Attachment 1: Vehicle-for-Hire Net Zero Working Group Engagement Report

March 2023

Prepared for the City of Toronto's Municipal Licensing and Standards Division by Third Party Public

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Overview and background

This Vehicle-for-Hire Net Zero Working Group Engagement Report is an integrated summary of five working group meetings with vehicle-for-hire industry members and relevant stakeholders. The working group was established by the City of Toronto to help inform the development of a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry in Toronto, with the goal of transitioning to a net zero industry by 2030. It was prepared by Third Party Public, third-party facilitation firm retained by the City of Toronto to design, facilitate, and report on the working group meetings.

The intent of this report is to capture feedback and advice shared by working group members and is not intended to imply a consensus of opinions. This report should be read in concert with other reports prepared as part of the City's research into achieving a net zero vehicle-for-hire industry.

City Council has directed City staff to set a goal of Net Zero greenhouse gas emissions for 2030 for vehicles-for-hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

On December 15, 2021, Toronto City Council adopted, with amendments, GL27.19 Update on Outstanding Vehicle-for-Hire Directives. City Council directed the Municipal Licensing and Standards Division (MLS), in consultation with, Environment and Energy Division (EED) and The Atmospheric Fund (TAF), to establish a Vehicle-for-Hire (VFH) Working Group that brings industry members and relevant stakeholders together to develop a strategy to accelerate greenhouse gas emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice.

Based on City Council direction, Municipal Licensing and Standards commissioned the working group process in 2022. The results of the working group will be considered by the City as one of several inputs to a staff report to City Council with policy recommendations, programs and/or by-law changes that seek to reach net zero emissions and support vehicle electrification in the vehicle-for-hire industry.

Recruitment overview

Recruitment objectives

The City's recruitment approach was guided by an objective to assemble a diverse mix of representatives from the vehicle-for-hire industry and relevant stakeholders to serve as an advisory group by providing input and advice towards the development of industry-wide regulations and programs related to emissions reductions. The intended composition of the working group was to have representation from:

- The taxicab industry
  - Taxicab brokerages
  - Standard Taxicab and Toronto Taxicab Licence owners
  - Taxicab drivers
- The limousine industry
  - Limousine service companies
  - Limousine owners
  - Limousine drivers
- The Private Transportation Company (PTC) industry
  - Private Transportation Companies
  - PTC drivers
- Academics and/or researchers
- Electric vehicle and/or vehicle emissions stakeholders/industry experts
- Electric vehicle charging suppliers

The City wanted to ensure that each vehicle-for-hire license category (taxicab, limousine and PTC) was represented in the working group. The targeted number of working group members was approximately 25 to allow for meaningful discussion and for all members to have adequate speaking time in meetings.

Recruitment & selection process

Municipal Licensing and Standards (MLS), with support from Third Party Public, led the recruitment process of the working group members.

Recruitment was done through a call for applications that allowed individuals/companies/organizations to express why they would like to join the working group and what perspectives and expertise they may bring to the group. The City's rationale for having an application process was to allow MLS staff to appropriately limit the number of members, ensure a diverse range of perspectives from different industry sectors, as well as ensure members are committed to the working group process.

The application process was communicated by MLS staff via emails to all licenced vehicle-for-hire industry members, emails to identified stakeholders, and through the vehicle-for-hire listserv. Information about the working group was also included on the City's webpage. A working group Terms of Reference was developed and was shared as part of the application process so that prospective members are aware of the purpose of the group and the time commitment. The Terms of Reference included a note

that it will be reviewed and finalized at the first working group meeting and may be amended, in consultation with the City staff, working group members, and facilitation team, as the project progresses. See Appendix B for the Terms of Reference.

The selection process was led by MLS, in consultation with Environment and Energy Division (EED) and The Atmospheric Fund (TAF) and support from Third Party Public to ensure a transparent selection process. By the end of the submission deadline, approximately 42 people registered their interest to participate.

Evaluation of the membership applications was based on the following criteria:

- Applicant has indicated that they have read the Terms of Reference and are able to commit to joining the working group.
- Applicant is a member of a relevant industry group and agrees to try their best to represent the perspective and interests of their industry sector.
- Applicant has articulated why they would like to join the working group and shows that they bring a relevant perspective and experience to the group to support the working group goals.
- Acceptance of application will not lead to too many working group members from one industry category.
- Application was received before the stated deadline.

After a rigorous review of the applications, the City identified 26 applicants to be members of the working group. These 26 applicants received an email notifying them that they were selected to be a member of the working group and requesting their confirmation to participate. Applicants who were not selected to participate were also notified by email.

Working group process

Between November 2022 and February 2023, working group members participated in five meetings. These meetings were held on November 1, 2022, November 29, 2022, December 13, 2022, January 17, 2023, and February 21, 2023.

Prior to each meeting, working group members received a meeting agenda and resources provided by the City to help them prepare for the discussion. The resources include relevant reports, website links, a worksheet, and a list of common acronyms and terms that may come up in the meetings (see Appendix E).

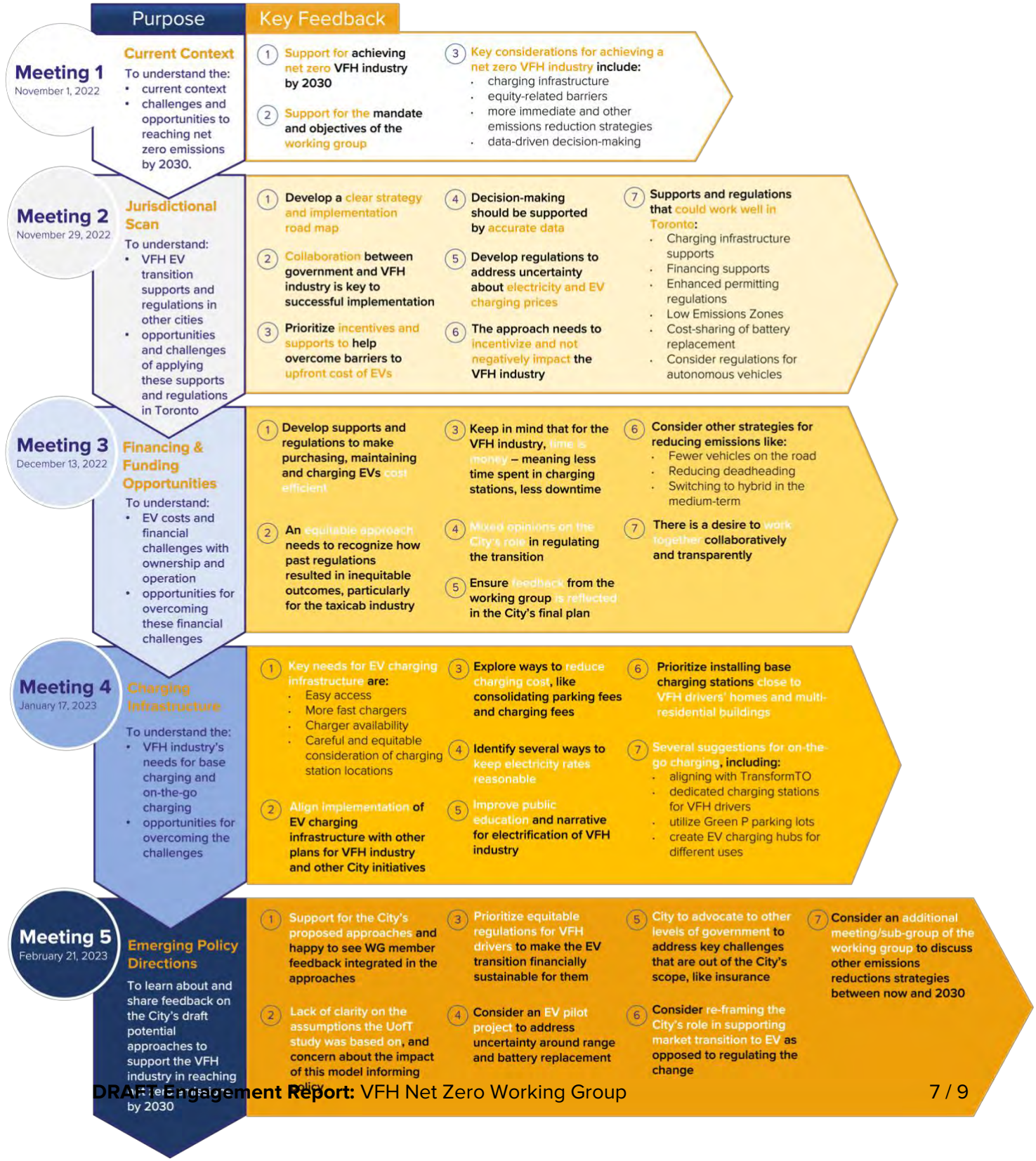
Each meeting was two hours long and consisted of a presentation, questions of clarification, and facilitated discussions in plenary and small groups. See Appendix G for agendas attached in the meeting summaries. Members also had opportunities to submit any additional feedback after each meeting.

Following each meeting, working group members received a copy of the agenda, presentation, additional relevant materials, if any, and a participant list which members could use for registering with the City of Toronto Lobbying Registry. The facilitation team prepared summaries of each meeting which were subject to participant review prior to being finalized. All additional feedback received after the meeting was included in the post-meeting submission sections of the summaries.

An honorarium of up to $100 per working group meeting was provided, as needed, for working group members who indicated in their application that they require compensation for their time participating in the meetings and completing background readings and/or tasks in-between meetings.

Summary of working group meetings

The graphic below is a high-level snapshot of the working group meetings, including the purpose and key feedback from each meeting. See Appendix F for summary of shared ideas organized by key themes and Appendix G for more detailed summaries of feedback from each working group meeting.



Key outcomes of the working group

The following points summarize the key outcomes of the working group, including areas of agreement and differing opinions. These points were drawn from the five working group summaries. They should be read in conjunction with the meeting summaries found in Appendix G.

Areas of agreement

- **Support for reaching the net zero emissions target by 2030 and desire to see an implementation map for achieving the net zero emissions goal by 2030 in the VFH industry.** Working Group members expressed support for the City's mandate to reach net zero emissions by 2030 and the electrification of the VFH fleet. However, they noted that it was unclear how this goal is going to be achieved. There was general agreement that there needs to be clarity on timelines, key milestones and targets; what is being done to reduce emissions beyond electrification in the VFH industry; how the electrification of the VFH fleet fits with the broader City's efforts to reduce emissions; and who (internally and externally to the City) is involved.

- **Collaboration is key to success.** The importance of collaboration for planning and implementation was consistently raised throughout the process. Working Group members emphasized the importance of inter-divisional collaboration at the City, particularly to ensure the efforts and the outcomes of this Working Group are coordinated and aligned with the City's broader efforts to reduce emissions beyond the VFH industry. Members also raised the importance of collaboration across all levels of governments in terms of funding and addressing issues closely connected to fleet electrification that are beyond the City's jurisdiction – e.g. insurance, ability to operate in multiple jurisdictions, etc. Members have also discussed the need for continued meaningful collaboration and input from external stakeholders, particularly those directly working with/in fleet-based services (including those outside of the VFH industries, e.g. deliveries, school buses, ambulances, etc.).

- **The availability and access to fast-charging infrastructure is essential to the electrification of the vehicle-for-hire industry.** Working Group members, including those with direct experience, emphasized that it would not be feasible for VFH drivers to switch to electric vehicles if it meant longer wait times to access a charger and longer downtimes during charging.

- **The primary barrier for VFH drivers to switch to a fully electric vehicle is the upfront cost.** Switching to an electric vehicle would require a significant investment upfront, which poses more access challenges to those who are unable to qualify for a financing (e.g. due to little/no/bad credit history). Other discussed notable factors that increase the risk of investing into electric vehicles is the high attrition rate of new drivers within the first few months and high dependency on the rating system for PTC drivers.

- **Ensure that new policies, supports, and incentives are centred around the VFH drivers' experience and needs.** Equity considerations have consistently come up throughout the working group engagement process. Suggestions included: to apply equity lens to identifying locations of charging infrastructure, being mindful that many of the VFH drivers are renters living in multi-unit residential buildings in different parts of the city; to be aware of and use opportunities to improve the

precarity of the VFH drivers' livelihoods and ensure that incentives are directed at the VFH drivers and not at the for-profit corporations; and to proactively recognize the impact of previous City policies and by-laws that had resulted in inequitable outcomes for drivers, especially taxi drivers.

- **The transition strategy needs to be gradual, recognizing different needs of different VFH services and leveraging immediate, short-term opportunities.** Some of the recurring suggestions related to the importance of taking interim steps and enabling gradual transition to full electrification of the VFH industry, including the taxicab industry's readiness to switch to a hybrid fleet, creating special accommodations for accessibility vans to avoid punitive action against accessibility service providers, which may not be able to adapt by 2030; grandfathering new vehicles purchased before 2030.

- **There needs to be better public information on the costs and benefits of switching to electric vehicles based on open, inclusive, accurate, reliable data.** Working Group members noted the need for public education for both the VFH operators and customers to understand how to maintain, operate, and plan for costs related to electic vehicles. Some of the frequently asked questions raised during the meetings were about electric vehicle batteries – rate of degradation, range, cold weather impacts, the costs to maintain and change it, etc., and how/why electrifying the fleet is generally beneficial for business and for the city. Working Group members also emphasized the need for data that is open, inclusive, accurate and reliable.

- **General concerns around the uncertainty of the future of electricity.** There were a few concerns consistently raised around the uncertainty of electricity costs and the ability to supply and distribute enough electricity to support full electrification by 2030.

Differing opinions

- **The City's role in regulating the transition.** One perspective was that the government should not try to artificially regulate the market through limiting the number of vehicles on the road and focus on providing financing incentives and supports to help reduce the upfront financial costs of switching to electric vehicles (either through purchasing new or used vehicles, leasing, or renting). Another perspective was that it would be more equitable and faster for the City to ensure through regulation that all VFH drivers are able to make a decent living and fund the transition themselves. The importance of not providing public incentives to for-profit corporations – the PTCs – was also noted. Another suggestion was shared that the City should reframe its approach to this work from "regulating/mandating" to "supporting" the transition that is already happening in the market.

- **The use of the term "ridesharing."** One perspective was that the use of the term "ridesharing" was not used appropriately to describe the PTC service, as it meant something different prior to the arrival of PTCs. Another perspective was that according to the dictionary definition of "ridesharing," it was exactly the service PTCs were providing.

Appendices

Appendix A – Recruitment e-mail

TORONTO

Municipal Licensing and Standards **September 2022**
Policy and Strategic Support

Vehicle-for-Hire Net Zero Working Group

Toronto City Council has directed City staff to set an ambitious goal of reducing greenhouse gas emissions produced by Toronto's vehicle-for-hire industry to net zero by 2030. Toronto's vehicle-for-hire industry includes taxicabs, limousines and private transportation companies (PTCs), such as Lyft, Uber and Facedrive.

The City is assembling a *Vehicle-for-Hire Net Zero Working Group* to bring together members of the vehicle-for-hire industry, City staff, and other relevant stakeholders to work together to develop a recommended path to reduce emissions and support a transition to electric vehicles to ensure the vehicle-for-hire industry can reach this goal. An important aspect of the working group will be to discuss and consider equity and potential barriers and implementation challenges.

A third-party facilitator will lead all working group meetings and develop a final report that outlines recommendations from the working group. An Honorarium of $100 per working group meeting, will be available upon request to compensate working group members for their time.

Recommendations from the working group will be considered by City staff as an input to any policy recommendations, programs and/or by-law changes that seek to reduce emissions and support a transition to electric vehicles in Toronto's vehicle-for-hire industry.

The City is looking for members from across Toronto's vehicle-for-hire industry and relevant stakeholders to join the *Vehicle-for-Hire Net Zero Working Group.* If you are interested in participating in the working group and having a say in how Toronto's vehicle-for-hire industry should reduce emissions to net zero by 2030, please submit an application by **October 2, 2022**.

All applicants should review the *Vehicle-for-Hire Net Zero Working Group* Terms of Reference document, which is available at the Vehicle for Hire By-Law Review website, to learn more about the working group and the expected time commitment for members. It is expected that the first meeting of the *Working Group* will occur in mid-October, and that there will be five meetings in total.

Applications can be submitted by filling out an online application or by filling out the attached application and emailing it to vehicleforhirereview@toronto.ca.

If you have any questions, are unable to complete the application on a computer, or require accommodation under the Accessibility for Ontarians with Disabilities Act, please contact 416-338-6583.

For more information about the *Vehicle-for-Hire Net Zero Working Group,* please visit our website: Vehicle for Hire Bylaw Review

Thank you,

Vehicle-for-Hire Review Team

Appendix B – Terms of Reference

TORONTO

Municipal Licensing and Standards
Policy and Strategic Support

September 2022

Vehicle-for-Hire Net Zero Working Group
Terms of Reference

These Terms of Reference will be reviewed and finalized at the first working group meeting. This document may be amended as the project progresses. Any amendments to the Terms of Reference will be made in consultation with the City staff, working group members, and facilitation team.

A. Context

On December 15, 2021, Toronto City Council adopted, with amendments, GL27.19 Update on Outstanding Vehicle-for-Hire Directives. City Council directed the Municipal Licensing and Standards Division (MLS), in consultation with the, Environment and Energy Division (EED) and The Atmospheric Fund (TAF), to establish a Vehicle-for-Hire Working Group that brings industry members and relevant stakeholders together to develop a strategy to accelerate greenhouse gas emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice.

City Council has directed City staff to set a goal of Net Zero greenhouse gas emissions for 2030 for vehicles-for-hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

B. Working Group Mandate

The mandate of the Working Group is to provide a forum for sharing perspectives and advice with City staff. It is an advisory group, not a decision-making body. The results of this working group will be considered by the City as one of several inputs to the development of any proposed requirements, regulations or programs that seek to achieve vehicle electrification and net zero emissions targets for the vehicle-for-hire industry.

This working group is intended to provide input and advice towards the development of industry-wide regulations and programs related to emissions reductions, it is not a forum to address specific issues faced by individuals in the industry. Discussions pertaining to issues not related to the subject matter of emissions reductions will also not be considered.

B.1. Decision-making Capacity

The Working Group is an advisory group, not a decision-making body. As an advisory group, the Working Group will operate using a consensus-based approach, where members seek general agreement on guidance and advice to City staff. A consensus-based approach assumes that participants can openly discuss ideas, perspectives, and viewpoints, and are willing to work together to develop common ground and minimize areas of disagreement to the best of their ability. Differing viewpoints and opinions will be documented in meeting notes.

C. Goal and Activities

The goal of the Vehicle-for-Hire Net Zero Working Group is to develop a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry, with the goal of transitioning to a net zero vehicle-for-hire industry in Toronto by 2030. The group will bring together vehicle-for-hire industry members and relevant stakeholders to have open and collaborative discussions about how to reach net zero through a comprehensive

recommendations with tangible actions. The strategy may include proposed actions for various City divisions and stakeholders.

The Working Group will achieve this goal by:

- **Learning about relevant topics**, as identified by the members of the group (with guidance from MLS, EED, and TAF), to ensure that members have the knowledge and information they need;
- **Confirming guiding principles** that will direct and scope the working group's activities;
- **Identifying challenges and opportunities** for reducing emissions and electrifying the vehicle-for-hire industry in Toronto;
- **Identifying potential actions, policies, programs, and other approaches** that the City of Toronto and others can take to support the transition of the vehicle-for-hire industry to net zero by 2030;
- **Evaluating and prioritizing identified actions, policies, programs, and other approaches**, by considering equity implications, feasibility of implementation, and other criteria to be determined by the working group; and
- **Actively contributing to the development of a recommended strategy that includes actions, policies, and programs.** As feasible, this will include implementation considerations including timelines, roles and responsibilities, and resources.

D. Membership

D.1. Convenors

- The City of Toronto
  - Municipal Licensing and Standards – leading the process
  - Environment and Energy Division – co-leading the process
- The Atmospheric Fund – co-leading the process

D.2. Members

It is intended that the working group will include a diverse mix of representatives from:

- The taxicab industry
  - Taxicab brokerages
  - Standard Taxicab and Toronto Taxicab Licence owners
  - Taxicab drivers
- The limousine industry
  - Limousine service companies
  - Limousine owners
  - Limousine drivers
- The Private Transportation Company (PTC) industry
  - Private Transportation Companies
  - PTC drivers
- Academics and/or researchers
- Electric vehicle and/or vehicle emissions stakeholders/industry experts
- Electric vehicle charging suppliers

Note: Additional City of Toronto Divisions/agencies/subject matter experts to serve as resources may also be included in meetings as needed.

D.3. Member responsibilities and time commitment

Members will be responsible for attending and actively participating in working group meetings. Meetings will be held approximately every four weeks from October 2022 to February 2023 and will be up to two hours in length. Members will also be responsible for completing background readings and/or tasks in-between scheduled meetings. It is anticipated that this work will take approximately two to three additional hours every four weeks.

Working group members are expected to act as representatives for their industry. All members must act in a respectful manner.

D.5. Member selection and dismissal

Membership in the working group will be limited to up to 25 members to allow for meaningful discussion and for all members to have adequate speaking time in meetings.

Membership will be determined by a short application process, allowing individuals/companies/organizations to express why they would like to join the working group and what perspectives/expertise they may bring to the group. The application process is not intended to be overly onerous for applicants. Having an application process will allow staff to appropriately limit the number of members, ensure a diverse range of perspectives are considered, as well ensure members are committed to the working group process.

City staff will lead the review of membership applications with support from a third-party facilitator to ensure a transparent selection process.

Working group members may be dismissed from the working group if they act in a disrespectful manner, or are no longer able to meet the required member responsibilities (for example, the member is absent for more than two meetings). In the instances when a member is not able to attend a meeting, they may designate an alternate representative to attend in their place. The alternate representative will be responsible for communicating information to and from working group member and constituents they represent. Member dismissal will be at the discretion of the convenors, in consultation with the facilitator.

D.6. Honorariums

An Honorarium of up to $100 per working group meeting will be available as needed to compensate working group members for their time participating in scheduled meetings and completing background readings and/or tasks in-between meetings. Members who require this compensation to support their participation in the working group should indicate such as part of the application process.

E. Facilitation

The working group will be facilitated by a third-party professional facilitator. The facilitator will:

- Chair and facilitate working group meetings;
- Prepare and distribute meeting agendas and supporting materials, in consultation with the conveners and working group members;
- Prepare meeting notes with summaries of working group discussions and deliberations, noting points of agreement and where opinions diverge;

- Develop a final report summarizing the findings and recommendations of the working group;
- Serve as the initial point of contact for working group member questions and concerns, bringing them as needed to the attention of the conveners; and
- Take steps as needed to ensure that all working group members are able to meaningfully participate in the working group.

The conveners will provide support to the facilitator as needed, such as preparing and collecting information materials, providing responses or follow-up information for questions that arise during meetings, or engaging speakers and subject matter experts for meetings.

F. Meeting Structure and Timeline

Working group meetings will occur approximately every four weeks and be up to two hours in length. It is anticipated that meetings will be virtual, but in person meetings may be considered as appropriate. Working group members may be provided with meeting materials for review in advance in preparation of scheduled meetings.

Meetings will be interactive and encourage robust exchange of information and feedback, including presentations, small group breakouts, and full group discussions.

There may be opportunities for working group members to meet in smaller groups in-between scheduled meetings to conduct targeted work as needed and report back on their findings to the larger working group.

Anticipated timing for working group meetings:

1st working group meeting	Week of October 17, 2022
2nd working group meeting	Week of November 14, 2022
3rd working group meeting	Week of December 12, 2022
4th working group meeting	Week of January 9, 2022
5th working group meeting	Week of February 6, 2023

Note: Meeting dates may be changed depending on availability of working group members.

G. Outcomes

The facilitator will develop summary notes from each working group meeting and one final report. The final report will capture recommendations shared by the working group to reach a net zero vehicle-for-hire industry in Toronto by 2030. The report will include information about the working group selection, process for determining recommendations, key discussion points including areas of consensus and any points of disagreement among the working group. The final report will be made publicly available.

The final report will be considered by City staff as one of several inputs to a staff report to City Council with policy recommendations, programs and/or by-law changes that seek to reach net zero emissions and support vehicle electrification in the vehicle-for-hire industry.

By signing this document, I commit to participate in the Vehicle-for-Hire Net Zero Working Group meetings in accordance with these Terms of Reference for the duration of the working group.

_____
Signature

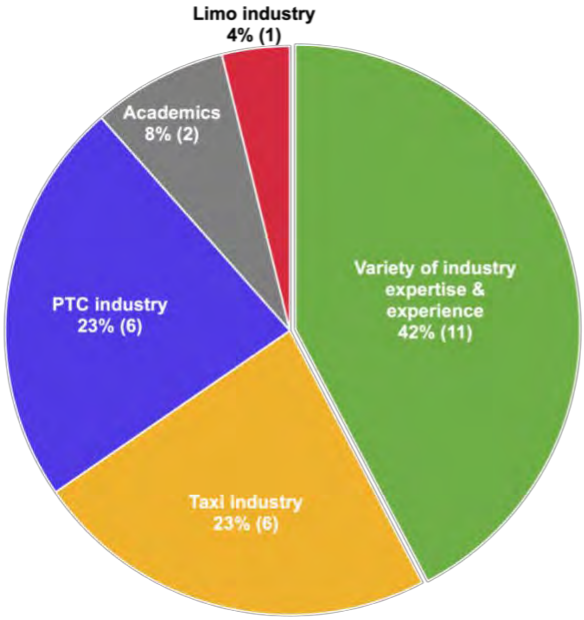
_____
Name

_____
Date

Appendix C – Summary of Working Group membership

Outlined below is a breakdown of key demographics of the working group members.

- **Sector.** 6 (23%) from the taxi industry, 6 (23%) from the Private Transportation Company (PTC) industry, 1 (4%) from the limousine industry, 11 (42%) from a variety of industry expertise and experience, and 2 (8%) academics.



6 Taxi industry
- 4 Taxi drivers
- 1 Taxi brokerage
- 1 Taxi operator

6 PTC industry
- 4 PTC drivers
- 2 PTC corporations

1 Limo industry
- 1 Limousine company

11 Variety of industry expertise & experience
- 4 EV infrastructure and/or fleets
- 3 EV charging infrastructure
- 1 accessibility
- 1 hydro
- 1 sustainability
- 1 VFH issues

2 Academics

- **Years worked/involved in the vehicle-for-hire industry and/or emissions/vehicle electrification field.** 5 (19%) identified less than 5 years, 9 (35%) identified 5 to 10 years, 4 (15%) identified 10 to 20 years, 7 (27%) identified over 20 years, and 1 (4%) was undefined.

- **Age.** 3 (11.5%) were 25-34 years old, 4 (15%) were 35-44 years old, 6 (23%) were 45-54 years old, 7 (27%) were 55-64 years old, 2 (8%) were 65-74 years, 3 (11.5%) preferred not to answer, and 1 (4%) was undefined.

- **Gender.** 20 (77%) identified as male, 5 (19%) identified as female, and 1 (4%) was undefined.

- **Ethno-culture** (identified by working group members in their applications). 14 (53%) identified as White, 2 (8%) identified as Black, 2 (8%) identified as Southeast Asian, 1 (4%) identified as Arab, Middle Eastern or West Asian, 1 (4%) identified as Canadian, 1 (4%) identified as South Asian or Indo-Caribbean, 4 (15%) preferred not to answer, and 1 (4%) was undefined.

Appendix D – Working Group members

Affiliation	Name
A4U Taxi	Behrouz Hadjnourollah
Chargepoint	Mike Frisina/Alexander Kostenko (alternate)
Co-op Cabs	Abdulkadir Mohamoud/Gurjeet Dhillon (alternate)
Dunsky	Lindsay Wiginton
Global Alliance Worldwide Chauffeured Services Ltd	Joe Ironi
Hertz	Steve Shur
Louelec	Léo Bouisson
Lyft	Jon Walker
Pembina Institute	Adam Thorn/Sarah McBain (alternate)
Plug'n Drive	Cara Clairman
PTC Driver	Esther Fofana
PTC Driver	Nick Voronka
PTC Driver	Patrick Perlas
PTC Driver	Wayne Edward
RideFair	Brendan Agnew-Iler/JJ Fueser (alternate)
Sustainability Leadership & pointA	Rafiq Dhanji
Taxicab Operator	Mohammad Reza Hosseinioun
Taxicab Owner	Ahsan Mirza
Taxicab Owner	Yohannis Gebeyehu
Taxicab Owner and Operator	Majeed Shidfar
Toronto Hydro	Marc Simmons
Toronto Region Board of Trade	Craig Ruttan
Uber Canada	Laura Miller (former representative)/Jake Brockman
Universal Motion	Marco Ferrara
Viggo	Kenneth Herschel
Zipcar	Sunny Bahia/Will Sowers (alternate)

Appendix E – Overview document shared with Working Group members

Vehicle-for-Hire Net Zero Working Group

Overview Document

October 2022

Contents

Acronyms that may be used at the Vehicle-for-Hire Net Zero Working Group:

BEV	Battery electric vehicle
CO_2e	Carbon dioxide equivalents
E&C	Environment and Climate Division, City of Toronto
EV	Electric vehicle
GHG	Greenhouse gas
HEV	Hybrid electric vehicle
ICE	Internal combustion engine
MLS	Municipal Licensing and Standards, City of Toronto
MURB	Multi-unit residential building
NOx	Nitrogen oxides
PHEV	Plug-in hybrid electric vehicle
PTC	Private transportation company
TAF	The Atmospheric Fund
TPA	Toronto Parking Authority, City of Toronto
3PP	Third Party Public
UofT	University of Toronto
VFH	Vehicle-for-hire
WG	Working group
ZEV	Zero emissions vehicle

Phrases that may be used at the Vehicle-for-Hire Net Zero Working Group:

Battery Electric Vehicle (often shortened to BEV) – a vehicle that is powered entirely by an electric motor and battery pack. The battery is charged by plugging in to an external source of electricity.

Carbon dioxide equivalents (often shortened to CO_2e) – Equates the impact of a group of greenhouse gases to the impact of CO_2.

The Commission or **Metro Licensing Commission** – The former name of Municipal Licensing and Standards.

Deadheading – Time spent by drivers while waiting for a customer.

Emissions intensity – Greenhouse gas emissions per kilometer, or per passenger.

Electric Vehicle (often shortened to EV) - A vehicle that is powered fully, or partially, by an electric motor and battery pack.

Greenhouse Gases (often shortened to GHGs) - Compound gases that trap heat and emit longwave radiation in the atmosphere causing the greenhouse effect.

Level 1 Charging: Uses a 120-volt household outlet. Provides roughly 80 km of range in 10 hours of charging.

Level 2 Charging: Uses a 208-volt or 240-volt outlet, similar to a household oven. Provides roughly 400 km of range in 10 hours of charging.

Level 3 Charging, also called **DC Fast Charging**: Delivers 400-volt to 800-volts of power, and these chargers are primarily installed in commercial settings. Provides roughly 300 km of range in one hour of charging.

Net Zero - A balance between the amount of greenhouse gases released and the amount taken out of the atmosphere.

Plug-in Hybrid Electric Vehicle (PHEV) - have small battery packs for short all-electric driving distances (20-80 km) before a gasoline engine or generator turns on for longer trips.

Private transportation company – A company that provides an application-based platform to connect passengers with private vehicles-for-hire. Facedrive, Lyft, and Uber currently operate in Toronto.

Public charging stations – Refers to *publically-accessible* chargers, and does not necessarily refer to chargers that are provided by the City of Toronto or another public agency.

Vehicle-for-hire – Includes taxicabs, limousines, and private transportation companies.

Zero emissions vehicle - A vehicle that does not produce tailpipe emissions or other pollutants from the onboard source of power.

Background Reading:

We encourage you to review the following webpages and reports in advance of our first meeting on November 1st. While it is not expected that you will have read these documents in full, they provide helpful background for the *Vehicle-for-Hire Net Zero Working Group.*

- TransformTO Net Zero Strategy
- Toronto's Electric Vehicle Strategy
- A report by Rocky Mountain Institute - *EV Charging For All: How Electrifying Ridehailing Can Spur Investment in a More Equitable EV Charging Network*
- A report by the Massachusetts Ride for Hire Electrification Working Group.
- Plug'n Drive's website provides information on EVs and EV charging, including detailed information on every model of EV currently available in Canada.

Draft plan of topics to be covered at upcoming meetings:

- **Meeting #1** – Introductions, review of Terms of Reference, general discussion of the goals of the working group.
- **Meeting #2** – What are other cities doing? Presentation on other jurisdiction's actions on EVs in the vehicle-for-hire sector, and discussion of which policies might work in Toronto.
- **Meeting #3** – Financing and funding opportunities. Presentation and discussion on electric vehicle costs and subsidy programmes for the vehicle-for-hire sector.

- **Meeting #4** – Presentation on the University of Toronto's research findings related to this working group, and an overview of EV charging infrastructure plans in Toronto. Discussion on EV charging needs for the vehicle-for-hire industry.
- **Meeting #5** – Summary of the working group's discussions to date. Presentation and discussion on how policy recommendations will be moved forward.

Disclaimer - Lobbyist Registration:

In keeping with transparency, please contact the Office of the Lobbyist Registrar to register your participation in this roundtable. You can find information about registration at www.toronto.ca/lobbying, by calling 416-338-5858, or by email to lobbyistregistrar@toronto.ca. We encourage participants in this working group to review the interpretation bulletins related to Exempt Communications.

City Council directives relevant to this working group:

December 17, 2021 – City Council adopted the following directives related to emissions reductions for the vehicle-for-hire industry:

Item	Directives
2021.GL27.19 Update on Outstanding Vehicle-for-Hire Directives	2. City Council direct the Executive Director, Municipal Licensing and Standards, in consultation with the Interim Director, Environment and Energy and The Atmospheric Fund, to establish a Vehicle-for-Hire group, under the already established Electric Vehicle Working Group, that brings relevant stakeholders together to develop a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice; the results of this work shall be considered by the Executive Director, Municipal Licensing and Standards as an input to the development of any requirements or programs that seek to reduce emissions in the Vehicle-for-Hire industry. 3. City Council direct the Executive Director, Municipal Licensing and Standards to set a goal of Net Zero for 2030 for vehicles for hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal. 4. City Council direct the Executive Director, Municipal Licensing and Standards to report back in the first quarter 2023 on recommended by-law updates and complementary programs to achieve the vehicle electrification and emissions reductions targets for the vehicle-for-hire industry, including outcomes of the proposed Vehicle-for-Hire group under the Electric Vehicle Working Group, and results of the third-party vehicle-for-hire emissions study, with implementation beginning by the end of 2023.

You can read City Council's consideration on Outstanding Vehicle-for-Hire Directives, here.

Appendix F – Shared ideas organized by key themes

The table below lists the ideas that were shared by Working Group members at the five working group meetings. The ideas are organized by key themes, similar to the City's draft potential approaches for working towards a net zero VFH industry by 2030, including:

1. Planning and implementation
2. Financial supports
3. Equity
4. Regulatory approaches for zero emission vehicles
5. Vehicle age limits
6. Charging infrastructure
7. Licensing fees and licensing
8. Education on zero emission vehicles
9. Other

Key Themes	Ideas Shared by Working Group Members
1. Planning and implementation	**Planning and implementation** 1. **Create an implementation roadmap** (with phasing and milestones) that shows how the City is planning to achieve net zero emissions goal by 2030 through full fleet electrification, along with other broader City goals. 2. **Set interim targets** to track progress towards 2030. 3. **Align implementation of the EV charging infrastructure with the target date for achieving a net zero VFH industry.** 4. Coordinate with different City divisions and plans to **ensure that EV chargers are installed in locations that will not be in conflict with other City plans** 5. Coordinate with City divisions to **align VFH net zero industry goals with TransformTO**. **Working together** 6. **Be transparent and work collaboratively**, including transparency around what the City wants to achieve and how. 7. **Ensure that the feedback received from this working group is reflected** in the City's final plan to reach the net zero emissions goal by 2030 in the industry.

