

argyle: ————— City of Vancouver

February 2023

# Gig Worker Mobility Study Final Report

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# Executive summary

# Executive summary

Gig work is an emerging sector with unique transportation characteristics. Given there has been little research done to understand gig worker mobility specifically in Vancouver, conducting primary and secondary research to better understand motivations and behaviours is a means to build on the existing body of knowledge. The City of Vancouver wanted to engage with gig workers on the ground to collect feedback on their personal experiences and perspectives. Building a more complete picture of gig workers' travel patterns, including opportunities and challenges, will help the City identify potential areas of action to support gig workers converting to zero- and low-carbon transportation — a key element to achieving its low-carbon targets. With these imperatives in mind, the City engaged a transportation consultant, Parsons, and an engagement consultant, Argyle, to conduct a study on gig worker mobility, using a mixed methods approach. Through a literature review, extensive online survey, virtual focus groups, and intercept engagements, the project team was able to hear from a broad spectrum of gig workers who work in Vancouver. Notable results include:

- Most gig workers worked part-time, five to six days a week, prioritizing midday and evening peak periods; gig workers conduct anywhere from one to 25+ trips per day, depending on the type of work being undertaken.
- More than half of respondents said that they intend to do gig work for the next one to five years.
- Participants tended to choose their transportation mode based on flexibility, convenience, and speed, with active modes (biking, e-biking, scootering) being the preferred option for gig workers operating in denser areas of the city.
- Some mode shifting was reported depending on the nature of work, with gig workers using active modes, often switching to an electric or diesel vehicle when they have a heavier load to transport.
- Preferred locations for drop-offs or pick-ups were dense neighbourhoods with commercial corridors, including the Broadway Corridor, Downtown/False Creek, East Vancouver, and the West End. At the same time, participants noted significant challenges in navigating these areas due to traffic congestion, lack of convenient and affordable parking, and inadequate loading or drop-off areas.
- Other challenges identified were lack of separated cycling infrastructure, poor connectivity between neighbourhoods, expenses of maintaining their transportation mode (particularly when travelling longer distances), personal safety concerns, and broader concerns about the gig work economy.
- There are opportunities for the City to support gig workers to make zero- or low-carbon transportation choices, notably by providing safe and convenient routes for active modes, exploring financial incentives to purchase or rent electric vehicles of all types, expanding existing service sharing programs, and ensuring that new or redeveloped buildings have dedicated parking spaces for EVs, bicycles and e-bikes, and scooters.



# Introduction

# Introduction

The City of Vancouver aims to have two thirds of daily trips be by active transportation and transit by 2030, as well as ensure 50 per cent of the kilometres driven are by zero emission vehicles by 2050. To help achieve these goals in an equitable way, the City needs to better understand the travel patterns of specific user groups, such as gig workers.

Gig work is an emerging sector in Vancouver and across North America. This work is often task-based, such as meal delivery, ride sharing, housecleaning, or dog-walking, is organized through mobile apps, and can be trip-intensive. Gig workers are an important group when it comes to planning for future transportation needs — yet little research has been done on who gig workers are or their unique transportation behaviours.

In 2022, the City received funding from the Carbon Neutral Cities Alliance (CNCA), an organization of global cities working to achieve carbon neutrality in the next 10 to 20 years, and initiated a study to learn about the mobility experience of gig workers in Vancouver and how they could be encouraged to use zero emissions modes.

Learning about who is doing gig work, their movements, travel patterns and motivations will help the City understand gig workers' experiences with Vancouver's transportation network so these considerations can be reflected in transportation plans as the City works to equitably meet its climate goals. Desired outcomes of the study include:

1. Increased understanding of the trends in the gig economy and the movements and motivations of gig workers, through mapping their demographics, their mobility behaviours, and existing barriers to their work performance.
2. Increased understanding of the opportunities to influence mode choice for gig workers from single- or shared-occupancy vehicles to lower emissions modes such as electric vehicles (EVs) or bicycles (including electric bicycles and cargo bicycles).
3. Increased understanding of gig worker considerations in future transportation policies and plans.

Through this study, the project team focused on answering a central research question: how do gig workers experience the transportation network in Vancouver? and posed a series of supporting questions across engagement tactics to help answer this. The Gig Worker Mobility Study took place between April 2022 and February 2023. Study methods and findings are shared in the subsequent sections of this report.

# Methodology

# Methodology

To achieve the desired outcomes, the study methodology included a review of existing literature and studies involving gig workers, as well as engagement to hear from gig workers themselves.

## Literature Review: Summary of findings and implications for engagement

A review of existing literature on gig work and gig workers was undertaken to find information from other jurisdictions related to three key outcomes:

- **Key Outcome #1:** *who are gig workers and what policies would be beneficial for them*
- **Key Outcome #2:** *how can the sustainability of gig work travel be improved*
- **Key Outcome #3:** *how might transport pricing impact gig workers [note that, while this was a study outcome, the engagement process did not specifically ask gig workers to comment on transport pricing; the scope of engagement was the City's future transportation policies and plans, more broadly]*

The literature review sources were varied, including academic papers, newspaper and magazine articles, policy documents, blogs, and survey summaries. While the gig economy is a common presence throughout the world, the body of research remain limited. Information was compiled globally, including data from Canada, United States, United Kingdom, France, and China.

The term gig work itself was first defined as part of this exercise and the literature review revealed a broad consensus of the definition of gig work. Key features of gig work include:

- Digitally focused, accessed via mobile phone apps or websites
- The platform or app connects workers with individuals or companies who want to hire them
- The work is temporary, casual and task-based
- Gig workers are classified as independent contractors or freelancers, and are typically not provided certain protections that are given to employees of organizations and businesses

A summary of trends and characteristics of the gig economy as a whole and findings about gig workers themselves are highlighted as follows:

- Participation in the gig economy has been increasing over the last two decades, with evidence that the pandemic further increased its participation. It continues to attract new participants with a British survey reporting that 38% of gig workers surveyed first got involved within the preceding six months.
- In Canada, the share of gig workers rose from 5.5% in 2005 to 8.2% in 2016 with more women participating than men (9.1% as compared to 7.2%, respectively in 2016), compared to China where the gig economy accounts for 15% of the labour force in 2018.
- In Canada, men are most likely to perform gig work in the field of professional, scientific and technical services (19% of total gig work, as compared to 17.4% of women) whereas

women are more likely to perform gig work in health care and social assistance (20%), however it is not clear from the review on how the industry classes align with common gig work platforms.

- A significant percentage of gig workers earn money from multiple platforms, with an American study reporting that 40% of gig workers use multiple platforms, with an even higher percentage among non-white participants (48%). Of those having experience driving for ride-hailing platforms, 57% reported having also earned money through a delivery app.
- One study in San Francisco showed that almost 80% of gig workers have at least some college education, whereas in Canada a study found that over half of participants had a bachelor's degree or higher, while another study found that linked tax-census data suggests this number is about 36%.
- In the USA and Canada, recent immigrants and non-white adults comprise the majority of participants in the gig economy. A study found that US gig economy participation varies by race, with 30% of Hispanic-identifying respondents, 20% Black, 19% Asian, and 12% White indicating that they have earned money from gig work. In Canada, recent immigrants into Canada are nearly twice as likely to be involved in the gig economy as compared to Canadian-born workers.
- In Canada, the age distribution of gig workers resembles that of the population as a whole for both men and women.
- For most gig workers, participation in the gig economy is temporary and performed in addition to other work, with one Toronto study showing ride hailing gig workers averaging 20 hours/week and an average of 5.5 days/week spent active on the platform.
- The typology of gig workers was studied, and the conclusion was that access to capital is the primary distinguishing factor, which can be broken down into three categories: human (skill), social, and economic (investment). The study landed on four primary types of gig workers: the Platform Professional, the Entrepreneurial Influencers, the Asset Enabler, and the Tasker.
- There is little available research on the home location or the movement patterns of gig workers; however, the built environment may have an impact suggesting that denser urban environments tend to have higher participation levels compared to suburban and exurban environments.

The literature review revealed three categories of potential policies related to gig work: worker protection, data, and mobility. Currently, the classification of workers and the ability to employ worker protections enjoyed by organizations are the biggest industry debates, with gig platform companies asserting workers are independent contractors and laws in jurisdictions worldwide not uniformly agreeing with this assessment. The lack of data availability and transparency in the industry is another issue, as companies treat their data as proprietary and safeguard it as such.

The true impact of the gig economy on the transportation network is still unknown and understanding that gig work in the Metro Vancouver region includes both local and regional trips, there is a need for coordination with regional municipalities in order to conduct monitoring.

The literature review examined transport pricing as it directly relates to gig work, but it did not uncover any direct impacts on gig workers themselves or their opinions towards various pricing schemes.

Finally, engagement strategies and their successes were examined, and it was noted that research goals varied widely along with the respective approaches. As such, key relevant and successful approaches were extracted and used as guidance for the engagement techniques, questions, and target audiences undertaken for this study. For additional detail, the full literature review is included in Appendix A.

### Engagement with gig workers

Central to the engagement strategy for the study was the approach to ‘meet people where they are,’ so that engagement was easy, accessible and worthwhile for participants. Building on the insights gleaned from the literature review, the study conducted desktop research, including a scan of local media sources and social media to identify organizations likely to support gig workers in Vancouver. This included newcomer organizations, educational institutions, community associations, neighbourhood houses, gig worker associations, social media groups, and gig platforms. A list of approximately 40 organizations and 10 social media communities was developed, which formed the basis of an outreach plan to promote the study and encourage participation.

The project team undertook a series of four **interviews with key informants** to further inform the outreach approach as well as the engagement methods and design. Interviews were completed with representatives from the gig work sector (former gig worker), gig work platforms (DoorDash), gig worker transportation provider (Zygg e-bikes), and social service organizations (MOSAIC). Several insights for engagement design and outreach were gleaned from these interviews:

Topic	Insights
Promotions	Due to the decentralized nature of gig work in Vancouver, interviewees said the best way to reach gig workers is through existing networks, such as ethnocultural community organizations, settlement organizations, and post-secondary institutions. Sharing information with these networks supports efficiently reaching large groups of people who are more likely to be doing (or have done) gig work in Vancouver than the general population.
Communications channels	None of the interviewees were aware of communications platforms specific to gig workers in Vancouver, and all noted perceptions of a gap in centralized communications to gig workers. Overall, the project team heard that the best way to reach gig workers depends on their transportation mode. For example, certain groups of gig workers, such as those who do food delivery by bike or e-bike, communicate informally and word of mouth can be very effective in reaching this group. Others tend to work more in isolation, such as those who provide ride share service. Suggestions were provided to look at local Reddits, which may

Topic	Insights
	<p>have locally relevant content that could provide guidance on reaching gig workers in Vancouver.</p> <p>It was noted that gig work platforms have in-app messaging and other direct channels to their users, and would require a formal request to the platform to share information about the study through these channels.</p>
Messaging	<p>To encourage gig workers to complete a survey or sign up for a focus group, interviewees noted it is crucial to make the call to action compelling and relevant, and that tweaking the messaging by mode may be helpful to recruiting participants. One interviewee noted that: <i>“The biggest barrier to reaching gig workers will be time.”</i></p> <p>Recommendations were noted to keep messaging concise so that potential participants can see the advantages of participating, and to limit the use of text, focussing on friendly visuals and the City of Vancouver logo to provide credibility of the study.</p>
Connecting to different types of gig workers	<p>Interviewees noted that different approaches would be needed to reach gig workers in Vancouver, particularly those who use driving as their main mode. The representative from MOSAIC noted that many gig workers may be newcomers, first-generation residents, students (full- or part-time), and people who are retired or semi-retired.</p> <p>Suggestions were heard to reach these groups through settlements organizations and agencies like MOSAIC and Immigrant Services Society (ISS); this would require having translated materials that are easily accessible in locations where people are coming to access training or services. Distributing promotional materials in sites that are familiar and welcoming to potential participants is important for building trust, as some individuals may not immediately feel safe or comfortable participating in a City-led study if they do not have background information.</p>
Incentives	<p>Interviewees suggested an incentive to participate in the study would support participation, such as a prize draw or honouraria.</p>

### Outreach and promotion

These insights informed the outreach plan for the engagement. The project team refined its initial list of stakeholder organizations, and developed an information and promotions package to share with each organization, inviting their participation in the study, and requesting their support in sharing the study information with their communities. Packages included a letter from the City, a one-pager with details of the request and how people could participate, and a supply of supporting promotional materials that could be used on site and digitally. The promotional



materials included posters, postcards, and digital versions of each that could be emailed or shared on social media with a QR code linking to the survey. Print materials were partially translated into the top four languages spoken in Vancouver, based on 2016 Census data (traditional Chinese, simplified Chinese, Punjabi, Korean), with fully translated versions provided digitally. Survey participation was also promoted through paid social media advertisements. Posters, postcards and advertisements all highlighted the chance to win a \$500 gift card after completing the survey. Please see samples in Appendix B.

The project team heard back from several organizations expressing support and agreeing to distribute information to their communities. One gig work platform, Skip The Dishes, agreed to send the information out directly to its roster of couriers in Vancouver.

## Survey

To reach a broad range of gig workers in Vancouver, the project team developed an **online survey** hosted on the CivilSpace platform. The survey included a mix of closed- and open-ended questions to ask gig workers about their day-to-day work, transportation mode(s) and reasons for choosing it/them, locations in Vancouver preferred and avoided, experiences moving around Vancouver, and suggestions for the City to consider in future plans or policies. A mapping question was used to collect comments about specific locations in the city. The survey also included seven demographic questions, all of which were optional, to understand who was being heard from. Please see Appendix C for the full survey text.

## Pop-up engagements

The project team drew from the literature review and key informant interviews to plan and execute **three intercept or “pop-up” engagements** to reach gig workers in busy locations. Intercepts were held in mid-January in three areas identified as being potential hubs for gig workers: the West End (near Jim Deva Plaza), Downtown/Waterfront (including Zygg E-bike Rentals at Main/Alexander, Canada Place, and Waterfront Station), and Broadway Corridor (near Main Street and 14<sup>th</sup> Avenue). Intercepts were planned at identified lulls between peak delivery times (mid-morning and mid-afternoon) to connect with gig workers who were either between jobs or on breaks. The project team sought to engage with passersby who appeared to be gig workers and visited local businesses, community organizations, and educational institutions to put up posters on community boards and to drop off postcards in accessible locations. Overall, intercepts enabled the team to increase the study reach and to build awareness within locations that gig workers frequent.

## Focus groups

The project team also designed **four virtual focus groups** to collect more in-depth information from gig workers in Vancouver. Focus groups were held online to make it convenient for gig workers to attend, recognizing that in-person sessions may present barriers, including time,






location, and COVID-19 safety concerns. Recruitment was done through the online survey, where gig workers who expressed interested could email the project team, as well as through the outreach to stakeholder organizations; a short survey was then shared with all interested individuals to ensure focus groups included representation across gender, location (living and working in Vancouver vs. living outside Vancouver and travelling in to work), and transportation mode.

Based on the key informant interviews, focus groups were held at a variety of times and days, including during non-peak gig work periods (i.e., avoiding the lunch and dinner rushes for those who mainly do food deliveries) and a \$75 honourarium was provided to participants in recognition of their time. These event design elements resulted in a **participation rate of 90%**. The project team heard feedback from gig workers, notably about their perspectives on Vancouver's transportation network — what is working well and what could be improved. Gig workers also shared their motivations for choosing the mode(s) they use which can help inform possible supports to help them shift to a zero- or low-carbon mode. Together the engagement methods enabled the project team to reach a diversity of gig workers and to collect valuable feed on the four research questions.

Please see Table 1 below for a summary of engagement tactics and participation rates.

**Table 1. Summary of engagement tactics and participation**

Tactic	Participation	Dates (2023)
 <b>Online Survey</b>	1,514 responses	January 3-February 3
 <b>Focus groups (4)</b>	54 participants (60 registered); 90% attendance rate	January 24, January 25 (afternoon and evening groups) January 26
 <b>Intercept engagements (3)</b>	~500 posters and post cards delivered to approximately 50 organizations, businesses, restaurants and educational institutions	January 10 – Jim Deva Plaza/West End January 17 – Zygg e-bikes/Waterfront Station/Canada Place January 19 – Main and 14 <sup>th</sup> /Broadway corridor

# Audiences

# Audiences: who we reached

The project team was able to reach a broad range of people doing gig work in Vancouver, including those who live in Vancouver, and those who live outside of Vancouver but primarily work within city limits.

The demographic questions in the online survey revealed that:

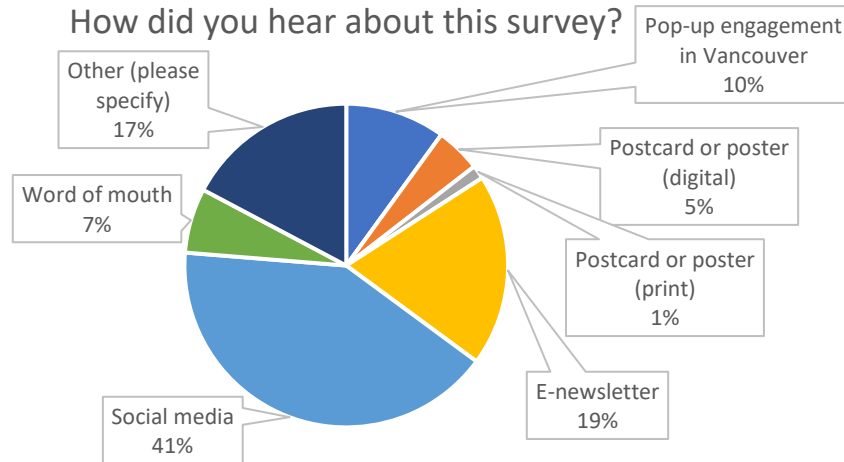
- Most respondents lived in: East Vancouver, South Vancouver or Burnaby (as reported by the first three digits of their postal codes).
- A majority of respondents were men (77%) with 19% women and 1% non-binary or gender diverse.
- Most respondents were 25-34 years of age (45%), followed by 35-44 years of age (23%).
- A diversity of ethnocultural backgrounds was represented, with 42% of respondents identifying as Asian (East Asian, South Asian, Southeast Asian), 20% as North American (Canadian, American, Mexican), and 13% as African (North African, East African, West African, South African).
- In terms of home language, most respondents said they speak English at home (88%) followed by Hindi (20%) and Punjabi (15).
- When asked about their annual household income, 36% of respondents reported earning \$30,000-\$60,000, with 25% reporting earning under \$30,000, and 18% reporting earning \$60,000-\$90,000.

Appendix E includes a full demographic summary from online survey respondents.

To understand how respondents learned about the survey, the project team asked: **How did you hear about this survey?**

The results reveal that most people came to the survey via social media (43%), followed by an e-newsletter (21%), and 'Other' (20%), which included hearing about the survey via email or gig work platform-specific message. A further 11% shared that they heard about the survey from a pop-up engagement in Vancouver.

**Figure 1. Survey source**



While the project team did not ask demographic questions to focus group participants, the following observations were made about these gig workers based on their responses to questions about their everyday work and transportation patterns:

- Many participants reported working mainly in downtown Vancouver.
  - Those who drive or take transit reported travelling from their homes into the city to work; whereas those who use active modes reported working close to home, when possible.
- For those who live in or near dense, central neighbourhoods, biking/e-biking/e-scootering were attractive options (with a smaller number of gig workers reporting walking as their main mode).
  - Neighbourhoods mentioned included Granville Island and Downtown.
- For those who live in or near lower-density neighbourhoods outside of the city centre, e-biking or driving was the preferred transportation mode.
  - Neighbourhoods mentioned included: Marpole/South Vancouver, Burnaby, and Surrey, with gig workers sharing they travel into Vancouver to conduct their work, seeking areas with a high density of gig work opportunities.
- Most participants shared they work full-time hours, with many stating they work 5-6 days a week on average.
  - The majority of participants shared they try to take Sundays off and tend to take a break in the afternoon, when the potential for jobs is lower.

# Results

# Summary of results

To understand gig workers' transportation patterns, needs, and challenges, and to identify opportunities to support shifts to low-carbon transportation, the project team sought to collect feedback to the following four research topics:

1. Day-to-day work
2. Transportation mode and patterns
3. Experiences with the transportation network
4. Suggestions for the City's future policies and plans

## Topic #1: Day-to-day work

To understand gig workers' transportation patterns and behaviours in Vancouver, the project team asked a series of questions about their day-to-day work in the online survey and focus groups. Survey results are summarized first, followed by focus group results.

Please see Appendix D for a full summary of results.

Gig workers were asked: **What gig work platforms do you currently use, or have you used in the past?** Of participants who responded to the survey, 61.5% said that they worked for SkipTheDishes, likely a result of SkipTheDishes sending information directly to its couriers to promote the study and encourage participation. Please note that other food delivery services (UberEats — 42.5% and DoorDash — 48.2%) add to more than 100%, potentially indicating that some gig workers work for multiple apps at the same time. Of the 'Other' category, the greatest number of responses was for Amazon-Flex delivery, which received four responses.

When asked: **“Do, or did you work as a gig worker on a part-time or full-time basis?”**, 64.1% of respondents shared they did gig work on a part-time basis. Of 'Other' responses, the highest response was from three respondents who said they did both full-time and part-time work.

Next, gig workers were asked: **“On average, how many jobs or gigs do you do per day?”** During a given day, 34.6% of respondents revealed that they would do only one or two gigs. This is contrasted with 26% of respondents who would do more than 10 gigs in a day.

For **“Please select the days of the week that you typically do gig work”**, respondents told us that they work consistently throughout the week, with the largest proportion of gig workers working on Fridays (81.6%).

For **“Please select all the times of day that you typically do gig work”**, 85.1% of respondents said they typically work in the evening.

When asked **“Approximately how long have you been doing gig work?”**, most (28.8%) respondents said they have been doing gig work for one to two years, with 22.6% of

respondents selecting six months to one year. A small percentage (6.3%) reported doing gig work for five or more years.

In response to the question: “**How long do you intend to do gig work?**”, more than half of respondents (73.9%) said that they intend to do gig work for the next one to five years.

During the focus groups, participants were asked about their typical day at work, including:

- Preferences on days of the week and times
- Preferences for locations
- Number of trips or deliveries in a day

Of 44 responses to this question in our focus group, the following themes were heard:

**Table 2. Typical day of doing gig work (44 comments)**

Prefer weekdays	17
Prefer weekends	1
Works both weekdays and weekends	18
Comments about work schedule	31
Number of trips/deliveries per day: 1-9	0
Number of trips/deliveries per day: 10-19	19
Number of trips/deliveries per day: 20+	27

Most gig workers worked throughout the week, taking few breaks. Evenings and weekends were peak times for gig workers, likely because there is an increase in food orders and calls for service. Shifts tended to run from 9am to 6-7pm. Generally, most focus group participants preferred to complete 20+ orders in a day before they consider wrapping up for the day. The preferred break time was during the afternoon, between 12-4pm.

