largest critics and competitors are local taxi companies. Taxi companies argue ridesourcing services operate without strict regulation, while taxi drivers must absorb large vehicle registration fees and annual licensing fees. Many taxi companies believe Uber skirts legal requirements which taxis must follow (Rauch and Schleicher, 2015). The debate around ridesourcing regulation continues to be rampant across North America.

As technology-enabled ridesourcing services increase in popularity, there is a growing concern with how to regulate them at the municipal and provincial levels across Canada. In some cities, the service is met with open arms while others oppose it completely. Public opinion towards ridesourcing services started emerging in large cities such as Edmonton and Toronto in 2015, and much of it is centered on ridesourcing's lack of regulation compared to taxis. Public discourse towards Uber is monopolized by taxi companies who believe Uber has an unfair advantage on the market, convincing cities to impose regulation towards safety, accessibility, insurance, and registration protocols for all ride hailing services (Rauch and Schleicher, 2015). Canadian cities are responding by creating new regulations aimed at ridesourcing services or amending existing taxi licensing regulations to include provisions for them.

As municipalities implement and revise policies to regulate Uber in Canada, there is a gap in assessing if and how regulations are responding to public discourse issues. This paper will document how Canadian municipalities have responded to ridesourcing services such as Uber and Lyft through regulation, including established markets in Ontario and Alberta as well as emerging markets in Quebec, Manitoba, and British Columbia. It examines the state of public discourse's influence on regulation.

2. Literature review

2.1 Background

Ridesharing is a shared mobility service, which allows users to gain short term access to transportation. Traditionally, ridesharing is recognized as grouping passengers and drivers in a single vehicle who are heading to the same destination. The motive is to provide alternatives to taxis, save travel costs, and alleviate long waiting times when traveling from one point to another. Ridesharing is the umbrella term for services such as carpooling, car-sharing, and technology-enabled ridesourcing which serve as shared-mobility options (Rayle, et. al, 2014). Ridesourcing differs from ridesharing in that a driver uses their personal vehicle to take a group of passengers to different locations as opposed to the same one. They also provide the ride in exchange for a fare established by a parent company (Rayle, et. al, 2014). Shared mobility encompasses services such as Uber and Lyft which are on-demand ridesourcing services (Shaheen et. al, 2015). For the purposes of this study, services such as Uber and Lyft will be referred to as technology-enabled ridesourcing services.

2.2 Regulatory debate

Current research on ridesourcing in North America isolates regulation from the public's perception towards the service, focusing mainly on fairness in regulation between taxi companies and ridesourcing services. Ridesourcing services are an emerging competitor with taxis, who claim companies like Uber and Lyft are reaping industry benefits without paying appropriate costs to run their services. These costs include insurance and licensing regulations as well as vehicle and driver registration fees (Posen, 2015). Uber does not advertise its trip rates (apart from base rates), unlike taxi companies who are mandated to provide a set rate to encourage fair competition between different taxi companies. Due to conflict between ridesourcing and taxi companies, services like Uber and Lyft faced multiple lawsuits and cease and desist notices across North American cities, including New York, Chicago, Pittsburgh, Boston, and Seattle (Rassman, 2014). Taxi companies take most legal action against ridesourcing companies and are also suing city officials for not proactively regulating ridesourcing services to the same degree as the taxi industry. Based on commentary from the taxi industry, a challenge facing ridesourcing services is the lack of regulations instituted on its drivers and their vehicles. Local governments are pushing

ridesourcing companies such as Uber and Lyft to share similar regulations with the taxi industry. However, local governments also believe ridesourcing companies should be regulated based on their unique characteristics. (Rauch and Schleicher, 2015). The City of Toronto agreed to adopt Uber by creating a Private Transportation Company category, which operates under the same regulatory bylaw as taxis but has slightly different provisions. The City's new Vehicle-for-Hire bylaw regulates taxicabs, limousines, and private transportation companies while focusing on public safety by requiring drivers to hold specific permits and fulfil screening criteria. It also promotes accessibility in vehicles-for-hire and encourages innovation and competition between these services in the City (City of Toronto, 2017). The regulation in Toronto accommodates ridesourcing services without compromising its operating model, which differs from city taxis. Cities continue to believe that ridesourcing services are not exempt from being regulated, however shaping these regulations to suit both ridesourcing services and taxis is an ongoing challenge.

