

City of Mississauga  
**Corporate Report**



<p>Date: 2019/10/16</p> <p>To: Chair and Members of General Committee</p>	<p>Originator's files:</p>
<p>From: Helen Noehammer, M.A.Sc., P. Eng, Acting Commissioner of Transportation and Works</p>	<p>Meeting date: 2019/10/30</p>

**Subject**

**Bikes, E-Bikes and E-Scooters: Expanding Mississauga's Transportation Options (All Wards)**

**Recommendations**

1. That the report titled Micromobility Systems in Mississauga, dated October 16, 2019 from the Acting Commissioner of Transportation and Works be received; and
2. That staff develop and report back to Council on a regulatory framework to encourage and enable a phased introduction of micromobility systems in the City of Mississauga.

**Report Highlights**

- Micromobility systems provide users with the ability to use shared devices to travel short distances. There are a variety of devices, governance models and operational models.
- Micromobility systems are a transportation service and it is up to the City to determine the optimal method to deliver such a service to the public.
- Electrification of micromobility fleets presents a significant opportunity for the City of Mississauga.
- Currently e-scooters cannot be operated within the public right-of-way under the Ontario Highway Traffic Act; however, there are ongoing provincial consultations with respect to regulating and legislating e-scooters.

**Background**

The Cycling Master Plan (2018) recommended exploring the feasibility of bike share systems in Mississauga. Action No. 22 of the Mississauga Transportation Master Plan (2019) also called for the creation of a micromobility policy framework. In addition, a wide range of City, Regional and Provincial plans and policies support micromobility systems, including:

General Committee	2019/10/16	2
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- Mississauga Official Plan
- Mississauga Transportation Master Plan
- Mississauga TDM Strategy and Implementation Plan
- Mississauga Cycling Master Plan
- Region of Peel: Sustainable Transportation Strategy
- Let's Move Peel: Long Range Transportation Plan
- Region of Peel Official Plan
- Metrolinx 2041 Regional Transportation Plan
- Metrolinx GO Rail Station Access Plan
- Ontario Growth Plan for the Greater Golden Horseshoe

In turn, “Bikes, E-Bikes, and E-Scooters: Expanding Mississauga’s Transportation Options”, a report on micromobility systems in Mississauga, dated August 2019 was completed by staff in response to the actions set out by the aforementioned plans and policies. A copy of the full report is provided in Appendix 1. The following section provides a summary of this report.

## Comments

Micromobility systems provide users with the ability to use shared devices to travel short distances. They offer individuals an alternative to travelling by automobile and increase access to multi-modal travel. In addition, they align with established City, Regional and Provincial goals by promoting:

- **Sustainability:** Combating congestion, improving air quality, and reducing emissions;
- **Multi-Modal Transportation:** Providing residents with alternatives to automobile travel;
- **Healthy Communities:** Connecting communities and improving health outcomes;
- **Economic Growth:** Expanding access for residents by providing them with a variety of affordable and reliable transportation options that can get them where they need to be; and
- **Equity:** Increasing access to viable transportation options for all and promoting better social inclusion.

### Devices and System Models

The field of micromobility is currently in a state of flux and disruption. While conventional bicycle share systems have existed for several years, recent vehicle (or “device”) innovations like electric-assist bicycles and electric scooters, coupled with private ownership and operation system models, have created new options for municipalities to consider.

Currently, shared use micromobility systems are comprised of bike, e-bike or e-scooter fleets, which are either publically or privately owned. Originally, it was typical for bike share systems to be publically owned and either publicly or privately operated; however, there has been a recent shift towards privately owned and operated models. The governance model selected determines how the system is designed.

Most publically owned systems are privately operated, although some are publically operated. Publically owned systems' fleets consist primarily of bikes, with select municipalities expanding their systems to include e-bikes. Most public systems use a docked model, relying on the use of stations across a set service area. At this point in time there are no examples globally of publically owned e-scooter share systems.

In contrast, privately owned and operated systems have been found to make use of bikes, e-bikes and e-scooters. However, e-bikes and e-scooters are the most commonly used devices under private models. Private operators use either a dockless or hybrid model for their micromobility systems. A dockless model means that the device can be left "free-standing" or "lock-to" when not in use, with larger operators typically using a "free-standing" model.

Under a free-standing dockless model, users are allowed to park their devices anywhere within the furniture zone of the sidewalk. To minimize clutter, municipalities may choose to implement "no parking" zones and designated parking areas closer to the city centre or areas of high pedestrian traffic. They may also use corrals or havens (painted parking areas) to better organize the parking of micromobility devices. Operators are then required to create a virtual border for select areas using GPS in order to further regulate or restrict the use of micromobility devices within the specified zone by geofencing all designated areas on their service maps.

A "lock-to" model requires users to end their trips by locking the device to street furniture. Municipalities can choose to restrict which types of furniture items the micromobility devices can be locked to, such as public bike racks, or to specific furniture within designated parking areas.

Although less common, some smaller operators use a hybrid model. Hybrid models mix the docked and dockless approaches. They make use of both built infrastructure and designated areas. Users have the ability to pick up and return devices from and to stations and designated areas alike. Typically, a fee is charged for ending a trip at a designated zone in order to incentivize individuals to use stations when possible.

More information on the three device types (bike, e-bike and e-scooter) and the three system models (docked, dockless and hybrid) is provided in Appendix 2 and Appendix 3, respectively.