## Topic #2: Transportation mode and patterns (work locations)

Building on the project team’s understanding about gig workers’ day-to-day work, a series of questions were posed about their transportation modes and their movement patterns around Vancouver while doing gig work. Survey results are summarized first, followed by focus group results.

When asked about their **main mode(s) of transportation when doing gig work**, the majority of participants (65.5%) said they drove a personal vehicle that uses gas or diesel. A further 13.6% said they drive a personal hybrid or electric vehicle, and 13.1% said they use a motorcycle or

scooter. A combined total of 22.5% of respondents reported using a bicycle (10.8%) or e-bike (11.7%).

When asked about **how they obtained the vehicle they use to do gig work** (own, rent, lease, or borrow), most participants (77.1%) owned the transportation mode that they use. In terms of **if they acquired their vehicle of choice to do gig work**, 62.8% of participants acquired their transportation mode specifically to do gig work.

Participants were also asked **why they chose their transportation mode for gig work**. Participants mainly chose their transportation mode due to flexibility (60.9%), convenience (57.4%) and speed (36.3%).

Focus group participants were also asked about their primary mode of transportation and reasons for choosing it. Themes are summarized in Table 3.

**Table 3. Primary mode(s) of transportation (98 Comments)**

Car/Truck	17
Bicycle	58
Scooter	30
Motorcycle	2
Other (e.g., walk, e-bike, public transit)	11
Other comments unrelated to mode	7

Most focus group participants used a bicycle because of its ability to filter through traffic and to have zero fuel expenses. Several participants noted that being able to navigate traffic congestion, particularly in dense parts of the city, is crucial to being able to work effectively. However, when gig workers receive multiple orders, they shared they would sometimes switch to a car for greater storage capacity and ability to travel longer distances.

For gig workers who mainly walked, undertaking trips within their neighbourhood (e.g., Granville Island) was noted as a preference, with some switching to a different mode (such as e-bike, e-scooter, or driving) to increase their travel radius depending on the nature of their work on a particular day. E-scooters were also preferred because of their speed and ability to weave through traffic.

A small number of participants noted that they take transit or drive to a specific location and then make shorter trips from there (i.e., multi-modal trips).



## Topic #3: Experiences with the transportation network

We asked a series of questions about gig workers' experience moving around the city while they are working and travelling to work. This included questions about work locations preferred and avoided for gig work, what is working well and what needs improvement with transportation. Survey results are summarized first, followed by focus group results.

### **When asked to select which areas within the City of Vancouver they do gig work in**

(referring to the map shown in Figure 2, below), the highest number of respondents shared they do gig work in the Broadway area (47.5%), followed by East (46.4%) and Downtown/False Creek (45.1%).

To understand areas that are challenging for gig workers, survey respondents were asked to **indicate areas in the same map (Figure 2) that they avoid or find difficult**. Of the locations shown in the map, most respondents (43%) said they do not avoid any areas when they do gig work. Others shared they avoid Downtown/False Creek (35%), followed by the West End (23%) and Port (18%) areas.

Figure 2. Map showing areas within Vancouver\*



\*Map adapted from the City of Vancouver Transportation Panel Survey (2020)

Table 4. Reasons for avoiding areas in Vancouver (705 comments)

Traffic	114
Lack of car parking	100
Crime/ personal safety/ security	50
Far distances	41
Not enough opportunity to make money	27
Lack of bicycle/scooter parking	4
Not convenient to work here	4
Other concerns	39
Not applicable	349
Off-topic	53

For those who reported on area or areas they avoid, comments included:

- Avoiding locations such as East Hastings Street, Main Street, and other locations in the city centre because of concerns about safety and traffic congestion.
- Avoiding Downtown and the West End because the lack of parking, traffic congestion and complicated one-way street networks.

Additional themes were:

- **Traffic:**
  - Participants said they avoided the Downtown core because of traffic congestion, difficulty finding parking and the high cost of parking once it was found.
  - Participants said they avoided the Broadway corridor because of construction.
  - Participants felt unsafe due to drivers not following traffic rules.
- **Safety:**
  - Participants said they avoided Chinatown, East Hastings Street and the Downtown Eastside neighbourhood because of concerns about their personal safety.
  - Participants reported thefts of their transportation mode (bike or scooter) as well as the delivery they were carrying.
- **Parking:**
  - Participants thought that bylaw officers were too aggressive in issuing parking tickets.
- **Opportunity to make more money**
  - Participants said they avoided areas with a low density of businesses because of the unpaid travel and time costs it takes to get to the next gig.
- **Other concerns:**
  - Too much competition between gig workers for jobs (sometimes leading to arguments between gig workers).
  - High cost of gasoline and vehicle maintenance.
  - Tip baiting
    - A deceptive practice where a customer offers a large tip to entice a gig worker to select the task in order to get the customer's food delivered quicker. However, while the gig worker is travelling, the customer decreases or eliminates the tip that was initially communicated.
  - Long time required to deliver to high rises and some challenges with accessing a delivery area in multi-unit residential buildings.

Participants were also invited to drop one or more pins on the map to share specific locations in Vancouver where they experience challenges with the transportation network. Results are displayed in Figures 3 and 4, below, and in the summaries following.

Figure 3. Identified areas of concern for gig workers' transportation\*\*

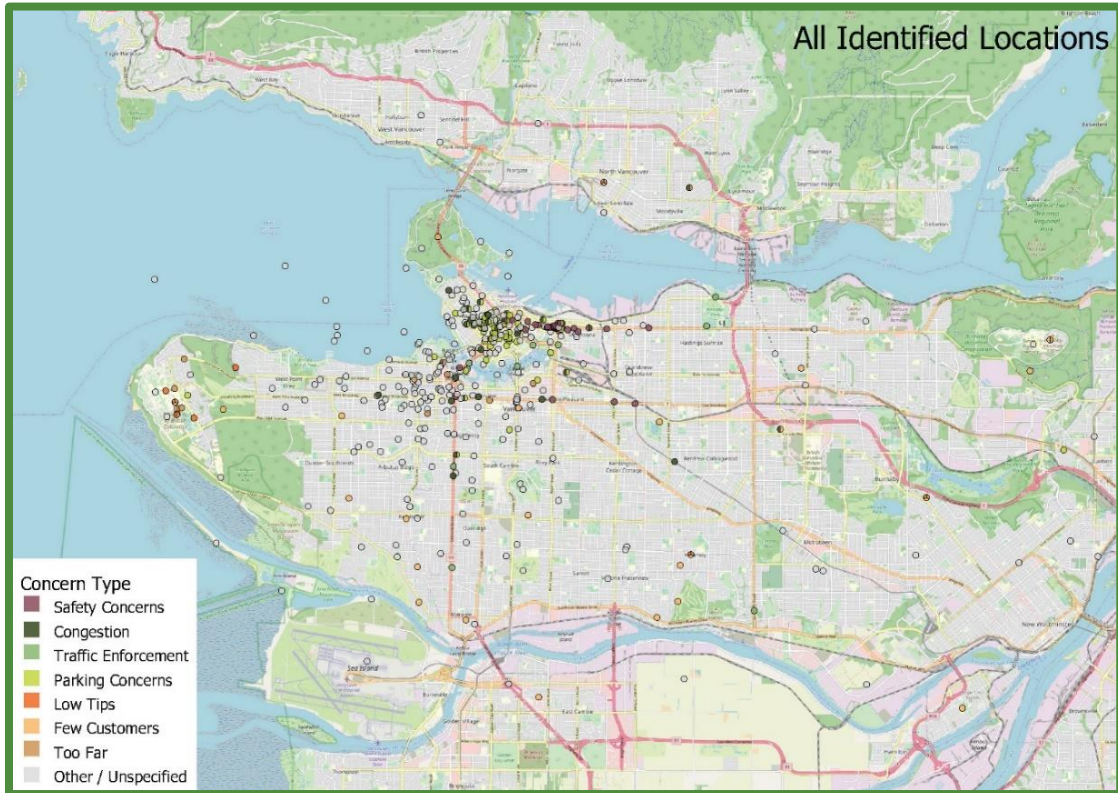
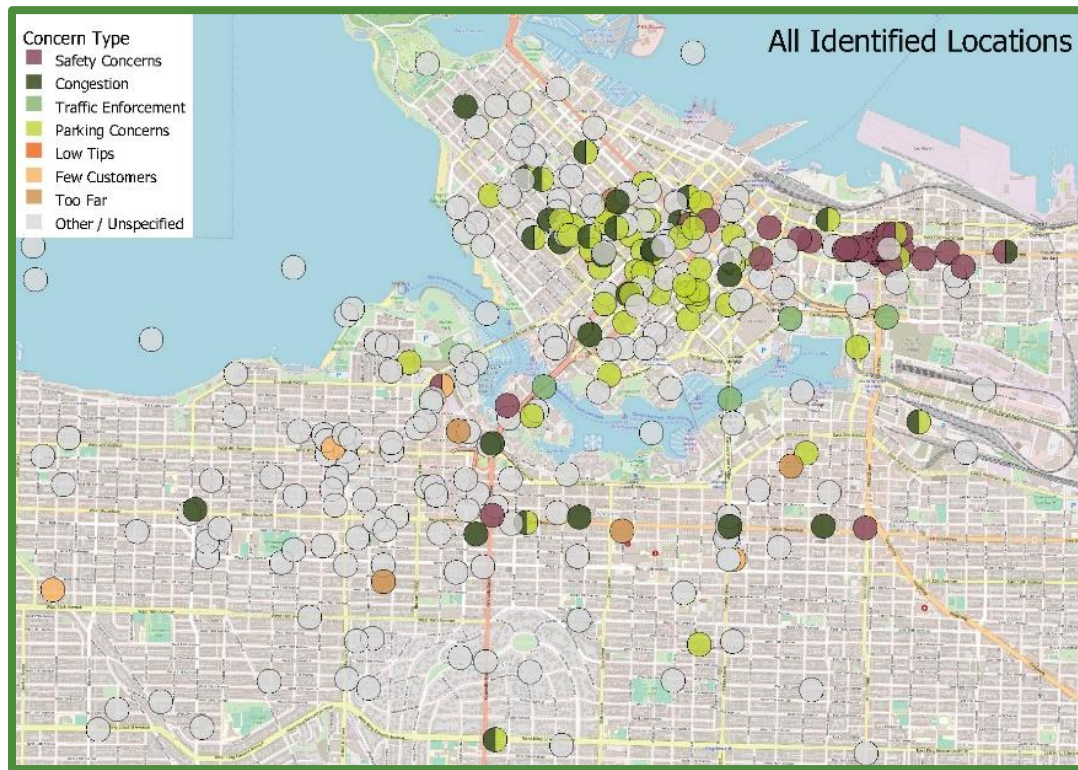




Figure 4. Identified areas of concern — central focus\*\*



\*\*Comments that appeared to be duplicates (same latitude/longitude data and comment) were removed from the dataset.

- Along East Hastings Street, participants experienced concerns for their safety.
- In the Downtown core, participants had trouble finding parking.
- In the Downtown core and along the Broadway corridor, participants experienced traffic congestion, likely due to the construction of a subway.
- In the University of British Columbia (UBC) area, participants said that they get low tips.

Zooming in to locations with a high concentration of identified concerns, compared to other areas, the project team learned several concerns of note.

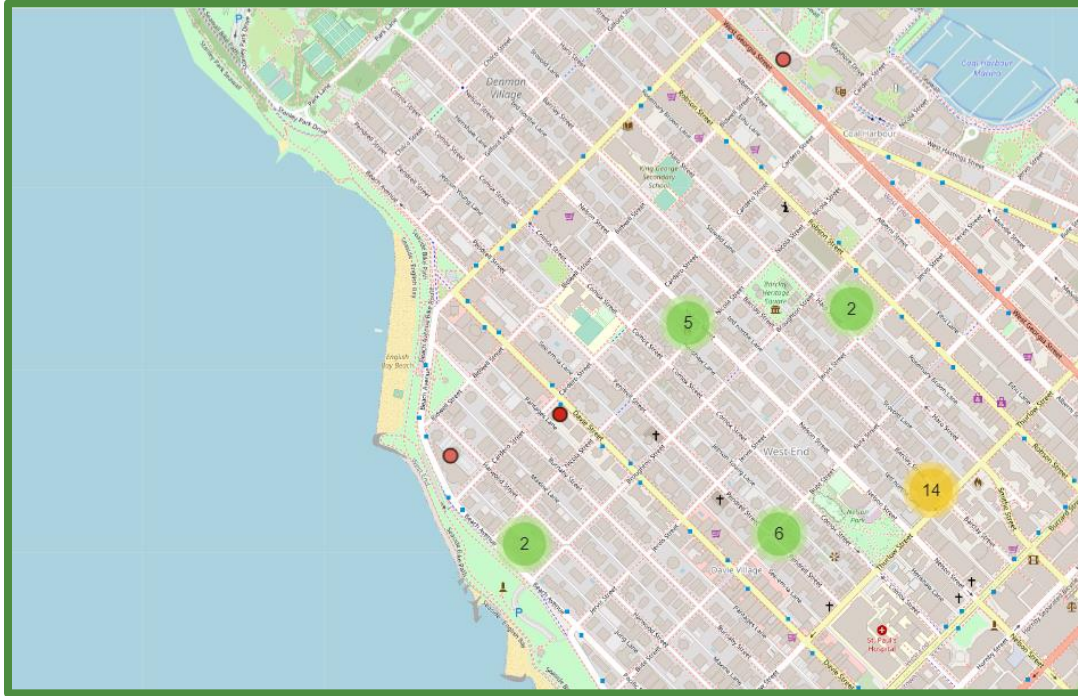
In the **West End**, key concerns were:

- Difficulty finding on-street parking
- Traffic
- Challenge with making deliveries to multi-unit residential buildings
- Concerns about personal safety

Please refer to this legend for area-specific maps (Figures 5 to 10):



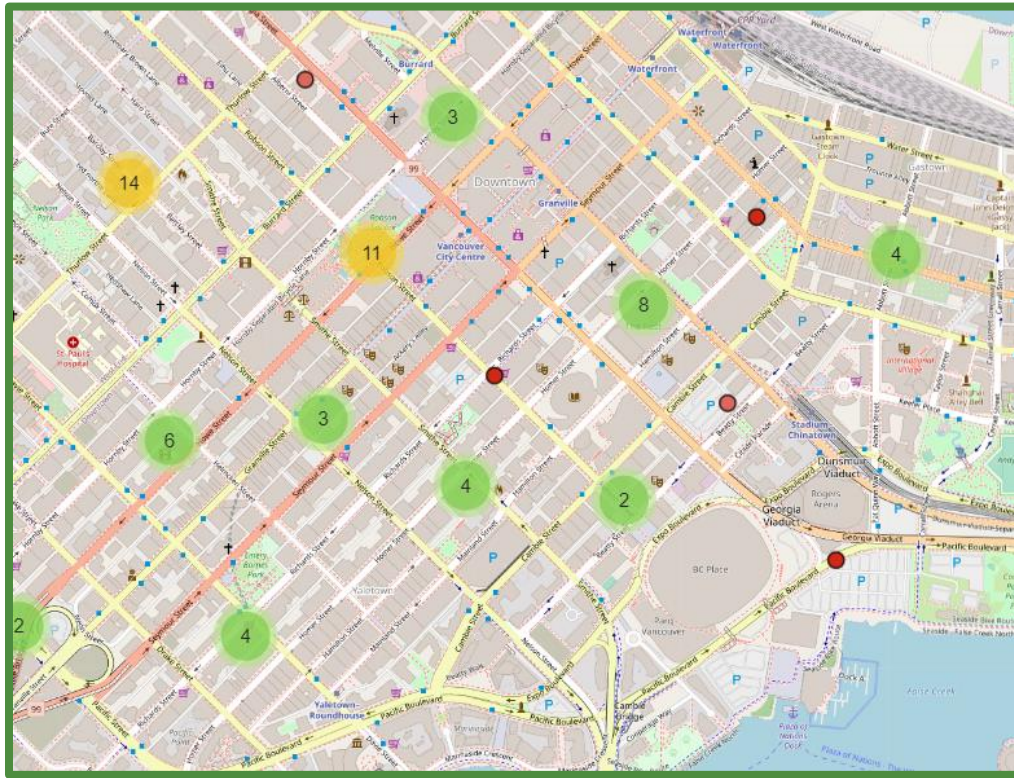
**Figure 5. Identified areas of concern in the West End**



In **Downtown**, key concerns were:

- Lack of on-street parking / high cost of parking
- Traffic congestion and encumbrances
- Too many traffic lights, impeding traffic flow
- Experiencing “bad drivers” on major downtown streets (e.g., Seymour)
- Concerns about personal safety in gathering places (e.g., Robson Square) and along main streets (e.g., Dunsmuir, West Pender, West Hastings)

Figure 6. Identified areas of concern in Downtown

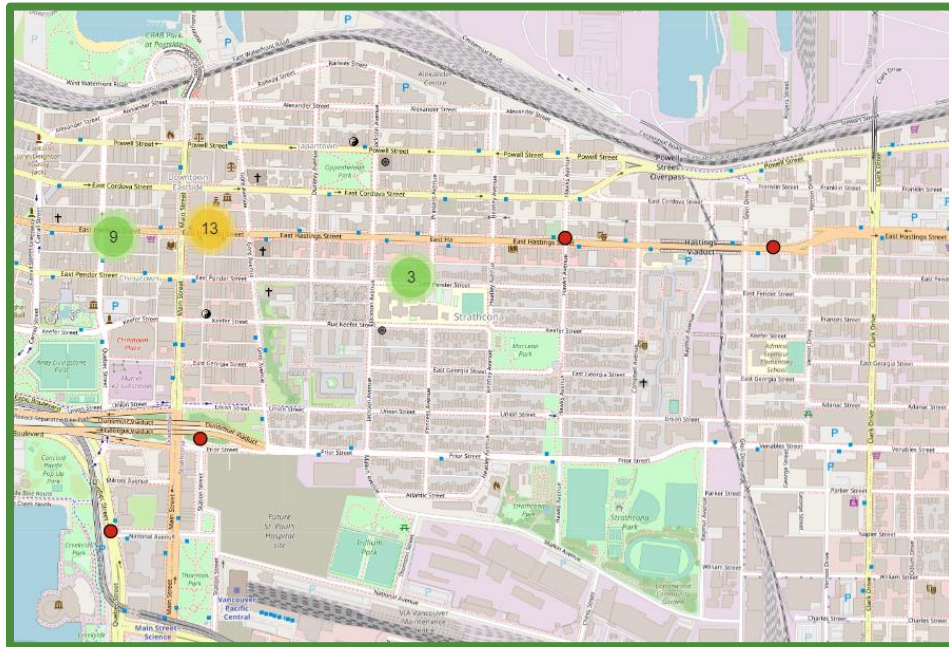


Key concerns in the **Port** area were:

- Concerns about personal safety
  - Some respondents shared experiences of or witnessing robberies and assaults along East Hastings Street
- Lack of parking



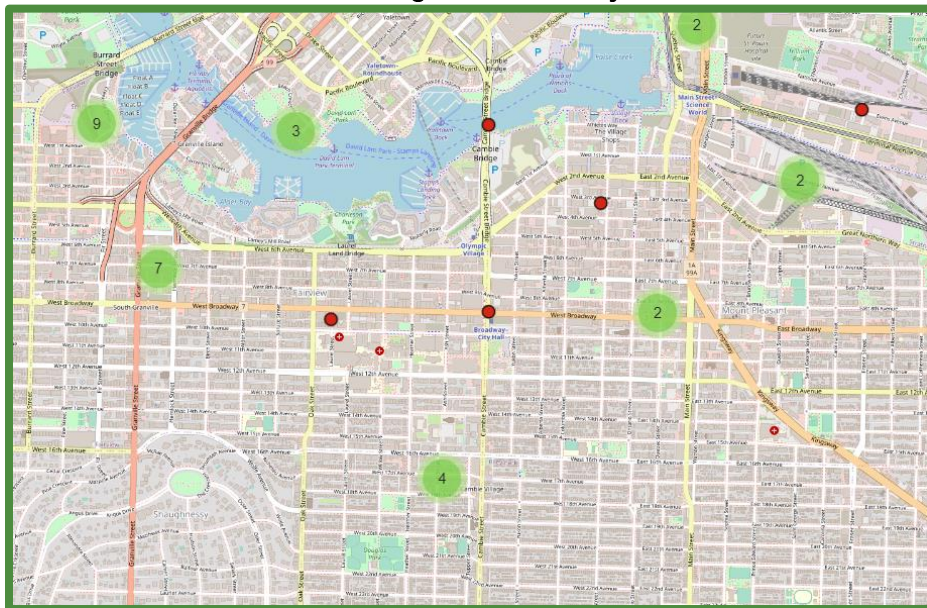
Figure 7. Identified areas of concern in the Port area



Key concerns along the **Broadway Corridor** were:

- Lack of on-street parking
- Traffic congestion
  - Comments about construction on Granville and Cambie Streets
- Receiving tickets from bylaw officers

Figure 8. Identified areas of concern along the Broadway Corridor

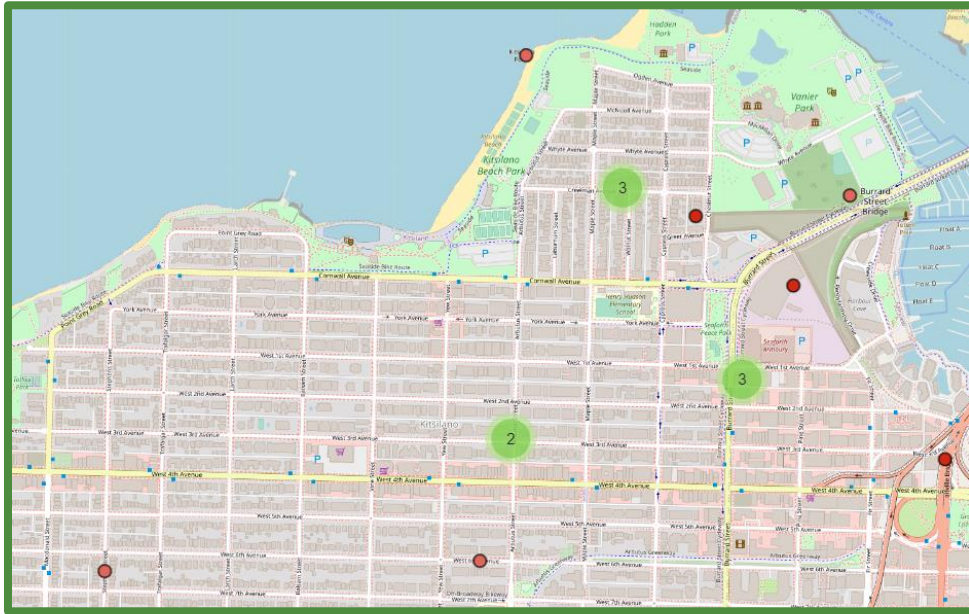




In **Kitsilano**, key concerns identified were:

- Traffic congestion

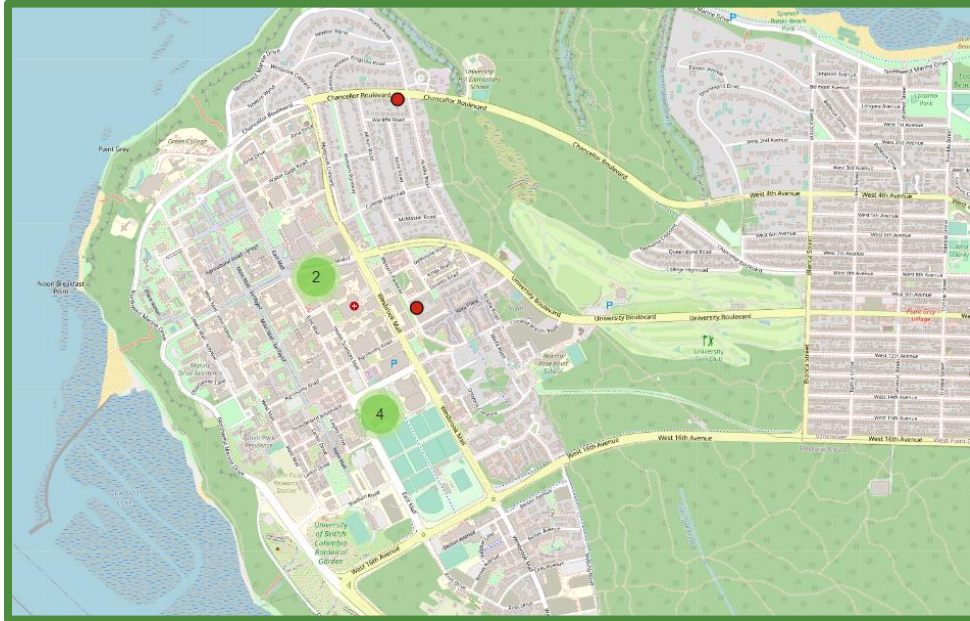
**Figure 9. Identified areas of concern in Kitsilano**



In the **UBC / Endowment Lands** area, key concerns were:

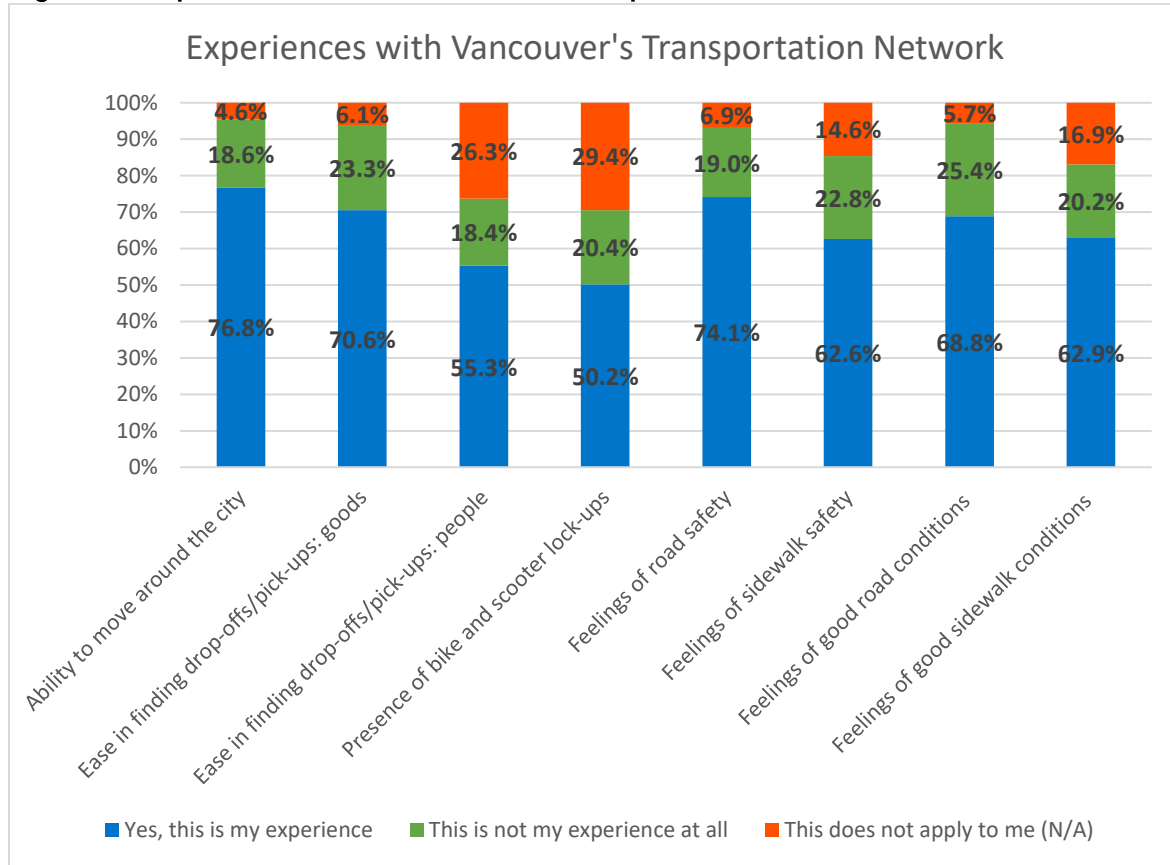
- Difficulty navigating the area
- Lack of on-street parking
- Far distances, few orders and low or no tips make the UBC/Endowment Lands area less desirable for gig workers

Figure 10. Identified areas of concern in the UBC/Endowment Lands area



Following questions about locations preferred and avoided, respondents were asked to indicate their degree of agreement with a series of statements about experiencing Vancouver's transportation network. Results are shown in Figure 11.

**Figure 11. Experiences with Vancouver's transportation network\*\*\***



\*\*\*Full questions included in the survey:

- I am able to move around the city and get to where I am going in a reliable amount of time.
- It is easy for me to find places to drop off and pick up goods.
- It is easy for me to find places to drop off and pick up people.
- There are safe and secure places to lock bikes and scooters at pick-up and drop-off locations.
- I feel safe travelling on the road.
- I feel safe on the sidewalks.
- I feel the roads are in good condition and easy to travel along.
- I feel the sidewalks are in good condition and easy to travel along.

Most participants find that they can safely get around the city, but when they get to their destination, many are unable to find a safe and secure place to lock their bike.

To better understand gig workers' experiences using transportation infrastructure, focus group participants were asked to share how they travel around the city, including what works well and what is challenging. Results are shown in Table 5, below.

**Table 5. Opportunities and challenges with the transportation network** (52 comments)

Traffic	12
Can stay in my neighbourhood (i.e. shorter distances to travel)	9
Crime/ personal safety/ security	8
Far distances to travel	6
Lack of parking	1
Bicycle/ scooter parking	5
Other concerns	18

Participants appreciated high density neighbourhoods like the West End, Downtown and the Broadway corridor because of the concentration of orders and short travel distances.

Participants had concerns with the high level of traffic congestion in Vancouver, language barriers with vendors and customers, lack of safe places to park or lock up their bike and issues around personal safety (e.g. robberies).

Related to traffic congestion and navigating city streets, participants would prefer to see more and better road regulations, enforcement of traffic rules, and education for road users to mitigate traffic conflicts.

Participants' 'Other concerns' included: increasing street lighting at night, being late to deliver orders due to traffic, and carrying many orders at the same time.

## Topic #4: Suggestions for the City's future policies and plans

The final research topic brought all previous inputs together to ask participants what they feel the City should consider in future transportation policies and plans, given their experiences doing gig work. Responses can be used by the City to identify potential focus areas to support gig workers to make zero- or low-carbon transportation choices. Survey and focus group responses to this question are summarized in Tables 6 and 7 below.

**Table 6. Suggestions for the City to consider in future policies or plans — survey (608 comments)**

Improve parking	145
Improve road network or conditions	83
Improve traffic congestion	50
Improve personal safety	47
Improved conditions for bikes/ scooters	45
Urban development schemes and social issues	44
Adjustments to loading zones	44
Improve drop off zones	30
More or better sidewalks	19
Improved policies for gig workers	19
Improve public transit	16
Improve route signage or wayfinding	11
Other	107

Overall, respondents would like to see the City focus on road network improvements to facilitate easier and more efficient movement; a large number of comments related to parking and loading were also recorded. Some respondents shared specific suggestions corresponding to transportation modes (e.g., biking, e-biking, e-scootering, walking). While not entirely related to the research question, suggestions about broader urban development schemes and societal priorities affecting quality of life — namely, a call for greater social inclusion and multiculturalism — were also noted (these results are not included below). Some gig workers brought forward suggestions for policies to regulate the gig work industry and to protect gig workers, ensuring that they have safe and appropriately compensated work conditions. Overall gig workers would like to see the City act to ensure gig work remains a stable and flexible way to earn a living in the Lower Mainland. More detailed feedback and suggestions from participants are included below.

**Improve parking:**

- More parking spots for delivery, especially in the downtown area (noting that gig workers usually spend an average of five minutes at a parking spot).
  - Additional suggestions included special parking permits, paid yearly parking exemption passes, or designated delivery stalls.
- Allow gig workers to park in residential areas without a permit.
- Assign some parking lots for Uber/DoorDash Drivers in busy pickup/delivery areas.
- Remove restaurant patios to free up space for parking.
- Include courier-designated parking spaces in new apartment and condominium buildings.
- Develop strategies that prioritize walking, biking, transit and public space on streets over parking, while considering persons with disabilities and others with essential parking needs.

**Improve road network or conditions:**

- Examine opportunities for left turn lanes to ease congestion from waiting behind left-turning cars.
- Prioritize roads and alleys in poor state of repair for reconstruction (and avoid pavement “patch jobs”).
- Add traffic calming to reduce potential of collisions.
- Consider adding red light cameras at intersections.
- Ensure road signage is visible and well-lit.

**Improve traffic congestion:**

- Enhance connectivity, especially for people using active modes to connect between neighbourhoods.
- Reduce construction and road closures, especially during peak hours.
- Prohibit parking near intersections.
- More consistent snow plowing and salt trucks in the winter.
- Widen roads or add flyovers (with a few suggestions to remove existing bike lanes).
- Dedicate vehicle travel lanes for people doing gig work.
- Allow motorcycles to do "lane filtering" (travelling between lanes or rows of slow moving or stopped traffic moving in the same direction).

**Improve personal safety:**

- Address personal safety concerns, particularly in areas where some gig workers fear having their mode of transportation stolen or damaged.
- General desire for safer environment, particularly at night when lighting is often poor.
- Delivery zones for pickups would help some gig workers feel safer and address their concerns about having their property stolen.



### **Improve conditions for bikes/e-bikes/e-scooters:**

- Allow bikes on certain sidewalks, noting that shared sidewalks exist in large cities like Tokyo.
- Provide more cycling routes in central neighbourhoods, including Downtown and the West End.
- Remove underused bike lanes and move them to safer areas.
- Add more cycling infrastructure outside of the downtown core (e.g., in South Vancouver).
- Provide secure bike parking near building entrances.
- Explore building bike parkades in busy locations for cyclists -- not just downtown.

### **Adjustments to loading zones / drop-off zones:**

- Expand existing commercial loading zones or add specific drop-off zones for gig workers.
  - Locations mentioned: Main Street between East 33rd Ave and East 1st Ave, and along the Broadway Corridor.
- Add more loading bays along downtown streets.
- Designate 5-minute drop-off/pickup only areas outside multi-family residential buildings (ideally, near building entrances) and businesses.
  - Ensure new residential or office high rise buildings have courier spots for deliveries.
- Issue a "Delivery in Progress" permit to gig workers so they can park for 5-10 minutes with hazard lights on.
- Provide delivery zones where vehicles and bikes can be safely left to do drop-offs.
- Provide special parking permits especially for downtown or designated delivery stalls for gig work drivers.

### **More or better sidewalks:**

- Widen sidewalks, particularly on narrow and busy streets.
  - Improve uneven conditions to address concerns about accidents.
- Enforce the city bylaw concerning e-scooters on sidewalks.
- Add well-lit foot paths and sidewalks.
- Mandatory display of street numbers outside building entrances.

### **Improve public transit:**

- Increase frequency and add more public transit routes (light rail and SkyTrain).
- Make transit more affordable and/or accessible to keep more unnecessary vehicles off the roads.
- Move bus stops to accommodate commercial loading zones (e.g., at Commercial-Broadway).
- Transit options to provide alternatives to driving.
- Improve route signage or wayfinding.

**Other suggestions:**

- Provide access to washrooms in hotels/public spaces.
- Have dedicated spaces for locking bikes and scooters.
- Enable cheaper gas for gig workers.
- Work with building owners/managers to provide larger mailboxes for larger deliveries.
- Issue dedicated decals for couriers using motorized vehicles.
- Provide “shelters” for gig workers.
- Provide benefits and insurance for gig workers who drive.
- Better streetlights at night.

The same question was asked of focus group participants; results are shown below.

**Table 7. Suggestions for the City to consider in future policies or plans — focus group (34 comments)**

Dedicated cycling paths	12
Crime/personal safety/security	7
Traffic congestion	6
More sidewalks	5
More bicycle/scooter parking	4
More car parking	3
Other concerns	14

Focus group participants shared several comments on what they think the City should consider in future policies or plans, based on their experiences moving around Vancouver while doing gig work and some of the challenges they encounter. Many of the themes echoed what survey respondents shared, with some additional context provided. Notably, many focus group participants mainly get around by bicycle or e-bike and shared specific suggestions related to improving cycling infrastructure.

**Cycling infrastructure and regulations:**

- Dedicated cycling routes and signage to improve navigability of existing routes.
  - Some cyclists said they rode on sidewalks where cycling infrastructure is not present.
- Interest in better connectivity for busy areas.



- Concerns about cyclists being harassed by police officers.
  - Some felt that cyclists should not be subject to the same laws of motor vehicles as they are smaller and more maneuverable.

#### **Crime, personal safety, and security:**

- General concerns about safety while doing gig work, particularly while working at night when lighting may be poor and there are fewer people around.
- Certain areas are avoided due to concerns about personal safety and security.
- Interest in building networks of gig workers to share information and support for safer work conditions.
- Better signage.
- Better lighting at night.
- Desire for mandatory helmet/safety equipment for all bike and scooter riders.
- Delivery-related concerns to support working safely (e.g., location tracker for late-night deliveries).

#### **Traffic congestion:**

- Perception that more or wider roads would alleviate congestion.
- Desire for alternative routes to circumvent traffic.
- Free flow of traffic so that vehicles can move with ease.

#### **More or better sidewalks:**

- General desire for more or better-maintained sidewalks for gig workers using active modes.
- Wider sidewalks would accommodate people using scooters who prefer not to ride with vehicular traffic.

#### **More bicycle or scooter parking:**

- General desire for more parking and specifically, more convenient parking outside delivery locations.
- Theft is a major concern for gig workers.

#### **More car parking:**

- General need for more parking and specifically, on-street parking to enable convenient deliveries.

# Conclusions

# Conclusions

This research study revealed there are unique considerations for cities to accommodate and plan for the gig work economy in their transportation networks. In Vancouver, gig work continues to be an attractive option for residents, due to its flexibility, convenience, and earning potential; at the same time, gig workers face challenges in moving around the city due to traffic congestion, lack of convenient parking, loading and drop-off zones, safety concerns, and pressure to conduct multiple deliveries during their work shifts while navigating city traffic. Given gig work often involves working in concentrated areas to make many deliveries in a specific time window, low-carbon transportation modes are often advantageous as they allow for these short trips without the associated inconvenience and cost of parking a vehicle; additionally, these modes were perceived to be more enjoyable as they allow for exercise, being outdoors, and avoiding the stress of being stuck in traffic.

Based on findings from the literature review, key informant interviews, online survey, intercepts, and focus groups, several factors were identified that could encourage gig workers to use low-carbon transportation modes:

- Provide convenient, safe, and well-lit parking for bikes, e-bikes, and scooters, particularly along commercial streets and outside multi-unit residential buildings.
- Expand shared service options for low-carbon modes, such as bike share or shared scooters, and ensure they are available across the city — not just in the city centre.
- Provide dedicated parking spaces for bikes, e-bikes, and scooters in new residential buildings.
- Build “shelters” for gig workers to give them a place to rest between jobs.
- Explore adjustments to existing regional transit regulations to allow people to take their bikes, e-bikes, and scooters on public transit (including the SkyTrain) at all times.
- Offer financial incentives for gig workers who use low-carbon and active modes, such as rebates for e-bike purchases, or discounts for bike share memberships.
- Advocate for and connect gig workers to basic education and training for using active modes (this could be done in partnership with local organizations).
- Work with businesses to provide access to washrooms and other facilities.

In addition to these potential areas of support, there are broader opportunities for the City to make policy changes to enable an environment where gig workers are supported to make zero- or low-carbon transportation choices. While most study participants provided feedback about their day-to-day experiences with transportation, some shared feedback of a more systemic nature. The project team noted desire for the City to consider gig work transportation in long-term planning, including better connectivity between communities, consistent infrastructure (e.g., street lights, address signage, road surfacing), and construction protocol, particularly in busy commercial streets. Additionally, given gig workers appear to choose their transportation mode(s) based on their service area or geographic scope, complete communities with a mix of uses may

encourage gig workers to use low-carbon modes as they could perform their work in a smaller area.

This research study revealed that engaging with gig workers can provide valuable insights for cities to consider as they develop transportation policies and plans. Given the high level of interest from gig workers in the online survey, focus groups, and during intercepts, it is clear that gig workers are keen to share their perspectives and to understand what the City is considering in its plans. With many study participants expressing interest in continued engagement, there is potential to build on these findings as they relate to improving zero- or low-carbon transportation options for all residents.

# Appendix A



# **UNDERSTANDING GIG WORK MOBILITY IN VANCOUVER**

## **Literature Review Summary**

**April 2022**



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## 1.0 INTRODUCTION

The City of Vancouver has retained Parsons and Argyle to study the gig economy and gig worker mobility in and around Vancouver. Key outcomes of this study will include:

1. Increased understanding of the trends in the gig economy and the movements and motivations of gig workers, through mapping their demographics, their mobility behaviour, and existing barriers to their work performance.
2. Increased understanding of the opportunities for mode shift for gig workers from single- or shared-occupancy vehicles to lower emissions modes such as electric vehicles (EVs) or bicycles (including electric bicycles and cargo bicycles).
3. Increased understanding of A) the potential effects on gig workers of different transport pricing structures, and B) the potential overall impacts of transport pricing fees on gig workers.

As a first step in conducting this research, a review of existing literature on gig work and gig workers was undertaken. The results of this literature review are documented herein.

### 1.1 Document Organization

The literature review was focused on finding information from other jurisdictions related to three key outcomes, described below:

- **Key Outcome #1:** *who are gig workers and what policies would be beneficial for them* is primarily addressed in the following sections:
  - Section 2 – Definition of Gig Work
  - Section 3 – Description of Gig Work and Workers
  - Section 4 – Recommended Policy Areas
- **Key Outcome #2:** *how can the sustainability of gig work travel be improved* and **Key Outcome #3:** *how might transport pricing impact gig workers* are primarily addressed in the following sections:
  - Section 5 – Engagement Strategies
  - Section 6 – Shifting Gig Work Trips to Sustainable Modes

The strategies, trends and other relevant data will help the project team to shape engagement strategies, survey formats and questions, and policies.

### 1.2 Literature Review Methodology

The literature review sources were varied, including academic papers, newspaper and magazine articles, policy documents, blogs, and survey summaries. While the gig economy is a common presence throughout the world, the body of research – particularly with respect to the three key outcomes of this study – remain limited. As such, the documents reviewed were not restricted to similar peer cities. Information was compiled globally, including data from Canada, United States, United Kingdom, France, and China. Careful attention was given to noting the location of the information in the following sections.

Individual summaries of each relevant article are included in **Appendix A**.

## 2.0 DEFINITION OF GIG WORK

In order to shape an engagement strategy for reaching gig workers, the term gig work itself must first be defined. While the definition for this study can be driven by its specific needs, understanding how other jurisdictions define or frame gig work is useful. The literature review revealed a broad consensus of the definition of gig work. Key features of gig work include:

- Digitally focused, accessed via mobile phone apps or websites
- The platform or app connects workers with individuals or companies who want to hire them
- The work is temporary, casual and task-based
- Gig workers are classified as independent contractors or freelancers, and are typically not provided certain protections that are given to employees of organizations and businesses

Pew Research Center (Anderson et al., 2021) defines gig work as “earning money by using a mobile app or website to find jobs that directly connect workers with people who want to hire them, or by using a personal vehicle to deliver packages to others.” Many other definitions highlighted the temporary nature of the work, with DBEIS (2018) referencing gig work as being “on a short-term and payment by task basis.” Others identify a lack of career or personal growth opportunities. It is noted that this type or similar work has always existed, but the introduction of technology platforms has made more work ‘gigafied’ and expanded the market dramatically.

Some sources cited the informal and non-traditional type of work as compared to a standard employment relationship: “Gig workers are usually not employed on a long-term basis by a single firm; instead, they enter into various contracts with firms or individuals (task requesters) to complete a specific task or to work for a specific period of time for which they are paid a negotiated sum. This includes independent contractors or freelancers with particular qualifications and on-demand workers hired for jobs mediated through the growing number of online platforms,” (Jeon et al., 2019).

There was also attention given to the classification of the gig worker, especially as it relates to worker protections. The classifications included independent contractors, freelancers, and unincorporated sole proprietors. Regardless of the specific classification, the literature revealed consensus that gig workers are denied benefits provided to workers with employee status and lack formalized protection. Bates et al. (2021) pointed out that workers were not independent contractors, but rather “dependent contractors”, reliant on platforms that lack transparency.

### 3.0 DESCRIPTION OF GIG WORK & WORKERS

Section 3 focuses on trends and characteristics of the gig economy as a whole, followed by findings about gig workers themselves. First, the findings from the literature review are categorized by demographic and income related data of gig workers. The duration, frequency and motivations for performing gig work follows. Subsequently, Section 3.7 reports the findings from one study (Ziegler et al., 2020) focused on creating a typology of gig workers in Canada. Given the high relevance and detailed analysis, one section was dedicated to this piece of literature. Finally, Section 3.8 reports information found on trip making of gig workers—an area of research that yielded the fewest results.

#### 3.1 Size of Gig Economy

The gig economy continues to attract new participants. A British survey (DBEIS, 2018) reported that 38% of gig workers surveyed first got involved in the gig economy within the preceding six months, 24% of participants had worked in the economy six months to two years prior to the time of the survey, 14% of participants had worked in the gig economy for more than two years, and 24% were not sure when they started working in the gig economy.