2.3 Role of public discourse

Public discourse is dialogue that plays out in traditional and social media. It often reflects the changes or solutions that people would like to address in an issue (Woodley, 2015). Public discourse plays a large role in how customers have responded to ridesourcing services in North America, namely issues around safety, licensing, and insurance. Uber and Lyft's services commonly produce public discourse towards safety issues, including passenger and driver safety and the unpredictability of mobile technology. Feeney (2015) claims the lack of regulation for Uber and Lyft compared to taxis is a concern for riders. Taxi services are subject to auto liability insurance coverage, driver criminal background checks, and fingerprinting, which are costs taxi companies absorb to provide safe riding experiences for customers. Ridesourcing services would also benefit from similar regulations to ensure the safety of riders (Feeney, 2015). A more recent issue is providing women a safer option through female-only rideshare services (Kozicka, 2016). In response to safety concerns, Uber and Lyft promised to place consumer safety first by using a digital platform to exchange ride fees, track vehicles, and track both drivers and customers from each ride (Feeney, 2015). How cities are acknowledging public discourse when regulating ridesourcing services to ensure positive customer and driver experience is still largely debated.

2.4 Research gaps

Regulation helps manage emerging services like Uber and Lyft, but there are gaps in knowledge about how regulation is mitigating the concerns raised in public discourse. Several Canadian cities have acknowledged the need for regulations to address problems with safety and licensing. In Hamilton, Ontario, City Council approved Uber services. The City's director of licensing noted, "There are a lot of things we can do working with Uber as now a licensed entity to ensure public safety." (CBC, 2017). The City fulfilled public safety concerns by ensuring its existing database for drivers also kept track of Uber's 1,200 drivers in the city. There are currently no correlational studies of regulation resolving public discourse issues. This study fills the gap in literature by examining whether ridesourcing regulation is mitigating public discourse themes in practice or merely on paper.

3. Methods

This study takes a qualitative approach and conducts a comprehensive review of regulatory frameworks for ridesourcing while comparing it to public discourse in Canadian jurisdictions. Below is a brief overview of the process of case study selection, document review, public discourse evaluation and thematic analysis:

