Communication : C 1
Committee of the Whole (Working Session)
September 13, 2023
Agenda Item # 1

Accommodating Micromobility Devices (e-bikes & e-scooters)

Infrastructure Planning & Corporate Asset Management
Transportation Planning and Engineering

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Agenda

1. Background
   - What are micromobility vehicles?
   - What are the current provincial regulations?
2. Journey and Next Steps
   - The Micromobility Journey
   - What we heard from our residents
   - Summary of best practices research
3. Recommendations

Background

What are power-assisted micromobility vehicles?

What Power-Assisted Micromobility Devices?

Power-Assisted Micromobility is a general term used to describe compact, low-speed, lightweight electric-powered modes of travel. They are typically a single-person vehicle used for shorter trips. **Staff are recommending additional guidance and regulation for the use of these devices.**

E-bikes

E-scooter

Most popular

E-hoverboard

segway

E-unicycle

Not recognized as vehicles by the Province and are not permitted on public rights-of-way

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How are Power-Assisted Bicycles (e-bikes) regulated in Ontario?

2020 | 2021 | 2022 | 2023

Power-Assisted Bicycles (e-bikes)

- updating definition of e-bikes and regulatory framework
- O. Reg. 369/09

Under Provincial regulations, e-bikes are permitted where conventional bicycles are permitted, except:

- municipal roads, sidewalks, cycling facilities and shared-use paths / trails where e-bikes are prohibited by a municipal by-law
- **In Vaughan today, e-bikes are permitted on all roadways, sidewalks, cycling facilities and in-boulevard multi-use paths**

E-Bike Redefinition Comparison Chart: Current Status

Vehicle Type	Bicycle Style E-Bike	Moped Style E-Bike	LSM Style E-Bike	Motor-Assisted Bicycle (Moped)	Limited –Speed Motorcycle (LSM)
					
Current Status: Classification/ Operator and Vehicle Requirements	VEHICLE REQUIREMENTS **Class:** Power-Assisted Bicycle (E-Bike) – not a motor vehicle **Label:** Yes (Federal Compliance Label) **Weight:** 120kg or less **Max. Speed:** 32 km/h with motor assistance			VEHICLE REQUIREMENTS **Class:** Motor-Assisted Bicycle (Moped) – motor vehicle **Label:** Yes (Federal Compliance Label) **Weight:** 55kg or less **Max. Speed:** 50km/h with motor assistance	VEHICLES REQUIREMENTS **Class:** Limited-Speed Motorcycle – motor vehicle **Label:** Yes (Federal Compliance Label) **Weight:** No limit **Max. Speed:** 70km/h with motor assistance
	OPERATOR REQUIREMENTS **Licence, Registration and Insurance:** Not required **Helmet:** Required for all **Driver Age:** 16+ **Passengers:** Yes, 16+			OPERATOR REQUIREMENTS **License, Registration and Insurance:** Yes **Helmet:** Required for all **Driver Age:** 16+ **Passengers:** No	OPERATOR REQUIREMENTS **Licence, Registration and Insurance:** Yes **Helmet:** Required for all **Driver Age:** 16+ **Passengers:** Yes

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How are kick-style electric scooters regulated in Ontario?

In Ontario, the use of kick-style electric scooters (e-scooters) is governed by a provincial pilot program, launched in 2020, which provides regulations on safety requirements for riding and operating, as well as size, speed and weight restrictions:

2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032

E-scooter

- 2020 to 2025 (5 yrs)
- O. Reg. 389/19

Municipalities opting into pilot must pass by-laws to permit their use and set out specific requirements and decide on:

- where e-scooters may operate and park
- how e-scooter companies can provide shared uses (i.e. license/ permit).
- how people can give feedback

Riders must be:

- at least 16 years old
- stand at all times while riding
- wear a CSA approved bicycle helmet if under 18 years old

Riders are NOT permitted to:

- carry passengers, carry cargo
- operate an e-scooter on controlled access highways (e.g. 400-series highways, QEW, etc.)

