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From Taxis to Ridehailing: Examining Gender Issues for Female Drivers and Passengers

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From Taxis to Ridehailing: Examining Gender Issues for Female Drivers and Passengers

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16. Abstract This report analyzes gender issues for female drivers and passengers of transportation network companies (TNCs) and taxis. Between August 2023 and May 2024, the researchers conducted driver and rider focus groups (n=8 drivers and n=8 passengers); a driver survey (n=170); a TNC user/non-user survey (n=440, including n=217/440 taxi non-users, n=7/440 TNC non-users, and a subset of n=5/440 non-users of TNCs and taxis); and expert interviews (n=13). This research finds that both female drivers and passengers experience an array of safety concerns and challenges traveling with young children in TNCs (e.g., traveling with a car seat, driver accommodation of car seats, etc.). The report discusses policy considerations to address these concerns (e.g., expanding a 'women-preferred' option for drivers and passengers and introducing an optional service for drivers to provide car seats for passengers with children). These policies could help reduce a number of the concerns that female drivers and passengers confront when using TNCs.					
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Abbreviations and Acronyms

ACS	American Community Survey
PLZ	Passenger Loading Zones
TNC	Transportation Network Company

Executive Summary

This research explores gender equity challenges for female drivers and passengers of TNCs (Transportation Network Companies) and taxis. Between August 2023 to May 2024, the researchers employed a mixed-method approach including a literature review; focus groups with female drivers (n=8) and female passengers (n=8); a survey of female drivers (n=170) and female users/non-users of TNCs and taxis (n=440, including n=217/440 taxi non-users, n=7/440 TNC non-users, and a subset of n=5/440 non-users of TNCs and taxis); and expert interviews (n=13). The findings from this study reveal a number of gender equity challenges for drivers and passengers. The study also proposes policy considerations that may help address these challenges.

Key takeaways from this research include:

- Women often begin driving to earn money in addition to another job, when they are in between jobs, or they are unable to obtain another job. Additionally, there may be a gender pay gap between men and women due to fewer women willing to drive late at night.
- Women drivers often employ safety precautions to help prevent uncomfortable or unsafe encounters with passengers (e.g., installing a security camera in their vehicle, avoiding driving late at night).
- Women passengers often employ safety precautions to augment their safety when traveling in a TNC or taxi (e.g., sharing their location with others, communicating with friends and family when they reach their destination).
- Women who are traveling with children in TNCs and taxis may face challenges if their child requires a car seat, booster seat, or stroller. This can include challenges bringing their own car seat, difficulty interacting with drivers installing car seats, and being declined a ride.

This research identified the need for policy in four areas: 1) driver pay, 2) driver safety, 3) passenger safety, and 4) accommodating children in TNCs and taxis. TNCs could attempt to reduce the gender wage gap by adjusting day and night pay discrepancies. TNCs could also help mitigate safety concerns by implementing mentorship programs for new drivers, enhanced passenger verification, improved customer service for drivers reporting a safety concern, and expanded gender preference driver/rider matching (i.e., Lyft Women + Connect). Some female passengers have also expressed concerns about speeding and erratic driving, which could be addressed through enhanced customer reviews and TNC monitoring of driver reviews.

From both the driver and passenger perspectives, traveling with children presents several challenges. From the driver perspective, there is concern about the potential time it takes to install a car seat and potential risks driving with children (e.g., liability in an accident if a car seat is not installed properly). TNCs could consider implementing car seat programs for drivers to receive a car seat or drivers could provide their own car seats for their customers to use. Additionally, platforms may provide financial incentives for drivers who accept rides from passengers traveling with children. From the passenger perspective, it could be helpful if TNCs allow passengers to indicate if they will be traveling with a child and car seat when they book their ride, or opt to pay an additional fee for a car seat that is provided by the driver.

This research identifies gender equity challenges for TNC female drivers and passengers. Unfortunately, the study failed to receive a sufficient sample to provide understanding on gender issues specific to taxis. Additionally, this research provides limited understanding about non-TNC users due to the small sample of this group. Additional research on gender equity for TNCs and taxis may explore the experience of women who participate in gender preference programs, such as Lyft Women+ Connect. Pilot programs may provide additional understanding on opportunities to reduce challenges for passengers traveling with children. Future work may explore gender equity issues among underrepresented groups in this study such as female taxi drivers, women who are non-TNC users, and gender minorities.

Chapter 1. Introduction

Research suggests that women travel differently than men. Women may be more likely to take trips throughout the day, travel shorter distances, and trip chain. These differences in travel behavior may lead to different considerations when thinking about how women travel, and what mode they use. Transportation network companies (TNC)¹ and taxis² provide two mobility options in addressing women's travel needs. In particular, TNCs and taxis may provide women a perception of safety (e.g., the ability to take a trip without any other riders, the ability to take a direct route between an origin and destination, the ability to minimize waiting at public transit stops and between public transit connections, etc.) that may not come with other modes of transportation. However, TNCs and taxis have a number of safety and gender-equity considerations that may prevent mainstream adoption among women. Women may face safety issues such as threats of sexual harassment, unsafe driving, and concerns over privacy that prevent many women from using these services. Additionally, TNCs may be more costly than other modes of transport, such as public transportation. It is thought that the women who use TNCs are often from more affluent households and the cost of TNCs may be a barrier to women from lower-income populations.

Given the gender equity concerns associated with TNC and taxi access (for female drivers and passengers), this study aims to understand the safety and other gender-related concerns impacting the willingness of women to use and drive for TNCs and taxis. Additionally, this study identifies strategies and policies that could be employed to reduce congestion by encouraging women to link TNC and taxi trips to other shared modes.

To address these topics, this research consisted of a mixed-methods approach to understand how women currently travel and use TNCs and taxis and better understand the limitations women have using these transportation modes. In August 2023, two focus groups were conducted with women TNC/taxi drivers (n=8) and passengers (n=8) to determine current concerns and limitations for using these services. Following the focus groups, two online surveys were developed and deployed in December 2023 to a nationwide panel of women in the United States. One online survey was distributed to users/non-users of TNCs and taxis (N=440), and another online survey was given to drivers of TNCs, taxis, and delivery services (N=170). Lastly, supplementary interviews (n=13) were conducted with experts, policymakers, and key stakeholders, from January to May 2024 to provide further insights on potential strategies that TNCs and taxis can employ to address these challenges. This study concludes with a set of policy options to improve the safety and gender equity associated with TNCs/taxis.

This report is organized into five sections summarized below:

1. **Literature Review:** This section describes the findings from existing literature on gender-based barriers to using TNCs and taxis, strategies to increase TNC and taxi ridership among women, concerns among women drivers, and gaps in the literature.
2. **Methodology:** The methodology discusses the focus group, survey, and expert interview methods used to collect data for this research.

¹ According to SAE International (2021), TNCs are a service that provides the traveler with prearranged and/or on-demand access to a ride for fee using a digitally enabled application or platform (e.g., smartphone apps) to connect travelers with drivers using their personal, rented, or leased motor vehicles.

² According to SAE International (2021), taxis are defined as a service that provides the traveler prearranged and/or on-demand access to a ride service in a motor vehicle for a fee for use.

3. **Results:** This describes the results of the focus groups, surveys, and expert interviews, organized according to the driver perspective and the passenger/non-user perspectives.
4. **Policy Options:** This provides a discussion of the policy options to address key issues identified throughout the research.
5. **Conclusion:** The report concludes with a summary of the research methods, key findings, policy options, and future research to expand upon the findings from this research.

Chapter 2. Literature Review

TNCs and taxis can play a role in addressing the distinct travel needs of women. This literature review is organized into three sections that examine: 1) the barriers women face using TNCs and taxis, 2) strategies tailored to increase TNC and taxi use among women, and 3) the barriers women face as TNC and taxi drivers. The literature review concludes with a brief discussion of research gaps and recommendations to fill these gaps.

Gender-Based Barriers to TNC and Taxi Use

Affordability

Affordability is one barrier to TNC use for all passengers. One study by Rakuten Intelligence finds that from 2018 to 2021, TNC fares increased by 92% (Jackson, 2023). According to a study by LA Metro (2019), the convenience of TNCs influenced many women to use ridehailing over public transit when they had more disposable income. However, focus group participants of the LA Metro study noted that the rapid increase in fares made them less affordable than public transit, particularly during commute times. Similarly, a study by the International Finance Corporation et al. (2018) found that globally TNCs are used by women from more affluent households.

Passenger Safety

In addition to affordability, Feeney (2015) discusses the safety issues associated with the TNC and taxi industry. One study suggests women express a preference for taxis and private vehicles over public transportation due to safety concerns riding transit (Loukaitou-Sideris, 2014). Similarly, TNCs are also used by passengers traveling at night, instead of riding public transit (LA Metro, 2019). However, to attract more women as riders, TNCs may need to market existing security features (e.g., trip tracking and driver and vehicle information) and implement enhanced security features (i.e., larger driver photo or biometric identification when logging into the app) (International Finance Corporation et al., 2018).

There are safety challenges to the adoption of TNCs by women that occur during the pick-up stage of a trip. A study by Shaheen et al. (2021) finds that some women will adjust their pick-up and drop-off locations so that the driver does not know their place of residence and will share the ride information with their family or friends as a safety precaution. Taxi users have claimed that increased wait times have been found to undermine feelings of safety for women as there is increased exposure to street harassment (Brown & LaValle, 2021). Gender-specific differences in waiting behavior precautions, such as refraining from phone use due to perceived robbery risks, emphasize safety concerns and the potential need to change the surrounding built environment. Shaheen et al. (2021) also found that some female TNC users may have a male order the TNC ride or wait with them until the vehicle arrives, if they feel unsafe at the pick-up location.

Strategies to Increase Passenger Access for Women

Women Only TNCs/Taxis and Security Features

Gender-preference taxis and shared ride services that allow the pairing of women drivers and passengers are available in Kenya, Indonesia, Mexico, the United Arab Emirates, and elsewhere around the globe (International Finance Corporation et al., 2018). These services can have a variety of features, such as panic buttons, GPS, and the vetting. Some services also vet passengers and drivers with background checks. For example, in South Africa, a shared ride service that matches female passengers with female drivers conducts background checks

and verifies the gender of both passengers and drivers through the South African Department of Home Affairs (APA News, 2024).

Features within the Uber app such as advanced knowledge of the driver's details and real-time trip tracking are found to help women feel safer during the ride (International Finance Corporation et al., 2018; World Bank, 2024). However, even with these features, there is reluctance among many women to ride TNC's due to concerns of sexual harassment and unsafe driving (International Finance Corporation et al., 2018, Shaheen et al. 2021). Notably, in ridesplitting (e.g., pooled rides) scenarios, Sarriera et al. (2017) highlights that many women report feeling unsafe and express a preference to be matched with passengers of the same gender (International Finance Corporation et al., 2018; Sarriera et al., 2017; Silva, 2023).

Designated TNC/Taxi Stops

Fewer studies have identified other strategies to improve the waiting experience for the passenger and the pick-up and drop-off experience for both the driver and passenger. Shaheen et al. (2021) found that one strategy to address women's concerns about their personal safety during the waiting, drop-off, and pick-up phases of their TNC trip may be to install designated pick-up/drop-off locations for passengers. In the study by Shaheen et al. (2021), participants proposed that designated pick-up/drop-off locations would offer a dedicated space for drivers to pull over and for passengers to safely wait for their assigned driver to arrive. These passenger loading zones (PLZ) geofence a passenger to being picked up in a specific location, providing passengers with a clear waiting area and simplifying the process of locating the driver (Shaheen et al., 2021; Ranjbari et al., 2021). Shaheen et al. (2021) further explored features deemed crucial by interview participants for these designated TNC stops. These desired attributes include proper shelter/covering, lighting, adequate greenery, designated wayfinding and signage, proximity to crosswalks, and the prevalence of trash bins. Similarly, these characteristics reflect the findings of Loukaitou-Sideris et al. (2022) who suggests creating well-lit and secure environments around public transportation stops. These attributes reveal passengers' desires for both cleanliness and safety.

Concerns Among Female Drivers

Driver Safety

Safety can also be a concern for drivers. Gurbuz's (2021) found a high level of TNC driver dissatisfaction associated with Uber's 'Safety Toolkit'. Despite providing quick-access panic buttons and real-time location sharing, drivers' phones remain fully visible to passengers. Unfortunately, this issue can prevent drivers from discreetly reporting harassment, assault, or other incidents during trips without alerting the passenger.

Furthermore, studies reveal a difference in safety perceptions between TNC drivers based on gender. According to Gurbuz (2021), the majority of drivers irrespective of gender have been sexually harassed, insulted, or attacked (53% of men, 58% of women). However, Gurbuz notes that female drivers express increased fear when driving after dark or in specific regions of their city or town. For some women drivers, this heightened fear is compounded by perceptions that driving platforms do not adequately support driver safety. Gurbuz suggests that a more developed human resources system for drivers to report incidents would make drivers feel more comforted and make women more interested in becoming a driver.

Gurbuz (2021) and Silva (2023) provide a variety of strategies for TNC drivers. Gurbuz recommends allowing drivers the autonomy to select regions they perceive as safe. Gurbuz argues that by providing drivers the option to choose where they work, there may be less fear of working in specific neighborhoods. However, this type of driver identification of working areas could have notable adverse equity impacts resulting in service disparities between neighborhoods that are perceived as safe, and those neighborhoods that are perceived as

less safe. In addition, Gurbuz says TNCs could provide dash cameras and protective shields to separate passengers from drivers to enhance security. Silva (2023) suggests a variety of strategies to increase female TNC drivers such as subsidies for driver’s licenses, hiring quotas, and educational campaigns.

Wage Gap

The gender wage gap³ among drivers can be explained both in terms of economics and safety. Research concludes that male drivers earn more, on average, than female drivers. It is hypothesized that men earn more as drivers due to three main factors: 1) experience on the platform (i.e., past experience is valuable because it helps drivers learn where and when to drive, and how to strategically cancel and accept trips); 2) preferences for working location(s), as hourly earnings vary by location and time (i.e., men tend to drive more late at night and in more profitable locations with higher crime, like bars); and 3) male preferences for driving at higher speeds, as increasing speed theoretically increase expected earnings (Cook et al., 2021). It is important to note that Uber drivers must meet a particular average rating or risk deactivation. However, Rosenblat et al. (2017) noted that gender bias is also likely to occur when passengers are completing reviews of drivers. Other research has found that gender bias is often present in consumer and managerial rating systems.

Literature Gaps

The literature review identified several gaps in understanding and recommendations for additional research. Table 1 below provides an overview of the key gaps in the literature review.

Table 1. Literature Review Gaps

Topic Area	Literature Gap
Challenges for Drivers	<div>1. What are the safety measures and regulations that may be employed to protect drivers and which ones may be most effective?</div> <div>2. What factors influence driver to switch between app-based passenger driving and delivery driving?</div> <div>3. What strategies may be employed to support drivers who are matched with women traveling with children?</div>
Challenges for Passengers	<div>1. What strategies may be employed to promote safety while women wait at the pick-up location?</div> <div>2. What is the willingness of women to use gender-preference options when riding in a TNC or taxi?</div> <div>3. What is the willingness of women with children to use TNCs and taxis?<div>a. What are their greatest concerns?</div></div>

³ Gender wage gap is typically defined as the difference between the median income of men and women relative to the median income of men (Organisation for Economic Co-operation and Development, 2022).

Chapter 3. Methodology

This research consists of a mixed-methods approach comprised of 1) female driver and female rider focus groups, 2) online surveys of women who use and do not use TNCs, and 3) expert interviews. These methods provided a variety of perspectives and insights on gender issues associated with TNCs and taxis. Each of these methods are discussed in greater detail in the subsections that follow.

