A Micromobility Strategy for Toronto

Infrastructure & Environment Committee – May 2, 2024

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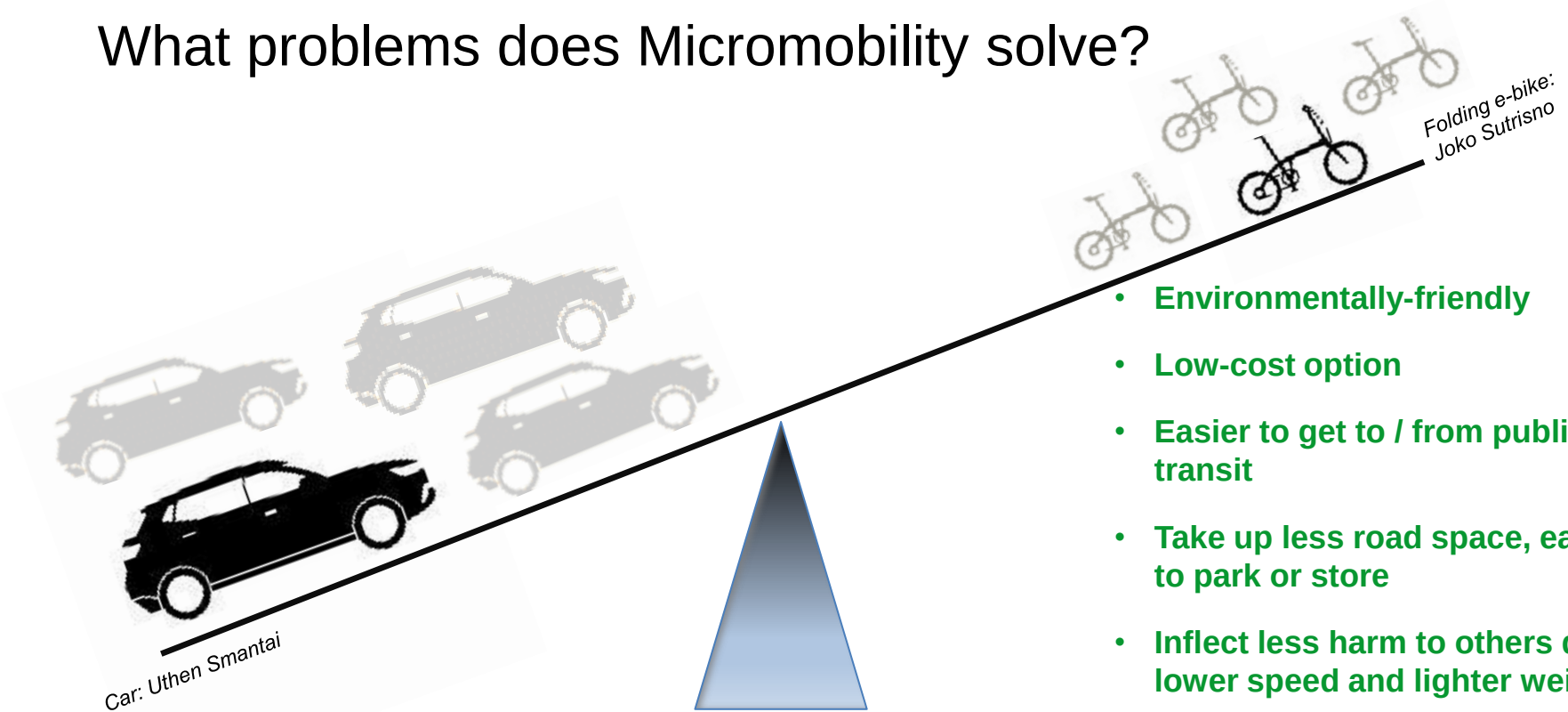
www.toronto.ca/micromobility

What problems does Micromobility solve?



- **Environmentally-friendly**
- **Low-cost option**
- **Easier to get to / from public transit**
- **Take up less road space, easier to park or store**
- **Inflect less harm to others due to lower speed and lighter weight**
- **Electric-assist helps with travel uphill and longer distances**

Why do we need a micromobility strategy?

- In July 2023, Council requested a strategy to address growing use of micromobility and its safe operation, and whether to opt in to additional pilot projects under the Ontario Highway Traffic Act (HTA) to test new vehicle types.
- The strategy guides the adoption of micromobility in Toronto in a manner that aligns with key policy goals.
- These goals form the criteria for assessing new micromobility opportunities and areas of action.