3.1 Case study selection

Our study selected several regulatory case studies where technology-enabled ridesourcing (such as Uber and Lyft) are operating or are slated to operate. Figure 1 shown the list of Canadian provinces and municipalities considered in this study.
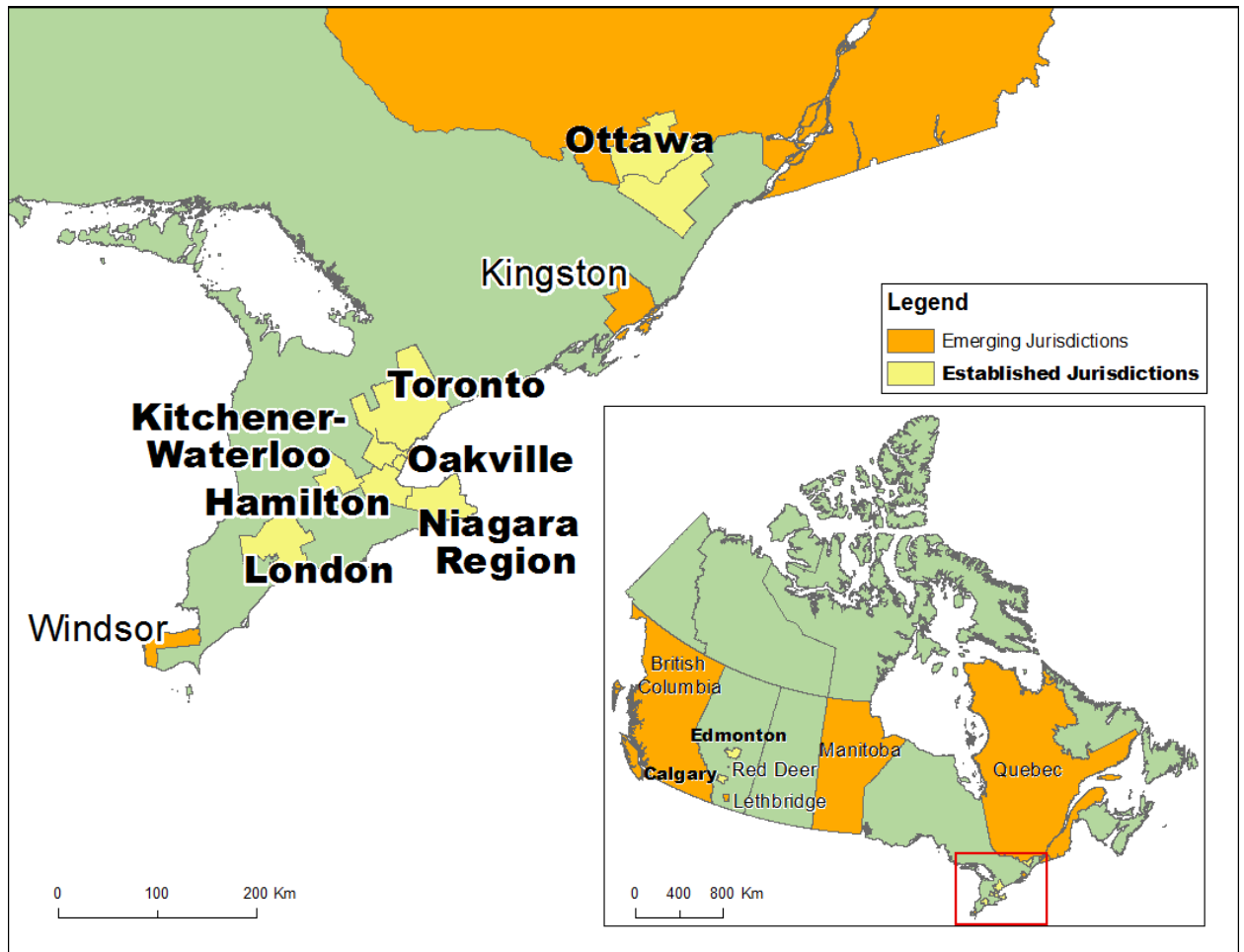
Fig. 1. Project case studies.

3.2 Document review

We conducted a systematic review of ridesourcing regulations for each jurisdiction. We reviewed each regulation for its ridesourcing provisions. Nine case studies which incorporated ridesourcing services into their licensing regulations were examined. The case studies fall into one of two categories:

(1) Regulations in cities that have incorporated ridesourcing services (established jurisdictions), and
(2) Regulations that have been approved but are being revised by city staff (emerging jurisdictions).

3.3 Public discourse analysis

We conducted a public discourse analysis on media sources, identifying issues around ridesourcing services. The following case studies are examined:

(1) Cities/provinces with established ridesourcing regulations,
(2) Cities/provinces where council has directed staff to draft ridesourcing regulation,
(3) Cities/provinces where ridesourcing regulation is waiting to be approved by council, and
(4) Cities/provinces with emerging interest in ridesourcing regulations.

We created a categorical spreadsheet to document media sources. We developed categories or themes based on the discourse literature by analyzing quotes for recurring terms.

3.4 Policy analysis and discourse comparison

The final phase of the study involved comparing established regulatory frameworks against discourse themes identified from media sources. Each ridesourcing regulation is compared to public discourse themes from each jurisdiction to identify how well discourse is reflected in regulation.

4. Results & discussion

4.1 Overall results

Our study focused on nine Canadian cities or regions with established regulations for ridesourcing services. Alberta and Ontario have provincial mandates to regulate ridesourcing such as Uber and Lyft. Currently, ridesourcing regulations exist in all medium to large sized cities between these two provinces, except for Oakville, Ontario. Table 2 summarizes key features about each city/region and their ridesourcing regulations.

4.2 Regulation results

Table 2. Regulation summary.