	8. **Consider collaborating with major fleet-base service providers** to develop a high-level cross-sector fleet electrification strategy. 9. **Regularly update and provide access to VFH datasets** on the Open Data Portal (monthly basis) to track trends such as the number of licensed vehicles, active vehicles, averaged hours worked, average minimum/ maximum number of active vehicles during peak hours, average time spent (deadheading, en route and with a passenger), and average wait time for passengers during peak times. **Other key considerations** 10. **Clarify how the mandate of this working group is connected to the City's broader emissions reduction plan** and strategies beyond the electrification of the VFH fleet. 11. **Explore other tools for reducing emissions**, such as balancing the fleet size for the VFH industry, banning SUVs, travel mode switch, and reducing vehicle kilometres travelled from ride-hailing.
2. Financial supports	**Suggested financial supports** 1. **Offer rebates** for purchasing electric vehicles. 2. **Provide grants** to support purchasing electric vehicles. 3. **Offer additional tax credits** in collaboration with different levels of government. 4. **Offer preferential financing programs** (owning, renting, and leasing) for those who may have difficulties getting financing elsewhere, especially for new immigrants with little/no credit history or those with bad credit. **Other key considerations** 5. **Consider the cost of electricity, parking, and overage fees** when determining how the City could support drivers for the costs of operating an EV. 6. **Consider offsetting the high cost of replacing and recycling batteries with incentives** such as switching out the battery once it reaches its end–of-life. 7. **Consider ways to reduce maintenance fees** and/or expand access to other maintenance service providers (without voiding the manufacturer warranty).
3. Equity	1. **Promote equitable outcomes** that are also within the scope of the working group (e.g., balancing supply 2. **Regulate the sector in a way that ensures VFH drivers can make a reliable and steady living** and fund the 3. **Look at equity considerations for passengers**, such as cost/price surges, supply and access in various areas, complementing public transit offerings by utilizing data from the VFH industry to identify trends and routes.

4. Regulatory approaches for zero emission vehicles	**Suggested approaches** 1. **Consider switching to hybrid vehicles first** while transitioning to full electrification. 2. **Provide accommodations for specialized accessible vehicles** that may not be currently available as electric vehicles, to help ensure that the City is able to meet the goal of having an accessible VFH vehicle on call within a 10-minute wait. 3. **Consider adding vans and Uber XL vehicles to the exemptions alongside accessible vehicles**, or at least delay requiring these to be electric. 4. **Introduce a grandfather clause for new vehicles purchased before the regulation is enacted**. **Incentives** 5. **Offer regulatory incentives for VFH operators with EVs**, such as green parking/taxi stand spots and skipping queues for VFH electric vehicles. 6. **Offer incentives to both full-time and part-time drivers**. 7. **Develop electrification incentives** that is drawing on public money **with utmost care and restraint**. **Other key considerations** 8. **Consider restoring previous emissions vehicle requirements** (2016 vehicle emissions requirement) for the VFH industry. 9. **Explore** if/how **low-emission zones** could work in Toronto.
5. Vehicle age limits	1. **Extend duration that VFH electric vehicles can operate from 7 to 12 years** to maximize return on investment and reduce big expense every 7 years. 2. Offer a program for VFH operators to **sell their EVs to the public after 3-4 years of operation**. 3. **Consider an approach to vehicle lifespan that reflects the condition of the vehicles**, assessed through inspections that can directly measure emissions intensity, in place of simple model year limitations to maximize the return on investment and minimize waste.
6. Charging infrastructure	**Location** *Base charging* 1. **Install public charging stations in close proximity to VFH drivers' homes** (e.g., within 300 metres of an VFH driver's home). 2. City to take a leadership role in **retrofitting existing multi-unit residential buildings with EV chargers** where many VFH drivers live. Consider allowing shared use for tenants and non-tenants. 3. **Install chargers at City parking permit zones** as it has already been assessed as a reasonable distance from someone's home.

4. **Allow installation of public EV chargers on the driveway of single-family homes** to encourage sharing of curb charging. Consider providing different electricity meters for at-home charging stations.

On-the-go charging

5. **Provide VFH drivers easier access to more fast chargers** (Level 2 and Level 3) in commercial lots, on-street parking and City-owned lots (e.g., Green P).
6. **Create dedicated charging sites for VFH drivers**, especially in the downtown core, to give them priority given the distances they travel.
7. **Leverage the City's data on VFH industry in** when identifying the placement of chargers (e.g., where, when, and how trips are taking a place).
8. **Create EV charging hubs for many types of uses** (including City use and VFH use) where some amount of demand is guaranteed.
9. **Invest in touchless chargers at intersections or places where drivers need to make a stop**, e.g., pickup/drop-off areas.

Cost and incentives

10. **Explore reduced charging fees for VFH drivers**.
11. **Work with Toronto Parking Authority to reduce charging fees for VFH drivers at Green P parking lots** (e.g., consolidating parking fees and charging costs).
12. **Explore ways to keep electricity rates reasonable** (e.g., through power-sharing options where multiple charging stations are hooked to a single electrical unit and energy management systems to make sure the burden on the electricity grid is controlled.).
13. **Make the rate charged in non-residential charging stations the same as rate charged by OPG** (Ontario Power Generation) in residential charging stations.
14. Work with Toronto Parking Authority to **install more EV chargers at Green P parking lots**.
15. **Provide incentives for installing EV chargers** in new and existing multi-unit residences, quick charge stations or on-street parking.

Other key considerations

16. **Explore key considerations for operating EVs** such as time required for charging, impacts of weather (heat/air conditioning)/power outages on charging, and specialized storage of vehicles.
17. **Develop a national standard** on how to use stations, access/find stations (e.g., app) and implement same method of payment for all stations.
18. **Consider public and private investments in charging infrastructure** to support mobility hubs.

7. Licensing fees and licensing	1. **Consider reducing licensing fees for EVs** (review the City of New York's approach to issuing licences for the VFH industry). 2. **Allow VFH operators with EVs ability to be licensed for all areas**, even if it's a city where you can't have more than one "Big City" licence (e.g., Niagara Falls or Toronto). 3. **Require new VFH applicants to have electric vehicles**.
8. Education on zero emission vehicles	1. Provide clear information and accurate data that **explains cost and profitability of switching to EVs**. 2. **Use reliable sources of information to serve as the basis of key assumptions**, such as average kilometres travelled in the VFH industry, instead of personal anecdotes.
9. Other	1. The City to consider advocating on behalf of the VFH industry to support insuring EVs. 2. Consider how the use of autonomous vehicles would impact the electrification strategy. 3. Look into reducing the emission of other large fleets of vehicles like school buses by connecting with companies that specializes in electrification of school buses and smaller accessibility vehicles. 4. Consider the connection between provinces that offer incentives and the increased supply of electric vehicles in those vehicles. 5. Explore ways to ensure that PTC drivers would not be unjustifiably fired, especially when they are investing a lot of money to switch to EVs. 6. Explore ways to have PTCs cover the drivers' operating costs for the return trip (with no customers on board) after a long-distance trip. 7. Efforts for pooling should be focused on transit. 8. Impose a by-law to require insurance for food delivery drivers for Skip the Dishes and Door Dash.

Appendix G – Working group summaries

See following pages for summaries of the five working group meetings.

City of Toronto Municipal Licensing and Standards
Vehicles-for-Hire Net Zero Emissions Working Group Meeting #1

Tuesday November 1st, 2022 from 11:00 am to 1:00 pm
Via Zoom

OVERVIEW

In December 2021, Toronto City Council adopted, with amendments, GL27.19 Update on Outstanding Vehicle-For-Hire Directives. City Council directed the Municipal Licensing and Standards Division (MLS), in consultation with the Environment and Climate Division (E&C), and The Atmospheric Fund (TAF), to establish a Vehicle-For-Hire Working Group that brings industry members and relevant stakeholders together to develop a strategy to accelerate greenhouse gas emissions reductions and electrification of the vehicle-for-hire (VFH) industry, including considerations for equity and potential implementation challenges for any proposed advice. City Council has also directed MLS to set a goal of Net Zero greenhouse gas emissions for 2030 for vehicles-for-hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

The working group is comprised of a diverse membership including vehicle-for-hire industry, taxicab, limousine, private transportation companies (PTC), emissions and electric vehicle (EV) experts, advocacy groups, and researchers. Members have a range of experiences, knowledge, and contributions to the working group discussions.

On Tuesday, November 1st, 2022, the City of Toronto's Municipal Licensing and Standards Division hosted the first Vehicles-for-Hire Net Zero Emissions Working Group meeting. The meeting was organized with the support of the City of Toronto's Environment and Climate Division, The Atmospheric Fund and Third Party Public (the third party facilitation team retained by the City of Toronto).

The purpose of the meeting was to kick off the Vehicle-For-Hire Net Zero Working Group by introducing members, reviewing the draft Terms of Reference and proposed topics for upcoming working groups, and starting the discussion about the current context, opportunities, and challenges to reaching Net Zero emissions by 2030 and electrifying the vehicle-for-hire fleet. Please note the following attachments:

ATTACHMENT 1. Agenda
ATTACHMENT 2. Terms of Reference
ATTACHMENT 3. Proposed Working Group Topics
ATTACHMENT 4. Participants
ATTACHMENT 5. Combined Presentation Slides
ATTACHMENT 6. Data Submitted by Working Group Members (Uber and Hertz)

Third Party Public (formerly Swerhun Inc.) facilitated the meeting and wrote this summary. As facilitators that are not advocating for any particular outcome of this project, Third Party Public's intent with this summary is to capture the perspectives

shared during the discussion, not to assess the merit or accuracy of these perspectives. This summary does not indicate an endorsement of any of these perspectives on the part of the City of Toronto. It is also not a verbatim transcript but a summary of key comments and advice.

This summary was subject to participant review before being finalized.

GENERAL SENTIMENT & KEY FEEDBACK

Many participants expressed their excitement to participate in the discussions and bring their experiences and knowledge to help shape the working group process and outcomes. Working group members identified a range of interests in participating in the working group, including: providing industry experiences, general interest in reducing emissions, interest in electrification and/or other fuel alternatives, and advocacy around sustainability.

Key points of feedback are summarized below as a quick overview. These points should be read together with more detailed feedback included in a later section of the summary:

- **General support for reaching the net zero emissions target by 2030 and for electrification of vehicles with advice to proactively consider equity-related barriers.** Consider barriers and challenges associated with electrification of the fleet, particularly from the perspective of drivers and passengers, such as cost, availability, and accessibility of vehicles and supporting infrastructure.
- **Charging infrastructure is key to the electrification of the vehicle-for-hire industry.** Expect the discussions around EV charging infrastructure to come up at all meetings throughout the process. Start the discussion around charging infrastructure early, as it is key to meeting the already growing demand for EVs in the market and to achieve the Net Zero goal by 2030.
- **Clearly identify how and where other emissions reduction strategies are being addressed.** There were questions about the efficacy of the scope of this group focusing only on electrifying the vehicle-for-hire industry fleet and a suggestion to expand the scope of discussions to include other options for reducing emissions, such as travel mode shift, reducing traffic congestion, and reducing vehicle kilometers travelled. The project team provided a clarification that the mentioned topics are being considered by a broader Climate Advisory Group and took advice to proactively identify and provide updates to this group on where and how other emissions reduction strategies for the VFH sector are considered.
- **Explore potential supports and regulations to support the transition to electric vehicles**. A mix of incentives and regulations would be helpful in supporting the transition to electric vehicles.

SHARED UPDATES & PRESENTATIONS

The following materials were shared and reviewed at the meeting. See Attachments for more information.

- ***Terms of Reference*:** Working group members were asked to review the draft Terms of Reference ahead of the meeting (also shared during the application process). The facilitation team went over key components including the mandate of the working group as an advisory body, consensus-based approach, documentation and reporting process, and final outcomes for the process.
- ***Working Group Topics**:* A list of proposed topics to be covered with the working group in five planned meetings was shared in advance of the meeting and reviewed at the meeting.
- ***Overview Presentation of TransformTO: Climate Action in Toronto*:** The Environment and Climate Division provided a short overview of the TransformTO strategy and to inform the working group discussions.
- ***Introductory Municipal Licensing and Standards Division Presentation***: The Municipal Licensing and Standards Division also provided an introductory presentation about MLS' role, project directives from City Council, emerging research and anticipated project timelines.

DETAILED FEEDBACK

This summary reflects the feedback shared by working group members during and following the meeting. Detailed feedback follows the structure of the meeting agenda. Note that City staff responses and comments are written in *italics*.

Part One: Draft Terms of Reference

- **No objections to the Draft Terms of Reference were raised during or following the meeting.**

- **Two questions of clarification were asked:**
  - **What is the purpose of registering with the City of Toronto Lobbyist Registrar if the mandate of the group is to share ideas and not directly lobby elected officials?**

    The City of Toronto's Lobbyist registration ensures transparency in City processes. It is strongly recommended that members of the working group reach out and speak directly to the Lobbyist Registrar for further information.

    You can find information about registration at www.toronto.ca/lobbying, by calling 416-338-5858, or by email to lobbyistregistrar@toronto.ca. We encourage participants in this working group to review the interpretation bulletins related to Exempt Communications.

- **What is the definition of Vehicle-For-Hire industry? Does it include car-sharing drivers (i.e.Turo)?**

  Vehicle-for-hire does not include car-sharing drivers. The term vehicle-for-hire includes taxicabs, limousines, and private transportation companies (PTC). A PTC is a company that provides an application-based platform to connect passengers with private vehicles-for-hire; Facedrive, Lyft, and Uber currently operate in Toronto.

Part Two: Proposed Working Group Topics

- **Prioritize discussions around charging infrastructure early in the working group discussions**. Charging infrastructure is key to achieving the mandate of the group and it should be included in working group discussions early and throughout the process.

- **Consider including financing and insurance for electric vehicles as topics to explore with this working group.**

- **Bring clarity around the overall approach to reducing emissions as part of this process.** Given that the commercial light vehicles account for 14% of all transportation emissions, which in turn account for 36% of all GHG emissions in Toronto, it is important to build a shared understanding and provide clarity around how the mandate of this working group is connected to the City's broader emissions reduction plan and strategies beyond the electrification of the VFH fleet. It is important to start with a "pre-step" discussion of addressing all sources of GHG emissions, including the use of lower emissions vehicles and addressing traffic congestion in a way that results in reduced emissions.

  During the meeting, City staff clarified that TransformTO includes switching to active transportation and transit (in addition to switching to low carbon vehicles like EVs) and that mode shifting in Toronto is a larger discussion that extends beyond the VFH Net Zero Working Group. The City has established a new Climate Advisory Group to provide advice, facilitate ongoing communication and guide the effective and equitable implementation of the TransformTO Net Zero Strategy.
  Information about the TransformTO Net Zero Strategy is online at:
  https://www.toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/

  A comment provided by a WG member after the meeting: Consider looking at other tools for reducing emissions, such as balancing the fleet size for the vehicle-for-hire industry, travel mode switch, and reducing vehicle kilometres travelled from ride-hailing.

  A comment provided by a WG member after the meeting: Other emissions reductions strategies will impact work on fleet electrification by 1) reducing demand

for car-based transportation (affecting fleet size and possibly movement patterns); and by 2) providing opportunities for making ride-hailing more financially sustainable for drivers, supporting their ability to invest in low carbon vehicles, and promoting the equitable outcomes that are also within scope of the working group (e.g., balancing supply and demand; minimizing deadheading; optimizing driving times/distances).

A comment provided by a WG member after the meeting: It is important to think about the emissions intensity. We note that the latest City of Toronto VFH data update found that in some areas of the City, PTCs accounted for as much as 14% of VKTs at peak times – a significant uptick from the City's previous study. Further, while the City's emissions modelling has not yet been shared with the group, we are confident it will support our findings that the VFH sector is, in fact, the highest emitting mode of transportation measured in intensity (emissions/passenger KM travelled). This is because of the time vehicles spend deadheading between trips where other private vehicles would be parked.

A comment provided by a WG member after the meeting: It is important to note that while congestion is a serious problem, especially when it affects public transit, reducing congestion does not necessarily reduce emissions. Transportation demand is influenced by many factors, including time and cost as well as convenience, comfort, and reliability. Failure to understand this can lead to negative secondary outcomes. For example, if traffic congestion is addressed by expanding road capacity it will simply induce more demand and add more cars to our streets. The different factors behind induced demand need should be central to our plan to reduce emissions form the VFH sector. This means including fares and passenger wait times in our advice as well as travel times and traffic congestion.

- **Explore short-term options for reducing emissions in the transition period to full electrification of the fleet.** Consider short-term emissions reducing options, such as requiring that the VFH industry use lower emissions vehicles (for example no SUVs). One participant strongly disagreed with the suggestion to ban SUVs.

- **Should the focus be on electric vehicles or on hydrogen-fueled vehicles? Are electric vehicles a transitional technology and the ultimate shift will be to hydrogen?**

  During the meeting, City staff said that they are aware of ongoing technological advancement of hydrogen fuel cell electric vehicles, although it is unclear the extent to which they will be broadly commercially available in Canada. Staff are technology-agnostic and will consider all potential options to help Toronto achieve Net Zero.

Part Three: Plenary Discussion

- **Strong support for electrification.** Many participants were supportive of the Net Zero goal and electrifying the Vehicle-For-Hire industry. To achieve the goal of Net Zero by 2030, the City needs to start planning today, particularly around how to best

support the VFH industry in the transition period. Car manufacturers are already moving in the direction of electrification.

- **Charging infrastructure is key to the electrification of the industry; and lack of charging infrastructure is a major barrier to electrification**. In addition to the lack of infrastructure, there is a broader concern about the capacity of the current power grid to supply all charging infrastructure that would be needed to meet the Net Zero goal. There was general agreement that the Net Zero goal will also require investment in charging infrastructure and the electric power grid.

  Further, as outlined on p. 19 of the report to Council "Update on Electric Vehicle Strategy Implementation" (2022.IE31.17):

  > *To date, the limited number of EVs in Toronto has not had a significant impact on the electricity distribution grid. However, as EVs proliferate and charging stations become more common, substantial investments in the electricity grid will be required to accommodate this new demand. To meet the targets set out in the City's Net Zero Strategy, and as outlined in their Climate Action Plan, Toronto Hydro expects it will need to invest up to $10 billion in infrastructure by 2040 to support electrification from EVs and other sources. Toronto Hydro will refine its forecast and provide a more detailed grid investment plan based on anticipated localized load increases as part of its next rate application.*

- **It is important to apply an equity-based approach to electrification, particularly around charging infrastructure, accessibility of services, and participation in the vehicle-for-hire industry.** There was strong support for acknowledging and taking into account equity considerations for the following areas:

  - Affordability of charging infrastructure and electric vehicles, including replacing batteries, are major barriers.
  - A comment provided by a WG member after the meeting: The industry needs to be profitable for drivers and increased costs would be a barrier to the industry.
  - Access to charging stations for VFH drivers who don't have access to charging stations at home (such as drivers living in high-rise buildings, especially those who are renting).
  - There are no electric accessible minivans available now and no expectation of them being available within the next 3-5 years. There should be accommodations for specialized accessible vehicles that may not be currently available as electric vehicles, to help ensure that the City is able to meet the goal having an accessible VFH vehicle on call within a 10-minute wait. Look at other jurisdictions and how they approach accessible vehicles. For example, the provincial government of Quebec has invested over a billion dollars in accessible electric buses from Korean manufacturers.
  - A comment provided by a WG member after the meeting: It is important to apply equity considerations from the perspectives of a driver/operator and passenger.

Look at key equity considerations for passengers, such as cost/price surges, supply and access in various areas, strengthening and complementing public transit offerings and utilizing data from the vehicle-for-hire industry to identify trends and routes.

- **Consider sharing the following data and information to better inform the discussions of this working group:**
  - the 2016 vehicle emission requirements for the taxi industry,
    - *Prior to 2019,* the City of Toronto Municipal Code, Chapter 546, Licensing of Vehicles-for-Hire *outlined emissions requirements for replacement vehicles. These requirements can be reviewed on pages 39-40 of the Oct.7, 2016 version of Chapter 546.*
  - mode split between private cars and more sustainable modes,
  - vehicle type estimated emissions and projections regarding anticipated traffic from private cars in 2030/2040.
  - request to regularly update and provide access to vehicle-for-hire datasets on the Open Data Portal (monthly basis) to track trends such as number of licensed vehicles, active vehicles, averaged hours worked, average max./minimum for numbers of active vehicles during peak hours, average time spent (deadheading, en route and with passenger), average wait time for passengers during key time.

    A comment provided by a WG member after the meeting: Include relevant historic emissions data to support an informed discussion about appropriate benchmarks to measure progress and shed light on the interaction of emissions standards and fleet size. We would suggest the following data points:
    - 2013, before the advent of PTCs and before new emission standards were introduced
    - 2014, before the advent of PTCs and after new emission standards were introduced to the taxi sector
    - 2016, when PTCs were legalized and emissions standards were in place for the taxi sector
    - 2019, after emission standards were removed from the taxi sector

The project team noted that they are not aware of such data and is currently working with the VFH industry on improving data collection.

- **Financial incentives and City requirements/regulations will be helpful tools in supporting electrification of the industry.**
  - A comment provided by a WG member after the meeting: Consider offering rideshare drivers with electric vehicles permission to operate in the entire province and have access to unlimited destination modes (a feature for Uber drivers).
  - Other suggestions from rideshare drivers included reduced cost of parking, rideshare drivers could make a large percentage from each trip and reduce cost for charging and maintenance based on amount of time driving.

- Consider restoring previous emissions vehicle requirements for the vehicle-for-hire industry.

- **Some concern around the cost and environmental impact of batteries for electric vehicles.** There need to be incentives associated with a high cost of replacing the battery and a plan for recycling them.

Other

- **Interest in understanding the City of Toronto's process to issuing taxicab licenses.** There was also a suggestion to look at the City of New York's approach to issuing licences.

  To keep discussions focused, City staff said they could have an offline conversation outside of this working group to discuss licensing.

- **Concern was shared that the approval process for new electric vehicles differs between the different private transportation companies**. Following the meeting, a participant shared that a delayed approval process could be a barrier to purchasing electric vehicles for rideshare drivers.

NEXT STEPS

The City of Toronto thanked everyone for taking the time to participate and noted that the next meeting will be held on November 29, 2022. The deadline for sharing feedback would be one week following the first working group meeting.

The facilitation team committed to sharing the meeting summary in draft form for participant review and to following up with other materials.

ATTACHMENT 1. Agenda

Vehicle-for-Hire Net Zero Working Group

Working Group Meeting 1
Tuesday, November 1, 2022, 11:00 am – 1:00 pm

Join the working group meeting VIA ZOOM or participate by phone: dial 647-558-0588
Meeting ID: 815 1184 8305 (a participant ID is not required)

Meeting Purpose: To kick off the Vehicle-for-Hire Net Zero Working Group by introducing members, reviewing draft Terms of Reference, and discussing current context, opportunities and challenges to reaching net zero emissions by 2030.

PROPOSED AGENDA

11:00 am **Land Acknowledgement**
Third Party Public

11:05 **Opening Remarks and Agenda Review**
Third Party Public, City of Toronto

11:15 **Introductions**
All

11:35 **Review of Draft Terms of Reference and Proposed Discussion Roadmap**
- Any questions about the Draft Terms of Reference?
- What are you overall thoughts on the proposed topics of discussion? Anything major missing or off-base?

12:00 **Presentations**
City of Toronto (Environment and Climate Division, and Municipal Licensing and Standards)

12:20 **Facilitated Q&A and Plenary Discussion**
1. Are there any other important considerations to the current context?
2. What are some of the key opportunities and barriers to reaching the net zero emissions goal by 2030?
3. Any other comments, questions, advice?

12:55 **Wrap-Up and Next Steps**
Next meeting date
Written feedback deadline

1:00 pm **Adjourn**

ATTACHMENT 2. Participant List

The 42 people who attended this meeting are identified **in bold** in the table below, including 24 Working Group members, 14 people from the City of Toronto, and 3 others attendees.

Role	Organization	Name
Working Group Members	A4U Taxi	**Behrouz Hadjnourollah**
	Plug'n Drive	**Alan Downward**
	RideFair	**Brendan Agnew-Iler and Janice Fueser** (Alternate)
	PTC Driver	**Nick Voronka**
	PTC Driver	**Patrick Perlas**
	Sustainability Leadership & pointA	**Rafiq Dhanji**
	Co-op Cabs	**Abdulkadir Mohamoud**
	Pembina Institute	**Adam Thorn**
	Taxicab Owner	**Ahsan Mirza**
	Chargepoint	**Alexander Kostenko** (Alternate)
	Toronto Region Board of Trade	**Craig Ruttan**
	Uber	**Esther Fofana**
	Global Alliance Worldwide Chauffeured Services Ltd	**Joe Ironi**
	Viggo	**Kenneth Herschel**
	Uber Canada	**Laura Miller**
	Dunsky	**Lindsay Winginton**
	Taxicab Owner and Operator	**Majeed Shidfar**
	Toronto Hydro	**Marc Simmons**
	Universal Motion	**Marco Ferrara**
	Hertz	**Steve Shur**
	Zipcar	**Sunny Bahia**
	PTC Driver	**Wayne Edward**
	Taxicab Operator	**Mohammad Reza Hosseinioun**
Convenors	City of Toronto – Municipal Licensing and Standards Division	**Edwin Chee, Marion Davies, Rumana Rahman, Tobiah Abramson, Matt Lee, Marcia Stoltz, Fiona Chapman and Carleton Grant**
	City of Toronto – Environment and Energy Division	**Deborah Herbert, Nina Popova and James Nowlan**
	Toronto Atmospheric Fund	**Samia Anwer and Ian Klesmer**
Facilitation	Third Party Public (formerly Swerhun Inc.)	**Yulia Pak, Ruth Belay** and Khly Lamparero
Other Attendees		**Jay Fallah**

ATTACHMENT 3. Terms of Reference

TORONTO

Municipal Licensing and Standards
Policy and Strategic Support

September 2022

Vehicle-for-Hire Net Zero Working Group
Terms of Reference

These Terms of Reference will be reviewed and finalized at the first working group meeting. This document may be amended as the project progresses. Any amendments to the Terms of Reference will be made in consultation with the City staff, working group members, and facilitation team.

A. Context

On December 15, 2021, Toronto City Council adopted, with amendments, GL27.19 Update on Outstanding Vehicle-for-Hire Directives. City Council directed the Municipal Licensing and Standards Division (MLS), in consultation with the, Environment and Energy Division (EED) and The Atmospheric Fund (TAF), to establish a Vehicle-for-Hire Working Group that brings industry members and relevant stakeholders together to develop a strategy to accelerate greenhouse gas emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice.

City Council has directed City staff to set a goal of Net Zero greenhouse gas emissions for 2030 for vehicles-for-hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

B. Working Group Mandate

The mandate of the Working Group is to provide a forum for sharing perspectives and advice with City staff. It is an advisory group, not a decision-making body. The results of this working group will be considered by the City as one of several inputs to the development of any proposed requirements, regulations or programs that seek to achieve vehicle electrification and net zero emissions targets for the vehicle-for-hire industry.

This working group is intended to provide input and advice towards the development of industry-wide regulations and programs related to emissions reductions, it is not a forum to address specific issues faced by individuals in the industry. Discussions pertaining to issues not related to the subject matter of emissions reductions will also not be considered.

B.1. Decision-making Capacity

The Working Group is an advisory group, not a decision-making body. As an advisory group, the Working Group will operate using a consensus-based approach, where members seek general agreement on guidance and advice to City staff. A consensus-based approach assumes that participants can openly discuss ideas, perspectives, and viewpoints, and are willing to work together to develop common ground and minimize areas of disagreement to the best of their ability. Differing viewpoints and opinions will be documented in meeting notes.

C. Goal and Activities

The goal of the Vehicle-for-Hire Net Zero Working Group is to develop a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry, with the goal of transitioning to a net zero vehicle-for-hire industry in Toronto by 2030. The group will bring together vehicle-for-hire industry members and relevant stakeholders to have open and collaborative discussions about how to reach net zero through a comprehensive

Page 1 of 5

recommendations with tangible actions. The strategy may include proposed actions for various City divisions and stakeholders.

The Working Group will achieve this goal by:

- **Learning about relevant topics**, as identified by the members of the group (with guidance from MLS, EED, and TAF), to ensure that members have the knowledge and information they need;
- **Confirming guiding principles** that will direct and scope the working group's activities;
- **Identifying challenges and opportunities** for reducing emissions and electrifying the vehicle-for-hire industry in Toronto;
- **Identifying potential actions, policies, programs, and other approaches** that the City of Toronto and others can take to support the transition of the vehicle-for-hire industry to net zero by 2030;
- **Evaluating and prioritizing identified actions, policies, programs, and other approaches**, by considering equity implications, feasibility of implementation, and other criteria to be determined by the working group; and
- **Actively contributing to the development of a recommended strategy that includes actions, policies, and programs.** As feasible, this will include implementation considerations including timelines, roles and responsibilities, and resources.

D. Membership

D.1. Convenors

- The City of Toronto
  - Municipal Licensing and Standards – leading the process
  - Environment and Energy Division – co-leading the process
- The Atmospheric Fund – co-leading the process

D.2. Members

It is intended that the working group will include a diverse mix of representatives from:

- The taxicab industry
  - Taxicab brokerages
  - Standard Taxicab and Toronto Taxicab Licence owners
  - Taxicab drivers
- The limousine industry
  - Limousine service companies
  - Limousine owners
  - Limousine drivers
- The Private Transportation Company (PTC) industry
  - Private Transportation Companies
  - PTC drivers
- Academics and/or researchers
- Electric vehicle and/or vehicle emissions stakeholders/industry experts
- Electric vehicle charging suppliers

Note: Additional City of Toronto Divisions/agencies/subject matter experts to serve as resources may also be included in meetings as needed.

D.3. Member responsibilities and time commitment

Members will be responsible for attending and actively participating in working group meetings. Meetings will be held approximately every four weeks from October 2022 to February 2023 and will be up to two hours in length. Members will also be responsible for completing background readings and/or tasks in-between scheduled meetings. It is anticipated that this work will take approximately two to three additional hours every four weeks.

Working group members are expected to act as representatives for their industry. All members must act in a respectful manner.

D.5. Member selection and dismissal

Membership in the working group will be limited to up to 25 members to allow for meaningful discussion and for all members to have adequate speaking time in meetings.

Membership will be determined by a short application process, allowing individuals/companies/organizations to express why they would like to join the working group and what perspectives/expertise they may bring to the group. The application process is not intended to be overly onerous for applicants. Having an application process will allow staff to appropriately limit the number of members, ensure a diverse range of perspectives are considered, as well ensure members are committed to the working group process.

City staff will lead the review of membership applications with support from a third-party facilitator to ensure a transparent selection process.

Working group members may be dismissed from the working group if they act in a disrespectful manner, or are no longer able to meet the required member responsibilities (for example, the member is absent for more than two meetings). In the instances when a member is not able to attend a meeting, they may designate an alternate representative to attend in their place. The alternate representative will be responsible for communicating information to and from working group member and constituents they represent. Member dismissal will be at the discretion of the convenors, in consultation with the facilitator.

D.6. Honorariums

An Honorarium of up to $100 per working group meeting will be available as needed to compensate working group members for their time participating in scheduled meetings and completing background readings and/or tasks in-between meetings. Members who require this compensation to support their participation in the working group should indicate such as part of the application process.

E. Facilitation

The working group will be facilitated by a third-party professional facilitator. The facilitator will:

- Chair and facilitate working group meetings;
- Prepare and distribute meeting agendas and supporting materials, in consultation with the conveners and working group members;
- Prepare meeting notes with summaries of working group discussions and deliberations, noting points of agreement and where opinions diverge;

- Develop a final report summarizing the findings and recommendations of the working group;
- Serve as the initial point of contact for working group member questions and concerns, bringing them as needed to the attention of the conveners; and
- Take steps as needed to ensure that all working group members are able to meaningfully participate in the working group.

The conveners will provide support to the facilitator as needed, such as preparing and collecting information materials, providing responses or follow-up information for questions that arise during meetings, or engaging speakers and subject matter experts for meetings.

F. Meeting Structure and Timeline

Working group meetings will occur approximately every four weeks and be up to two hours in length. It is anticipated that meetings will be virtual, but in person meetings may be considered as appropriate. Working group members may be provided with meeting materials for review in advance in preparation of scheduled meetings.

Meetings will be interactive and encourage robust exchange of information and feedback, including presentations, small group breakouts, and full group discussions.

There may be opportunities for working group members to meet in smaller groups in-between scheduled meetings to conduct targeted work as needed and report back on their findings to the larger working group.

Anticipated timing for working group meetings:

1st working group meeting	Week of October 17, 2022
2nd working group meeting	Week of November 14, 2022
3rd working group meeting	Week of December 12, 2022
4th working group meeting	Week of January 9, 2022
5th working group meeting	Week of February 6, 2023

Note: Meeting dates may be changed depending on availability of working group members.

G. Outcomes

The facilitator will develop summary notes from each working group meeting and one final report. The final report will capture recommendations shared by the working group to reach a net zero vehicle-for-hire industry in Toronto by 2030. The report will include information about the working group selection, process for determining recommendations, key discussion points including areas of consensus and any points of disagreement among the working group. The final report will be made publicly available.

The final report will be considered by City staff as one of several inputs to a staff report to City Council with policy recommendations, programs and/or by-law changes that seek to reach net zero emissions and support vehicle electrification in the vehicle-for-hire industry.

By signing this document, I commit to participate in the Vehicle-for-Hire Net Zero Working Group meetings in accordance with these Terms of Reference for the duration of the working group.

_____
Signature

_____
Name

_____
Date

ATTACHMENT 4. Proposed Working Group Topics

Vehicle-for-Hire Net Zero Working Group

Overview Document

October 2022

Contents

Acronyms that may be used at the Vehicle-for-Hire Net Zero Working Group:

BEV	Battery electric vehicle
CO_2e	Carbon dioxide equivalents
E&C	Environment and Climate Division, City of Toronto
EV	Electric vehicle
GHG	Greenhouse gas
HEV	Hybrid electric vehicle
ICE	Internal combustion engine
MLS	Municipal Licensing and Standards, City of Toronto
MURB	Multi-unit residential building
NOx	Nitrogen oxides
PHEV	Plug-in hybrid electric vehicle
PTC	Private transportation company
TAF	The Atmospheric Fund
TPA	Toronto Parking Authority, City of Toronto
3PP	Third Party Public
UofT	University of Toronto
VFH	Vehicle-for-hire
WG	Working group
ZEV	Zero emissions vehicle

Phrases that may be used at the Vehicle-for-Hire Net Zero Working Group:

Battery Electric Vehicle (often shortened to BEV) – a vehicle that is powered entirely by an electric motor and battery pack. The battery is charged by plugging in to an external source of electricity.

Carbon dioxide equivalents (often shortened to CO_2e) – Equates the impact of a group of greenhouse gases to the impact of CO_2.

The Commission or **Metro Licensing Commission** – The former name of Municipal Licensing and Standards.

Deadheading – Time spent by drivers while waiting for a customer.

Emissions intensity – Greenhouse gas emissions per kilometer, or per passenger.

Electric Vehicle (often shortened to EV) - A vehicle that is powered fully, or partially, by an electric motor and battery pack.

Greenhouse Gases (often shortened to GHGs) - Compound gases that trap heat and emit longwave radiation in the atmosphere causing the greenhouse effect.

Level 1 Charging: Uses a 120-volt household outlet. Provides roughly 80 km of range in 10 hours of charging.

Level 2 Charging: Uses a 208-volt or 240-volt outlet, similar to a household oven. Provides roughly 400 km of range in 10 hours of charging.

Level 3 Charging, also called **DC Fast Charging**: Delivers 400-volt to 800-volts of power, and these chargers are primarily installed in commercial settings. Provides roughly 300 km of range in one hour of charging.

Net Zero - A balance between the amount of greenhouse gases released and the amount taken out of the atmosphere.

Plug-in Hybrid Electric Vehicle (PHEV) - have small battery packs for short all-electric driving distances (20-80 km) before a gasoline engine or generator turns on for longer trips.

Private transportation company – A company that provides an application-based platform to connect passengers with private vehicles-for-hire. Facedrive, Lyft, and Uber currently operate in Toronto.

Public charging stations – Refers to *publically-accessible* chargers, and does not necessarily refer to chargers that are provided by the City of Toronto or another public agency.

Vehicle-for-hire – Includes taxicabs, limousines, and private transportation companies.

Zero emissions vehicle - A vehicle that does not produce tailpipe emissions or other pollutants from the onboard source of power.

Background Reading:

We encourage you to review the following webpages and reports in advance of our first meeting on November 1st. While it is not expected that you will have read these documents in full, they provide helpful background for the *Vehicle-for-Hire Net Zero Working Group.*

- TransformTO Net Zero Strategy
- Toronto's Electric Vehicle Strategy
- A report by Rocky Mountain Institute - *EV Charging For All: How Electrifying Ridehailing Can Spur Investment in a More Equitable EV Charging Network*
- A report by the Massachusetts Ride for Hire Electrification Working Group.
- Plug'n Drive's website provides information on EVs and EV charging, including detailed information on every model of EV currently available in Canada.