Key Policy Goals	
Safety	
Mobility	*Environment*
Equity & Inclusion	*Health*
Economic Vitality	*Costs & Liability*

Ontario Pilot Opportunities

Toronto has opted into two pilots:

Large Cargo E-bikes (opted in 2021)

Source: Global News

Large Quadricycles (e.g. Pedal Pub) opted in 2022)

Source: Hammacher

Not opted in yet for:

Low Speed Vehicles
(2017-27, Toronto has not opted in yet)

Source: eCartsontario

Electric kick-scooters
(2020-25, Toronto has not opted in)

Source: SpectrumNews1 from Superpedestrian

Which pilots do well when applying the key policy criteria?

- **3 of 4 pilots have staff support:**
  1. Cargo cycles to transport shopping/ kids and for parcel deliveries (opt-in in 2021)
  2. Expand Large Quadricycles (opt-in in 2022)
  3. A new pilot for **Low-Speed Vehicles** (electric mini-car or mini-van/truck)

Source: Curbside Cycle

Source: Purolator

Benefits Case – Low-Speed Vehicles

Source: Green Car Reports / GEM

Source: Electrek

Source: Electreck / Wink

Policy criteria (rating is in parentheses)	*Low-speed vehicles assessment based on jurisdictional scan and Toronto's context*
Safety (green)	Enhances safety by being less dangerous to vulnerable road users and encourages smaller, lighter weight and slower EVs on roads
Mobility (green)	Expands options for non-leisure/utilitarian purposes (carrying items/groceries or running errands) using smaller, lighter, and lower-emissions vehicles
Environmental (green)	Supports the transition to EVs/zero emission vehicles
Equity & inclusion (yellow)	Provides an option to transition to more affordable EVs that does not have a disproportionate negative impact on any one group/groups. Requires budget to purchase an LSV. Use cases may appeal more to persons with disabilities, older adults/seniors and women compared to other forms of micromobility
Health & public health (green)	Contributes to road safety by being less dangerous to vulnerable road users as LSVs are smaller, lighter weight and slower than typical cars/vans/trucks on roads, and reduces air pollution as a zero emissions vehicle
Economic vitality (green)	Provides a more affordable way to transition to EVs and takes up less road space and enables a more space-efficient mode on the street for commercial (parcel) deliveries
Costs and liability (green)	Risks are mitigated for the City since LSV operators are required under the HTA to have a driver's licence, vehicle registration and proof of insurance provided to Service Ontario

Continue to decline piloting e-scooters

Source: Swifty Scooters

Source: R.Ventura, A.Ghirardi, D.Vetturi et al. International Journal of Transportation Science and Technology.

Policy criteria (rating is in parentheses)	*E-scooter assessment based on jurisdictional scan and Toronto's context*
Safety (red)	Less stable and less able to handle uneven surfaces than bicycles. E-scooter users presented to hospitals with a greater share of head, face, and neck injuries than cyclists. Night-time riding, intoxicated riding, underage riding, and encountering poorly maintained road surfaces all contribute to elevated crash and injury risk. The issue of fire risk from lithium-ion batteries also remains to be solved.
Mobility (yellow)	The limited data available at this time is inconclusive about whether use cases are more for short trips and leisure than for utilitarian purposes. Under the HTA, e-scooter riders are not permitted to carry things, e.g. parcels/cargo and not allowed to carry a passenger.
Environmental (yellow)	The limited data available at this time is inconclusive about whether e-scooter use primarily replaces trips by walking, transit and cycling rather than higher impact modes. Short life span/life cycle of e-scooter devices generates more waste than other micromobility.
Equity & inclusion (orange)	Disproportionate negative impact on pedestrians, seniors, and persons with disabilities who rely on safe sidewalks. E-scooter vehicle design and operations have not factored in gender adequately.
Public health (orange)	Serious injury and fatality risks for e-scooter riders and non-riders would increase the burden for the health care system. Negative impacts for walking, cycling and transit mode shares would undermine chronic disease prevention.
Economic vitality (orange)	Jurisdictional scan suggests negative impacts on the public realm associated with e-scooter use (e.g. sidewalk riding, weaving among pedestrians, racing), which impact business activity. Shared e-scooter systems contribute further with e-scooters littered on sidewalks and vandalism of the devices.
Costs and liability (red)	The e-scooter's inherent instability in its design (i.e. small wheels, high center of gravity, twitchy steering, etc) combined with the City's substantial SOGR backlog for roads, on-going construction/utility cuts and freeze-thaw impacts on asphalt, poses injury risks for e-scooter users, and significant exposure for the City in terms of claims and liability.