City	Population (2016)	*City Classification	Policy Title	Date Implemented
Toronto, ON	2,731,571	Large Metropolitan Area	Licensing of Vehicles-for-Hire	July 15, 2016
Ottawa, ON	934,243	Metropolitan Area	Vehicle-for- Hire Bylaw	2016
Hamilton, ON	536,917	Metropolitan Area	Personal Transportation Providers Bylaw	January 25, 2017
London, ON	383,822	Medium-Size Urban Area	Vehicle-for- Hire Bylaw	April 4, 2017
Niagara Region, ON	441,516	Medium-Size Urban Area	Licensing Bylaw	July 1, 2016
Kitchener-Waterloo, ON	338,208	Medium-Size Urban Area	A By-law to License, Regulate and Govern Brokers, Owners and Drivers of Taxi-Cabs	September 2016
Oakville, ON	193,832	Small Urban Area	A By-Law to License, Regulate, and Govern Transportation Network Companies	December 13, 2016
Calgary, AB	1,239,220	Metropolitan Area	Livery Transport Bylaw	April 4, 2016
Edmonton, AB	932,546	Metropolitan Area	Vehicle-for- Hire Bylaw	March 1, 2016

This study examined nine jurisdictions in Alberta and Ontario with established regulations to support ridesourcing services. Alberta's provincial ridesourcing regulation is the Transportation Network Companies (TNC) Regulation, established under its *Traffic Safety Act.* Alberta municipalities such as Edmonton and Calgary have their own regulations pertaining to ridesourcing services, which are influenced by the provincial legislation. The TNC Regulation was passed in 2016 and requires all ridesourcing companies to operate under a transportation network

company license (Transportation Network Companies Regulation, 2016). Edmonton was the first city to adopt ridesourcing regulations in Canada. After the implementation of the provincial regulations, Edmonton amended its ridesourcing regulations, followed shortly after by Calgary.

In Ontario, ridesourcing regulations operate on a municipal level and each municipality/region classifies ridesourcing services differently. Toronto, Hamilton, Ottawa, Niagara Region, Oakville, and London classify ridesourcing services as Transportation Network Companies. Kitchener-Waterloo, which adopted the first Ontario regulation towards ridesourcing, refers to ridesourcing services as auxiliary taxi-cabs. Different authorities also administer regulations in Ontario. In most cities/regions, the municipal licensing office handles the regulation of taxis, limousines and ridesourcing services. In the Niagara Region, the Regional Police Services Board operates licensing procedures for all vehicles for hire.

Ontario's regulatory frameworks for ridesourcing services have several similar approaches. All regulations put ridesourcing services into separate categories within the same regulations as taxis, limousines, and other vehicles for hire. The names of these categories differ between jurisdictions; however, they have similar provisions for ridesourcing companies. Common provisions across Ontario include requiring drivers and ridesourcing companies to formally apply for operating approval, requiring mechanical inspections and certificates for each vehicle, and ensuring driver names and their license plates are publicly disclosed to customers. All regulation requires drivers to undergo security background checks, refuse street hails, and purchase appropriate insurance. Insurance values across the majority of regulations are $2,000 for vehicle insurance and $5,000 in commercial liability insurance. Ontario does not have a provincial ridesourcing regulation governing municipal regulations. However, it is apparent that municipalities are influenced by each other's regulations based on the language they use and the stipulations they provide for ridesourcing services.

Some regulations in Ontario have additional requirements pertaining to ridesourcing services or use different terminology. All regulations have provisions for insurance, security checks, and licensing. Toronto and London have specific sections in their regulations, which are allocated for accessibility needs. Toronto requires any vehicle for hire service with over 500 vehicles in its fleet to provide accessible vehicles and requires driver accessibility training. In London, each accessible vehicle must follow specific protocols such as carrying first aid, ensuring tie-ins for wheelchairs, and storing extra tires. Toronto and Waterloo each have a clause in their ridesourcing regulations that all vehicle for hire drivers and companies cannot discriminate based on race, religion, ethnicity, etc. The terminology in provisions also differs between jurisdictions. A common difference is when regulations require drivers to conduct security background checks versus police record checks. The breadth in Ontario's ridesourcing regulations is apparent, between who enforces regulations, terminology used in each regulation, and what each regulation enforces.

