Clean Air Partnership

September 2023

Applying an Equity Lens to EV and E-Mobility Strategies

Workshop #3 in a five-part series

Presenter:
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Land Acknowledgement

- Clean Air Partnership acknowledges that the land on which we operate is the traditional territories of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples.
- At Clean Air Partnership, we recognize that Indigenous Peoples are particularly vulnerable to climate change and will be disproportionately impacted by its effects.
- Through our work, we are committed to disrupting ongoing approaches to climate governance that reproduce settler-colonial relations and systematically exclude Indigenous Peoples from policy making.

Land Acknowledgement

Agenda

- What is equity?
- Equity and Climate Synergies Resource Hub
- Applying an equity lens to EV and E-mobility Strategies
- Examples of successful actions
- Crowdsourcing via MENTI
- Free Dialog - sharing experiences/feelings/thoughts/ideas

What is Equity?

The climate crisis is a justice crisis

Equity:

- Climate equity means addressing the unequal burdens made worse by climate change, while ensuring that all people share the benefits of climate protection. Achieving equity means that all people live in safe, healthy, fair communities. Climate Justice, EPA
- "An equitable region is one in which all can participate and prosper in their communities and where benefits and burdens are shared fairly." (Florida Climate Assessment tool)

Equity-seeking/deserving groups:

- Women and non-binary individuals, people with disabilities, BIPOC (Black, Indigenous*, people of colour) communities, LGBTQ2S+ communities, undocumented workers, immigrants, refugees, low-income residents, unhoused or underhoused individuals, youth, seniors

Equity-Seeking Groups and Climate Vulnerability:

- The degree to which individuals and places are at risk from climate change, and their ability to cope with those impacts
- Climate change disproportionately impacts equity-seeking populations

Equity Lens & Co-Benefits

Applying an equity lens to climate actions means *considering the impacts of climate change on different communities and ensuring that the benefits of climate solutions are distributed fairly*.

Win-win-win!

- Climate change efforts through an equity lens can have **numerous co-benefits** through:
  - Improved livelihoods for equity-deserving communities
  - Healthier, safer, and more accessible communities for all
  - Addressing historical oppression and advancing anti-racism and reconciliation
  - Building stronger public support for climate actions

Equity and Climate Synergies Resource Hub

- November 2022: CAP workshop on climate & equity synergies
- The hub supports municipal staff with applying an equity lens to climate actions
- We are not experts on equity and climate, but trying to facilitate the collective learning and application of learnings across the Clean Air Council network

Introduction

What is Equity?

Why Apply an Equity Lens?

Language for Framing Climate & Equity Synergies

Climate & Indigenous Ways of Knowing & Being

Questions for Identifying Climate & Equity Synergies

Introduction

This resource hub is intended to support municipal staff with identifying equity and climate synergies in their climate action plans. If your municipality already has an existing plan, this hub can help strengthen it, and if you are still in the process of developing one, this is the perfect place to get started.

Electric Vehicle Strategies and E-Mobility Plans

- The focus of municipal transportation should be on moving people - safely and efficiently by promoting alternative transportation methods over single occupancy vehicles.
- E-mobility technologies offer increased connectivity to transportation networks, provide multiple options to accommodate transportation needs and financial circumstances and lead to cleaner air and other public health benefits.