Participation in the gig economy has been increasing over the last two decades, with evidence that the pandemic further expedited gig economy participation. As illustrated in **Figure 3.1**, Jeon et al. (2019) reported that the share of Canadian gig workers among all Canadian workers rose from 5.5% in 2005 to 8.2% in 2016, with more women participating than men (9.1% as compared to 7.2%, respectively, in 2016). In the US, 16% of Americans have earned money from an online gig platform at some point in their life, while 9% of American adults are current or recent gig workers (earned money in the last twelve months) (Anderson et al., 2021).

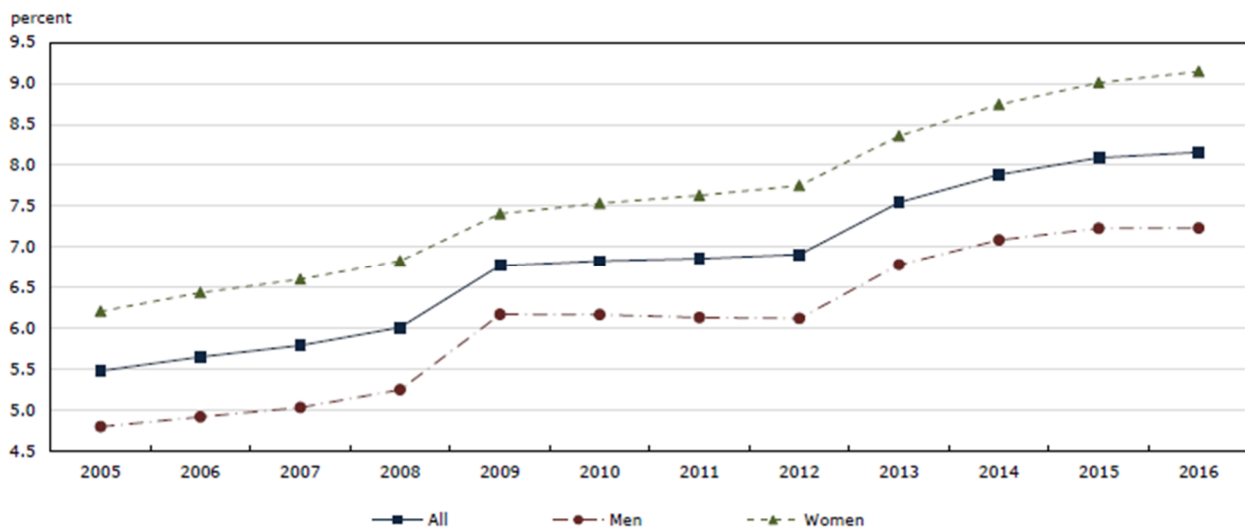


FIGURE 3.1: TRENDS IN THE SHARE OF CANADIAN GIG WORKERS (FROM JEON ET AL., 2019)

In China, the gig economy is even more prolific, accounting for 15% of the labour force in 2018 (Rothschild, 2018). By contrast, only 4.4% of the population of Great Britain worked in the gig economy over the past 12 months (DBEIS, 2018). In Toronto (City of Toronto, 2021), a major source of gig work, vehicle-for-hire use, had been growing prior to COVID-19, although growth had slowed to 5% year-over-year in the year preceding the pandemic (compared to 70% the year before).

### 3.2 Types of Gig Work

The literature review revealed mixed results regarding which type of gig work was the most prevalent, but the review did conclude that gig work is characterized by diversity and complexity. In Canada, men are most likely to perform gig work in the field of professional, scientific and technical services (19% of total gig work, as compared to 17.4% of women) whereas women are more likely to perform gig work in health care and social assistance (20%). The second most populous category of gig work for men is construction (12.4%). The top five industries for men and women are provided in **Table 3.1** (Jeon et al., 2019). It is not clear from the literature how the industry classes generally align with common gig work platforms.

TABLE 3.1: TOP FIVE INDUSTRIES FOR GIG WORK BY GENDER (FROM JEON ET AL., 2019)

Men		Women	
Industry (2-digit NAICS class)	Proportion of total men's gig work (%)	Industry (2-digit NAICS class)	Proportion of total women's gig work (%)
Professional, scientific and technical services	19.0	Health care and social assistance	20.2
Construction	12.4	Professional, scientific and technical services	17.4
Administrative and support, waste management and remediation services	10.6	Administrative and support, waste management and remediation services	13.4
Transportation and warehousing	8.3	Other services (except public administration)	12.7
Arts, entertainment and recreation	8.2	Retail Trade	10.0

In Great Britain, courier services were the most common type of gig work including food delivery and other transport services. The Uber platform was used by 18% of these workers (DBEIS, 2018). Similarly, in the United States, making deliveries from a store/restaurant, driving for a ride-hailing app, running errands, and delivering groceries/packages were some types of work for which gig workers used their personal vehicle (Anderson et al., 2021). One study found that while most delivery workers were self-employed (54%), just over a quarter of them were direct employee positions (couriers for Domino's Pizza, for example) (Dablanc et al., 2021).

#### MULTIPLE PLATFORMS

A significant percentage of gig workers earn money from multiple platforms. An American study reported that 40% of gig workers use multiple platforms, with an even higher percentage among non-white participants (48%). Of those having experience driving for ride-hailing platforms, 57% reported having also earned money through a delivery app (Anderson et al., 2021).

## UNPAID/VOLUNTEER GIG WORK

While not mentioned in the literature that was reviewed, there is also a non-profit / volunteer sector of the gig economy where volunteers connect with non-profits to provide services and expertise. A portion of this sector includes mobility. Focusing on a narrow band within the non-profit sector (those dedicated to reducing food waste) there are examples of non-profits leveraging digital apps to reduce the barriers to volunteering. Second Harvest, a Toronto-based organization, and Food Stash (which as shown in **Figure 3.2**, operates in Metro Vancouver) both rely on volunteers to help pick up and redistribute food to help reduce food waste. Food Runners is another example of a local non-profit leveraging the gig economy to support their mission, via the Vancouver Food Runners app (Alvarez, 2022).



FIGURE 3.2: FOODSTASH OPERATIONS (FROM WWW.FOODSTASH.CA)

### 3.3 Characteristics of Gig Workers: *Who is participating?*

The characteristics of gig workers are categorized by occupation, education and gender; cultural and ethnic background; age, and economic status.

#### OCCUPATION, EDUCATION & GENDER

In Great Britain, the gender profile of gig workers was similar to the overall population (DBEIS, 2018), and in Canada, there is an even distribution of women and men participating in the gig economy (Jeon et al., 2019). Primary occupations of gig workers vary by gender.

The following categories of primary occupation (using the North American Occupational Classification) represent the greatest proportion of female gig workers (Jeon et al., 2019):

- Sales and service (22% of gig workers compared to 8% of the overall workforce)
- Education, law, social, community and government services (20% of gig workers, compared to 12% of the overall workforce)
- Business, finance and administration occupations (17% of gig workers, compared to 8% of the overall workforce)



For male gig workers, the most common occupation classes are:

- Trades, transport and equipment operators (19% of gig workers, compared to 6% of the overall workforce)
- Sales and service (16% of gig workers, compared to 6% of the overall workforce)
- Management (10% of gig workers, compared to 6% of the overall workforce)

A survey of American gig workers revealed that those with less education are more likely to participate in the gig economy. Of respondents with a high school degree or less, 20% had participated in the gig economy; for those with a college degree, that number is only 12% (Anderson et al., 2021).

A study in San Francisco (Benner et al., 2020) showed that almost 80% of gig workers have at least some college education. In Canada, Ziegler et al. (2020) found that over half of participants had a bachelor's degree or higher, while Jeon et al. (2019) found that linked tax-census data suggests this number is approximately 36%.

## **CULTURAL / ETHNIC BACKGROUND**

In the USA and Canada, recent immigrants and non-white adults comprise the majority of participants in the gig economy. A study by the Pew Research Center (Anderson et al., 2021) found that US gig economy participation varies by race, with 30% of Hispanic-identifying respondents, 20% Black, 19% Asian, and 12% White indicating that they have earned money from gig work. In San Francisco, the surveyed ride-hailing and delivery workers were a very diverse group, being comprised of 78% of people of colour and 56% immigrants. The study further distinguished between food delivery workers and ride-hailing drivers. Less than 40% of ride-hailing drivers and more than 55% of food delivery workers are US-born (Benner et al., 2020).

Meanwhile, in Canada, recent immigrants into Canada are nearly twice as likely to be involved in the gig economy as compared to Canadian-born workers (Jeon et al., 2019). Another Canadian study reported that while in terms of absolute / overall participation, most gig workers are Canadian-born and not racialized, new immigrants and Canadians of immigrant families are over-represented in the lower paying types of gig work (Ziegler et al., 2020). This trend is also evidenced by the rise of platforms focused on single immigrant diaspora communities—one study found there were 8 active mobile apps in the Indo-Canadian community (Motaghi & Ntakirutimana, n.d.).

## **AGES**

In Canada, the age distribution of gig workers resembles that of the population as a whole for both men and women (Jeon et al., 2019). However, in other countries, the age profile of gig economy workers tends to be younger than the rest of the population. In Great Britain, 56% of those involved in the gig economy were aged 18 – 34, even though this age range comprised only 27% of the overall population sample (DBEIS, 2018). A Pew Research Center study (Anderson et al., 2021) found similar results in the United States: adults under 30 were especially likely to perform gig work. Meanwhile, a French study found that the average age of gig workers was 31, and 66% of participants were aged 35 or younger (Dabanc et al., 2021).

## ECONOMIC

A study out of the United States revealed that persons with lower incomes were especially likely to participate in the gig economy: 25% of respondents were low income and 13% reported a mid-level of income (Anderson et al., 2021).

While nothing was found in the literature that identified the participation rates of temporary foreign workers in the gig economy, it is known that there is an increase in the trend to hire temporary foreign workers instead of immigrants, who are on track to become or are already permanent residents. For every immigrant/permanent resident, there are two temporary foreign workers entering Canada who are unlikely to be able to stay in Canada after their work permit expires (Macintosh, 2018).

### 3.4 Gig Work and Income

#### A SMALL SHARE OF OVERALL INCOME/WORK

Income from the gig economy generally makes up a small percentage of overall annual earnings. One study in Great Britain found that 65% of gig workers earned less than 5% of their total income in the gig economy in last 12 months, and only 1 in 11 earned a high proportion of their income from gig work (DBEIS, 2018). Gig work is typically performed in addition to the primary way of earning a living, forming an extra source of income rather than being the primary source of income (Anderson et al., 2021). However, roughly the same number of respondents view gig income as important as those that view gig income as not so important (DBEIS, 2018). In another study in the US, 58% of respondents rate gig work as either essential or important to meeting their basic needs (Anderson et al., 2021). Contrary to the rest of the literature, in San Francisco, just over half (56%) of surveyed gig workers report that income from gig work was their only source of income in the month prior to the survey, and most gig workers surveyed (71%) work full time hours ride-hailing or delivering food (30+ hours/week) (Benner et al., 2020).

One study found that for half of gig workers, gig income comprised more than 75% of their total annual earnings (but gig income accounted for only 22% of total annual income from all sources) (Jeon et al., 2019). Another study also found that, similar to the broader labour market, men earn more money than women in the gig economy (Ziegler et al., 2020).

#### LOW WAGES AND LOWER INCOME WORKERS

The total annual income of people that participate in gig work is typically lower than the societal average, with at least two studies reporting that gig workers often earn less than the minimum wage after expenses (Benner et al., 2020; Li et al., 2021). Jeon et al. (2019) discovered that workers in the bottom 40% of earners, in terms of total annual income, were approximately twice as likely to participate in the gig economy than workers in the top 60% of earners in terms of total annual income. The same study found that 35% of gig workers are in the two highest quintiles of income (i.e. in the top 40% of earners), likely performing more highly skilled gig work.

The median net *gig* income of gig workers in Canada in 2016 was only \$4,303 CAD, or \$359 per month (Jeon et al., 2019). In San Francisco, surveyed gig workers earned an average of \$900/week for ride-hailing drivers (estimated at \$360/week after expenses), and \$500/week (estimated at \$224/week after expenses) for food couriers (Benner et al., 2020). Not surprisingly, 45% of those surveyed stated that they could not handle a \$400 emergency expense (for delivery workers specifically the rate was 59%), well above the national rate of

40% (Benner et al., 2020). Meanwhile, study in Great Britain revealed that 25% of respondents earned less than minimum wage (DBEIS, 2018). Another study confirmed this finding: 80% of gig workers in the delivery sector earn less than \$1,500 euros / month (about \$2,000 CAD) (Dablanc et al., 2021).

### 3.5 Duration and Frequency of Gig Work

For most gig workers, participation in the gig economy is temporary and performed in addition to other work. A British survey revealed that 14% said their participation in the gig economy was a one-off (DBEIS, 2018), and in another study, only 30% of gig workers surveyed expected to continue this type of work beyond the next three months (Dablanc et al., 2021). Jeon et al. (2019) analyzed historic data and found that 50% of gig workers who entered the gig economy in one year were not in it the next year. Studies show that long-term participation is rare—only 14% of respondents were involved in the gig economy for more than 2 years (DBEIS, 2018).

The amount of time spent working in the gig economy is typically indicative of part-time work. Only 9% of British respondents reported daily participation in the gig economy (DBEIS, 2018), and 41% of US survey participants reported working less than 10 hours per week. The same US survey reported that 29% of American gig workers allocated 10-30 hours per week in the gig economy. However, COVID-19 has changed some behaviour. During the pandemic, 30% of gig workers reported it as their primary job (Anderson et al., 2021).

Specific to the ride hailing industry, a Toronto study (City of Toronto, 2021) revealed that 87% of ride hail vehicles were active less than 8 hours/day. The study showed workers drive an average of 20 hours/week and spend at least some time of the day active on the platform an average of 5.5 days/week. This subset of gig workers reported it as both a part-time and full-time job.

### 3.6 Motivations for Gig Work

The literature describes motivations for participating in the gig economy as either push or pull factors. For many, job loss, job interruption or the need for additional income (all ‘push factors’) are the reasons cited for picking up gig work (Anderson et al., 2021). This was illustrated by identifying unemployment income earnings and financial distress in the year preceding the one during which workers entered the gig economy (Ziegler et al., 2020). The inability to find other work was cited by 37% of respondents in one study (Dablanc et al., 2021) and in Canada, an increasing share of gig workers have no other means of earning income (Jeon et al., 2019).

Pull factors include independence, flexibility and being able to control their own schedule (DBEIS, 2018; Anderson et al., 2021). During the 2008/2009 recession, men’s participation in the gig economy was impacted to a greater extent, suggesting that men’s decisions to enter the gig economy are more influenced by push factors. Women’s participation, however, may be more influenced by pull factors (Jeon et al., 2019).

### 3.7 Typology of Gig Workers

One study was dedicated to creating a typology of gig workers (Ziegler et al., 2020). The study concluded that access to capital is the primary distinguishing factor, which can be broken down into three categories: human (skill), social, and economic (investment). The study landed on four primary types of gig workers: the Platform Professional, the Entrepreneurial Influencers, the Asset Enabler, and the Tasker. These gig worker typologies are defined as follows:

- **The Platform Professional:** This type of gig worker has made a large economic investment (in equipment, etc.) and has a high level of skill. Some workers of this type offer services from their home (an example could be graphic design through platforms such as Talmix), while others require mobility to perform their tasks (an example could be home repair services through platforms such as Jiffy).
- **The Entrepreneurial Influencer:** This type of gig worker relies on high levels of social capital and skill. They use platforms such as YouTube and Instagram, and crowdsourcing is much more important for this type of worker than others in the typology. Note that this type of worker does not generally fall under the previously discussed consensus definition of a gig worker.
- **The Asset Enabler:** This type of gig worker primarily requires investment; the skills required are generally limited. 'Asset' here refers to property or 'durable' assets (e.g. a vehicle). Service-based in nature, but reliant on the asset. Some meet the consensus definition of a gig worker (e.g. driving using Uber or Lyft), while others do not (renting out the vehicle through Turo or providing short-term home rental through Airbnb).
- **The Tasker:** The lowest barrier to entry, requiring little to no training or capital investment. The work can often be menial (e.g. picking up laundry) and is often invisible. Some of the work may require mobility. For example, physical tasks (through platforms like TaskRabbit) or food delivery by bike (through DoorDash, etc.) would fall under this category. Some tasks, on the other hand, may be done at home (via Amazon Mechanical Turk, for example).

### 3.8 Mobility and Geography

There is little available research on the home location or the movement patterns of gig workers; however, the built environment may have an impact. More dense urban environments tend to have higher participation levels in gig work involving travel and these trips have a greater propensity to be multi-modal than gig work in suburban and exurban environments. One study out of Great Britain noted that gig workers lived in London at a rate double that of the general population (DBEIS, 2018) and another study out of Paris implies that the design of the city and the mobility culture influence the mode choice of gig workers. In Paris, 46% of respondents use a bicycle for gig work, 36% use a motorized two-wheeler like a moped or motorcycle, and 19% use a vehicle-sharing service (Dablanc et al., 2021).

Provinces with major urban centers also have a higher participation rate in the gig economy likely because of increased opportunity to participate in gig work. A Statistics Canada study found that Quebec, Ontario and British Columbia have the highest rates of participation as compared to the other Canadian provinces and territories (Jeon et al., 2019).

The overall impact to the transportation network is uncertain. In a Toronto study (City of Toronto, 2021), ride hailing trips increased by 17% in downtown Toronto, but overall network travel times did not increase. However, other metrics like vehicle kilometers travelled were not considered.

## 4.0 RECOMMENDED POLICY AREAS RELATED TO GIG WORK

The literature review revealed three categories of potential policies related to gig work: worker protection, data, and mobility. These categories do not necessarily align with the jurisdictional role of the City of Vancouver, but do represent the policy areas under discussion and research across the gig economy globally.

### 4.1 Worker Protection

The classification of workers and the ability to have certain worker protections enjoyed by workers employed by organizations, are some of the biggest debates in the industry right now. Gig platform companies assert that workers are independent contractors (Ontario Workforce Recovery Advisory Committee, 2021). However, laws in jurisdictions worldwide do not uniformly agree with this assessment. There was a 2020 ballot measure (referred to as Prop22) that would exempt businesses with app-based drivers like Lyft and Uber from having to classify their drivers as employees, and therefore not requiring the company to provide certain worker protections and benefits. The proposed legislation would prohibit unionization and would not provide minimum workplace safety or pay standards—it namely protected the economic interest of the network companies. The proposition was ruled unconstitutional by a California state judge (O'Brien, 2021).

In another example, the UK Supreme Court found that Uber drivers are not independent contractors but are instead classified as “workers” (which is differentiated from “employees”). Since most workers are classified as independent contractors or sole proprietors, they are not entitled to unemployment and other benefits, nor do they have the same ability to fight against wrongful dismissal. There have been, and continue to be, movements to both unionize workers and to reclassify workers as employees. A slight majority of Americans agree that ride-hailing workers should have greater legal protections (Anderson et al., 2021).

Adding to the complexity of worker protection is the increasing global nature of gig work. The worker could be in one country, the person requesting the work in another and the platform company in a third. Under which country’s jurisdiction does the gig work fall (Macintosh, 2018)?

### 4.2 Data

Contributing to some of the above challenges is the lack of data availability and transparency in the industry. Most of the gig platforms do not feature an ability for workers to communicate amongst each other. The companies treat their data as proprietary, not granting the same access to workers as the company. There is a general lack of transparency on the platforms (Bates et al., 2021).

### 4.3 Mobility

The true impact of the gig economy on the transportation network is unknown, but certain metrics should continue to be monitored including vehicle kilometres travelled, congestion, greenhouse gas emissions, pollutants, mode split and curbside conditions (City of Toronto, 2021). Impacts to safety should also be considered, as one study reported that cycling-based gig workers felt unsafe due to road design and conditions (Benner et al., 2020). Efforts to incentivize and increase the use of zero emission vehicles and active modes should continue to be explored along with curbside management policies.

Understanding that gig work in the Metro Vancouver region includes both local and regional trips, there is a need for coordination with regional municipalities in order to conduct monitoring.

#### **4.4 Temporary Foreign Workers**

The temporary nature of gig work is well aligned with the concept of temporary foreign workers. Filling the increasing gap in the labour market due to Canada's aging population with temporary foreign workers is changing the nature of the future of Canada and the chances of creating decent work for everyone. It is leaning towards building a culture that is permanently temporary (Macintosh, 2018).



## 5.0 ENGAGEMENT STRATEGIES

The studies examined in the literature vary widely with respect to research goals. The main differentiator is the scope of analysis. Many of the studies are national and aim to understand the overall size and characteristics of the gig economy. On the other hand, some studies are done within a single city, and are specific about who is to be interviewed. The small-geography studies tend to ask questions that are more directly actionable through policy.

### 5.1 Information Collection Methodologies

National-scale studies of the gig economy have two general approaches. The first utilizes an examination of existing national datasets. For example, Jeon et al. (2019) used “administrative data” to identify Canadian gig workers. More specifically, the researchers accessed the Canadian Employer-Employee Dynamics Database (CEEDD) and developed a method of using specific types of reported income to categorize gig workers. They also leveraged linked tax data (CEEDD) and Census microdata. This allowed for more detailed analysis of a 25% sample of gig workers, including their education and immigration status. The advantage of using existing national datasets is the extremely large sample size. In the preceding example, the complete CEEDD tax dataset covered all Canadian taxfilers between 1983 and 2016. The main disadvantage is that the researcher is limited to the data already collected and cannot ask new questions specifically related to the research. Additionally, while likely comprising a smaller percentage of overall earnings, under-the-table transactions are unaccounted for.

Other national-scale studies use broad, established panel surveys. These surveys use robust, probability-based sample selection processes such that a representative cross-section of the population is chosen. Examples include the NatCen Panel used in Great Britain (DBEIS, 2018) and the American Trends Panel (Anderson et al., 2021). These panels are useful for providing high-level indicators of the state of the gig economy, such as the overall percentage of the population participating in it. One downside to this approach is that the subset of the population participating in the gig economy remains small enough that questions related to gig work may still need to be quite generalized. In the case of the Pew study, cash incentives were used to improve completion rates, with those in hard-to-reach populations offered higher rates.