Focus Groups

To gain an initial understanding of the current gender equity issues associated with TNCs and taxis, two focus groups were conducted in August 2023: one for drivers (n=8) and the second for passengers(n=8). The findings from the focus group for women drivers, in addition to the focus group for women who ride TNCs and taxis were used to help inform the development of a survey that was more broadly deployed. Prospective participants for the driver focus group were asked to take a pre-screener survey posted on Craigslist in multiple California cities. To be eligible to participate in the focus group, respondents had to indicate that they identify as female and currently drive or have driven for either a TNC or a taxi. Qualified pre-screener survey respondents invited to participate in a 1.5-hour virtual focus group over Zoom. The focus group was comprised of seven drivers. An additional participant who was unable to join the Zoom meeting was contacted separately to gather their responses in an interview format. The individual's responses have been aggregated with the responses gathered in the focus group. The focus group protocol can be found in [Appendix A](#). The driver focus group protocol asked questions about the benefits of becoming a driver, the strategies and financials of driving, and driver safety issues and concerns.

Similar to the driver focus group, recruitment for the passenger focus group began with a pre-screener survey and an advertisement posted on Craigslist in multiple California cities. To qualify for the focus group, the research team verified that the respondents identified as female and use TNCs or taxis at least a few times per year. A group of qualified respondents from the pre-screener survey were then contacted to confirm their interest and participation in a 1.5-hour virtual focus group. Eight women participated in this focus group. Approximately, one hour into the discussion, participants were divided into breakout rooms according to whether they indicated having children in the screener survey. For about 30 minutes, participants who reported having children (n=5) were asked a series of questions about traveling with children while the remaining participants (n=3) were asked more questions regarding safety and their experiences as a TNC or taxi rider. The focus group concluded with everyone returning to the main discussion room and providing their final thoughts. The focus group protocol can be found in [Appendix B](#). The rider focus group protocol asked questions about the benefits of TNCs/taxis, concerns about TNCs/taxis, safety precautions, and traveling with children.

The research team made efforts to conduct a comprehensive and inclusive focus group of TNC and taxi drivers and riders, but several limitations exist in this methodology. One major limitation was the recruitment phase relied on participants who responded to the screener survey. This approach might have inadvertently excluded individuals with specific demographic characteristics and experiences, resulting in an incomplete representation in the focus group. For instance, no women who drive for taxi services participated because no respondents met this criterion. This recruitment method may also have caused certain demographic groups to be underrepresented. Additionally, with a limited number of focus group participants, it is possible that other gender equity issues were not addressed or discussed during the sessions. As with any small sample size, the results are likely not generalizable to the broader population.

Online Surveys

Based on the findings from the focus group, the research team developed two surveys. The first survey was developed to gather information on TNC and taxi drivers (n=170). The second survey was developed for TNC and taxi users and non-users (n=440). These surveys were distributed in December 2023 using the Qualtrics survey platform with responses collected from a panel of respondents across the United States. All respondents were provided with a monetary incentive, facilitated by Qualtrics, upon completion of the survey.

Driver Survey

The TNC and taxi driver survey (see [Appendix C](#)) gathered data on the experiences of female drivers working for taxis or TNCs. TNC and taxi drivers who also drive for a delivery service (i.e., Uber Eats, DoorDash) were also included in the study. Survey respondents were screened to ensure they identified as female and currently drives for a TNC/taxi company or previously drove for a TNC/taxi company and currently drives for a CNS company. The survey collected information on four key areas: 1) driving behavior, 2) income/expenses, 3) safety, and 4) accessibility for passengers traveling with children.

The survey began with questions about the platforms that the drivers use, where they drive, how often they drive, and the reasons they started driving. Drivers for TNCs and taxis received similar sets of questions, with wording customized to the platform they drive for (i.e., TNC or taxi). Following these background questions, drivers were asked about their income and expenses (e.g., average weekly income, gas expenses, insurance, maintenance, and vehicle payments). This information can be used to gauge female driver's net earnings. The next set of questions covers driver safety concerns, experience with incidents, precautions they may take, and satisfaction with the TNC's response to driver reported incidents. Safety questions give a greater understanding of female drivers' comfort, which can be used to further analyze potential safety barriers and equity issues for women. Delivery drivers were asked questions about any prior experience with TNCs and taxis to gather a better understanding of why a female driver may want to switch from driving passengers to delivering goods. Lastly, TNC and taxi drivers were also asked about providing rides to users traveling with children. Specifically, drivers were asked about their willingness to accept rides with those who require booster seats.

Although the driver survey was presented to a panel of women in the U.S., in attempts to gather broad perspectives, the research team identified a few limitations of the driver survey. Primarily, the driver survey received a low response rate (n=170) due to feasibility constraints set forth by Qualtrics (e.g., Qualtrics could only guarantee 168 responses out of the requested 200 responses due to the gender quota). The panel deployment of the survey limits the available responses due to the requirement that the survey participants must be female drivers and participant in the Qualtrics panel. Additionally, the survey does not include perspectives from other gender minorities.

User/Non-User Survey

The user/non-user survey (see [Appendix D](#)) was conducted to gather data on the experiences of female passengers of TNC and taxi services, as well as those who may not use either service due to safety concerns. For eligibility, respondents were screened to ensure they identified as female. Additionally for categorical purposes, respondents were questioned on their frequency of use for TNCs and taxis. To better understand potential cost and safety barriers for female riders, the survey was also inclusive of the perspectives of those who avoided using TNCs or taxis. The survey collected information on five key areas: 1) general travel behavior, 2) preferences for those who do not use TNC/Taxi services, 3) preferences for those who use TNC/Taxi services, 4) safety, and 5) traveling with children.

The survey began with general questions for all respondents to answer. These questions asked about the respondent's frequency of use of TNCs and taxis, access to a car, and use of public transportation. These questions are essential because they give information on the participants' accessibility to alternative modes of transportation. A respondent's frequency of use for TNCs and taxis was used to determine if they were categorized as a user or non-user. Respondents who indicated that they never use TNCs or taxis were classified as non-users, while all other frequencies were classified as users. Based on this criteria, 217 (49%) respondents indicated that they are non-users of taxis, seven (2%) indicated they were non-users of TNCs, and a subset of five (1%) people indicated that they are non-users of TNCs and taxis.

Following the general questions, TNC and taxi users received similar questions, with wording customized to match the services they use (i.e., TNC or taxi). Users were asked about the use cases for the driving services, when they use the service, and the amount per month spent on these services. This general use information can help understand a female passenger's average expenses and comfort with using taxis and TNCs. TNC and taxi users were then asked another set of questions about safety concerns, experience with safety incidents, and satisfaction with the driving platform's response to reported incidents. Safety questions give a greater understanding of female passengers' comfort in using TNCs or taxis and can be used to further analyze potential safety barriers. TNC and taxi passengers were also asked if they have ever used these modes while traveling with children and additionally, children who may require a booster or car seat. Alternatively, the non-users were asked general questions to determine why they do not use these services and what factors would need to be introduced to increase their use of TNCs and taxis.

Limitations

Both the driver and user/non-user surveys had limitations. While the user/non-user survey provided a total of (n = 440) responses, these surveys are spread throughout the United States. With such a large area to cover, it can be difficult to provide precise answers for general trends nationwide, given the relatively small sample size. This also holds for the driver survey, which only received a total of (n = 170) responses. In addition, TNC non-users were underrepresented in the user/non-user survey and taxi drivers were underrepresented in the driver survey. As such, the results pertaining to these two groups may not be statistically significant and may not accurately represent the gender equity issues among these groups. Additionally, the driver and user/non-user survey questions did not ask respondents their opinions on a wide range of potential strategies to address these challenges. The survey did, however, ask about strategies surrounding traveling with children and Lyft's Women+ Connect program. Instead, opportunities and strategies were largely determined through the expert interviews and focus group. Another limitation of the survey is that it focuses on gender equity from the perspective of those who identify as female and does not include male, gender minority, or other gender-based perspectives. A comparison to the general population or other gender perspectives may reveal the safety challenges and concerns presented in this research are not unique to female passengers and drivers.

Expert Interviews

The research team conducted virtual expert interviews (n=13) between January and May 2024 to help probe key issues for women in TNCs and taxi and gain understanding regarding potential strategies for the issues uncovered during the focus groups and surveys. The expert interviews also allowed the research team to gain additional understanding about potential strategies to help mitigate the areas of concern. The interviews were approximately half an hour to one hour long and were guided by an interview protocol that was adapted based on the interviewees' area of expertise (see [Appendix E](#)). The experts represented a variety of backgrounds and organizations including Bae (Made by Bae), HERide, International Transportation Engineers, University of Arizona (Center for Applied Transportation Sciences), San Francisco State University (Department of Women

and Gender Studies), The People's Lobby, drivers recruited through The Rideshare Guy, and the U.S. Government Accountability Office.

Due to challenges recruiting policymakers for small group discussions, the research team instead conducted expert interviews with these individuals. This methodological adjustment introduces several limitations. First, the expert interviews are limited by a small sample size, which may not capture the full range of perspectives and understanding. During recruitment, many contacted professionals expressed that they did not consider themselves experts in the specific area of study or were more knowledgeable in related fields, such as gig labor issues. Furthermore, the expert interviews lack representation from individuals who work directly for companies like Lyft, Uber, or taxi services in non-driver roles. Thus, insights from TNC and taxi company perspectives are not included in the findings.

Chapter 4. Results

This section presents the results of the research. The results are classified into two subsections: 1) driver findings and 2) passenger and non-user findings. Each of these are reviewed in the subsections that follow.

Driver Findings

The findings that pertain to drivers are organized into three sections based on how the data was derived: 1) driver focus group (n=8), 2) driver survey (n=170), and 3) expert interviews (n=13). The results from each method are described below.

Driver Focus Group

The driver focus group consisted of eight participants who identified as women and drivers for a TNC service. The driver focus group findings are organized into four sections: 1) demographics, 2) benefits of becoming a driver, 3) strategies and financials of driving for a TNC, and 4) driver safety concerns.

Demographics

Seven of the eight focus group participants indicated that they have driven for courier network services delivering food (i.e., Uber Eats, DoorDash), in addition to passenger driving. The researchers did not identify any female respondents who had driven for taxis. Table 2 below provides an overview of the driver demographics of the focus group participants.

Table 2. Driver Focus Group Demographic Overview⁴

Demographic Summary	Focus Group Participants	2022 ACS 1 Year Estimate
Race/Ethnicity	N = 8	N = 151,254,926
White/Caucasian	38%	53%
Black/African American	13%	11%
Hispanic/Latino	25%	15%
Asian	13%	6%
Native Hawaiian/Pacific Islander	0%	0%
Native American/Alaskan Native	0%	1%
Other	13%	6%
Two or more Races	0%	9%
Total	100%	100%
Age	N = 8	N = 132,787,423
18 to 24	0%	11%
25 to 34	13%	17%
35 to 44	13%	16%
45 to 54	50%	15%
55 to 64	25%	16%
65 and older	0%	24%
Total	100%	100%
Income	N = 8	N = 129,870,928
Less than \$35,000	13%	24%
\$35,000 - \$75,000	63%	27%
More than \$75,000	25%	51%
Total	100%	100%
Education	N = 8	N = 119,915,824
High school	0%	28%
Some college or Associates	38%	34%
Bachelor's Degree or Higher	63%	38%
Total	100%	100%

Benefits and Becoming a Driver

Each woman who participated in the focus group had a different story about how they became a driver. Some of the most commonly reported reasons that the focus group participants became drivers included unemployment and needing money or dissatisfaction with their previous job. Some of the women (n=3 of 8) reported that they started driving part-time during their previous employment and once they realized that they were able to make enough money, they quit their job and started driving more. Two of the women (n=2 of 8) also indicated that they started driving after losing a job or while unemployed. One of the drivers noted that a TNC driving benefit is that it can be done in any city, and they often learned a lot from their passengers. Table 3 below indicates the driving platforms of the driver focus group participants.

⁴ Please note that total percentages may not add up to 100% due to rounding.

Table 3. Driving Platforms of Driver Focus Group Participants

Driver Platforms	Sample (n=8)	Percent
Uber	2	25%
Lyft	3	37.5%
Uber and Lyft	3	37.5%
Taxi	0	0%
Total	8	100%

Strategies and Financials of Driving

Each of the women were asked to describe their strategy as a TNC driver, such as when they drive and how they select and decline rides. Five of the drivers reported that they attempt to “chase the surge,” a phrase used to describe drivers trying to find riders in areas of high demand, where the pay is higher. One of the drivers indicated that they would cancel rides if they think that they can potentially pick up another ride where they can make more money. Other strategies include only driving during peak travel hours, avoiding peak times and the likelihood of increased traffic, accepting every ride offered, and driving during special event times. One woman expressed concerns about driving at night due to safety concerns and the potential for inebriated passengers and passengers that may fall asleep during the ride. Three other drivers noted that driving at night often allows them to make money faster and there is typically less traffic. However, one of the drivers that works at night suggested she would not drive at night in other cities. Some of the drivers (n=4 out of 8) also drove for food delivery apps, including one driver who switched primarily from passenger rides to food delivery after an uncomfortable incident with a male passenger.

Three of the drivers expressed frustration about their wages due to low pay and the lack of transparency from the TNCs on how rides are priced. Three drivers said that they think the TNCs are taking a greater share of money from each ride, resulting in lower pay and many have to work more hours to make the same amount of money that they earned before the COVID-19 pandemic. One driver explained that the TNCs often underestimate travel times, causing drivers to spend more time completing a trip than was estimated when the driver accepted the ride. However, one driver noted did not think driver pay varied by gender. This individual thought that male and female drivers earn approximately the same amount of money.

Driver Safety Issues and Concerns

The women in the focus group were asked to describe their concerns as a driver. Some drivers (n=5 of 8) reported incidents with passengers including sexual assault, uncomfortable situations, and a passenger planning to commit a crime during the ride. During one emergency situation, a driver reported that the company was not treating the issue like an emergency and did not receive any follow-up correspondence from the company. One woman explained that when she tried to contact the companies about an issue, she typically receives a scripted response that does not address the issue. Another driver (n=1 of 8) noted that they had to be persistent in their communication with the TNC. One driver discussed how she attempts to screen passengers to help reduce potential issues during the ride and when they get to the destination. Another driver indicated that they would turn off the driver app after they drop off a passenger in an area that they perceive to be dangerous. It was generally reported that the women who choose to drive at night (n=3 of 8) set personal boundaries such as stopping at a certain time, not driving single passengers who appear to be inebriated, and checking the ratings of passengers to protect themselves. Additionally, two women indicated that when one decides to be a driver, they must be prepared to deal with situations independently, with one further explaining that she cannot rely on the company to support them when safety concerns arise.

Driver Survey

A driver survey was conducted to build on understanding from the driver focus group. The findings from the driver survey (n=170) are organized into four key topics: 1) demographics, 2) driver platforms and reasons for driving, 3) safety and precautions, and 4) traveling with children.

Demographics

All participants (n=170) were asked to answer the demographics portion of the survey. As noted previously, all survey participants identified as female, and therefore, gender is not included in this analysis. The remaining demographic categories of interest (i.e., race/ethnicity, age, income, education, and household children) were compared to the 2022 American Community Survey (ACS) 1-year estimate data. The comparative ACS data for race/ethnicity, age, education is specific to women, whereas the comparative data for household income and household children represent the general population.