Draft plan of topics to be covered at upcoming meetings:

- **Meeting #1** – Introductions, review of Terms of Reference, general discussion of the goals of the working group.
- **Meeting #2** – What are other cities doing? Presentation on other jurisdiction's actions on EVs in the vehicle-for-hire sector, and discussion of which policies might work in Toronto.
- **Meeting #3** – Financing and funding opportunities. Presentation and discussion on electric vehicle costs and subsidy programmes for the vehicle-for-hire sector.

- **Meeting #4** – Presentation on the University of Toronto's research findings related to this working group, and an overview of EV charging infrastructure plans in Toronto. Discussion on EV charging needs for the vehicle-for-hire industry.
- **Meeting #5** – Summary of the working group's discussions to date. Presentation and discussion on how policy recommendations will be moved forward.

Disclaimer - Lobbyist Registration:

In keeping with transparency, please contact the Office of the Lobbyist Registrar to register your participation in this roundtable. You can find information about registration at www.toronto.ca/lobbying, by calling 416-338-5858, or by email to lobbyistregistrar@toronto.ca. We encourage participants in this working group to review the interpretation bulletins related to Exempt Communications.

City Council directives relevant to this working group:

December 17, 2021 – City Council adopted the following directives related to emissions reductions for the vehicle-for-hire industry:

Item	Directives
2021.GL27.19 Update on Outstanding Vehicle-for-Hire Directives	2. City Council direct the Executive Director, Municipal Licensing and Standards, in consultation with the Interim Director, Environment and Energy and The Atmospheric Fund, to establish a Vehicle-for-Hire group, under the already established Electric Vehicle Working Group, that brings relevant stakeholders together to develop a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice; the results of this work shall be considered by the Executive Director, Municipal Licensing and Standards as an input to the development of any requirements or programs that seek to reduce emissions in the Vehicle-for-Hire industry. 3. City Council direct the Executive Director, Municipal Licensing and Standards to set a goal of Net Zero for 2030 for vehicles for hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal. 4. City Council direct the Executive Director, Municipal Licensing and Standards to report back in the first quarter 2023 on recommended by-law updates and complementary programs to achieve the vehicle electrification and emissions reductions targets for the vehicle-for-hire industry, including outcomes of the proposed Vehicle-for-Hire group under the Electric Vehicle Working Group, and results of the third-party vehicle-for-hire emissions study, with implementation beginning by the end of 2023.

You can read City Council's consideration on Outstanding Vehicle-for-Hire Directives, here.

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ATTACHMENT 5. Combined Presentations

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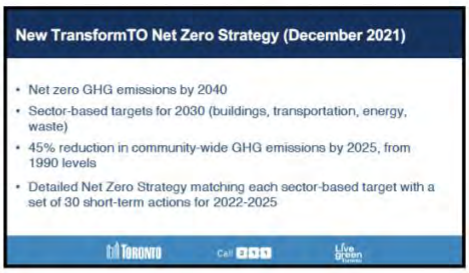

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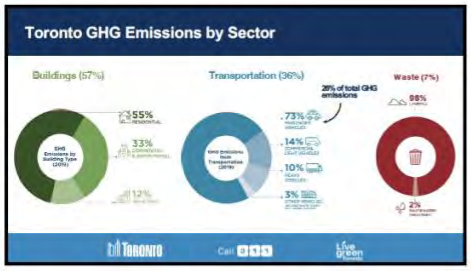

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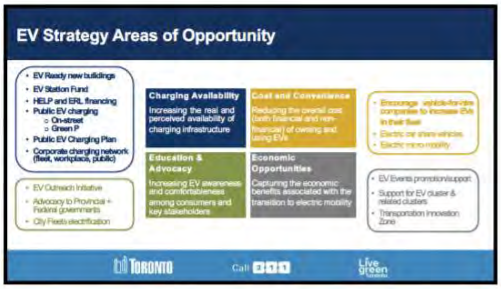
EV Strategy Areas of Opportunity
• EV Ready new buildings
• EV Station Fund
• HELP and ERL financing
• Public EV charging
○ On-street
○ Green P
• Public EV Charging Plan
• Corporate charging network (fleet, workplace, public)
• EV Outreach Initiative
• Advocacy to Provincial + Federal governments
• City Fleets electrification
Charging Availability
Increasing the real and perceived availability of charging infrastructure
Cost and Convenience
Reducing the overall cost (both financial and non-financial) of owning and using EVs
Education & Advocacy
Increasing EV awareness and comfortableness among consumers and key stakeholders
Economic Opportunities
Capturing the economic benefits associated with the transition to electric mobility
• Encourage vehicle-for-hire companies to increase EVs in their fleet
• Electric car share vehicles
• Electric micro-mobility
• EV Events promotions/support
• Support for EV cluster & related clusters
• Transportation Innovation Zone
TORONTO
Live green

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Questions?
TORONTO
Live green

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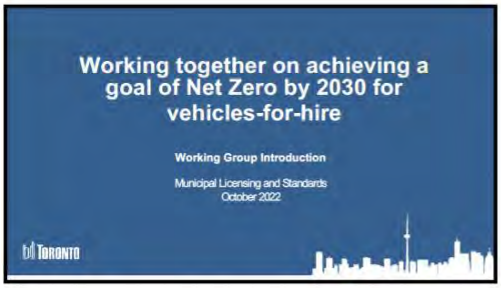
Working together on achieving a goal of Net Zero by 2030 for vehicles-for-hire
Working Group Introduction
Municipal Licensing and Standards
October 2022
TORONTO

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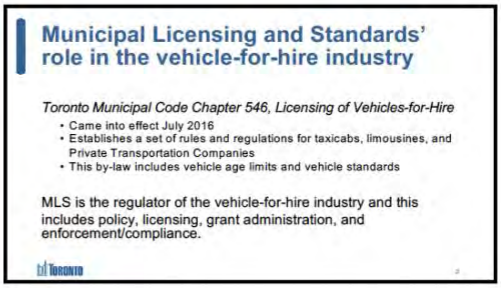
Municipal Licensing and Standards' role in the vehicle-for-hire industry
Toronto Municipal Code Chapter 546, Licensing of Vehicles-for-Hire
• Came into effect July 2016
• Establishes a set of rules and regulations for taxicabs, limousines, and Private Transportation Companies
• This by-law includes vehicle age limits and vehicle standards
MLS is the regulator of the vehicle-for-hire industry and this includes policy, licensing, grant administration, and enforcement/compliance.
TORONTO

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Aligning with the City's Emissions Reductions Goals
MLS is working with the Environment and Climate Division and The Atmospheric Fund to align with the goal of net zero greenhouse gas emissions.
TransformTO Net Zero Strategy
TORONTO

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Project Directives
This project addresses several City Council directives from December 2021:
Item
2021.GL27.19 Update on Outstanding Vehicle-for-Hire Directives
Directives
2. City Council direct the Executive Director, Municipal Licensing and Standards, in consultation with the Interim Director, Environment and Energy and The Atmospheric Fund, to establish a Vehicle-for-Hire group, under the already established Electric Vehicle Working Group, that brings relevant stakeholders together to develop a strategy to accelerate emissions reductions and electrification of the vehicle-for-hire industry, including considerations for equity and potential implementation challenges for any proposed advice; the results of this work shall be considered by the Executive Director, Municipal Licensing and Standards as an input to the development of any requirements or programs that seek to reduce emissions in the Vehicle-for-Hire industry.
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TORONTO

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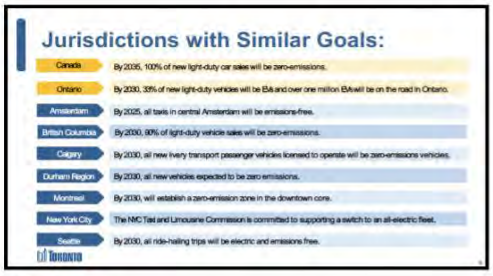
Jurisdictions with Similar Goals:
Canada
By 2035, 100% of new light-duty car sales will be zero-emissions.
Ontario
By 2030, 33% of new light-duty vehicles will be BEs and over one million BEs will be on the road in Ontario.
Amsterdam
By 2025, all taxis in central Amsterdam will be emissions-free.
British Columbia
By 2030, 90% of light-duty vehicle sales will be zero-emissions.
Calgary
By 2030, all new livery transport passenger vehicles licensed to operate will be zero-emissions vehicles.
Durham Region
By 2030, all new vehicles expected to be zero emissions.
Montreal
By 2030, will establish a zero-emission zone in the downtown core.
New York City
The NYC Taxi and Limousine Commission is committed to supporting a switch to an all-electric fleet.
Seattle
By 2030, all ride-hailing trips will be electric and emissions free.
Toronto

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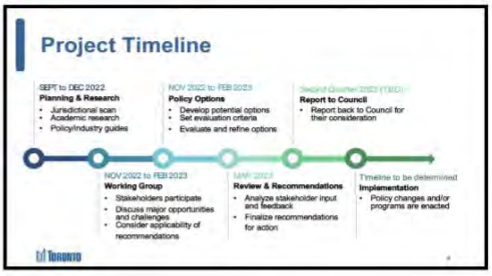
Project Timeline
SEPT to DEC 2022
Planning & Research
Jurisdictional scan
Academic research
Policy/industry guides
NOV 2022 to FEB 2023
Policy Options
Develop potential options
Set evaluation criteria
Evaluate and refine options
Second Quarter 2023 (TBD)
Report to Council
Report back to Council for their consideration
NOV 2022 to FEB 2023
Working Group
Stakeholders participate
Discuss major opportunities and challenges
Consider applicability of recommendations
MAY 2023
Review & Recommendations
Analyze stakeholder input and feedback
Finalize recommendations for action
Timeline to be determined
Implementation
Policy changes and/or programs are enacted
Toronto

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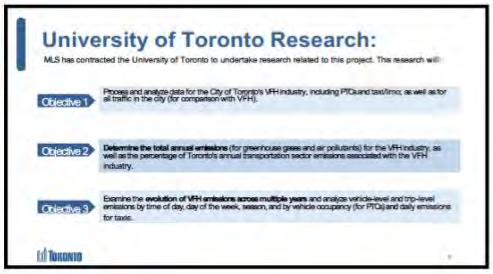
University of Toronto Research:
MLS has contracted the University of Toronto to undertake research related to this project. This research will:
Objective 1
Process and analyze data for the City of Toronto's VFH industry, including PTCs and taxi/limo, as well as for all traffic in the city (for comparison with VFH).
Objective 2
Determine the total annual emissions (for greenhouse gases and air pollutants) for the VFH industry, as well as the percentage of Toronto's annual transportation sector emissions associated with the VFH industry.
Objective 3
Examine the evolution of VFH emissions across multiple years and analyze vehicle-level and trip-level emissions by time of day, day of the week, season, and by vehicle occupancy (for PTCs) and daily emissions for taxis.
Toronto

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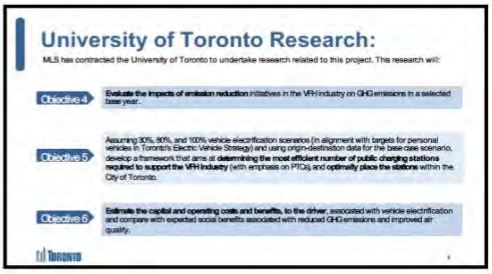
University of Toronto Research:
MLS has contracted the University of Toronto to undertake research related to this project. This research will:
Objective 4
Evaluate the impacts of emission reduction initiatives in the VFH industry on GHG emissions in a selected base year.
Objective 5
Assuming 30%, 80%, and 100% vehicle electrification scenarios (in alignment with targets for personal vehicles in Toronto's Electric Vehicle Strategy) and using origin-destination data for the base case scenario, develop a framework that aims at determining the most efficient number of public charging stations required to support the VFH industry (with emphasis on PTCs), and optimally place the stations within the City of Toronto.
Objective 6
Estimate the capital and operating costs and benefits, to the driver, associated with vehicle electrification and compare with expected social benefits associated with reduced GHG emissions and improved air quality.
Toronto

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Please reach out to Marion Davies with any questions:
marion.davies@toronto.ca
Toronto

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ATTACHMENT 5. Data Submitted by Working Group Members (Uber and Hertz)

Listed below is additional information shared from two working group participants, Uber and Hertz. The shared data is collated from publicly available information on driver interest and sentiment regarding electric vehicles. It also includes information on the different ways Uber Canada is partnering to help accelerate drivers transitions to electric vehicles and results from the first 8 months of the Uber-Hertz partnership in the US.

Uber in Canada

- In a recent Uber study, 71 percent of drivers indicated they are interested in switching to an EV.
- The top barriers they see to EV ownership include: the purchase price (61%), charging infrastructure & charging time impacting earnings (45%), and lack of information on the total cost of ownership (27%)
- The majority of Uber drivers indicated that they purchase their vehicles second-hand, which is also a barrier given the second-hand market is not yet developed / credit programs do not extend to second hand EVs in most of Canada.
- To support drivers making the transition to EVs, Uber offers:
    - Zero Emissions Incentive - where eligible drivers of fully electric vehicles can earn an extra $1 for up to 4,000 trips.
    - Uber Green – EV and hybrid drivers earn an additional .50 for each Uber Green trip, paid by riders who select Uber Green as their ride option.
    - Awareness - Plug'N Drive offers informational webinars and test drives for drivers on the Uber platform. In addition, we have an EV Calculator for drivers to determine the cost of ownership, subsidies available, and local benefits when making the transition.
    - Charging partnerships - Wallbox and FLO are offering discounts on home charging solutions. Shell Recharge is bringing more charging stations to B.C. which are expected to open this year.
    - Vehicles - We have partnerships with Hertz (details below) and others to help drivers rent and experience EVs. We've also had a discount with GM.
    - Advocacy - Alongside partners, Uber also has a set of policy areas that would help accelerate the transition of drivers to EVs. Op-Ed here.

Uber and Hertz:

- Through a North American partnership with Hertz announced last fall, up to 50,000 fully electric Teslas will be made available to rent by 2023, exclusively for drivers using the Uber network.
- While this program was just extended to Canada in the summer, we have seen very promising results in the US:

- As of August 2022, more than 25,000* drivers have rented a Tesla through this program. They've completed more than five million fully-electric trips and driven over 40 million electric miles.
- For 95% of drivers renting a Tesla through Hertz, this was the first-ever electric vehicle they had driven on Uber's platform
- And 92% of drivers renting a Tesla with Hertz say they are considering purchasing an EV.

City of Toronto Municipal Licensing & Standards

Vehicle-for-Hire Net Zero Working Group Meeting 2 Summary

Tuesday, November 29, 2022, 11:00 am – 1:00 pm
Via Zoom

OVERVIEW

On Tuesday, November 29, 2022, the City of Toronto's Municipal Licensing and Standards Division (MLS) hosted the second Vehicle-for-Hire Net Zero Working Group meeting, with support from the City of Toronto's Environment and Climate Division (E&C), The Atmospheric Fund (TAF), and Third Party Public (the independent facilitation team retained by MLS to support this process). The International Council on Clean Transportation (ICCT) presented at the meeting. The first meeting for this working group was held on November 1, 2022.

The purpose of the second working group meeting was to present and seek feedback on supports and regulations in other jurisdictions that are making the transition to EVs in the vehicle-for-hire (VFH) sector, and to discuss opportunities and challenges of applying these supports and regulations in Toronto.

The Net Zero Working Group Meeting 2 included the following presentations:

- *TransformTO + EV Strategy Overview,* Environment and Climate Division, City of Toronto;
- *Update on the transition to electric vehicles in North America*, International Council on Clean Transportation;
- *The Benefits of Leading the Charge,* The Atmospheric Fund; as well as
- A quick walk-through of the jurisdictional scan of government-led supports and regulations, Municipal Licensing and Standards. The jurisdictional scan was shared with working group members in advance of the meeting along with a list of commonly used acronyms and terms related to the working group.

Each presentation was followed by a questions of clarification period. After the final presentation, participants discussed the following questions in three small-group discussions:

1. What kinds of supports and regulations would work well in Toronto? What supports and regulations would not work in Toronto? Why?
2. What is missing from the list of supports and regulations offered in other jurisdictions?
3. Are there any supports and regulations that the City should prioritize?

Note the following attachments:

Attachment 1. Small-group discussion summaries
Attachment 2. Meeting agenda
Attachment 3. Participant list
Attachment 4. Combined presentation slides
Attachment 5. Post-meeting submissions

The team from Third Party Public facilitated the meeting and wrote this summary. A draft of this summary was subject to participant review before being finalized.

As facilitators that are not advocating for any particular outcome of this working group, Third Party Public's intent with this summary is to capture the perspectives shared during the discussion, not to assess the merit or accuracy of these perspectives. This summary does not indicate an endorsement of any of these perspectives on the part of the City of Toronto. It is also not a verbatim transcript but a summary of comments and advice shared at and after the meeting.

KEY FEEDBACK

Key points of feedback are summarized below as a quick overview. These points should be read together with more detailed feedback included in a later section of the summary:

1. The big picture strategy and implementation plan need to be clear; be based on collaboration and coordination within the government and among key industry stakeholders; be based on accurate, inclusive, and reliable data; and be truly incentivizing and not punitive.
2. Explore and prioritize incentives, supports, and regulations that focus on charging infrastructure, overcoming barriers related to the upfront costs and make a clear case for VFH service providers' profitability, and provide benefits to VFH drivers within the existing environment.
3. There is a desire to see regulations in place that would address a general concern around uncertainty related to the future prices of electricity and electric charging.

DETAILED FEEDBACK

This section reflects the summary of feedback shared by working group members during the small-group and plenary discussions at the meeting, as well as the feedback submitted after the meeting. It is organized by the key themes of feedback. Note that the responses and comments from City staff and subject matter experts are captured in *italics*. Comments provided after the meeting are noted as such.

1. Approach and implementation

- **Develop a clear strategy and implementation road map.** Create a 2030 roadmap that shows phasing and milestones to full fleet electrification. Such a tool will be helpful in building a shared understanding on how the City is planning to achieve the net zero emissions goal by 2030 through electrification. It would also be useful to understand how the roadmap fits within the City's broader strategy and implementation plan for achieving net zero emissions by 2030 beyond the VFH sector.

- **The approach needs to be truly incentivizing and not punitive.** It's important that the new regulations and supports for electrifying the fleet reflect the realities of the VFH drivers, especially accessibility service providers. The accessible vehicles do not operate at the same technological level as other VFH vehicles. It's important that new municipal regulations recognize the extra cost and time investments needed for accessible vehicles and do not punish those who may not adapt at the same rate. Additionally, it's important to consider the enforceability and the administrative burden that incentives may have on drivers.

  <u>Comment from TAF added after the meeting:</u> There was a concern around the use of the term punitive. Some VFH experts have suggested that an effective net zero strategy will need to include a combination of both incentives (e.g., charging investment, funding/financing to bridge the EV premium) and regulations (e.g., new requirements on the sector to drive only zero emission vehicles by a certain date). For the regulatory part of the

strategy to be effective – as with all regulations – it will need to be backed up by some sanction for non-compliance. Of course, the intent of such a regulation wouldn't be punitive, but its effect might be perceived as punitive by those who are subject to it.
It is important to fully understand participants' specific objections (e.g., electric, accessible vans being unaffordable or unavailable) so we can address them in a targeted way. If a blanket comment of "not punitive" is equivalent to "no requirements", then it would be difficult to effectively address it in the strategy while also fulfilling Council's direction.

- **Collaboration is key.** A big part of success is collaboration and coordination, among different levels of government, and with other fleet-based stakeholders.
  - It makes sense to start with the fleets first, as every study points out. Consider collaborating with major fleet-based service providers to develop a high-level cross-sector fleet electrification strategy.
  - It is also important to remember there is an opportunity to work with PTCs to leverage their centralized platforms to start creating change to support electrification of the vehicles immediately.
  - The reason why British Columbia and Quebec are doing much better than Ontario when it comes to electrifying the fleet is because there is a higher-level of collaboration and cooperation among all levels of government, particularly the Province and municipalities.

- **There is a need for more accurate data to support decision-making.**
  - It is important to ensure that the taxicab industry is reflected in the data being used to inform decision-making as part of this process. It is the taxicab industry that has the fleet. It was disappointing to see that the ICCT presentation was only based on PTC driver data.
  - Provide clarity about costs related to fuel-based vehicles and EVs based on accurate data. Profitability is a big incentive for switching to EVs. The cost-related information needs to be comprehensive and clear to owners and drivers on how switching to EVs would be profitable for them.
  - Use reliable sources of information for numbers to serve as the basis of key assumptions, like average kilometers travelled in the VFH industry, instead of personal anecdotes. Data currently provided by Uber and Lyft could be more accurate and robust.
  - Use ranges for kilometres travelled that include numbers for the higher-end and lower-end cases to help those in the industry decide how EVs could work for them.
  - Provide data on costs related to upgrading the supply and distribution infrastructure to support the full electrification of the VFH fleet by 2030.
  - Charging infrastructure modelling, similar to ICCT's modelling for Houston, would be useful for Toronto.

2. Supports and regulations that could work well in Toronto

- **Charging infrastructure supports.** Access to fast charging is key to the VFH industry. Long charging times are not feasible – even an hour of charging time can result in a significant lost revenue. Currently, it's difficult to find fast chargers in Toronto when needed in a rush. Charging should be easily accessible and fast, like refueling the gas. Specific suggestions shared by participants about charging infrastructure include:
  - Priority access to Level 3 chargers specifically for VFH drivers. Ensure there is an appropriate ratio of fast chargers to vehicles.
  - Charging infrastructure is needed in existing buildings, particularly in residential apartment buildings where a high percentage of Torontonians live. The City should

explore their role and all options in ensuring charging infrastructure is available in existing buildings and not just required in new ones.
  - Reduced charging fees for VFH drivers.

- **Financing supports.** The upfront cost of purchasing an electric vehicle or changing the battery is significant and often not affordable to many in the VFH industry. Considering that a VFH driver is likely to need to replace the battery faster due to more kilometres travelled is an additional financial impact. This is especially true for larger accessible vehicles that are more expensive to purchase and need to undergo special costly modifications to comply with accessibility laws. The following supports and incentives were discussed:
  - Preferential financing programs for those who may have difficulties getting financing elsewhere – e.g. a new immigrant with little/no credit history;
  - Reduced maintenance fees and/or access to other maintenance service providers (without voiding the manufacturer warranty);
  - Rebates;
  - Additional tax credits.

- **Enhanced permitting regulations.** Consider immediate and short-term incentives that would provide benefits to existing regulations and operations, including:
  - Extending the vehicle operational term from 7 to 12 years to extend the use of battery-operated cars and to better align with the battery lifecycle specific to VFH drivers who will likely need to invest in new batteries sooner/more often than the average EV owner;
  - Requirements to prioritize the approval of new electric and low-emissions vehicles;
  - Reduced fees for licensing;
  - Additional/special places to park – e.g. green spots at taxi stands near hotspots in Copenhagen; and
  - Skipping queues – e.g. shorter wait times for EVs at the airport in Copenhagen.

- **Low Emissions Zones.** There was a mixed opinion on the benefits of creating low-emission zones in Toronto:
  - Some said the establishment of low-emissions zones are growing in many cities and there has been reported success. With proper incentives, these zones should be applied across all vehicle classes, and not just the vehicle-for-hire sector. It could inspire more active transportation, such as walking and cycling (for example, Queensway project).
  - Others said if the intent for the City's vision is to achieve net zero by 2030, then such zones would not be necessary. It would also be difficult to use this tool to reduce deadheading.

- **Regulating and cost-sharing of electric charging.** Explore government incentives to regulate electric charging prices. There was a general concern that despite the lower cost of electricity (compared to fuel), there is no guarantee that operating an EV would continue to be cost-efficient in the future. Two concerns were discussed: an introduction of new taxes on electricity for the government to make up for the loss of fuel-based revenue and (even if the price of electricity stays the same) increased prices due to charging stations' owners wanting to recover costs faster and/or making more profits. There was another opinion shared that the reduced fuel use should not result in the tax revenue loss for the government, rather it should be viewed as a revenue transfer from fuel to electricity.
  A response provided by ICCT: While it is hard to predict how much the electricity prices will go up by, the chances are very low in comparison to gas prices, since it's a highly regulated and highly political process. Currently, the research shows it has not been an issue so far. Based on the current rates of EV penetration, it would be a minor revenue loss for

government and can be made up in revenue for road maintenance, an annual fee to electric vehicles, etc. There are a few jurisdictions that could apply fees to electric vehicles to start to make up for lost revenue. ICCT would generally not recommend doing this as it will only increase the cost barrier.

- **Cost-sharing of battery replacement.**
  - Explore regulations for PTCs to share costs associated with battery replacement, thus reducing barriers for PTC drivers to switch to EVs. Participants said that the upfront cost of replacing batteries would be high. The more kilometers travelled, the sooner the battery would need to be replaced. They were also concerned that harsh winter conditions would also have an impact on the battery lifecycle.
  - Look into EV manufacturers that could provide a solution to the limited battery life of EVs. For example, a Chinese company called Nio allows people who purchased their EV to switch out the battery once it reaches its end–of-life. This company has plans to expand in North America, which could help reduce the maintenance cost of EVs.

- **Regulations for autonomous vehicles.** There should be considerations on how the use of autonomous vehicles would impact the electrification strategy.

3. Questions of Clarification

- **Are you planning for fast chargers?**
  Response provided by E&C: *Currently, most of the chargers are planned to be Level 2, which for an hour would typically charge up to 30km range.*

- **What is the ratio of chargers to EVs used in planning charging infrastructure?**
  Response provided by E&C: *According to the City of Toronto Electric Vehicle Strategy, a target of around 22-24 EVs per charging station was developed for 2025-30. These targets have been evolving. In a place like Toronto, over 65% of people live in apartment buildings and high-rises and don't have garage parking. As long as we get more extensive charging infrastructure, it should be 10-15 EVs per charging station. Over time, as we get home charging and workplace charging in place, it can increase to 20-25 EVs per charging station. The City of Toronto Electric Vehicle Strategy not only looks at numbers but also studies Ward-level data to determine what kind of charging is needed, and where, for VFH drivers.*

- **Are there any considerations around fast chargers leading to quicker degradation of the vehicle battery?**
  Response provided by MLS: *There is certainly heightened risks with fast chargers, including that Level 2 chargers have lower electricity costs. Although, as of now, the effects of shortened battery life have not been seen. Most Tesla vehicles have 10-15% battery degradations, and hopefully there won't be much difference with fast chargers. Ideally, fast chargers can be used when charging in a rush, and regular overnight charging could be with the Level 2 chargers.*

- **The example from London in the case study (from ICCT's presentation) – part of what they do is also provide infrastructure for fast charging stations specifically for taxis and ride-hailing services. Is that in the plans? Do you think it could be an important part of support of this industry?**
  Response provided by ICCT: *That is indeed an important part of the broader policy package – the pricing and access restrictions are really one of the boldest, strongest policy tools that they had implemented. And once they do that all the other elements start to flow as well, making sure they overcome the charging barrier, the upfront cost barrier, etc. Fast chargers*

and overnight chargers have been deployed in London based on inference of where drivers live. This way the drivers don't only have to rely on fast chargers during the day but also on slower chargers when they are off the shift. There are often conflicting priorities in different jurisdictions on whether to spend public dollars just on ride-hailing companies or also make them broadly accessible.

- **What is the average daily distance travelled by vehicle-for-hire drivers in Toronto?**
  Response provided by MLS after the meeting: Please note that the following data on vehicle kilometers travelled (VKT) pertains only to PTCs in Toronto. Limitations of the data available for taxicabs prevents similar calculations being completed for taxicabs in Toronto. This data is from February 6th, 2020.

	Median daily VKT	3rd Quartile VKT	Maximum daily VKT
PTCs (km)	81.51	135.57	479.57

ATTACHMENT 1 – Small Group Discussion Summaries

Listed below are detailed summaries from the small group discussions. These summaries are subject to participant review before being finalized. Please review the summary of your small group discussion. The summaries are organized by the name of the facilitator.

Breakout Room 1 – Facilitated by Yulia

1. Approach and implementation

- **Create a 2030 roadmap that shows phasing and milestones to full fleet electrification.** Such a tool will be helpful in building a shared understanding of how the City is planning to achieve the net zero emissions goal in 2030 through electrification.

- **Consider collaborating with major fleet-based service providers to develop a high-level cross-sector fleet electrification strategy.** It makes sense to start with electrifying fleets first. Every study points to the importance of starting with the fleets first. It is also important to remember there is an opportunity with PTCs to leverage their centralized platforms to start creating change to support electrification of the vehicles immediately.

- **Collaboration among different levels of government is key.** The reason why BC and QC are doing much better than Ontario when it comes to electrification of the fleet, is because there is a higher level of collaboration and cooperation.

- **Ensure that the implementation approach is based on incentives and not punitive regulations.** The electrification regulations and incentives need to reflect the reality of service providers, particularly of the accessible fleet, which may not be on the same technological level as the rest of the VFH fleet and needs to comply with additional accessibility regulations. It is important to ensure that accessibility service providers are not punished and properly incentivized to ensure some of the most vulnerable citizens continue to have access to accessible VFH services.

- **Consider how autonomous vehicles could impact the electrification of the fleet.**

2. Discussed supports and regulations

- Explore providing free charging to the VFH fleet.
- Consider increasing years of service beyond the current 7-year requirement. Key consideration is that the upfront cost of EVs and batteries is high.
- Consider regulations to support the transition from fuel-based vehicles to low-emissions vehicles to electric vehicles.
- Consider regulations for PTCs to contribute to the cost of battery replacement or charging.

3. Concerns and questions around costs related to electrification

- **There is a general concern that even though the electricity is a cheaper option now, there is no guarantee that it will stay the same in the future**.

- **Another concern is that more kilometers travelled will result in a need to change batteries more frequently** and the cost of the battery is a heavy upfront cost.

- **Reduced fuel use should not result in a tax revenue loss for the government**, rather it should be viewed as a revenue transfer from gas to electricity.

- **Provide information on what would be the cost of upgrading the supply and distribution infrastructure** to support the full electrification of the VFH fleet by 2030?

Breakout Room 2 – Facilitated by Khly

1. **What kinds of supports and regulations would work well in Toronto? What supports and regulations would not work in Toronto? Why?**
    - **Provide incentives to owners by extending the duration that vehicles-for-hire can operate to 12 years.** Currently vehicles are allowed to operate for 7 years after purchase. This would allow drivers to have the option to use the car longer and not have to change/purchase a new car every 7 years.

    - **Provide financing support.** The government should consider providing financing support because financing rates are extremely high and that sometimes makes it difficult for some drivers to receive financing (e.g. they are a new immigrant and they do not have enough credit history to be approved for financing).

2. **What is missing from the list of supports and regulations offered in other jurisdictions?**
    - **Explore other EV manufacturers that could provide a good solution to the limited battery life of EVs.** A participant shared about a company from China called Nio which has a plan to expand their sales operations to North America. This company has a business model which allows people who purchased their EV to switch out the battery of the vehicle once it reached its end–of-life. If this happens in Canada, it could cost buyers less than buying a new car.

3. **Are there any supports and regulations that the City should prioritize?**
    - **Consider establishing a low-emission zone and make sure to integrate it with taxi industry charging zones.** Establishment of low-emissions zones are growing in many cities. Some participants said these zones should be applied across all vehicle classes, not just the vehicle-for-hire industry. However, if this to be established, there needs to be incentives provided to support it.

Other

- **There is a huge financial incentive for VFH drivers to transition to EVs.** The cost of operating an EV for a VFH driver is significantly lower than what an average taxi driver with a gas-powered vehicle will pay for gas (approximately $1,200/month). Some EVs also have the capacity to be charged for about 8,000 charging cycles, which could be a 25-year life cycle. This means EV owners have a good return-on-investment and they could also sell the vehicle to the general public after the City-required operational period (maximum of 7 years).

- **Consider the maximum charging cycle capacity of vehicles and the range of kilometres travelled by the vehicle-for-hire industry when assessing the financial impact to drivers as a result of transitioning to EVs.** EVs from different manufacturers have different maximum charging cycles, with some ranging from 1,500 cycles and others to 8,000 cycles. The kilometres travelled by VFH drivers also vary, with some full-time drivers that can travel up to/over 100,000 km/year. These factors impact the life-cycle of an EV and should be considered when assessing the cost of purchasing and operating an EV.

- **Consider the enforceability and administrative burden that incentives may have on drivers.**

Breakout Room 3 – Facilitated by Ruth

1. What kinds of supports and regulations would work well in Toronto? What supports and regulations would not work in Toronto? Why?

- **Mixed opinions on the benefits of creating a low emission zone in Toronto.** Some participants could see the benefits of establishing a low emission zone and the success of this option in other jurisdictions (for example London, UK). Low emission zones could also inspire more active transportation such as walking and cycling (for example Queensway project). Others noted that if the intent of the City's vision is to achieve net zero by 2030 then it would not be necessary to introduce a low emission zone. It would also be difficult and complicated to use this tool to reduce deadheading.

2. What is missing from the list of supports and regulations offered in other jurisdictions?

- **Consider exploring examples from the City of Copenhagen.** The local government in Copenhagen has been able to accelerate the transition to electric vehicles for the taxi industry through providing incentives. Some examples include lower wait times for EVs at the airport, taxi stand "green spots" near popular destinations (hospital, airport, etc.), and reserving Level 3 chargers for taxis. Ultimately, the City of Copenhagen has seen success by offering incentives that skip queues, increase access to cheaper financing/license fees, and providing priority for high-speed chargers.

- **Continue to consider the availability and cost of larger passenger vehicles and accessible vehicles**. There was a concern shared that it may be challenging to purchase an electric vehicle due to affordability. The average seven seat passenger vehicle can cost around $100,000. The battery and maintenance are also expensive and are restricted to the dealership (otherwise voiding the warranty). These two considerations have impacts on affordability and the ability to maintain vehicles through a variety of providers. The economics of electric vehicles need to make sense to drivers.

- **Consider the impact of winter on charging electric vehicles.** There was a concern that electric vehicles would require more charging time during winter which would result in reduced hours of operation for drivers.

3. Are there any supports and regulations that the City should prioritize?

- **Incentives and rebates are important for accelerating the transition to electric vehicles.** Rebates and incentives provide a variety of options for supporting the adoption of electric vehicles. Provide general incentives and rebates to all electric vehicles with strong support for preferential treatment for VFH drivers such as reduced fees for licencing, places to park/drive. The City can offer a variety of short-term and immediate incentives to sweeten the deal.

Other

- **Clarification on the process for approving new electric or hybrid vehicles.** One participant shared their experience with a 75-day delay for approval for a hybrid vehicle with a ride share company and the City of Toronto. City staff clarified that the City of Toronto processes applications within a business day. Staff are happy to have a follow up conversation with the participant on the process.

ATTACHMENT 2 – Meeting Agenda

Vehicle-for-Hire Net Zero Working Group

Working Group Meeting 2
Tuesday, November 29, 2022, 11:00 am – 1:00 pm

Join the working group meeting VIA ZOOM or participate by phone: dial 647-558-0588
Meeting ID: 883 2387 4703 (a participant ID is not required)

Meeting Purpose: Understanding supports and regulations in other jurisdictions that are making the transition to EVs for vehicle-for-hire, and discussing opportunities and challenges of applying these supports and regulations in Toronto.

PROPOSED AGENDA

11:00 am **Land Acknowledgement**
Third Party Public

11:05 **Opening Remarks, Agenda Review and What We Heard in Meeting 1**
City of Toronto, Third Party Public

11:10 **Presentations**
Summary of EV Charging in Toronto, *Environment and Climate Division, City of Toronto*
The state of electric vehicle adoption in North America, *International Council on Clean Transportation*
Why are vehicles-for-hire well-placed to lead the way on electric mobility?, *The Atmospheric Fund*

Questions of clarification

11:50 **Breakout Room Discussion**
1. What kinds of supports and regulations would work well in Toronto? What supports and regulations would not work in Toronto? Why?
2. What is missing from the list of supports and regulations offered in other jurisdictions?
3. Are there any supports and regulations that the City should prioritize?

12:30 **Report Back and Plenary Discussion**
- Do you have any additional comments, questions and/or recommendations for the City?

12:55 **Wrap-Up and Next Steps**
Next meeting date and written feedback deadline

1:00 pm **Adjourn**

ATTACHMENT 3 – Participant List

The 39 people who attended this meeting are identified **in bold** in the table below, including 23 Working Group members, 8 City staff, 2 representatives from The Atmospheric Fund, 2 non-City of Toronto meeting presenters, and 4 from the facilitation team.