How are all other Power-Assisted Micromobility Devices regulated in Ontario?

In Ontario, the use of other power-assisted micromobility devices listed below is governed by the following provincial pilot programs, launched at different times, which provides regulations on safety requirements for riding and operating, as well as size, speed and weight restrictions.

Municipal by-law amendments are required to opt into these pilots and allow the use of these devices.

2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032

Low Speed Vehicles

- 2017 to 2027 (10 yrs)
- O. Reg. 215/17

A low-speed vehicle is an electric, four-wheeled vehicle that is smaller and lighter than a regular car. Low-speed vehicles have a maximum speed of 40 kilometres per hour.

Cargo Power Assisted Bicycle (Cargo e-bikes)

- March 2021 to March 2026 (5 yrs)
- O. Reg. 141/21

Golf Cars

- 2021 to 2031 (10 yrs)
- O. Reg. 407/21

Small four-wheeled vehicle without window/ door that can be either electric or gas-powered, can seat 2-4 people.

Large Quadricycles

- April 2022 to April 2032. (10 yrs)
- O. Reg. 411/22

Large quadricycles are bikes that can seat 12 or more people and are often used for tourism. They can be non-electric or electric-assisted.

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Journey and Next Steps

- The Micromobility Journey
- What We Heard from Our Residents
- Summary of Best Practices Research

The Micromobility Journey

2019

May-June (MTO)
MTO sent out Consultation Invitation on rules of the road for e-bikes, e-scooters & bicycles

August (MTO)
MTO requested feedback on the proposed regulatory & policy framework kick-style e-scooter pilot in Ontario Roads

October (York Region)
York Region set up Municipal e-scooter working group, met quarterly (Vaughan, Markham, Richmond Hill, Peterborough, Toronto, Calgary, Edmonton, Ottawa, Montreal)

November (MTO)
MTO announced 5-year e-scooters pilot starting Jan 2020. Municipalities asked to amend by-law to opt-in for pilot

December (Vaughan)
City of Vaughan opt-out of the provincial pilot along with City of Toronto

2020

January – December (City)
City Staff continued research, data collection, municipal working group information sharing & lessons learned to develop Micromobility Framework

March (COVID-19 Disruption)
The World Health Organization declares COVID-19 a pandemic. Online schools and Work from home began

2021

March (MTO)
MTO launched a cargo e-bikes pilot starting March 1, 2021. Vaughan did NOT opt-in.

Spring – Summer (City)
Increased micromobility devices seen in the City with increased inquiries and concerns from residents during pandemic.
In response, the City began public education and outreach initiatives

September (City)
Presented final Micromobility Framework to Council.

2022

June (City)
Issued Request for Information to solicit shared electric micromobility solutions to address challenges in City

Summer (City)
In-person Surveys to solicit input, concerns and feedback from residents through Concerts in the Park events.

September (City)
- Engaged Consultant to investigate the accommodation of motorized micromobilty devices on existing and future cycling facilities, which was summarized in a white paper.
- Interviewed municipalities with experiences in operating shared e-bikes/ e-scooters and lessons learned

