5.

ADDRESSING DATA GAPS

There is a major gap in understanding by local governments about how the Sharing Economy impacts a range of city priorities. We found in the LGSE Project that this significantly inhibits local government interest in embracing the Sharing Economy. This chapter explores the current situation and what can be done to address data gaps more effectively.

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5.1
THE CURRENT SITUATION IN TERMS OF SHARING ECONOMY DATA

· **While cities are keen for independent research, the rapid evolution of the Sharing Economy has meant limited time to prioritize efforts or commit funds.** This applies also to organizations[1] that represent cities and Foundations – many who still do not know much about the Sharing Economy.

· **When independent research is conducted[2], it is constrained somewhat by a lack of data from Sharing Economy companies.** For example, the recent study on ride-sourcing in downtown San Francisco by Berkeley's Centre for Transportation Research concluded:

> "At present, ride-sourcing is a new and controversial subject, and access to industry and membership data for research purposes is limited. Since data on ride-sourcing market size and user characteristics are unavailable, we are unable to describe the sample relative to the larger user population."[3]

· **Sharing Economy businesses are generally reluctant to share data citing concerns about competitiveness and user privacy.** While the strongest reluctance is about sharing data on specific users and customers, there is some support for sharing anonymized, aggregated data in order to inform civic dialogue and understanding:

> "I understand the issues about revealing specific data about specific customers...but the more a company can disclose the data on an anonymized, aggregated basis, they can use that to make a specific case that they are doing something good.

We encourage our portfolio companies to be as public with their data as possible." (Fred Wilson, Union Square Ventures).[4]

· **There is also a tension in terms of stifling positive innovation by expecting Sharing Economy businesses to shoulder too much of the burden for data sharing or research, particularly start-ups.** There is a need to ensure that data is available without placing unrealistic expectations on enterprises, especially small and medium-sized businesses, to take the lead on addressing data gaps.

· **At the same time, the lack of data sharing inhibits innovation by local governments.** For example, the National League for Cities released a report in early 2015 called "Cities, the Sharing Economy and What's Next", highlighting the desire of cities to build transportation apps with integrated, real-time data showing all available options. Yet they concluded that:

> "Until more cities negotiate data agreements with TNCs [Transportaton Network Companies]– and are able to collect, effectively analyze and integrate this data with other transportation information – such innovative applications will remain on the wish list."[5]

· **Data sharing is discussed predominantly in the midst of regulatory efforts, which are often time-consuming and expensive.** For example, there is an ongoing legal effort in California regarding the regulation of short term rentals that includes a question of whether hosting platforms should be compelled to share data with the city. And, if so, should it be in an aggregated, anonymized way or at an individual level? In another example, Uber has sued the City of Houston because the company does

not want to release records that would reveal how many drivers it has licensed in the city, who they are, and how the company operates in Texas.[6]

· **Consultants, academics and activists are 'data scraping' in order to mine publicly available data from Sharing Economy platforms in order to conduct research and discern impacts.**

Data scraping is a technique in which a computer program extracts data from publicly available, human-readable output sourced from another program, in this case the program used to inform a Sharing Economy web platform. Data scraping is being used to conduct research about impacts, particularly for carsharing and short-term rentals by the following actors:

- **Graduate students –** e.g. Simon Fraser University Urban Studies master's student Karen Sawatzky scraped the data from Airbnb's website to discern the number, type, and distribution of listings in the City of Vancouver in order to discern impacts on rental housing supply.[7]

- **Consultants –** e.g. Urban Systems used geo-snapshots of Car2Go's publically available real time vehicle location information to determine the trip and system characteristics of one-way carsharing in Metro Vancouver.[8]

- **Community activists –** e.g. Murray Cox who describes himself as a digital storyteller, community activist, and technologist scraps Airbnb listing data to develop Inside Airbnb. Inside Airbnb is a non-commercial set of tools that can help cities or individual neighborhoods answer questions about the numbers and location of listings, revenue generation, which hosts are running multiple listings, and more. [9]

- **Data scraping consultants –** e.g. individual consultants like Tom Slee[10] and companies like Connotate[11] extract data from the web for a variety of clients, including newspaper, travel magazines, and local governments.[12]

Data scraping has limitations in terms of the data that can be accessed and the usefulness of research conclusions, which are acknowledged by those who use the practice.