Role	Organization	Name
Working Group Members	A4U Taxi	**Behrouz Hadjnourollah**
	Chargepoint	**Alexander Kostenko** (Alternate)
	Co-op Cabs	**Abdulkadir Mohamoud**
	Dunsky	**Lindsay Winginton**
	Global Alliance Worldwide Chauffeured Services Ltd	**Joe Ironi**
	Hertz	**Steve Shur**
	Louelec	**Léo Bouisson**
	Lyft	**Jon Walker**
	Pembina Institute	**Adam Thorn**
	Plug'n Drive	**Cara Clairman**
	PTC Driver	**Esther Fofana**
	PTC Driver	**Nick Voronka**
	PTC Driver	**Patrick Perlas**
	PTC Driver	**Wayne Edward**
	RideFair	**Brendan Agnew-Iler**
	Sustainability Leadership & pointA	**Rafiq Dhanji**
	Taxicab Operator	**Mohammad Reza Hosseinioun**
	Taxicab Owner	Ahsan Mirza
	Taxicab Owner	Yohannis Gebeyehu
	Taxicab Owner and Operator	**Majeed Shidfar**
	Toronto Hydro	**Marc Simmons**
	Toronto Region Board of Trade	**Craig Ruttan**
	Uber Canada	**Laura Miller**
	Universal Motion	**Marco Ferrara**
	Viggo	**Kenneth Herschel**
	Zipcar	Sunny Bahia
Convenors	City of Toronto – Municipal Licensing & Standards Division	**Fiona Chapman, Tobiah Abramson, Marcia Stoltz, Marion Davies, Edwin Chee**
	City of Toronto – Environment & Climate Division	**Deborah Herbert and Nina Popova**
	City of Toronto – Transportation Services	**Matt Lee**
	The Atmospheric Fund	**Ian Klesmer and Samia Anwer**
Non-City of Toronto Presenters	International Council on Clean Transportation	**Peter Slowik and Ben Sharpe**
Facilitation Team	Third Party Public	**Yulia Pak, Khly Lamparero, Ruth Belay and Pragya Priyadarshini**

ATTACHMENT 4 – Combined presentation slides

Presentation 1:
TransformTO + EV Strategy Overview, Environment and Climate Division, City of Toronto

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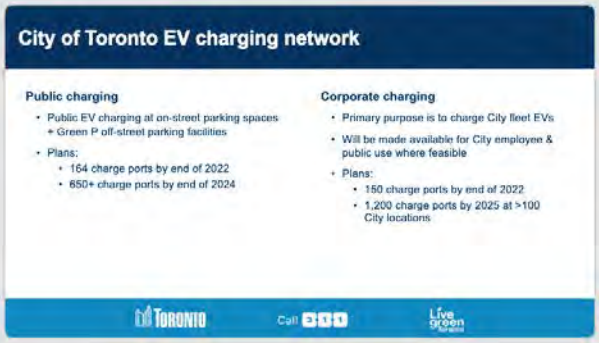

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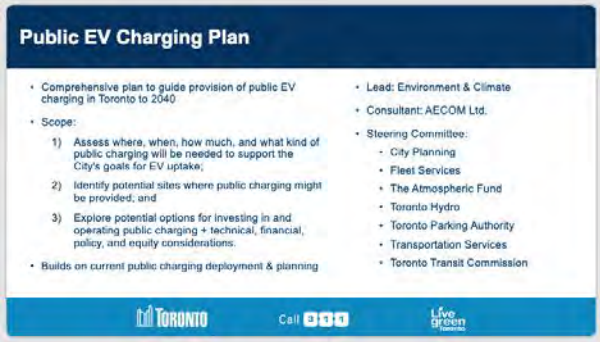

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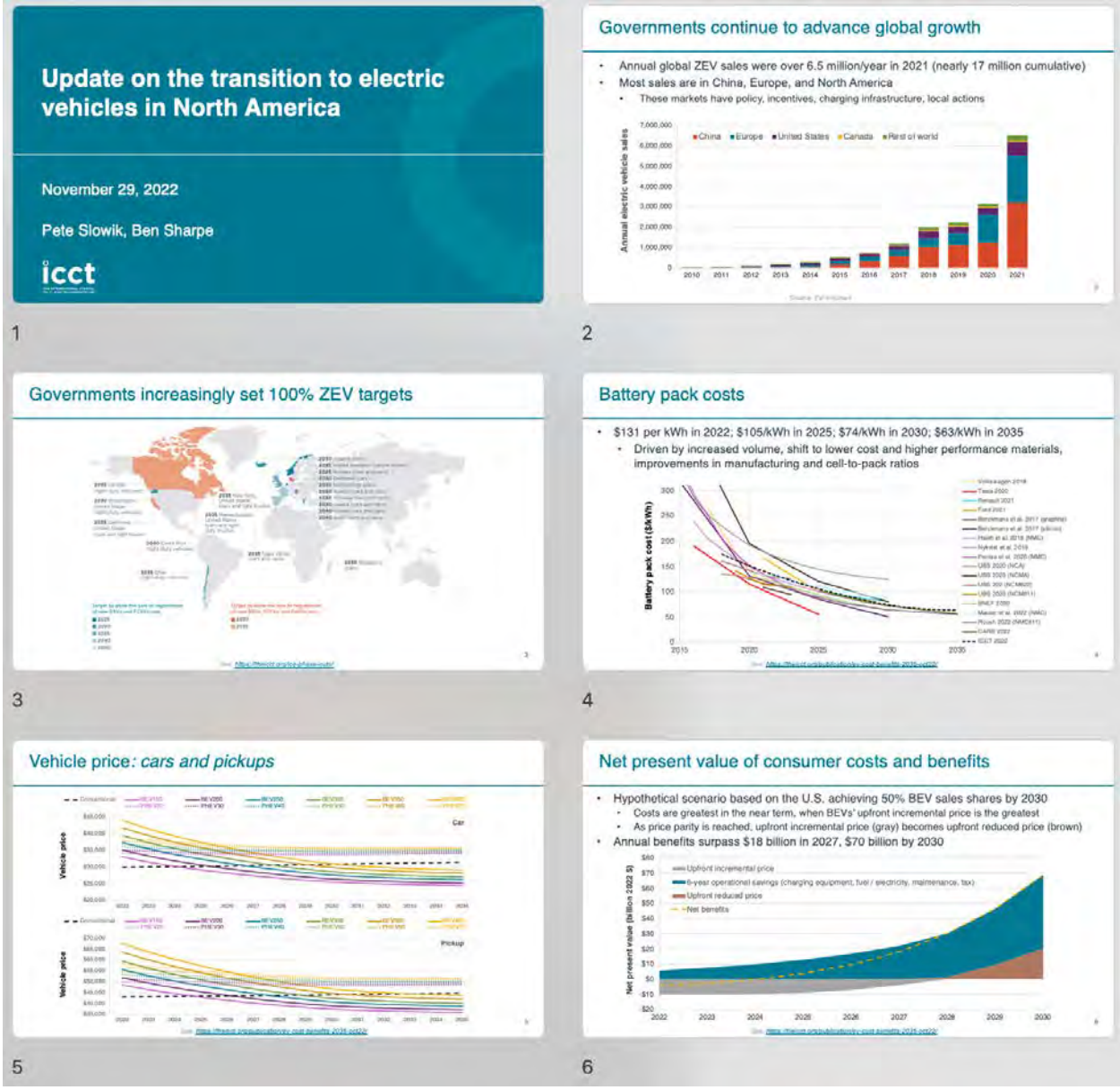
Presentation 2:
Update on the transition to electric vehicles in North America, International Council on Clean Transportation



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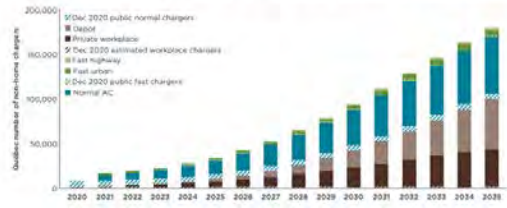
Lots more charging is needed to meet EV goals

- Example: number of non-home chargers needed in Quebec through 2035
  - About 2-3 times more public charging is needed by 2025, 8-9 times by 2030



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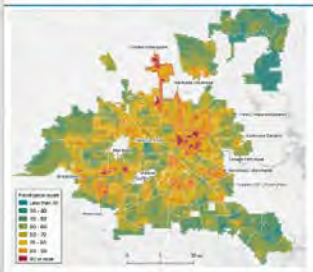
Infrastructure prioritization in Houston



Methodology based on Seattle Department of Transportation "EVSE Roadmap for Shared Mobility Hubs"

Prioritization category	Metric	Metric weight
Electric vehicle network development	Access to existing charging	30%
	Access to major highways	5%
	Retail amenities	5%
Equity & environmental justice	Low-income households	5%
	Communities of color	7.5%
	Air quality pollution	7.5%
Shared mobility demand	Projected ride-hailing demand	20%
Gaps in transit access	Low-frequency transit access	15%
	Zero vehicle households	5%

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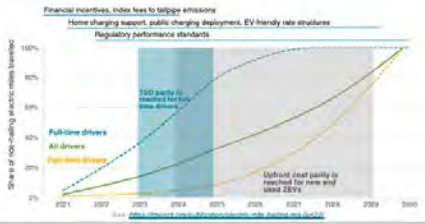
Percent of ride-hailing electric miles and supporting policy

- Full-time drivers with the most VMT can electrify first, based on TCO
- Policy can evolve to support the long-term transition



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Concluding reflections

- Electric ride-hailing developments to date have largely been driven by policy
  - The most bullish company goals are in markets that push and incentivize electrification
    - Regulations (California)
    - Pricing (London, San Francisco)
    - Ultra-low emission zone (London)
    - Purchase incentives (Colorado)
    - Charging infrastructure
- Near-term:
  - financial incentives, taxes & fees indexed to tailpipe pollution
  - home charging support, public charging deployment, EV-friendly rates
- Longer-term:
  - Regulations, low and/or zero-emission vehicle zones

10

Contact

ben@theicct.org
peter.slowik@theicct.org

Reports

ICCT's 2022 EV cost analysis: *https://theicct.org/publication/update-on-electric-vehicle-costs-in-the-united-states-through-2030/*

Web page

International Council on Clean Transportation: *http://theicct.org*
Electric vehicle page: *https://theicct.org/electric-vehicles*
North America regional page: *https://theicct.org/region/united-states-canada/*
Cities page: *https://theicct.org/region/cities/*

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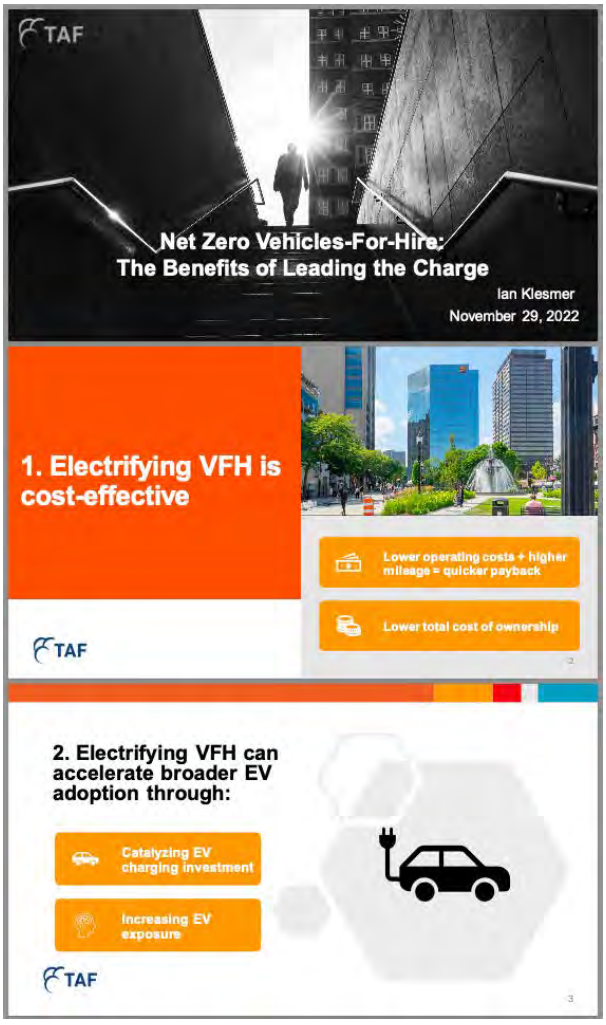
Presentation 3:
The Benefits of Leading the Charge, The Atmospheric Fund



ATTACHMENT 5 – Post-meeting Submissions

The facilitation team received two post-meeting submissions. The section below includes a quick summary of one of the submissions and questions from another submission with answers provided by the City. Please note that the full unedited comments from one submission follows the summary section, as permitted by the person who shared the submission.

Submission #1:

- Consider wireless charging pads at major intersections. If you drive an electric car, while you wait at a traffic light your car gets zapped with electricity.

- It's essential that the charging time does not cut into the earning time, in addition to deadheading. If there is no fast, accessible charging infrastructure, the cost-benefit analysis is not looking great for drivers. Even if the cost of electricity is cheaper, the earnings go down (due to deadheading and charging waiting times), and the car payment is doubled.

- Important to consider what happens in case of electricity black-outs, like in 1999 or 2013 ice storm.

- Consider paying working group members as ambassadors and educators for switching to electric vehicles in the VFH industry.

Submission #2:

Note that answers provided by MLS are noted in *italics* and the full submission with additional feedback points is attached to this report following this section.

1. Your summary of the first session captured our request for data and to address emissions reductions by optimizing VFH fleet size and utilization and encouraging modal shifts.
   a. Has the City agreed to add these topics to the Working Group process?
   b. Has the City proposed to make the requested data available?

   Response provided by MLS: As we previously indicated we are not expanding the scope of the Net Zero Vehicle for Hire Working Group to include broader discussions on modal shift, which are discussions best suited as part of the larger TransformTO project.
   As previously indicated, we do not have reliable historical vehicle for hire emissions data to share at this time.

2. What level of capital investment will be needed in energy generation and transmission to electrify vehicles in Toronto? For the VFH sector specifically? What energy sources are contemplated to meet this increased demand?

   Response provided by MLS: The capital needs of the vehicle for hire sector would be considered alongside on-going broader city work and would be dependent on the ultimate recommendations proposed as part of this project. The working group may want to make recommendations on capital investment as part of its discussion on EV charging at the 4th meeting. As it pertains to the capital investment of the city at large, this is a topic that is under discussion as part of the larger TransformTO and EV strategy projects together with Toronto Hydro. More details can be found in previous council reports on TransformTO and the EV strategy which have discussions on capital investment requirements.
   http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.IE26.16.

3. Will the City consider an approach to vehicle lifespan that reflects the condition of the vehicles, assessed through inspections that can directly measure emissions intensity, in place of simple model year limitations in an effort to maximize the return on investment and minimize waste?

   Response provided by MLS: All recommendations of the working group will be considered in the development of a proposal to City Council.

4. Can the working group address the link between driver income and willingness to invest in EV adoption? *Response provided by MLS: All recommendations of the working group will be considered in the development of a proposal to City Council.*

To: Yulia Pak, Third Party Public Facilitation team

From: JJ Fueser, RideFair

Subject: **Feedback on Summary of Session 2 of Vehicle-for-Hire Net Zero Working Group**

Date: December 2, 2022

Thank you for another productive and informative second session of the Vehicle-for-Hire Net Zero Working Group. RideFair has some supplemental input. Please feel free to share it with the rest of the project team.

Observations

- We welcomed the identification of other emissions reductions strategies in the jurisdictional scan, including addressing deadheading and creating zero-emissions zones in the City. It is clear that electrification is a powerful lever with which to lower emissions from the VFH sector. However, it's important that this committee not suggest that decarbonizing our transportation sector can be accomplished through vehicle electrification alone. In fact, there's a danger that a single-minded focus on vehicle electrification could extend Toronto's car dependency. Our path to zero emissions can be accelerated if we employ numerous other complementary strategies together with electrification.
- Two observations related to reducing Scope 2 and 3 emissions associated with EVs:
    - *Scope 2:* We noted that the energy mix target is 50% "renewable or low carbon" by 2030. Right now, Ontario's electricity has very low carbon emissions, but proposed expansion of natural gas generation will increase the GHG emissions significantly. If these sources are included in our targets, vehicle electrification could contribute to emissions at their energy source. This once again reinforces the need to reduce or optimize the number of cars in service.
    - *Scope 3:* The lifespan of electric vehicles is far longer than those with conventional ICE engines thanks to the lower number of moving parts. The upholstery and paint on an EV will fail before the engine does. There was a discussion of extending the permissible vehicle age and moving cars on to secondary consumer markets. This continues a pattern of treating goods as disposable and creating waste. Fleet operates have the capacity to do things differently. Garages are capable of replacing and renewing vehicle parts and systems to extend the life of vehicles and maximizing return on capital investment. We suggest that the current model year limit on VFH cars be replaced by regular inspections, including emissions testing, to keep electric vehicles on the road as long as they are safe, in excellent condition.
- Some members of the working group expressed skepticism that the City's target of %75 of trips under 5 km to be walked or biked. It might be useful to present the larger TransformTO mobility vision so that Working Group members understand how ambitious it is and what changes will be

needed. The group should understand that private cars can no longer be the foundation of our mobility system if the city is to become sustainable.

Observations concerning equity

It was raised that lost gas tax revenue will need to be replaced by new fees on EVs. Some drivers in the meeting expressed concern that they lacked the certainty of future earning necessary to justify the upfront investment in an EV. This concern about future costs and income is consistent with what RideFair is hearing from other drivers. It speaks to the precarity and uncertainty built into the ride-hailing business model and the City's approach to regulation.

We suggest that addressing driver income is critical to adopting electric vehicles and is consistent with the equity considerations in the Council motion that created the Working Group (City data show that VFH drivers' earning power has been roughly halved since 2013!). We wish to flag at this point that providing subsidies to ride-hailing drivers *who are not being compensated fully for their work by ride-hailing platforms* (Sacramento incentives) seems problematic, and we'd be happy to put you in touch with ride-hailing drivers in our coalition who could explain this point more fully. On the other hand, measures that ensure drivers' time is utilized efficiently will also lower overall vehicle km and hours, as well as decreasing emissions per passenger kilometre travelled (happy to explain this in greater detail as well).

The City's own emissions standards should also be considered on the "shopping list" (or an updated version thereof); as a result of this program, which operated only briefly, taxis today emit nearly 20% less than PTCs.

Questions

1. Your summary of the first session captured our request for data and to address emissions reductions by optimizing VFH fleet size and utilization, and encouraging modal shifts.
    a. Has the City agreed to add these topics to the Working Group process?
    b. Has the City proposed to make the requested data available?
2. What level of capital investment will be needed in energy generation and transmission to electrify vehicles in Toronto? For the VFH sector specifically? What energy sources are contemplated to meet this increased demand?
3. Will the City consider an approach to vehicle lifespan that reflects the condition of the vehicles, assessed through inspections that can directly measure emissions intensity, in place of simple model year limitations in an effort to maximize the return on investment and minimize waste?
4. Can the working group address the link between driver income and willingness to invest in EV adoption?

City of Toronto Municipal Licensing & Standards

Vehicle-for-Hire Net Zero Working Group Meeting 3 Summary

Tuesday, December 13, 2022, 11:00 am 1:00 pm
Via Zoom

OVERVIEW

On Tuesday, December 13, 2022, the City of Toronto's Municipal Licensing and Standards Division (MLS) hosted the third Vehicle-for-Hire Net Zero Working Group meeting with support from the City of Toronto's Environment and Climate Division (E&C), The Atmospheric Fund (TAF), and Third Party Public (the independent facilitation team retained by MLS to support this process). Nineteen of twenty-six working group members attended the meeting.

The purpose of the third working group meeting was to review and discuss costs associated with ownership and operation of electric vehicles and the financial challenges facing VFH drivers in purchasing and operating EVs, as well as to discuss opportunities for overcoming the identified financial challenges.
A working group member from Plug'n Drive presented *Costs and Funding Opportunities for Vehicle-for-Hire Drivers Adopting Electric Vehicles.*

The presentation was followed by a questions of clarification period, then a smaller group discussion in three breakout rooms.

Participants discussed the following questions:

1. Do the presented EV-related costs align with your experience/understanding in the VFH sector?
2. From your perspective, what supports could help overcome concerns of purchasing/operating an EV?
3. Which supports and regulations should be prioritized?

Note the following attachments:

Attachment 1. Small-group discussion summaries
Attachment 2. Meeting agenda
Attachment 3. Participant list
Attachment 4. Presentation
Attachment 5. Post-meeting submissions

Third Party Public facilitated the meeting and wrote this summary. A draft of this summary was subject to participant review before being finalized.

As facilitators that are not advocating for any particular outcome of this working group, Third Party Public's intent with this summary is to capture the perspectives shared during the discussion, not to assess the merit or accuracy of these perspectives. This summary does not indicate an endorsement of any of these perspectives on the part of the City of Toronto. It is also not a verbatim transcript but a summary of comments and advice shared at and after the meeting.

KEY MESSAGES

Key points of feedback are summarized below as a quick overview. These points should be read along with more detailed feedback included in a later section of the summary.

- **Interest in seeing supports and regulations that would make purchasing, maintaining, and charging electric vehicles for the VFH industry more cost efficient**, such as grant opportunities for switching to EVs, alternative financing opportunities for those with limited credit histories, regulating charging costs/rates, dedicated / priority access to level 3 chargers, mobility hubs, and cost-sharing programs with PTCs. It is also important to take into consideration other costs related to charging, including down times, parking costs and overage fees.

- **An equitable approach to this work needs to recognize how past regulations of the VFH industry have resulted in inequitable outcomes, particularly for the taxicab industry.** It is important that the proposed path forward makes financial sense to all VFH drivers for them to have a reliable, steady living. For example, in the near-term it is more economically viable for many taxicab drivers to switch to hybrid vehicles, rather than switching to fully electric vehicles. It is also important to consider as part of this working group strategies to reduce emissions beyond electrification in the VFH industry.

- **A range of opinions on the City's role in regulating the transition.** Some participants said that it's important the government does not try to artificially regulate the market and focus on providing financing incentives and supports for the VFH industry to help reduce the upfront financial cost of switching to EVs (either through purchasing new or used vehicles, leasing, or renting). Other participants said that it would be more equitable and faster for the City to ensure all VFH drivers, particularly in the taxicab sector, are able to make a decent living and fund the transition themselves. It was also noted that there are examples of existing incentive programs, such as the Accessibility Fund, that do not work well, come with a high administrative cost and are a burden to apply for.

- **There is a desire to work together collaboratively and transparently, despite the many different opinions.** It was emphasized that transparency is key to any partnership, as such it is important to that the City is upfront about what is open for change, what has been decided, how the feedback of this working will help inform the supports and regulations for the VFH industry, and making sure that the facts and figures used to inform the discussions are accurate. Different opinions were noted around the term "ride-sharing" used as part of this process.

FEEDBACK SUMMARY

This section reflects the summary of feedback shared by working group members during the meeting, as well as the feedback submitted after the meeting. It is organized by feedback shared in plenary, followed by feedback shared on the questions discussed in the breakout rooms, and questions of clarification. Response provided by the project team or the meeting presenter, where available, are in *italics.*

Plenary feedback

Infrastructure:

- **Providing infrastructure to support EVs is critical.** People will always take the most efficient route. If there is proper infrastructure to support the industry transition to EVs, the industry will organically change.

- **Keep in mind that for the VFH industry, time is money – the less time spent at charging stations, the less downtime for the industry.** The presentation showed a map of the charging stations in the city. However, a participant said that a lot of those stations only have 2 chargers, which means that drivers would have to wait at least 30 minutes to an hour before they can charge their vehicle. This creates a lot of down time, which will financially impact the industry.

- **The rate charged in non-residential charging stations should be the same as the rate charged by OPG (Ontario Power Generation).** A participant said that the electricity rate in public charging stations is not the same as the rate in residential charging stations. If we want to have a large fleet of EVs, the electricity rate should be the same as the amount charged by OPG.

Process:

- **Ensure that the feedback received from this working group is reflected in the City's final plan to reach the net zero emissions goal by 2030 in the industry.** Participants said that in the past the taxi industry had meetings with the City where they discussed how to achieve a certain goal (e.g. figuring out the number of taxis needed on the road). The industry would provide feedback, but then the City would go against the feedback. Participants do not want a similar outcome as with previous meetings with the City – they want the feedback heard at these meetings be reflected in the final plans to not waste participants' time. One participant clarified that the comment was not intended for City staff, but for City Council who makes the final decision.

- **Clarify what's included in the scope of this working group.** A participant asked for clarification as to whether this working group is only focused on electrification efforts to reduce emissions, or if other strategies to reducing emissions are also open for discussion.

  Project team response, which has been updated after the meeting: The ultimate goal is to reach a net zero VFH industry by 2030. There was a specific Council direction to look into electrification of the industry, and it is a focus of this working group because it would have a significant impact to reducing industry emissions, but the City is not ruling out other potential emission reductions strategies that may come up as part of this working group, as long as they are related to the VFH industry. In fact, throughout the first three working group meetings we heard many comments and recommendations from the working group members about idea that go beyond electrification, which have been included in the meeting summaries and will be considered by City Staff as part of their report to Council.

- **Consider other strategies for reducing emissions.** Suggestions include:
  - having fewer vehicles on the road by getting the fleet size right (matching vehicles in service with demand)
  - reducing deadheading
  - switching to more efficient conventional or hybrid vehicles immediately (while transitioning to full electrification)

- **Mixed opinions on the use of the term "ride-sharing."** A participant from the taxi industry suggested avoiding the use of the term "ride-sharing". The participant said that prior to the existence of PTCs, ridesharing meant carpooling; and PTCs do not provide carpooling service. However, other participants disagreed and said that based on a dictionary description, ridesharing is what PTCs do.

Other

- **If the City is asking drivers to invest/purchase an EV, the City should consider the realities PTC drivers face related to being "deactivated" or fired if a customer complains.** A participant said PTC drivers' operation is deactivated when a customer files a complaint, even though a lot of times the allegations are false, and unfortunately there's not much drivers can do. If the City is asking the industry to purchase an EV to help reduce emissions, the participant wants a guarantee that they can't be unjustifiably fired. *Project team response: We will keep this feedback in mind, however, this suggestion is outside the City's scope and is in the scope of the PTCs (Uber and Lyft).*

High-level summary of small group discussions

The feedback below is a summary of the feedback shared across all small group discussions. See Attachment 1 for detailed summaries of the small group discussions.

How the presented EV-related costs align with the experience/understanding of the VFH sector

- **The presentation aligned well with participants' experience with charging electric vehicles.** There was general agreement that switching to EVs results in long-term savings from no longer paying for gas.

- **It is important to consider the effect of cold weather, particularly in winter, on how often EVs need to be charged.**

Supports that could help overcome concerns of purchasing/operating an EV

- **A range of opinions on the City's role in regulating the transition.** Some participants said that it's important the government does not try to artificially regulate the market and focus on providing financing incentives and supports for the VFH industry to help reduce the upfront financial cost of switching to EVs (either through purchasing new or used vehicles, leasing, or renting). Other participants said that it would be more equitable and faster for the City to ensure all VFH drivers, particularly in the taxicab sector, are able to make decent living and fund the transition themselves. It was also noted that there are examples of existing incentive programs, such as the Accessibility Fund, that do not work well, come with a high administrative cost and are a burden to apply for.

- **In the near-term, switching to hybrid vehicles is more realistic for many drivers than switching to EVs** due to the significant upfront cost, currently limited charging infrastructure, financial impact of downtime related to charging, range, and reluctance due to past regulations that has inequitably impacted the taxi industry.

Other supports suggested by participants include:

- **Provide incentives for installing EV chargers** in multiple-family residences and residential on-street parking.

- **Improve charging infrastructure** by installing more charging stations and providing easier access, especially in locations with paid parking. Also consider developing mobility hubs, not just stand-alone charging stations, and aligning Level 3 chargers with locations that offer EV drivers an opportunity to take a short break.

- **Extend the allowable operation period of VFHs** to 12-15 years to be able to maximize the investment spent on purchasing an EV.

Supports and regulations that should be prioritized

- **Address the limited charging infrastructure in the city and take into consideration all costs incurred when charging EVs**, including parking.

- **Make access to EVs more affordable**, either through provision of financing support or incentives to owners, or looking into ways to have access to cheaper EVs.

Questions of clarification

- **How does the City plan to reach a net zero VFH industry by 2030?** *Project team response: There is no established plan yet on how industry net zero will be reached by 2030 as the City is still working on developing this plan. This working group is an important part of this process as feedback received from this working group will help inform the City staff report to Council identifying how this goal would be achieved.*

- **What is the purpose of this presentation? Is there a predetermined outcome and the City is trying to convince us to be in favour of transitioning to EVs?** The industry knows that this transition is coming as drivers want to save as much money as possible. We also know that the costs will change over time so it's unclear why we're discussing today's cost if we know it will change. *Project team response: This presentation was developed in response to feedback received from participants in previous working group meetings who wanted more detailed information and discussion regarding costs. The City does not have a predetermined approach except for the one directed by Council, which is to reach a net zero emissions VFH industry by 2030. The recommendations and directions to get there are open and not yet determined.*

- **How many years until the industry receives a return on investment (ROI) for transitioning to EV?** *Presenter response: Current data suggests that the ROI can take 2-5 years, depending on how much a vehicle is driven. If you drive more, you can save more.*

- **Cost of nighttime charging is always discussed, but what is the cost for charging at a Level 2 charging station during daytime in public charging stations?** *Presenter response: The cost varies depending on the charging station (some could charge a flat rate per hour or two hours, some could charge per minute), but the cost difference between nighttime and daytime charging is not high. The issue is more related to inconvenience than price, especially if you can't charge at home at night.*

- **Will we talk about hydrogen vehicles to help reduce emissions?** *Project team response: We are aware of hydrogen vehicles, but there is no hydrogen fueling infrastructure in*

Ontario and not enough information for policy decisions regarding hydrogen vehicles. However, the regulations the City adopts are focused on achieving net zero, not focused on a particular technology. Any future technological or infrastructure advances in hydrogen vehicles, or other net zero technologies, would be considered as part of any future plans.

- **Is there a place that tells you what the battery life is when you buy a used car?** *Presenter response: Yes, if you buy a used EV, the seller can provide a report of the state of the battery.*

- **Can you clarify why today's presentation shows a different percentage for GHG emissions by sector from the one presented by the City in the first meeting?** *Presenter and project team response: The numbers shown today are percentages for the entire province of Ontario, while the numbers shown in the first meeting were only for Toronto.*

ATTACHMENT 1 – Small Group Discussion Summaries

Listed below are detailed summaries from the small group discussions. Please note that the small group summaries are structured to reflect key points discussed in each breakout room, and as such, may vary from one another in structure. These summaries were subject to participant review before being finalized. The summaries are organized by the name of the facilitator.

Breakout Room 1 – Facilitated by Yulia

GENERAL SENTIMENT

Participants in this breakout discussion focused on what the City's general approach to achieving the goal of net zero emissions by 2030 should be. There was a range of opinions shared – from an approach that addresses the current inequities first through appropriate regulations to ensuring that the market dictates how the switch to electrification happens, to the need to see a transition strategy from fuel-based to hybrid vehicles.

While different opinions were shared, it was also noted that there is a desire to work together, collaboratively and transparently. It was emphasized that transparency is key to any partnership.

KEY POINTS OF DISCUSSION

Consider regulating the sector in a way that ensures VFH drivers can make a decent living and fund the transition to electric vehicles themselves. It seems much easier for the City to put rules in place, including setting the right number of vehicles on the roads, to make it viable for drivers to fund the transition themselves rather than offer incentives for at least two reasons:

- The incentives come with a high administrative cost and a burden to apply for. The Accessibility Fund Program at the City is one such example. It has been very difficult to get the money out of the fund (and there is no evidence that the money is being spent), to a point where it feels like it's just a general revenue item for the City.
- It is a more equitable approach, given the private ride-hailing companies have disrupted the industry and extracted wealth from drivers. Spending public money on incentivizing profitable private ride-hailing companies is concerning.
- As a point of clarification, it is not suggested to go back to old systems and regulations to get the fleet size right. Rather, the focus is on ensuring drivers can make reliable, steady living. It is also important to note that equity is part of the mandate of this committee.

The best thing the government can do is "get out of people's way." There should be caution against mandating any artificial restrictions, such as fleet size, the type of vehicles or the number of vehicles one can own for the following reasons:

- It doesn't work. Before ride-hailing, there were City regulations on the number of limousines. Limousine services work with repeat clients. Fewer limousines did not translate into more business per vehicle, and we could get additional licenses. And ultimately, this is what gave birth to ride-hailing apps. So, even if the intention was there, due to many external factors that approach did not work.
- The costs we are talking about today are not going to be the same in three, five years or by 2030. People in business will figure the most efficient way for themselves. The market will determine the costs and the benefits. And costs are going to change over time.

The City's approach to electrifying the fleet needs to recognize that it is more realistic for many drivers to switch to hybrid vehicles first, before switching to a fully electric vehicle. Customers want to see more environmentally friendly vehicles on the streets. Given the timeline of 2030, it makes more sense to switch to the hybrid first, for the following reasons:

- Cost of purchase. EVs are still a significant upfront cost. It's a big risk to invest so much money, and then find out that it is not sustainable for some reasons (including the below).
- Lack of infrastructure. The charging infrastructure is lacking to commercially support EVs right now, but it seems that as we move towards 2030 there will be more infrastructure in line with the goal of net zero emissions.
- Operational costs. Even though the cost of running and maintaining EVs is insignificant, the downtime for maintenance is a factor.
- Range. Accessible vehicles run about 400 km/day, and currently there are very few EVs that have the capability of running 400 km per shift, especially with heating or air conditioning on.
- Accessibility service vehicles. Accessible vehicles should not be anticipated to adapt to full electrification at the same rate as other vehicles. Important to note that many new accessible vehicles are hybrid.
- Previous City requirements for taxicab vehicles to switch to alternative fuel hybrid vehicles. It is important to remember that in 2014 there were City requirements for the VFH industry to switch to alternative fuel hybrid vehicles. In 2016, PTCs came along, and in 2019 the requirements for low-emission and hybrid vehicles were removed.
- Equity. The City's push to switch to full electrification right away seems to be well-aligned with the PTC's capacity to switch directly to electric vehicles and does not align well with the economic realities of many taxicab drivers. The economics for the taxicab drivers is there to go with hybrid first.

Partnership requires transparency. Everyone wants to work collaboratively with the City to achieve the net zero emissions goal because we all live and work in this city. One taxicab industry representative emphasized the need for transparency in order to work together – transparency around what the City wants to achieve and how. The representative further noted that it was difficult to partake in these discussions knowing that once there was a City program for emissions reductions in the VFH industry that was scrapped after the arrival of PTCs; that the City's current push for full electrification seems to be well-aligned with the PTCs capacity to switch directly to the electric vehicles and does not seem to support the taxicab industry's readiness to switch to hybrid vehicles (see Attachment 5 – Letter from 3 Taxicab Companies to MLS); and that the terminology used seems to favour PTCs (e.g. ride-sharing, which from the taxicab perspective is not an accurate term to describe Uber or Lyft service). Another point of view was offered that it was important to steer clear from the divisive narrative of PTCs vs taxicab drivers because it is not the point of this working group.

Response provided by MLS: Thank you for the valuable inputs – and this is exactly the point of this working group. Your comments are helpful to us to understand where the industry is at on the issue of electrification, and they provide us with counsel on the impacts of the net zero emissions goal and how feasible the options are that the City could use to achieve that goal. Certainly, nothing is predetermined, categorically. We are grateful to have many different stakeholders, including representatives of PTCs, Limousine and Taxicab industries, to guide us. Also, to clarify, we are really focused on electrification for two main reasons:

1. *It was a specific council direction to look at the electrification and, as such, it is one of the main guiding principles of this work.*
2. *Ultimately, the goal is to reach net zero by 2030, and having gas-powered cars on the road is not the most effective way to reach that goal. What we are trying to do as part of this work is to understand the most effective way to reduce as many emissions as possible to reach the goal.*

That doesn't mean that it is the only thing we report on. It's also clear that electrification is not the sole strategy that will get us there. We've heard about phasing and different policies about hybrid transition first, and those are all on the table.