Considering race and ethnicity, a greater proportion of the driver survey respondents identified as African Americans (22%) compared to the ACS standards (11%). Fewer women in the driver survey identified as Hispanic/Latino (6%) compared to the women in the ACS survey (15%). Additionally, the female drivers represented in the survey tend to be younger and represent households with lower income brackets than the general population. The survey results also indicate there were more drivers with an associate degree or some college experience (44%) than the general population of women (34%). In addition, drivers closely reflect the percentage of people with children under 18 (25%) when compared to the ACS standard (29%). Table 4 below indicates the demographic summary of the driver survey respondents compared to the 2022 ACS 1-year estimates.

Table 4. Demographic Summary of Driver Survey Respondents Compared to 2022 ACS Data⁵

Demographic Categories	Driver Survey	2022 ACS 1 Year Estimate
Race/Ethnicity	N = 169	N = 151,254,926
White/Caucasian	59%	53%
Black/African American	22%	11%
Hispanic/Latino	6%	15%
Asian	7%	6%
Native Hawaiian/Pacific Islander	0%	0%
Native American/Alaskan Native	0%	1%
Other	0%	6%
Two or more Races	7%	9%
Total	100	100%
Age	N = 169	N = 132,787,423
18 to 24	18%	11%
25 to 34	24%	17%
35 to 44	33%	16%
45 to 54	14%	15%
55 to 64	8%	16%
65 and older	3%	24%
Total	100%	100%
Income	N = 169	N = 129,870,928
Less than \$10,000	10%	6%
\$10,000 - \$14,999	3%	4%
\$15,000 - \$24,999	8%	7%
\$25,000 - \$34,999	14%	7%
\$35,000 - \$49,999	18%	11%
\$50,000 - \$74,999	19%	16%
\$75,000 - \$99,999	11%	13%
\$100,000 - \$149,999	14%	17%
\$150,000 - \$199,999	2%	9%
\$200,000 or more	2%	12%
Total	100%	100%
Education	N = 167	N = 119,915,824
High school	26%	28%
Some college or Associates	44%	34%
Bachelor's Degree or Higher	30%	38%
Total	100%	100%
Children Under 18	N = 162	N = 129,870,928
Children Under 18	25%	29%
No Children Under 18	75%	71%
Total	100%	100%

⁵ Please note that total percentages may not add up to 100% due to rounding.

Driver Platforms and Reasons for Driving

All respondents (n=170) were asked to indicate what service they drove for (i.e., taxi, Uber, Lyft). Of those who responded, the majority of these drivers stated they drove passengers for either Uber/Lyft (n=100 of 170, 59%) or drove for a delivery service (n=129 of 170, 76%). A limitation of this survey is that it captured very few taxi drivers (n=5 of 170, 3%). Of note, respondents were able to select multiple driving platforms (i.e., they drive for Uber/Lyft and a delivery service). For this reason, percentages may exceed 100%. Table 5 below provides a summary of the driver counts for taxis and TNCs.

Table 5. Driver Counts by Taxi and TNC

Driver Platforms	Sample (n=170)	Percent
Uber/Lyft	100	59%
Taxi	5	3%
Delivery Service	129	76%

Respondents (n=100) were also asked about their reasons for driving for a TNC, taxi or delivery service. Due to small sample sizes, only responses driving for a TNC are discussed. Participants were able to select all applicable responses. Most respondents stated they had a job but needed extra income (n=80 of 100, 80% for TNC drivers). About a fifth of these respondents stated that they were in between jobs and then decided to start driving. A summary of responses is provided in Table 6.

Table 6. Reasons for TNC Driving

Reasons for TNC Driving	Sample (n=100)	Percent
I had a job but needed extra income	80	80%
I was having trouble finding another job and decided to start driving for Uber/Lyft	18	18%
I didn't like my previous job	2	2%
I was in between jobs	18	18%
I heard about the rental vehicle program	4	4%
I used to be a taxi driver and switched to Uber/Lyft	1	1%
Other	1	1%

Safety and Precautions

Several questions were asked about driver safety for those who currently drive for Uber/Lyft or have driven for Uber/Lyft in the past. Over one-third of the TNC drivers (n=48 of 128) reported experiencing an incident that made them feel unsafe or uncomfortable (Table 7). Of these respondents, the most commonly reported incidents were due to the passenger using foul or aggressive language to another passenger or on the phone (n=17 of 47, 36%), verbal harassment of the driver (n=16 of 47, 34%), or inebriated passenger(s) (n=16 of 47, 34%). Table 8 shows the distribution of safety incidents that respondents reported. Multiple responses were permitted.

Table 7. Experienced Unsafe or Uncomfortable Incident as a TNC Driver

Experienced Unsafe/Uncomfortable Incident	Sample	Percent
No	80	62%
Yes	48	37%
Total	128	100%

Table 8. Types of Unsafe or Uncomfortable Incidents Experienced by TNC Drivers

Safety Incident	Sample (n=47)	Percent
Passenger physically harassed me	4	9%
Passenger physically harassed another passenger	7	15%
Passenger verbally harassed me	16	34%
Passenger verbally harassed another passenger	12	26%
Passenger(s) was/were inebriated	16	34%
Passenger used foul or aggressive language to another passenger or on the phone	17	36%
Passenger directed foul or aggressive language at me	15	32%
Passenger caused damage to my vehicle	5	11%
Passenger distracted me while driving	12	26%
Other	1	2%

Current or past Uber/Lyft drivers (n=127) were also asked about the precautions they take to protect their safety (Figure 1). The most commonly reported safety precaution was having a security camera inside of the vehicle (n=72 of 127, 57%). Following that, about half of respondents indicated they do not drive at night (n=65 of 127, 51%) and they do not allow passengers to sit in the front seat of their vehicle (n=64 of 127, 50%). Over 40% (n=54 of 127) of respondents cancel rides if the passenger appears threatening or inebriated and about 30% (n=39 of 127) of respondents indicated that they cancel rides from unsafe neighborhoods.

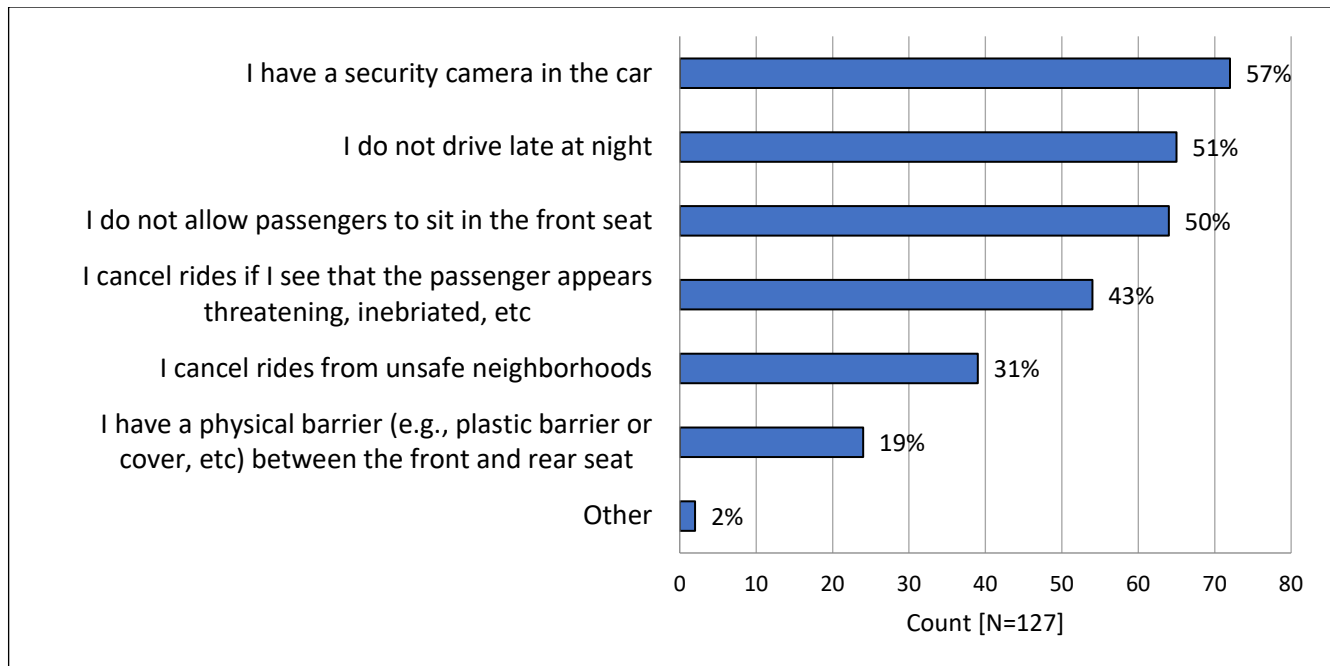


Figure 1. Personal Safety Precautions Among TNC Drivers

Traveling with Children

All TNC and taxi drivers were asked questions about picking up passengers with children (n=131). During the [passenger focus group](#), participants discussed a variety of concerns about traveling with children including the logistics of bringing a car seat, drivers picking up the passenger and their child, as well as potential strategies for these issues. As such, the survey provides additional insights on these issues and strategies from the driver's perspective. For example, drivers were asked about their greatest concern when driving a passenger with a child that needs a booster or car seat. Respondents were directed to select all options that apply. While the most frequently selected answer was that there were no concerns (n=50 of 131, 38%), about 30% (n=39 of 131) of respondents indicated that they are concerned about the time it takes to install the car seat. Table 9 summarizes driver concerns relating to driving passengers with children that need a booster or car seat.

Table 9. Car Seat Concerns Among TNC and Taxi Drivers

Driver Concerns with Booster or Car Seats	Sample (n=131)	Percent
The time it takes to install the car seat	39	30%
The passenger may not know how to install the car seat	25	19%
The passenger may get injured	19	15%
The child may be unattended while the car seat is being installed	32	24%
The child may create a mess in the car	30	23%
I have no concerns	50	38%
Other	1	1%

One strategy discussed in the passenger focus group is the idea that drivers may provide passengers with a car seat. To build upon this idea, drivers were asked about their willingness to participate in a hypothetical car seat program, where TNCs provide drivers with a car seat. Of the sample, 82% (n=107 of 131) indicated that they would want to take part in the program. Participants indicating their willingness, were then asked a follow up question to understand their preferences and concerns. The most common response suggests that drivers would like a car seat that is fast and easy to install (n=57 of 105, 54%). Table 10 summarizes driver preferences about car seats.

Table 10. Greatest Priorities in Theoretical Car Seat Program

Car Seat Priorities	Sample	Percent
The car seat is fast and easy to install.	57	54%
The car seat is lightweight and easy to move in and out of the back seat/trunk.	45	43%
Other	3	3%
Total	105	100%

Expert Interview Findings Regarding Drivers

Expert interviews (n=13) were conducted with industry professionals, researchers, advocates, and drivers. The findings provide understanding on the benefits and drawbacks of driving and concerns among drivers. Thus, they are presented here to expand on focus group and survey findings. Each of these are summarized in the subsections that follow.

Benefits and Drawbacks of Driving

Interview participants were asked what they thought some of the benefits and drawbacks of driving for a TNC /taxi. It is important to note that the responses reflect both those of women who were drivers at the time of the interview, those who may have been drivers in the past, and those who are not drivers. Many women interviewed recognized the flexibility to decide when to drive and for how long as a benefit of driving (n=8 of 13). A number of women said they work when their kids are in school and liked the flexibility to still manage other household responsibilities (n=3 of 13). In contrast, the women interviewed also discussed a number of drawbacks including safety concerns (i.e., assault or harassment from passengers) (n=5 of 13), the potential for weird or inappropriate interactions with male passengers (i.e., not getting out of the car at destination) (n=2 of 13), and not knowing the person who is in your vehicle (n=1 of 13). Two women also expressed concern that they are not fairly compensated for the number of hours you have to drive. Other drawbacks of driving that were identified include: the potential for loneliness on the job, trips that require drivers to go into uncomfortable areas, and dealing with gender stereotypes about women being bad drivers.

Two participants indicated that women may need to be more cautious, depending on the time of day and location they drive because they may be at more risk when they are alone. Additionally, one participant suggested that women may be more willing to terminate a ride if they feel unsafe with a passenger, whereas men may be more likely to keep driving. Other concerns for women drivers include the potential for harassment, a lack of common courtesy among passengers, inappropriate questions or comments from male passengers, maintaining vehicle cleanliness, and challenges communicating with passengers.

The interviewees provided insights on other gender issues in the TNC and taxi industry. Three individuals said that men do not have the same safety concerns when they are driving (i.e., who is getting in the car, where they are going, etc.). One industry professional explained that the transportation sector is generally male-bias

for many reasons that often stem from safety. Two experts suggested that the taxi industry is dominated by male drivers, but that there are more women driving for TNCs. Another expert explained that taxi driving has historically been viewed as a masculine job (e.g., when families immigrate to the U.S., the men in the family will find a job driving and women may go into a job focused on domestic work).

Key Findings for Female Drivers

The driver focus group, driver survey, and expert interviews revealed the following key findings for female drivers:

- Women may start driving for TNCs to earn income in addition to another job, when they are in between jobs, are unable to find another job, and other job status situations.
- Women have experienced various types of unsafe or uncomfortable situations as drivers, including: physical and verbal harassment, inebriated passengers, and distracting passengers.
- Many women drivers take safety measures to help prevent unsafe or uncomfortable situations with passengers, such as installing a security camera in their vehicle, opting to not drive at night, and not allowing passengers to sit in the front seat.

Passenger and Non-User Findings

The passenger and non-user findings are organized into three sections: 1) passenger focus group (n=8), 2) passenger and non-user survey (n=440), and 3) the expert interviews with industry professionals, researchers, advocates, and drivers (n=13). Findings from each of these are discussed in the sections that follow.

Passenger Focus Group

The passenger focus group consisted of eight women. The results from the passenger focus group are organized into five key topics: 1) demographics, 2) benefits of TNCs and taxis, 3) concerns about TNCs and taxis, 4) safety precautions, and 5) traveling with children.

Demographics

To better understand gender equity concerns for taxi and TNC riders, a focus group was conducted with eight California women. Despite all participants residing in California, participants were not limited to only sharing experiences of riding TNCs and taxis in California. The research team attempted to contact eligible participants that covered a wide variety of demographics to promote diversity and inclusion of people across various age groups, races/ethnicities, household incomes, education levels, and number of children. Table 11 below provides an overview of the demographics of the focus group participants.

Table 11. Passenger Focus Group Demographic Overview⁶

Demographic Summary	Focus Group Participants	2022 ACS 1 Year Estimate
Race/Ethnicity	N = 8	N = 151,254,926
White/Caucasian	25%	53%
Black/African American	13%	11%
Hispanic/Latino	38%	15%
Asian	25%	6%
Native Hawaiian/Pacific Islander	0%	0%
Native American/Alaskan Native	0%	1%
Other	0%	6%
Two or more Races	0%	9%
Total	100%	100%
Age	N = 8	N = 132,787,423
18 to 24	0%	11%
25 to 34	25%	17%
35 to 44	25%	16%
45 to 54	25%	15%
55 to 64	25%	16%
65 and older	0%	24%
Total	100%	100%
Income	N = 8	N = 129,870,928
Less than \$35,000	0%	24%
\$35,000 - \$75,000	75%	27%
More than \$75,000	25%	51%
Total	100%	100%
Education	N = 8	N = 119,915,824
High school	0%	28%
Some college or Associates	25%	34%
Bachelor's Degree or Higher	75%	38%
Total	100%	100%

Benefits of TNCs/Taxis

The women discussed a number of benefits using TNCs and taxis (n=7 of 8). Benefits discussed included the role of TNCs in providing a substitute when a private vehicle is undergoing maintenance or unavailable (n=4 of 8), reducing driving under the influence (n=1 of 8), and faster travel times than public transit in certain situations (n=1 of 8). Another benefit that one woman reported for both TNCs and taxis is that the drivers are typically knowledgeable of the area and can provide recommendations of places to eat or visit. One person liked TNCs because they can monitor the driver's progress when they are in route for the pickup, the drivers follow a set route, the price of the ride is determined upfront, and it is easy to contact the driver if something is accidentally left in the vehicle.