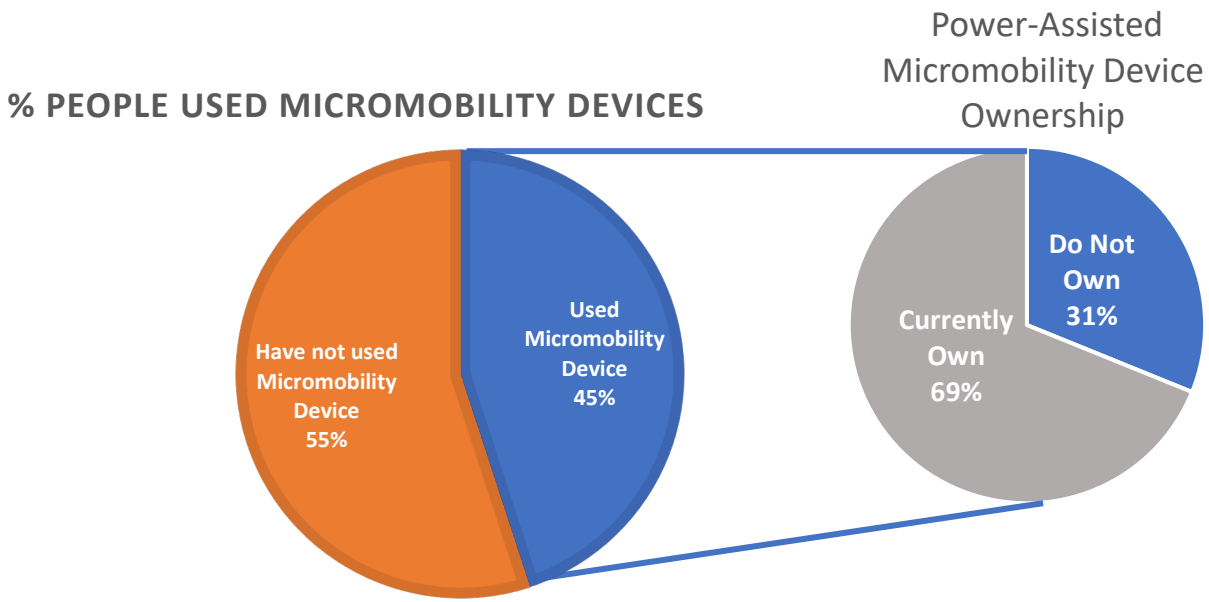
2023

January – Ongoing (City)
- Report to Council on White Paper, surveys, municipal interviews findings and propose recommendations to accommodate micromobility devices on AT facilities.
- Review bylaw for necessary changes to opt-into provincial pilot.

April - MTO
- MTO released Regulatory Registry posting on transforming the way MTO tests micromobility vehicles on road.

Summer - City
- Outreach & Education events including in-person surveys

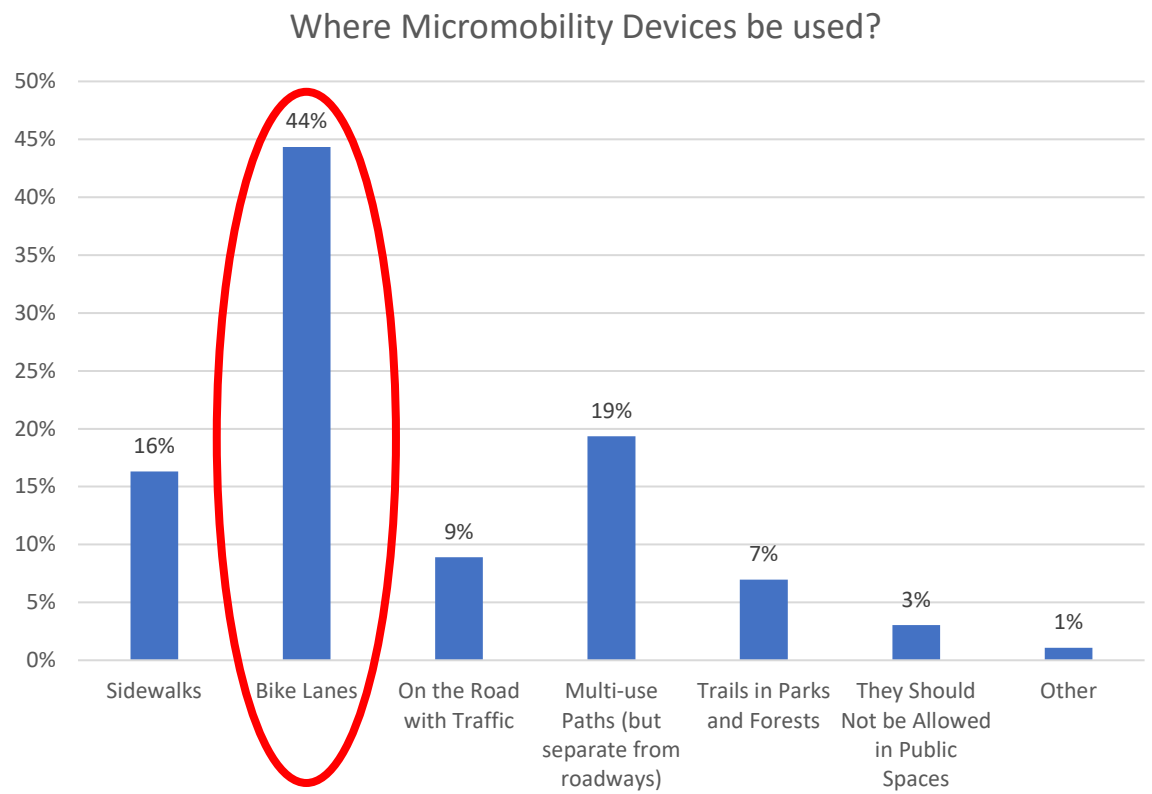
What we heard from our residents 2021-2023