Consider mobility hubs. There is a real opportunity to develop mobility hubs, not just stand-alone charging stations. Mobility hubs could include fast chargers specifically for the VFH industry, could also support micro-mobility like electric scooters and bikes, and have a great public realm for enhanced public experience. Mobility hubs could attract private investments and provide public use.

Other

- **How many cars are there in Toronto? Why do we keep going back to the VFH industry?**

Response provided by MLS: We discussed this last time as well. This is not the only exercise in emissions reductions. TransformTO looks at the broader emissions reductions strategy outside of the VFH industry, such as modal shift. TransformTO work is ongoing. This Working Group is a smaller piece of the broader City's work. We were specifically directed by Council to consider the VFH fleet, as on a per-vehicle basis, reducing emissions in this industry will be more impactful compared to individual personal vehicles. But that doesn't mean that this is the only place that we're doing emissions reductions or reviewing these kinds of programs. And certainly, it's not something that's meant to be only targeted to this industry. Reducing emissions is a city-wide effort.

Breakout Room 2 – Facilitated by Khly

1. Do the presented EV-related costs align with your experience/understanding in the VFH sector?

- **Agree that there is a big financial incentive to switching to EVs due to the long-term savings from no longer paying for gas.** For example, the monthly financing payments for purchasing an EV costs around $1,000/month, while an average taxi driver pays $1,200-$1,500/month for gas. The taxi industry switching to EVs could also help the City in its efforts to accelerate public ownership of EVs as the vehicles could be sold to the public after 3-4 years of operation or after the City's required operating period for taxis.

2. From your perspective, what supports could help overcome concerns of purchasing/operating an EV?

Financing supports and incentives

- **Create special financing for the VFH industry to make it easier to switch to EVs.** When providing financial incentives, it is important to take into account the different ways people get a car, including owning, leasing, and renting.

- **Provide more incentives for installing EV chargers in multi-unit residences.** It could be in a form of a grant that property owners can apply for installing Level 2 chargers in their facility.

Increased and improved access to charging infrastructure

- **Free access to locations with fast chargers to help reduce cost.** Consider creating a sticker specific for active drivers in the VFH industry with EVs that would allow free access to paid parking lots with fast chargers. Allowing for a free access would remove a big barrier for an EVs operational expenses.

- **Require charging stations in new buildings and multi-unit residences.**

- **Chargers for residences with on-street parking only.** For example, the City of Boston is looking into incentivizing homeowners to provide power to the curb, as it's a cheaper alternative to dropping the power load from the power line above. This option could also allow homeowners to make money from others using the charging station.

Adjustments to existing regulations

- **Extend the allowable operation period of vehicles-for-hire to 12-15 years** to be able to maximize the investment spent on purchasing an EV.

3. Which supports and regulations should be prioritized?

- **Regulating charging costs and making sure that all costs incurred when charging EVs are taken into consideration, including parking.** Different charging operators have different pricing models and rates, and these rates could be impacted by the cost imposed by the owners of the land/property where the charging infrastructure is located. In some charging locations, drivers have to pay for parking in addition to the cost of charging, which significantly increases the cost to drivers especially when charging at Level 2 stations. Cost of electricity, parking, and overage fees should be considered when determining how the City could support drivers for costs of operating an EV.

- **New applicants for PTCs should be required to own an EV.** Creating this regulation is important to help achieve the goal of having a net zero industry by 2030.

Other

- **In addition to switching VFHs to EVs, the City should look into reducing the emission of other large fleets of vehicles like school buses.** A participant noted that switching VFHs to EVs is not enough to reach net zero emissions in the city. There are other large fleets that produces lots of emissions, including school buses with diesel engines. The participant said that there are 200,000 buses in Ontario and 20,000 in Toronto and there is no charging infrastructure to allow these vehicles to switch to EVs.

  The project team has clarified in the small group discussion that the scope of this working group is focused on the net zero goal for the VFH industry. This feedback related to school buses and other vehicle fleets has been documented and will be shared with the City's TransformTO team who oversees the broader emission reduction goals of the City.

- **A suggestion for PTCs (Uber and Lyft) to consider ways to cover the drivers' operating cost for the return trip (with no customers on board) after a long-distance trip.** Currently Uber and Lyft do not cover the cost of the return trip, which could be a cause of reluctance from PTC drivers to switch EVs as the unpaid return trip for long-distance travels could have a big financial impact to drivers. If Uber and Lyft won't cover the cost, consider increasing the trip charge to riders.

Breakout Room 3 – Facilitated by Ruth

1. Do the presented EV-related costs align with your experience/understanding in the VFH sector?

- **The presentation aligned well with participants' experience with charging electric vehicles.** A participant shared that it cost them around $2 – $4 to charge their personal vehicle overnight with a Level 2 charger at their home.

- **Winter has an impact on how often electric vehicles need to be charged.** During the winter months, operators will need to charge their vehicles more often which will impact cost and vehicle kilometer range in the winter.

2. From your perspective, what supports could help overcome concerns of purchasing/operating an EV?

Financing supports and incentives

- **Increase grant opportunities for drivers to help with purchasing both used and new electric vehicles.** It is a big financial commitment to purchase a new vehicle. Currently, it would be outside the budget of some drivers. There are still many drivers that are purchasing used vehicles. There needs to be financial supports for offsetting the cost of both new and used vehicles with grants.

- **Consider how different financial histories of drivers impacts financing.** Not all drivers will have access to financing due to their previous financial history.

- **Offer incentives to both full-time and part-time drivers.** There are some incentives currently being offered by one of the PTCs that is dependent on the number of hours worked. There needs to be grants and other incentives available to part-time drivers too.

Other

- **Consider aligning the Level 3 chargers with locations that offer drivers and other EV drivers the opportunity to take a short break.** There are businesses that would be interested in supporting electric vehicles by providing access to quick charging time (5 to 15 minutes).

3. Which supports and regulations should be prioritized?

- **Electric vehicles need to be cheaper.** Brand new electric vehicles are not affordable options, especially for those purchasing larger vehicles (for example vans). Prioritize ways to make the vehicles cheaper.

- **Address the challenge of limited existing charging infrastructure.** There are drivers that don't have access to charging stations at home for a variety of reasons (for example, renting and lease agreements do not allow access to driveway). There needs to be more opportunities and infrastructure for charging electric vehicles.

- **Prioritizing ways to demystify and provide education on the different electric vehicle options available.** Plug'n Drive offers resources such as offering drive tests for different electric vehicles, access to other drivers that have made the transition and support finding the right vehicle for each driver.

Other

- **There are challenges with drivers being removed from a PTCs because of customer complaints.** It is a big financial commitment to purchase these vehicles, in general, and it can place drivers in precarious position when false customers complaints impact their livelihoods.

ATTACHMENT 2 – Meeting Agenda

Vehicle-for-Hire Net Zero Working Group

Working Group Meeting 3
Tuesday, December 13, 2022, 11:00 am – 1:00 pm

Join the working group meeting VIA ZOOM or participate by phone: dial 647-558-0588
Meeting ID: 847 6100 6719 (a participant ID is not required)

Meeting Goals:

- To understand costs associated with ownership and operation of electric vehicles
- To understand the financial challenges facing vehicle-for-hire drivers in purchasing and/or operating an EV.
- To identify and prioritize opportunities for overcoming the identified financial challenges (e.g. financing solutions, incentives, access to affordable charging infrastructure, etc.).

PROPOSED AGENDA

11:00 am **Land Acknowledgement**
Third Party Public

11:05 **What We've Heard from Meeting 2**
Third Party Public and City of Toronto

11:15 **Presentation – Costs and Funding Opportunities for Vehicle-for-Hire Drivers Adopting Electric Vehicles**
Cara Clairman, Plug'n Drive

11:35 **Breakout Room Discussion**

1. Do the presented EV-related costs align with your experience/understanding in the VFH sector?
2. From your perspective, what supports could help overcome concerns of purchasing/operating an EV?
3. Which supports and regulations should be prioritized?

12:25 **Report Back and Plenary Discussion**

- Do you have any additional comments, questions and/or recommendations for the City?

12:55 **Wrap-Up and Next Steps**
Next meeting date and written feedback deadline

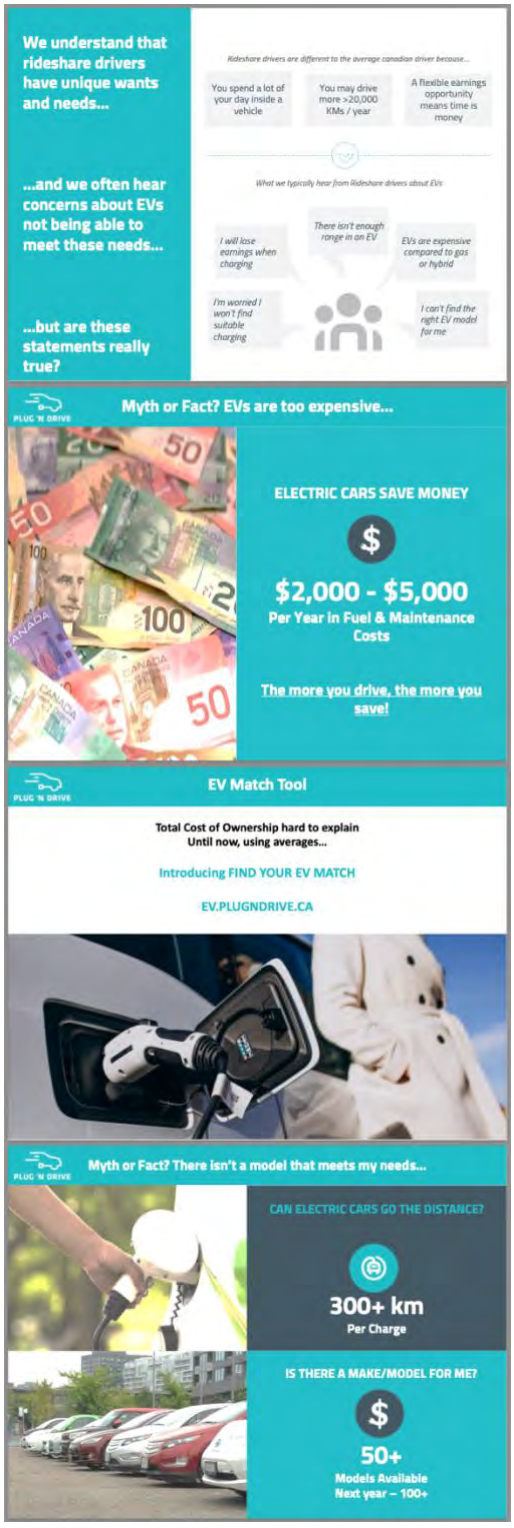
1:00 pm **Adjourn**

ATTACHMENT 3 – Participant List

The 30 people who attended the meeting are identified **in bold** below, including 19 Working Group members, 5 City staff, 2 representatives from The Atmospheric Fund, and 4 facilitation team staff. Members whose names are not in bold did not attend the meeting.

Role	Organization	Name
Working Group Members	A4U Taxi	**Behrouz Hadjnourollah**
	Chargepoint	**Mike Frisina**
	Co-op Cabs	**Gurjeet Dhillon** (Alternate)
	Dunsky	**Lindsay Winginton**
	Global Alliance Worldwide Chauffeured Services Ltd	**Joe Ironi**
	Hertz	Steve Shur
	Louelec	**Léo Bouisson**
	Lyft	Jon Walker
	Pembina Institute	Adam Thorn
	Plug'n Drive	**Cara Clairman**
	PTC Driver	**Esther Fofana**
	PTC Driver	**Nick Voronka**
	PTC Driver	**Patrick Perlas**
	PTC Driver	Wayne Edward
	RideFair	**Brendan Agnew-Iler**
	Sustainability Leadership & pointA	**Rafiq Dhanji**
	Taxicab Operator	**Mohammad Reza Hosseinioun**
	Taxicab Owner	Ahsan Mirza
	Taxicab Owner	Yohannis Gebeyehu
	Taxicab Owner and Operator	**Majeed Shidfar**
	Toronto Hydro	Marc Simmons
	Toronto Region Board of Trade	**Craig Ruttan**
	Uber Canada	**Laura Miller**
	Universal Motion	**Marco Ferrara**
	Viggo	**Kenneth Herschel**
	Zipcar	**Will Sowers**
Convenors	City of Toronto – Municipal Licensing & Standards Division	**Fiona Chapman, Tobiah Abramson and Marion Davies**
	City of Toronto – Environment & Climate Division	**Deborah Herbert and Nina Popova**
	The Atmospheric Fund	**Ian Klesmer and Samia Anwer**
Facilitation Team	Third Party Public	**Yulia Park, Khly Lamparero, Ruth Belay and Jacky Li**

ATTACHMENT 4 – Presentation



Buy New

	Economy	Mid-Range	Luxury
			
Vehicle	Chevrolet Bolt	Hyundai Ioniq5 AWD LR	Tesla Model 3 AWD LR
Price	Approx. $39,000	Approx. $45,000	Approx. $67,000 *(many government incentives do not apply)*
Range	412 km	488 km	564 km
Eligible	UberX, Uber Green	UberX, Uber Green, Uber Comfort	UberX, Uber Green, Uber Comfort, Uber Premier

Charging

Level 1

1 Hour of Charge ~ 8 km of Driving
Mainly at home – very low cost!

Level 2

1 Hour of Charge ~ 30 km of Driving
Home - $2-4 to charge overnight
Public - $2 per hour on average

Level 3

1 Hour of Charge ~ 250 km of Driving
Public only - $10/half hour on average

Installing Your Charging Station

- Similar electrical requirements to a laundry dryer or stove (240 Volts/30 Amps)
- Please use only a licensed electrical contractor!!

Electrical Safety Authority

How to Find a Used EV

Many classifieds websites have used EV listings

auto TRADER.ca

electric vehicle network

kijiji AUTOS

CAN'T FIND YOUR PERFECT MATCH?

Contact Plug'n Drive with your preferences (colour, trim, accessories, etc.) and we will forward your request to a licensed used car dealership.
mycustomEV@plugndrive.ca

Charging

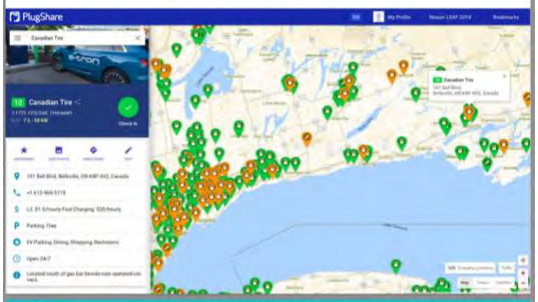
CHARGEMYCAR.CA

One of Canada's Largest Selection of Home Charging Stations

CHARGE MY CAR
A PLUG'N DRIVE INITIATIVE

Public Charging Locators and Trip Planners

PlugShare ChargeHub

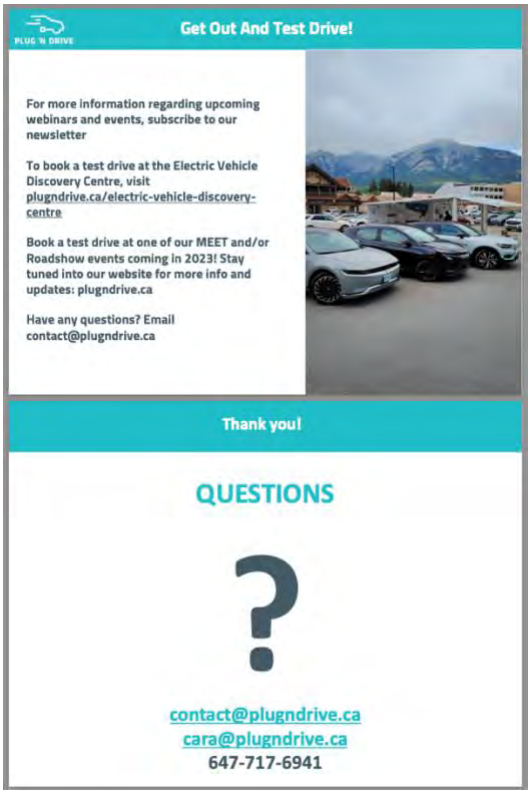


Public Charging Networks

chargepoint · HYPERCHARGE · flo · myEVroute · greenlots · Circuit électrique · electrify canada · Shell Recharge

Our Electric Future

- Infrastructure – good, but not enough
- Manufacturing – looking good for Canada! Add in supply chain and mining, we have a huge opportunity.
- Education – we can do a lot better!!
- Policies we need – incentives (used), building codes, financing, ZEV standards...


PLUG 'N DRIVE
Get Out And Test Drive!
For more information regarding upcoming webinars and events, subscribe to our newsletter
To book a test drive at the Electric Vehicle Discovery Centre, visit plugndrive.ca/electric-vehicle-discovery-centre
Book a test drive at one of our MEET and/or Roadshow events coming in 2023! Stay tuned into our website for more info and updates: plugndrive.ca
Have any questions? Email contact@plugndrive.ca
Thank you!
QUESTIONS
?
contact@plugndrive.ca
cara@plugndrive.ca
647-717-6941

ATTACHMENT 5 – Post-meeting submissions

Participants were encouraged to share additional feedback after the meeting. The facilitation team received seven post-meeting submissions which have been included below. Note that the feedback was not edited, except for minor formatting.

Emailed feedback 1 (received December 13, 2022)

See the last two-pages for the full unedited letter from the taxicab industry sent to MLS pertaining to achieving the City of Toronto's Net Zero goal by reducing vehicle emissions.

Emailed feedback 2 (received December 22, 2022)

I just thought of reaching out to you just in case it could be added/noted, something good to know for the next discussion, that some things established in our 'little group huddle' maybe missing information/context and, some inaccurate info on car battery life cycles.

I am providing some links to you below, but (I forgot his name) some things presented as info may be inaccurate -specifically the capacity of a car battery being recharged -also tied up to warranty/guarantee.

Also, NIO, the Chinese company venturing in N.A. market soon (They say 2025), allows a customer to replace battery whenever they deem it necessary. Basically, a car owner would subscribe to a monthly plan for a fee, based on the mileage needed by the customer. The longer the mileage needed, the higher the monthly cost. The incentive to have NIO in our talk is that:
NIO cars will cost less pricing wise, I remember seeing an article about $10,000 less, or something.
Swapping batteries only takes minutes via charge stations that act like gas stations (that charge batteries for customers)

The only catch is, will they enter Canadian market before 2030...

https://www.youtube.com/watch?v=IS8_v6K2_Gg (**Can Nio Become The Tesla Of China?**)

https://insideevs.com/news/570403/nio-battery-swap-station-china/ (**Take A Closer Look At A Nio EV Battery Swapping Station In China**)

For the standard car battery lifespan however, we had that small huddle where one of us claimed a battery life cycle of 8,000 charges which is frankly, unlikely. This is over 4x of what I know and I think he got it mixed up with warranty of 8 to 10 years. If we are discussing numbers, as I've shared with everyone, I am an advocate. We simply cannot quote a figure that is 4x more of what it actually is, so below I'm sending quick links for you to see what I mean. This is critical, in persuading Rideshare drivers and taxis, in switching to EVs.. I would like to stress, people who do this for a living, easily drive 100,000 kms/year -easy! I've met them. So all of these "warranty" talk, it's mileage vs time -whichever comes first. It's a selling tactic, for those who drive an average of 20,000 kms a year.

https://news.energysage.com/how-long-do-tesla-car-batteries-last/#:~:text=expected%20life%20vs.-,warranty%20coverage,or%201%2C500%20battery%20charge%20cycles.

https://electrek.co/2020/06/06/tesla-battery-degradation-replacement/

https://www.way.com/blog/tesla-battery-replacement-cost/

https://enginepatrol.com/how-long-chevrolet-bolt-last/

and from the horse's mouth:

https://www.tesla.com/en_eu/support/vehicle-warranty

https://www.coggindelandhyundai.com/2022-hyundai-kona-ev-battery.htm#:~:text=Your%202022%20Hyundai%20Kona%20EV%20battery%20will%20typically%20last%20between,t%20mean%20it's%20operating%20perfectly.

https://www.sunsetchevrolet.com/model-research/electric-car-battery-life/#:~:text=If%20so%2C%20you%20might%20be,out%20of%20a%20new%20battery.

https://www.hyundaiusa.com/us/en/vehicles/ioniq-5?&chid=sem&fb=io5_bnd_husa&CID=20166438&PID=202442677&CRID=0&SID=4075918&AID=402292811&ds_query=ioniq+5&ds_rl=1277805&ds_rl=1277805&gclsrc=ds&gclsrc=ds

The last link I pasted is for the Ioniq 5 2023, it has a "10 year/100,000 mile limited warranty." and the footnote says:
The Hybrid/Electric Limited Battery Warranty covers defects in the factory workmanship or materials of the vehicle's lithium ion battery for 10 years from the date of original retail delivery or date of first use, or 100,000 miles, whichever occurs first.

I think these things, among others, will deter current rideshare drivers from switching to EVs.. apart from the lack of warranty from car manufacturers (as you have pointed out since our first meeting) -the costs of electricity, it's availability (stations) and future market options (ie: NIO) are all big factors of our agenda. We must not, and I wish to emphasize this to the man who speaks out of experience (but ignorant of current numbers), get our figures and facts wrong.

Emailed feedback 3 (received December 23, 2022)

Thanks for all your work supporting this group. In case you & your team didn't catch it today, I wanted to share the recently-released plan for electrifying New York's taxi fleet: https://www.nyc.gov/assets/tlc/downloads/pdf/Charged_Up!_TLC_Electrification_Report-2022.pdf

Emailed feedback 4 (received January 4, 2023)

I have a couple of questions regarding the TransformTO strategy.

Is the strategy strictly to transform to electric vehicles, or are hydrogen cars included, and what about hybrid gas cars?

Is the strategy just for PTC vehicles such as Uber and Lyft or does it also include delivery vehicles such as Uber Eats, Skip The Dishes, Amazon flex other food and package vehicles?

Will this be for all gig drivers or just full-time drivers?

Response provided by the City:

TransformTO is a city-wide strategy that aims to reach net zero greenhouse gas emissions throughout the City by 2040. The TransformTO Net Zero Strategy lays out approaches for reducing greenhouse gas emissions from Toronto's buildings, energy, transportation, and consumption and waste.

Complementary to TransformTO, Council directed Municipal Licensing and Standards (MLS) to set a goal of Net Zero for 2030 for vehicles-for-hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

In working towards this goal, MLS is technology agnostic, meaning that all options for reducing emissions from vehicles-for-hire will be considered. Policy proposals will consider hybrids and all types of zero emissions vehicles (including hydrogen vehicles as well as battery electric vehicles). The working group has not focussed on hydrogen vehicles because the supporting infrastructure is at such a nascent stage in Toronto.

Because Chapter 546, Licensing of Vehicles-for-Hire does not differentiate between part-time and full-time drivers, any changes to Chapter 546 would apply to all vehicle-for-hire drivers (both gig drivers and full-time drivers).

The staff report being prepared for Council will focus only on reducing emissions from vehicles-for-hire (including PTCs, taxicabs, and limousines), and will not consider food/package delivery vehicles or services. This is because food/package delivery vehicles and services are not regulated in the City of Toronto. However, the TransformTO Strategy takes a community-wide approach and estimates that by 2030, 30% of all registered personal vehicles in the City of Toronto will be electric, and 100% will be electric by 2050 - these targets would include food/package delivery vehicles even though they are unregulated.

Emailed feedback 5 (received January 4, 2023)
See next page for the following pages for the full unedited letter from RideFair attached in the email.

We put our feedback into a letter because there is a lot to address and we want to get it right. Our key point is that the working group needs to be briefed on and discuss the other approaches so that it can give meaningful input. Otherwise it will not have followed Council's direction and provided the advice requested. It's also just good policy to reduce emission in every way possible and using other strategies to make electrification easier to implement.

Also, a note on incentives:

We urge staff to develop incentives for electrification drawing on public money with utmost care and restraint. In particular, given budget constraints, we don't believe public funds should be used to compensate for poor labour practices by industry participants.

For example, ride-hailing companies do not currently compensate drivers for time they spend waiting for their next ride – even though companies benefit materially from having large numbers of drivers on the road and available to transport passengers within short time frames. As more drivers enter the system and become available for rides, the time any particular driver spends earning money drops. This set-up downloads significant business costs onto the driver community, where equity-deserving groups are over-represented – while also adding to emissions and traffic congestion.

We heard from a driver at the last meeting that they will not invest in an electric vehicle for a job that they can be laid off from by an algorithm, which suggests that the labour practices of ride-hailing apps are a barrier to electrification in themselves. While ride-hailing companies have opposed calls to pay drivers for all time spent working, regulations can go a long way to restore balance to the system and make it easier for participants to achieve stable, adequate earnings. Until this is the case, public financial incentives flowing to drivers in lieu of employer payments amount to subsidizing an unfair labour practice.

We would be happy to provide background data on driver earnings and employment conditions.

Emailed feedback 6 (received January 14, 2023)

Just a few thoughts on the meeting I missed:

1 - From the Meeting Minutes...
Extend the allowable operation period of vehicles-for-hire to 12-15 years to be able to maximize the investment spent on purchasing an EV.

From Uber's Website...
Vehicle model year
City of Toronto, City of Mississauga, Town of Oakville, and Brampton: Your vehicle's model year must be 7 years or newer to drive with UberX, UberPool, and UberXL in the City of Toronto, City of Mississauga, Town of Oakville, and Brampton.

2 - From the Meeting Minutes...
A suggestion for PTCs (Uber and Lyft) to consider ways to cover the drivers' operating cost for the return trip (with no customers on board) after a long-distance trip. Currently Uber and Lyft do not cover the cost of the return trip, which could be a cause of reluctance from PTC drivers to switch EVs as the unpaid return trip for long-distance travels could have a big financial impact to drivers. If Uber and Lyft won't cover the cost, consider increasing the trip charge to riders.

From my experience...
The Uber / Left Driver gets a small percentage of what the Passenger pays, maybe just change things up, so the Driver who is transporting the Uber / Lyft Customer, providing the vehicle, the fuel, the maintenance, the wear & tear, etc., they get the higher percentage of the fare? Also, there are some areas that don't offer Rideshare services, or local licencing is required for that area, as I mentioned in a past meeting, maybe allow Drivers who have made the investment of EV, be licenced for ALL areas, even if it's a City (like Niagara Falls or Toronto) where you can't have more than one "Big City" licence.

3 - From the Meeting Minutes...
There are challenges with drivers being removed from a PTCs because of customer complaints. It is a big financial commitment to purchase these vehicles, in general, and it can place drivers in precarious position when false customers complaints impact their Livelihoods.

From my experience...
The UFCW Union can apparently protect Uber Drivers that have been deactivated, I don't believe that Lyft has an affiliation with UFCW at this time. And yes, I've received a few "One Star" ratings, because the Passenger gets upset with Uber for some reason, and they seem to

think that giving the Driver a low rating will make things better?!? A quick search of “UFCW Uber” will provide information about this.
*Although I’ve never been deactivated myself.

Emailed feedback 7 (received January 19, 2023)

Thanks for this extensive documentation. I think there is just one point I want to make sure we clarify.

When we talk about holding off on public incentives until drivers can make a proper living, this is not to say that public incentives are never appropriate to help drivers transition to lower carbon vehicles. Instead, we want to make sure that public spending complements rather than replaces compensation owed to drivers. The city has a responsibility to do everything in its power to ensure that drivers can earn stable and adequate incomes – and that companies are doing their part – before layering on public supports, especially when public coffers are stretched. To echo TAF’s earlier point, incentives can’t take the place of good regulations.

To: Tobiah Abramson, Fiona Chapman & James Nowlan, City of Toronto

From: RideFair

Subject: **Emissions Reductions Strategies for Vehicles-for-hire Working Group**

Date: January 4, 2023

Thank you for your email about the Vehicle-for-Hire (VFH) Net Zero Working Group. We are very happy to hear that the Committee is not ruling out considering and recommending multiple alternative pathways to reducing emissions. Our concern is that if there are no plans to bring forward information on these other approaches or include them in the recommendations the working group will not have discharged the responsibility given to it by Council.

Other emissions reductions strategies

We agree that vehicle electrification is a potent and complex tool and understand the need to spend significant time studying how it can be accelerated. At the same time, we assert that other, easier tools that can complement or accelerate electrification should not be left on the table. These approaches, explored in more detail in the attached table, include:

1. Setting emission standards

At the last meeting, the working group learned that leaders from the taxi industry have proposed make lower emissions vehicles mandatory immediately. This proposal could be presented to Council and implemented within months – and see emissions reductions in this calendar year. We see no reason to ignore an opportunity to reducing emissions in the short term while working towards full electrification. It would be a shame to pass over a small, easy win in search of a larger, more difficult victory.

2. Reducing deadheading/optimizing trips

Vehicles-for-hire create more emissions per passenger kilometre than any other urban travel option. This is not a flaw of the system but a feature, as they continue to operate empty between trips. Ride-hailing apps such as Uber and Lyft go even further. By emphasizing reducing passenger wait times exclusively, and subsidizing fares with business losses, they encourage the largest possible fleet to be in service at any time. However, the same technology that is used to minimize passenger wait times can also be used to optimize trips/fleets and minimize deadheading, if required and/or incentivized.

3. Optimizing fleet size

Electrification of an otherwise “business as usual” VFH system carries several risks: it may encourage continued car dependency, it relies on an increasingly precarious business/labour model, and it requires electrifying the largest possible fleet – raising questions around electrical grid capacity, pace of change, and scalability. Luckily, this work to optimize fleet size is already underway since Council directed staff in

2021 to develop a framework “to maximize the efficiency of the sector by matching active vehicles in service with demand."

4. Encouraging mode shifts to transit/active transportation

In our view, a key goal of the working group is to make sure the VFH sector meets the transportation goals of the TransformTO project. This will require a fundamental shift away from our City’s traditional car dependency. Vehicles-for-hire will continue to play an important but circumscribed role, and our policies and streets need to be re-designed to encourage a shift to mass public transit and active transportation wherever possible. Once again, work on this is already underway since, in 2021, Council directed staff to study the impact of ride-hailing apps on TTC ridership.

Work of other committees

We understand there are many other efforts underway at the City to address the climate crisis and implement TransformTO’s transportation goals – principally around mode shifts to public and active transportation. However, we don’t know whether these conversations will expressly address mode shifts to/from vehicles-for-hire, or how these committees’ efforts will feed back into the work of the current committee – particularly where these efforts could impact vehicle electrification. We recommend:

- Staff ask committees working on mode-shifting strategies, complete streets and the broader vehicle-for-hire optimization framework prioritize recommendations for reducing VFH emissions and estimate when these recommendations can be shared with this committee.
- Our own committee flag these potential interactions and develop recommendations regarding electrification that can incorporate varying mode shift and population growth scenarios.

Questions for staff

We are thrilled to hear that you are open to discussing options for emissions reductions other than electrification. For this occur, the working group will need to have background information presented and a facilitated, focused discussion. So, we have the following, specific questions:

1. Will staff present information on approaches to reducing emissions (like the four outlined) that could complement and/or accelerate electrification and facilitate their discussion at the working group?
2. Will relevant work, including the framework on fleet size optimization and VfH impacts on transit, be shared with the working group? If not, when will this work be reported to Council?
3. Will information be provided on the cost and infrastructure challenges of providing sufficient capacity to electrify fleets at their current levels?

Other pathways to reducing emissions from vehicles-for-hire can both make the industry more sustainable and make the goal of full electrification more attainable. In the attached table, we outline four principal other lines of inquiry we recommend staff pursue, all of which are complementary to the fleet electrification project and within the scope of the working group as defined by Council. They are just the beginning, however, of a much larger discussion about the future of the VFH sector. Nobody wants to return to the regulatory system of the past, but we need to chart a clear path forward from the

"business as usual" approach. The research and input of City of Toronto staff could be the cornerstone of a new system that works for passengers, drivers, and the environment.

We would be happy to share additional academic research and/or driver testimony to explore any of these topics further. We look forward to continued collaboration and are optimistic that we can put forward an effective vision for a net zero VFH industry.

Table 1: Overview of strategies to reduce emissions from Vehicles for Hire, complementing electrification				
Strategy	**Examples of alternatives**	**Direct effects**	**Interaction with electrification**	**Equity impacts**
Setting emissions standards		Decrease emissions per passenger KM traveled and fleet-level emissions; Reduce emissions incrementally over time.	Establish precedent of City regulating acceptable makes/models.	
Reducing deadheading/ optimizing trips		Decrease emissions per passenger KM traveled.		More stable and adequate earnings for drivers; Encourages full time driving (better use case for electrification).
Optimizing fleet size		Decrease fleet level emissions.	Encourages full time driving (better use case for electrification); Smaller fleet required.	More stable and adequate earnings for drivers.
Encourage mode shifts to transit/active transportation	Discussed by other committees.	Reduction of vehicles, VKTs required; End the estimated $74M in annual TTC revenue lost to ride-hailing apps.	Changes in number/location of charging stations needed; Lower number of vehicles needed for electrification.	Earnings opportunities become more predictable, geographically widespread (focus shifts to suburbs); Increased transit ridership leads to service improvement.

November 21, 2022

Carleton Grant
Executive Director
Municipal Licensing and Standards
Toronto City Hall
16th Fl. W, 100 Queen St. W.
Toronto ON M5H 2N2

Dear Mr. Grant

Re: Facilitating immediate action on vehicle-for-hire emissions standards

The City of Toronto recently held the first meeting of the Vehicle-for-hire Net Zero Working Group. It brought industry and other stakeholders together to develop a plan to reduce emissions and electrify the sector. We are extremely supportive of the move to reducing emissions across the sector. Taxis and rental cars will have an important role to play alongside cycling, walking and transit in reducing private car use in the low carbon city of the future. We are committed to helping the City achieve its TransformTO goals and appreciate the opportunity for constructive collaboration with MLS staff. Because we want to maintain positive dialogue, we feel it is important to begin the process with a shared set of facts.

In 2014, all taxicab vehicles were required to be transitioned to alternative fuel and/or hybrid vehicles at the scheduled time of replacement. This requirement was not extended to PTCs in 2016. In 2019, Council amended the Municipal Code to "remove the requirement for replacement taxicab vehicles to be either accessible or alternative fuel, hybrid, or low-emission vehicles." Ironically, this happened a few months before City Council declared a climate emergency. Instead of concrete action on vehicle emissions, a goal was set for 100% of vehicles-for-hire to use low-carbon energy by 2050. Last year, Council clarified this goal that, by 2030, 30% of registered vehicles in Toronto be electric and the modelled net zero 2040 pathway has all personal and commercial vehicles electrified by 2040.

Toronto's emission standards in the taxi sector, as short-lived and flawed as they were, had an immediate and clear impact on emissions from transportation. As recently as 2021, the Toronto Atmospheric Fund reported that taxis had an emissions factor that was 17.2% lower than PTCs.

At the working group meeting, MLS staff were asked why the City chose not to enforce the emissions standards as directed by Council in the past because of industry opposition. Staff indicated that the challenge for industry was the gap between the language in the by-law and the emissions standards available at the time. Specifically, the definition of a low emission vehicle used by the City relied on information only known by the Environment and Energy Office and was not transparent for the industry or public. At the time Natural Resources Canada managed the fuel consumption ratings and had not provided clear enough direction. In short: the list of eligible vehicles was fluid, but Toronto's by-law was not.

Most of the undersigned were industry leaders at the time the decision was made not to enforce the emissions standards. We have no memory of ever asking that the standard not be enforced, and strongly encourage the City to restore emissions standards immediately – and ensure this time, they are extended to PTCs as well. Removing the worst-emitting vehicles from high-frequency use is a simple, easy to implement tool the city should not leave on the table.

Specifically, we ask that the City of Toronto move immediately to:

1. Restore the 2016 requirement that all new or replacement vehicles-for-hire, including private transportation companies as well as limousines and taxis, be either accessible or alternative fuel, hybrid, or low-emission.
2. Clarifying the model years that are eligible using transparent, available, and Canadian standards.
3. Phasing the implementation and the shift towards electrification as the necessary vehicles supply chains and charging stations become available.
4. Work with the vehicle-for-hire industry to refine and accelerate emissions reductions regulation.

The taxi industry has come together to support our shared TransformTO vision and is looking forward to a productive and positive collaboration with City staff to accelerate emissions reductions and electrify the entire vehicles-for-hire sector. We ask that as we aim to get to zero that we not overlook the easier, more immediate actions we can take to reduce emissions today.