Of the studies examined in the literature, those done on a smaller geography tend to be more specific in the types of participants targeted. For example, researchers in Paris (Dabanc et al., 2021) have been conducting quasi-longitudinal studies on food delivery couriers in the northeast area of the city, with separate studies conducted in 2016, 2018, 2020, and 2021. Participant selection was ad-hoc and performed in the field. Interviewers approached potential participants during their work, identifying them via their food warming bags and mode of transportation (typically bicycle or motorcycle). Numerous selection biases were noted in the study. In an example in England (Bates et al., 2021), a similar in-situ approach was used to recruit participants to a co-design workshop. Alternative methods of recruitment were explored, including engaging local unions and governments; however, these groups did not have existing relationships with gig workers. Ultimately, eight cycle couriers participated and were paid the living wage for their time. The small size of the group allowed for an in-depth interview process, understanding the workers’ relationship to their work, the gig platform, their local environment, etc. In San Francisco (Benner et al., 2020), ride-hail drivers were recruited for a survey according to a representative spread of pick-up locations by time of day and day of week. For the same study, recruitment of food delivery workers was clustered around mealtimes throughout 11 different neighbourhoods.

After the beginning of the COVID-19 pandemic, this study switched to an online recruitment process using organized networks and closed Facebook groups.

In the Vancouver study context, the in-situ approach used in Paris for participant identification is likely to be less feasible. Whereas in Paris, many couriers use bikes and motorcycles (and are thus easily identifiable), Vancouver-area couriers may be more likely to drive a car. Further, this study aims to understand the gig economy in its entirety; segments other than food delivery may be “invisible.” The San Francisco study is interesting in its attempt to represent different areas of the city. Unfortunately, it is unclear how workers themselves were identified by the survey team. The online, COVID-affected phase of the study recruitment may be indicative of how specific groups could be targeted (through Facebook, etc.).

## 5.2 Alternative Approaches to Engagement with People Participating in the Gig Economy

All the methodologies presented previously have potential weaknesses in terms of reaching the full breadth of gig economy participants. Hypothetically, administrative data should capture the entirety of the economy. However, not all gig workers will necessarily file taxes on time, and Census data can lag by up to five years. In such a fast-changing sector of the economy, any lag can be a weakness in the research. For national surveys, certain groups will not be reached due to language (the American Trends Panel only asked questions in English and Spanish) or housing status (both panels referenced rely on postal address databases for sample selection). The smaller-scale studies referenced reach very specific groups, rather than the overall gig economy. These factors limit the scope of analysis.

A key to reaching participants throughout the full breadth of the gig economy is to first understand which groups cannot be reached by traditional means. Only then can an approach be developed to engage such groups. Motaghi & Ntakirutimana (n.d.) studied the use of digital mobility platforms within diasporas in Canada, particularly Chinese and Indian communities. The researchers found that there are multiple apps that cater to single immigrant diaspora communities. For example, there are at least eight active mobile apps in the Indo-Canadian community alone.

## 5.3 Key Areas of Inquiry

Listed below are topic areas that may be specifically relevant to the City of Vancouver, beyond the basic information such as gig worker demographics. For all areas of inquiry below, it is assumed that the respondents are referring to the portion of gig work that includes trip making.

- Household or family income without gig work
- Percent of income comprised by gig work
- Duration of participation
- Likelihood of continuing work
- When work is performed (time of day / day of week)
- Variability of participation in the gig economy by season
- Influences on decisions to either pick up work or increase amount of time spent working
- Home location of gig worker (area code)

- Average length of trip
- Trip patterns and destination of trips (do trips tend to stay within the worker's hometown/city, or do they stretch into neighboring communities?)
- Areas or specific locations that is avoided and why

## 6.0 SHIFTING GIG WORK TRIPS TO SUSTAINABLE MODES

It is apparent from some global examples that sustainable modes are viable for some forms of gig work (e.g. food delivery). For example, the Paris study (Dablanc et al., 2021) found that 46% of the couriers interviewed use a bicycle, and some of those were sourced from bike share services. A UK-based study (Bates et al., 2021) focused on bicycle food couriers to uncover opportunities for improving gig work. Moped food deliveries have long been a common sight in major Asian cities, and bicycle couriers are a well-known New York City phenomenon. The density/diversity of the urban centers, road congestion and degree of cycling facilities all play a role in people's mode choice decision. Interview questions could be structured to ask respondents why they don't use a bicycle or motorbike.

The same lead author as the UK study above (Bates et al., 2018) also studied last-mile freight delivery, an industry that relies heavily on gig workers. While this paper focuses primarily on technological methods for improving delivery efficiency in dense areas, it also highlights some of the considerations companies and workers make with respect to vehicles. For example, it is noted that business-to-business (B2B) deliveries may be best suited to larger vans for fewer, larger deliveries. Another consideration is security; vans and other automobiles typically have complex alarm systems, while cargo bikes may not. Electric vehicles are also well-suited to this type of work, but vehicle replacement may not be economically feasible for small businesses or individual workers.

In San Francisco, surveyed gig workers indicated a desire to make deliveries on e-bikes, given a financial incentive to do so. For many existing bicycle-based delivery workers, financial *constraints* push them to choose bicycling. Despite complaints of unsafe road design and conditions (70% reported feeling unsafe), 77% of cycling delivery workers preferred delivering by bike or foot, with key benefits including exercise and lower stress. Another financial obstacle faced by cyclists is the need to purchase specialized equipment for delivery (large bike rack for carrying food, insulated box, etc.); many indicated that these purchases were not subsidized by the platform (Benner et al., 2020).

A key impact point for improving urban, last-mile delivery is the curb. The City of Vancouver may wish to examine policy synchronization between curbside management and sustainability. For example, public EV charging infrastructure could be focused along the curb at dedicated loading zones.

## 7.0 TRANSPORT PRICING SCHEMES & GIG WORK

Transport pricing, as a form of infrastructure user cost recovery, has been in practice for centuries. However, as a form of travel demand management and emissions reduction policy, transport pricing is still young. The scale at which the City of Vancouver is interested in applying transport pricing has been practiced in only a small number of jurisdictions (Singapore, London, Stockholm, Gothenburg, etc.).

In the reviewed literature related to transport pricing, gig workers are only considered indirectly. This occurs in two ways. Firstly, many jurisdictions are considering lower rates (through tax credits, discounts, exemptions, etc.) for low-income users (San Francisco County Transportation Authority, 2020). Many gig workers may qualify for such discounts. Secondly, some jurisdictions charge (or plan to charge) for-hire vehicles differently than private automobiles. For example, the plan for the Downtown Congestion Pricing scheme in San Francisco is to charge drivers on entering the boundary. However, ride-hail vehicles (Uber, Lyft) would also be charged for trips *beginning* within the boundary. The fee (as with airport access fees, etc.) could be passed on to the customer. In London, private hire vehicles are not exempt from the Congestion Charge; registered taxis, however, are exempt. In New York City, a congestion surcharge applies to taxi (\$2.50) and ride-hail (\$2.75) trips in Manhattan. This is separate from the proposed broader congestion charge. A corresponding bylaw applies, imposing a per-trip minimum wage equivalent for ride-hail drivers (Li et al., 2021).

The literature review did not uncover any discussion of tolls and other transport pricing, with respect to impacts on gig workers themselves or their opinions towards such pricing schemes. However, Li et al. (2021) did develop a market equilibrium model that shows a congestion charge is unlikely to change ride-hail ridership if the congestion charge scheme incorporates a driver minimum wage requirement. Under their modelling, the majority of additional costs are borne by the ride-hail platforms.

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<b>Title</b>			
Lessons from one future of work: opportunities to flip the gig economy			
<b>Author</b>			
Oliver Bates et al.			
<b>Client</b>		<b>Date</b>	
Not-Equal and others (academic paper)			2021 (preprint)
<b>Objectives</b>			
The objectives of the study were to: <ul style="list-style-type: none"> <li>• Understand relationship between gig workers and the technologies they use.</li> <li>• How can technology better support workers in the future of work.</li> </ul>			
<b>Data and Data Sources</b>			
The data used in the report included: <ul style="list-style-type: none"> <li>• Results from two 'co-design' workshops, in Manchester and York, UK, with 8 cycle couriers active in the gig economy.</li> </ul>			
<b>Definition of gig work</b>			
"Workers are paid per task, in diverse and growing forms of gig works...through platforms. Gig workers access their next job on-demand via their smartphone...Work is apportioned by hidden algorithms..."			
<b>Characteristics of gig workers</b>			
Characteristics of gig workers include: <ul style="list-style-type: none"> <li>• "These workers are 'dependent contractors', reliant on the platforms to access work that can be irregular..."</li> <li>• Some use gig work as full-time employment.</li> <li>• Diverse group (with respect to language, culture, immigration status, etc.).</li> </ul>			
<b>Income related information</b>			
<ul style="list-style-type: none"> <li>• N/A: Nothing explicitly identified.</li> </ul>			
<b>Trends in gig economy</b>			
Trends (and issues) in the gig economy include: <ul style="list-style-type: none"> <li>• Asymmetrical ratings platform.</li> <li>• Risky job (incentive to disobey traffic laws, etc.).</li> <li>• Poor platform transparency.</li> <li>• Harassment.</li> <li>• Asymmetrical data availability (riders do not share in rich datasets). Riders have difficulty understanding the true impact of the work (distance travelled, time spent, etc.).</li> <li>• Automated, hard-to-dispute dismissal system.</li> <li>• No centralized communications between workers.</li> </ul>			
<b>Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes</b>			
Opportunity to support prioritization of low-carbon transport within gig work platforms.			
<b>Findings and Recommendations</b>			
It was concluded that there is a need to make the gig economy more worker-centric: <ul style="list-style-type: none"> <li>• Include workers in platform/tech design.</li> <li>• Better support for gig workers through data, worker protections, etc.</li> <li>• Explore opportunities for longer-term engagement with gig workers to avoid some of the pitfalls of current research methods.</li> <li>• Better government supports for gig workers (in the UK, gig workers had difficulty obtaining COVID-19 supports).</li> <li>• Sensitivity to makeup of gig workforce (immigration status, language, culture, etc. Make risks, needs different).</li> <li>• Support prioritization of low-carbon transport within gig work platforms.</li> <li>• Can worker owned platforms (e.g. co-ops) 'flip' the gig economy?</li> </ul>			
<b>Other relevant information to the City of Vancouver</b>			
<ul style="list-style-type: none"> <li>• If gig workers in Vancouver have a similar issue with data collection, may not be able to accurately collect/calculate the true wage rates for participants.</li> <li>• Idea of policy-makers requiring prioritization of low-carbon transport relates to Outcome #2.</li> </ul>			

Title	Transforming Last-Mile Logistics: Opportunities for more Sustainable Deliveries		
Author	Oliver Bates et al.		
Client	Academic paper (CHI 2018)	Date	2018
Objectives			
The objectives of the study were to: <ul style="list-style-type: none"> <li>Understand the impact of last-mile parcel deliveries on roads.</li> </ul>			
Data and Data Sources			
The data used in the report included: <ul style="list-style-type: none"> <li>Results from 25 accompanied delivery rounds in London, including GPS data and field observations. Some trips were for B2B (business-to-business deliveries) and some for B2C (business-to-consumer) deliveries.</li> </ul>			
Definition of gig work			
Study specifically refers to a subset of gig or gig-type workers termed 'life-style couriers.' "The term...is used to describe those workers who are either contractors or self-employed."			
Characteristics of gig workers			
Characteristics of gig workers (life-style couriers) include: <ul style="list-style-type: none"> <li>Contractors or self-employed.</li> <li>No guaranteed work. Fixed-term or zero-hour contract.</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>N/A: Nothing explicitly identified.</li> </ul>			
Trends in gig economy			
Trends (and issues) in the gig economy include: <ul style="list-style-type: none"> <li>Rising business overheads and real estate prices has pushed delivery depots further from city centres.</li> <li>Low margin for package delivery industry.</li> <li>Increasing reliance on gig workers / life-style couriers.</li> <li>Increased expectation of fast, 'free' shipping for consumers.</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
Opportunity to support prioritization of low-carbon transport within gig work platforms.			
Findings and Recommendations			
A number of key observations were expressed in the paper: <ul style="list-style-type: none"> <li>Performance of couriers in dense urban areas is highly dependent on personal knowledge. GPS is poor or misleading in terms of curbside information, interior delivery locations, etc.</li> <li>Vehicle choice is dependent on the types of delivery. B2B deliveries may be more bulky in nature and require larger vans. Security may be more difficult with cargo bikes, etc.</li> <li>Curbside management is important.</li> <li>Recommendations in the paper are generally focused on optimization of various parts of the route.</li> </ul>			
Other relevant information to the City of Vancouver			
<ul style="list-style-type: none"> <li>The City of Vancouver might consider incentivizing sustainable modes by tying policies with curbside management policies (e.g., dedicated delivery spots include an electric vehicle charger).</li> </ul>			

Title	A union signed a deal with Uber – but drivers have questions. Inside the messy battle for the gig economy.		
Author	Sara Mojtehdzadeh		
Client	N/A (Toronto Star article)	Date	Feb 10, 2022
Objectives			
N/A (newspaper article)			
Data and Data Sources			
The data used in the report included: <ul style="list-style-type: none"> <li>Interviews with various stakeholders.</li> </ul>			
Definition of gig work			
N/A			
Characteristics of gig workers			
The heart of the conflict described in the article is whether Uber drivers are employees or independent contractors. Suggestion from the labour activist in the article (Ejaz Butt) is that Uber has pushed for a two-tier labour system, and has enlisted a union (UCFW) to create a two-tier union membership structure.			
Income related information			
N/A			
Trends in gig economy			
Trends in the gig economy include: <ul style="list-style-type: none"> <li>Continuation of 'independent contractor' status as status-quo within the Uber platform.</li> <li>Drive to create a top-down 'union-like' environment for gig workers.</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
N/A			
Findings and Recommendations			
N/A			
Other relevant information to the City of Vancouver <ul style="list-style-type: none"> <li>UCFW may be a potential contact point for reaching workers.</li> <li>Entrenchment of independent contractor status may be helpful in forecasting gig economy worker behaviour into the future.</li> </ul>			

Title	How might congestion pricing advance equity in San Francisco?		
Author	San Francisco County Transportation Authority		
Client	SFCTA	Date	Feb 13, 2020
Objectives			
<p>The objectives of the study were to understand how peer cities are using congestion pricing to improve the following:</p> <ul style="list-style-type: none"> <li>• Improving health.</li> <li>• Discounts and exemptions.</li> <li>• Generating revenue.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>• Peer city reports.</li> <li>• Planned San Francisco components of congestion pricing scheme.</li> </ul>			
Definition of gig work			
N/A			
Characteristics of gig workers			
N/A			
Income related information			
Examines trips to/from downtown San Francisco by income.			
Trends in gig economy			
N/A			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
N/A			
Findings and Recommendations			
<p>Some ideas from San Francisco:</p> <ul style="list-style-type: none"> <li>• Estimated 45 fewer vehicle-pedestrian collisions and 3 fewer air pollution deaths over a ten-year period as a result of congestion pricing.</li> <li>• Provide discounts or exemptions for disadvantaged groups.</li> <li>• Co-design investment priorities with vulnerable populations <i>early on</i>.</li> </ul>			
Other relevant information to the City of Vancouver			
<ul style="list-style-type: none"> <li>• Different options for reducing impacts of congestion pricing on certain groups.</li> <li>• No specific consideration for gig workers.</li> </ul>			

Title	China's Gig Economy is Driving Close to the Edge		
Author	Viola Rothschild		
Client	Foreign Policy (opinion)	Date	Sept 7, 2018
Objectives			
N/A (opinion piece)			
Data and Data Sources			
The data used in the report included: <ul style="list-style-type: none"> <li>• Links to various reports, etc.</li> </ul>			
Definition of gig work			
No formal definition provided but it does consider a broader definition than what is proposed for the City of Vancouver study, as the article specifically mentions freelance writers and livestreamers.			
Characteristics of gig workers			
Characteristics of gig workers include: <ul style="list-style-type: none"> <li>• Account for 15% of Chinese labour force at publication time.</li> <li>• Demand for gig work growing substantially.</li> <li>• "Billed as a viable alternative for millennials who prefer [flexibility], and...for a growing number of retirees seeking supplementary income."</li> <li>• Have difficulty accessing their workers' benefits.</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>• As gig economy has grown, the take home pay for workers has shrunk.</li> </ul>			
Trends in gig economy			
Trends in the Chinese gig economy include: <ul style="list-style-type: none"> <li>• Conglomeration and monopolization among gig work platforms.</li> <li>• Significant backlash from workers seeing reduced payments (strikes, protests, etc.).</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
N/A			
Findings and Recommendations			
Overall thesis is to highlight the observed trade-off between economic growth and working conditions in China.			
Other relevant information to the City of Vancouver			
The Chinese setting is very different from the City of Vancouver setting. Not necessarily any major relevant takeaways from the article.			

Title	The Transportation Impacts of Vehicle-for-Hire in the City of Toronto: October 2018 to July 2021		
Author	City of Toronto		
Client	City of Toronto	Date	November 2021
Objectives			
<p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>Summarize trends in the Vehicle for Hire (VFH) industry, building on a previous report.</li> <li>Explore the impacts of COVID-19.</li> <li>Report on accessible services.</li> <li>Analyse broader transportation network impacts.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>Private Transportation Companies (PTC) datasets, collected as required by City of Toronto (CoT) bylaws. Includes trip records, driver availability records, collision records.</li> <li>Taxi datasets, collected as required by CoT bylaws. Includes trip records, daily service logs, collision records.</li> <li>Limousine datasets, collected as required by CoT bylaws. Includes trip records and collision records.</li> <li>Note that taxi data was incomplete. Additionally, taxi brokerages are not required to submit records for street hails.</li> </ul>			
Definition of gig work			
N/A			
Characteristics of gig workers			
<p>Characteristics of gig workers include:</p> <ul style="list-style-type: none"> <li>Drivers are a mix of full-time and part-time (average vehicle is active 20 hours/week).</li> </ul>			
Income related information			
N/A			
Trends in gig economy			
<p>Trends in the gig economy include:</p> <ul style="list-style-type: none"> <li>PTC use had been growing prior to COVID-19, but growth had slowed to 5% year-over-year (compared to 70% the year before).</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
N/A			
Findings and Recommendations			
<p>It was found that:</p> <ul style="list-style-type: none"> <li>PTC vehicles operate 20 hours per week on average. Only 10% operate more than 40 hours/week.</li> <li>Operating hours per (active) day follow an almost linear distribution. 87% of vehicles are active less than 8 hour/day.</li> <li>In the two years prior to COVID, PTC trips increased by 17% Downtown, but network travel times remained stable. VKT and other metrics were not considered.</li> </ul> <p>It was recommended that:</p> <ul style="list-style-type: none"> <li>Continue monitoring impacts and expand to consider VKT, congestion, GHG emissions, pollutants.</li> <li>Monitor impacts on curbside conditions.</li> <li>Further investigate impacts on road safety (initial work was unsuccessful).</li> <li>Collaborate with TTC/universities on impacts on transit and mode share, particularly in post-COVID context.</li> </ul>			
Other relevant information to the City of Vancouver			
<ul style="list-style-type: none"> <li>The research into distribution of PTC hours may be a useful comparison point, and is certainly something to ask in the survey.</li> <li>The recommendation on curbside use research could guide some discussion, particularly with delivery drivers. How can City curbside management policy be improved, etc.</li> <li>Toronto is a more mature PTC market than Vancouver.</li> </ul>			

Title	Fair and Efficient Congestion Pricing for Downtown Seattle		
Author	ECONorthwest		
Client	Uber	Date	July 2019
Objectives			
The objectives of the study were to: <ul style="list-style-type: none"> <li>• Explore the potential impacts of tolls in Seattle (uses one version of area pricing and attempts to assign optimal toll rates).</li> </ul>			
Data and Data Sources			
The data used in the report included: <ul style="list-style-type: none"> <li>• Disaggregate trip records (from local MPO).</li> <li>• Arterial speeds by time of day (from Uber Movement platform).</li> <li>• Demand elasticity model.</li> </ul>			
Definition of gig work			
N/A			
Characteristics of gig workers			
N/A			
Income related information			
<ul style="list-style-type: none"> <li>• Paper explores some of the differential impacts of the proposed toll structure by income, but this is not related to gig workers directly.</li> </ul>			
Trends in gig economy			
N/A			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
N/A			
Findings and Recommendations			
<ul style="list-style-type: none"> <li>• Continue to develop assessment framework and toll operation schemes.</li> </ul>			
Other relevant information to the City of Vancouver			
N/A			



Title	Webinar on diaspora communities (notes from City of Vancouver staff who attended the webinar)		
Author	Hamed Motaghi, Jean-Bosco Ntakirutimana		
Client	Universite du Quebec	Date	
Objectives			
<p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>Understand relationship of diaspora communities (focus on Chinese and Indian communities in Canada) with digital mobility platforms (DMPs).</li> </ul>			
Data and Data Sources			
N/A			
Definition of gig work			
N/A			
Characteristics of gig workers			
<ul style="list-style-type: none"> <li>Some digital mobility platforms (DMPs) focus on single immigrant diaspora communities.</li> <li>New immigrants are often transit users, but ethnic enclaves often encourage a shift to driving.</li> </ul>			
Income related information			
N/A			
Trends in gig economy			
<p>Trends in the gig economy include:</p> <ul style="list-style-type: none"> <li>Growing diaspora community-focused suites of apps (e.g., 8 active mobile apps in the Indo-Canadian community).</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
Factors for the use of DMPs includes built environment attributes.			
Findings and Recommendations			
<ul style="list-style-type: none"> <li>Found that diaspora-focused apps were created in response to lack of community-specific services</li> <li>Recommendation to extend to research to other communities</li> </ul>			
Other relevant information to the City of Vancouver			
<p>This work shows that the goal of reaching a broad cross-section of gig workers users will need to include consideration of diaspora-focused platforms. The needs of these groups may be different from those reached through other platforms.</p>			

Title	Etude sur les livreurs des plateformes de livraison instantanee du quart nord-est de Paris		
Author	Dablanc et al.		
Client	Université Gustave Eiffel	Date	April 28, 2021
Objectives			
<p><i>Note: Text is in French – interpreted by English as primary language authors.</i></p> <p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>Quantify characteristics of food couriers (“Qui sont les livreurs?”).</li> <li>Quantify characteristics of food couriers’ activities (“Comment travaillent les livreurs?”).</li> <li>Understand food couriers’ work environment, etc. (“Quel regard les livreurs portent-ils leur activitie?”), including the impacts of COVID-19.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>Face-to-face interviews with 500 food couriers in north-east Paris (an area with a high population of African immigrants).</li> <li>Results of similar surveys conducted in 2016, 2018 and 2020.</li> </ul>			
Definition of gig work			
Study specifically looks at food delivery services, termed “livraison instantanee”. By the definition in the study, these services connect independent couriers directly with customers via a smartphone application.			
Characteristics of gig workers			
<p>Because of the geographic area sampled, the results of the study are heavily weighted to African immigrants, and is unlikely to be representative of Paris as a whole. Characteristics of gig workers include:</p> <ul style="list-style-type: none"> <li>93% men / 7% women.</li> <li>Average age 31, 66% less than 35.</li> <li>10% French nationality.</li> <li>38% have no diploma, 26% with a post-high school degree.</li> <li>18% students.</li> <li>A minority of workers expect to continue this type of work within three months (30%) and one year (25%).</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>12% have another job.</li> <li>54% self-employed (Deliveroo most popular platform), 28% employees (Dominos, and other businesses that directly employ couriers). 11% work for multiple platforms simultaneously.</li> <li>37% say they can’t find other work.</li> <li>7% of self-employed couriers are part of a union, while 36% say they would be interested in joining one.</li> <li>80% earn less than 1500 euros/month (gross) from their delivery work.</li> <li>Average of 5.5 days/week and 7 hours/day spent working.</li> </ul>			
Trends in gig economy			
<p>Trends in the gig economy include:</p> <ul style="list-style-type: none"> <li>COVID has caused new gig workers, particularly among students.</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
<ul style="list-style-type: none"> <li>46% of respondent gig-workers use a bike and 36% use a motorized two-wheeler (moped, motorcycle, etc.). 19% use a vehicle-sharing service (bike share, etc.).</li> </ul>			
Findings and Recommendations			
No overall findings or recommendations given.			
Other relevant information to the City of Vancouver			
There is a strong culture of biking and motorbiking in Paris, and the density of the city lends itself to using those modes for delivery. Urban form is likely the major impediment to using such modes for gig work in Vancouver.			