Of those who used a micromobility device, **34%** used e-bikes and **37%** used e-scooters

82% surveyed participants would like to try/ continue riding micromobility device in the future

53% of all respondents strongly or somewhat agree that power-assisted micromobility devices are safe to use in the city



The top three (3) reasons for respondents to feel unsafe using these devices in the city are:

- Operating in mixed traffic on the road
- The speed of the power-assisted micromobility devices
- **Lack of clarity on where to ride the devices**

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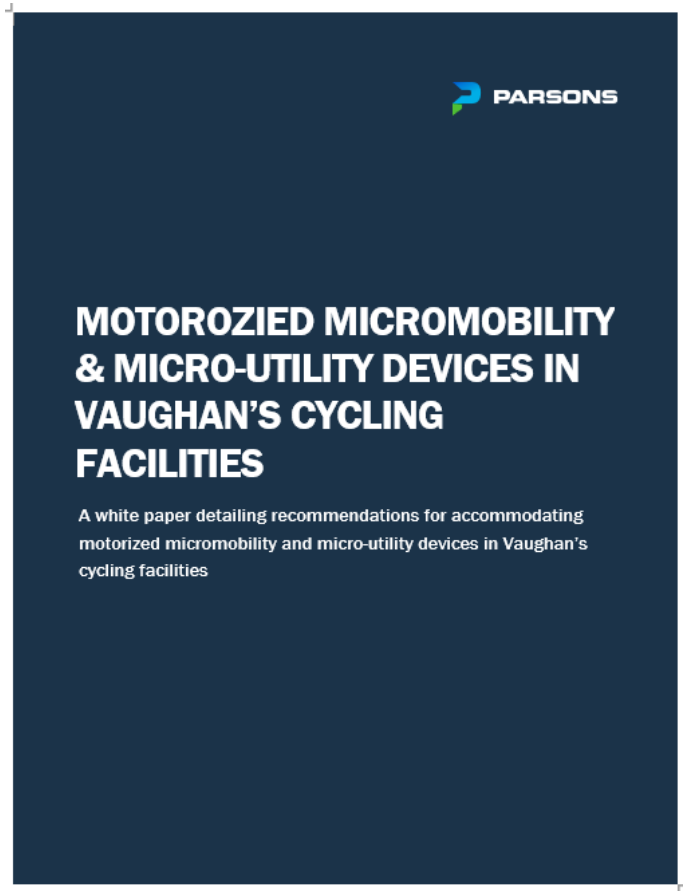
Addressing what we heard: Best Practices Research

Engaged consultant to complete research paper:

- Jurisdictional scan of best practices in North America
- Appropriate design of cycling facilities for micromobility devices
- Other recommendations to enhance safety for all users

Determined that designated cycling facilities in Vaughan can accommodate micromobility devices