⁶ Please note that total percentages may not add up to 100% due to rounding.

Concerns About TNCs/Taxis

Four of the women in the focus group reported concerns about speeding and unsafe driving. For example, one participant reported a story about an experience where the driver was speeding and when she requested the driver to slow down, the driver told her that there were no speed limits where they were from and continued to speed. Other participants reported similar stories where they felt unsafe due to a driver speeding to the destination. One of the participants questioned how well the drivers have been vetted by TNCs. One participant reported they have chosen not to get in a vehicle upon the driver's arrival because they were concerned about the driver, including one driver who smelled like alcohol. Other concerns about riding TNCs and taxis include language barriers between the driver and passengers and not being picked up if a passenger is traveling with a support animal, service dog, or groceries. One participant experienced a ride where the driver did not speak English and was dropped off at the wrong location, despite attempts from the rider to indicate that it was not the correct destination. Additionally, one woman suggested that male riders would feel safer than female riders during TNC or taxi trips because they are more willing to speak up if they feel uncomfortable and men are perceived to be less vulnerable based on social norms. Public transportation was reported to be an alternative mode to TNC and taxis when focus group participants were traveling with children or were not in a hurry to get to their destination (n=2 of 8).

Safety Precautions

Many of the riders discussed the safety precautions (n=6 of 8) that they take when they or someone they know is a passenger in a TNC or taxi. One participant indicated that they begin by confirming that the driver and vehicle match the information provided in the TNC app. Another participant said that they will call someone while they are in a TNC or taxi so that an outside party knows that they are safe. Similarly, one participant said that they have been on the phone with someone else who was riding in a TNC or taxi to ensure their safety. In situations where women felt unsafe or did not want the driver to know where they lived, some had requested that they be dropped off at an alternate location a few blocks away from their destination. Other safety precautions discussed by participants (n=3 of 8) included sharing their location with others while they are in the TNC or taxi, confirming with others when they have reached their destination, and refraining from conversation with the driver.

Traveling with Children

According to the pre-screener survey, five of the focus group participants had children (n=5 of 8). These focus group participants were asked additional questions about traveling with children. Those who had traveled in a TNC or taxi with children reported that the drivers are generally less tolerant of children and the time needed to install a car seat. One participant said that drivers typically do not have car seats and may cancel the ride if they drive up and see that there is a child or car seat. Additionally, one participant suggested that the drivers should not be able to cancel a ride simply because there is a child passenger or extra time is needed to install a car seat. One woman thought that many drivers do not think about the challenges of traveling with children because it is a male-dominated career field. It is thought that this leads the drivers to be less accommodating towards children. One rider reported that they knew a driver who provided a car seat and had a lot of success with returning riders who wanted to use the car seat. When riders were asked how much they would be willing to pay to use a driver-provided car seat, the two participants agreed on an additional \$5 per ride. However, one participant noted that mothers should not be penalized for traveling with children. The riders also indicated that if the car seat was provided by the driver rather than the company, they would want an additional fee to go to the driver and not the TNC or taxi company. By using a driver- or company-provided car seat, participants discussed how this would reduce the burden of having to carry around a car seat or a place to store a car seat when they arrived at their destination.

Passenger and Non-User Survey

The findings from the passenger and non-user survey (n=440) are organized into four key topics: 1) demographics, 2) travel behavior, 3) safety and precautions, and 4) traveling with children.

Demographics

Similar to the driver survey, passenger and non-user survey participants (n=440) were asked demographic questions to understand how the survey sample compares to the general population. All user and non-user survey respondents identified as female, leading to the exclusion of gender in this analysis. The demographic categories of race/ethnicity, age, income, and education are compared to the 2022 ACS 1-year estimate data, specific to women. The household income and dependent demographic categories are compared to the 2022 ACS 1-year estimate data for the general population.

The proportion of African American (15%) and white (64%) survey respondents are higher compared to the ACS data (11% and 53%, respectively), however, fewer women identified as Hispanic/Latino (7%) compared to ACS survey data (15%). Additionally, the survey respondents tended to be younger, mostly between 35 to 44 years old (23%), and make up a lower income bracket than the average woman, as indicated by the ACS data. The survey respondents closely matched with ACS survey data in education status. However, a greater proportion of the survey respondents had children under 18 (33%) compared to the general population (29%). A summary of the survey respondents' demographics compared to 2022 ACS data can be found in Table 12 below.

Table 12. Demographic Summary of User and Non-User Survey Respondents Compared to 2022 ACS Data⁷

Demographic Summary	User Survey N = 436	2022 ACS 1 Year Estimate N = 132,787,423
Age		
18 to 24	8%	11%
25 to 34	18%	17%
35 to 44	23%	16%
45 to 54	19%	15%
55 to 64	15%	16%
65 and older	18%	24%
Total	100%	100%
Income	N = 439	N = 129,870,928
Less than \$10,000	8%	6%
\$10,000 - \$14,999	9%	4%
\$15,000 - \$24,999	9%	7%
\$25,000 - \$34,999	13%	7%
\$35,000 - \$49,999	14%	11%
\$50,000 - \$74,999	20%	16%
\$75,000 - \$99,999	11%	13%
\$100,000 - \$149,999	8%	17%
\$150,000 - \$199,999	4%	9%
\$200,000 or more	3%	12%
Total	100%	100%
Education	N = 433	N = 119,915,824
High school	26%	28%
Some college or Associates	36%	34%
Bachelor's Degree or Higher	38%	38%
Total	100%	100%
Children Under 18	N = 428	N = 129,870,928
Children Under 18	33%	29%
No Children Under 18	67%	71%
Total	100%	100%

Travel Behavior

The survey also asked a series of questions to understand women's frequency of use for TNCs (n=440), taxis (n=440), and public transit (n=435). Comparing the frequency of use data between TNCs and taxis, the most commonly indicated frequency for TNCs was a few times per year (n=217 of 440, 49%), whereas it was "never" for taxis (n=217 of 440, 49%). The majority of respondents indicated that they use TNCs a few times a year or more frequently (n=433 of 440, 98%), whereas only about 50% (n=223 of 440) of the respondents are users of taxis. The responses pertaining to frequency of use for public transit indicate a different distribution with 36% (n=158 of 435) of respondents being non-users. Additionally, out of the three modes, public transit had the highest response rate for respondents using the service "every day or almost every day" (n=31 of 435, 7%). Figure 2 below describes the frequency of use among the respondents for TNCs, taxis, and public transit.

⁷ Please note that total percentages may not add up to 100% due to rounding.

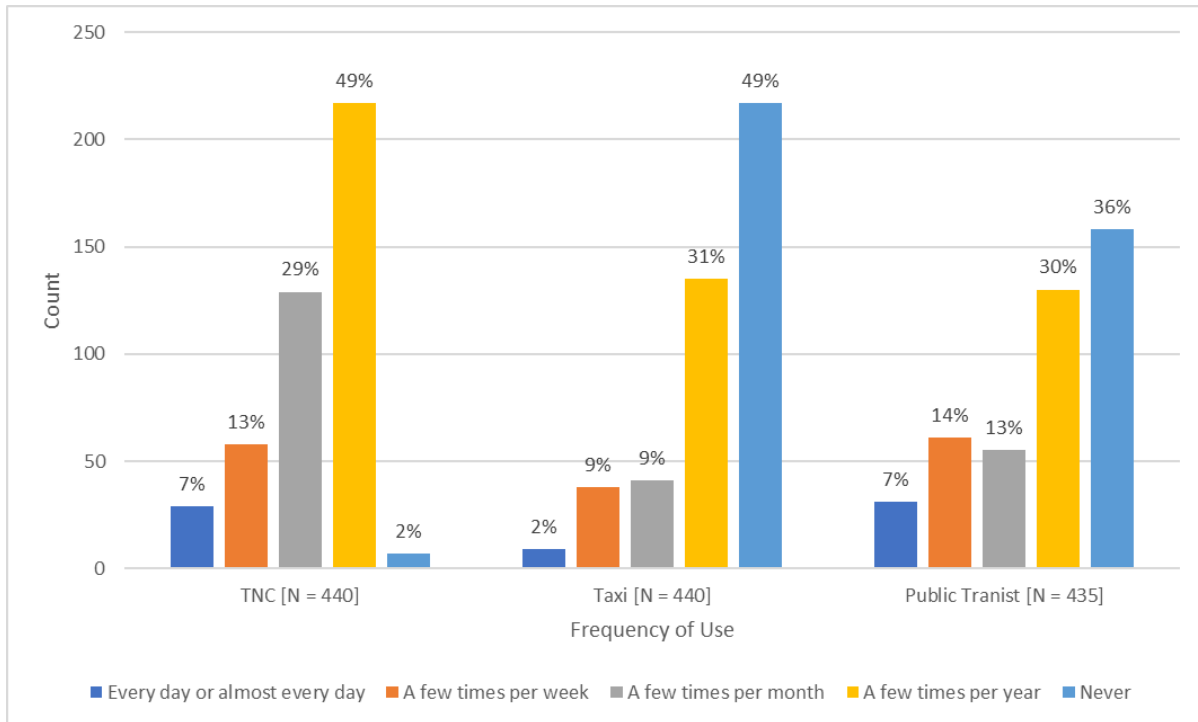


Figure 2. TNC, Taxi, and Public Transit Model Frequency in the Past Year

Safety and Precautions

All survey respondents categorized as users of TNCs and taxis were asked a series of questions to understand their experience regarding personal safety as a passenger and the precautions taken when using these services. First, respondents were asked if they have ever experienced a personal safety threat. The majority of passengers for both TNCs (n=351 of 426, 81%) and taxis (n=158 of 217, 72%) indicated they had not experienced a personal safety threat. The next most frequently indicated response was that the respondent had experienced a personal safety threat by the driver of the TNC (n=59 of 426, 14%) or taxi (n=45 of 217, 20%), followed by a personal safety threat by another passenger in the TNC (n=16 of 426, 4%) or taxi (n=14 of 217, 6%). Table 13 summarizes the personal safety issues encountered by TNC and taxi users.

Table 13. Experience of a Personal Safety Incident in TNC or Taxi

Experienced Personal Safety Threat	Sample [TNC]	Percent [TNC]	Sample [Taxi]	Percent [Taxi]
No	351	81%	158	72%
Yes, by the driver	59	14%	45	20%
Yes, by another passenger	16	4%	14	6%
Total	426	100%	217	100%

Next, those that indicated they had experienced a personal safety incident by either by the driver or another passenger were asked to indicate the type(s) of safety incident. Among the TNC passengers, the two most commonly indicated safety incidents were characterized as the driver driving erratically (n=33 of 75, 44%) or speeding (n=32 of 75, 43%). However, among the taxi passengers, the most frequently indicated incidents were where the driver was distracted (n=21 of 59, 36%) and the driver verbally harassed the passenger (n=19 of 59,

32%). Table 14 below provides greater detail on the types of safety incidents experienced by the TNC and taxi passengers.

Table 14. Nature of Personal Safety Incident

Safety Incident	Sample [TNC] n=75	Percent [TNC]	Sample [Taxi] n=59	Percent [Taxi]
Driver was speeding	32	43%	16	27%
Driver was driving erratically	33	44%	15	25%
Driver was distracted	20	27%	21	36%
Driver verbally harassed me	22	29%	19	32%
Driver physically harassed me	8	11%	7	12%
Unable to understand driver due to language barrier	17	23%	18	31%
Driver used incendiary language, though not directed at me	11	15%	16	27%
Driver directed foul or aggressive language at me	8	11%	4	7%
Other	7	9%	3	5%

Similar to the driver survey, all TNC and taxi passengers were asked if they take any personal safety precautions when using these services. It is important to note that participants were able to select all that apply. Across all passenger respondents, the most commonly selected safety precautions were sharing location with a friend/family member (n=263 of 432, 61%), confirming the driver and vehicle information provided in the app (n=256 of 432, 59%), and wearing a seatbelt (n=231 of 432, 54%). Approximately half of the respondents (n=210 of 432, 49%) indicated that they wear a face mask or text a friend/family member after arriving at their location. Figure 3 provides a distribution of responses for the safety precautions provided in the survey.

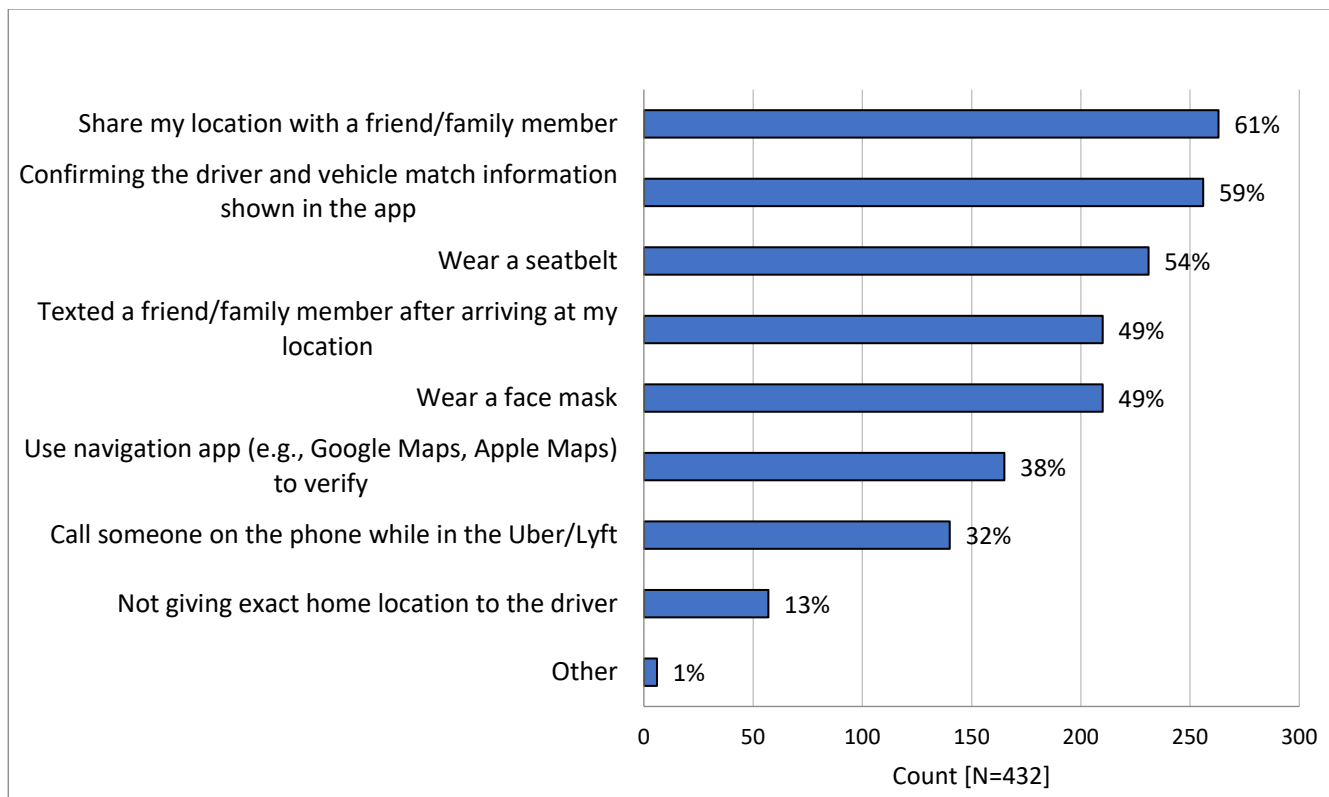


Figure 3. Safety Precautions Among Women Passengers

Traveling with Children

Based on the discussions in the driver and passenger focus group, traveling with children was identified as a challenge for some women. The survey was designed to explore the challenges associated with traveling with children, with an emphasis on car seats. First, respondents were asked if they have taken a TNC or taxi with their own or someone else's child. Approximately 30% (n=129 of 435) of respondents indicated that they have traveled with a child 18 years old or younger. Of those respondents who indicated that their child was 10 years old or younger, and presumably required to use a car seat or booster seat, approximately 62% (n=53 of 85) indicated that they brought their own booster or car seat. Additionally, this same subset of respondents (n=129) was asked if they have ever wanted to take a TNC or taxi with their child but were unable to for any reason, to which 37% (n=47 of 129) of respondents indicated "yes." As a follow up, those respondents were further asked to indicate the reason for being unable to take their child in a TNC or taxi. The most highly selected response indicated that they did not have a car seat or booster seat available for the child (n=14 of 47, 30%). Table 15 indicates the distribution of responses for reasons the women were unable to take a child in a TNC or taxi.