For example, consultant Tom Slee provides an extensive overview of his methods for Airbnb scraping, and their limitations and usefulness.[13]

- **There are a few cooperative data-sharing precedents between local governments and Sharing Economy businesses.**

For example, the City of Los Angeles and Waze, the world's largest traffic and navigation app, have a data exchange agreement.[14] The impetus for the agreement stemmed from concerns that Waze could be used to track down and target police officers. Under the new agreement, several government departments are now giving Waze information about construction, film shoots, road closures and other events affecting L.A.'s streets. In return, the city receives real-time data about traffic patterns and roadway conditions, including reports submitted by users. Waze users also receive information about any hit-and-run accidents and child abductions.

BOX 5.1
MUNICIPAL KNOWLEDGE AND DATA SHARING

Data, and knowledge derived from best practices, inform many aspects of municipal planning from transportation to education. Unfortunately, data collection and analysis can be a challenge for budget-constrained governments. Not surprisingly, so too is the sharing of data between levels of government, and even between departments within a single governmental organization.

The US government has invested heavily in facilitating access to data across the country with the aim of increasing citizen participation, collaboration, and transparency.[15] One of the Federal Government's key initiatives is the creation of the Data.gov website, which provides access to Federal, state and local data, tools, and resources for research, building apps, designing data visualizations, and other applications.[15]

There are also many examples of governments partnering to increase access to data by building GIS (Geographic Information Systems) data sets. These data sets, and related analytical tools, provide useful information for decision making across the spectrum of municipal services. A few North American examples include:

- The **Colorado Data Sharing Network**, a project of the Colorado Water Quality Monitoring Council, is a web tool for organizations to share data with the public and with each other for the protection of regional water quality.[17]
- The **Alberta Municipal Data Sharing Partnership**, a **partnership of Alberta Municipalities**, facilitates the creation and sharing of standardized municipal GIS data for use in emergency, public and private industry applications throughout the Province.[18]
- The **Ontario Geospatial Data Exchange** provides a centralized sharing of spatial data within Ontario's public sector.[19]

Q.
How do we address data gaps more effectively?

This question is a challenging one to answer. Here are some ideas for further discussion and exploration:

RECOMMENDATION:
Prioritize Sharing Economy research and forge partnerships to fund this research.

While research without data from the Sharing Economy is more limited in scope, it still provides valuable insights. A two-step approach could be more productive moving forward. First, local governments could come together through an appropriate convening organization or network, such as the Urban Sustainbability Directors Network (USDN), in order to discuss and prioritize desired Sharing Economy research as a group. Second, they could create partnerships with universities, research organizations, foundations, or bodies focused on Sharing Economy research to fund and conduct research efforts. The 2015 report on measuring sustainable consumption supported by cities through the USDN Innovation Grant is an example of this two-step approach.[20]

RECOMMENDATION:
Continue to rely on data scraping to understand Sharing Economy impacts.

Despite its limitations, scraped data is being relied upon to inform policy discussion by local governments in the absence of data sharing by companies.

- Urban Systems recent study on one-way carsharing in Metro Vancouver is being used to inform discussions with Translink, the regional transportation agency, and local municipalities to consider their role in supporting point-to-point carsharing and how to ensure that it complements transit.[21]

- Research conducted by Tom Slee and/or Murray Cox has been relied upon in the recent (May 2015) report on the impact of short-term rentals (STRs) on San Francisco housing by the San Francisco Office of the Budget and Legislative Analyst.[22]

Many Sharing Economy companies do not comment on public scraping of their data, nor are they forthcoming in providing their own data to either support or counter data scraping conclusions. For example, Airbnb refused to provide anonymized listing data to the San Francisco Office of the Budget and Legislative Analyst when requested. When asked to comment on the New York City and Portland data published by Murray Cox of Airbnb replied:

> "We do not comment on public scrapes of our information, because, like here, these scrapes use inaccurate information to make misleading assumptions about our community."[23]

Despite these claims that scaped information is inaccurate and misleading, it is the only resort of local government in many instances to understand the impact on important city priorities. And, so, it is likely to be a practice that continues and possibly flourishes in the absence of data from Sharing Companies themselves.