Title	The Characteristics of Those in the Gig Economy		
Author	Department for Business, Energy & Industrial Strategy (DBEIS), Great Britain		
Client	n/a	Date	February 2018
Objectives			
<p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>To develop a working definition of the gig economy.</li> <li>To provide a robust estimate of the number of individuals who have found work via the gig economy.</li> <li>To provide detailed information on the characteristics of those who work in the gig economy.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>Data exclusive to Great Britain.</li> <li>The NatCen Panel, a probability-based online survey sampled from the British Social Attitudes survey, was used to provide a robust prevalence estimate of the size of the gig economy. A total of 2,184 interviews were conducted between 6 July and 6 August 2017.</li> <li>Additional survey with YouGov panellists to understand characteristics of those involved in gig economy. In total, 11,825 people were surveyed of which 343 were deemed to be part of the gig economy. Fieldwork was conducted between 14 and 20 July 2017.</li> </ul>			
Definition of gig work			
<p>“The gig economy involves the exchange of labour for money between individuals or companies via digital platforms that actively facilitate matching between providers and customers, on a short-term and payment by task basis.”</p>			
Characteristics of gig workers			
<p>Characteristics</p> <ul style="list-style-type: none"> <li>4.4% of the Great Britain population worked in the gig economy in the last 12 months.</li> <li>Gig workers are generally younger than the rest of the population. 56% of those involved in the gig economy were aged 18 – 34, compared to 27% of the entire sample.</li> <li>Similar educational attainment between gig workers and the sample population.</li> <li>Gig workers tend to live in London at a rate twice as high as compared to the general population of Great Britain (“...of those surveyed, 13% lived in London; but of the subset that were involved in gig work, 24% lived in London”)</li> <li>Gender profile and annual/household income profile of gig workers similar to overall population.</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>14% said involvement had been one-off.</li> <li>25% earned less than minimum wage.</li> <li>Courier services earned the highest levels of hourly income, with a third earning 13/hour and above (7.5 was minimum wage).</li> <li>Annual income from gig work: income earned from the gig economy forms a small percentage of overall annual earnings. 65% earned less than 5% of their total income in the gig economy in last 12 months.</li> <li>1 in 11 earned a large majority of their income in gig economy (greater than 90%).</li> <li>Gig economy income generally viewed as extra source of income, not primary source.</li> <li>Opinions split on the importance of the gig economy income. 42% viewed their income as important, while 45% viewed it as not so important.</li> </ul>			
Trends in gig economy			
<p>Trends in the gig economy include:</p> <ul style="list-style-type: none"> <li>Courier services was the most common type of gig work.</li> <li>Provision of transport services and food delivery each made up about a quarter of work.</li> <li>Uber platform used by 18%.</li> <li>38% first got involved in the gig economy in last 6 months; 24% worked in the economy 6 months – 2 years and only 14% had been involved more than 2 years.</li> <li>Over half are involved in the gig economy more than once per month.</li> </ul>			

Title	The Characteristics of Those in the Gig Economy
<ul style="list-style-type: none"> <li>• 9% had daily involvement in gig economy.</li> <li>• 14% said involvement had been one-off.</li> <li>• Workers highly value independence and flexibility in gig work.</li> <li>• Work-related benefits and level of income were two items 1 in 4 stated they were very or fairly dissatisfied with.</li> <li>• 41% of respondents plan to continue providing services in the next 12 months, while 39% said they will not.</li> </ul>	
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes	
N/A	
Findings and Recommendations	
No overall findings or recommendations given.	
Other relevant information to the City of Vancouver	
Strong organization categorization of questions in this survey; may be a useful precedent for City of Vancouver study.	

Title	The State of Gig Work in 2021		
Author	Pew Research Center (M. Anderson, C. McClain, M. Faverio, R. Gelles-Watnick)		
Client	n/a	Date	December 2021
Objectives			
The objectives of the study were to: <ul style="list-style-type: none"> <li>“Understand Americans’ experiences and attitudes relating to earning money from online gig platforms.”</li> </ul>			
Data and Data Sources			
The data used in the report included: <ul style="list-style-type: none"> <li>Survey of 10,348 US adults from August 23-29, 2021. All participants from the Center’s American Trends Panel (ATP), an online survey panel that is recruited from a random sampling of residential addresses. Survey is weighted to be representative of US adult population by gender, race, ethnicity, partisan affiliation, education, and other categories.</li> </ul>			
Definition of gig work			
“Gig platform work refers to earning money by using a mobile app or website to find jobs that directly connect workers with people who want to hire them, or by using a personal vehicle to deliver packages to others.”			
Characteristics of gig workers			
Characteristics of gig workers include: <ul style="list-style-type: none"> <li>Adults under 30, Hispanic adults and those with lower incomes especially likely to do these jobs.</li> <li>Non-White adults make-up a greater percentage of those working in the gig economy. 30% Hispanic, 20% Black, 19% Asian, 12% White have earned money in the gig economy.</li> <li>25% of those that have earned money in the gig economy are low income, while 13% report middle income.</li> <li>Lower education levels prevalent, 20% high school degree or less, and 17% have some college.</li> <li>Wanting to save extra money, covering gaps or changes in income and being able to control their own schedule are the top reasons cited for why they have taken gig jobs.</li> <li>Gig work using the personal vehicle for: making deliveries from a store/restaurant, running errands, driving for a ride-hailing app, shopping for and delivering groceries or packages.</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>More gig workers say this work is something they do on the side, rather than the primary way of earning a living.</li> <li>58% state that gig work is either essential or important to meeting their basic needs.</li> </ul>			
Trends in gig economy			
Trends in the gig economy include: <ul style="list-style-type: none"> <li>16% of Americans have earned money from an online gig platform at some point in their life.</li> <li>9% of American adults are current or recent gig workers (earned money in the last 12 months).</li> <li>41% put in less than 10 hours per week, while 29% put in 10-30 hours per week.</li> <li>About 40% of gig workers have earned money using multiple types of platforms. This is higher for non-White persons(48%).</li> <li>Among those who have ever driven for ride-hailing apps, about six-in-ten (57%) also say they have earned money making deliveries from a restaurant or store for a delivery app.</li> <li>Aug 2020-Aug 2021 (pandemic), 30% of gig workers report it was their primary job during this time.</li> </ul>			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
<ul style="list-style-type: none"> <li>57% of Americans think those driving for ride-hailing companies deserve greater legal protections from being mistreated.</li> <li>37% of American adults have used delivery apps to order from restaurant or store in past year.</li> </ul>			
Findings and Recommendations			
N/A			
Other relevant information to the City of Vancouver			
N/A			

Title	Measuring the Gig Economy in Canada Using Administrative Data		
Author	Statistics Canada		
Client	n/a	Date	December 2019
Objectives			
<p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>To identify gig workers based on characteristics of their work arrangements and how these are reported in tax data.</li> <li>To estimate the size of the gig economy in Canada.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>2016 Census microdata, tax data.</li> </ul>			
Definition of gig work			
<ul style="list-style-type: none"> <li>“Gig workers are usually not employed on a long-term basis by a single firm; instead, they enter into various contracts with firms or individuals (task requesters) to complete a specific task or to work for a specific period of time for which they are paid a negotiated sum. This includes independent contractors or freelancers with particular qualifications and on-demand workers hired for jobs mediated through the growing number of online platforms.”</li> </ul>			
Characteristics of gig workers			
<p>Characteristics of gig workers include:</p> <ul style="list-style-type: none"> <li>“Workers whose main occupations were in arts, entertainment and recreation were about four times more likely to be gig workers than workers whose main occupations were in management of companies and enterprises.”</li> <li>“Those whose main occupations were in manufacturing and utilities were least likely to be gig workers.”</li> <li>Recent immigrants into Canada nearly twice as likely to be involved in the gig economy.</li> <li>Even distribution of ages in Canada for both men and women.</li> <li>Just over 60% of men and women who undertake gig work are in a marriage or marriage like relationship.</li> <li>A greater percentage of women in the following categories worked in the gig economy as compared to the total population: <ul style="list-style-type: none"> <li>Business, finance and administration (17% compared to 7.5%).</li> <li>Education, law, social, community and government services (20% compared to 12%).</li> <li>Sales and service (22% compared to 8%).</li> </ul> </li> <li>A greater percentage of men in the following categories worked in the gig economy as compared to the total population: <ul style="list-style-type: none"> <li>Management (10% compared to 6%).</li> <li>Sales and service (16% compared to 6%).</li> <li>Trades, transport and equipment operators (19% compared to 6%).</li> </ul> </li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>Annual income of gig workers typically low. Median net income of gig worker in 2016 was only \$4,303.</li> <li>Workers in bottom 40% of the annual income distribution were about twice as likely to be involved in gig work as other workers.</li> <li>50% of gig workers are in the lower two quintiles of income; whereas 35% are in the two highest quintiles.</li> <li>An increasing share of gig workers have no other means of earning wages.</li> </ul>			
Trends in gig economy			
<p>Trends in the gig economy include:</p> <ul style="list-style-type: none"> <li>Participation in gig economy is on the rise. From 2005-2016, participation by men increased from 4.8% - 7.2% and by women from 6.2% to 9.1%.</li> <li>“Compared with men, women’s participation in the gig economy was less affected by the 2008/2009 recession, suggesting that women’s decisions to do gig work may be less influenced by push factors (inability to find traditional employment) and more influenced by pull factors, such as work flexibility and the opportunity to ‘be your own boss.’”</li> <li>Gig economy work tended to be more temporary in nature—about 50% of gig workers who entered the economy in a year were not in the economy the next year.</li> <li>An increasing share of workers perform gig work in addition to their primary job.</li> <li>Entry into gig work is usually preceded by a decline in non-gig economy income in both the US and Canada.</li> </ul>			

Title	Measuring the Gig Economy in Canada Using Administrative Data
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes	
N/A	
Findings and Recommendations	
<ul style="list-style-type: none"> <li>• The share of gig workers among all workers rose from 5.5% in 2005 to 8.2% in 2016.</li> <li>• For most, gig work is a temporary activity.</li> </ul>	
Other relevant information to the City of Vancouver	
N/A	



Title	The Future of Work in Ontario		
Author	Ontario Workforce Recovery Advisory Committee		
Client	n/a	Date	November 2021
Objectives			
<p>The objectives of the study were to provide recommendations for:</p> <ul style="list-style-type: none"> <li>• Economic recovery post-COVID.</li> <li>• Strengthen Ontario's competitive position.</li> <li>• Supporting workers.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>• Statistics Canada.</li> <li>• Survey data (Ipsos).</li> </ul>			
Definition of gig work			
A 'Gig' Worker is a person who works temporary jobs typically in the service sector as an independent contractor or freelancer.			
Characteristics of gig workers			
No formal research on gig worker characteristics provided.			
Income related information			
No formal research on gig worker income provided.			
Trends in gig economy			
Notes that participation in the Canadian gig economy has been estimated between 10-18%.			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
<ul style="list-style-type: none"> <li>• Debate as to the classification of gig workers. UK Supreme Court ruling found that Uber drivers are not independent contractors, but rather are classified as "workers" (which is different from "employee").</li> <li>• "In Ontario, platform companies...assert that people who access gig work on their platforms are independent contractors..."</li> </ul>			
Findings and Recommendations			
<ul style="list-style-type: none"> <li>• The study recommends modernizing the Employment Standards Act; including piloting a platform to better match supply and demand for gig work.</li> <li>• Recommendation 15 in the paper: Create and recognize the dependent contractor category for gig or platform workers in the app-based space and give this category of worker basic employment rights, such as termination pay, minimum wage, minimum or core benefits, regular payment of wages, pay stubs for pay accountability and notice of termination with severance entitlement.</li> </ul>			
Other relevant information to the City of Vancouver			
<ul style="list-style-type: none"> <li>• In 2016, 4% of the workforce worked from home. As of January 2021, 32% of employees aged 15 – 69 work from home.</li> <li>• 23% of Canadian respondents said they are delaying their or their spouse's retirement due to COVID-19.</li> <li>• 64% of businesses say that labour shortages are limiting their growth.</li> <li>• Oct 2021 – Stats Can noted national labour vacancies total 800,000, while 1.5M Canadians are unemployed. Suggests a gap in matching workers with work.</li> <li>• 46% of Ontario workers say they have sometimes, mostly or always been working from home since the start of the pandemic.</li> </ul>			

Title	Precarious Employment to Stable Flexibility: What do Canadian Gig Workers want?		
Author	Brave New Work Blog Series		
Client	n/a	Date	September 20, 2021
Objectives			
The objectives of the study were to: <ul style="list-style-type: none"> <li>To better understand the types of policies gig workers may support.</li> </ul>			
Data and Data Sources			
Surveyed "121 people in Canada who receive income from gig working. We recruited respondents via Amazon MTurk ( <a href="https://www.mturk.com/">https://www.mturk.com/</a> ), a gig-working website owned by Amazon. Respondents were paid to fill out a 10-minute survey, hosted on the Qualtrics survey platform, on their experiences with gig working."			
Definition of gig work			
N/A			
Characteristics of gig workers			
Characteristics of gig workers include: <ul style="list-style-type: none"> <li>Half of surveyed gig workers in Canada appreciate the flexibility it offers, 40% said the tasks are easy and straight-forward, 33% said it was hard to get other work.</li> <li>Nearly 40% of respondents report a score of 7 or higher (out of 10) on a self-ranking of where they perceive themselves to rank relative to other Canadians (where 10 are the people who are the best off and 0 are those who are worst off).</li> </ul>			
Income related information			
<ul style="list-style-type: none"> <li>Some work to earn a few extra bucks or as a placeholder in between jobs.</li> </ul>			
Trends in gig economy			
N/A			
Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes			
<ul style="list-style-type: none"> <li>Surveyed workers were in favour of government policy helping to stabilize gig work.</li> <li>Surveyed workers were also in favour of increasing workplace protections, including paid breaks, the right to unionize and recourse for wrongful dismissal.</li> </ul>			
Findings and Recommendations			
N/A			
Other relevant information to the City of Vancouver			
N/A			

Title	A Typology of Gig Workers in Canada		
Author	Beketa, C.; McCallum, K.; Porter, K.; Ziegler, E.		
Client	n/a	Date	December 2020
Objectives			
<p>The objectives of the study were to:</p> <ul style="list-style-type: none"> <li>To offer a conceptual framework and preliminary typology of gig work and workers.</li> </ul>			
Data and Data Sources			
<p>The data used in the report included:</p> <ul style="list-style-type: none"> <li>Focus on digitally enabled gig work focusing on access, movement and capital.</li> </ul> <p>The research process included three questions:</p> <ul style="list-style-type: none"> <li>Who are gig workers in Canada?</li> <li>How do they navigate and experience their work?</li> <li>How do identities shape these dynamics in Canada?</li> </ul> <p>Which turned into three focus areas:</p> <ul style="list-style-type: none"> <li>Access: How and why do gig workers gain access and entry to the gig economy?</li> <li>Movement: How and why do gig workers move around and within the gig economy?</li> <li>Capital: What are the types of currencies being exchanged, and why?</li> </ul> <p>Which turned into three key themes:</p> <ul style="list-style-type: none"> <li>The meaning of work.</li> <li>The organization of work and workers.</li> <li>The shifting and bartering of risk.</li> </ul>			
Definition of gig work			
<p>Technology-enabled gig work that is mediated by digital platforms. It focuses on unincorporated sole proprietors – those with no business registration or without being employed by a firm. They are freelance agents, enabled by digital platforms but denied the organization-facilitated benefits provided by employee status.</p> <p>“A category of work, or work arrangement, deemed to be non-standard or informal compared to a standard employment relationship. This alternative work fills a need by providing access to labour (for employers), and flexibility and access to the labour market (for workers). While people at all socioeconomic levels can participate in gig work, it is characterized as having uncertain future business activities, being minor or casual in nature, as lacking options for career or personal advancement, and lacking in formalized protection for the worker and employers. (Canadian Union of Postal Workers vs. Foodora Inc., 2020)”</p> <p>Popular platforms include: Uber, Skip the Dishes, Airbnb and TaskRabbit.</p>			
Characteristics of gig workers			
<p>Characteristics of gig workers include:</p> <ul style="list-style-type: none"> <li>12.4% of gig workers who are men work in construction, the industry with the second highest number of men doing work in the country.</li> <li>Health care and social assistance sector has the highest proportion of all gig workers who are women (20.2%).</li> <li>“The central commonality between gig workers might be that they are exposed to change with the least amount of institutional protection or buffer.”</li> <li>Most gig workers are Canadian-born and not racialized; but a disproportionately high number of people with immigrant backgrounds do gig work. Racialized and new immigrants are over-represented in the most precarious and least well-paid gig work jobs.</li> <li>“While self-employed workers overall make up about 15 percent of total employment, more than half of them (8.2 percent of all workers) are gig workers (Yssaad &amp; Ferrao, 2019).”</li> </ul> <p>Typology of gig workers in Canada (access to capital primary factor used to create typology):</p> <ul style="list-style-type: none"> <li>Access to capital is the main factor. Gig workers range from low skilled to highly skilled.</li> <li>Three types of capital influence if a worker can enter the market and what type of work they can do. Human, social and economic.</li> </ul>			

**Title** | A Typology of Gig Workers in Canada

- The platform professional: “The Platform Professional must make a large economic investment and have a high level of skill or human capital for access.” Some platform professionals offer services from their home (Talmix ‘the home of business talent’, Upwork, 99designs, Fiverr) and others require mobility to perform their tasks (Jiffy, ‘home maintenance booked when you need it’).
- The Entrepreneurial influencer “The Entrepreneurial Influencer is unique in that they rely on a high level of social capital and skill for success but do not require a high level of economic investment for access.” Crowdsourced attention is a major asset for this gig worker. Possibility of high economic reward, similar risk -reward profile for entrepreneurs (platforms include: Youtube, Instagram, Kickstarter, Airbnb). Most work done from home.
- The asset enabler: “The Asset Enabler is required to make a large economic investment, such as through the use of a personal durable asset such as a car or home, while needing a lower level of human capital or skills to execute the work. For the purposes of this typology, ‘asset’ is used to refer to property or ‘durable assets.’” Service based in nature, but reliant on an asset. Requires few entry-level skills, appeal of work may be in trading training/expertise for an asset (platforms include: Uber, Lyft, Turo, outdoorsy).
- The tasker: The lowest barrier to entry requiring little to no training or capital investment. “Taskers’ work focuses on filling the (often undesirable) task gaps in the lives of businesses or individuals. The work is often invisible, for example: picking up laundry, doing the cleaning, walking the dog, or tagging photos.” (Taskrabbit, Foodora, Amazon mechanical turk, Rover, SOSsitter)

**TABLE 4**  
A gig work typology based on human, social, and economic capital

		Gig worker type			
		Platform Professional	Entrepreneurial Influencer	Asset Enabler	Tasker
Capital requirements for access	Economic capital	High	Low	High	Low
	Human capital	High	High	Low	Low
	Social capital	High	High	High	Low

It is important to note that an individual platform may engage with gig workers across the typology and that a single worker may embody multiple gig worker types or may grow and move within these types at different moments along their career.

- Reasons for entering the gig economy:
  - Because they face barriers that exclude them from traditional employment.
  - Increased flexibility and control over their work is appealing.
- Diversity and complexity characterize gig work.

**Income related information**

- For most gig work supplements their primary source of income.
- “...the ratio of gig income to T4 income is higher among new immigrants to Canada, meaning that the average new immigrant is earning a higher proportion of their income in the gig economy than out of it (Jeon et al., 2019).”
- Similar to the rest of the labour market, men earn more money than women in the gig economy.
- Half of gig workers, their earnings comprise more than ¾ of their total annual income, even though just over half of all gig workers reported that they also earn money through one or more jobs.
- “The majority of gig workers net less than \$45,000 CAD, and we know that the prevalence of gig work is twice as high in the lower 40 percent of income earners than in the top 60 percent (Jeon et al., 2019).”

**Trends in gig economy**

Trends in the gig economy include:

<b>Title</b>	<b>A Typology of Gig Workers in Canada</b>
	<ul style="list-style-type: none"> <li>• Direct link between introduction of new platforms to an increase in gig work.</li> <li>• “The most common method of earning money was by selling new or used products through online bulletin boards such as Kijiji, eBay, and Etsy. This amounted to \$4.9 billion in earnings, or an average of \$722 per person.”</li> <li>• Other popular types of gig work include online freelance services, posting creative content online, such as YouTube videos, and offering peer-to-peer ride, delivery, or accommodation services.</li> </ul>
<b>Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes</b>	
	<ul style="list-style-type: none"> <li>• “Precarious elements of the gig economy include the loss of income security for workers and the potential for experiencing discrimination without having recourse to human rights protections available to employees.”</li> </ul>
<b>Findings and Recommendations</b>	
N/A	
<b>Other relevant information to the City of Vancouver</b>	
“While gig work has been common in the construction industry for a long time, new apps like Gig Connected and Faber Work have come online exclusively to connect gig workers to construction jobs, increasing”.	