Many cities and provinces across Canada are considering ridesourcing regulations within their jurisdictions. Until recently, Uber threatened to leave Quebec based on the province imposing stricter regulations on ridesourcing services. The new Transport Minister for the province imposed 35 hours mandatory training and enforced criminal background checks for all drivers, which Uber would like to negotiate. The province ran a trial set of regulations for one year, before imposing the new regulations (CBC, 2017). Quebec is currently reworking its existing regulation.

The Province of British Columbia is in the middle of a debate on introducing ridesourcing services such as Uber into the market. The province's current government would like to provide a province-wide solution by consulting with the taxi industry on issues of safety and regulation (Meissner, 2017). The province has hired an economist to conduct a study on restructuring the taxi industry to accommodate ridesourcing services. The study will investigate the decline in taxi license issues despite a growing demand for transportation services (Hager and Hunter, 2017). The provincial government plans to table formal regulation in fall 2018.

Manitoba, a prairie province, recently changed its Vehicle Registration Regulation and Driver Licensing Regulation to operate under Local Vehicle for Hires Act on March 1st, 2018 (Government of Manitoba, 2018). The province proposed Bill 30 which dissolves the Manitoba taxi board and gives power to municipalities to govern licensing and regulation of all ride-hailing services (Fursaga, 2017). New provincial regulation supports municipalities in creating their own bylaws for ridesourcing services, and the province has already partnered with Manitoba Public Insurance for all vehicle insurance needs (Government of Manitoba, 2018).

In Alberta, two more cities have recently introduced ridesourcing: Red Deer and Lethbridge saw the launch of Uber in their communities on September 8th, 2017. Uber is operating in both cities without regulation; however the

company is seeking public feedback regarding how regulation should be structured. In Red Deer, city council urged administration to work with other central Alberta municipalities to draft ridesourcing regulations (Crawford, 2017).

In Ontario, emerging ridesourcing policies are experiencing polarized feedback from stakeholders. Windsor is in the process of drafting ridesourcing policies and hopes to bring them to council by the end of the year. Kingston is facing contention towards draft policies submitted by the Kingston Area Taxi Commission (KATC) which require Uber and similar services to adhere to strict security measures and knowledge tests. Meetings between Uber and the KATC are underway, and the issue is also expected to reach council (Sheriff-Scott, 2017).

4.3 Public discourse analysis results

This paper derives six themes by conducting a thematic analysis of quotes from news and media articles obtained for this study.

- **Licensing:** Requiring drivers to submit applications for vehicle and driving licenses like taxis.
- **Safety Checks:** Ensuring ridesourcing companies conduct driver security and background checks prior to issuing licenses. Ensuring driver safety and protection of rider information.
- **Tracking and Rating:** Using mobile technology to disclose trip/driver information for safer and convenient customer experience.
- **Insurance:** Requiring every driver to purchase vehicle and commercial liability insurance in a ridesourcing service.
- **Accessibility:** Providing accessibility fleet options for the public.
- **Social:** Ensuring respect and safety through a ridesourcing service, providing equal employment opportunities for all genders, and having zero tolerance for driver/rider discrimination.