Sincerely,

Kristine Hubbard,
General Manager
Beck Taxi

Abdulkadir (Abdul) Mohamoud,
CEO & General Manager
Co-op Taxi Crown Taxi Royal Taxi

Gurjeet Dhillon,
Vice President
Scarborough City Cab
Toronto 1 Taxi

Behrouz Kamseh
President
ATOOL
All Taxi Owners and Operators Ltd

City of Toronto Municipal Licensing & Standards

Vehicle-for-Hire Net Zero Working Group Meeting 4 Summary

Tuesday, January 17, 2023, 11:00 am 1:00 pm
Via Zoom

OVERVIEW

On Tuesday, January 17, 2023, the City of Toronto's Municipal Licensing and Standards Division (MLS) hosted the fourth Vehicle-for-Hire Net Zero Working Group meeting with support from the City of Toronto's Environment and Climate Division (E&C), The Atmospheric Fund (TAF), AECOM, Toronto Parking Authority, and Third Party Public (the independent facilitation team retained by MLS to support this process). Twenty of twenty-six working group members attended the meeting.

The purpose of the fourth working group meeting was to understand the VFH industry's needs for base charging and on-the-go EV charging, as well as to identify and prioritize opportunities for overcoming the identified challenges.

The presentation was followed by a questions of clarification period, then a smaller group discussion in three breakout rooms.

Participants discussed the following questions, with support from the Parking Scenario Worksheet developed by the City:

1. Drivers have different levels of access to parking and EV charging near their homes (may park in multi-unit residential building, in private driveways, or on-street). What other types of solutions can support access to **base charging** for different drivers?
2. What supports or regulations are needed so that EV charging infrastructure meets the **on-the-go** needs of the VFH industry?
3. Considering a typical workday, where would you need or like to see public EV charging? Are there nearby amenities that you would prefer?
4. Which supports and regulations should be prioritized?
5. What other supports could help address the charging needs of EV VFH drivers?
6. Do you have any additional comments, questions and/or recommendations for the City?

Note the following attachments:

Attachment 1. Small-group discussion summaries
Attachment 2. Meeting agenda
Attachment 3. Parking scenario worksheet
Attachment 4. Participant list
Attachment 5. Presentation
Attachment 6. Post-meeting submissions

Third Party Public facilitated the meeting and wrote this summary. A draft of this summary was subject to participant review before being finalized.

As facilitators that are not advocating for any particular outcome of this working group, Third Party Public's intent with this summary is to capture the perspectives shared during the discussion, not to assess the merit or accuracy of these perspectives. This summary does not indicate an endorsement of any of these perspectives on the part of the City of Toronto. It is also not a verbatim transcript but a summary of comments and advice shared at and after the meeting.

KEY MESSAGES

Key points of feedback are summarized below as a quick overview. These points should be read along with more detailed feedback included in a later section of the summary.

- **The VFH industry's key needs for EV charging infrastructure are easy access to more fast chargers, charger availability, and careful consideration and equity lens application when determining the placement of charging stations.**

- **Explore ways to reduce charging costs for VFH drivers and keep electricity rates reasonable.** Charging cost is an important consideration, especially when drivers have to pay additional costs to charging, including parking. Consolidating these costs would reduce the operational costs to drivers. Potential changes in electricity rates were also a concern and suggestions on how to control the burden to the electricity where shared, including power-sharing options and energy management systems.

- **Implementation of the EV charging infrastructure has to be aligned with connected plans for the VFH industry and other City initiatives.** EV charging infrastructure is critical to achieving a net zero VFH industry, however there is a 10-year gap between the target completion of the EV charging infrastructure plan (which is in 2040) and the target for achieving a net zero VFH industry (which is 2030). Coordination with different City divisions and plans is also needed to ensure that EV chargers are installed in locations that will not be in conflict with other City plans.

- **Develop initiatives that bring awareness and education about zero emissions vehicles to the public and improve the narrative for the City's work towards electrification of VFH vehicles.** The City's current narrative focuses on telling the VFH industry that the City is mandating a switch to EVs by 2023. Instead, consider to focus the narrative on the fact that vehicle manufacturers are working towards switching to EVs and the City is looking at ways to support its citizens to making the switch, as EVs will eventually be the only vehicle choice in the future.

FEEDBACK SUMMARY

This section reflects the summary of feedback shared by working group members during the meeting, as well as the feedback submitted after the meeting. It is organized by feedback shared in plenary, followed by feedback shared in the breakout rooms, and questions of clarification. Response provided by the project team or the meeting presenter, where available, are in *italics.*

Plenary feedback

Infrastructure

- **Consider the infrastructure to charge a car at a public charging station –** more than one charger should be built in public charging stations, and they should be premium chargers to ensure the charge time is not more than 8 hours. *Project team response: Charger providers have said that they do not want to put in one charger at a public station, as it makes more sense for the infrastructure to put in multiple chargers. With the development of technology, the time it takes to charge, and the kilometers given will improve.*
- **Different drivers, especially VFH EV drivers have charging needs that are different to the common driver.** Some drivers work the night shift and are not able to charge overnight. It's important to have public charging stations near their homes to support charging during different shift times.
- **Locations for on-the-go public charging should be considered carefully.** Consider how to align charging stations around the goals of TransformTO, which include walking, active transportation and using public transit for shorter trips. This means making charging stations available for longer haul trips and avoid placing them in locations that are already transit dense. *Project team response: The second part of phasing is to look at locations for charging stations and to develop a list that includes locations that compete with other interests or objectives.*
- **Ensure that low-income areas will be serviced the same way other areas in the city are when it comes to installing charging stations.** Whatever the location data says about these areas, EV charging stations shouldn't be left out. *Project team response: Equity is a big consideration that the team will continue to consider.*

Implementation

- **The alignment between the targets presented is a little off.** They city is targeting a switch to EV by 2030 but the infrastructure plan is targeted for 2040.

Process

- **The framing of how to incentivise people to use EV can be better expressed**. Instead of telling people that the city is mandating a switch to EV by 2023, they can approach it by explaining that manufacturers are making the switch and EVs will be the only choice in the future.
- **It is important to further outreach initiatives to bring awareness and education to the public**. Zero emissions vehicles are different form conventional vehicles, and there is a gap of information there for many people.

Charging cost

- **In Paris, EV charging cost has increased considerably due to increase in electricity cost, making it more economical to have a gas-powered vehicle.**

EV cost

Purchasing an EV

- The new policies and support need to recognize that it would be a gamble for a full time VFH driver to buy a $70,000 EV, with limited warranty and option to get it fix when needed.
- The City's new policies and support need to recognize that not all PTC drivers can afford purchasing an EV. Most PTC drivers drive part-time to cover basic life expenses and purchasing an EV could put them in a difficult financial situation, including bankruptcy. Consider only applying the EV transition approach to those who can afford EVs and give them incentives to spend their money wisely.
- In response to participants raising concerns about the capital cost of EVs, a participant responded that by saving on the cost of gas, EVs become a much more affordable alternative.

Insurance coverage and cost-sharing between drivers and PTCs

- The downtime during charging an EV should not be considered as being "offline" and should be covered by the PTC insurance, and not the driver's personal insurance.
- If PTCs want to help achieve the goal of net zero by 2030 in the VFH industry, they need to "step up" their game and support their drivers through meaningful cost-sharing. As an example, during last year's peak gas price (about $2/liter) Uber gave drivers a 50-cents per ride incentive (regardless of the distance of the trip) to help cover for gas costs, which for drivers were not a meaningful cost-sharing approach.

High-level summary of small group discussions

The feedback below is a summary of the feedback shared across all small group discussions. See Attachment 1 for detailed summaries of the small group discussions.

The VFH industry's key needs for EV charging infrastructure include:

- **Provide easier access to more fast chargers (Level 3) in residential areas, commercial lots, on-street parking and City-owned lots (e.g. Green P)** and consider fast contactless charging pads at intersections or in common pick-up areas.
- **Fast access to chargers (charger availability) will be an indicator of the success of infrastructure planning,** particularly in the downtown area, where it is already difficult to find a parking spot.
- **Location of charging stations should be carefully considered for both base charging and on-the-go charging.** It is important for the City to leverage the data they have access to when identifying locations for charging stations (e.g. where is the concentration of trips, concentration of where VFH drivers live, etc.) and apply an equity lens to it.
  - **For base charging**, **it's important to install public charging stations in close proximity to VFH drivers' homes.** Equitable placement of chargers is also important – ensure that low-income areas are serviced at the same level as other areas in the city when it comes to installing charging stations. Suggestions for base charging include:
    - City to take a leadership role in retrofitting existing multi-unit residential buildings where many VFH drivers are. The City could also encourage condo boards and developers to install communal EV charging stations accessible for both building tenants and non-building tenants.
    - Install EV chargers within 300 metres of an EV driver's home, similar to the approach in Amsterdam.
    - Install EV chargers at City parking permit zones as it has already been assessed as a reasonable distance from someone's home.
    - Consider allowing installation of public EV chargers on the driveway of single-family homes.
  - **For on-the-go charging**, **there was a range of suggestions** shared, including:

- Consider how to align charging stations around the goals of TransformTO, which include walking, active transportation and using public transit for shorter trips. This means making charging stations available for long-haul trips and avoiding placing them in locations that are already transit dense.
- Make sure there are dedicated charging sites for VFH drivers, especially in the downtown core, to give them priority given the distances they travel.
- Consider the huge value and opportunity for building charging infrastructures in Green P parking lots.
- Consider creating EV charging hubs for many types of uses (including City use and VFH use) where some amount of demand is guaranteed.

Cost

- **Charging cost is an important consideration, especially when drivers have to pay parking costs in addition to charging costs.** Explore ways to consolidate these costs, particularly in Green P locations, to reduce operational costs to drivers.
- **Keep in mind the potential changes in electricity rates and identify different ways to keep the rates reasonable.** For example, through power-sharing options and energy management systems to make sure the burden on the electricity grid is controlled.

Implementation and timing

- **Make sure the City's different implementation timelines are aligned.** The City is targeting a net zero VFH industry by 2030, however, the EV charging infrastructure plan is targeted for completion by 2040. EV charging infrastructure is critical to achieving a net zero VFH industry and these targets need to be aligned.
- **Coordinate with different City divisions and plans to ensure that chargers are installed in locations that will not conflict with other City plans.** For example, don't install chargers in locations that may be redeveloped later on for a different City purpose to avoid wasting resources.
- **Once more charging stations are installed, explore ways to make it easier for VFH drivers to find a charging station and pay for charging.** To ensure charging is not burdensome, it's important to develop a national standard on how to use stations, how to access/find stations and use a similar method of payment for all stations.

Education and awareness

- **Consider changing the narrative about why the City is working to incentivize the electrification of fleets**. Instead of telling people that the City is mandating a switch to EVs by 2023, consider a new approach that focuses on the fact that manufacturers are working to make the switch to EVs and the City is looking at ways to support its citizens to making the switch as well, as EVs will be the only choice in the future.
- **It is important to develop and advance initiatives that bring awareness and education about zero emissions vehicles to the public**. Zero emissions vehicles are different from conventional vehicles, and there is a gap in public knowledge on how to use, maintain and plan for costs related to them.

Other

- **Consider that EV fleets will need specialized servicing facilities**, as the needs for maintenance, charging, and storing will be different and the way in which they are addressed could be different as well.
- **Consider a program where VFH drivers are incentivized to sell their EVs after a few years of service to the general public at a discounted price** to accelerate electrification among the general population.

Questions of clarification

- **Is the University of Toronto planning to present a study of the emissions impact of the sector?** *Project team response: Yes, we have been meeting with them over the last couple of months and have asked them to join the fifth meeting to set the table for those discussions by presenting their research.*

- **Does the City have the numbers of full-time and part-time PTC (Uber and Lyft) drivers that registered in the past 3 years?** It would be interesting to know if the trend is declining or increasing. Transparency of such numbers would help the City scale the magnitude and impact of the transition to EVs. *Project team response: The City only tracks the total number of registered PTC drivers, not the number of full-time and part-time PTC drivers. Please see the number of active drivers in the recent years in the following table:*

Category Name	2019	2020	2021	2022
Vehicle for Hire Drivers (Taxi or Limo)	11,973	9,049	7,156	6,641
PTC Drivers	87,982	53,328	46,078	44,942

ATTACHMENT 1 – Small Group Discussion Summaries

Listed below are detailed summaries from the small group discussions. Please note that the small group summaries are structured to reflect key points discussed in each breakout room, and as such, may vary from one another in structure. These summaries were subject to participant review before being finalized. The summaries are organized by the name of the facilitator.

Breakout Room 1 – Facilitated by Yulia

The experience of operating electric vehicles-for-hire to date has been positive. One participant reported that their experience operating an EV for hire has been very positive so far. The full charge for Ionic 5 in the summertime is about 520 km and 400 km in the winter. They shared that their typical shift was 12 hours and would take up on average 40-45% of fully charged battery, which includes driving, as well as hours waiting, hours stuck in traffic, etc. They also said that they usually charge their EVs once every 2 days.

Access to charging infrastructure will determine the success of "on-the-go" strategies. There are different ideas for the on-the-go EV charging that may be good in theory, but what will "make or break" them is how easily and how fast a VFH driver will be able to access them.

- For example, it is hard enough to find a parking spot downtown right now. With the assumption that the demand for EVs is only increasing and will continue to outweigh the charging supply, it might be challenging to ensure the availability of charging stations downtown for VFH drivers. Not having easy access to charging infrastructure makes it commercially not viable to drive an EV.
- The on-the-go EV charging rates need to be comparable to the residential rates. The rates at the existing commercial chargers, particularly for Level 3, are very high compared to residential.

Providing charging infrastructure in existing multi-unit buildings needs to be a priority. Many of VFH drivers are renters and access to overnight parking at a place of one's residence is key.

- The City should take a more proactive role in working together with the building owners to provide the required infrastructure.
- The charging infrastructure plan needs to be based on a clear understanding of where people live.

It's important to ensure the transition strategy recognizes different uses and different needs of different services. For example, limousines primarily do long trips, and as such, the mileage exceeds other VFH categories.

- During long distance trips (e.g to Milton, Waterloo, etc.) limousines need to be able to pull into fast chargers for a twenty-minute charge on way up and/or on a return trip.
- If there is no good access to chargers for longer trips by the time all VFH vehicles are required to be electric, there should be a consideration for "grandfathering" existing limousine vehicles to ensure commercial viability of the service.

The overall approach to supporting the transition of the VFH fleet to electrification needs to recognize financial precarity and high turn-over of VFH drivers.

- For example, according to Uber statistics, 50% of Uber drivers quit in the 1st month and 80% in the first year. In this context, buying an EV is a big investment and a big risk, as one may or may not continue with the job.

Ideas discussed:

- Consider that electric fleets will need specialized facilities that will provide a one-stop shop for charging, maintenance, and storage needs.
- Consider a program where a used VFH EV is sold to public at a discounted price to accelerate general electrification and help insure VFH EVs are updated often. Consider that EVs are built to last 8,000 charging cycles, which is equivalent to 25 years in VFH.
- Consider contactless charging pads at locations where a VFH driver has to stop and wait – e.g. in front of condos or restaurants, at the intersections, etc. This approach will also eliminate a reported problem of cord theft.

Breakout Room 2 – Facilitated by Khly

There were 5 categories of parking access discussed, including (1) parking in multi-unit residential building parking lot, (2) parking in Green P parking lots, (3) parking in privately-owned commercial parking lots, (4) on-street parking, and (5) parking at home in driveway. Feedback on the types of strategies to support charging for these categories of parking access, as well as other considerations are summarized below.

Several suggestions were shared for strategies to support charging in multi-unit residential building parking lots. Suggestions include:

- **Retrofit existing building parking lots within the technical constraints of the building's electrical supply** by installing EV chargers to ensure that VFH drivers who live in those buildings have access to EV charging.
- **Consider having shared amenities.** Typically, in many condo developments, a parking spot is dedicated to a particular tenant, and if installation of EV charger is needed, the charging spot is only allowed for the tenant that owns the spot. An alternative to this approach is to encourage condo boards to install a charging station for residents to use in a communal manner. This approach could ease the burden of electrifying at a smaller scale within a condo building.
- **Allow EV charger use beyond tenants of the building** since EV chargers may not be used for a big part of the day when VFH drivers are on-the-road. This strategy could also help make EV chargers more accessible and address the demand for EV chargers in an area. However, safety and security should be kept in mind.
- **Consider power-sharing options where multiple charging stations are hooked up to a single electrical circuit and energy is managed by systems that would ease the burden on the grid.** Energy management systems and service monitoring technologies could limit the charging burden on the electrical grid when the building's electrical load is at its highest and allow for charging to occur when the building's load is lower. Providing this option to condo boards and developers would make it easier to install EV chargers as it requires less infrastructure and would not need an additional investment to upgrade connection to the grid.

The geography of EV chargers is extremely important. The EV charging infrastructure needs to be aligned with where VFH drivers are, particularly where they live so they can charge for longer periods. This is especially important for those who live outside the downtown core and in multi-unit residential buildings and could help address equity concerns and reduce charging deserts. Suggestions for placement of EV chargers include:

- **Create a policy where public EV chargers are installed within 300 metres of the EV driver's home.** In Amsterdam, their policy is to have an EV charger within 300 metres of the driver's home. If someone purchased an EV and there's no EV charger within 300 metres of their home, they could file a notice of request with the City and the City will work with a

public charging provider and ensure that a public charger is installed within a 6-month window. This approach could be done on-street or in a Green P lot.

- **Install public EV chargers at City parking permit zones** since this area has already been assessed as a reasonable distance to somewhere a person would need to park close to their home.
- **Green P parking lots provide a huge value and opportunity for building the charging infrastructure.** However, a participant from Toronto Parking Authority (TPA) noted that there are big parts of the city that do not have Green P lots, so it would require them to look at all options, including City-owned and private properties, for charging opportunities because the TPA does not have portfolio that span across the city.
- **When selecting EV charging sites, look long-term and coordinate with other City departments to ensure that it does not run into conflict with other City goals.** For example, EV chargers are installed in a Green P lot, but a few years later City Council decides that the location is ideal to build dense housing. The installation of EV chargers years prior could then get in the way of building housing or the investment for EV chargers would go to waste.
- **Leverage the City's data on VFH industry in building the EV charging infrastructure.** The City has data from the VFH industry, particularly PTCs, on where, when, and how trips are taking a place. Use this data when identifying the placement of chargers.

The main barriers to EV charging are physical access (gated/restricted lots) and additional parking fees on top of paying for charging cost. Suggestions on how to address these include:

Related to cost

- **Explore policies that could help address the cost barrier to EV drivers while considering the impact to parking lot owners due to potential loss of revenue.** One suggestion for reducing the cost barrier to drivers is by bundling the parking fees with charging fees so drivers do not have to pay at two different machines and the cost of charging is not prohibitive to use, especially in a more high-value location like downtown.
- **Bill by kilowatt per hour**. This would make a clear distinction between time and parking charge.
- **Consider creating EV charging hubs for many types of uses (including City use and VFH use) where some amount of demand is guaranteed.** This could reduce the investment risk from a private investor and would provide an opportunity for fast charging in the downtown core as it would be able to avert the impact of demand chargers due to guaranteeing a strong utilization. This approach could keep the cost of charging down for VFH drivers and would provide fast charging where it is most valuable.

Related to physical access

- **Work with PTCs to explore how to ensure that new VFH drivers with PTCs have access to charging.** A working group member representing Uber said that they are working on showing on their app where the nearest charging location is.
- **Create dedicated charging stations for the VFH industry** given the kilometers they travel and how much they will be inconvenienced when they cannot easily access EV chargers. Consider doing a pilot program to test how much these dedicated charging stations will be used.
- **Consider allowing installation of public EV chargers on the driveway of single-family homes.** This approach could also serve as a secondary income for homeowners with a driveway.

Reach out to VFH drivers in ways that work best for them. When the City reaches out to the VFH industry to get their insights on the EV charging infrastructure plan, the City needs to make sure that the approaches are tailored towards the industry, particularly the drivers. Suggestions

include making it accessible and easy to share real-time feedback, go to where drivers are, and avoiding full day workshops in person. A participant also flagged that many in the taxi industry believe that their issues do not matter to the City so they may not be interested in participating.

Breakout Room 3 – Facilitated by Stephanie

Infrastructure

Once more charging stations are installed, consider the ease of use for VFH drivers in finding a station and paying for the charge. To ensure charging is not burdensome, it's important to develop a national standard on how to use stations, how to access/find stations and use a similar method of payment for all stations. This can be done by having one app that gives drivers access and knowledge to charging locations. It can also include charging station availability to let people know how many spots are available. The same can be done with home charging stations, so that others can use these stations when owners aren't using them.

Consider different electricity meters for at home charging stations. Metering home electricity vs car charging stations separately may help encourage others to share their curb car charging stations with others if they can separate the cost.

One participant said that EV charging station discussions are premature, as the discussion should be focused on infrastructure to support EVs. They had questions like, will electric vehicle for hire cars and businesses be able to be insured? How much will maintenance and repairs of EV cost drivers? Battery replacement alone can cost up to twenty thousand, which is a lot for any driver trying to make a living.

There should be priority in supporting VFH drivers to charge their cars at home, while public charging is used for top-ups and on the go. The city can use location data to get a sense of where VFH drivers are living to target those locations for home charging stations, especially by targeting multi-unit residential buildings in those areas.

Explore how to leverage public space for charging stations. Consider dialogue with Toronto Parking Authority to give VFH drivers preferential access, such as paying one fee for parking and charging.

Participants had questions and a discussion on what the procedure and polices are for car charging stations in buildings, both old buildings that need to be rewired and new buildings being constructed. If an older building needs to be rewired to support EV charging, is the city or the building owner footing the bill? What are the policies for new buildings and multi-dwelling units and the amount of EV charging they're required to include? Are existing building standards (beyond new construction) requiring property owners to invest in EV charging? One participant responded to these questions by saying that the city has EV ready requirements for new builds that 100% of parking spots need to be EV ready. It doesn't mean they need to have a charger there, but they should have the wiring and set up to install a charger if needed, which ends up being inexpensive. Another participant said that in other cities, they have found that wiring parking stations while the building is under construction is much less expensive then retrofitting old buildings to install new wiring. Other provinces are providing the funds for retrofitting old buildings for EV charging, so if the city had a plan on where they'd like to add EV charging, it may help move along the process if Ontario provides funding. The city can also apply to a third party funding program through federal government funding called, Zero Emission Vehicle Infrastructure Program (ZEVIP) where majority of funding is going to condos and rental units that covers half the cost of installation, as an incentive program.

Cost and funding

Consider how the city can leverage funding from both the federal and provincial government to help with EV rebates and look into different city and province EV programs for examples to follow. Cities like Vancouver have new policies requiring gas stations to install chargers and are investing in infrastructure to make homes ready for EV charging. Other provinces are providing funding for EV stations.

It is important to understand the business case model for private EV charging stations, especially if charging an EV is inexpensive and affordable for drivers. Some participants question whether charging stations will be profitable, and whether that would affect the cost to charge an EV for drivers. To help with this, it is important to find highly utilized places for EV parking, and pair it with other business offerings to increase profitability. Another consideration is that the city has public ownership of these EV stations to control the price and ensure it remains reasonable.

ATTACHMENT 2 – Meeting Agenda

Vehicle-for-Hire Net Zero Working Group

Working Group Meeting 4
Tuesday, January 17, 2022, 11:00 am – 1:00 pm

Join the working group meeting VIA ZOOM or participate by phone: dial 647-558-0588
Meeting ID: 823 9405 1875 (a participant ID is not required)

Meeting Goals:

- To understand the VFH industry's needs for base charging and on-the-go EV charging.
- To identify and prioritize opportunities for overcoming the identified challenges (e.g. access to affordable charging infrastructure, key locations for charger installation).

PROPOSED AGENDA

11:00 am **Land Acknowledgement, Opening Remarks and Agenda Review**
Third Party Public and City of Toronto

11:05 **What We Heard from Meeting 3**
Third Party Public

11:15 **Presentation - City of Toronto's Public Electric Vehicle Charging Plan**
Deborah Herbert, Environment and Climate Division, City of Toronto and Edward Stubbing, AECOM
Questions of clarification

11:35 **Breakout Room Discussion – Supporting VFH Drivers' Access to EV Charging**

Using the Parking Scenario Worksheet as a prompt, consider the following:

1. Drivers have different levels of access to parking and EV charging near their homes (may park in multi-unit residential building, in private driveways, or on-street). What other types of solutions can support access to **base charging** for different drivers?
2. What supports or regulations are needed so that EV charging infrastructure meets the **on-the-go** needs of the VFH industry?
3. Considering a typical workday, where would you need or like to see public EV charging? Are there nearby amenities that you would prefer?
4. Which supports and regulations should be prioritized?

12: 35 **Plenary Discussion**

- What other supports could help address the charging needs of EV VFH drivers?
- Do you have any additional comments, questions and/or recommendations for the City?

12:55 **Wrap-Up and Next Steps**
Next meeting date and written feedback deadline

1:00 pm **Adjourn**

ATTACHMENT 3 – Parking Scenario Worksheet

January 2023

Parking Scenario Worksheet for Vehicle-for-Hire Net Zero Working Group:
Strategies to support access to Base and On-the-Go EV charging, considering VFH drivers' differing access to parking

The purpose of this worksheet is to help brainstorm ideas, advice, suggestions, questions and/or concerns on strategies to support base and on-the-go EV charging for each category of parking access.
Review the categories of parking access in the first column and use the space provided to note your ideas, questions, or concerns.
Please think about the specific needs of the vehicle-for-hire industry when considering strategies.

Definitions:

- **Base EV charging** – a primary location for charging, for example charging overnight or for several hours between shifts. Either Level 2 or Level 3 charging.
- **On-the-Go EV charging** – a location for top-up charging, for example charging while taking a break. Either Level 2 or Level 3 charging.

Category of Parking Access	Strategies to Support Access to Base EV Charging with this Category of Parking	Strategies to Support Access to On-the-Go EV Charging with this Category of Parking	Questions and Concerns
1. Parking in multi-unit residential building parking lot (e.g., apartment building or condominium building parking lot).	•	•	•
2. Parking at home in garage or driveway.	•	•	•
3. On-street parking.	•	•	•

1

Category of Parking Access	Strategies to Support Access to Base EV Charging with this Category of Parking	Strategies to Support Access to On-the-Go EV Charging with this Category of Parking	Questions and Concerns
4. Parking in Green P municipal parking lots.	•	•	•
5. Parking in privately-owned commercial parking lots (e.g., grocery store or mall parking lot or paid parking lot).	•	•	•
6. Vehicle is parked in VFH company parking lot when not in use.	•	•	•
7. Vehicle-for-hire is rarely parked (e.g., vehicle is shared by multiple drivers and operates 24/7).	•	•	•

2

Category of Parking Access	Strategies to Support Access to Base EV Charging with this Category of Parking	Strategies to Support Access to On-the-Go EV Charging with this Category of Parking	Questions and Concerns
Other (please describe)	•	•	•

ATTACHMENT 4 – Participant List

The 36 people who attended the meeting are identified **in bold** below, including 20 Working Group members, 7 City staff, 2 representatives from The Atmospheric Fund, 2 representatives from Toronto Parking Authority, 1 representative from AECOM, and 4 facilitation team staff. Members whose names are not in bold did not attend the meeting.

Role	Organization	Name
Working Group Members	A4U Taxi	**Behrouz Hadjnourollah**
	Chargepoint	**Mike Frisina**
	Co-op Cabs	**Gurjeet Dhillon** (Alternate)
	Dunsky	**Lindsay Wiginton**
	Global Alliance Worldwide Chauffeured Services Ltd	**Joe Ironi**
	Hertz	**Steve Shur**
	Louelec	**Léo Bouisson**
	Lyft	Jon Walker
	Pembina Institute	**Sarah McBain** (Alternate)
	Plug'n Drive	Cara Clairman
	PTC Driver	**Esther Fofana**
	PTC Driver	**Nick Voronka**
	PTC Driver	**Patrick Perlas**
	PTC Driver	**Wayne Edward**
	RideFair	**JJ Fueser** (Alternate)
	Sustainability Leadership & pointA	**Rafiq Dhanji**
	Taxicab Operator	Mohammad Reza Hosseinioun
	Taxicab Owner	**Ahsan Mirza**
	Taxicab Owner	Yohannis Gebeyehu
	Taxicab Owner and Operator	**Majeed Shidfar**
	Toronto Hydro	**Marc Simmons**
	Toronto Region Board of Trade	**Craig Ruttan**
	Uber Canada	**Jake Brockman**
	Universal Motion	**Marco Ferrara**
	Viggo	Kenneth Herschel
	Zipcar	Will Sowers
Convenors	City of Toronto – Municipal Licensing & Standards Division	**Fiona Chapman, Tobiah Abramson, Marcia Stoltz, Marion Davies, Edwin Chee**
	City of Toronto – Environment & Climate Division	**Deborah Herbert and Nina Popova**
	The Atmospheric Fund	**Ian Klesmer and Samia Anwer**
	Toronto Parking Authority	**Darcy Watt and Philip Safos**
Presenter	AECOM	**Edward Stubbing**
Facilitation Team	Third Party Public	**Yulia Park, Khly Lamparero, Stephanie Quezada and Jacky Li**

ATTACHMENT 5 – Presentation

Public EV Charging Plan

Presentation to Vehicle-for-Hire Net Zero Working Group
January 17, 2023

TORONTO Call 3-1-1 Live green Toronto

Public EV Charging Plan

- Comprehensive plan to guide provision of publicly-accessible EV charging in Toronto to 2040
- Scope:
  1) Needs assessment
  2) Site identification
  3) Options and considerations.
- Builds on current public charging deployment & planning
- Timeline: August 2022 – September 2023

Project lead: TORONTO Environment & Climate
Consultant: AECOM
Steering Committee: TORONTO City Planning, Fleet Services, Transportation Services; TAF; Toronto Parking Authority; Toronto Hydro; TTC

TORONTO Call 3-1-1 Live green Toronto

Suggestions heard to date re: EV charging infrastructure

January 2023

Overall

- **Charging infrastructure is key to electrifying the VFH fleet.**
- **Need for fast and more chargers.**
- **Desire to see supports and regulations that would bring certainty to potential unpredictability in charging costs.**

Suggestions related to Base Charging

- **Explore opportunities to install charging stations in existing buildings, in addition to requiring them in new buildings.**
- **Provide incentives for installing EV chargers in multi-residential units and residential on-street parking.** Examples include:
  - Multi-residential unit owners can apply for grants to install Level 2 chargers
  - Incentivize homeowners to provide power to the curb

Suggestions heard to date re: EV charging infrastructure

January 2023

Suggestions related to On-the-Go Charging

Access

- **Priority access to Level 3 chargers specifically for VFH drivers.**
- **Ensure there is an appropriate ratio of fast chargers to vehicles.**
- **Provide supports for easier access to chargers at privately-owned commercial parking lots,** including free access to paid parking lots with fast chargers (VFH EVs are identified with special sticker).
- **Provide access to fast chargers at City-owned facilities.**

Cost

- **Charging rate needs to be the same.** Rate charged in non-residential charging stations should be the same as the rate charged by OPG in residential charging stations.
- **Explore ways to make charging more economical.** Consider:
  - Reduced charging fees for VFH drivers
  - Free charging to the VFH fleet

Placement

- **Install Level 3 chargers in locations where drivers can take a break.**
- **Develop mobility hubs**, not just stand-alone charging stations.
- **Consider wireless charging pads at major intersections** (EVs get charged while waiting at a traffic light).

Other

- Investment in the power grid is needed to ensure it meets the industry needs.
- Consider what would happen in case of electricity blackouts (e.g., due to ice storm)

Public EV Charging Plan

TORONTO Call 3-1-1 Live green Toronto

Public EV Charging Plan – Part 1: Needs assessment

Objective:

- Assess where, when, how much, and what kind of public charging will be needed to support the City's goals for EV uptake.
  - Based on analysis of the factors that drive demand for public EV charging
  - Take into account current and likely future home and workplace EV charging infrastructure
  - Consider opportunities to improve equity and to support community development

Approach:

- Develop geographically-specific projections of demand for public EV charging by analyzing spatial data (using AECOM's EV-Readi model)
- Develop projections for different time-steps: 2025, 2030, 2035, 2040
- Develop projections at the ward/neighbourhood level

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Public EV Charging Plan – Part 2: Site identification

Objective:

- Identify and prioritize potential sites where public EV charging might be provided to meet the needs identified in Part 1.
  - Consider current and expected future on-street and off-street parking locations, the use of that parking during the day and overnight, proximity to public EV charging users, electrical access, equity considerations, and other relevant factors.
  - Priorities will be set based on expected public EV charging demand as well as equity, technical, cost, and other considerations.

Approach:

- Analyze spatial data to identify potential sites.
- Assemble and analyze information about potential sites as needed for prioritization

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Public EV Charging Plan – Part 3: Options & considerations

Objective:

- Explore potential options for investing in and operating public charging + technical, financial, policy, and equity considerations.
  - Given the likely size and cost of the public EV charging network, it is important to understand the different opportunities and options for investment in, and operation of, this network.
  - Identify and analyze potential options, including the pros, cons, considerations, and role of the City in each as well as any policy or legislative changes that would be needed at various government levels.
  - This will help the City to understand how it can best support public charging deployment.
  - Also identify and discuss important technical, financial, equity, and other considerations for the planning and provision of publicly-accessible EV charging infrastructure.

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Public EV Charging Plan – development process
Phase 1: Project initiation
Phase 2: Desktop research
Phase 3: GIS data analysis
Phase 4: Stakeholder engagement
Phase 5: Consultation materials
Phase 6: Public + stakeholder engagement
Review maps + findings
In-person + online
Phase 7: Draft plan
Phase 8: Final plan
Q4 2022 – Q1 2023
Q2 2023
Q3 – Q4 2023
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Public EV Charging Plan – engagement
Phase 4 – Stakeholder Engagement
Fall 2022 / Winter 2023
Purpose: to introduce the Plan and gather input to inform the Plan development
Who:
Internal Stakeholders
City of Toronto divisions, agencies and corporations
External Stakeholders
GTHA Municipalities
Government Agencies
Automotive Industry
EV Charging Companies
EV Users (Fleets) – Car Share, Delivery, Vehicles-for-Hire
Publicly Accessible Locations/ Organizations – School Boards, Gas Stations, Universities Colleges, Parking Lots, Hospitals)
Property Owners and Developers
NGOs – Environmental, Transportation, Economic Development and Community Equity
Phases 5/6 – Stakeholder and Public Engagement
Winter/ Spring 2023
Purpose: to present and gather feedback on the Preliminary Findings Report and Ward maps
Who:
Internal Stakeholders (Phase 5)
City of Toronto divisions, agencies and corporations - prior to public engagement
External Stakeholders (Phase 6)
External Stakeholders from Phase 4
Public (Phase 6)
Elected Officials
BIAs
Community Interest Groups
Resident/ Condo Associations
Academics
Current and Future Car Owners
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Upcoming VFH Stakeholder Virtual Workshop
When: Friday, February 3 @ 10:00 am – 12:00 pm
Purpose: to introduce the Plan and hear from members of the vehicle-for-hire industry about their needs for public EV charging in Toronto
Who: VFH Net Zero Working Group members (who are able to attend) + other VFH industry stakeholders
Sample Discussion Questions:
What do you anticipate will be the VFH industry needs for public EV charging?
What are the ideal locations for public EV charging in Toronto?
What are the barriers for transitioning to EVs, especially with reference to charging access?
Considering a typical workday, where would you need or like to see public EV charging? Are there nearby amenities that you would prefer?
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Q&A
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ATTACHMENT 6 – Post-meeting submissions

Participants were encouraged to share additional feedback after the meeting. The facilitation team received three post-meeting submissions and one comment following the review of the draft summary which have been included below. Note that the feedback was not edited, except for minor formatting.

Emailed feedback 1 (received January 19, 2023, with follow-up clarification sent on February 2 and February 3)

Just curious, was it ever raised that during "charging time" that VFH drivers would be 'offline' from Ridesharing apps? The personal insurance of VFH car owners would then take effect, and the drivers could be charging in between shifts -should anything happen while an EV is charging, are claims "while charging" to be filed with private insurance or would Uber/Lyft offer something by stepping in?

Claims with personal insurance would raise one's policy/monthly rate, as you would know.. And this affects overall income.

We're on our 4th meeting, expecting the 5th in about a month's time.. I still have yet to understand the numbers that Uber and Lyft have: how many drivers do they have registered in the past 3 years? What is the trend (declining, increasing)? They can supply everyone with these numbers, including the log time, location, type of cars, etc. There is a need for transparency with these numbers so we (you) can scale the magnitude and impact of the transition to EVs..