Recommendations: Where micromobility should be permitted

- Permit on designated cycling facilities (cycle tracks, bicycle lanes and in-boulevard multi-use paths)
- Permit on roads with speed limits ≤50 km/hour if designated cycling facilities are not provided
- Design all future designated cycling facilities to accommodate micromobility devices (cycle tracks / bicycle lanes of 2.0m; in-boulevard multi-use paths of 4.0m)
- Prohibit on sidewalks or on any roadway that prohibits pedestrians and/or bicycles (e.g. controlled-access highways)
- Prohibit on recreational multi-use trails and in parks and playgrounds

Cycle tracks under construction along Clark Avenue (2020)

In-boulevard cycle tracks along Millway Avenue within the Vaughan Metropolitan Centre

Recommendations:
Where micromobility should be permitted

	 E-bikes	 E-scooter	Other Power-Assisted Micromobility Vehicles  Segway  E-hoverboard  E-unicycle
Roadway	Yes ✓	Yes ✓ ≤ 50km/hour	No ✗
Bike Lane	Yes ✓	Yes ✓	No ✗
Cycle Track	Yes ✓	Yes ✓	No ✗
In-boulevard Multi-use Path	Yes ✓	Yes ✓	No ✗
Sidewalk	No ✗	No ✗	No ✗
Recreational Multi-use Trail	No ✗	No ✗	No ✗
Parks and Playgrounds	No ✗	No ✗	No ✗
Private Property	Yes ✓	Yes ✓	Yes ✓

Recommendations: Additional Safety Measures

Source: York Region Pedestrian and Cycling Planning & Design Guidelines

- Where appropriate, consider incorporating:
  - Separators (e.g. buffer zones, bollards, planters, street furniture) to reduce conflicts
  - Passing zones to allow higher speed devices to pass safely
  - Pavement markings and signage to improve awareness for all road users

- Proper maintenance of infrastructure results in improved safety outcomes.

❖Public Education and Outreach is critical to guide users on responsible and safe behavior while operating micromobility devices.

- Enforcement should be considered as a last resort.

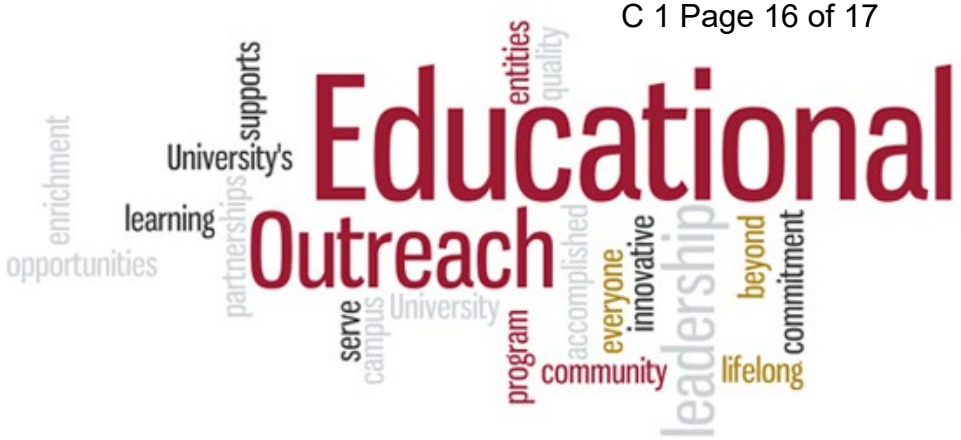
Recommendations: Initiate Shared E-bike / E-scooter Pilot Project

A shared e-bike and/or e-scooter service allows users to rent these devices for limited time use.

The benefits of this pilot project may include:

- Enabling a new form of convenient transportation to access major destinations and transit
- Showcasing safe and responsible use of micromobility devices through device programming rather than enforcement
- Providing information on how best to leverage these devices in the transportation system
- Understanding the potential environmental, economic and financial impacts of e-bikes and e-scooters

Recommendations: Raise Public Awareness



The key to ensuring safety for all road users is to raise public awareness through education and outreach. This allows the city to communicate with the public and provide information on:

- What power-assisted micromobility devices are
- Where they are permitted to be used
- How to use them responsibly and safely
- How to provide feedback and get more information
- What penalties could be incurred if used improperly

Questions