CITY OF MISSISSAUGA MICROMOBILITY PROJECT PHASE 1

ENVIRONMENTAL ACTION COMMITTEE

CITY OF MISSISSAUGA

MARCH 1, 2022

Contents

1.0 Study Scope

- Complete all background studies required to recommend a preferred Micromobility service model
- Analyze financial implications and risk of implementing Micromobility services in Mississauga, as well as overall impact of Micromobility on other mobility services
- Conduct internal, community, and stakeholder engagement

Meeting Objectives

- Review concept of micromobility
- Discuss findings of initial screening activities
- Review initial service area based on demographic data and transportation infrastructure
- Collect feedback about accessibility in relation to a shared micromobility program

What is Micromobility?

- Small, lightweight devices operating at speeds below 25 km/h and ideal for trips up to 10 km
- Common devices include human-powered or electric scooters and bicycles

Benefits:

- Can be privately owned or **shared**
- Increases access to public transportation
- Provides an affordable mode of transportation and is available 24/7

2.0 System Models

Most shared micromobility systems utilize one of three operating system models:

DOCK-BASED SYSTEM MODEL

- Physical docking stations
- Vehicles can be picked up and returned to these designated docking stations
- Users access and pay for the service at the station, through a mobile app, or using a member card/fob/code purchased online

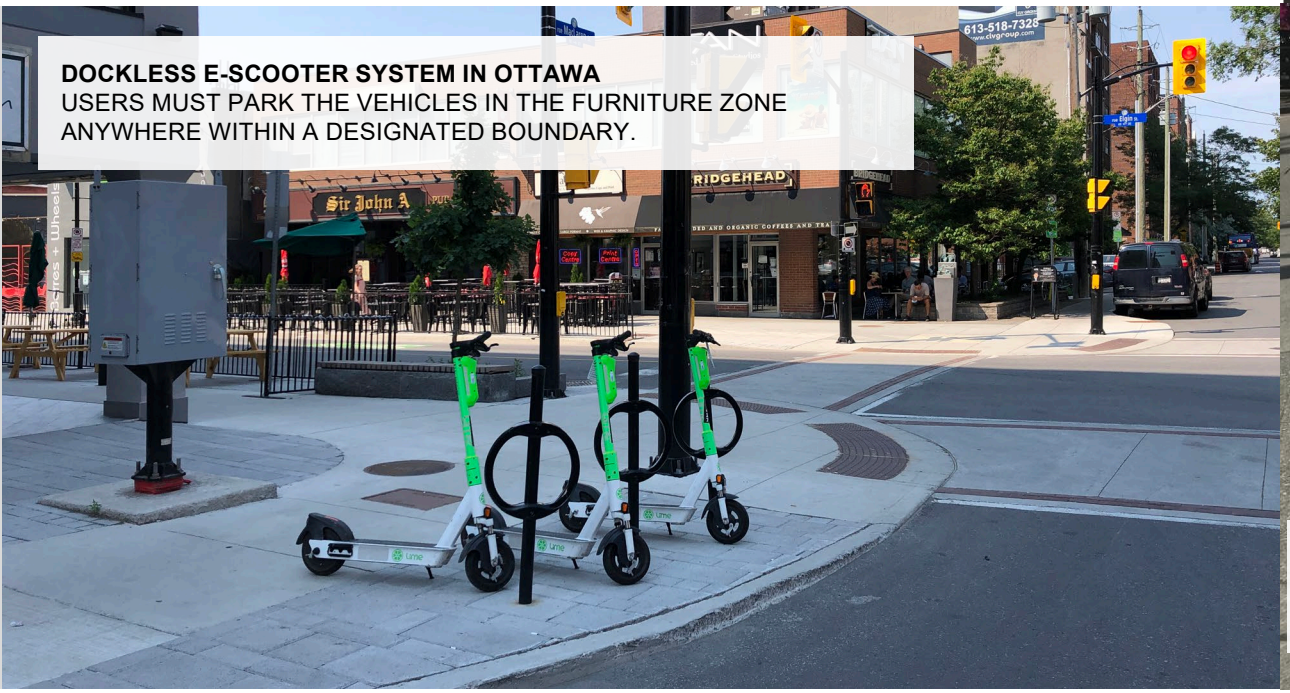
DOCK-BASED BIKE SHARE SYSTEM IN TORONTO
VEHICLES MUST BE PICKED UP AND RETURNED TO THESE DESIGNATED DOCKING STATIONS