It's as if everyone does not see it, but Uber and Lyft need to step up their game -during last year's peak gas price (about $2/liter) Uber (unsure with Lyft) gave drivers a 50-cents per ride incentive (regardless of the distance of the trip) to "help cover for gas costs" -if this doesn't make sense, it's because it doesn't. If Uber and Lyft are willing to participate in our goal of Net Zero by 2030, they must invest in giving something back to drivers -that, or Toronto will have a transportation crisis in the future.

(Also, the numbers will identify full/part time drivers.. It would be a gamble for a full time VFH driver to buy a $70,000 EV car with a warranty of 2-3 years.. no option to get it fixed elsewhere except the dealership.. and we all know what dealerships do.. just throwing this in again.)

I hope you can get them to give "the numbers" to us.

Follow-up clarification:

I'll comment for each bullet to clarify:
1st: downtime while charging should not be solely out of the driver's personal insurance (for coverage) when charging because drivers can get long trips and when doing shifts (in between, as the cause and purpose for car travel is for rideshare companies) should anything happen while charging (currently labelled as being "offline" -in which Uber/Lyft insurance stops to take effect) driver's personal insurance will be filing the claim which would increase driver's insurance rate.

Uber and Lyft have these numbers (how many hours online per account/license plate within the gta) these numbers should be shared with us to determine trends associated with ridesharing. -

if drivers are quitting/increasing with Uber/Lyft, then the impact and strategies being planned (by us) should be shifted accordingly! We need transparency in our discussions.
2nd bullet, I'd modify to "suggested by us" rather than "planned by us" -lol.. I trust you can phrase it better! Hope am not too late! Cheers!

Bullet 3 is just one example how inadequate the support is from the multi million dollar company. when the Uber ceo earns an average of USD $20 million a year, Canadian Uber drivers are on their own when it comes to long distance pick up, (unpaid in Canada, paid for USA Uber drivers) and getting promotions and/or surges that are unlikely to be achieved. They had stopped compliments from coming in from passengers, but will never fail to get a complaint from customers who lie about their experience (ride) and deactivation has been a concern for us, especially when we have to get a CAD$ 70,000 car!
With bullet 3, Uber and Lyft simply have to be generous to their "frontline" workers.

Bullet 4 can be easily read as.. EV drivers will have no warranty on their cars after a few years of ownership. how will this be beneficial if the costs for maintaining the EV will be out of pocket? Go by the average driver registered to rideshare (kms/year) and factor in mileage warranty... how then will it be good for EV drivers to spend for an expensive car through a loan, and add maintenance costs while still paying for the car.

Google searches are readily available with testimonials from EV owners.

Emailed feedback 2 (received January 21, 2023)

I feel prompted to write how I feel about all of this as it affects the reality I know and live.
I'm the longest standing female driver in the GTA, I'm the Uber Queen. I worked hard in 2014 to 2016 to have Uber regulated, because I felt and still feel that it's an evolution that had to happen.
I have had more than 30000 people in my cars driven over 600000 Uber KM I. This city.
I maintain a high rating, have had no accidents, I drive people safely.
I'm someone who welcomes and adjusts change , so my comments should not be taken , that I'm adverse to EV's being on the horizon .
I am writing to let you hear and feel my opinions on all of this.
First , most Uber drivers drive PT, basically to subsidize life expenses. Actually covering the basics . Food and housing, not designer bags or trips around the world.
To drive , I must absorb a car payment of over 600 dollars, insurance costs and mine is cheap of 176 per month, car maintenance , like oil changes and repairs (min 5000 per year)
And fuel, I realize the verbiage is that I'll save a lot of money , however a vehicle that costs me twice as much to buy eliminates the savings to electric.
I also work on a platform that , with a click of a button can deactivate me with no way for me to fight it. Most often because someone eats a free ride!! You should listen to our horror stories!
So if I buy a car that costs 65000 dollars, I'm. It a 100000 per year earner, and I lose my right to drive I'm in a bankruptcy situation.
I love my Uber life, I love serving the people of TO, however there are so many things constantly eroding my joy!!
I am a widow, I need the few hundred dollars a month I make to living, I'm 67 , and I really feel that the City kind of picks on the most vulnerable and less fortunate. I recently had to be retrained because otherwise I could not drive in TO.
I have over 45 safe driving in my personal driving record, I have over 8 years safe driving on the PTC license or Uber platform. It cost me clise to 1000 dollars to take a mandatory defensive driving course, 282.00 to AMB, two days off to have a 5 hour Zoom class and another day to do a driving course. All this when I am more qualified than those teaching or testing me simply based on my experience.

I know life is not fair but I think sometimes a story like mine needs to be told because unless my story is told many assumptions and opinions are made that really do more harm than help.
I feel badly for the even less fortunate than me that do Rideshare or are Cabbiies that are trying to feed their families.
Out of the millions of drivers in TO maybe the approach should be to capture those who actually can afford EV's . Give them incentives to spend their money wisely, they can be the Jetsons and move the world forward , because the poor or less fortunate are in survival mode.
I do want to say I'm enjoying being part of this group, even though to scares me to death, knowing that I may not be able to afford 2030!!

Thank you for listening

Emailed feedback 3 (received January 24, 2023)
See the next two-pages for the full unedited letter from RideFair.

Emailed feedback 4 (received April 14, 2023)
RideFair shared the following comments following the review of the draft summary.

Meeting 4 comments:

Again, we appreciate the acknowledgement of the precarity of PTC and taxi drivers. We note that incomes for both groups has dropped compared to 2013 (as evidenced by a study of the taxi industry commissioned by the city), prior to the City's decision to legalize Uber's business model, when drivers tended to work full-time and stay in the industry for many years (see attached). You accurately portray the challenge of asking VfH drivers to invest in EVs, particularly in the early stages of vehicle electrification in Ontario, and underscore the need to plan the electrification project in tandem with reforms to the VfH system that could address many sources of extreme precarity.

The challenges of offering charging access where drivers live, particularly in multi-residential areas, are considerable, particularly given high levels of turnover. Over the past several sessions, we've seen evidence that the economics of electrification work far better for full-time/frequent drivers, suggesting that measures supporting the ability of drivers to work long-term and full time in the industry could help electrification. The more precarious these jobs are, the more likely VfH drivers are to wait until the relative cost differential of ZEVs diminishes and infrastructure matures before making investments.

Additional points:
ZEV fleet operations that offer charging services may become an interim solution for both PTC and VfH drivers without access to private overnight charging. The City should consider how this might impact the economics of VfH drivers and what licensing/supports might be needed for fleet operations, against the backdrop of a move to sustainable modes of transportation.
We have been silent on the potential role for PTC companies (Uber/Lyft) to support ZEV operations, but they could potentially also help fill an important gap, by providing affordable charging services/hubs to their drivers, to minimize the need for public subsidies on city-owned Green P lots. Private ride-hailing platforms already use public road infrastructure at no cost, and we should be mindful of how best to use scarce public resources when electrifying the transportation sector. The City is attempting to electrify its own fleet, and public facilities should by right support these operations.
Finally, right-sizing the VfH fleet in the context of TransformTO goals will moderate the scale and pace of charging stations needed.

To: Vehicle-for-Hire Net Zero Working Group Facilitation Team

From: RideFair

RE: Additional comments re: Meeting #4

Date: January 24, 2023

Thank you for the opportunity to provide additional thoughts regarding Meeting #4. It was a packed agenda, and it was essential to hear from industry participants what pieces they needed in place to operate in a low-carbon economy. We did want to share with you our thoughts about how planning changing infrastructure relates to the broader TransformTO project and equity outcomes in particular.

1. Follow-ups from Meeting 3. In Meeting #3, several taxi industry participants proposed a proposal asking for the immediate reinstatement of a previous city emissions bylaw for the VfH industry (updated as necessary).

   This is a concrete proposal that, to our knowledge, does not fall under the purview of any other TransformTO initiative and deserves staff research and a facilitated discussion by our Working Group stakeholders. The Toronto Atmospheric Fund found that the bylaw, though in place for only five years, achieved a significant reduction in emissions from taxis compared to private vehicles.

   In Meeting #4, we heard concerns from industry participants about being required to electrify "before all the pieces were in place," from available and affordable cars to charging infrastructure to parts and repair facilities. Backstopping electrification strategies by reinstating the City's earlier emissions bylaw can ensure immediate progress on emissions reduction.

   We want to be clear that we are suggesting a "both…and" strategy here, not an alternative to swift action on electrification. These strategies work well together. If fleet-level emissions standards are developed in addition to restoring the emissions bylaw (which would apply to any given vehicle used to provide VfH services) they could be adjusted periodically to reflect City electrification goals and timelines. **Exploring such a standard would be an appropriate and valuable topic for the Working Group to consider at one of its meetings.**

2. Presentation by Deborah Herbert re: Toronto's Public EV Charging Plan
   The Working Group has effectively had an opportunity to comment on planned/in-progress work by the City exploring how it can offer, require, or incentivize EV charging and where these stations should be located to support the VfH industry. We have not had an opportunity to look at a completed work product. Revisiting the completed work would allow this group to provide further valuable input to staff working on recommendations to reduce emissions from the industry. **We recommend reconvening the Working Group to comment on a final draft of this vital work.**

   Comments on the early work:

a) Aligning public EV charging plan with TransformTO goals: As we mentioned during the meeting, the EV charging strategy should prioritize the electrification of the highest-emitting VfH trips (long trips to/from inner/outer suburbs towards the centre) and avoid facilitating transit-to-car mode shifts (i.e., in transit-rich downtown).
b) The public EV charging plan MUST be developed in concert with work to optimize fleet size and operation. Work on fleet optimization (and related by-law updates) will directly impact the optimal scale and location of public EV charging for the VfH industry. The development of potentially dedicated charging stations near transportation hubs must be carefully evaluated to ensure transit-to-car mode shifts are not enabled. Charging stations could effectively be combined with strategies to reduce deadheading/empty cruising in strategically located VfH stops (again, with careful thought being given to location and quantity).

3. Equity considerations

We have heard in this and previous meetings evidence that a VfH industry that can support a higher proportion of full-time drivers with reliable earnings will be easier to electrify. In earlier discussions, we learned that full-time drivers would realize the operational economies of operating EVs much more quickly; last meeting, we heard from PTC drivers that EVs are a high-risk investment as long as employment remains precarious. During this meeting, we heard from a PTC driver that this industry segment still suffers from high turnover rates, making it difficult to determine how to support home charging for these drivers.

Currently, the VfH industry is regulated in ways that suppress all driver incomes, arguably contributing to a pattern of high turnover. As the City begins to address these issues, it will be essential to note how a more economically stable industry could support decarbonization.

4. Next steps

The Working Group has had an opportunity to provide meaningful comments on several issues impacting the electrification of the industry. Still, it has yet to have the chance to delve into other strategies to decarbonize the sector in any detail. In some cases, the initial research required to discuss different impactful strategies (emissions standards, mode shifts, broader VfH regulations) is still in progress. These strategies, however, could significantly impact how the VfH electrification project should be rolled out and could affect the likelihood of its success. We strongly suggest that the Working Group remain “seized” and regroup when and as information on additional emission reduction strategies becomes available to fulfill Council’s mandate properly. In the meantime, Working Group recommendations should be qualified, noting that other impactful strategies are still being explored (and naming them where appropriate), and noting where the scale, cost and pace of electrification could be affected by other regulatory action.

City of Toronto Municipal Licensing & Standards

Vehicle-for-Hire Net Zero Working Group Meeting 5 Summary

Tuesday, February 21, 2023, 11:00 am 1:00 pm
Via Zoom

OVERVIEW

On Tuesday, February 21, 2023, the City of Toronto's Municipal Licensing and Standards Division (MLS) hosted the fifth and final Vehicle-for-Hire Net Zero Working Group meeting with support from the City of Toronto's Environment and Climate Division (E&C), The Atmospheric Fund (TAF), University of Toronto and Third Party Public (the independent facilitation team retained by MLS to support this process). Twenty of the twenty-six working group members attended the meeting.

The purpose of the fifth working group meeting was two-fold:

- to share and discuss results from the vehicle-for-hire emissions calculations and modelling work undertaken by the University of Toronto; and
- to review key feedback from the working group and share and seek feedback on draft potential approaches being developed by the City of Toronto based on feedback heard to date, to support the vehicle-for-hire industry in reaching net zero emissions by 2030.

The presentation was followed by time for questions of clarification, and smaller group discussions in three breakout rooms. Participants discussed the following questions to provide feedback on the proposed approaches:

1. What do you like about the draft potential approaches? Do you have any concerns and/or suggestions?
2. Is there anything missing from the draft potential approaches?
3. How would you like to stay informed?

Note the following attachments:

Attachment 1. Small-group discussion summaries
Attachment 2. Meeting agenda
Attachment 3. Participant list
Attachment 4. Presentation
Attachment 5. Post-meeting submissions

Third Party Public facilitated the meeting and wrote this summary. A draft of this summary was subject to participant review before being finalized.

As facilitators that are not advocating for any particular outcome of this working group, Third Party Public's intent with this summary is to capture the perspectives shared during the discussion, not to assess the merit or accuracy of these perspectives. This summary does not indicate an endorsement of any of these perspectives on the part of the City of Toronto. It is also not a verbatim transcript, but a summary of comments and advice shared at and after the meeting.

KEY MESSAGES

The points below provide a quick overview of discussion themes and the general sentiment of the feedback shared. These points should be read along with more detailed feedback shared on page 3 of this document.

- **General support for the City of Toronto's proposed approaches.** Generally, participants said the approaches made sense within the framework of the discussions of this working group. Some participants noted that they were happy to see their feedback integrated through the approaches.

- **Lack of clarity around the purpose of the UofT study and the assumptions it is based on.** There were several questions of clarification regarding the assumptions used in the modelling presented by UofT, including the average kilometers travelled, cost of electric vehicles, level of charging infrastructure and rideshare pooling. Participants shared that the information presented did not reflect their professional experiences. As a result, there was concern about the impact of this model informing policy and the decision-making process.

- **Prioritize the broader equity lens that is centred on the VFH drivers.** Consider regulations that would allow drivers to earn living in a sustainable way, support the transition period, and afford investments into electric vehicles.

- **Continue exploring supports that address the barriers to owning and operating electric vehicles.**

- **Consider re-framing the City's role in supporting the market transition to electrification as opposed to regulating the change.** The market is already heading in the direction of transitioning to electric vehicles. The City should focus not on mandating this transition but on supporting the transition by providing infrastructure and other supports.

- **Advocate to various levels of government on behalf of the vehicle-for-hire industry to address key challenges that are out of the City's scope.** Insurance is a major concern for the industry and a potential barrier for operators. Although auto insurance is not the jurisdiction of the province, the City can advocate for it on behalf of the industry to support insuring electric vehicles.

- **Continue to provide better education on what is available to support electrification.** Participants are concerned about the transition to electric vehicles, due to uncertainty around range and battery replacement. Consider an educational pilot project with electric vehicles to get and share the EV use data and explore options for battery replacement.

- **Consider an additional meeting or sub-group of this working group to discuss other strategies for reducing emissions** between now and 2030. The City of Toronto can leverage an additional meeting to explore other approaches to reduce emissions within the City's control, such as addressing issues of deadheading.

OPENING REMARKS

Following the land acknowledgement provided by Third Party Public, the City of Toronto commenced the meeting by sharing the following opening remarks:

- Welcome to the fifth and final meeting. The City of Toronto is thankful to everyone for participating in this group.
- We have a great group that has provided a lot of feedback on key topics related to the goal of net zero emissions by 2030 and fleet electrification for the vehicle-for-hire industry.
- Our team has used the feedback and comments received from this group to develop some proposed approaches that we would like to share with you today for your consideration. This feedback will help us get a better understanding of how we work together to really achieve this goal of net zero emissions and the electrification of the industry.
- To kick off the last session, we got a great team from the University of Toronto that is working with the City to delve into the data to understand the current state of emissions in the industry and identify possible benefits that could come with reducing emissions. They are looking at the cost of vehicles, placement of charging infrastructure, and other considerations to support the electrification and the emissions reduction of the vehicle-for-hire industry.
- Following the UofT presentation, the City project team will give a presentation on the proposed approaches **to help get to net zero emissions for the vehicle-for-hire industry.**

FEEDBACK SUMMARY

This section reflects the summary of feedback shared by working group members during the meeting, as well as the feedback submitted after the meeting. It is organized by feedback shared in plenary, followed by feedback shared in the breakout rooms, and questions of clarification. Response provided by the project team or the meeting presenter, where available, are in *italics.*

Plenary feedback

General feedback

- **Appreciation for the presentation and process.** Thank you for organizing the meeting and presenting the information.

- **Start reducing emissions now.** The City of Toronto previously had regulations around reducing emissions. Let's not wait to implement these goals to start reducing emissions. Look at hybrid vehicles and research how to support the industry for the next 20 years.

Feedback regarding UofT Study

- **Clarify assumptions that the model is based on.** Policy is driven by research studies like this one, and it is important that all factors and assumptions made by the study are transparent and clear. There were a couple of examples where participants noted that their experiences did not align with the presented data or assumptions, including deadheading times, pooling preferences, the cost of electric vehicles, and the average kilometers travelled, charging at night only. It was noted that when drivers do not see their experiences reflected it seems that that the data is being used to push a particular narrative rather than to incorporate many different experiences.

Feedback regarding proposed approaches

- **There should not be any subsidies to the for-profit industry as means of improving the livelihood of operators.** Rethink the approach to offer incentives to for-profit industries. They should not be receiving subsidies from taxpayers. Incentives for-profit industries is not how we want to reach our targets for TransformTO. We are not going to achieve TransformTO plan by subsidizing the least efficient mode of transportation while making cuts to public transit services. A more reasonable goal is to make the industry economically sustainable for operators, which includes decent and stable incomes. If operators can afford to live in our city, and they can also afford to invest in the right vehicles and provide the best possible service to the public.

- **Consider higher power chargers.** It will be useful to start considering the high fast charger options now for operators.

- **Consider opportunities for accelerating private ownership of electric vehicles**. Consider a program where VFH drivers can sell their used electric vehicles at a discounted price to the general population to accelerate the general use of EVs.

Feedback regarding process

- **Consider a pilot project to get sample data for electric vehicles**. Consider launching a 6-month pilot project with operators using electric vehicles to get a clear sample and picture of the data.

- **Advocate for the vehicle-for-hire industry.** There are certain things that are outside the jurisdiction of the City but have impacts on the industry. The City of Toronto can advocate on behalf of the vehicle-for-hire industry to other levels of government to make the industry more sustainable.

Other advice

- **Regulate industry to ensure operators make a decent living.** The taxi industry is regulated by the City of Toronto to ensure that the operators make a good living. Uber operators have not had that opportunity and earn even less money. Consider implement regulations to allow drivers to make money and continue to work for Uber and Lyft and enjoy the flexibility offered by these companies.

- **Consider building demand for ride pooling.** Going forward, the City could consider ways to build demand or incentivize ride-share pooling. It is an easy win for reducing deadheading and emissions reduction. Additionally, ride share pooling has evolved from 2019 to the present date. The study should include how Uber has reintroduced pool ridesharing.

- **There are companies that offer full warranties on electric vehicle batteries.** Those who are concerned about warranties on batteries should look into organizations that offer a full warranty and will replace batteries

Detailed summary of small group discussions

Below is a summary of the feedback shared across all small group discussions. See Attachment 1 for detailed summaries of the small group discussions.

General Feedback

- **General support for the proposed approaches and feedback shared to help improve the approaches.** Participants were generally supportive of the proposed approaches and offered suggested refinements and process-related advice.

- **Appreciation for the net zero working group process.** Participants appreciated the process and felt heard through the process and the proposed approaches.

Support for the following approaches:

- **Support for removing or extending the age limit for EVs.** It is a good idea to update the vehicle age limit requirements for electric vehicles. Continue to focus on the vehicle quality, not just the age. The reality is that EVs can run a lot longer and as long as the brakes are working, we should continue using the battery and the engine. Consider expanding this idea by including a provision of twice a year inspection to all vehicles to determine the vehicle quality.

- **Support for offering incentives to vehicle-for-hire operators**. Continue to offer financial incentives for licencing fees, and work with TAF to offer incentives for adopting an electric vehicle.

- **Support for providing special status for accessible vehicles and including hybrid vehicles**. A hybrid extension is a good middle ground for accessible vehicles and other operators. Consider an end date for the hybrid extension. Offering an end date will encourage operators to switch to electric vehicles earlier.

- **Shared a positive experience of taxi operators using an electric vehicle**. One participant reported that their experience so far using an EV for the past 12 months as a taxicab has been positive, with no problems with charging the vehicle at home or outside even with a slightly reduced range during the wintertime.

Advice and further suggestions for consideration:

- **Explore ways to address the barriers to owning and operating electric vehicles to support the implementation of net zero goals.** The barriers to owning and operating electric vehicles and reaching the net zero goal are shared below:
    - charging infrastructure, especially in suburbs and in buildings;
    - wait-times for vehicles are extremely long;
    - vehicles have gotten more expensive, especially vans and larger vehicles;
    - warranty of vehicles requiring maintenance from the dealership;
    - part-time operators being able to afford new electric vehicles;
    - reliability of electric vehicles and recalls from producers (for example Tesla recalling 100,000 vehicles in January 2023).

- **Avoid offering incentives to for-profit corporations.** It will be difficult to get through Council with a proposition of incentives for global venture capitalist types like Uber. Instead,

the City can regulate the industry to ensure its sustainability from drivers' perspective so operators can afford to make the transition to EVs.

- **Offer exemptions or delays for operators with vans and Uber XL vehicles.** The larger vehicles provide an important service to people. Large EVs are much more expensive, especially compared to vans today.

- **Consider the connection between provinces that offer incentives and supply electric vehicles**. There is a connection between provinces like British Colombia and Quebec which offer rebates and have an increased supply of electric vehicles in these provinces.

- **Consider a grandfather clause for new vehicles purchased before the regulation is enacted.** There will be a number of vehicles that will come off the road this year and during the transitional period before 2030. It is currently hard to require people to buy EV – so it is important to consider allowing vehicles purchased tomorrow and before 2030 to be grandfathered for the lifespan of the vehicle.

- **Clarify the City's role in providing support for, not mandating, the electrification of the VFH industry, as the market is already headed that way.**

<u>Suggestions related to charging infrastructure</u>

- **Align the rollout of implementing charging stations with the push for vehicles-for-hire electrification by 2030.** In a previous presentation, there was a target date of 2040 for implementing charging stations. There needs to be an adequate supply of charging stations to meet the needs of vehicles-for-hire by 2030.

- **Consider mandating the working group to look at the fleet size and required charging infrastructure.** Based on 2020 data, we do not currently have enough energy capacity to supply high-speed chargers for all the charging stations in the city. It will be much easier to have a formula that matches the fleet size with the service demand to get the fleet size right. It would be appreciated to have an update on the study that looks at the taxicab fleet size that the Council has been looking at since December 2020.

- **Connect with businesses interested in offering charging infrastructure**. There is interest from businesses to offer fast-charging parking options. It could be a marketing opportunity for these organizations.

<u>Feedback regarding process</u>

- **Concern about City Council not approving the proposed approach.** There is concern that the proposed approach will not be passed by City Council. In the past, industry stakeholders have been consulted and the proposed approaches informed by industry stakeholders were vulnerable to the decision-making process.

- **Advocate for the VFH industry at the Provincial level.** The City should represent the industry and advocate on their behalf to share on-the-ground experiences. Insurance is necessary to provide safe services, and it's been a barrier for some potential drivers.

- **Consider setting interim targets to track progress towards 2030.**

- **Consider connecting with a Quebec-based company that specializes in electrification of school buses (Lion Electric)** to explore opportunities to electrify smaller accessibility vehicles.

Other

- **Consider a program that would encourage taxicab drivers to sell their 2-3 years old EVs to the public to help accelerate the electrification of personal vehicles**. These cars would be more affordable due to higher mileage at that age for the car; and it would encourage the taxicab owners always have new EVs on the road.

- **The City should impose a by-law to require insurance for food delivery drivers** for Skip the Dishes and Door Dash.

Questions of clarification

- **What is the sample and sample size that the UofT study is based on? Was the study based on gas engines or electric vehicles?** *UofT Project Team: We have the trip data for 2020. We focused the analysis on a given week, February 3 – February 9, 2020. For that week, we established a trajectory for every single driver that was working on that week, and that is how we got all the data. The data is based on all internal combustion engines.*

- **Why did the team assume that direct current fast chargers (DCFC) were 60 kilowatts? In other jurisdictions, it is best practice for public fast chargers to be a minimum 150 kilowatts, and a minimum 350 kilowatts for taxis.** *UofT Project Team: We agree that 60 kilowatts is low in terms of the time it will take to charge. We chose a low charging rate for two reasons. The first to align with many electric vehicles models that currently don't go over 50 kilowatts. The second was the impact of 500 chargers being concentrated in the central core from a utility perspective. The required upgrades to the grid are already so big. If you have 400-500 chargers that are running at 150 kilowatts at the same time, it becomes unrealistic. The study has provided a framework and formula for the City to adjust the numbers.*

- **We appreciated modelling the extremes of people charging at home and public charging, but the reality is that most full-time operators will use both including a mid-point top-off.** *UofT Project Team: We took every single driver that was working on that day, and we segmented which drivers would need to use need a top-off during the day, and which drivers could rely entirely on home charging. This piece will be included in the report.*

- **Based on the presentation, it seems that there is the potential for pool ridesharing to achieve emission reductions along with ways to minimize deadheading. Has the team developed any conclusions on policy options for incentivizing pool ridesharing to reduce deadheading and minimize emissions?** *UofT Project Team: We want to be super clear that based on the number of pools rides from early 2020 dataset and now, Uber does not have enough people pooling. If enough people were using pooling, then the driver would really stand very little time. The answer would be that Uber and Lyft need more time to get enough people to start using pooling. If you want to focus on pooling, prioritize pooling trips starting in the suburbs that go into the city to be shared as pool trips more than trips happening in the downtown core.*

- **When discussing the charger needs for the vehicle-for-hire industry, did the study take into account other electric vehicles in Toronto?** *UofT Project Team: The focus was looking at chargers for the vehicle-for-hire industry. Other electric vehicles are the missing piece. We also assumed that these chargers would only be available 4 hours a day therefore every charger would only be in use 40% of the day.*

- **How accurate can these conclusions from the study when the inputs vary such as the emissions output of different vehicle models?** *UofT Project Team: Vehicle model, the level of maintenance, and number of people in a vehicle, these are very small deltas that do not change the conclusions. It is not really going to change the story, or the conclusions and the findings of the study.*

- **Has the team included the environmental impact and cost of producing electricity for the vehicles and the upstream costs of manufacturing electric vehicles**? *UofT Project Team: Yes, we are adding the greenhouse gas emission intensity of producing electricity in Ontario with the current mix of Ontario Electricity Source Mix including 60% nuclear, 30% hydro and a very small portion of natural gas. Greenhouse gases from upstream production of electric vehicles (for example mining for battery productions) are not included here.*

- **What about the rising cost of charging and the impacts of the decline of gas and the increase in supply and demand for charging**? **The presentation is based on today's charging costs which will have an operational difference.** *UofT Project Team: We can certainly add additional cost of charging to the range of different charging costs. We have arranged the analysis so that it's not very difficult to alter the analysis.*

- **Has the team considered charging for larger fleets like the limo and taxi industry? What data was used for the taxi and limo industries that have different considerations than private transportation companies?** *UofT Project Team: For taxis and limos, we had access to a bunch of different databases. One of the datasets was the yearly odometer reading per vehicle. We also had granular data from a couple of taxicab companies that were similar very similar to the private transportation company data.*

- **Why is the price of the electric vehicle at $20, 045, especially when my gas vehicle would cost $40,000? An electric vehicle would cost me $65,000 to $70,000. The higher price tag would impact the break-even period.** *UofT Project Team: We took the smallest vehicle, a Nissan, and the cheapest option to use in the model.*

- **Has the team included the maintenance, insurance and battery replacement costs which can cost $20,000?** *UofT Project Team: We are missing insurance piece which can vary in cost. We used several databases that track cost of maintenance in the analysis.*

- **In terms of projecting the future demand for charging stations, how many actual vehicles did you compare the mission impact of the vehicles**. *UofT Project Team: We only looked at the charging infrastructure based on 2019 and 2020 data. The point about future projections is interesting but it was not part of our scope. We did propose to the City of Toronto about looking at the trends for 2022 to see how things have changed post-pandemic for the vehicle-for-hire industry.*

- **Did you compare the emissions impact of different vehicles such as private cars against public transit? If so, can you share the data?** *UofT Project Team: We did compare the vehicle-for-hire industry emissions with that of driving your own vehicle as well*

as public transit. Right now, emissions from the vehicle-for-hire industry are the highest rates. The operator has to generate some emissions to pick up a passenger and after they drop them off therefore that makes it the highest in the city. We are very mindful of that messaging associated with that right, because we don't want the message to be while you're better off driving your own vehicle, right? There's a big communications piece associated with that because and we talked about the question of pooling. If we can get to a certain number of people in the vehicle, we can really improve the greenhouse gas efficiency of PTC vehicles. We are on average generates in the city about 300 grams per kilometer driving our own vehicle and about somewhere between 380 to 400 for vehicle-for-hire. Taking transit is around 20 grams per kilometer.

CLOSING REMARKS & NEXT STEPS

The City staff thanked everyone for their participation and contribution to the working group process, including the facilitation team and project team. City staff said they appreciated everyone who has shared their time, knowledge, business and lived experiences to inform the process. The facilitation team committed to sharing the meeting summary in draft for participant review before finalizing. Participants were reminded that they can share additional comments to the facilitation team after the meeting and it will be included in the meeting summary. The facilitation team will develop an engagement report for City staff which will capture the working group engagement process and feedback shared.

Moving forward, City staff will take the lead on connecting with and providing updates to the working group members. The City staff will reconnect with working group members and the public in April 2023 for an opportunity to provide comments on the updated recommendations going to the City Council in June 2023.

ATTACHMENT 1 – Small Group Discussion Summaries

Listed below are detailed summaries from the small group discussions. Please note that the small group summaries are structured to reflect key points discussed in each breakout room, and as such, may vary from one another in structure. These summaries were subject to participant review before being finalized. The summaries are organized by the name of the facilitator.

Breakout Room 1 – Facilitated by Yulia

Overall, participants expressed support for the presented emerging approaches with further suggestions and advice. One participant noted that the proposed recommendations were thoughtful and intelligent within the framework that the Committee was working with.

Participants said they liked the following approaches and offered additional advice:

- **Removing or extending the age limit for EVs.** The idea of focusing on the vehicle quality, not just the age. The reality is EVs can run a lot longer and as long as the brakes are working, we should continue using the battery and the engine. Consider expanding this idea by including a provision of twice a year inspection to all vehicles to determine the vehicle quality.

- **The consideration of deadheading and its role in the mission.** Consider an additional meeting of this group, or a subset of this group, to explore the data and ways to reduce emissions when the taxicabs are not in service – e.g. how can we use the data from the apps that shows us where the vehicles are at all times, look at taxi stands, predicting where the passengers might be, have assigned parking spots for drivers to turn off their engines and have a break. There are many other things that the City can explore that are within the City's control to reduce emissions. Another example is passenger wait times. If the passenger wait time is increased from 3 minutes to 5 minutes, we need thousands of cars less that are sitting empty. The wait time for ambulance for someone having a heart attack is 6 minutes, so why can't we increase expectations for the passenger wait times to reduce emissions, reduce the fleet, and make the industry more sustainable?

- **Generally, the experience of using an EV as a taxi has been positive.** One participant reported that their experience so far using an EV for the past 12 months as a taxicab has been positive. No problems with charging the vehicle at home or outside. The range shrinks by a bit in the wintertime, but not significantly. Charging at home is definitely cheaper; however the money you save on fuel covers the costs associated with the EV.

Feedback and advice on the implementation and the scope of this committee:

- **The mention of incentives – offering money to for-profit corporations – is concerning.** It will be difficult to get through Council with a proposition of incentives for global venture capitalist types like Uber. Companies that are making so much profit should not require incentives from the City of Toronto to switch to EVs. Instead, regulate the industry to ensure its sustainability from a driver's perspective. If drivers make decent living and are confident that they can continue to make decent living, then they can afford to make the transition -- and the City can regulate that. For example, a way to reduce emissions this calendar year is to stop people from driving SUVs. Short-term switching to lower-emissions vehicles is not incentive-based and it can be done immediately.

- **The mandate of this committee needs to look at the fleet size.** We've learned today that based on 2020 data, we do not currently have enough energy capacity to supply high speed

chargers for all the charging stations in the city. The fleet has already grown since then and we are projecting even more growth, with eventually a universal adoption. It will be much easier to have a formula that matches the fleet size with the service demand to get the fleet size right. *It would be great to get an update on the study that looks at the taxicab fleet size that the Council is looking at since December of 2020.*

Question of clarification

- **The presented annual mileage numbers seem low.** If I switch from Hybrid to an EV, like Tesla, I would definitely want to drive more, not less, or at the very least, the same mileage. *Response provided by UofT: This is a great observation. We didn't get to go into the details behind our assumptions. For the purposes of this work, we assumed the smallest and most affordable cars, so for an EV we used a Nissan LEAF with a 40 kwh battery. As the next steps we proposed to the City to do the same kind of analysis with different battery choices – from 60 kwh to 80kwh to 100 kwh, available at varying prices. But of course, if you can charge at home and you can drive more than the minimal assumption included in this presentation, your cost of ownership is going to go down even more.*

Other advice:

- **Consider connecting with Quebec-based company that specializes in electrification of school buses (Lion Electric)** to explore opportunities to electrify smaller accessibility vehicles.

- **Consider a program that would encourage taxicab drivers to sell their 2-3 year old EVs to the public to help accelerate the electrification of personal vehicles**. These cars would be more affordable due to higher mileage at that age for the car; and it would encourage the taxicab owners always have new EVs on the road.

Breakout Room 2 – Facilitated by Ruth

General support for the proposed approaches, especially investing in charging infrastructure. The proposed approach is well done but not sure it required five meetings to reach this conclusion. The industry is already heading in the direction of electric vehicles. It does not make sense to mandate the goal of net zero and electric vehicles. Let the market decide and the City can focus on providing the required charging infrastructure and supporting the transition.

Participants said they liked the following approaches and offered additional advice:

- **Support for the proposed approach to vehicle age limit and incentives**. It is a good idea to update the vehicle age limit requirements for electric vehicles. Continue what can be done to offer financial incentives for licencing fees and work with TAF to offer incentives for adopting an electric vehicle.

- **Support for providing special status for accessible vehicles**. The hybrid extension is a great idea. Consider an end date for the hybrid extension. Offering an end date will encourage operators to switch to electric vehicles earlier.

Feedback and advice on the implementation and the scope of this committee:

- **Address the barriers to owning and operating electric vehicles.** Barriers to owning and operating electric vehicles and reaching the net zero goal are shared below:
    - charging infrastructure, especially in suburbs and in buildings;
    - wait-times for vehicles are extremely long;
    - vehicles have gotten more expensive;

- warranty of vehicles requiring maintenance from the dealership;
- reliability of electric vehicles and recalls from producers (for example Tesla recalling 100,000 vehicles in January 2023).

- **Concern about City Council not approving the proposed approach.** There is concern that the proposed approach will not be passed by City Council. In the past, industry stakeholders have been consulted and the proposed approaches informed by industry stakeholders was vulnerable to decision-making process.

- **Connect with businesses interested in offering charging infrastructure**. There is interest from businesses to offer fast-charging parking options. It could be a marketing opportunity for these organizations.

- **Consider the connection between provinces that offer incentives and the supply of electric vehicles**. There is a connection between provinces like British Colombia and Quebec which offer rebates and have increased the supply of electric vehicles in these provinces.

Question of clarification

- **Interest in understanding the UofT Study**. It was not clear how the study made assumptions on average numbers, specifically the average kilometers travelled. The presentation used the estimate of 52,000 km when a full-time operator can easily reach 100,000 km. It is important to get these numbers right, especially when policymakers are making decisions using this study.

Breakout Room 3 – Facilitated by Jacky

Appreciation for the engagement process. We're impressed that the City listened to a lot of the things the group has shared. We feel heard and can see our feedback reflected in the draft approach.

Feedback and advice on the implementation and the scope of this committee:

- **The City should be the voice of the VFH industry at the Provincial level.** The City should represent the industry and advocate on their behalf to share the on-the-ground experiences. Insurance is necessary to provide safe services, and it's been a barrier for some potential drivers. Although auto insurance is the jurisdiction of the province, the City can advocate on behalf of the industry to support insuring electric vehicles.