### Device Safety and Standards

Conventional bikes have a longstanding history of usage in Mississauga and in the field of micromobility in general. In contrast, e-bikes and e-scooters have emerged in shared systems much more recently; in 2014 and 2017, respectively. Both bikes and e-bikes must comply with international technical and design standards (ISO 4210). However, there are no comparable international standards specifically for e-scooters. Germany is the only western country with any sort of design standard for e-scooters. It is also important to note that since e-scooters are typically targeted to a younger market, there are ongoing safety concerns that are still in the process of being addressed both by operators and cities.

The safety concerns noted in some jurisdictions with respect to e-scooters includes: poorly regulated or deficient devices, and higher than expected injury rates relative to total rides. The

municipality may be able to mitigate concerns about the devices by stipulating specific standards for private operators, possibly derived from the German standards noted above. Regarding injuries, in the City of Portland e-scooter pilot statewide emergency room visit data indicated that there were many injuries resulting from e-scooter use. Most injuries were a result of falls rather than collisions. During the four month pilot there were 176 scooter related ER visits, which made up 5% of traffic injuries during that same four month period. While there were a large number of injuries relative to total rides, the Multnomah County ER did not see the 5% injury rate as a deterrent to a second pilot (Portland Bureau of Transportation: E-Scooters Findings Report, 2018).

### Micromobility in Mississauga

There is significant potential for the uptake of micromobility systems in certain areas in Mississauga. Areas of highest potential are concentrated around the downtown core and surrounding areas, with additional areas of potential across the City. Electrification of micromobility fleets presents a further opportunity for the City, where trip distances (whether real or perceived) are long and present a barrier to entry for active transportation among many residents. Using micromobility systems as a first and last mile solution to major transit services such as GO, BRT and LRT is a common strategy in other cities. Potential future growth areas are evident when considering anticipated population growth, planned cycling infrastructure projects, and other on-going city building projects (e.g. major transit expansion). The development of the Hurontario LRT corridor, major developments along the waterfront, and further intensification of the downtown will generate transportation demand that a micromobility system can help to meet.

While micromobility systems have in recent years been promoted as a no-cost transportation service for cities, it remains to be seen whether systems that lack direct public investment can survive over the long term. Indeed, the “no-cost” option has largely gone away; cities are procuring systems and operators on a contract basis, or setting up permit and fee-for-access frameworks to generate revenue and offset costs of oversight, while private operators advocate for fewer or less costly fee structures citing a lack of financial sustainability. From a planning perspective, systems need to be planned and operated with the interests of the city in mind, leveraging local knowledge and expertise rather than relying on private industry which may have limited local knowledge or planning qualifications.

### Legislation

Currently, bikes and e-bikes can be operated within the public right-of-way in Ontario, while e-scooters cannot. There are upcoming legislative changes expected pertaining to micromobility systems. The Federal government has announced its intent to rescind the definition of e-bikes, which is currently included under the Ontario Highway Traffic Act. In turn, there are ongoing Provincial consultations regarding the definition of e-bikes.

The Province of Ontario is also conducting consultations with respect to creating regulations and legislation addressing e-scooters in order to assess the possibility of integrating the use of e-scooters within the public right-of-way. Staff submitted comments to the Province in

General Committee	2019/10/16	5
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September 2019 regarding a proposed pilot period to allow e-scooters to operate within the public right-of-way (see Appendix 4). It is anticipated that a multi-year pilot period will be announced soon. The City should be prepared to provide further regulation of e-scooters within its municipal boundaries, especially related to vehicle (“device”) standards and the impact of e-scooter use on existing City infrastructure such as sidewalks and trails.

Furthermore, the Parks, Forestry and Environment Division at the City is in the process of updating the Parks by-law, which may have implications regarding the use of e-bikes on off-road multi-use trails.

#### Mississauga Cycling Advisory Committee Comments:

The Mississauga Cycling Advisory Committee considered the subject of this report at its September 10, 2019 meeting. Members engaged in a discussion with respect to the proposed recommendations and the Committee received the staff deputation on the matter.

#### Road Safety Committee Comments:

The Road Safety Committee considered the subject of this report at its September 24, 2019 meeting. Members supported the recommendations and suggested the following areas of focus:

- pilot a program in an area of high density;
- safety;
- preference for a docked system over a dockless system;
- consideration for speed limits on devices;
- review statistics on conflicts between e-bikes, e-scooters and vehicles; and
- impacts on multi-use trails.

## **Financial Impact**

There is no financial impact to these recommendations at this point in time.

## **Conclusion**

Micromobility has been and will continue to be an effective first and last mile solution for cities worldwide, and a useful transportation service for the public for a variety of trip purposes. The City should determine the optimal method to deliver such a service to the public by developing a regulatory framework that will guide the introduction of micromobility systems in Mississauga. As a result, this report recommends that staff be directed to develop and report back to Council on a regulatory framework to encourage and enable a phased introduction of micromobility systems in the City of Mississauga.

## **Attachments**

Appendix 1: Bikes, E-Bikes and Scooters: Expanding Mississauga's Transportation Options  
Appendix 2: Micromobility Vehicle Types

General Committee

2019/10/16

6

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Appendix 3: Micromobility System Models

Appendix 4: City of Mississauga Comments to Province of Ontario - Kick Style Electric Scooter (e-scooters) - Proposal #19-MTO026



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