DOCKLESS SYSTEM MODEL

- Vehicles can be parked anywhere (typically in the furniture zone) within a designated boundary
- Often, users need to take and upload a photo of the properly parked vehicle to the app to help with compliance
- Sometimes dockless systems still require users to park the vehicles at a designated location (indicated by paint or signage)
- Users access and pay for the service through a mobile app – to provide equitable access, other methods can be made available such as by phone

DOCKLESS BIKE AND E-SCOOTER SYSTEM IN AUSTIN, TEXAS
USERS MUST PARK THE VEHICLES WITHIN PAINTED DESIGNATED LOCATION.

7.1



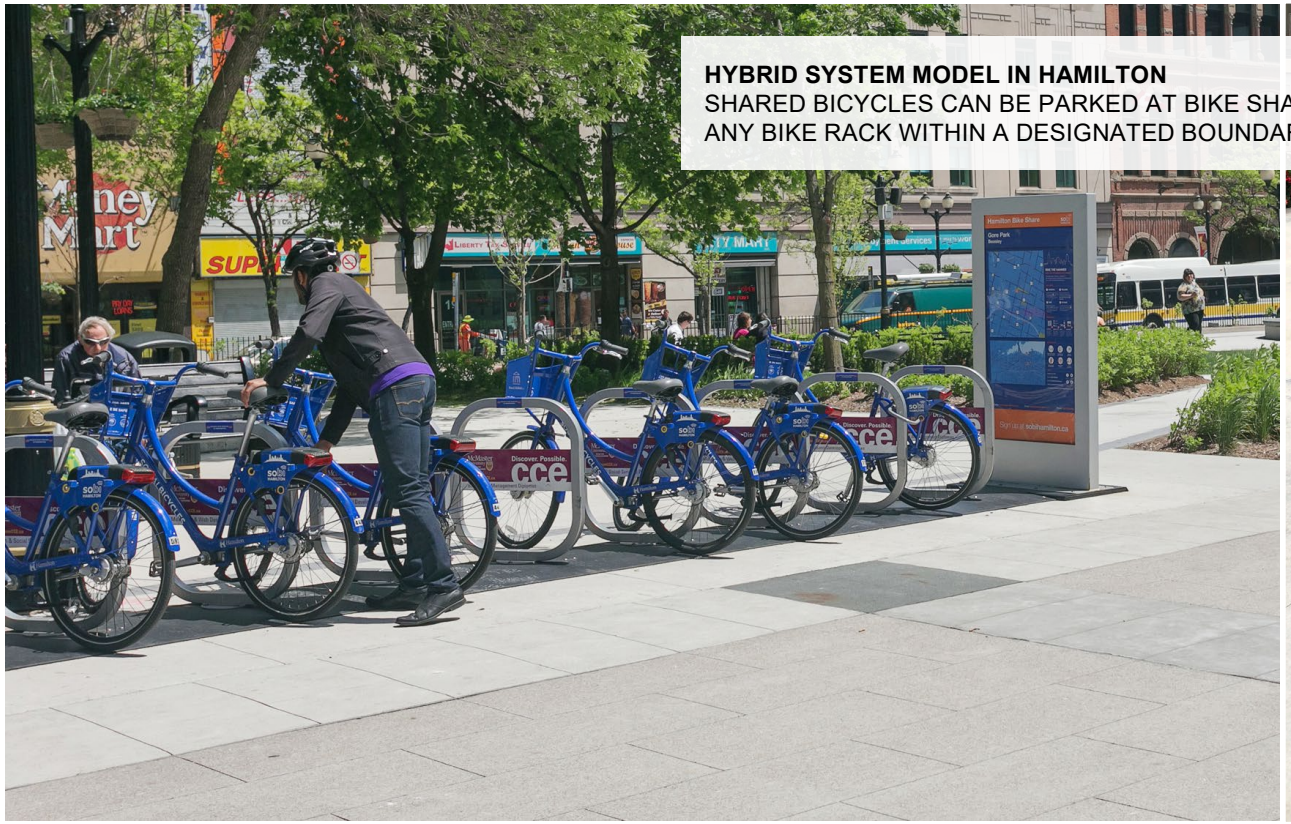
DOCKLESS E-SCOOTER SYSTEM IN OTTAWA
USERS MUST PARK THE VEHICLES IN THE FURNITURE ZONE ANYWHERE WITHIN A DESIGNATED BOUNDARY.