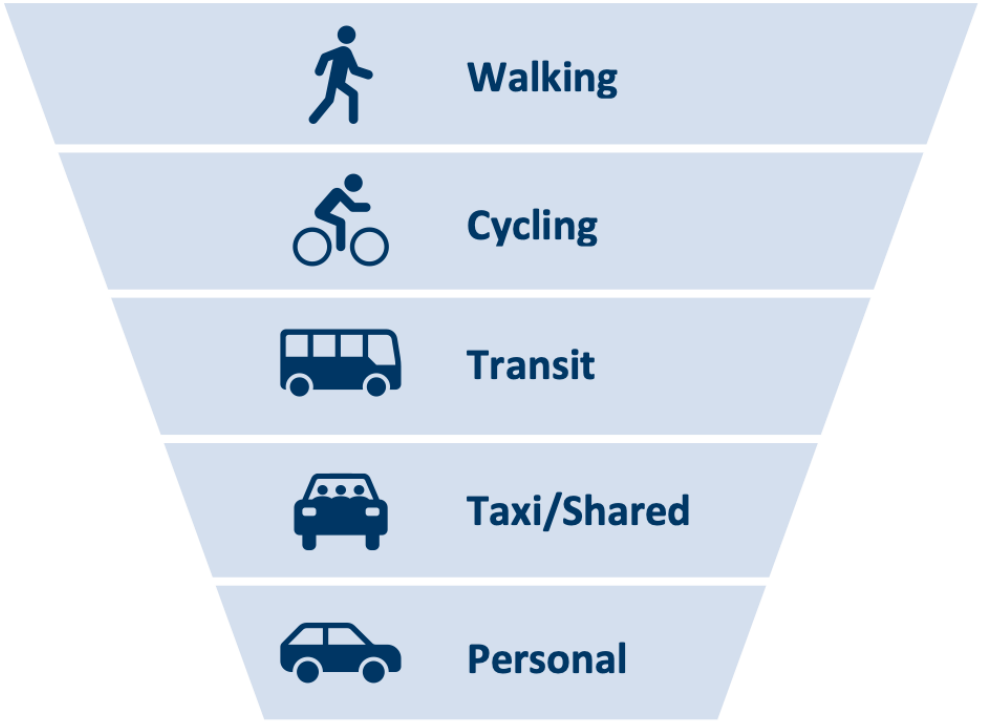


Figure 1: The mobility pyramid emphasizes multimodal mobility before personal vehicle dependency.

Source: Toronto's EV Strategy

EV Adoption Thus Far

General

- Most early electric vehicles have been bought and driven by relatively affluent households
- Many EV models on the market in 2020 are luxury vehicles
- Incentives for EVs are often given to higher-income buyers
- EV charging infrastructure is not equitably dispersed, and more low-cost charging is needed in lower-income residential areas

Municipal

- Many municipalities took a role in EV adoption to support residents and businesses transitioning to electric mobility
    - Public charging
    - GDS with EV-Requirements

Economic Equity Implications of Electric Vehicles

- Low-income households that do own cars often must spend larger proportions of their income on vehicle-related expenses.

- As EV technology improves, it holds the potential to reduce transportation costs relative to household income, especially for low-income households.