Each media source accounts for several public discourse issues, which are converted into themes such as licensing, safety checks, insurance, etc. as listed above. Some cities have a greater amount of discourse themes than others. In Alberta, common public discourse themes are insurance, security checks and licensing where public discourse impacts regulation specifically at the city level. Edmonton is an example of how ridesourcing regulation has changed over time and continuously requires monitoring. Since its inception in 2016, Uber experienced a surge in registration for licenses, almost triple the amount of taxis over the same time. The city bases this increase on improvements in driver registration processes (Wong, 2017). However, the increased popularity of Uber did not come without challenges. Uber entered the Edmonton market before taxi advocates and city councillors imposed insurance requirements, which the company couldn't afford, forcing them to find a different insurance provider. In the following year, hundreds of tickets were issued by bylaw enforcement officers to Uber drivers who failed to follow regulatory protocols. The Edmonton Journal noted, "of the 278 tickets, the report says 30 tickets were for illegal street hailing, seven for failing to produce insurance papers and six for dispatching a driver without a valid city-issued vehicle registration or driver's license" (Stolte, 2017). Although these provisions are outlined in the current municipal regulation, City Council feels the need to revaluate the existing regulations so that rules are better communicated to drivers and represent public views. Prior to its current set of regulations, Uber decided to depart from Calgary in April 2016 because it refused to follow the city's first set of bylaws. The Calgary Cab Associations president commented, "It's a fair, level playing field…the only one that doesn't seem to like it is Uber. They don't believe in regulation, they don't believe in proper insurance, paying their taxes" (CBC, 2016). Calgary reintroduced Uber to their ridesourcing market after their existing bylaw was amended to accommodate a fee schedule and driver registration process agreeable to the company (CBC, 2016). In Alberta, public discourse brought up many issues that were referred to but not necessarily addressed by regulations, including Uber's refusal to operate due to district insurance and licensing rules.

The main discourse themes in Ontario include licensing, safety checks, insurance, and tracking and rating. These themes are derived from debate with the taxi industry and city regulators who believe ridesourcing should have the same, if not similar regulations to taxis. In Toronto, the city expressed similar priorities to the taxi industry in a statement declaring, "We look forward to the city screening and licensing individual Uber drivers as soon as possible to ensure that all ground transportation options are safe for Torontonians" (Gray and Moore, 2016). The Toronto

licensing department's views on ridesourcing are similar. They expressed, "The decision means the city will begin screening UberX drivers for criminal backgrounds, driving record and insurance. Ms. Cook said the city would begin to vet information Uber is collecting from its 12,000 drivers…" (Gray and Moore, 2016). Hamilton's discourse towards ridesourcing is also based on regulations, which "means the city will have a database of the some 900 Uber drivers in Hamilton, and can ensure they're following the rules…It already keeps track of the roughly 1,200 taxi drivers employed in Hamilton" (Craggs, 2017). Both Toronto and Hamilton show how the needs of stakeholders are influencing regulation decisions.

In the Province of Ontario, public discourse influences the opinions of the taxi industry and municipalities. London has an established ridesourcing regulation, but Uber was on the fence about continuing to operate there based on the city's proposal for cameras inside vehicles. A media source cited, "Uber argues cameras are unnecessary because it already has safety measures in place, including background checks and the fact that users are provided with drivers' names, photos, license plate numbers and vehicle information." (Dehaas, 2017). In Ottawa, insurance, safety, licensing, and tracking and rating are all prominent discourse themes. Ottawa bylaw enforcement officers are struggling to inspect Uber drivers in its first year of operation due to low staff numbers, although they would like to improve services if given the opportunity. Based on an annual report by the bylaw and regulatory services department, officers "began regular, frequent and ongoing audits of PTC company driver records including: insurance coverage, valid driver license verification, vehicle safety documentation, police records checks and detailed trip data," (CBC, 2017). Discourse themes heavily impact the challenges cities are facing despite having regulations to mitigate their effects on ridesourcing.

Some discourse themes are present in media articles, but not mentioned in every regulation. For example, accessibility themes exist in Toronto and Ottawa. Toronto customers who use accessible Uber vehicles have stated, "In a city where accessibility can often be lacklustre at best, Uber Assist and accessible taxis provide two new ways to explore—and that alone should be celebrated" (Geboers, 2016). Toronto has provisions in its regulation for accessibility. Conversely, in Ottawa, accessibility advocates are trying to introduce accessible Uber fleets without being charged a per-ride levy. A former chair of the city's accessibility advisory committee is, "sceptical that the funds generated through the surcharge will produce an accessible service equivalent to the convenient, 24-hour-a-day one that able-bodied individuals enjoy when hailing an Uber. The funds won't benefit low-income people who can't afford taxi-chits, because taxi-chits must be ordered in advance and mailed out to the purchaser" (Randjbar, 2017). Ottawa does not have accessibility regulations allocated to ridesourcing services. Although accessibility dialogue is present in Ottawa and Toronto, accessibility themes are not present in all cities, nor are they always reflected in regulation.