DOCKLESS E-BIKES IN SEATTLE, WA
USERS MUST PARK THE VEHICLES IN THE FURNITURE ZONE ANYWHERE WITHIN A DESIGNATED BOUNDARY.

PHOTO: PAXTYN MERTEN

HYBRID SYSTEM MODEL

- Combines both docked and dockless functionality to meet micromobility needs
- Docking stations may be provided in the denser area of a city but, within a designated boundary, those same micromobility vehicles can be parked outside of a docking station, often for an added fee
- Users access and pay for the service at the station, through a mobile app, or using a member card/fob/code purchased online



HYBRID SYSTEM MODEL IN HAMILTON
SHARED BICYCLES CAN BE PARKED AT BIKE SHARE STATIONS OR AT ANY BIKE RACK WITHIN A DESIGNATED BOUNDARY FOR A $1 FEE

3.0 Vehicle Types

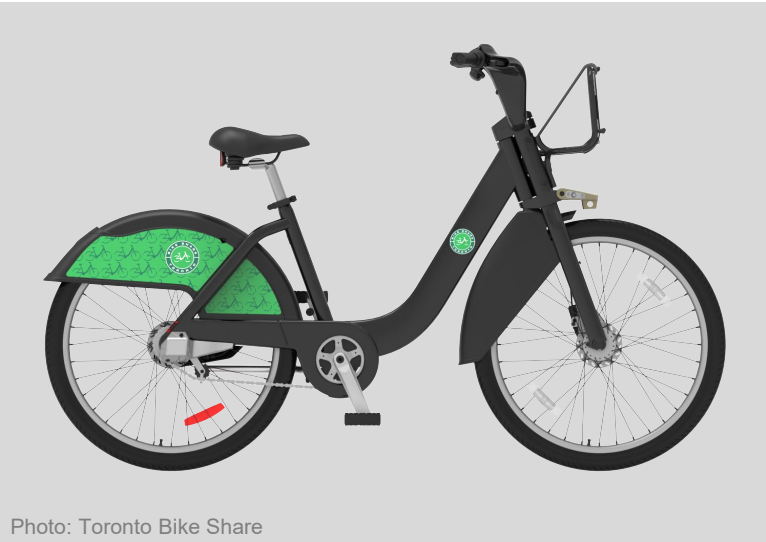


Photo: Toronto Bike Share

CONVENTIONAL BICYCLE

- Compatible with any system or governance model
- Resembles a traditional bike but more heavy duty
- Designed for stability and comfort, suitable for riders of any skill level
- Can be equipped with location tracking equipment
- Costs approximately $1,200

Photo: BIKETOWN

ELECTRIC PEDAL-ASSIST BICYCLE

- Compatible with any system or governance model
- Same features as a conventional bicycle but with an added battery and motor to assist with pedaling
- Charging requires dock-based infrastructure or operator to change batteries or solar (dockless)
- Costs approximately $2,200

Photo: SPIN

ELECTRIC KICK-STYLE SCOOTER

- Compatible with any governance model
- Much smaller and lighter than bicycles
- Smaller diameter wheels can be less stable on uneven terrain
- Costs approximately $500