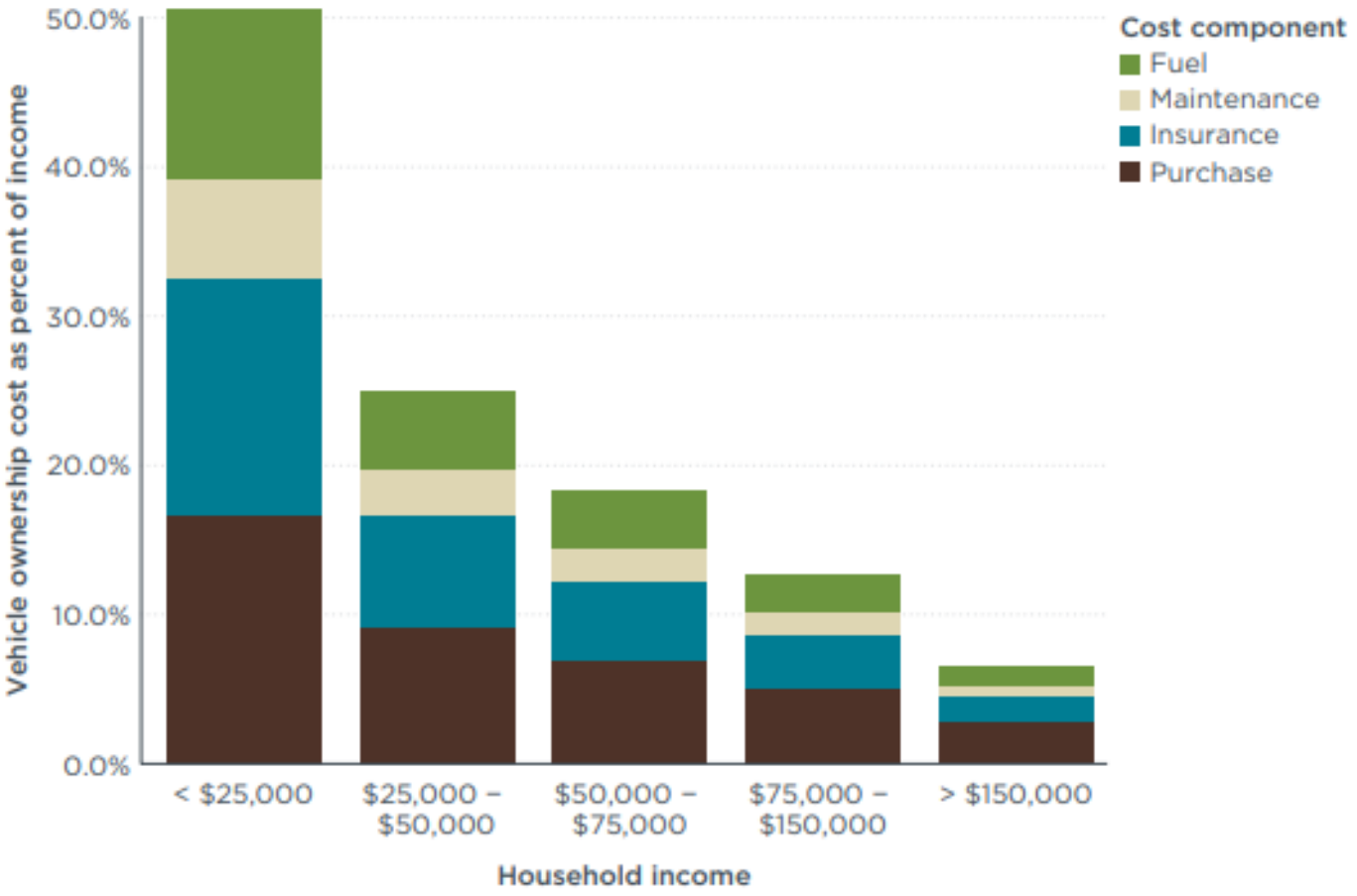


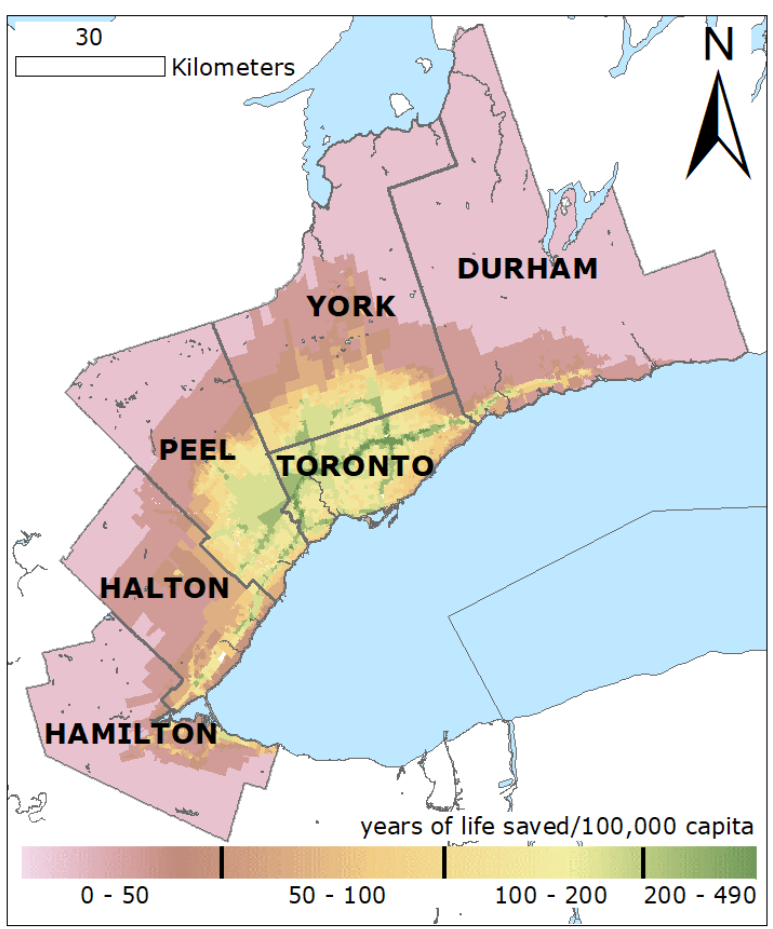
Figure 1. Total cost of vehicle ownership as percent of income, by annual household income.