RECOMMENDATION:
Require data sharing when negotiating regulatory arrangements for Sharing Economy activities.

More local governments should follow the leads of Seattle and Portland, which both required data sharing as part carsharing and ridesourcing regulatory agreements respectively. Their approaches are featured in Box 5.2 and Box 5.3 because we view this approach as one of the best ways to more effectively address the information gap about city impacts. Data sharing agreements not only hold the promise of enhancing local government understanding about local impacts and benefits, but accomplishes this in a way that is less time consuming and less costly than other options such as data scraping and protracted regulatory battles. The Portland story in Box 5.2 reveals that the costs for Sharing Economy Companies can also be lower than with other approaches.

BOX 5.2:
DATA SHARING PART OF 120-DAY RIDESOURCING PILOT PROGRAM – CITY OF PORTLAND

In April 2015, Portland City Council included a data sharing requirement as part of a 120-day pilot program to test new for-hire transportation regulations that make it legal for ridesourcing companies like Uber and Lyft to operate. This is the first time ride-sourcing companies Uber and Lyft have shared consumer data with any of the cities in which they operate. In return Portland is taking a lighter regulatory approach on issues such as insurance and the allowance of "price surging".[24] As Portland Mayor Charlie Hales was quoted as saying:

> "We're going to get origin and destination data, data about volume and geography. Where the hot spots are, what parts of the city have been getting neglected. Those are important social justice issues so we will keep a close eye on that."[25]

The pilot program includes some other guidelines for ridesourcing companies such as background checks for drivers and access for disabled passengers. It also experiments with deregulating the taxi industry by, for example, eliminating longtime caps on the number of taxi companies and vehicles allowed, plus removing the requirement for new taxi companies to get City Hall approval to get rolling.

The data gathered from the 120-day pilot will shape final recommendations for regulating private for-hire transportation including pricing to vehicles caps to permit policies to whether Uber should be required to dedicate vehicles to disabled riders. Whether the data received will also help ascertain impacts on vehicle miles travelled and transit usage is uncertain,[26] but certainly the combination of origin and destination data, together with date, time and duration of each trip should provide some value in this regard.

Is the partnership approach in Portland that includes data sharing a model for other cities? David Plouffe, Campaign Manager for Uber, is non-committal: "Maybe it is. Maybe it isn't".[27] But available costs show that Uber spent a lot less in their negotiations with Portland than elsewhere. Uber reported spending $68,000 in Portland compared to $600,000 for a voter referendum in Seattle and lobbyist contracts that range from a state total of $208,000 to $945,000. This cost assessment also does not include undisclosed legal costs which are not available, either from suing, or from the company being sued by various entities, including local government.

RECOMMENDATION:
Give Sharing Economy companies preferential access to city markets if they are willing to share relevant data.

One of the reasons that Sharing Economy companies are concerned about sharing data is that it may give their competitors a business advantage. But what if local governments offered preferential access to city markets – and where relevant a lighter, yet effective, regulatory approach – for those companies who agree to share data? This would then enable cities to address key risks and understand impact on important city priorities.

There are some Sharing Economy companies that recognize the strategic business value of sharing data with local governments. Ridescout is a free mobile app that allows users to find the quickest or cheapest way to travel to their

destination using real-time data on mobility options, including public buses and shuttles, bikesharing, carsharing, scooter sharing, taxi hailing, parking, cycling and walking, that vary from city to city.[28] At a mobility summit to launch the SUMC in October, 2014, Joseph Kopser, CEO of Ridescout stated his intention to share real-time data about the percentage of people travelling in different modes with cities.[29] As a result of this type of willingness to share data, local government and transportation agencies could view partnerships with Sharing Economy companies like Ridescout more favourably.

RECOMMENDATION:
Design simple data sharing systems at the local level based on "carrot and stick" models.