4.0 Governance Models

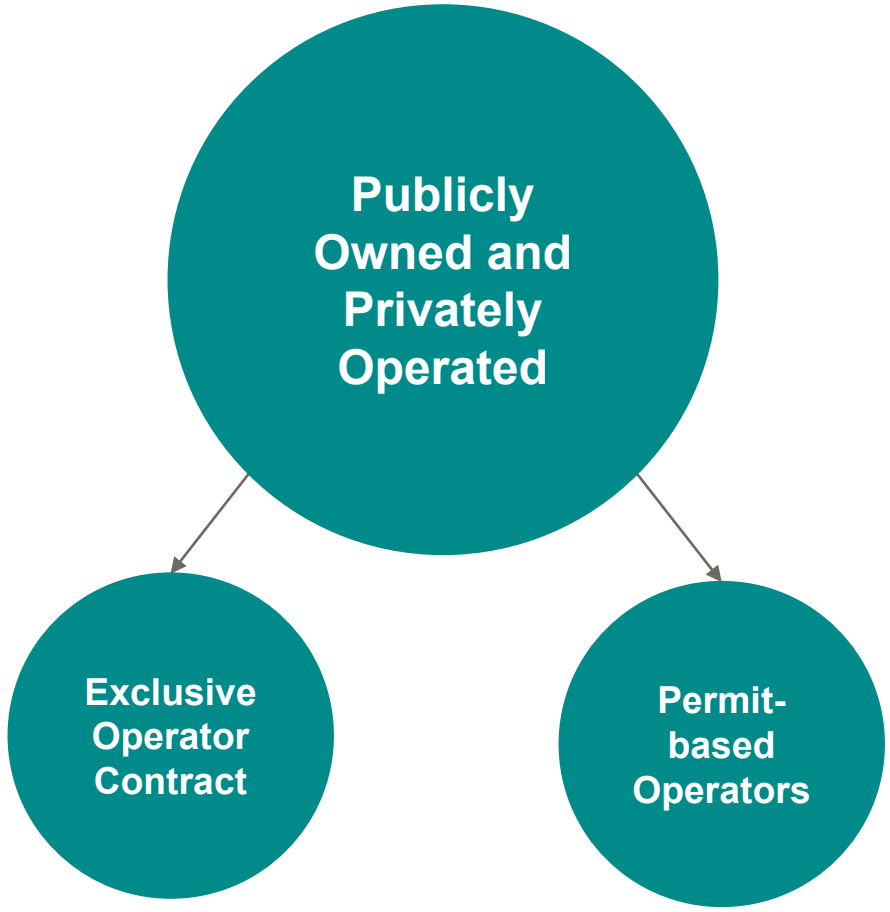
Most Micromobility systems use one of three governance models.

Publicly Owned and Publicly Operated

Most common among dock-based systems

Privately Owned and Privately Operated

Most common among dockless systems



5.0 Operational Considerations

There are several operational considerations that apply to the evaluation of the system and governance models.

Permit Considerations

How can and should permits be used to guide operations?

Municipal Oversight

What level of oversight and IT involvement are required by municipal staff?

Expansion Approaches

How is system expansion coordinated?

Operator Retention

How can we retain operators and provide service continuity?

Enforcement Mechanisms

What can be done to ensure operations are meeting requirements defined in the agreement?

Equity Considerations

How can the system and governance model provide equitable access to micromobility vehicles?

Funding Sources

What funding sources are required and available?

Accessibility

What can be done to ensure that operations are meeting accessibility requirements?

6.0 Evaluation Framework

Risk to the City

Such as risk of not finding operators willing to adopt the business model, the risk of the service failing if an operator leaves, liability risk, financial risks, etc.;

Ability to Meet Performance Objectives

Membership growth, vehicle usage, operating costs and revenues, flexibility of service area, vehicle trip types;

Level of Administrative Overhead

Which could be measured as potential number of full-time equivalent City staff required or potential cost to the City in providing direct operational funding support; and

Accessibility and Quality of Service

The City of Mississauga places high value on accessibility and quality of services which should all be reflected in the preferred system and governance model.