Source: ICCT, USA

Health Implications of Electric Vehicles

Air quality improvements from cleaner vehicles:

- Could prevent hundreds of premature deaths every year
- Reduce about 70 % of the region's traffic-related GHG emissions
- Lead to billions of dollars in social benefits, including about $10,000 in social benefits for every electric vehicle replacing a gas-powered car.



Years of life saved per 100,000 inhabitants in the GTHA every year if 100% of cars/SUVs are electric

Source: Environmental defence

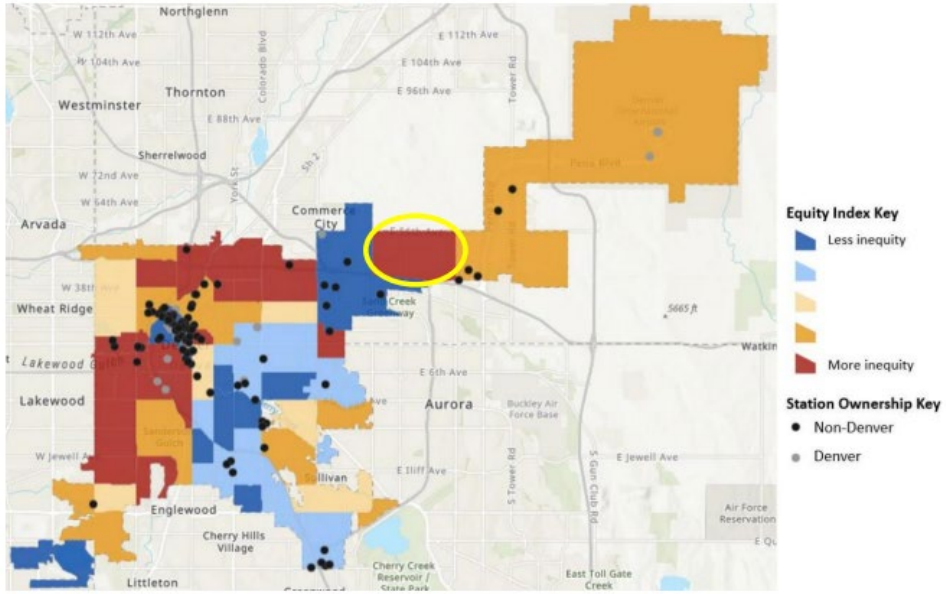
E Mobility

- Stuckless Consulting Inc.'s free report on the state of e-bikes in Canada
  - equity deserving groups like women are positively impacted by e-bikes
- E-mobility pilot projects
  - E-scooters, E-bike sharing – Denver, North Vancouver, with pilot e-bike program for lower-income residents and incentives
  - E - Car-Sharing - providing access to EVs without the upfront and operational cost of owning a vehicle
  - E-shuttle - filling first-mile last-mile gaps and connecting more remote passengers to community hubs

Examples of Successful Actions

Example 1: Denver's Neighborhood-Based Approach to Equitable E-Mobility: Key Equity Metrics

- Socioeconomics: Considers education and poverty indicators
- Built Environment: Considers access to parks and food.
- Access to Care: Considers access to prenatal care
- Morbidity: Considers childhood obesity levels
- Mortality: Considers life expectancy



Example 1: Denver's Neighborhood-Based Approach to Equitable E-Mobility

Pilot options

Active & Micro-Mobility

Micro-mobility is a way to address several mobility needs for those who want the autonomy of personal mobility but can't or don't want to drive a single-occupancy vehicle. These solutions also address the expressed desire for more active mobility options, however, they may not be as suitable for Montbello's elderly population.