<b>Title</b>	<b>On-demand and On-the-Edge: Ride Hailing and Delivery Workers in San Francisco</b>		
<b>Author</b>	Chris Benner, Eric Johansson, Kung Feng, Hays Witt		
<b>Client</b>	San Francisco Local Agency Formation Commission	<b>Date</b>	May 5, 2020
<b>Objectives</b>			
The objectives of the study were to: <ul style="list-style-type: none"> <li>• “Help the City [of San Francisco] better understand [the gig] workforce and determine whether the labor policies of emerging mobility companies align with the City’s labor principle”</li> </ul>			
<b>Data and Data Sources</b>			
The data used in this report includes: <ul style="list-style-type: none"> <li>• Survey of on-demand (gig) workers active in San Francisco, recruited through the platforms they operate on (six platforms: Uber, Lyft, DoorDash, GrubHub, Instacart, and Shipt)</li> <li>• Survey included a representative sample of on-demand work being done in the City and is not necessarily a representative sample of all on-demand workers.</li> </ul>			
<b>Definition of gig work</b>			
No formal definition given, but it is understood that the study focused specifically on workers performing on-demand food delivery and ride-hailing through digital platforms.			
<b>Characteristics of gig workers</b>			
Characteristics of gig workers include: <ul style="list-style-type: none"> <li>• Diverse group, with 78% people of color and 56% immigrants.</li> <li>• Ride-hailing (&lt;30%) drivers less likely to reside within San Francisco than delivery workers (&gt;60%).</li> <li>• Delivery workers (&gt;55%) more often born in the US than rider-hailing drivers (&lt;40%)</li> <li>• Flexible schedule and fair pay were the most important job qualities indicated.</li> <li>• Ride-hailing drivers tend to stay with their primary app longer. 52% have been driving with the primary app for more two years (15% for delivery workers).</li> </ul>			
<b>Income related information</b>			
<ul style="list-style-type: none"> <li>• 45% of those surveyed (59% amongst food delivery workers) could not handle a \$400 emergency expense. This is above the national rate of 40%.</li> <li>• More than 20% of those surveyed do not have health insurance.</li> <li>• 15% use some kind of social assistance program.</li> </ul>			

<b>Title</b>	<b>On-demand and On-the-Edge: Ride Hailing and Delivery Workers in San Francisco</b>
	<ul style="list-style-type: none"> <li>Majority use the gig work as full-time employment. 71% worked more than 30 hours/week on platforms. 53% indicated it was their only source of income last month.</li> <li>Average earnings from gig work <i>before expenses</i> were \$900/week for ride-hailing drivers and \$500/week for food couriers. After expenses, these values were estimated at \$360 and \$224/week, respectively (when including mileage-based expenses).</li> </ul>
<b>Trends in gig economy</b>	
	<ul style="list-style-type: none"> <li>Many drivers indicated that platform income had been dropping pre-COVID</li> </ul>
<b>Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes</b>	
	<ul style="list-style-type: none"> <li>18% of delivery workers used a bike (half of that on electric bikes).</li> <li>Common reasons for biking include: can't afford a vehicle, vehicle expenses too high, exercise, lower stress.</li> <li>Specific bike expenses not covered by the platform (larger rack, insulated box, etc.)</li> <li>If offered a financial incentive for a purchase, 70% of delivery workers indicated a willingness to switch from driving to e-bike, and 25% of ride-hailing drivers said the same.</li> </ul>
<b>Findings and Recommendations</b>	
	<ul style="list-style-type: none"> <li>Many cycling-based workers felt unsafe due to road design/conditions.</li> <li>Financial incentives for e-bike purchases may be a popular policy.</li> <li>After expenses, many on-demand workers make less than the local minimum wage.</li> <li>Under California law, many of these workers would pass the 'ABC' test supporting claims that they are employees.</li> </ul>
<b>Other relevant information to the City of Vancouver</b>	
N/A	

<b>Title</b>	<b>Impact of Congestion Charge and Minimum Wage on TNCs: A Case Study for San Francisco</b>		
<b>Author</b>	Sen Li, Kameshwar Poola, Pravin Varaiya		
<b>Client</b>	N/A (Academic Paper)	<b>Date</b>	February 2, 2021 (pre-print)
<b>Objectives</b>			
The objectives of the study were to:			
<ul style="list-style-type: none"> <li>Understand the impact on Transportation Network Companies (TNCs) from congestion charges and driver minimum wage</li> <li>Apply a market equilibrium model to the above problem</li> </ul>			
<b>Data and Data Sources</b>			
The data used in this report includes:			
<ul style="list-style-type: none"> <li>Market equilibrium model</li> </ul>			
<b>Definition of gig work</b>			
No definition provided. Paper specifically examines the ride-hailing market.			
<b>Characteristics of gig workers</b>			
N/A			
<b>Income related information</b>			
The authors reference a 2017 study in New York that found driver earnings had been dropping and that most drivers made less than minimum wage after accounting for expenses.			
<b>Trends in gig economy</b>			
Trends in the gig economy discussed in the paper include:			
<ul style="list-style-type: none"> <li>Increase in the size of the ride-hailing market</li> <li>Cities (e.g. New York City) have begun to apply congestion charges to TNC trips, along with corresponding policies regarding driver minimum wages.</li> </ul>			
<b>Policies related to gig work, with a focus on shifting gig work trip patterns to sustainable modes</b>			

Title	Impact of Congestion Charge and Minimum Wage on TNCs: A Case Study for San Francisco
N/A	
Findings and Recommendations	
<ul style="list-style-type: none"> <li>• The results of the modelling showed that TNC ridership would not significantly drop</li> <li>• A time-based charge, rather than a trip-based one, incentivizes higher vehicle occupancies and fewer idle vehicle hours</li> </ul>	
Other relevant information to the City of Vancouver	
<p>Under a congestion charge scheme that also includes a minimum wage consideration for drivers, the primary burden of congestion charges would fall on the platform itself, according to the modelling. Creating policies that achieve objectives would need to include understanding TNC profit motivations in order to avoid collapsing the business model.</p> <p>Note that a time-based charge would require more data from TNC platforms, and therefore may not be feasible under the intended charge scheme in Vancouver.</p>	



# Appendix B

January 9, 2023

**City of Vancouver: Gig Worker Mobility Study – Invitation to Participate**

Hi there,

We are conducting a study to better understand the travel patterns of gig workers in Vancouver. This study will provide the City with an important overview of gig workers' experience with Vancouver's transportation network.

We are reaching out to request your support as we undertake this study. We understand your clients or members may be involved in gig work and we want to hear from them. Gig work is often task-based, such as meal delivery, ride sharing, housecleaning, or dog-walking, is organized through mobile apps, and can be trip-intensive.

Gig workers are an important group when it comes to planning for our future transportation needs – yet little research has been done on who gig workers are or their unique transportation behaviours. In the context of Vancouver, we need to better understand this group so we can take their needs into account. Learning about their movements and motivations will help us understand how gig workers choose their transportation modes and their experiences with Vancouver's transportation network.

Our request to you is to share the study with your communities, and encourage them to participate through our online survey or by joining a focus group. Those who complete the survey will be entered to win a \$500 Visa gift card. As a thank you for their time, everyone who participates in a focus group will receive a \$75 honorarium.

We have included postcards and posters that you can use to promote this study. Please let us know if you would like additional copies.

If you have any questions or want more information, please contact [gigwork@argylepr.com](mailto:gigwork@argylepr.com) or the City of Vancouver at [transportationresearch@vancouver.ca](mailto:transportationresearch@vancouver.ca). Thank you in advance for your support with this study!



Jessica McLennan, P.Eng  
Transportation Planning Engineer  
453 W 12<sup>th</sup> Ave, Vancouver, BC, V5Y 1V4

## **City of Vancouver: Gig Work Mobility Study -- Your support is needed**

### **About the study**

The City of Vancouver is researching the travel patterns of gig workers in and around Vancouver. This includes gig workers who live and work in Vancouver, as well as those who live outside of the city, but travel into Vancouver to work. An important part of this research study is an online survey that is open now until **January 27, 2023**, and focus groups, which will take place the **week of January 23, 2023**.

### **What we hope to learn**

From this study, the City hopes to better understand:

- The travel patterns of gig workers in Vancouver.
- How gig workers choose their transportation modes.
- Gig workers' experiences with Vancouver's transportation network.

### **How to use this toolkit**

We are sharing this toolkit with you in the hopes that you can distribute the information to your networks, to help us reach and hear from gig workers in Vancouver. Please consider helping us spread the word by doing the following:

- Place the enclosed poster(s) and/or postcards in your site in high-traffic locations. Please contact us if you would like additional copies.
- E-mail the digital postcard to your networks, or promote the survey and focus groups in your next e-newsletter (before January 20, 2023). The digital postcard and suggested newsletter content were emailed to you in December. Please let us know if you would like it emailed again.
- Share on your social media channels.

### **Why participate?**

Vancouver's Climate Emergency Action Plan aims to have two thirds of daily trips in Vancouver by transit and active transportation by 2030, as well as ensuring 50% of the kilometres driven are by zero emission vehicles by 2050. To help achieve these goals in an equitable way, the City needs to better understand the travel patterns of specific user groups, including local gig workers.

Hearing from gig workers will help the City understand their mobility experiences in Vancouver. This study will inform transportation plans and how we engage with this sector on future projects.

Those who complete the survey will be entered to win a \$500 Visa gift card, and focus group participants will receive a \$75 honorarium for approximately 90 minutes of their time.

## Gig Worker Mobility Study

# Are you doing gig work? How will you get there?

Tell us how you get around Vancouver when doing gig work.

Take our survey and enter to win a \$500 Visa gift card!

You can also join a focus group and receive a \$75 honorarium!



倘您在溫哥華從事零工工作，我們希望聽取您的意見！  
請聯絡 [gigwork@argylepr.com](mailto:gigwork@argylepr.com) 以索取一份韓語副本。

目前正在溫哥華從事零工工作的从业者，我們想傾聽您的心聲！  
請发送邮件至 [gigwork@argylepr.com](mailto:gigwork@argylepr.com) 获取中文版問卷。

ਜੇ ਤੁਸੀਂ ਵੈਨਕੂਵਰ ਵੱਚਿ ਸੁਤੰਤਰ ਕੰਮ ਕਰ ਰਹੇ ਹੋ, ਅਸੀਂ ਤੁਹਾਡੇ ਤੋਂ ਸੁਣਨਾ ਚਾਹੁੰਦੇ ਹੋ!  
ਇਸ ਦੀ ਕਾਪੀ ਪੰਜਾਬੀ ਵੱਚਿ ਹਾਸਲਿ ਕਰਨ ਲਈ [gigwork@argylepr.com](mailto:gigwork@argylepr.com) ਨਾਲ ਸੰਪਰਕ ਕਰੋ।

밴쿠버에서 초단기 근로를 하는 분이라면 귀하의 이야기를 듣고 싶습니다!  
이 엽서의 한국어 사본을 원하는 경우 [gigwork@argylepr.com](mailto:gigwork@argylepr.com) 에 문의해 주십시오.

# Appendix C

## Gig Worker Mobility Research Study: Online survey

### Introduction:

Hello,

Do you do, or have you previously done, gig work within the City of Vancouver? If you use or have used gig work platforms like Uber, Lyft, Pawshake, Handy, TaskRabbit, DoorDash, Skip the Dishes, Uber Eats, Instacart, Grubhub, Fantuan, Just Eat, **this survey is for you!**

Once you complete the survey, we will enter you in a draw to **win a \$500 VISA gift card** (you will need to share your email to enter this draw, which is optional).

The survey and focus groups are part of a larger research study on the gig economy sector and its workers. Your input will help the City of Vancouver better understand the gig work mobility experience in Vancouver to consider in transportation planning.

The survey will take about 10-12 minutes to finish and focuses on the following topics:

- Part 1: Your day-to-day work  
Part 2: Your transportation
- Part 3: Your experience moving around Vancouver
- Part 4: About you

### About the research study

This study is sponsored by the City of Vancouver and conducted by the consulting firms Argyle and Parsons. The purpose of the study is to learn about gig workers' mobility behaviours and motivations. The City will use the information collected here to create a more accurate picture of how people use the transportation system today, which will help inform transportation policies and plans.

### Privacy information

Your personal information will remain private. All responses will follow [federal](#) and [provincial](#) data protection laws. Information will be stored on secure servers in Canada. Information will be disposed of when it is no longer necessary. If you have questions about the research study or how your information will be used, please contact [gigwork@argylepr.com](mailto:gigwork@argylepr.com)



## Part 1: Your day-to-day work

For this section, we would like to know about your current or previous experiences with gig work. If you do not currently do gig work, please share your past experiences.

1. What gig work platforms do you currently use, or have you used in the past? Please check all that apply.  
 Check boxes  
 Uber, Lyft, Uber Eats, TaskRabbit, Fiverr, DoorDash, Skip the Dishes, Pawshake, Instacart, Grubhub, Fantuan, Just Eat, Handy, Other — *please share*
  
2. Do, or did you work as a gig worker on a part-time or full-time basis?  
 Check boxes  
 Part-time, full-time, Other — *please share*
  
3. On average, how many jobs or gigs do you do per day? Please choose one.  
 Button select  
 1-2, 3-5, 6-10, 11-15, 16-20, 21-25, 26+
  
4. Please select the days of the week that you typically do gig work.  
 Check boxes  
 Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
  
5. Please select all the times of day that you typically do gig work.  
 Check boxes  
 Morning, Mid-day, Evening, overnight
  
6. Approximately how long have you been doing gig work?  
 Button select  
 Less than 3 months, 3-6 months, 6 months- 1 year, 1-2 years, 3-5 years, 5+ years
  
7. How long do you intend to do gig work?  
 Button select  
 Less than 3 months, 3-6 months, 6 months- 1 year, 1-2 years, 3-5 years, 5+ years

## Part 2: Your transportation mode

8. Check the main transportation mode you use when doing gig work. If you use more than one mode, please choose the one you use most often.

Check boxes (option to check multiple)

- Gas or diesel vehicle (personal)
- Gas or diesel vehicle (company)
- Hybrid or Electric Vehicle (personal)
- Hybrid or Electric Vehicle (company)
- Motorcycle or scooter
- Bicycle
- E-bike
- E-scooter
- Public transit
- Walking
- Other — please share

- 9a. If you use a bike, e-bike, vehicle, e-scooter, do you own, rent, lease or borrow to do gig work?

Radio buttons

Own, lease, rent, borrow, Other — please share

- 9b. If you answered the question above question, did you acquire this specifically for gig work? (yes/no)

10. Why did you choose this mode of transportation for gig work? Please check all that apply.

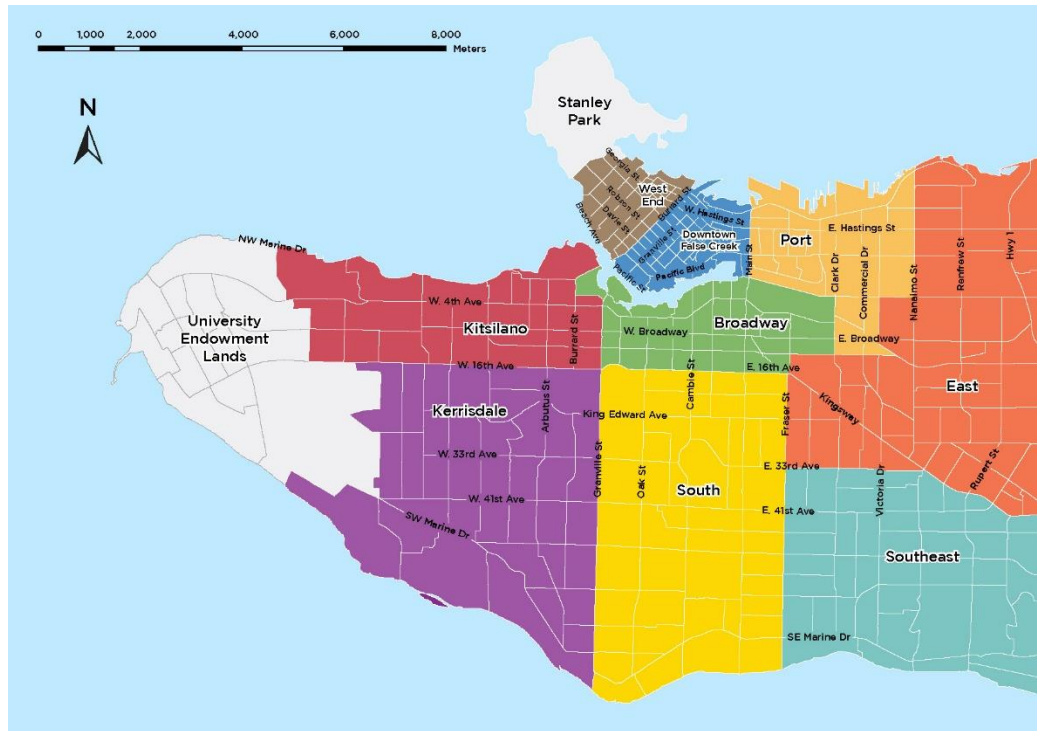
Check boxes (option to check multiple)

- Flexibility
- Convenience
- Speed
- Low cost
- Storage
- Easy to park
- I am less impacted by traffic
- I can carry passengers
- I can travel longer distances
- I can make multiple deliveries/drop offs
- Need to carry large loads
- Low cost to maintain
- Environmentally friendly
- I already had it
- Other — please share

11. Please select which areas you do gig work in (this includes pick up and drop off locations).

*Choose as many as necessary from list:*

West End, Downtown, False Creek, Port, Broadway, East, Southeast, South, Kerrisdale, Kitsilano



12a. Are there areas of the city you avoid when doing gig work? Please choose from the list of areas. You may also drop one or more pins on the map below and comment with details about the area(s) you selected.

*Choose as many as necessary from list:*

West End, Downtown, False Creek, Port, Broadway, East, Southeast, South, Kerrisdale, Kitsilano

12b. Why do you avoid this area or areas?

12c. You may also drop one or more pins on the map below and comment with details about the area(s) you selected, telling us why you avoid this area or areas.

### Part 3: Your experience moving around Vancouver

As people who perform gig work, you are frequent users of the transportation network, and would have great insight into what is working well and where the challenges are in the City's transportation network.

13. Thinking about your gig work experience, answer with: "Yes, this is my experience", "This is not my experience at all", or "This does not apply to me (N/A)".

- I am able to move around the city and get to where I am going in a reliable amount of time.
- It is easy for me to find places to drop off and pick up goods.
- It is easy for me to find places to drop off and pick up people.
- There are safe and secure places to lock bikes and scooters at pick up and drop off locations.
- I feel safe travelling on the road.
- I feel safe on the sidewalks.
- I feel the roads are in good condition and easy to travel along.
- I feel the sidewalks are in good condition and easy to travel along.
- Anything else to add? [text box with character limit of 100]

14. Given your experiences doing gig work in Vancouver, what should the City consider in future policies or plans?

Text box, character limit of 300

### Part 4: About you

Demographic questions help us understand who we are hearing from, and to determine how the feedback we receive represents the community. **You are welcome to select 'prefer not to say' to any of these questions.** The City of Vancouver's [privacy policy](#) explains our commitment to protecting your privacy.

1. What are the first three digits of your home postal code?  
Text box (require validation for postal code in format letter-number-letter)
2. How do you describe your gender identity?  
*Button select*  
Woman, Man, Non-binary or gender diverse, Prefer not to say, None of the above. I identify as: text box for self-description
3. Which age group do you belong to?  
*Button select*  
15-24, 25-34, 35-44, 45-54, 55-64, 65-79, 80+, prefer not to share
4. What do you consider your main ethno-cultural background or that of your ancestors?  
Please select all that apply.  
*Check boxes, option to check multiple*

- Indigenous (First Nations, Inuit, Métis, multiple Indigenous identities),
- North America (Canadian, American, Mexican)
- Asia (East Asian, South Asian, Southeast Asian)
- Europe (British Isles, Eastern European, Central European, Southern European, Northern European)
- Africa (North African, East African, West African, Southern African)
- Central/South American (Guatemalan, Brazilian, Ecuadorean, Peruvian)
- Middle Eastern (Lebanese, Iranian, Syrian, Iraqi)
- Oceania (Australian, New Zealander)
- Caribbean (Jamaican, Barbadian, Cuban)
- I identify as (please specify)
- Prefer not to say

5. What languages do you speak at home? Please select all that apply.

*Check boxes, option to check multiple*

English, Mandarin, Cantonese, Punjabi, Hindi, French, Arabic, Tagalog, Farsi, Spanish, Turkish, Vietnamese, Japanese, Korean, Other

6. What is your annual household income before taxes?

*Multiple choice*

Under \$30,000, \$30,000-\$60,000, \$60,000-\$90,000, \$90,000-\$120,000, \$120,000-\$150,000, \$150,000+, Prefer not to share

7. How did you hear about this survey?

*Radio buttons*

- Pop-up engagement in Vancouver
- Postcard or poster (digital)
- Postcard or poster (print)
- E-newsletter
- Social media
- Word of mouth
- Other: Please share [character limit of 100]

Thank you for completing the survey!