Public discourse in cities/provinces with emerging ridesourcing dialogue touch on several themes. The three most prominent themes from emerging areas are licensing, safety checks and insurance. In Quebec, licensing and safety checks dominate public discourse in media sources. Quebec's new transport minister Andre Fortin stated, ""This is a matter of fairness for all market partners and for the safety of users…I also intend to work with our partners to develop innovative solutions to provide Quebec users with a modern industry that meets their needs" (Banerjee, 2017). Fortin's statement was in response to renew its pilot program for ridesourcing services, which was initially contested by Uber. Uber is now willing to negotiate with the minister on his new proposals for mandatory training, police background checks, and vehicle inspection. Contention towards ridesourcing in British Columbia is around themes of safety and licensing Uber so that taxi companies have an equal opportunity in the market (Dyck, 2017). BC's current Minister of Transportation and Infrastructure, Claire Trevena stated, "Places that failed to move carefully when they brought in ride-sharing have seen safety issues, unpredictable prices and unstable access to services" (Duran and Yuzda, 2017). In Kingston, Uber Canada's Public Policy Manager is advocating for the right to operate Uber based on studies, which promote ridesourcing for student safety in underage drinking incidents and provides an economic opportunity for seniors and/or immigrants struggling to find jobs (Sheriff-Scott, 2017). The public debate around ridesourcing is well under way in multiple Canadian jurisdictions where regulation is still emerging.

4.4 Comparison of public discourse and ridesourcing regulations

Table 3 compares themes across all cities/regions with established ridesourcing regulations to help recognize patterns and/or outliers. It shows themes that are represented in regulation and themes not represented in regulation. It also shows themes only represented in regulation and areas with neither a theme/regulation attached to it. The discourse analysis concludes most public discourse themes are addressed in areas with established regulation.

Table 3. Regulation and discourse comparison of established jurisdictions.

City	Tracking/ Rating	Licensing	Safety Checks	Insurance	Accessibility	Social
Toronto, ON	D R	D R	D R	D R	D R	D R
Hamilton, ON	D R	D R	D R	R		
London, ON	R	D R	D R	R	R	
Ottawa, ON	R	D R	D R	D R	D	
Waterloo Region, ON		D R	D R	D R		R
Niagara Region, ON	D	D R	D R	D R		
Oakville, ON	R	D R	D R	R		
Calgary, AB		D R	D R	D R		
Edmonton, AB	R	D R	D R	D R		R

D: theme represented in public discourse in the city   R: theme reflected in local regulation

4.5 Strengths of current regulation

The objective of this paper was to understand whether ridesourcing regulations act to mitigate the issues raised in public discourse. Current ridesourcing regulations respond to popular discourse issues in media sources on paper. These issues include criminal background checks, insurance, monitoring driver and trip data through mobile technology, and requiring drivers to obtain formal licenses. Jurisdictions went through long legal battles with local taxi companies to obtain operating approval for ridesourcing services. Each regulation was approved due to extensive discussion on how to lessen the financial and regulatory gap between ridesourcing companies and taxi companies. Now, municipalities are enforcing registration fees, licensing fees and mandatory background checks for all city regulated vehicles. The taxi industry has a strong opposition towards ridesourcing, because they are direct competitors. They have the ability to influence regulators' hands, who oversee both services. As new transportation modes emerge, city planners must anticipate monitoring these services to provide user-friendly experiences for everyone.

4.6 Gaps in current regulation

Many approved ridesourcing regulations in Canada are not consistent. Terminology is by far the largest inconsistency. Some cities have detailed sections on ridesourcing services, which they identify as Transportation Network Companies while others designate them as auxiliary taxis. Another gap is organization, where some regulations generally refer to ridesourcing services, others have specific sections devoted to their regulation details.