Shared Micromobility – Bike Share Toronto

Photo: Shift Transit

- Run by Toronto Parking Authority
- More than **1,000 docked stations** to serve every ward with **20% electrification** by 2025-2026
- Currently **over 9,000 bikes**
- At **52 TTC stations** and **6 GO stations**
- **5,704,000 rides for 2023** (24% ↑)
- January trips increased by **217%**

Updated rules on where micromobility vehicles should be permitted to operate in Toronto?	Road	Painted Bikeway	Physically Separated Bikeway	Sidewalk
	✓	✓	✓	✗
 Throttle, e-motor-scooter Max 32km/hr speed	✓	✓	✗	✗
LSV (e mini-car) only on roads max speed 50km/h. 	✓	✗	✗	✗
	✗	✗	✗	✗

Path Forward for Micromobility – 10 Action Areas

I. Updating and Clarifying Rules on What Types of Micromobility are Allowed and Where
II. Enhancing Use and Reach of Shared Micromobility – Bike Share Toronto, Integration with Transit, and Equity and Affordability Initiatives
III. Enabling and Promoting Use of Micromobility Among City Staff
IV. Expanding Micromobility Infrastructure through the City's Network of Bikeways, Bikeway Design, Road Safety Improvements, and Bike Parking
V. Operations and Maintenance Initiatives to Support Micromobility
VI. Collaborating to Promote Awareness of Safe and Lawful Use of Micromobility and use of Seasonal Enforcement Blitzes
VII. Broad Education on Fire Safety for Lithium-Ion Batteries Used in Micromobility Vehicles
VIII. Engaging Transport Canada and MTO to Request Their Help and Support for Safe Micromobility Adoption
IX. A Multi-Partner Table to Address the Food Delivery App Industry Issues
X. Data Collection for Monitoring Micromobility Usage and Safety

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Key Partnerships for Safe Adoption of Micromobility

Multi-Partner Table with Food Delivery App Companies

- **Establishing a multi-partner table** for collaboration and joint problem solving
- **Licensing is not recommended** (no COTA authority, and counter to Net Zero and equity goals)
- **Intended participants**: food delivery app companies, Gig Workers United, Cycle Toronto, and key Divisions and ABCs (e.g. SDFA, Bike Share Toronto, TTC, Metrolinx, TPS, etc).
- **Issues**: safe riding, education/training, public space impacts, safe charging, courier hubs, etc.
- **Twice a year blitz**: by the Toronto Police Service, in coordination with public education/awareness raising

Photo: Evan Mitsui / CBC

Photo: Nathan Denette / The Canadian Press

Lacking federal recognition as utilitarian vehicles…

With respect to micromobility vehicles, (e.g., e-scooters, hover boards, children's plastic electric "vehicles"), it is important to note that there is no such explicit definition under the Act. The legislation defines a vehicle as "designed to be, or is capable of being, driven or drawn on roads by any means other than muscular power exclusively, but does not include any vehicle that is designed to run exclusively on rails."

Given that they are intended as recreational/mobility devices, micromobility vehicles are not designed for use on public roads with other traffic. As such, the Motor Vehicle Safety Regulations exclude these vehicles provided they operate at speeds under 32km/h. At the same time, should a manufacturer wish to deploy a micromobility device with a top speed of 32km/h or more, the device would be required to meet applicable

Sincerely,

The Honourable Omar Alghabra, P.C., M.P.
Minister of Transport

Roles of Each Order of Government

Order of Government	Role and responsibilities
Canada (federal)	Sets and enforces vehicle safety standards for new vehicles sold in Canada (point of sale) and for imported vehicles (importation).
Ontario (provincial)	Sets the rules for the safe operation and maintenance of vehicles in Ontario (e.g. driver's licence, insurance, tire maintenance) and pilot projects for testing and evaluating matters under the Ontario Highway Traffic Act. Sets the minimum maintenance standards for municipal roads in Ontario (e.g. depth and width of potholes, snow clearing, etc.) in the City of Toronto Act and the Municipal Act.
Toronto (municipal)	Sets by-laws on where vehicles can operate on municipal infrastructure (e.g. public streets, bikeways, multi-use paths). Designs, builds, operates and maintains municipal infrastructure and systems (e.g. bikeways, roads, sidewalks and paths, bike parking, etc)

Thank you