E-scooter or e-bikes connecting schools to afterschool activities or centers	E-Bike "library" at rec center or other service location	Lead group bike or scooter events with e-mobility available for loan.
E-bike or e-scooters connecting residential centers and key services or places of work	Fleet of e-bikes or e-scooters owned by a CBO that are loaned out to members	Implement micro-mobility solutions as an alternative to walking
Establish e-bike or scooter hubs that encourage riders to use less busy streets	Fleet of e-bikes or e-scooters at schools that are loaned out to students	Donate e-mobility technology for giveaways as local events
Install e-bike or e-scooter docking stations at or near bus stops	Connect existing bus stops to the LR with e-bikes or e-scooters	E-bike with panniers and docking station at RC and Walmart

Example 1: Denver's Neighborhood-Based Approach to Equitable E-Mobility

Pilot prioritization

Example: Assessing alignment with "must-have" criteria

Must-haves

Criteria	Meets criteria?	Considerations	Meets Criteria?	Considerations
		Middle/high school trade/shop classes on EVs, e-bikes, or other e-mobility technology		Fleet of e-bikes or e-scooters owned by a CBO that are loaned out to members
Potential Partner	**No**	Have not yet developed relationships with local schools to discuss the possibility of an e-mobility focused trade shop curriculum. Could potentially partner with a group like Environmental Learning for Kids (ELK) to develop a concept.	**Yes**	Several community groups in Montbello have expressed interest in a bike library or bikes for their constituents. Groups like ELK also have experience loaning out equipment to members.
Available Funding	**Yes**	CASR has funding available to cover some upfront costs, including purchasing of e-mobility technologies.	**Yes**	CASR has funding available to cover some upfront costs, including the purchasing of low-cost e-bikes and equipment.
Public Health and Safety	**No**	Trade/shop classes would likely take place indoors, which would currently be considered a high-risk activity due to COVID-19.	**Yes**	The use of e-bikes and e-scooters would be largely outdoors, making this a low-risk activity during the COVID-19 pandemic. Training component could address concerns about user safety.
Affordability	**Yes**	Courses would be provided through local schools at no cost to students.	**Yes**	E-bikes could be loaned out by the CBO to members at no cost.