Table 15. Reasons for Being Unable to Take Child in TNC or Taxi

Reasons Unable to Take Child in a TNC or Taxi	Sample	Percent
I did not have a car seat or booster seat available.	14	30%
I felt unsafe taking my child in a TNC or taxi driven by a stranger.	13	28%
Installing the car seat or booster seat was too much of a hassle.	12	26%
The driver refused to pick me up after they saw I had my child or booster seat with me.	7	15%
Other	1	2%
Total	47	100%

Respondents were also asked about a potential strategy to address the challenges associated with traveling with a child who requires a car seat. One strategy involves TNCs or taxi drivers providing car seats (either company-funded or driver-funded) for passengers who need them. The respondents who indicated that they have traveled with a child under the age of 10 were asked if they would be more willing to take a TNC or taxi with their child if a car seat was provided and how much extra they would be willing to pay to use the booster or car seat. 71% (n=59 of 83) of participants indicated that they would be more willing to take a TNC or taxi if a car seat or booster seat was available. Collectively, over 50% (n=35 of 63) of the respondents indicated that they are willing to pay an additional \$5-\$20 to use a provided car seat. Table 16 provides the distribution of responses for the number of women willing to pay to use a booster or car seat that is provided for them.

Table 16. Willingness to Pay for Car Seat Program

Extra Cost for a TNC- or Taxi-Provided Car Seat or Booster Seat	Sample	Percent
\$0 to \$5	19	30%
\$5 to \$10	9	14%
\$10 to \$15	13	21%
\$15 to \$20	13	21%
\$20 to \$25	5	8%
\$25 to \$30	4	6%
Total	63	100%

Expert Interviews Regarding Passengers and Non-users

The expert interviews (n=13) were conducted with transportation professionals, researchers, advocates, and drivers. The questions that focused on passengers and non-users address two main topics: 1) travel behavior among passengers and 2) concerns among passengers. The research team includes the expert interview summaries here to augment the survey findings. In addition, this section also provides an overview of the strategies recommended by the interviewees to address the challenges that women face as drivers and passengers of TNCs and taxis.

Travel Behavior of Passengers

To gain additional understanding regarding female TNC and taxi passengers, the experts were asked to describe the travel behavior of women and how it compares to men. Three individuals suggested that women and men

generally need to go to the same places, and there is no significant difference in the types of trips they make. However, three individuals also suggested that women may be more likely to make more frequent and shorter trips, travel for domestic tasks (i.e., grocery store, dropping off a child at school, etc.), and women may be more likely to trip chain (i.e., drop of a child at school on the way to work). Some of the experts also explained that when a woman takes public transit, she is probably not the only passenger in the vehicle, which may provide a perception of safety that is not present in a TNC or taxi (n=7 of 13). Similarly, it was noted that when one takes a TNC or taxi you are taking chances with one person, whereas on public transit you may encounter more individuals that could make you feel uncomfortable (n=2 of 13). However, one expert noted that women may be more willing to take TNCs over public transit when traveling at night, whereas men may be more willing to walk or take public transit during late hours.

Some of the interviewees also provided more specific behaviors associated with TNC and taxi use. Three of the interviewees suggested that women pay more attention to detail than men (i.e., where they sit in the car, verification of the car and license plate, etc.). It was also noted that men have less concerns when using the services (n=2) and may be more likely to fall asleep, do not care who the driver is, or do not think that anything bad will happen to them. One individual note that women may be more likely to take precautions when using TNCs or taxis, such as sharing their location, calling a friend, or booking their ride during daylight. Additionally, it was acknowledged that anyone may use a TNC for a variety of reasons (n=3 of 13).

Concerns Among Passengers

The interviewees were also asked specifically to discuss concerns that women may have when using TNCs or taxis. Five of the participants mentioned safety as a concern, explaining that when you are in a TNC or taxi, you are trapped in a vehicle with a stranger. Another concern described for female passengers is the potential for male drivers to make inappropriate propositions (n=2 of 13). One individual also noted that there may be an increased potential for women who work late at night and need to travel home after dark. As such, it was suggested that women may prefer to have a female driver (n=4 of 13). One expert said that when riding a taxi there is an additional layer of unknown because you probably do not know who the driver is, whereas in a TNC you typically know the driver's name. It was also suggested that TNCs may be safer than taxis (n=2 of 13) because you are able to wait in a location of your choice and where you may feel more comfortable. They also explained that TNC vehicles are being tracked, so the passenger knows where the vehicle is when its enroute to pick up a passenger and drop them off. There was some discussion about taxis and whether or not taxis have safety issues or the safety issues are not talked about as much as TNCs. Other concerns that were discussed included the cleanliness and smell of a vehicle and the lack of training for drivers.

The interviewees were also discussed potential barriers for women to use TNCs and taxis. The most common response related to safety (n=3). They discussed real and perceived "stranger danger" if they travel by TNC or taxi which prevents them from using these services. Affordability and the availability of a smartphone with data were also discussed as barriers to using TNCs. Another challenge discussed by the interviewees included traveling with children (n=2 of 13) (e.g., the lack of a car seat and insufficient space to bring a car seat and stroller).

Strategies to Address Concerns

The interviewees were asked questions to identify potential strategies for addressing driver concerns. One strategy discussed included providing women who are new to driving with some form of training or mentorship to help them learn what the job is like and how to navigate certain situations (n=4 of 13). There was also interest in requiring customers to identify themselves by providing a name or picture (n=3 of 13). Some suggested there could be some other verification method such as a code, pin, word or barcode sent to the passenger who is supposed to be taking the ride (n=2 of 13). One of the drivers suggested that women drivers

could direct all passengers to sit in the back seat to provide more separation between them and the passengers. Additionally, one interviewee suggested that if drivers received better pay, it may make the job more attractive for women to become drivers. When asked about policy and strategies to address concerns among female passengers, the most common response was to have programs like the Lyft Women+ Connect program that allows women and nonbinary passengers to opt in to matching with other women and nonbinary drivers. One interviewee also suggested that background checks should be required for all drivers, in addition to implementing anti-harassment and assault prevention training for drivers. Some interviewees also provided potential strategies to address challenges surrounding traveling with children. The most commonly reported strategy is that passengers should be able to indicate if they need a car seat when they book the ride (n=4 of 13). This allows drivers to make an informed decision when they are deciding to accept a ride. Interviewees also suggested that drivers can opt into a car seat program whereby they provide a car seat for their customers that need it, ideally with an extra financial incentive for the driver to offer this amenity (n=3 of 13).

Some of the interviewees suggested other general policy options or strategies to help address some of the challenges and concerns for female drivers and passengers. Two interviewees suggested that there could be more educational campaigns for both drivers and passengers regarding appropriate behavior and how to de-escalate certain situations. Similarly, another interviewee suggested that TNC and taxi companies conduct more engagement with drivers and riders to better understand the challenges that drivers and passengers face. Two experts also suggested that the TNC and taxis should be required to submit safety reports. These safety reports may also include aggregated demographic information about passengers to help cities in their transportation decision making and to hold the companies for being equitable. Additionally, it was noted that there is little existing data on TNC and taxi safety, the data may be incomprehensible, and lacks information on challenges among gender minorities. When there is an incident that needs to be reported, one interviewee suggested that TNCs should provide human support rather than automated responses. Two individuals also brought up the issue surrounding cancellations. One participant suggested that the rules surrounding TNC driver cancellations should be tightened such that drivers cannot simply refuse rides from anyone for any reason. Another interviewee suggested that drivers should be able to cancel rides particularly in certain situations (i.e., a child needs a car seat and the parent does not provide one, there are not enough seatbelts in the vehicle for the number of people, etc.).

Key Findings for Female Passengers

The passenger focus group, user/non-user survey, and expert interviews revealed the following key findings for female passengers:

- May women take safety precautions when traveling in TNCs or taxis such as, confirming the driver and vehicle match pre-determined ride information, sharing their location, and communicating with a friend or family member when they reach their destination.
- Women who are traveling with children may experience challenges if the child requires a car seat, booster seat, or stroller.

Chapter 5. Policy Options

The findings are synthesized across all methods and include policy considerations to address gender equity issues among TNC and taxi drivers and passengers. The research team identified five topic areas with the most prominent challenges. These areas include challenges associated with driver pay, driver safety, passenger safety, and concerns accommodating children in a TNC or taxi, from both the driver and passenger perspectives. Due to the limited representation of female taxi drivers in this study, many strategies are primarily applicable to TNCs. Table 17 summarizes challenges and opportunities to address these gender equity issues.

Table 17. Gender Equity Challenges and Opportunities for TNCs and Taxis

Topic Area	Challenges	Opportunities
Driver Pay	Motivation for driving is often due to a desire for more income	Platforms may attempt to address day vs. night pay discrepancy to address gender pay gap for women who may feel uncomfortable working late-night hours
Driver Safety Issues and Concerns	Lack of training on how to handle difficult and/or uncomfortable situations	Platforms can implement mentorship program where existing drivers can volunteer to mentor new drivers
	Inability to verify that a passenger requested a ride	Platforms can implement more reliable passenger verification systems (e.g., unique code, pin, or barcode provided to the passenger who booked the ride)
	Difficulty navigating the reporting process and conflict resolution from driving platforms when difficult situations arise	Platforms can connect drivers with platform service members who can provide better support during driver emergency/conflict situations
	Women drivers believe they encounter more challenges with male passengers because they may be perceived to be more vulnerable than men	Expand options for women to express gender preference requests to be matched with other women and non-binary passengers (i.e., Lyft Women+ Connect)
Passenger Concerns about Safety	Passengers have concerns about drivers speeding and/or driving erratically	Platforms can monitor customer reviews regarding driving behavior complaints and restructure passenger reviews to improve data collection on important review criteria (i.e., safety of driving, cleanliness of vehicle, friendliness of driver) to make reviews more objective

Topic Area	Challenges	Opportunities
	Women may feel uncomfortable with male drivers	Expand options for women to make gender preference requests for rides from women and nonbinary drivers through programs like Lyft Women+ Connect
Accommodating Children in TNCs and Taxis	Drivers are concerned about length of time required to install car seat, cleanliness of vehicle with child, and insurance impacts if they get in an accident with a child in the car	Platforms can offer a car seat program for drivers and/or drivers can provide car seats
	Drivers have little incentive to accept rides from passengers traveling with a child and car seat due to the potential risk and time consumed	Drivers can earn extra pay for accepting rides with children
	Passengers may be denied a ride when drivers see that they are traveling with a child and/or car seat	Passengers can indicate when they book the ride if they are traveling with a car seat
	Passengers may experience challenges traveling with a car seat in some situations (e.g., no place to store car seat at destination)	Passengers can opt to pay an additional fee to use a booster seat provided by the platform and/or driver

Drivers in the focus group and expert interviews noted the challenges of not knowing how to handle difficult situations. One potential opportunity to help mitigate this challenge is for TNCs to implement mentorship programs where existing drivers can volunteer to mentor new drivers. This would allow new drivers to help understand what is involved with being a driver and provide them with a resource when they encounter a challenge.

One challenge for driver safety is concern over passenger verification. TNC drivers have expressed concerns about situations where one person orders an Uber or Lyft for another person. The driver of that TNC may encounter challenges if there is a safety issue due to the inability to verify a passenger's identity. Uber has launched a pilot program for passenger verification that aims to address this issue. Another driver challenge are concerns about TNC responses during and after a safety incident is reported. In the focus groups, respondents noted that after reporting incidents to Uber or Lyft, they received responses that seemed to be pre-generated and were difficult to navigate. Within the driver survey, respondents had given an average score of 6.53 out of 10 when asked about the effectiveness of Uber/Lyft's response after filing a report, signifying that there is room for improvement. One opportunity is to provide more tailored responses to each report, depending on the circumstance. If the report is about more serious situations such as verbal or physical harassment, Uber/Lyft can directly connect drivers with a service member, or provide a more appropriate response that addresses an issue. This may also help expedite resolution of these types of incidents.

Passengers also face challenges when riding TNCs. For example, based on the survey findings, many passengers have concerns about drivers speeding or driving erratically. To mitigate this concern, TNCs could improve their review system for drivers after each ride with more disaggregated review criteria. Currently, platforms allow users to rate drivers overall out of 5 stars, but this leaves out questions on whether or not drivers were friendly,

had a clean vehicle, or completed the ride safely. In addition to TNC's 5-star rating system, platforms could add in additional questions for passengers to answer, such as "How clean was the vehicle?", "Did the driver drive safely?", and "Was the driver friendly?" for a more informative and objective reviewing system.

Through both the surveys and expert interviews, passengers and drivers expressed concerns about riding with men. One opportunity for TNC platforms to help mitigate these concerns is to expand options to request women riders and passengers when using the app. Drivers can opt in to prefer women and nonbinary riders, and passengers can opt in to prefer women and nonbinary drivers. This strategy is currently employed by Lyft with the Women+ Connect program in select cities. However, expansion of this program to other locations and similarly implemented programs on other platforms, may help women feel more comfortable in TNCs as drivers and passengers.

Drivers and passengers also express issues when passengers traveling with children who need a car seat. Drivers face challenges on the length of time required to install a car seat, while passengers face challenges providing a car seat for a TNC ride and being denied a ride when the driver sees that they are traveling with a child or a car seat. These problems can be addressed by TNCs offering opt-in programs for drivers to provide car seats for passengers with children for extra pay. These car seats can be provided by the TNCs, so drivers can provide a universal car seat that can easily be stored and installed in the vehicle. Additionally, TNCs can also provide an option for passengers to indicate that they require a car seat when ordering a ride, allowing drivers to choose if they want to serve the passenger prior to reaching the pick-up location. This level of transparency when booking a ride may reduce frustrations from both the driver and passenger perspective.

Chapter 6. Conclusion

This research explores gender-related challenges for female TNC and taxi drivers and passengers. This research uses a mixed-methods approach including a literature review, focus group with female drivers (n=8), focus group with female passengers (n=8), survey of female drivers (n=170), survey of female passengers (n=440), and expert interviews (n=13). These methods were completed from August 2023 to May 2024. Findings from these methods were used to develop policy options that could help address key challenges confronted by female passengers and drivers.