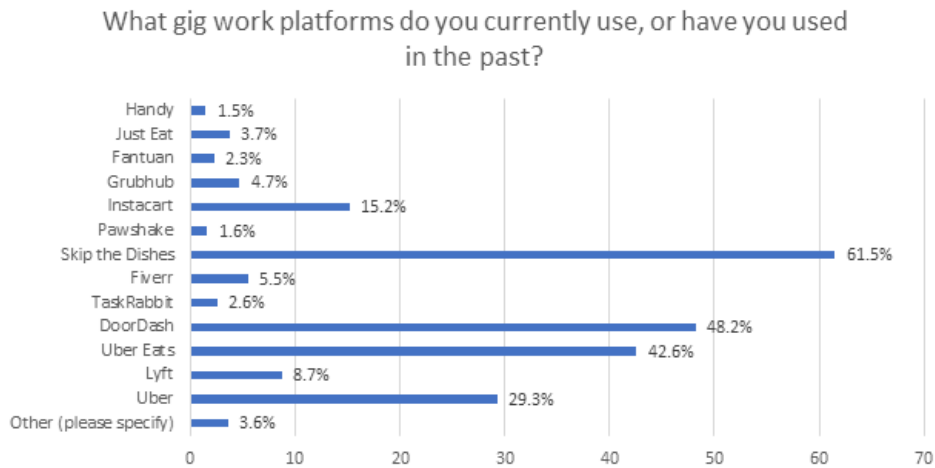
If you'd like to join a focus group and receive a \$75 honourarium for participating, please email the project team at: [gigwork@argylepr.com](mailto:gigwork@argylepr.com)

## Appendix D

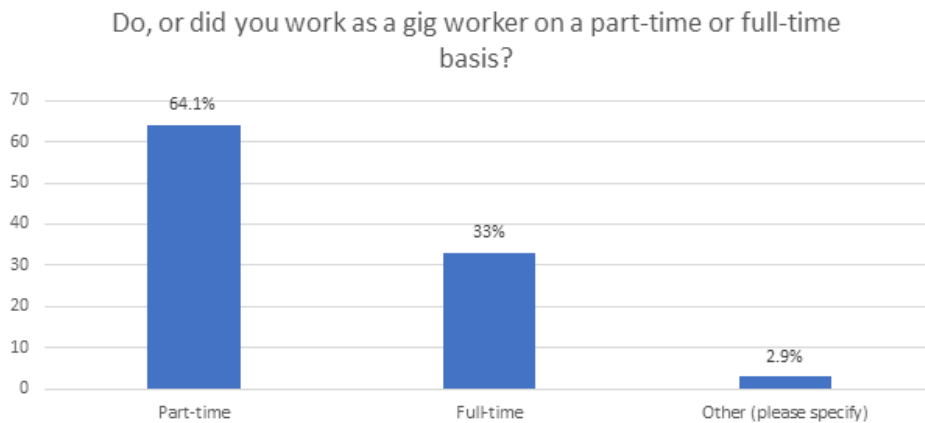
## Appendix D. Detailed summary of results — online survey

### Topic #1: Day-to-day work

**Figure 1. Gig work platforms used**



**Figure 2. Employment doing gig work (part-time vs. full-time)**



**Figure 3. Number of jobs or gig per day, on average**

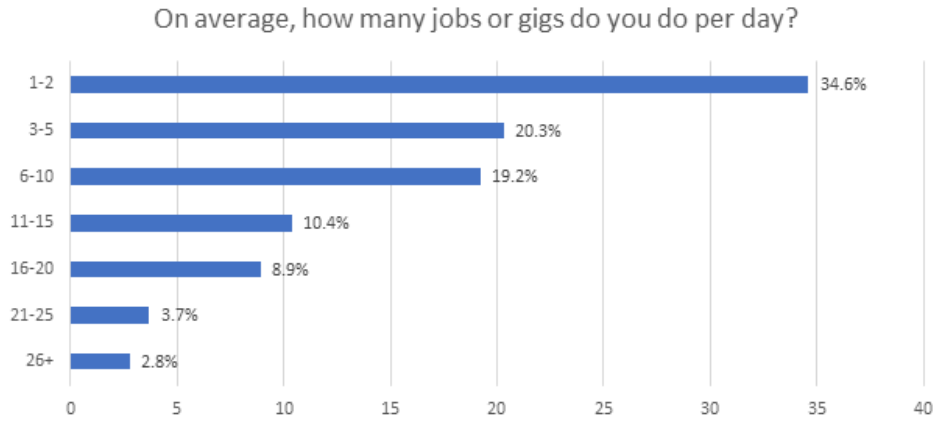


Figure 4. Days of the week doing gig work

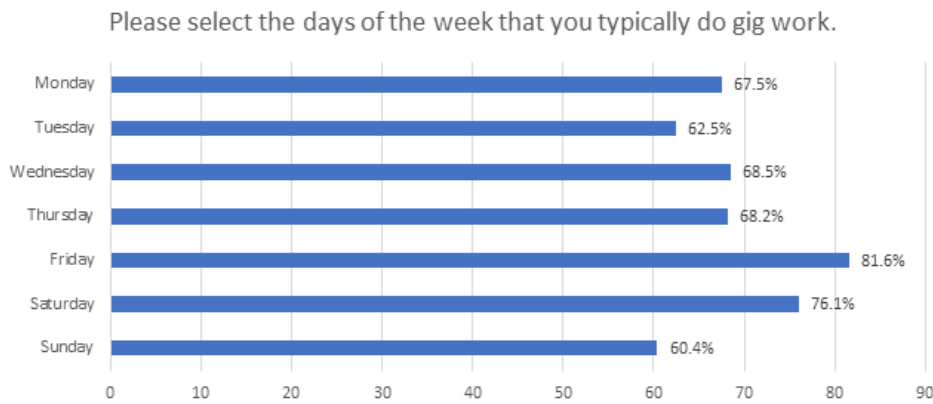
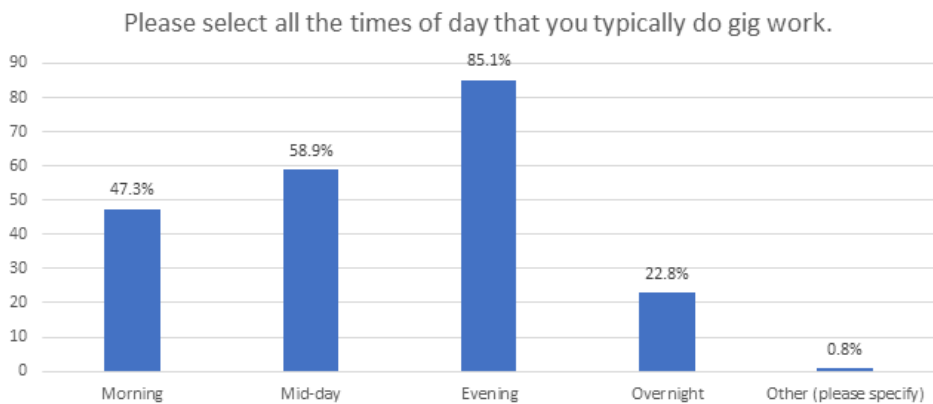


Figure 5. Times of day doing gig work

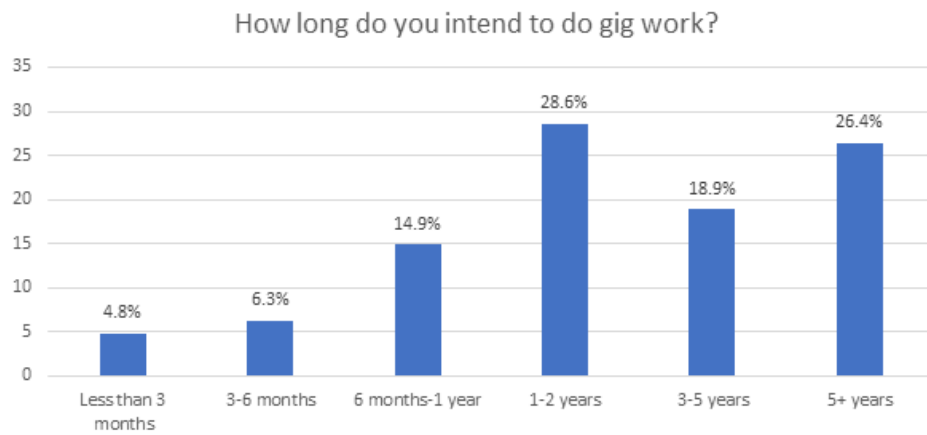




**Figure 6. Length of time doing gig work**

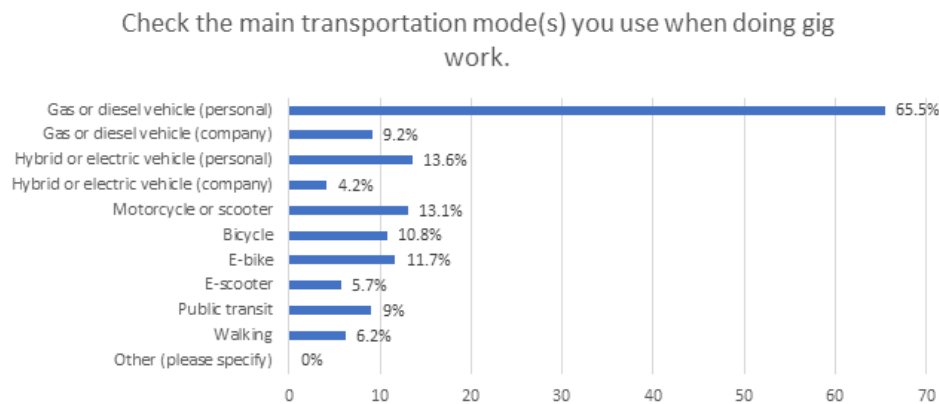


**Figure 7. Anticipated duration of gig work**

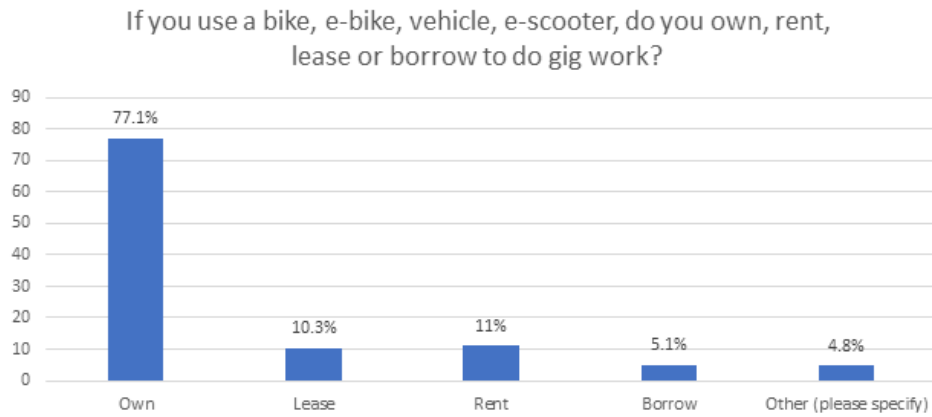


**Topic #2: Transportation mode and patterns (work locations)**

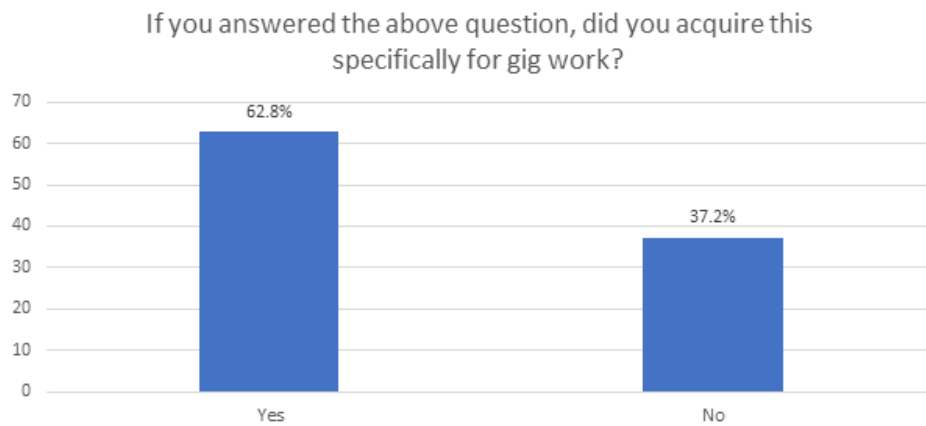
**Figure 8. Main transportation mode(s)**



**Figure 9. Ownership of vehicle used to do gig work**

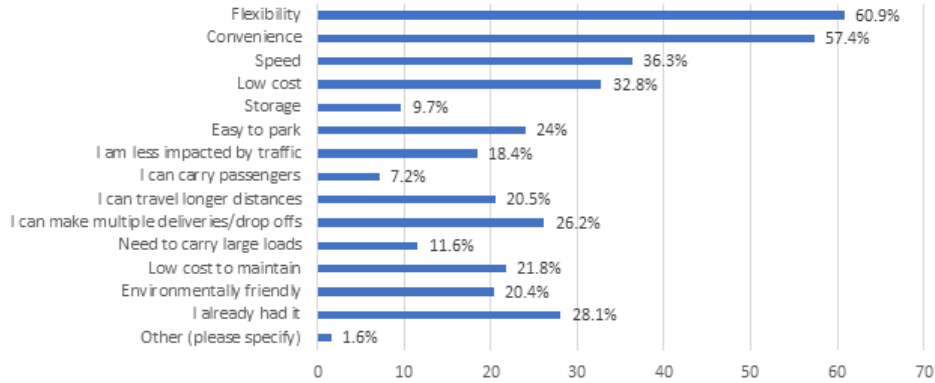


**Figure 10. Acquisition of transportation to do gig work**



**Figure 11. Reasons for choosing transportation mode**

Why did you choose this mode of transportation for gig work? Please check all that apply.



### Topic #3: Experiences with the transportation network

Figure 12. Areas in which gig work is undertaken

Please select which areas within the City of Vancouver you do gig work in

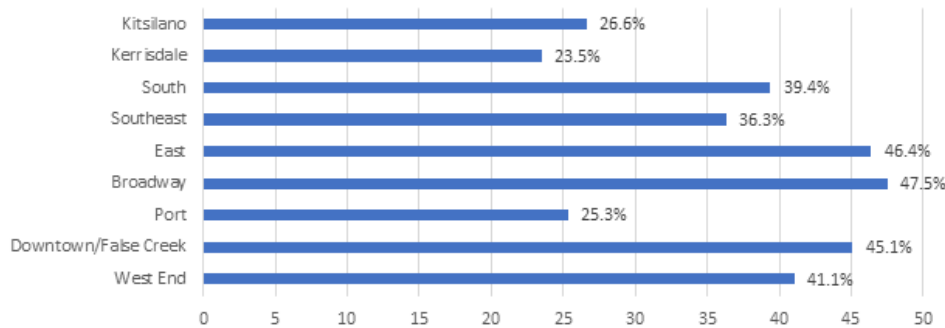
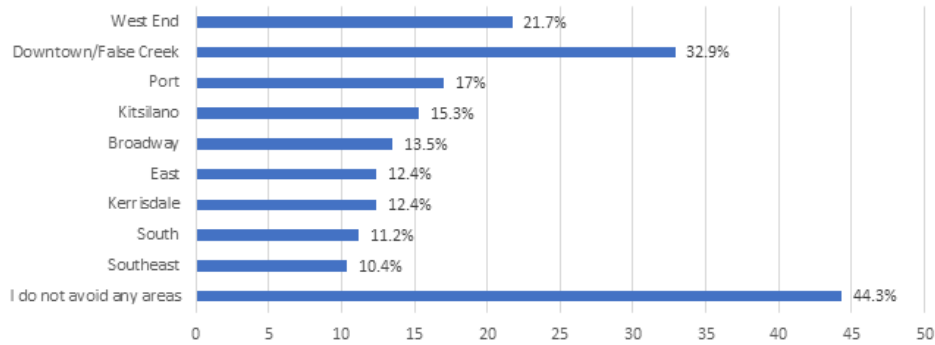


Figure 13. Areas avoided when doing gig work

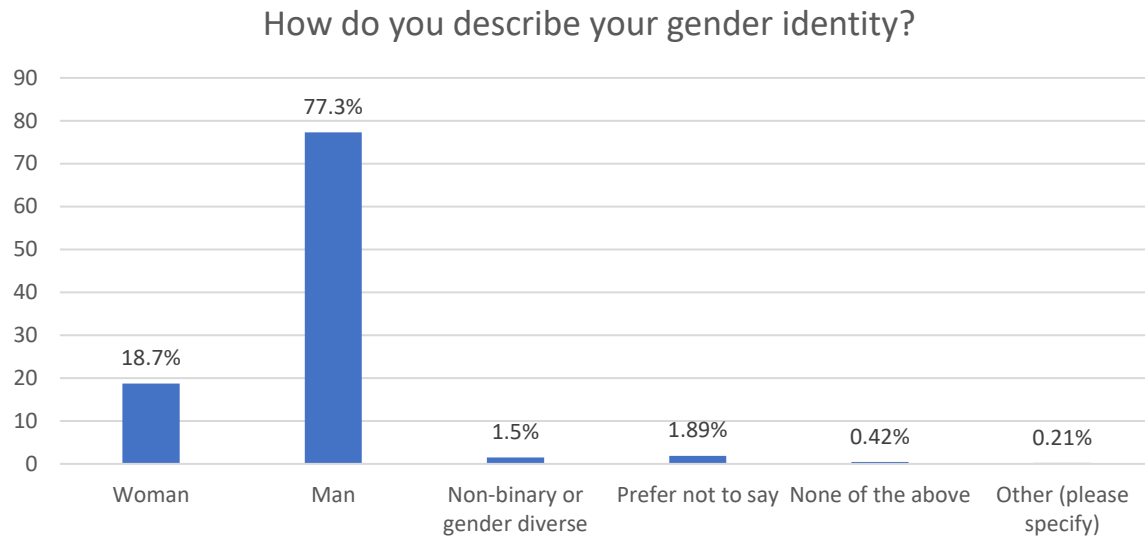
Are there areas of the city you avoid when doing gig work?



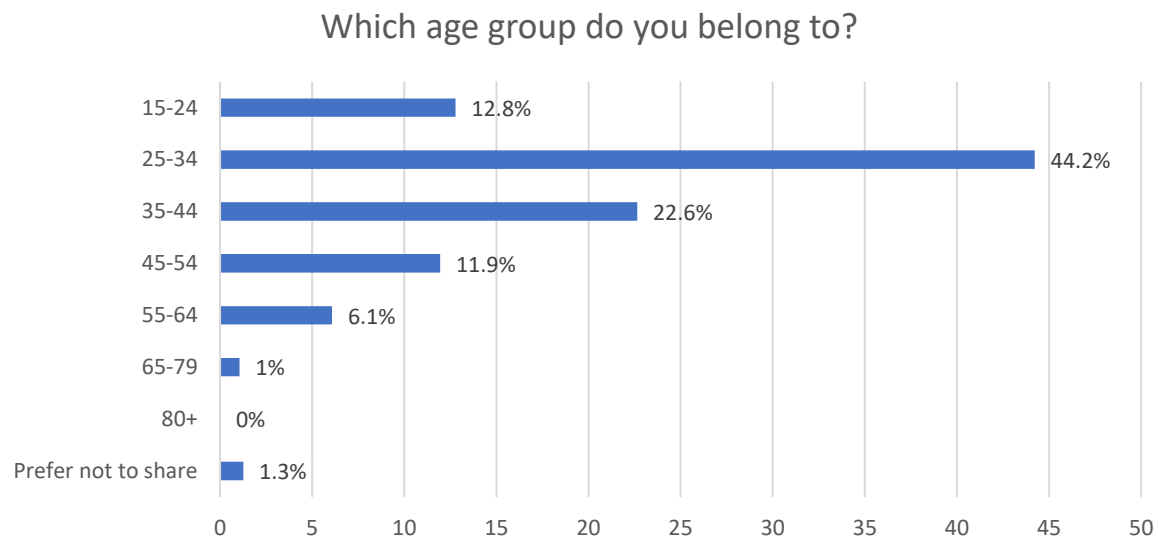
# Appendix E

## Appendix E. Demographic summary — online survey

**Figure 14. Gender identity**

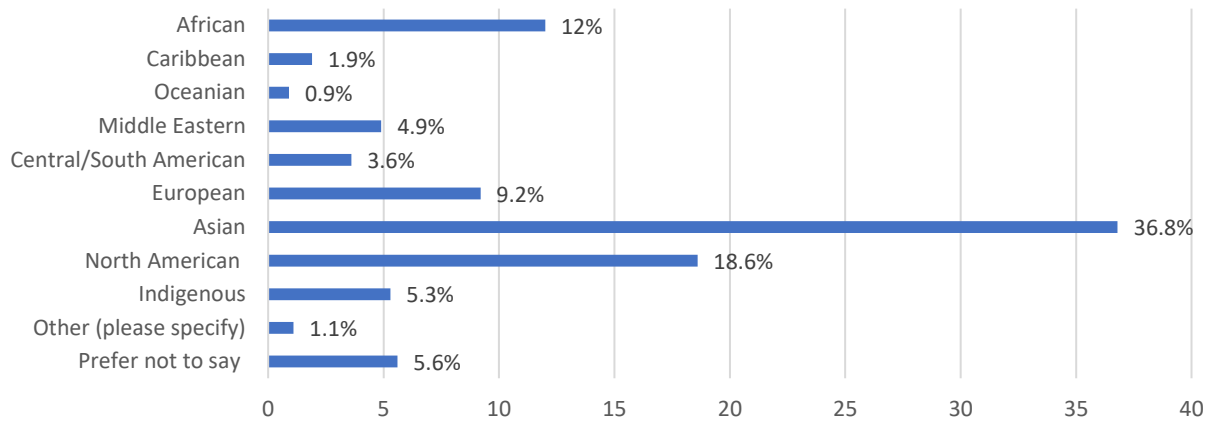


**Figure 15. Age group**



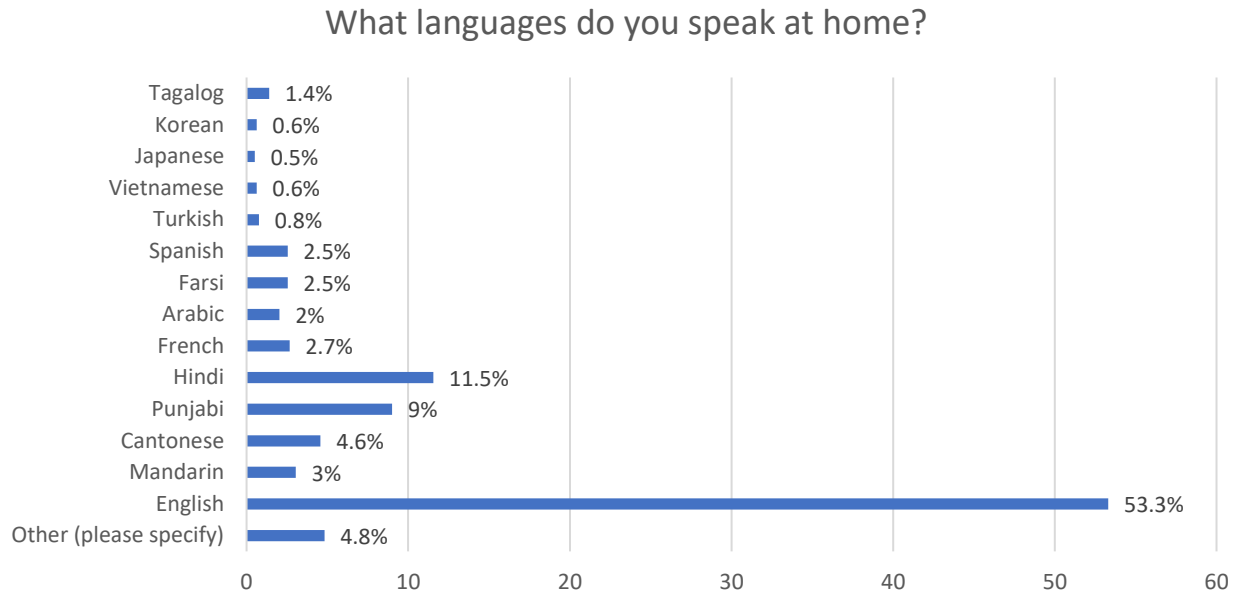
**Figure 16. Ethnocultural background**

What do you consider your main ethno-cultural background or that of your ancestors?



- African (North African, East African, West African, South African)
- Caribbean (e.g., Jamaican, Barbadian, Cuban)
- Oceanian (e.g., Australian, New Zealander)
- Middle Eastern (e.g., Lebanese, Iranian, Syrian, Iraqi)
- Central/South American (e.g., Guatemalan, Brazilian, Ecuadorian, Peruvian)
- European (British Isles, Eastern European, Central European, Southern European, Northern European)
- Asian (East Asian, South Asian, Southeast Asian)
- North American (Canadian, American, Mexican)
- Indigenous (First Nations, Inuit, Metis, multiple Indigenous identities)
- Other (please specify)

**Figure 17. Home language**



**Figure 18. Annual household income before taxes**