Examples of Successful Actions

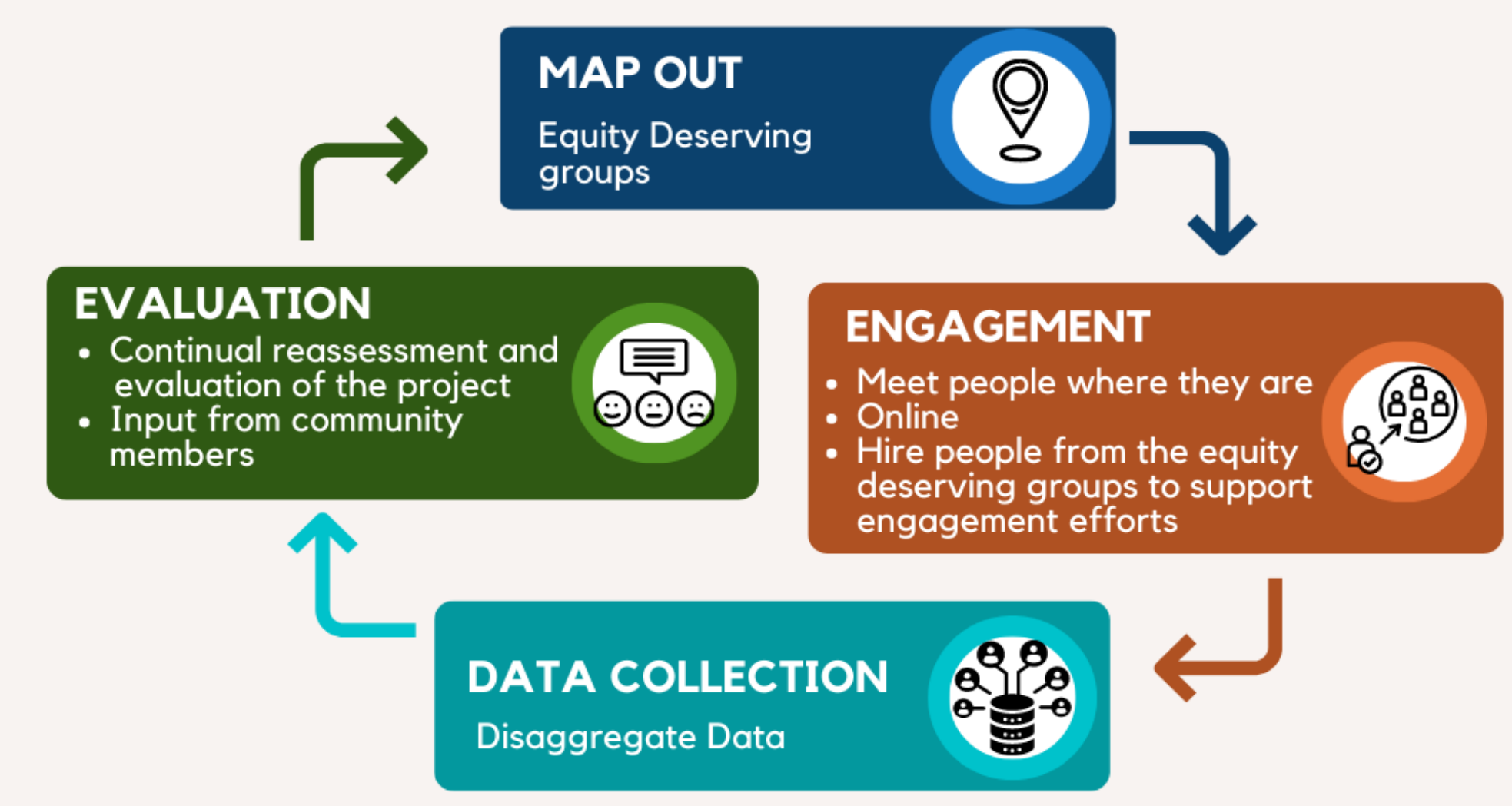
Example 2: Quebec – municipal own vehicles used by public

- TCiTé Mobility Project - a group of municipalities in the Gaspésie-Îles-de-la-Madeleine region together with transit organization RÉGÎM purchased 10 EVs and charging and a Mobility as a Service digital tool to support the coordination of reservations.