The findings highlight the need for policy in four areas: 1) driver pay, 2) driver safety issues and concerns, 3) passenger concerns about safety, and 4) accommodating children in TNCs and taxis. Through the focus groups and expert interviews, women often become drivers with a desire to make more money and have a lack of training on how to handle difficult situations. Focus group participants and interviewees suggested that TNCs can implement training or mentorship programs. Female drivers also discussed challenges with the inability to verify the passenger identity, ineffective platform conflict resolution, and concerns interacting with male passengers. To address these issues, TNCs could implement enhanced passenger verification, provide more personalized responses to drivers reporting incidents, and expand programs that allow women and non-binary passengers to be connected with other women and non-binary drivers (i.e., Lyft Women+ Connect). Programs like the Lyft Women+ Connect may also be employed as a strategy to help women who may feel uncomfortable with male drivers. Female passengers also have concerns about drivers speeding or driving erratically which may be addressed by TNCs actively monitoring customer reviews of drivers or making the review process more effective.

Through focus groups, surveys, and expert interviews, another challenge discussed was traveling with children due to car seat requirements and the time associated with installing a car seat. To address these challenges some strategies include allowing passengers to indicate that they have or need a car seat when they book their ride. Additionally, programs allowing drivers to carry a car seat for passenger use may reduce the challenges of traveling with children for both the driver and the adult responsible for the child.

This research identifies key challenges and concerns among female TNC drivers and passengers; however, it provides limited findings specific to female taxi drivers and passengers. This is largely due to the limited number of women who work in the taxi industry and should be noted as a limitation of this study. To build upon this study, research may be conducted to understand the impacts of Lyft Women+ Connect with participating drivers and passengers. Future research could also include gender minorities who face additional challenges. A pilot program for car seats could also provide an opportunity to understand if such a program could be a viable option to support passengers who are traveling with children.

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Appendix A: Female TNC/Taxi Driver Focus Group Protocol

Introduction

- Thank you for taking the time to participate in this focus group.
- This focus group is part of our research project to understand the issues facing women who drive for Uber, Lyft, or taxis.
- Our goal today in this focus group is to hear from you about your experiences as a driver and to have some group discussion on how these experiences are the same or different for others. The topics we will cover today include your reasons for starting to drive for Uber or Lyft, your strategy while driving, and issues you have faced as a driver.
- Everyone in the focus group will receive a gift card. Due to campus restrictions, it is easiest to order Amazon or Target digital gift cards. At the end of the focus group, please tell us which gift card you prefer. It should take 1-2 weeks for your gift card to arrive.
- This focus group will be recorded and transcribed with your consent. The recording will be deleted after the transcription is completed. We will not use your real names or other personal information in the transcription and in any publications using these data.
- The discussion in this focus group is confidential. Please refrain from talking about personal details shared within the focus group with others after the focus group is completed.
- And finally, please be respectful when others are talking, use the raise hand feature or raise your hand if you want to share something. Also, feel free to write in the chat if you have something to add.

Icebreaker

- Participants introduction
 - Name
 - What city you live in
 - Do you have any memorable stories when driving for Uber/Lyft?

General questions

- What made you start driving for Uber/Lyft?
 - Can you remember how or why you decided to start driving?
 - How did you first learn about it?
 - What were some other jobs you considered taking? Reasons for choosing TNC driver over other jobs?

Driving questions

- Can you walk us through your strategy when you're working?
 - Where you usually drive when you are working
 - Finding customers, when to start working, when to stop working, what customers to accept/decline...
- For those of you who also drive for food delivery services, how do you decide whether to do food delivery or picking up passengers?
 - What made you start driving for food delivery?

Financial questions

- Can you estimate about how much you earn every week with Uber/Lyft?
 - Has this changed at all over the time that you have been driving?
 - Do you have a sense of how this compares to what other drivers are making?
 - What are some of the things you noticed will affect how much you are earning?
 - What do you do at times when you are earning less? More?
- Can you estimate about how much you spend on your car every month (car payment, gas, maintenance, insurance, etc.)?

--- 5 MIN BREAK --

Issues/concerns

- Have you ever stopped driving for Uber/Lyft? If so, why?
- For how long do you plan on continuing to drive for Uber/Lyft? Can you explain your thinking behind this?
- What are your main issues or concerns as a driver?
- What are some things that you think Uber/Lyft could do differently for drivers? Anything the state/city could do differently?
- How do you feel about driving children who are accompanied by adults?
- How do you feel about parents who travel with children who need car seats?
- Have you ever given a ride to someone who brought their own car seat?
- What are some of the difficulties you might imagine if you had a rider who brought their own car seat?
(NOTE: Car seat about \$300 on Target)
 - Would it make it easier/harder if you, as a driver, bought a car seat and charged extra for riders to use it?
 - How much extra would you want to be paid for each usage?

Safety

In this section, we will ask some questions about safety while driving for Uber/Lyft. We recognize that this topic is sensitive and may bring up uncomfortable feelings. We want to ensure you again that everything in this session will be kept confidential and you can decline to answer any question that you do not feel comfortable answering.

- Have you or anyone you know ever felt your personal safety threatened while driving?
 - Probes: passengers acting erratically, passengers being inebriated, using incendiary language, etc.
- How have these incidents affected your willingness to continue driving for Uber/Lyft?
- Have you been able to or have you sought support after these incidents?
 - Probes: from your friends/family, from a manager/supervisor, from Uber/Lyft...
- What are some measures you take to protect your personal safety when driving for Uber/Lyft?
 - Probes: sharing your location with someone, having a security camera...

Wrap up

Any last thoughts or things that you wanted to share that we didn't get to?

Appendix B: Female TNC/Taxi Passenger Focus Group Protocol

Introduction

- Thank you for taking the time to participate in this focus group.
- This focus group is part of our research project to understand the issues facing women who ride in Uber, Lyft, or taxis.
- Our goal today in this focus group is to hear from you about your experiences riding in these vehicles and to have some group discussion on how these experiences are the same or different for others. The topics we will cover today include barriers and benefits to using Uber, Lyft or taxis, experiences traveling with children, and safety issues.
- Everyone in the focus group will receive a gift card. Due to campus restrictions, it is easiest to order Amazon or Target digital gift cards. At the end of the focus group, please tell us which gift card you prefer. It should take 1-2 weeks for your gift card to arrive.
- This focus group will be recorded and transcribed with your consent. The recording will be deleted after the transcription is completed. We will not use your real names or other personal information in the transcription and in any publications using these data.
- The discussion in this focus group is confidential. Please refrain from talking about personal details shared within the focus group with others after the focus group is completed.
- And finally, please be respectful when others are talking, use the raise hand feature or raise your hand if you want to share something. Also, feel free to write in the chat if you have something to add.

Ice breaker

- Okay, now we will begin the focus group. Let's start off with an icebreaker...
- Name
- What city do you live in?
- How often do you take Uber, Lyft, or taxis?
- Share a story from a memorable trip you took in an Uber or Lyft, anything unique, challenging, funny etc.?

Barriers and benefits to using Uber/Lyft

Now, we'll transition to talking about the barriers and benefits of using Uber and Lyft.

- Can you think of a time when you wanted to take an Uber/Lyft but could not, or decided not to?
 - What were your reasons for not taking Uber/Lyft? What transportation mode did you use instead?
- What are some of your main concerns with or barriers to using Uber/Lyft?
 - Do you wish you used Uber/Lyft more often? Why or why not?
- How do you compare Uber/Lyft with other forms of transportation?
 - Probes: safety, cleanliness, cost, travel time, etc.
- What would make you more likely to take Uber/Lyft?
- What would you do if Uber/Lyft didn't exist?

Now we will take a 5-minute break, feel free to turn your cameras off and be back by [TIME]. When we come back, we'll split into breakout groups.

– 5 MIN BREAK –

BREAKOUT GROUPS

Traveling with children -- breakout room for people who indicated that they have children

- Have you ever traveled in a TNC with young children (this could be your own children, younger siblings, cousins, etc.)?
- If so, did the child require a car seat and did you provide your own?
- If not, was having a car seat a barrier to taking a Lyft/Uber?
 - If you brought your own car seat, how was this received by the driver?
 - How much extra would you pay for a TNC ride where a car seat was provided?
- Have you ever wanted to bring your children with you in an Uber or Lyft but not been able to? Why or why not?
- What are some other forms of transportation you take with your children, other than Uber and Lyft?
 - If someone says they bought a car because of young children - would having a carseat have allowed you to keep using Uber/Lyft instead of getting the car?

Safety -- breakout room for people who indicated that they do not have children

In this section, we will ask some questions about safety in Uber/Lyft. We recognize that this topic is sensitive and may bring up uncomfortable feelings. We want to assure you again that everything in this session will be kept confidential and you can decline to answer any question that you do not feel comfortable answering. If you want to share a story but don't feel comfortable sharing with the group, you can send it to us via email after the session or send it to us in a private chat in Zoom.

- Have you or has anyone you know felt their personal safety threatened while taking an Uber/Lyft?
Pooled or shared Uber/Lyft?
 - Probes: was the driver speeding/driving erratically, watching a video, talking on cellphone...
- How have these incidents affected your willingness or desire to take an Uber/Lyft in the future?
- What are some measures you take to protect your personal safety when you are in an Uber/Lyft?
 - Probes: share your location with a friend, wear your seatbelt...
- Do you think your experience differs from the experience of men that you know? Why or why not?

Conclusion -- everyone returns to main discussion room

- Is there anything else you would like to share? Anything we didn't get a chance to talk about today?

Appendix C: Female TNC/Taxi Driver Survey

Screener questions

- Do you identify yourself as:
 - Female
 - Male -- END SURVEY
 - Other, please specify
 - Prefer not to say -- END SURVEY
- Do you drive for Uber, Lyft or other taxi services? Select all that apply. [Only allow this for the two yes options]
 - Yes, Uber/Lyft
 - Yes, taxi
 - Not currently, but I have in the past -- exclusive answer
 - No -- exclusive answer
- Do you drive for any delivery services (e.g., DoorDash, Uber Eats, Instacart, etc.)?
 - Yes
 - Not currently, but I have in the past
 - No -- if NO to Uber, taxis, and delivery services – END SURVEY

General operation questions -- only for TNCs or taxis

- What platforms do you currently drive for? Please select all that apply.
 - Uber
 - Lyft
 - Taxi Service
 - Other, please specify: _____

[If Uber or Lyft]

- As a driver, where do you primarily operate your business for Uber/Lyft?
 - [Text response]
- Approximately what year did you start driving for Uber/Lyft?
 - [Text response]
- What were some of your reasons for starting to drive for Uber/Lyft? Select all that apply.
 - I had a job but needed extra income.
 - I was having trouble finding another job and decided to start driving for Uber/Lyft.
 - I didn't like my previous job.
 - I was in between jobs.
 - I heard about the rental vehicle program.
 - I used to be a taxi driver and switched to Uber/Lyft.
 - Other, please specify:
- About how often do you drive for Uber/Lyft?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year

- [For those who drive “every day or almost every day”, “a few times per week”] About how many hours do you drive per week?
 - 0-5 hrs
 - 5-10 hrs
 - 10-20 hrs
 - 20-40 hrs
 - More than 40 hrs per week
- What vehicle do you use for driving for TNCs?
 - My own car
 - A car borrowed from a family member/friend
 - A car rented from Uber or Lyft’s car rental program
- [For people who drive with their own car] What type of car do you primarily use when driving for Uber/Lyft?
 - Car brand (e.g., Toyota, Honda, Ford, etc.): _____
 - Car model (e.g., RAV-4, Accord, Focus, etc.): _____
 - Car year: _____
 - Approximate odometer value: _____
- About how far is it from where you live to your primary market of operation?
 - Miles: _____
- Typically, what days of the week do you drive? Select all that apply.
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday
- On the days when you drive, what time do you typically start and end driving?
 - Monday: ____ to ____
 - Tuesday: ____ to ____
 - Wednesday: ____ to ____
 - Thursday: ____ to ____
 - Friday: ____ to ____
 - Saturday: ____ to ____
 - Sunday: ____ to ____

[For taxi drivers]

- Where do you primarily drive?
 - [Text response]
- Approximately what year did you start driving for taxi services?
 - [Text response]
- What were some of your reasons for starting to drive for taxi services? Select all that apply.
 - I had a job but needed extra income.
 - I was having trouble finding another job and decided to start driving for taxis.
 - I used to be an Uber/Lyft driver and decided to start driving for taxis.
 - I didn’t like my previous job.
 - I was in between jobs.

- Other, please specify:
- (For people who answered “I used to be an Uber/Lyft driver but switched to taxi”) What were some of your reasons for switching from Uber/Lyft to taxis?
 - I can make more money driving for taxis than Uber/Lyft.
 - I can have a more consistent schedule driving for taxis.
 - I receive additional benefits from taxis that I don’t get from Uber/Lyft (e.g., health insurance, overtime pay, etc.)
 - I feel safer driving for taxis compared to Uber/Lyft.
 - Other, please specify:
- About how often do you drive for taxis?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
- (For those who drive “every day or almost every day”, “a few times per week”) About how many hours do you drive per week?
 - 0-5 hrs
 - 5-10 hrs
 - 10-20 hrs
 - 20-40 hrs
 - More than 40 hrs per week
- Typically, what days of the week do you drive? Select all that apply.
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday
- On the days when you drive, what time do you typically start and end driving?
 - Monday: ____ to ____
 - Tuesday: ____ to ____
 - Wednesday: ____ to ____
 - Thursday: ____ to ____
 - Friday: ____ to ____
 - Saturday: ____ to ____
 - Sunday: ____ to ____

Delivery services

- [For people who drive delivery – based on screener question] What are some of the reasons you started to drive for delivery services? Select all that apply.
 - I had a job but needed extra income.
 - I was having trouble finding another job and decided to start driving for delivery services.
 - I didn’t like my previous job.
 - I was in between jobs.
 - I used to be an Uber/Lyft driver but decided to switch to delivery services instead.
 - Other, please specify:

- [For people who answered “I used to be an Uber/Lyft driver but switched to delivery”] What were some of your reasons for switching from Uber/Lyft to delivery services? Select all that apply.
 - I didn’t want to deal with passengers in my car anymore.
 - I can make more money driving for delivery services than Uber/Lyft.
 - I have a more flexible schedule driving for delivery services than Uber/Lyft.
 - I feel safer driving for delivery services compared to Uber/Lyft.
 - Other, please specify:
- [For people who drive for both Uber/Lyft and delivery services] What were some of your reasons for starting to drive for delivery services? Select all that apply.
 - I wanted to supplement my income from driving.
 - I wanted additional flexibility to choose between driving passengers or for delivery services.
 - I feel safer driving for delivery services compared to Uber/Lyft.
 - Other, please specify:
- About how often do you drive for delivery services?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
- [For those who drive “every day or almost every day”, “a few times per week”] About how many hours do you drive per week?
 - 0-5 hrs
 - 5-10 hrs
 - 10-20 hrs
 - 20-40 hrs
 - More than 40 hrs per week
- Typically, what days of the week do you drive? Select all that apply.
 - Monday
 - Tuesday
 - Wednesday
 - Thursday
 - Friday
 - Saturday
 - Sunday
- On the days when you drive, what time do you typically start and end driving?
 - Monday: ____ to ____
 - Tuesday: ____ to ____
 - Wednesday: ____ to ____
 - Thursday: ____ to ____
 - Friday: ____ to ____
 - Saturday: ____ to ____
 - Sunday: ____ to ____

Income and expenses -- only show for people who drive every day or a few times per week

- (Show only for TNC drivers) In a typical week, about how much do you earn from driving passengers for Uber/Lyft?
 - \$ ____ per week

- (Show only for taxi drivers) In a typical week, about how much do you earn from driving passengers for taxis?
 - \$ ____ per week
- (Show only for delivery drivers) In a typical week, about how much do you earn from driving for delivery services?
 - \$ ____ per week
- In a typical week, about how much do you spend on gas for the vehicle that you currently drive for Uber/Lyft or delivery services?
 - \$ ____ per week
- About how much do you spend on other expenses for your vehicle that you drive for TNCs?
 - Car payment: _____
 - Registration: _____
 - Insurance: _____
 - Tolls: _____
 - Maintenance (e.g., oil changes, tire rotation, etc.): _____

Safety -- show to people who currently drive for Uber/Lyft or who have previously driven for Uber/Lyft

In this section, we will ask some questions related to safety in Uber/Lyft. We recognize that some of these questions may cause discomfort. You are free to skip any questions you do not want to answer.