- **Consider aligning the rollout of implementing charging stations with the push for vehicles-for-hire electrification by 2030.** In a previous presentation, there was a target date of 2040 for charging station. It is, however, important that there is an adequate supply of charging stations to meet the needs of vehicles-for-hire.

- **Consider setting interim targets to track progress towards 2030.** *City response: it would be challenging to set interim targets because it is hard to define. We think instead that by giving the industry out goal by 2030 today, it gives companies and drivers information to start making these decisions today. We see this being part of the natural step towards electrification. The City will continue to monitor progress as we go.*

- **Consider the needs of new and existing part-time drivers and/or the experiences of low-milage drivers.** It would be challenging to expect new and/or low-milage part-time drivers to go out to purchase a new vehicle because new vehicles are expensive, so the City

may witness a decrease in drivers in the future. Are there contingencies if there aren't many drivers by 2030? *City response: Staff will be monitoring. Nobody knows what the future holds. We know battery production is ramping up, and eventually there will be price parity between electric and gas vehicles so there is an opportunity to shift course now and inform the industry of our expectation.*

- **Consider adding vans and Uber XL vehicles to the exemptions alongside accessible vehicles, or at least delay requiring these to be electric.** The larger vehicles provide an important service to people. Large EVs are much more expensive, especially compared to vans today.
- **Efforts for pooling should be focused on transit.** It is hard to coordinate the demand for pooling services for VFHs because demand goes up and down. Instead, the City should focus all it's efforts for pooling to transit.

- **Consider a grandfather clause for new vehicles purchased before the regulation is enacted.** There will be number of vehicles that will come off the road this year and during the transitional period before 2030. It is currently hard to require people to buy EV – so it is important to consider allowing vehicles purchased tomorrow and before 2030 to be grandfathered for the lifespan of the vehicle.

<u>Other advice</u>

- **The City should impose a by-law to require insurance for food delivery drivers** for Skip the Dishes and Door Dash – they currently are not required to have insurance and are only covered by the personal insurance, while UberEats covers the driver's insurance.

<u>Question of clarification</u>

- **Will the mayoral election this year affect the team's reporting timelines and/or general direction with this work?** *City response: Do not think so, the City has procedures in place for the transitional period.*

ATTACHMENT 2 – Meeting Agenda

Vehicle-for-Hire Net Zero Working Group

Working Group Meeting 5
Tuesday, February 21, 2023, 11:00 am – 1:00 pm

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Join the working group meeting VIA ZOOM or participate by phone: dial 647-558-0588
Meeting ID: 857 9129 7528 (a participant ID is not required)

Meeting Goals:

- To share and discuss results from the vehicle-for-hire emissions calculations and modeling work undertaken by the University of Toronto.
- To review key feedback from the working group and share and seek feedback on draft potential approaches being developed by the City of Toronto based on feedback heard to date to support the vehicle-for-hire industry in reaching net zero emissions by 2030.

PROPOSED AGENDA

11:00 am **Land Acknowledgement, Opening Remarks, and Agenda Review**
Third Party Public

11:05 **Presentation – Vehicle-for-hire emissions calculations and modelling**
Marianne Hatzopoulou and Marc Saleh, University of Toronto
Questions of clarification

11:30 **Presentation – Approaches for Addressing What We've Heard**
City of Toronto
Questions of clarification

12:00 **Breakout Room Discussion – Options being considered by the City**

- What do you like about the draft potential approaches? Do you have any concerns and/or suggestions?
- Is there anything missing from the draft potential approaches?
- How would you like to stay informed?

12:30 **Plenary Discussion**

- Do you have any additional comments, questions and/or recommendations for the City?

12:50 **Wrap-Up and Next Steps**
Opportunities for future engagement and written feedback deadline

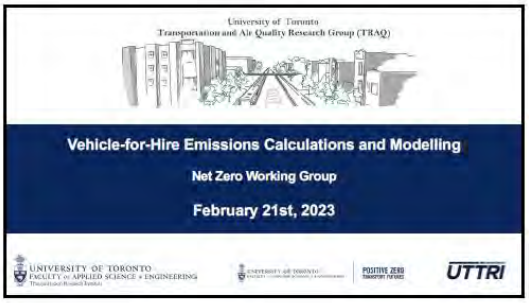
1:00 pm **Adjourn**

ATTACHMENT 3 – Participant List

The 39 people who attended the meeting are identified **in bold** below, including 20 Working Group members, 10 City staff, 3 representatives from The Atmospheric Fund, 2 representatives from the University of Toronto, and 4 facilitation team staff.

Role	Organization	Name
Working Group Members	A4U Taxi	**Behrouz Hadjnourollah**
	Chargepoint	Mike Frisina
	Co-op Cabs	**Gurjeet Dhillon** (Alternate)
	Dunsky	**Lindsay Wiginton**
	Global Alliance Worldwide Chauffeured Services Ltd	**Joe Ironi**
	Hertz	Steve Shur
	Louelec	**Léo Bouisson**
	Lyft	Jon Walker
	Pembina Institute	**Sarah McBain** (Alternate)
	Plug'n Drive	**Cara Clairman**
	PTC Driver	**Esther Fofana**
	PTC Driver	**Nick Voronka**
	PTC Driver	**Patrick Perlas**
	PTC Driver	**Wayne Edward**
	RideFair	**Brendan Agnew-ller**
	Sustainability Leadership & pointA	**Rafiq Dhanji**
	Taxicab Operator	**Mohammad Reza Hosseinioun**
	Taxicab Owner	**Ahsan Mirza**
	Taxicab Owner	Yohannis Gebeyehu
	Taxicab Owner and Operator	Majeed Shidfar
	Toronto Hydro	**Marc Simmons**
	Toronto Region Board of Trade	**Craig Ruttan**
	Uber Canada	**Jake Brockman**
	Universal Motion	Marco Ferrara
	Viggo	Kenneth Herschel
	Zipcar	Will Sowers
Convenors	City of Toronto – Municipal Licensing & Standards Division	**Fiona Chapman, Tobiah Abramson, Marion Davies, Josh Cho, Shelby Challis**
	City of Toronto – Environment & Climate Division	**Deborah Herbert and Nina Popova**
	The Atmospheric Fund	**Ian Klesmer, Maryam Shekarrizfard and Samia Anwer**
Presenter	University of Toronto	**Marc Saleh and Marianne Hatzopoulou**
Facilitation Team	Third Party Public	**Yulia Park, Ruth Belay, Pragya Priyadarshini and Jacky Li**

ATTACHMENT 4 – Presentation



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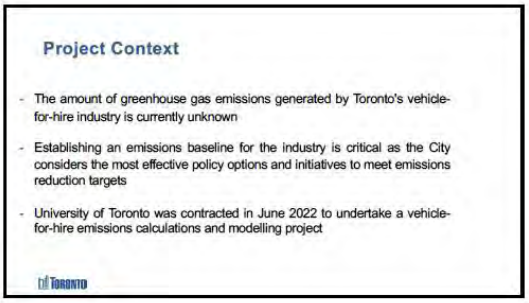

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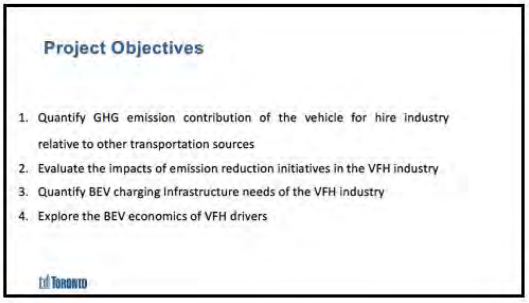

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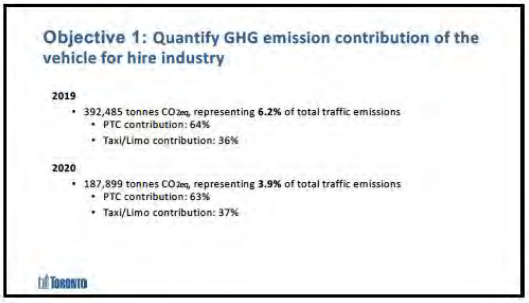

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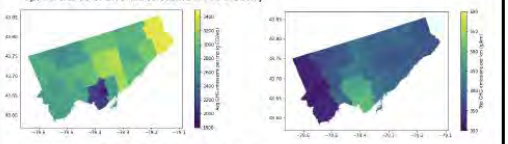
Objective 1: Quantify GHG emission contribution of the vehicle for hire industry

Spatial trends of GHG emissions from PTC industry



Average trip GHG emissions and GHG emissions per kilometer from trips that originate each ward between 6-10 AM

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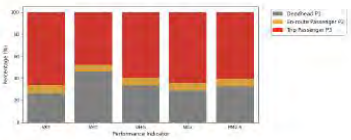
Objective 1: Quantify GHG emission contribution of the vehicle for hire industry

Private Transportation Companies trip segments contribution



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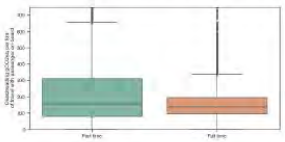
Objective 1: Quantify GHG emission contribution of the vehicle for hire industry

Vehicle deadheading (p1) emissions per km travelled with passenger on-board (p3)



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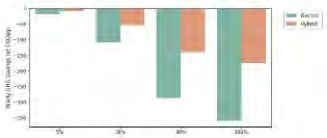
Objective 2: Evaluate the impacts of emission reduction initiatives in the VFH industry

Vehicle for hire PHEV and BEV 2019 scenarios



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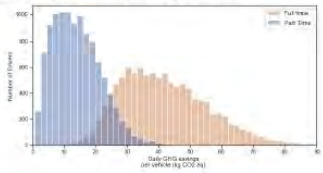
Objective 2: Evaluate the impacts of emission reduction initiatives in the VFH industry

Vehicle level daily GHG savings with BEVs segmented by driver type



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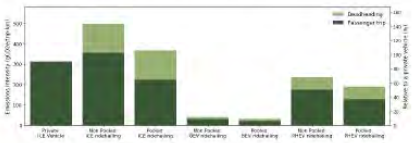
Objective 2: Evaluate the impacts of emission reduction initiatives in the VFH industry

Emission intensities of the various services offered by PTCs



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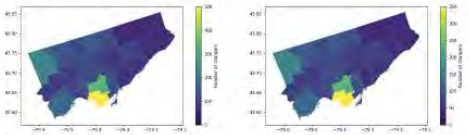
Objective 3: Quantify BEV charging Infrastructure needs of VFH industry



Scenario 1: VFH industry relies entirely on public charging infrastructure
- 3,660 DC 60 kW chargers

Scenario 2: 40% of VFH industry relies on home charging with the rest on public charging infrastructure
- 2,582 DC 60 kW chargers
- 10,817 AC home chargers

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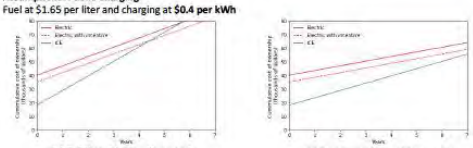
Objective 4: Explore the BEV economics of VFH drivers

Assumptions: Public Charging
Fuel at $1.65 per liter and charging at **$0.4 per kWh**



(a) Full time drivers with a yearly distance travelled of 52,060 km

(b) Part time drivers with a yearly distance travelled of 26,060 km

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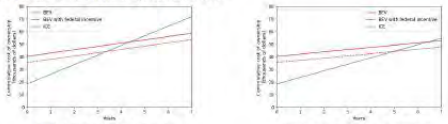
Objective 4: Explore the BEV economics of VFH drivers

Assumptions: Home Charging
Fuel at $1.65 per liter and charging at **$0.08 per kWh**



(a) Full time drivers with a yearly distance travelled of 37,240 km

(b) Part time drivers with a yearly distance travelled of 25,280 km

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Thank you

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Potential approaches for working towards a goal of net zero by 2030 for vehicles-for-hire

Municipal Licensing and Standards
February 2023

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The mandate of the Working Group is to provide a forum for sharing perspectives and advice with City staff. It is an advisory group, not a decision-making body. The results of this working group will be considered by the City as one of several inputs to the development of any proposed requirements, regulations or programs that seek to achieve vehicle electrification and net zero emissions targets for the vehicle-for-hire industry.

- Working Group Terms of Reference

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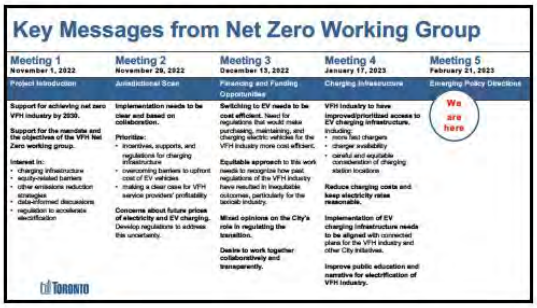
Key Messages from Net Zero Working Group
Meeting 1
November 1, 2022
Project Introduction
Support for achieving net zero VFH industry by 2030.
Support for the mandate and the objectives of the VFH Net Zero working group.
Interest in:
• charging infrastructure
• equity-related barriers
• other emissions reduction strategies
• data-informed discussions
• regulation to accelerate electrification
Meeting 2
November 29, 2022
Jurisdictional Scan
Implementation needs to be clear and based on collaboration.
Prioritize:
• incentives, supports, and regulations for charging infrastructure
• overcoming barriers to upfront cost of EV vehicles
• making a clear case for VFH service providers' profitability
Concerns about future prices of electricity and EV charging. Develop regulations to address this uncertainty.
Meeting 3
December 13, 2022
Financing and Funding Opportunities
Switching to EV needs to be cost efficient. Need for regulations that would make purchasing, maintaining, and charging electric vehicles for the VFH industry more cost efficient.
Equitable approach to this work needs to recognize how past regulations of the VFH industry have resulted in inequitable outcomes, particularly for the taxicab industry.
Mixed opinions on the City's role in regulating the transition.
Desire to work together collaboratively and transparently.
Meeting 4
January 17, 2023
Charging Infrastructure
VFH industry to have improved/prioritized access to EV charging infrastructure, including:
• more fast chargers
• charger availability
• careful and equitable consideration of charging station locations
Reduce charging costs and keep electricity rates reasonable.
Implementation of EV charging infrastructure needs to be aligned with connected plans for the VFH industry and other City initiatives.
Improve public education and narrative for electrification of VFH industry.
Meeting 5
February 21, 2023
Emerging Policy Directions
We are here
TORONTO

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Key Principles for Policy Development:
The goal is to ensure the policy approach is:
1.Feasible
The goal of net zero by 2030 for Toronto's vehicle-for-hire industry is feasible, assuming that projections for infrastructure development and ZEV availability and cost of operation are achieved.
2. ZEVs-focused
Reaching net zero will require adoption of zero emissions vehicles (ZEVs) to eliminate tailpipe GHG emissions. Large-scale adoption of battery electric vehicles (BEVs) is the most feasible strategy for achieving zero emissions from the VFH sector by 2030.
3.Partnership -based
Accomplishing the goal of net zero by 2030 requires an all-of-government approach including partnership with Environment and Climate, The Atmospheric Fund, Toronto Parking Authority, Toronto Hydro, and other relevant city divisions and agencies.
4. Holistic
A successful strategy will require multiple, interrelated components including charging infrastructure buildout, education, enhanced EV affordability, and regulation.
5. Equitable
Throughout policy development, closely consider equity implications of proposed advice.
6. Effective
Taken together, the elements of the strategy achieve the goal of Net Zero by 2030 for vehicles-for-hire.
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DRAFT
Potential approaches for working towards a goal of net zero by 2030 for vehicles-for-hire
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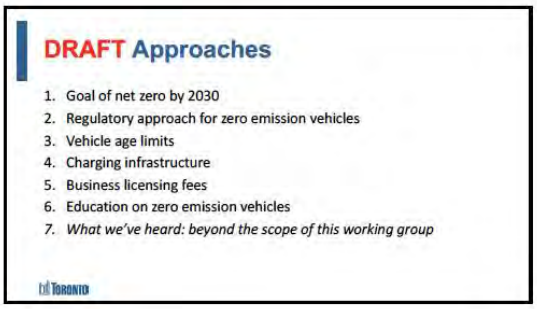
DRAFT Approaches
1. Goal of net zero by 2030
2. Regulatory approach for zero emission vehicles
3. Vehicle age limits
4. Charging infrastructure
5. Business licensing fees
6. Education on zero emission vehicles
7. What we've heard: beyond the scope of this working group
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Goal of net zero by 2030

Current context:

In 2021, City Council directed the Executive Director, Municipal Licensing and Standards to set a goal of Net Zero for 2030 for vehicles for hire, and to align the plans for vehicle electrification and emissions reduction to achieve this goal.

What we've heard – key messages:

•Goals and requirements for the VFH industry often change.

"General support for reaching the net zero emissions target by 2030 and for electrification of vehicles with advice to proactively consider equity-related barriers. Consider barriers and challenges associated with electrification of the fleet, particularly from the perspective of drivers and passengers, such as cost, availability, and accessibility of vehicles and supporting infrastructure."

"To achieve the goal of net zero by 2030 the City needs to start planning today, particularly on how to support the VFH industry during the transition period."

"Explore potential supports and regulations to support the transition to electric vehicles. A mix of incentives and regulations would be helpful in supporting the transition to electric vehicles."

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Regulatory approach for zero emission vehicles (ZEVs)

Current context:

2014 – Requirements for all new VFH to be alternative fuel, hybrid, or low-emission vehicles.
2016 – PTCs introduced. Council asks staff to report back on an incentive program to reduce emissions from VFH.
2019 – Goal set that by 2050, all VFHs will use low-carbon energy. Revoked requirement for VFH to be alternative fuel, hybrid or low-emissions.
2021 – Council directed MLS to set a goal of net zero emissions by 2030 for VFH, and to establish a working group to develop a plan.

What we've heard – key messages:

- General support for reaching the net zero emissions target by 2030, with advice to proactively consider equity-related barriers ex. Cost, availability, accessibility.

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What we've heard: Challenges related to the regulatory approach for ZEVs

- The changing environmental standards for VFHs over the last decade were challenging for VFH owners.
- There are currently insufficient models of ZEVs that can be converted to be wheelchair accessible.
- In the near term, the upfront cost and lack of availability of ZEVs are major barriers.
- Explore reducing emissions in the short-term, while working towards longer-term objective of zero emissions.

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DRAFT Potential Regulatory Approach for ZEVs

1. Confirm to Council that the goal of net zero by 2030 is feasible as long as sufficient charging infrastructure and vehicle availability exists, and offer a plan for implementation.

2. All vehicles used as VFHs to be ZEV as of 2030 ← *To be discussed further in upcoming slides*
   - Will monitor infrastructure and vehicle availability to ensure conditions are met.
   - Aim is to provide the VFH sector with certainty and predictability.
   - *Exemptions for accessibility outlined on next slide.*
     - Should any other exemptions be considered?
     - What should happen to existing vehicles?

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Vehicle Age Limits

Current context:

After December 31, 2023, all vehicles set to return to 7-year age limit (accessible vehicles exempt until Dec 31, 2025). Since 2021, 7-year age limit has been extended to 10 years for taxicabs due to supply chain issues.

What we've heard – key messages:

- The 7-year age limit imposed on vehicles-for-hire is a barrier to investing in a more expensive ZEV.
- The transition into any regulatory requirement for BEVs should be carefully considered.

"Consider increasing years of service beyond the current 7 year requirement. Key consideration is that the upfront cost of EVs and batteries is high."

DRAFT - **Potential Approach to Vehicle Age Limits**

Waive ZEV VFH age limit as long as vehicles pass annual safety inspection.

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Charging infrastructure

Current context:

- Toronto Parking Authority is planning, installing & operating City-provided public EV charging, with plans to deploy by the end of 2024:
  - 500+ EV charging stations in Green P parking facilities
  - 150+ on-street EV charging stations
- Environment & Climate Division is leading development of a long-term Public EV Charging Plan and exploring and developing options for supporting provision of home & workplace charging
- The Atmospheric Fund provides funding for public, home and workplace charging infrastructure through the EV Station Fund
- Fleet Services Division is deploying a corporate charging network for City electric fleet vehicles which will be available for public use where feasible
- EV charging planning & deployment involves other City divisions, agencies & corporations including City Planning, Transportation Services, Toronto Hydro, and Toronto Transit Commission

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What we've heard: charging infrastructure

Placement

"Placement and proximity of charging stations is important for both base charging and on-the-go charging. Need for charging stations in areas with no chargers and need for more charging stations in concentrated areas."

Cost

"Cost is an important consideration, including electricity rates and parking costs."

Seasonal charging:

"Winter has an impact on how often electric vehicles need to be charged. During the winter months, operators will need to charge their vehicles more often which will impact cost and vehicle kilometer range in the winter."

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DRAFT – Potential Approach to Charging Infrastructure

Draft potential approach:

- Prioritize the needs of vehicle-for-hire industry in near-term deployment of public EV charging in Toronto and consider those needs in planning for longer-term deployment
- This could include, for example:
  - Dedicated or preferential access to fast charging to support VFH on-the-go charging needs
  - Level 2 charging to meet the base charging needs of drivers who do not have access to home charging

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Licensing Fees

Current context:

- MLS charges fees for licensing of vehicles-for-hire.
- Due to the effects of the pandemic, all taxicab and limousine licensing fees have been reduced by 50% since 2021. Annual fees for a taxicab owner are ~$667 in 2023, down from ~$1,202 without reduction.

What we've heard – key messages:

- The higher upfront cost of ZEVs is a barrier to their adoption.

"Consider immediate and short-term incentives that would provide benefits to existing regulations and operations, including reduced fees for licensing"

DRAFT - **Potential Approach to Licensing Fees**

Apply a grant towards licensing fee application/renewals for ZEVs until 2030. (For example: until *X year*, offer *X*% reduction in vehicle-for-hire licensing fees for ZEVs).

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Interim Emission Reductions

Current context:

- Hybrid and ICE VFHs pay same licensing fees and have same age limits
- PTCs not required to offer shared/pooled trips. UberX Share launched in Toronto in early February.

What we've heard – key messages:

- *Beyond ZEVs, consider other strategies for reducing emissions. Suggestions include switching to more efficient conventional or hybrid vehicles immediately (while transitioning to full electrification).*

DRAFT - **Potential Approach to Interim Emission Reductions**

- Hybrids – possible approaches:
  - Offer phased licence fee reductions for hybrids to support shorter-term emission reduction.
  - Hybrid VFH age limit extended to *X* year (permitted end of life past 2030?).
- Require PTCs with over 500 vehicles to offer a pooled-ride option on their platform. Include exception for public health emergencies.

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Education on ZEVs

Current context:

The City's Electric Vehicles webpage is a resource for information on the EV Strategy, purchase incentives, support for charging, public charging locations, and fleet and TTC EV adoption efforts.

What we've heard – key message:

- Need for more education and broader understanding of ZEVs.

"Provide clarity about costs related to fuel-based vehicles and EVs based on accurate data. Profitability is a big incentive for switching to EVs. The cost-related information needs to be comprehensive and clear to owners and drivers on how switching to EVs would be profitable."

DRAFT – **Potential Approach to Education on ZEVs**

- City to provide fact-based, VFH industry-specific education on ZEVs.
  - E.g. Develop content to answer FAQs (on total cost of operation, vehicle availability, battery life/range, charger installation etc.) to include on City of Toronto's Electric Vehicle and Vehicle-for-Hire webpages, and in other materials aimed at the VFH industry.
- Explore partnering with external organizations as relevant and feasible to leverage their materials and education efforts and support access to ZEV test drives.

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DRAFT Potential Regulatory Approach for ZEVs: Accessibility and Equity Considerations

- Exempt wheelchair accessible VFHs from ZEV requirements until further review determines sufficient ZEV models can be converted to be wheelchair accessible.
- Timing of regulation considers opportunities to address equity barriers, specifically by:
  - Recognizing the initial high upfront costs and other financial barriers
  - Availability of vehicles
  - Prioritize the needs of vehicle-for-hire industry in near-term deployment of public EV charging in Toronto and consider those needs in planning for longer-term deployment

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What we've heard:
Challenges beyond the scope of this working group

- Insurance remains a major challenge for VFH drivers.
- Financing requirements of financial institutions.
- Supports provided by PTCs to PTC drivers (e.g. cost-sharing, insurance coverage during charging, approval of vehicles).
- Uncertainty around the price of electricity.
- Multi-jurisdictional incentives.

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Discussion & Next Steps

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Project Timeline

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Future Opportunities to Share Your Feedback

- Feedback on Meeting #5 can be submitted to Third Party Public by February 28, 2023
- Virtual information session (April, date TBC)
- Deputation at ECDC – May 31, 2023
- Written feedback to vehicleforhirereview@toronto.ca

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Breakout Room Discussion
• What do you like about the draft potential approaches? Do you have any concerns and/or suggestions?
• Is there anything missing from the draft potential approaches?
• How would you like to stay informed?
• Do you have any additional comments, questions and/or recommendations for the City?
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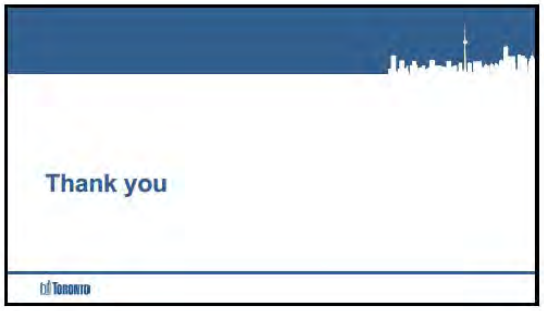
Thank you
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ATTACHMENT 5 – Post-meeting submissions

Participants were encouraged to share additional feedback after the meeting. The facilitation team received three post-meeting submissions and two comments following the review of the draft summary which have been included below. Note that the feedback was not edited, except for minor formatting.

Emailed feedback 1 (received February 22, 2023)

First of all I want to say thank you for having me participate, I also want to say I feel that we were listened to, our concerns highlighted, and addressed.
I feel compelled to write you about yesterdays presentations, the U of T data and presentation put me in orbit. Actually I felt insulted and violated!! It is also not my reality. I feel Uber presented info that was customized to suit the presentation. In Jan and Feb of this year I noticed different things that would absolutely indicate that algorithms were adjusted to show those stats. I had customers tell me that usually their wait time was 3 to 5 minutes, we had 12 th 15 minute waits. It's deadheading to the customer. Why would they do that to increase the deadheading numbers also to promote pooling.
Being an Old guard when I work nights I get back to back trips no waiting for my next ride!!
The comment that Uber shares our data without our consent is disturbing but what is even more disturbing is that they create fake data in order to promote themselves ie the Uber share they just launched' it's not like the pool rides of the past, it's a reduced rate for us, we pool with one other client. They tell us we will get 1.00 extra , they get two clients service fees which is around 6 dollars. I have to absorb not going to one client free but two ! I don't get double pay.
Since the new pooling has been launched I only had one matched ride which the second was cancelled because after driving 7 extra minutes there were 3 clients wanting a ride, only one is the rule This extend my original ride by over 10 minutes!!
This morning I drove 4.45 hours made 87.46, this has to cover a loan payment, maintenance, and gas, and oh yes food money or less than min wage.
Im writing you because from when I started in 2014, I no longer can earn what I originally signed up for . I love my Uber life because at my age it is what I can do without my handicaps stopping me, the social element is right up my alley!!
My daughter had to finance my car because I don't qualify, many of us have very little income or some none.
The other thing about the U of T report was when they showed the price of the car it was not realistic but more disturbing was the data that for 3 or 5 years I would not see savings between the different vehicles. In business if you start one you would not be happy if you see no profit for 3 to 5 years, and your shareholders would be after you!!
Well I've said what I needed to , if someone gave me an EV vehicle to use for data's sake I'd work it!!☺ so I could speak in real life if it's better and more profitable!!

Emailed feedback 2 (received February 22, 2023)

I would like to submit the following links that I believe are worth consideration.

https://www.facebook.com/reel/587647847906314l?s=yWDuG2&fs=e

https://news.google.com/s/CBIw0KbEoKMB?sceid=CA:en&r=12&oc=em

https://arstechnica.com/cars/2023/01/the-us-needs-8x-more-ev-chargers-by-2030-according-to-new-report/

https://insideevs.com/news/650150/toyota-says-ev-extremists-are-wrong/

Emailed feedback 3 (received February 28, 2023)
See the next three-pages for the full unedited letter from RideFair

Emailed feedback 4 (received April 14, 2023)
RideFair shared the following comments following the review of the draft summary.

We appreciate the accuracy and detail captured in the feedback. Rejecting any subsidy of a for-profit industry is good policy and we are pleased to see it front and centre in the feedback. We hope to see it reflected in the final recommendations, especially as the PTC business model is designed to be unsustainable and exploit drivers. As captured in the feedback, it was concerning to us that the taxi sector proposal to require all VFHs to be lower emissions or hybrid immediately was replaced with a proposed subsidy encourage hybrid vehicle purchases.
The idea of considering an additional meetings or sub-groups to discuss other strategies for reducing emissions is also very welcome. There are some urgent areas that should be addressed immediately. We heard in the meetings from drivers who are kept underpaid and precarious as a feature, not a flaw, of the PTC approach. So, we welcome applying a broader equity lens on VFH drivers, and considering regulations that would allow them to earn a sustainable living to support the transition to electric vehicles, and would be happy to tart work on it immediately.

The modeling also showed that the time and cost of charging already makes it impossible for drivers who do not have access to cheaper, overnight parking to ever offset the capital cost of an electric vehicle. We believe the feedback and modeling together make it clear that the economic fundamentals of the VFH sector need to be reconsidered.
This also makes a plan to immediately and incrementally reduce emissions important in the lead-up to 2030 (for instance, by reintroducing something along the lines of the earlier emissions standards bylaw), as it is currently possible (and understandable) that drivers wait until the last possible minute to electrify vehicles, in the hope that costs go down and infrastructure (insurance plans, parts, charging facilities, repair facilities) becomes established. If these parts are not sufficiently in place and the deadline for electrification is deferred, we face seeing an additional seven years of creeping emissions.

One important issue emerged in the final meeting that we believe could undermine the entire electrification process and deserves immediate attention: the capacity of the electricity grid to support the current VFH fleet size. The modelling used low-rate chargers in part because of the impact of 500 chargers in the central core from a utility perspective. You correctly note that the upgrades already required are “so big” and running 400-500 chargers simultaneously at 150 kilowatts becomes unrealistic.

This lack of charging capacity introduces enormous, unaccounted for, costs that put the entire net zero plan at risk. Happily, the feedback also identified immediate policy solution: Mandating the working group to look at the fleet size and required charging infrastructure.

Emailed feedback 5 (received April 14, 2023)

If the idea is to move VFH to EV platform in the near future, I would start with taxi fleets, as it stands right now there are close to 3000 plates are sitting on the shelves and this can be start of a new all electric taxi fleet. It would be much easier to start and manage it, where as asking individual operators to change to EV. I have a workable plans for doing this, if you are interested, I could present the plan and we can discuss it in full detail and I could show to you how it will be done. Please let me know if you are interested.

To: Vehicle-for-Hire Net Zero Working Group, c/o Ruth Belay, Third Party Public

From: RideFair

Subject: **Feedback on Meeting #5**

Date: February 28, 2023

Thank you for the productive and informative working group process. While RideFair felt the mandate given by Council was significantly broader we feel that, within the narrow scope, we still had productive discussions. In terms of the recommended approach suggested in Meeting 5, we strongly suggest adding the recommendations that these electrification strategies be developed in alignment with the TransformTO goals of reducing car dependency and increasing the share of sustainable (public or active) transportation modes.

RideFair's mission is to help the City achieve its TransformTO targets by making the VFH industry sustainable. We also take the equity concerns very seriously and are concerned with driver wages and precarious working conditions, accessibility, providing mobility to all Torontonians.

We have some supplemental input to the final report, based on what we heard in the meetings:

1. **Act now to reduce emissions while beginning the transition to ZEVs**

One of the most useful outcomes of this group was to identify barriers facing industry participants in ZEV adoption. RideFair repeatedly identified tools to complement and/or accelerate ZEV adoption in this process. Other participants recommended simply restoring (with any necessary updates) city bylaws requiring vehicles to meet certain emission standards to be used as VFH. We recommend this bylaw be reinstated not as a recommendation but as a requirement for new/replacement vehicles, so that immediate progress reducing tailpipe emissions in the sector can resume.

2. **Clarify energy grid capacity**

The modeling by University of Toronto shows that we will need 2500-3600 chargers to support the VFH fleet. They plan for 60kW chargers instead of more powerful and faster models. We were informed that the electrical grid does not have sufficient capacity. This lack of capacity is an important consideration, that we raised in our feedback to earlier meetings, and could jeopardize the entire vehicle electrification program. At the very least it will add billions of dollars to the cost. Toronto's fleet size (see 3, below) directly impacts how many BEV VFHs can be supported at what pace.

3. **Make VFHs operate more efficiently**

Historically, taxis have circulated on streets looking for fares. This is inefficient form the perspective of fuel, space and driver time. The explosion of ride-hailing apps has cause many thousands of drivers to enter service and spend most of their time circulating waiting for fares. U of T data has shown that

deadheading/cruising produces significant emissions so long as ICE vehicles remain a significant part of the VFH fleet.

As a rule, vehicles in service should be parked when not actively engaged. By setting up taxi stands around the city we can greatly reduce deadheading time. Combined with apps and open data, dedicated parking spaces could also help ensure vehicles locations are balanced for passenger demand and that drivers do not feel compelled to deadhead in search of fares.

We note that we have seen evidence throughout our meetings that full-time drivers operate more efficiently and produce fewer emission per passenger km traveled. We also learned that full-time drivers will see greater savings, sooner, from operating BEVs. By facilitating a greater reliance on full-time drivers, the City may be able to both reduce emissions in the short term and hasten BEV adoption in the medium term.

4. **Get the fleet size right**

The biggest move to increasing efficiency is aligning supply to demand through the fleet size optimization, which is already underway. Council has directed staff to establish and regulate the size of the vehicle-for-hire fleet. There are many ways of setting size of the fleet, but one of the most vexing issues is deciding which individual drivers are licensed to operate. In the past, City-issued plates became a fungible commodity as their scarcity gave them a market value. In many cases, acquiring a plate established a taxi driver as an independent owner-operator and gave them freedom and control over their work. In too many cases, however, the plates owners could simply extract rent from drivers.

Ride-hailing apps make a point of drawing attention to the fact that they offer easy access to employment and tend to attract members of equity-deserving groups who are in need of opportunities. Their communications tend to overlook the fact that adding more drivers does not make more work available. Individual drivers often lose money driving for Uber once depreciation and fuel costs are included.

A fair regulation would allow drivers should be selected on merit, according to the City's policies on hiring and diversity, and allow them flexibility to choose when they want to drive and for which dispatching service.

5. **Regulate for sustainability, don't publicly subsidize**

In the potential approaches presentation, there are some proposals for incentives that raise concerns, such as a grant towards licensing fee application/renewals for ZEVs until 2030. It is possible to reduce emissions in the short-term, while working towards zero emissions, simply by mandating more efficient conventional or hybrid vehicles (see 1). Incentives are simply not required to make the entire industry more efficient immediately.

Part time drivers can never recover the cost of an EV. Only full-time with a home charger see a benefit – but even they would probably have to use public chargers some time.

We should not be offering subsidies to a for-profit industry that we learned today is the least efficient form of transportation and may not pass benefits on to drivers. Also subsidizing Uber at a time of TTC budget cuts would create a storm at Council. We should first ensure the industry becomes economically

sustainable so that drivers have a decent standard of living, stable, reliable employment and can afford the transition, while putting in place economy-wide supports for electrification.

Recommendations

Based on this analysis, we have the following suggestions for action:

1. Recommend that the electrification strategy should also conform to TransformTO's other goals for the transportation sector, including a shift towards public/active transportation.
2. Report on the energy grid's capacity to support vehicle electrification, and the potential cost of upgrading it under different fleet size scenarios
3. Update modelling to 2023, with future projections, and include other modes for comparison prior to reporting to Council, informed by ongoing work on fleet optimization.
4. Make higher efficiency conventional or hybrid vehicles mandatory for new/replacement vehicles immediately.
5. Restore and expand inspections so that condition and safety, not model year, are used to assess vehicles.
6. Avoid any incentives to for-profit companies. Instead, make the industry sustainable, improve wages and working conditions, then regulate lower emissions.
7. Establish taxi stands and dedicated parking spots throughout the city. Use mobile apps to direct drivers to available parking spots.