

Who Are the Potential Users of Shared E-Scooters? An Examination of Socio-demographic, Attitudinal and Environmental Factors

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Shared E-Scooters and Policy Challenge

Shared micro-mobility, or the shared use of low-speed transportation options for short distance trips, has become a subject of great policy and research attention.

In the past three years, dockless shared e-scooter systems have emerged and quickly spread all across the world.

The rise of shared e-scooter systems has outpaced the ability of the cities and regions to formulate policy and guidelines.

As private providers continue to search for new markets, municipalities are beginning to produce policies relating to traffic regulation, speed and curb space management.

This study focuses on Toronto and surrounding municipalities in Canada, where e-scooters are illegal on streets.

Recently, the Provincial Govt. has announced a policy to allow e-scooter pilots in Ontario municipalities.

It is anticipated that some municipalities in our study area will see e-scooter services as early as spring of 2020.

Research Questions

Research focusing on potential users of a shared e-scooter service can inform policy development in important ways.

The socio-demographic, attitudinal and environmental characteristics that may influence willingness to adopt e-scooters is not well understood.

This paper focuses on stated intentions of adopting e-scooters.

Two research questions were examined:

- 1) To what extent are the neighbourhood residents willing to adopt e-scooters for some of their daily trips, when they become available in their neighbourhood? and
- 2) What are the socio-demographic, attitudinal and environmental perception-related factors that are associated with the intention to use e-scooters?

Data and Analysis

Data was collected through an online travel behaviour survey in the summer and fall of 2019.

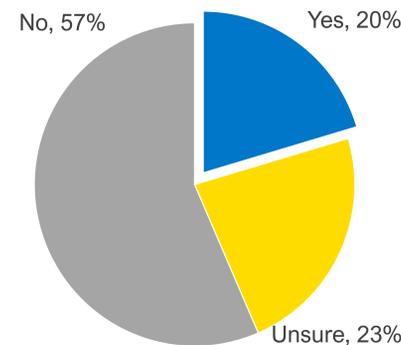
Surveys were conducted in 17 urban and suburban neighbourhoods located in major cities within the GGH region, among residents living within 1 km from identified major streets.

Participants were recruited from multiple sample panels accessed through Campaign Research, which is a private polling company that was paid to conduct this survey.

A total of 1,640 adults aged >18 years participated in the survey.

The intention of adopting e-scooters (“Yes” vs. “Unsure or No”) was examined using logistic regression models.

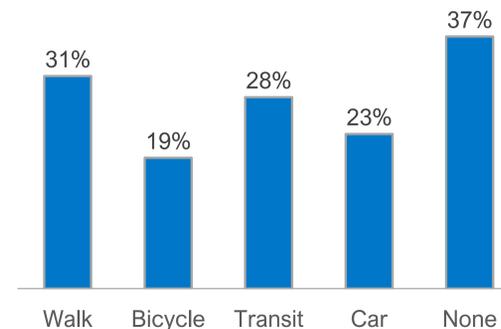
Key Findings



One in every five residents would consider shared e-scooters if they were available in their neighbourhood.

Those who preferred active, environmentally-friendly and cost-effective transportation options were less likely to report an intention to consider e-scooters.

Travel-related attitudes and neighbourhood environment were as important as socio-demographics in explaining the intention to consider e-scooters.



Most residents would replace their walking and transit trips with e-scooters. 37% would not replace any current trip taken using other modes.

Logistic regression of self-reported intention to consider shared e-scooters

	Consider E-Scooters if Available (Yes versus No/ Unsure)		
	Model 1: Socio-demographics	Model 2: Model 1 plus travel beh & attitudes	Model 3: Model 2 plus neighbourhood env
Age: More than 65 years	--	-	n.s.
Living situation: Single	++	++	++
Employment: Retired	--	--	--
Owns a bicycle		++	++
Usual commute mode: Transit		+	+
Does not commute		+	+
Attitudinal factor 2: Quick and predicable		n.s.	n.s.
Attitudinal factor 3: Active, flexible and cost-effective		--	--
Urban			n.s.
Different transportation options in (NH1)			n.s.
Walking / cycling are practical modes (NH2)			++
Streets are safe for all road users (NH3)			+
Interaction: NH1 X Urban			n.s.
Interaction: NH2 X Urban			-
Interaction: NH3 X Urban			n.s.

Implications

Significant potential demand for shared e-scooters exists, but when available, e-scooter trips may not replace many car trips.

Walkability/bikability and safer streets are important neighbourhood conditions that may influence e-scooter usage. But these factors may be less important in urban conditions.

There may be political and policy tensions created by promoting a micro-mobility option that is particularly popular with a newer, urban population associated with neighborhood gentrification. Further research should explore these social implications more systematically.

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