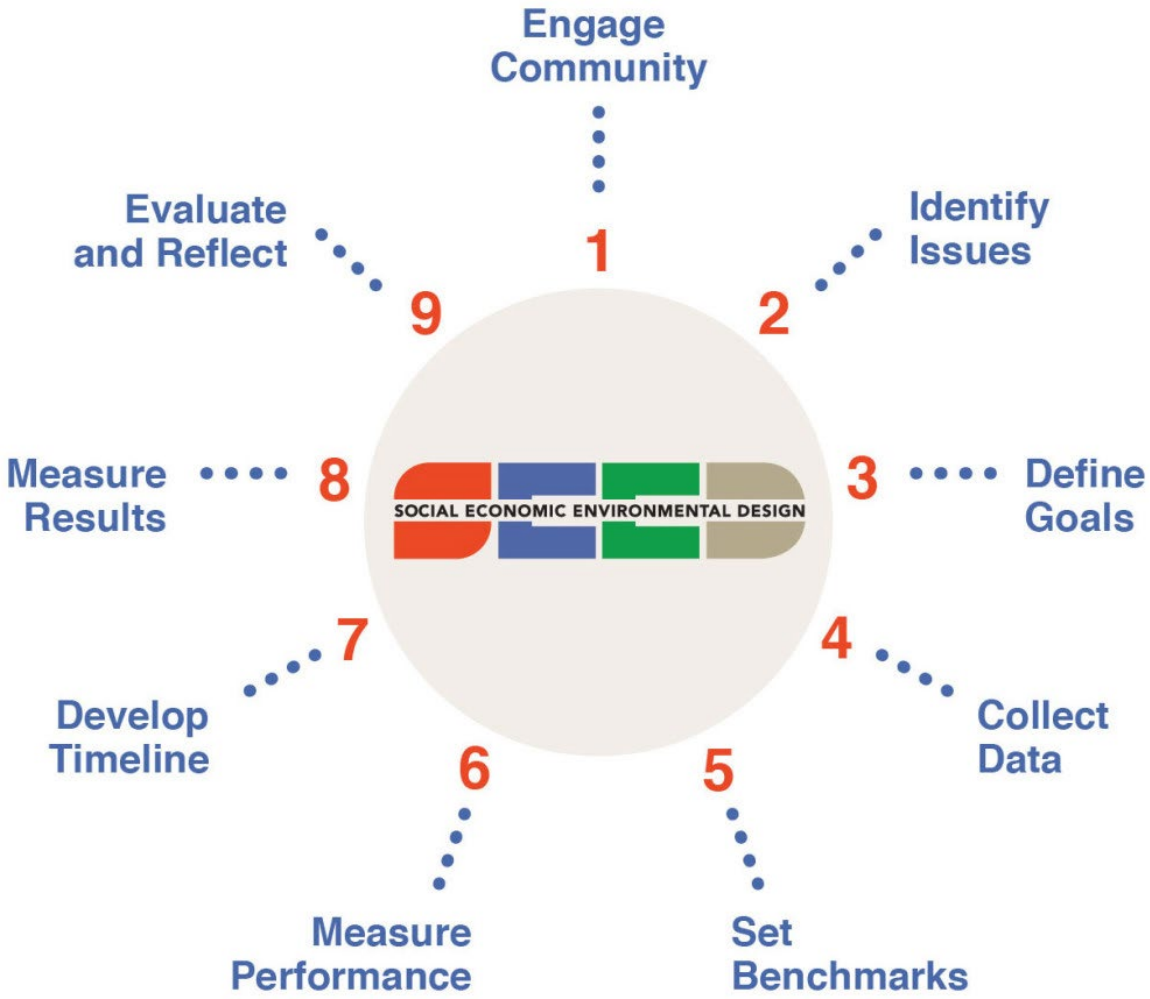
- Regional Electric Car-Sharing System: The SAUVér Project - 10 municipalities are introducing 10 EVs into their fleets and 17 EV chargers to connect the region and be used by the communities underserved by public transit and taxis.

Crowdsourcing via MENTI

The Project Cycle



SEED diagram



Upcoming Equity Lens Workshops

- ~~**March 3:** Active Transportation~~
- ~~**April 13:** Green Development Standards & Low-Carbon Energy Planning~~
- ~~**September 28:** EV and E-Mobility Strategies~~
- **October 6:** Growth Management & Land Use
- **November 9:** Rental Retrofit Market & Renewables Installations Projects

CAP Resource - Municipal Climate Decisions Calendar

The Municipal Climate Decisions Event Calendar provides a central platform to share info. about upcoming council and committee meetings from across municipalities in Ontario's GTHA.

The calendar highlights meetings focused on:

- climate change and sustainability,
- land use,
- Transportation and active transportation,
- infrastructure and environment

Aim - to increase community awareness and accessibility, encourage attendance, and lower barriers to staying informed about municipal decisions.

Thank you!