If data sharing is not happening, perhaps local governments could design their own systems at a local level. For example, local governments could make it illegal for STR operators to have an ad on a web platform without a valid permit. As a carrot, they could offer early registrants a free permit for a year (while possibly capping the level or implementing a registration deadline). At the same time, a fine (a "stick") could be leveled at those who do not have a valid permit. Similar to parking tickets, if the fine is paid quickly the amount drops. Pay it after the deadline and the amount rises at key points in time up to a maximum ceiling.

RECOMMENDATION:
Participate in, and ideally cultivate, collaborative opportunities to bring public and private sector leaders together to discuss various Sharing Economy topics including, but not limited to, data sharing.

When is a data sharing request going too far and stifling positive innovation particularly for start-ups? What kind of data is really critical to help local governments understand risks and impacts? Since regulatory battlegrounds are the place where requests for data sharing are most often played out, there is little opportunity for productive dialogue in order to explore mutually beneficial answers to these questions. There are, however, some examples of collaboration between public and private sectors worth paying attention to and, ideally, modelling more broadly:

- The **Shared Use Mobility Centre** (SUMC) based out of Chicago is one of the few entities in North America fostering collaboration – in this case to help connect the growing shared mobility industry with transit agencies, cities, and communities across the nation. It is led by Sharon Feigon, formerly the CEO of IGO carsharing, the non-profit organization that started car-sharing in the Chicago region. SUMC convenes regional mobility summits and workshops, webinars, and educational outreach that bring public and private sector leaders together to learn from each other and discuss effective ways forward. They also conduct and share research,[30] resources,[31] and event listings,[32] and collaborate with local governments to scale shared mobility by providing interactive tools, assisting with RFP development, and more.

- Outside North America, **Share Nederland**,[33] a knowledge and network organization in Amsterdam, believes the best way to advance the Sharing Economy is to facilitate collaboration between all stakeholders. They host roundtables on various themes such as mobility, insurance, banking, and trust, and involve a range of stakeholders such as Sharing Economy startups and companies, local government staff, tax authorities, knowledge centers, interest groups, media, and foundations.

BOX 5.3:
CAR2GO SHARING SURVEY DATA – CITY OF SEATTLE

What can local governments do while a broader effort to foster data sharing is underway? One of the recommendations of the recent USPIRG Innovative Technology Report (Feb, 2015) was to:

"Require, when negotiating regulatory arrangements for these new transportation tools, that providers share their data with public officials, who can then better integrate these services into their planning."[34]

Similarly the CarSharing Association states that they are:

"Supportive of new mobility providers sharing their data with cities to help build seamless integrated mobility across modes."[35]

The City of Seattle recognized the need for data in order to understand the impacts on parking, mobility choices, and congestion when approached in 2013 by Car2Go, a one-way carsharing company. They set up a yearlong pilot with Car2Go that authorized a cap of 500 vehicles, and required a summary of operational and member survey data to be submitted to the city twice a year.[36]

The City of Seattle analyzed the results and published them in May 2014, concluding that "it is unclear how free-floating car share is affecting broader transportation choices throughout the city" based on mixed results:[37]

Positive impacts:
· 39% of members have given up a car or are considering giving up a car;
· 35% are traveling fewer miles in personal vehicles;
· 39% are using their personal cars less often since joining car2go.

Negative impacts:
· 47% of members indicate that they now ride transit less frequently
· 63% of members report that they have not changed the number of miles they travel in a personal vehicle, even with Car2Go use.[38]

The results were positive enough to move beyond the pilot and make free-floating carsharing permanent. The City also increased the permit fee to fund transportation demand management (TDM) efforts, required citywide service areas after two years of operation, and added a standardized survey requirement that could better gauge the short and long term effects of the services.

The City expanded the program to allow up to four car-sharing companies, each given up to 500 permits. An extra 250 permits were allowed for operators who provide citywide service.

The City of Seattle also partnered with the University of Berkeley Transportation Research Center lead by Dr. Susan Shaheen to develop the new survey that would better gauge the impact on vehicle miles travelled (VMT). Car2Go paid for the survey to be developed with the City making a contribution. The study was conducted in December of 2014.[39]

1   Such as the Federation of Canadian Municipalities and its provincial chapters, the American and Canadian Planning Associations and their state/provincial chapters, etc.