Alberta and Quebec have established an overarching ridesourcing regulation which is applicable to all cities in their province. This regulation provides some consistency at the provincial level; however, the way municipalities choose to represent provincial mandates in their own regulation varies. Edmonton and Calgary follow the provincial regulation; however, their local regulations are written differently. In Ontario, each municipality has taken personal ownership of their ridesourcing regulations, meaning no regulation is the same with each highlighting different provisions for services like Uber. The Niagara Region's ridesourcing regulation is not mandated by the municipality. Instead, it is authorized by regional police and covers eleven smaller municipalities in the area whereas elsewhere in Ontario, regulations are directed to one city.

4.7 Public discourse challenges

Safety, insurance, and licensing are primary public discourse issues, whereas social issues are rarely mentioned in media sources. Issues of accessibility (both the supply of accessible vehicles, and service for customers with accessibility needs), driver/passenger discrimination and gender driven safety issues emerge occasionally in the media. Many regulations roughly acknowledge these issues, but not in detail. Accessible fleets are not mandatory in many municipalities according to regulation and discrimination and/or gender themes are rarely mentioned. The imbalance of social discourse themes reflected from the media in regulations demonstrates what municipalities prioritize in their regulations.

The main lesson learned from our analysis of public discourse is that regulations may refer to recurring discourse issues but they are not necessarily solving them. In the case of Edmonton, media sources show how the city is struggling to enforce its regulations, despite having sections for discourse issues such as licensing, insurance, and safety checks. Conversely, during its one-year regulation check-up, Ottawa had no outstanding complaints issued towards ridesourcing services.

The size of the municipality and the duration of the active regulation may be indicators on how a regulation addresses matters of public discourse. In larger cities with larger fleets, there is more data to account for common discourse problems such as driver and passenger safety, accessibility, and social issues, whereas smaller municipalities may not have the data or means to account for them. This is evidenced in London where bylaw enforcement is understaffed to keep up with increased ridesourcing services on the road. A large city may also have a greater scope for public discourse issues, thus providing more provisions for ridesourcing services than others, such as the case in Toronto.

Some jurisdictions enforce very strict regulations reacting to the public discourse. Quebec and Kingston (Ontario) both ran one-year trials for regulating Uber. Both regions are enforcing stricter operating regulations on Uber after assessing the outcomes of their trials, despite Uber's hesitations to continue operating in either place. It is evident that public discourse is a precursor to regulation in Canada, however the nuances of how cities reflect discourse issues in their regulations and whether regulations are actively solving these issues requires further analysis of the industry.

5. Conclusion

5.1 Potential strategies

Our study finds that there are inconsistencies between provincial and municipal ridesourcing regulations between the nine case studies. Municipal regulators, ridesourcing services, and taxi companies may benefit from a systematic approach when implementing ridesourcing regulations. The following tools do not reflect particular policies, approaches, or groups; however, they are general recommendations for jurisdictions moving forward with ridesourcing services:

1. Ensuring all stakeholders are part of working groups to write new or revise existing regulations, including representatives from the taxi industry, elected officials, and city and provincial regulators.
2. Creating a general regulation at the provincial level which serves as a guide for local regulations to keep language, rules, and fees consistent.
3. Running a short-term (e.g. one-year) pilot project for ridesourcing services to gather feedback from stakeholders about the quality of service.
4. Revising regulations between 6 months to one year to ensure issues are being consistently resolved.

5.2 Concluding remarks

Overall, technology enabled ridesourcing services such as Uber and Lyft are changing transportation in Canadian cities. Despite concerns from taxi companies about imposing stricter and fairer regulations for all ride-hail services,

response from city regulators is generally positive. We examined nine Canadian jurisdictions who implemented regulations to allow Uber and Lyft to operate alongside taxis and limousines in the last two years. Of those nine, public discourse has been addressed through provisions in the regulations regarding security checks, licensing, insurance, and making ride information publicly available. Some debates remain, including whether to implement security cameras in registered Uber vehicles, and providing enough accessible fleets to cater to the entire population. Uber and Lyft continue to see development in Alberta, Ontario, Quebec, and British Columbia as more cities decide on how to proceed with regulations. More research into policy development and public response would help monitor the industry and continues to be an important aspect of how Canada can responsibly regulate ridesourcing services to benefit all Canadians.

Acknowledgements

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