- Have you ever experienced an incident where you have felt your personal safety threatened while driving for Uber/Lyft?
 - Yes
 - No
 - Prefer not to answer
- In what way did you feel that your safety was threatened? Select all that apply.
 - Passenger physically harassed me
 - Passenger physically harassed another passenger
 - Passenger verbally harassed me
 - Passenger verbally harassed another passenger
 - Passenger(s) was/were inebriated
 - Passenger used foul or aggressive language to another passenger or on the phone
 - Passenger directed foul or aggressive language at me
 - Passenger caused damage to my vehicle
 - Passenger distracted me while driving
 - Other, please specify: _____
- How have this incident/these incidents affected your driving behavior for Uber/Lyft? Select all that apply.
 - I am less willing to drive at night.
 - I am less willing to pick up or drop off passengers in certain neighborhoods.
 - I am more likely to share my location with friends/family/others.
 - I am more likely to cancel a ride or turn away a passenger if they appear threatening.
 - I am less willing to drive for Uber/Lyft overall.
 - I am more likely to drive for delivery services than for Uber/Lyft.
 - I am more cautious when driving for Uber/Lyft.
 - These incidents have not or have had little effect on my driving behavior.
 - Other, please specify: _____

- [If “These incidents have not had effect on my driving behavior” chosen] Please write a short explanation of why this incident/these incidents did not impact your driving behavior for Uber/Lyft.
 - [Text response]
- Have you sought support after this incident/these incidents?
 - I have talked to family/friends about this incident/these incidents.
 - I have sought support from a mental health professional.
 - I have reported this incident/these incidents to Uber or Lyft.
 - Other, please specify: _____
- [If “I have reported this incident to Uber or Lyft” is chosen] How effective was Uber/Lyft’s response to your report? Please rate the response on a scale from 0 to 10, with 0 being not effective at all to 10 being very effective.
 - 0-10 scale
 - [Optional] Please provide a short explanation for your answer.
- What are some measures you take to protect your personal safety when driving for Uber/Lyft? Select all that apply.
 - I do not allow passengers to sit in the front seat.
 - I do not drive late at night.
 - I have a physical barrier (e.g., plastic barrier or cover, etc) between the front and rear seat.
 - I have a security camera in the car.
 - I cancel rides from unsafe neighborhoods.
 - I cancel rides if I see that the passenger appears threatening, inebriated, etc.
 - Other, please describe: _____

Safety -- show to people who currently drive for taxis

In this section, we will ask some questions related to safety while driving a taxi. We recognize that some of these questions may cause discomfort. You are free to skip any questions you do not want to answer.

- Have you ever experienced an incident where you have felt your personal safety threatened while driving a taxi?
 - Yes
 - No
 - Prefer not to answer
- In what way did you feel that your safety was threatened? Select all that apply.
 - Passenger physically harassed me
 - Passenger physically harassed another passenger
 - Passenger verbally harassed me
 - Passenger verbally harassed another passenger
 - Passenger(s) was/were inebriated
 - Passenger used foul or aggressive language to another passenger or on the phone
 - Passenger directed foul or aggressive language at me
 - Passenger caused damage to the vehicle.
 - Passenger distracted me while driving
 - Other, please specify: _____
- How have this incident/these incidents affected your driving behavior for taxis? Select all that apply.
 - I am less willing to drive at night.
 - I am less willing to pick up or drop off passengers in certain neighborhoods.
 - I am more likely to share my location with friends/family/others.

- I am more likely to turn away a passenger if they appear threatening.
 - I am less willing to drive for taxis overall.
 - I am more likely to drive for delivery services than for taxis.
 - I am more cautious when driving for taxis.
 - These incidents have not or have had little effect on my driving behavior.
 - Other, please specify:
- [If “These incidents have not had effect on my driving behavior” chosen] Please write a short explanation of why this incident/these incidents did not impact your driving behavior for taxis.
 - [Text response]
- Have you sought support after this incident/these incidents?
 - I have talked to family/friends about this incident/these incidents.
 - I have sought support from a mental health professional.
 - I have reported this incident/these incidents to the taxi service company.
 - Other, please specify: _____
- [If “I have reported this incident to the taxi service company” is chosen] How effective was the taxi service’s response to your report? Please rate the response on a scale from 0 to 10, with 0 being not effective at all to 10 being very effective.
 - 0-10 scale
 - [Optional] Please provide a short explanation for your answer.
- What are some measures you take to protect your personal safety when driving a taxi? Select all that apply.
 - I do not allow passengers to sit in the front seat.
 - I do not drive late at night.
 - I have a physical barrier (e.g., plastic barrier or cover, etc) between the front and rear seat.
 - I have a security camera in the car.
 - I refuse rides to/from unsafe neighborhoods.
 - I refuse rides if I see that the passenger appears threatening, inebriated, etc.
 - Other, please describe: _____

Driving children with car seats- Only TNC/taxi drivers

Next, we will ask you a set of questions about accepting rides from adults traveling with children.

- If you see an adult passenger traveling with a young child or children, will you accept their ride?
 - Yes, as long as the adult provides a car seat for the child if they need one.
 - Yes, even if the adult does not provide a car seat and the child needs one.
 - No
- If you see a passenger traveling with a child that requires a car seat or booster seat, what are your concerns? Select all that apply.
 - The time it takes to install the car seat.
 - The passenger may not know how to install the car seat.
 - The passenger may get injured installing the car seat.
 - The child may be unattended while the car seat is being installed.
 - The child may create a mess in the car.
 - I have no concerns.
 - Other, please specify: _____
- If the TNC or taxi company that you work for had a program that supplied you with a car seat for your customers to use, would you want to take part in this program?

- Yes
- No
- [If YES to the question above] What would be the greatest priority for you if you were to provide a car seat for your customers?
 - The car seat is fast and easy to install.
 - The car seat is lightweight and easy to move in and out of the back seat/trunk.
 - Other, please specify: _____
- [If YES to car seat program question] If you were to get paid extra for accepting rides where people need to use the car seat provided by the car seat program, how much additional would you want to charge per ride?
 - List of options in \$5 increments, starting with \$0 up to \$30

Demographics

Finally, we will ask some questions about you!

- In what year were you born?
 - Year: _____
- In what country were you born?
 - United States
 - Other: _____
- [If “other” selected] What year did you immigrate to the U.S.?
 - Year: _____
- What race/ethnicity do you identify with? Please select all that apply.
 - White/Caucasian
 - Black/African American
 - Hispanic/Latino
 - Asian
 - Native Hawaiian/other Pacific Islander
 - Native American/Alaskan Native
 - Other, please specify: _____
 - Prefer not to answer
- What languages do you speak at home?
 - [Language options]
- What is the highest level of education you have completed?
 - High school
 - Some college
 - 2-year college
 - 4-year college
 - Graduate school
 - Prefer not to answer
- Do you currently rent or own your residence?
 - Rent
 - Own
 - Staying with friends/family
 - Prefer not to answer
- How many people do you live with in your current home/apartment?

- 1
- 2
- 3
- 4
- 5 or more: _____
- How many people would you consider to be members of your household (i.e., individuals with whom you share income and expenses)?
 - 1
 - 2
 - 3
 - 4
 - 5 or more: _____
- Please select which answers best describe who you live with. Please select all that apply.
 - Adult children (18 or older)
 - Children (under 18)
 - Housemates/Roommates
 - Other relatives (e.g., siblings)
 - Parent/Guardian(s)
 - Spouse/Partner/Significant Other
 - Other, please specify: _____
- [For people with children] Please list the number of children and their ages.
 - Child 1, age: _____
 - Child 2, age: _____
 - Child 3, age: _____
 - Child 4, age: _____
 - Child 5, age: _____
 - Other children, ages: _____
- Approximately how much did your household earn last year before taxes? Please note that roommates are not generally considered members of your household.
 - Less than \$10,000
 - \$10,000 - \$14,999
 - \$15,000 - \$24,999
 - \$25,000 - \$34,999
 - \$35,000 - \$49,999
 - \$50,000 - \$74,999
 - \$75,000 - \$99,999
 - \$100,000 - \$149,999
 - \$150,000 - \$199,999
 - \$200,000 or more

Appendix D: Female TNC/Taxi User and Non-User Survey

Screener questions - show to everyone

- Do you identify yourself as:
 - Female
 - Male -- END SURVEY
 - Other
 - Prefer not to say -- END SURVEY
- How often have you used Uber or Lyft in the past year?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
 - Never – SEND TO TNC NON-USER BLOCK
- How often do you use taxis?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
 - Never –SEND TO TAXI NON-USER BLOCK
- [For respondents who DON'T select "Never" to the Uber/Lyft question above] How often do you use pooled rides with Uber in the past year (e.g., sharing your ride with another rider who you do not know)?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
 - Never

General transportation questions - show to everyone

- Do you have access to a car?
 - Yes, my own
 - Yes, a family member or roommate's car
 - Yes, I use carsharing (GIG Car Share, BlueLA, Getaround, Zipcar, etc.)
 - No
- How often have you used public transit (e.g., subway, public bus) in the past year?
 - Every day or almost every day
 - A few times per week
 - A few times per month
 - A few times per year
 - Never

TNC NON-USER BLOCK

(Only show questions to respondents who have not used Uber/Lyft)

- TNC services such as Lyft and Uber use smartphone apps to connect passengers with nearby drivers. How would you describe your experience with Lyft or Uber? Select all that apply.
 - I know how to use it, but I don't use it often.
 - I know someone who uses it.
 - I have used it with a friend but haven't installed the app.
 - I don't know how to use it.
 - I have never heard of it.
- [For people who select "I don't use it often"] What are some of your reasons for not using Uber/Lyft as often? Select all that apply.
 - I can get around easily without it.
 - I would rather walk or bike.
 - I would rather borrow a car from a friend.
 - I would rather get a ride from someone else.
 - I don't know how to use it or feel uncertain about how to use it for the first time.
 - I don't have a compatible phone to support app use.
 - I don't want to download another app.
 - I don't have a bank account.
 - I don't have a debit or credit card.
 - It is too expensive.
 - I can't find Uber/Lyft cars near me.
 - I don't want to get driven by a stranger.
 - I don't want to share a car with other strangers.
 - I don't like waiting for other people to get dropped off.
 - Uber/Lyft makes me feel unsafe/uncomfortable.
 - Other, please specify: _____
- [For people who select "I don't use it often" OR "I have used it with a friend"] Have you experienced a particular incident in an Uber/Lyft that made you feel unsafe/uncomfortable?
 - Yes
 - No
- [If YES, experienced particular incident] In what way did you feel unsafe/uncomfortable in the TNC? Please select all that apply.
 - Driver was speeding
 - Driver was driving erratically
 - Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
 - Driver verbally harassed me
 - Driver physically harassed me
 - Unable to understand driver due to language barrier
 - Driver used foul or aggressive language, though not directed at me
 - Driver directed foul or aggressive language at me
 - Other, please specify: _____
- Have you heard of friends/family members/others who have experienced incidents in TNCs which made them feel unsafe/uncomfortable?
 - Yes
 - No
- [If YES, heard of others who have experienced incident] What type of incident made them feel unsafe/uncomfortable? Please select all that apply.
 - Driver was speeding
 - Driver was driving erratically

- Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
- Driver verbally harassed the passenger
- Driver physically harassed the passenger
- Unable to understand driver due to language barrier
- Driver used foul or aggressive language, though not directed at the passenger
- Driver directed foul or aggressive language at the passenger
- Other, please specify: _____
- What would make you more likely to use TNCs? Please select all that apply.
 - Lower costs
 - Plastic or other type of barrier between front and back seat
 - More rigorous background checks for drivers
 - If the driver is female
 - Better labor conditions for drivers
 - Other, please specify: _____
- [Show for people that DON'T select "Never" for pooled Uber rides - in screener questions] What are some factors that would make you more likely to use pooled or shared TNCs? Please select all that apply.
 - Lower costs
 - Lower wait times
 - If picking up/dropping off passengers does not cause me to deviate too much from my destination
 - If I could see ahead of time how many passengers I am sharing with
 - Other, please specify: _____

TAXI NON-USER BLOCK

(Only show questions to respondents who have not used taxis)

- Taxi services are when a personal driver takes a passenger to a destination. Drivers and passengers may be connected through an app, but not always, as riders can hail a vehicle from the curb or from a designated location (e.g., taxi stand), or call a dispatcher and schedule a ride in advance. How would you describe your experience with taxi services?
 - I know how to use it, but I don't use it often.
 - I know someone who uses it.
 - I have used it with a friend.
 - I don't know how to use it.
 - I have never heard of it.
- [For people who select "don't use it often"] What are some of your reasons for not using taxis as often? Select all that apply.
 - I can get around easily without it.
 - I would rather walk or bike.
 - I would rather borrow a car from a friend.
 - I would rather get a ride from someone else.
 - I don't know how to use it or feel uncertain about how to use it for the first time.
 - I don't have a bank account.
 - I don't have a debit or credit card.
 - It is too expensive.
 - There are not many taxi drivers near me.

- I don't want to get driven by a stranger.
 - Using taxis makes me feel unsafe/uncomfortable.
 - Other, please specify: _____
- [For people who select "don't use it often" OR I have used it with a friend] Have you experienced a particular incident in a taxi that made you feel unsafe/uncomfortable?
 - Yes
 - No
- [If YES, experienced particular incident] In what way did you feel unsafe/uncomfortable in the taxi? Please select all that apply.
 - Driver was speeding
 - Driver was driving erratically
 - Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
 - Driver verbally harassed me
 - Driver physically harassed me
 - Unable to understand driver due to language barrier
 - Driver used foul or aggressive language, though not directed at me
 - Driver directed foul or aggressive language at me
 - Other, please specify: _____
- Have you heard of friends/family members/others who have experienced incidents in taxis which made them feel unsafe/uncomfortable?
 - Yes
 - No
- [If YES] In what way did this person feel unsafe/uncomfortable in the taxi? Please select all that apply.
 - Driver was speeding
 - Driver was driving erratically
 - Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
 - Driver verbally harassed them
 - Driver physically harassed them
 - Unable to understand driver due to language barrier
 - Driver used foul or aggressive language, though not directed at them
 - Driver directed foul or aggressive language at them
 - Other, please specify: _____
- What would make you more likely to use taxis? Please select all that apply.
 - Lower costs
 - If there were more drivers near me
 - Plastic or other type of barrier between front and back seat
 - More rigorous background checks for drivers
 - If the driver is female
 - Better labor conditions for drivers
 - Other, please specify: _____

USER BLOCK

(Only show questions to respondents who have used Uber/Lyft/taxis at least once in the past year)

[For people who use Uber/Lyft - response to screener question]

You indicated that you have used TNC services such as Uber and Lyft at least a few times per year. In this section, we will ask you about your experiences with Uber and Lyft.