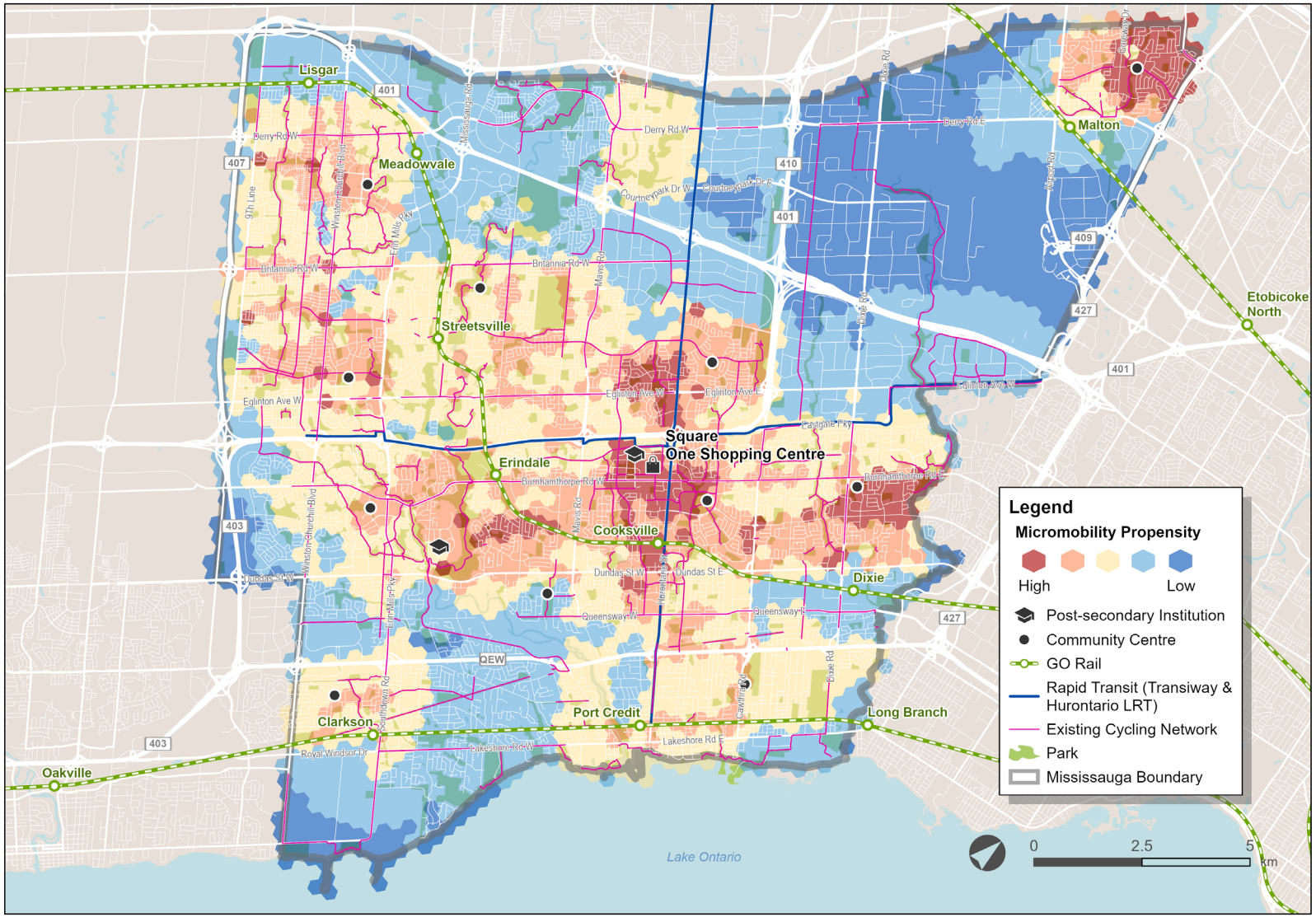
7.0 Potential Service Area

Propensity Analysis

A micromobility propensity analysis demonstrates the relative likelihood of micromobility demand

Data	Source	Weight
Population density by traffic zone	TTS	2
Density of young people (20 – 35 years old) per traffic zone	TTS	1
Number of trips by bike or walking	TTS	2.5
Number of trips by transit	TTS	0.5
Number of zero car households	TTS	1
Number of jobs per traffic zone	TTS	0.5
Number of school trips (over the age of 16) per traffic zone	TTS	0.5
Number of trips under 5 km	TTS	0.5
Metres of bike infrastructure within one kilometre	City of Mississauga	0.75
Distance to MiWay Transitway and future Hurontario LRT (within 2 km)	City of Mississauga	0.5
Community centers (2 km radius)	City of Mississauga	0.5
Post-Secondary Institutions (2 km radius)	City of Mississauga	0.5
GO Stations within 2 km	Metrolinx	0.5

Micromobility Propensity in Mississauga



8.0 Next Steps

- Finalize screening activities
  - System and Governance Models, and Vehicle Type
  - Regional Integration
  - Modal and Financial Impact
- Finalize By-law review
- Continue to seek out feedback from other stakeholders

Thank You!

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