2   Lisa Rayle, Susan Shaheen, Nelson Chan, Danielle Dai, and Robert Cervero. *App-Based, On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco.* University of California Transportation Center, 2014. http://76.12.4.249/artman2/uploads/1/RidesourcingWhitePaper_Nov2014Update.pdf

3   Ibid.,18.

4   http://www.tnooz.com/article/do-sharing-economy-startups-have-a-civic-duty-to-share-data/#sthash.8KZ41zQm.dpuf

5   Lauren Hirshon, Morgan Jones, Dana Levin, Kathryn McCarthy, et al. *Cities, the Sharing Economy, and What's Next.* National League of Cities. Center for City Solutions and Applied Research, 2015, p. 9. http://www.nlc.org/Documents/Find%20City%20Solutions/City-Solutions-and-Applied-Research/Report%20-%20%20Cities%20the%20Sharing%20Economy%20and%20Whats%20Next%20final.pdf

6   http://www.huffingtonpost.com/2015/04/29/uber-sues-al-jazeera_n_7171892.html

7   https://shorttermconsequences.wordpress.com/2015/06/

8   http://www.citevancouver.org/quad2015/program/87.pdf

9   http://insideairbnb.com/about.html

10   http://tomslee.net

11   http://www.connotate.com

12   http://www.sfchronicle.com/business/item/Window-into-Airbnb-s-hidden-impact-on-S-F-30110.php

13   http://tomslee.net/2015/04/airbnb-data-collection-methods-and-usefulness.html

14   http://www.latimes.com/local/lanow/la-me-ln-garcetti-partnership-waze-20150421-story.html

15   http://www.data.gov/cities/

16   http://www.data.gov/cities/; The San Diego Regional Data Library published a series of case studies of Municipal Open Data Policies and made recommendations for San Diego area governments to create their own policies. See: http://www.sandiegodata.org/reports/municipal-open-data-policies/

17   http://www.coloradowaterdata.org/aboutcdsn_cdsn.html

18   http://amdsp.ca/index.html

19   http://www.ontario.ca/environment-and-energy/land-information-ontario

20   http://usdn.org/uploads/cms/documents/usdn_measuring_consumption_project_files.zip

21   http://www.citevancouver.org/quad2015/program/87.pdf p.4

22   http://dig.abclocal.go.com/kgo/PDF/265259701-Airbnb.pdf

23   http://www.capitalnewyork.com/article/city-hall/2015/02/8562038/scraped-airbnb-data-shows-58-listings-possibly-illegal

24   http://www.oregonlive.com/commuting/index.ssf/2015/04/user_pays_67750_in_portland_fi.html

25   http://www.cnbc.com/id/102636568

26   http://www.portlandmercury.com/BlogtownPDX/archives/2015/06/04/heres-what-top-secret-info-uber-and-lyft-are-sharing-with-city-officials

27   http://skift.com/2015/06/24/how-uber-conquered-portland-oregon/

28   Ridescout does not include Uber or Lyft currently but does include Sidecar, the small ride-sourcing company operating in San Francisco, Seattle, Los Angeles, Austin and Philadelphia.

29   https://www.youtube.com/watch?v=6UG_Z9YjrQU

30   http://sharedusemobilitycenter.org/research/

31   http://sharedusemobilitycenter.org/news/; http://sharedusemobilitycenter.org/newsletter/

32   http://sharedusemobilitycenter.org/events/; http://sharedusemobilitycenter.org/summits/

33   http://info.sharenl.org/

34   *The Innovation Transporation Index: The Cities Where New Technologies and Tools Can Reduce Your Need to Own a Car.* U.S. PIRG Education Foundation. 4 February 2015, p. 7. http://www.uspirg.org/reports/usf/innovative-transportation-index

35   http://carsharing.org/2014/04/seattle-reports-out-after-one-year-with-car2go-on-the-city-streets/

36   Ibid.

37   *2013 Seattle Free-Floating Car Share Pilot Program Report.* Seattle Department of Transportantion. March 2014. https://worldstreets.files.wordpress.com/2014/04/2013_free_floating_car_share_report.pdf

38   Ibid.

39   Ibid.