- What types of trips do you take with Uber/Lyft? Please select all that apply.
 - Go to/from a restaurant/bar
 - Go to/from other social/recreational activities (not a restaurant/bar)
 - Commute to/from work
 - Commute to/from school
 - Go to/from public transit
 - Go to/from work-related meetings during the day
 - Go to/from grocery shopping
 - Go to/from other shopping (non-groceries)
 - Run non-shopping errands
 - To pickup/drop-off children
 - Go to/from healthcare services
 - Go to/from the airport
 - Go to/from the gym
 - Move bulky items
 - Other, please specify: _____
- What days of the week do you typically use Uber/Lyft? Select all that apply.
 - Weekdays
 - Weekends
- What times of day do you use Uber/Lyft? Select all that apply.
 - Midnight-5 am
 - 5-7 am
 - 7-10 am
 - 10-3 pm
 - 3-7 pm
 - 7 pm – midnight
- About how much do you spend on Uber/Lyft every month? [Text Entry]

Reasons to not use Uber/Lyft

Next, we will ask a few questions to determine why you might not want to use Uber/Lyft for your transportation needs.

- What are some trip purposes for which you would NOT use Uber/Lyft? Select all that apply.
 - Go to/from a restaurant/bar
 - Go to/from other social/recreational activities (not a restaurant/bar)
 - Commute to/from work
 - Commute to/from school
 - Go to/from public transit
 - Go to/from work-related meetings during the day
 - Go to/from grocery shopping
 - Go to/from other shopping (non-groceries)
 - Run non-shopping errands
 - To pickup/drop-off children
 - Go to/from healthcare services

- Go to/from the airport
 - Go to/from the gym
 - Move bulky items
 - Other, please specify: _____
- [Randomly select 1 trip purpose from above] What are your reasons for not using Uber/Lyft for this trip? Select all that apply.
 - Too expensive
 - Wait time too long
 - Other transportation options are more convenient. Please provide an example: _____
 - Feel unsafe waiting outside or getting dropped off at this location
 - Other: _____
- What are some days of the week/times of day for which you would NOT use Uber/Lyft? Select all that apply.
 - List days of week/times of day, use matrix with days of the week Sunday to Saturday on the vertical and the following time slots on the horizontal: 6am - 10am, 10am - 2pm, 2pm - 6pm, 6pm - 10pm, 10pm - 2am, 2am - 6am
- What are your reasons for not using Uber/Lyft at these times?
 - Too expensive
 - Wait time too long
 - Other transportation options are more convenient. Please provide an example: _____
 - Too much traffic
 - I feel unsafe traveling in an Uber/Lyft at this time
 - Other: _____

[For people who use taxis - response to screener question]

You indicated that you have used taxi services at least a few times in the past year. In this section, we will ask you about your experiences using taxi services.

- What types of trips do you take with taxis? Select all that apply.
 - Go to/from a restaurant/bar
 - Go to/from other social/recreational activities (not a restaurant/bar)
 - Commute to/from work
 - Commute to/from school
 - Go to/from public transit
 - Go to/from work-related meetings during the day
 - Go to/from grocery shopping
 - Go to/from other shopping (non-groceries)
 - Run non-shopping errands
 - To pickup/drop-off children
 - Go to/from healthcare services
 - Go to/from the airport
 - Go to/from the gym
 - Move bulky items
 - Other, please specify: _____
- What days of the week do you typically use taxis?
 - Weekdays
 - Weekends

- What times of day do you use taxis?
 - Midnight-5 am
 - 5-7 am
 - 7-10 am
 - 10-3 pm
 - 3-7 pm
 - 7 pm – midnight
- About how much do you spend on taxis every month? [Text Entry]

Reasons to not use taxis

Next, we will ask a few questions to determine why you might not want to use taxis for your transportation needs.

- What are some trip purposes for which you would NOT use taxis?
 - Go to/from a restaurant/bar
 - Go to/from other social/recreational activities (not a restaurant/bar)
 - Commute to/from work
 - Commute to/from school
 - Go to/from public transit
 - Go to/from work-related meetings during the day
 - Go to/from grocery shopping
 - Go to/from other shopping (non-groceries)
 - Run non-shopping errands
 - To pickup/drop-off children
 - Go to/from healthcare services
 - Go to/from the airport
 - Go to/from the gym
 - Move bulky items
 - Other, please specify: _____
- [Randomly select 1 trip purpose from above] What are your reasons for not using taxis for this/these trip(s): ?
 - Too expensive
 - Wait time too long
 - Other transportation options are more convenient. Please provide an example: _____
 - Feel unsafe waiting outside or getting dropped off at this location
 - Other: _____
- What are some days of the week/times of day for which you would NOT use taxis? Select all that apply.
 - List days of week/times of day, use matrix with days of the week Sunday to Saturday on the vertical and the following time slots on the horizontal: 6am - 10am, 10am - 2pm, 2pm - 6pm, 6pm - 10pm, 10pm - 2am, 2am - 6am
- What are your reasons for not using taxis at these times?
 - Too expensive
 - Wait time too long
 - Other transportation options are more convenient. Please provide an example: _____
 - Too much traffic
 - I feel unsafe traveling in a taxi at this time
 - Other: _____

Safety

[For Uber/Lyft users - answer to screener question]

In this section, we will ask some questions related to safety in Uber/Lyft. We recognize that some of these questions may cause discomfort. You are free to skip any questions you do not want to answer.

- Have you ever experienced an incident where you have felt your personal safety threatened in an Uber/Lyft?
 - Yes, by the driver
 - Yes, by another passenger
 - No
 - Prefer not to answer
- [If either Yes option is selected above] In what way did you feel that your safety was threatened? Select all that apply.
 - Driver was speeding
 - Driver was driving erratically
 - Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
 - Driver verbally harassed me
 - Driver physically harassed me
 - Unable to understand driver due to language barrier
 - Driver used incendiary language, though not directed at me
 - Driver directed foul or aggressive language at me
 - Other, please specify: _____
- [If either Yes option is selected above] Have you sought support after this incident/these incidents?
 - I have talked to family/friends about this incident/these incidents.
 - I have sought support from a mental health professional.
 - I have reported this incident/these incidents to Uber or Lyft.
 - Other, please specify: _____
- [If “I have reported this incident to Uber or Lyft” is chosen] How effective was Uber/Lyft’s response to your report? Please rate the response on a scale from 0 to 10, with 0 being not effective at all to 10 being very effective.
 - 0-10 scale
 - [Optional] Please provide a short explanation for your answer.
- What are some measures you have taken to protect your safety while in an Uber/Lyft? Select all that apply.
 - Wear a face mask
 - Share my location with a friend/family member
 - Use navigation app (e.g., Google Maps, Apple Maps) to verify my location
 - Call someone on the phone while in the Uber/Lyft
 - Texted a friend/family member after arriving at my location
 - Not giving exact home location to the driver
 - Confirming the driver and vehicle match information shown in the app
 - Wear a seatbelt
 - Other: _____
- [Use matrix to display statements on the vertical and agree/disagree on the horizontal] Please select whether you agree or disagree with the following statements. [Strongly disagree, disagree, neutral, agree, strongly agree]

- Taking an Uber/Lyft is safer than public transit.
- Taking a shared Uber/Lyft is safer than public transit.
- Taking an Uber/Lyft is safer than driving.
- Taking an Uber/Lyft is safer than taking a taxi.
- Taking a shared Uber/Lyft is safer than driving.
- Uber/Lyft is cheaper than public transit.
- Uber/Lyft is more convenient than public transit.
- Uber/Lyft is cheaper than driving.
- Uber/Lyft is more convenient than driving.

[For taxi users - answer to screener question]

In this section, we will ask some questions related to safety in taxis. We recognize that some of these questions may cause discomfort. You are free to skip any questions you do not want to answer.

- Have you ever experienced an incident where you have felt your personal safety threatened in a taxi?
 - Yes, by the driver
 - Yes, by another passenger
 - No
 - Prefer not to answer
- [If either Yes option is selected above] In what way did you feel that your safety was threatened? Select all that apply.
 - Driver was speeding
 - Driver was driving erratically
 - Driver was distracted (e.g., watching a video, talking on the phone, texting, etc.)
 - Driver verbally harassed me
 - Driver physically harassed me
 - Unable to understand driver due to language barrier
 - Driver used incendiary language, though not directed at me
 - Driver directed foul or aggressive language at me
 - Other, please specify: _____
- [If either Yes option is selected above] Have you sought support after this incident/these incidents?
 - I have talked to family/friends about this incident/these incidents.
 - I have sought support from a mental health professional.
 - I have reported this incident/these incidents to the taxi company.
 - Other, please specify: _____
- [If “I have reported this incident to taxi company” is chosen] How effective was the taxi company’s response to your report? Please rate the response on a scale from 0 to 10, with 0 being not effective at all to 10 being very effective.
 - 0-10 scale
 - [Optional] Please provide a short explanation for your answer.
- What are some measures you have taken to protect your safety while in a taxi? Select all that apply.
 - Wear a face mask
 - Share my location with a friend/family member
 - Use navigation app (e.g., Google Maps, Apple Maps) to verify my location
 - Call someone on the phone while in the taxi
 - Texted a friend/family member after arriving at my location
 - Not giving exact home location to the driver

- Wear a seatbelt
 - Other: _____
- [Use matrix to display statements on the vertical and agree/disagree on the horizontal] Please select whether you agree or disagree with the following statements. [Strongly disagree, disagree, neutral, agree, strongly agree]
 - Taxis are safer than public transit.
 - Taxis are safer than driving.
 - Taxis are safer than Uber or Lyft.
 - Taxis are cheaper than public transit.
 - Taxis are more convenient than public transit.
 - Taxis are cheaper than driving.
 - Taxis are more convenient than driving.

Traveling with children

- Have you ever taken an Uber/Lyft or taxi with your or someone else's child?
 - Yes, when they were under 5 years old.
 - Yes, when they were between 5 and 10 years old.
 - Yes, when they were between 10 and 18 years old.
 - No
- [If Yes, under 5 or between 5 and 10] Did you bring your own car seat or booster seat?
 - Yes
 - No
- [If NO for bringing own car seat or booster] How did you secure the child when in the car?
 - Used a seatbelt
 - Held them in my lap
 - Other, please specify:
-] Have you ever wanted to take a TNC or taxi with your child and were unable to?
 - Yes
 - No
- [If Yes to the question above] What are some of the reasons why you were unable to take a TNC or taxi with your child?
 - Installing the car seat or booster seat was too much of a hassle.
 - I did not have a car seat or booster seat available.
 - I felt unsafe taking my child in a TNC or taxi driven by a stranger.
 - The driver refused to pick me up after they saw I had my child or booster seat with me.
 - Other, please specify:
- [If Yes to children under 10 years old] If TNCs or taxis provided a car seat or booster seat for children under the age of 10, would you be more willing to take TNCs or taxis with your children?
 - Yes
 - No
- [If Yes to the question above] How much extra would you be willing to pay per trip for a TNC or taxi that provides a car seat or booster seat?
 - List of options in \$5 increments, starting with \$0 up to \$30

Lyft Women+ Connect

- Have you heard of the new Lyft service, Women+ Connect, that attempts to prioritize the matching of female and non-binary riders with female and non-binary drivers?
 - Yes
 - No
- How would a service like Women+ Connect change the way you use Uber/Lyft?
 - I would use Uber/Lyft more often.
 - I would use Uber/Lyft more at night.
 - I would use Uber/Lyft more if traveling by myself.
 - I would use Uber/Lyft more if traveling with children.
 - It would not change the way I use Uber/Lyft.
 - Other, please specify:

Demographics

Finally, we will ask some questions about you!

- In what year were you born?
 - Year: _____
- In what country were you born?
 - United States
 - Other: _____
- [If “other” selected] What year did you immigrate to the U.S.?
 - Year: _____
- What race/ethnicity do you identify with? Please select all that apply.
 - White/Caucasian
 - Black/African American
 - Hispanic/Latino
 - Asian
 - Native Hawaiian/other Pacific Islander
 - Native American/Alaskan Native
 - Other, please specify: _____
 - Prefer not to answer
- What languages do you speak at home?
 - Arabic
 - English
 - French
 - Korean
 - Mandarin
 - Spanish
 - Tagalog
 - Vietnamese
 - Other
- What is the highest level of education you have completed?
 - High school
 - Some college
 - 2-year college
 - 4-year college
 - Graduate school
 - Prefer not to answer
- Do you currently rent or own your residence?

- Rent
 - Own
 - Staying with friends/family
 - Prefer not to answer
- How many people do you live with in your current home/apartment?
 - 1
 - 2
 - 3
 - 4
 - 5 or more: _____
- How many people would you consider to be members of your household (i.e., individuals with whom you share income and expenses)?
 - 1
 - 2
 - 3
 - 4
 - 5 or more, please specify: _____
- Please select which answers best describe who you live with. Please select all that apply.
 - Adult children (18 or older)
 - Children (under 18)
 - Housemates/Roommates
 - Other relatives (e.g., siblings)
 - Parent/Guardian(s)
 - Spouse/Partner/Significant Other
 - Other, please specify: _____
- [For people with children] Please list the number of children and their ages.
 - Child 1, age: _____
 - Child 2, age: _____
 - Child 3, age: _____
 - Child 4, age: _____
 - Child 5, age: _____
 - Other children, ages: _____
- Do you or does someone in your household have a temporary or permanent condition or disability that makes it difficult to travel outside of the home?
 - Yes, myself
 - Yes, someone in my household
 - No
 - Prefer not to answer
- [If yes disability] What type of condition or disability do you/someone in your household have? Please select all that apply.
 - I/they are deaf or have difficulty hearing.
 - I/they are blind or have difficulty seeing.
 - I/they have difficulty walking.
 - I/they have difficulty climbing stairs.
- Approximately how much did your household earn last year before taxes? Please note that roommates are not generally considered members of your household.
 - Less than \$10,000
 - \$10,000 - \$14,999

- \$15,000 - \$24,999
- \$25,000 - \$34,999
- \$35,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$149,999
- \$150,000 - \$199,999
- \$200,000 or more

Appendix E: Expert Interview Protocol

The purpose of this interview is to gain an understanding of the main problems facing female drivers/riders of TNCs/taxis and other shared rides. We are interested in hearing your perspectives on these barriers and what strategies have been proposed or have proven effective to address these barriers. This interview guide is meant to be free-form and may include additional prompting questions during the conversation to gain additional details on transportation equity projects. Findings from this interview will be instrumental in furthering our understanding of gender equity in shared rides.

Introduction

1. Can you please describe your role within XX organization?

Questions about Female TNC/taxi riders

2. What are some of the main concerns that female TNC/taxi riders have expressed when taking TNC/taxi rides?
 - a. Are there similar concerns for private vs. shared rides?
 - b. Is there a difference between concerns for TNCs vs. taxis?
 - c. How do these concerns differ for public transit? Other modes of transportation?
3. What are some of the barriers to adopting TNCs/taxis for female non-riders?
4. Are there differences in the types of trips that female riders are using TNCs/taxis? Are these trip types different for male riders?
5. Are there other travel behavior differences between female and male riders?
6. What are some of the policy interventions/strategies that you know of to address these barriers to women adopting/using TNCs/taxis?

Questions about Female TNC/taxi drivers

7. What is your sense of the gender disparity in TNC/taxi drivers? What are the main causes for this disparity?
8. What are some of the main concerns that female TNC/taxi drivers have expressed with regards to their jobs?
 - a. Do these concerns differ from those of male drivers?
9. What are some of the benefits that female TNC/taxi drivers see in their profession? Drawbacks?
10. Ask About Training Opportunities for Women Who Are New to Driving
11. Ask About Traveling with Children
12. What are some policy interventions/strategies to address the concerns of female TNC/taxi drivers?
 - a. Which of these policy strategies should be implemented by TNC/taxi companies?
Federal/state/local legislation? Others?

Conclusion

13. Is there anything else you would like to add that we have not discussed?
14. Is there anyone else you suggest we reach out to?
15. Can we contact you again if we have any follow up questions?



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