

Mobility Scooter use for community access: An exploration of user's knowledge of the rules of the road and perception of environmental barriers and facilitators that impact their use and safety.

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Background

- Mobility disability and the use of assistive mobility devices increase with age.¹
- Mobility scooters provide a means to overcome mobility limitations, maintain independence, enhance quality of life.²
- With population aging the number of scooters being used is anticipated to increase.
- There is a reported increase in the number of scooter accidents and older adults are more likely to be injured or killed.³
- This study is part of a multiphase mixed-method study, "Enabling Mobility And Participation among those with Disabilities" (dEMAND) and is part of the national Canadian Disability Participation Project (CDPP).

Objectives

1. To explore scooter user's perception of safety issues in the outdoor community: individual, environmental and scooter related factors
2. To examine user's knowledge of rules for scooter use and their perception of these rules.

Methods

- **Interview:** scooter use and safety
- **Environmental audit:** Stakeholders Walkability/Wheelability Audit in Neighbourhood (SWAN)
 - 5 Domains: Functionality, Safety, Appearance & Maintenance, Land use & Support Features, and Social Aspects
 - 2 Domains analyzed for this study
- **dEMAND Survey:** Demographics and Confidence Scale
- **Study Site:** Vancouver, North Vancouver, New Westminster, Tri-Cities

Theoretical Background

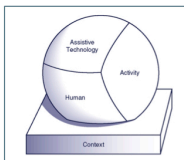
Human Activity Assistive Technology Model⁴

Mobility Scooter

- 3 vs 4 wheels
- Specific features

Individual factors

- Knowledge of rules of the road



Community Participation

- Leisure
- IADLs
- Medical appointments
- Volunteer

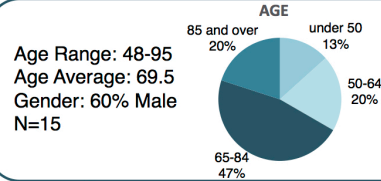
Physical Environment – curb cuts, sidewalks, bike lanes, roadways

Social Environment – walking pedestrians, motor vehicle drivers, cyclists

Institutional Environment – rules and regulations, responsiveness of municipality staff

Results

Demographics



Mobility Scooter Characteristics	3 Wheeled n=5	3/4 Wheeled n=3	4 Wheeled n=7	
Scooter Size (inches)	Small – <48x24 Large – >48x24	60% 40%	100% -	14% 86%
Top speed (km/h)	Average Range	9.84 7.5 – 15	7.3 6 - 8	13.6 8 – 15



THEMES

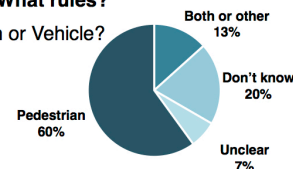
1. The Good, the Bad and the Ugly: The Social and Physical Environment Continuum

Facilitator	Burden	Safety Hazard	Barrier
<p>Facilitator</p> <p>New Westminster Smooth, wide sidewalk, no obstacles, sandwich board off to side</p>	<p>Burden</p> <p>Tri Cities Island difficult to negotiate due to steep curb ramp and lack of flat area.</p>	<p>Safety Hazard</p> <p>Vancouver Sidewalk deviates around tree with height differential. Burden in daylight, tipping hazard at night</p>	<p>Barrier</p> <p>New Westminster Tall greenery obstructs visibility at vehicle entrance to parking lot</p> <p>"... I need a larger scooter to do the hills, and a larger scooter doesn't fit on transit." Kris, Tri Cities</p>

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2. Rules? What rules?

Pedestrian or Vehicle?

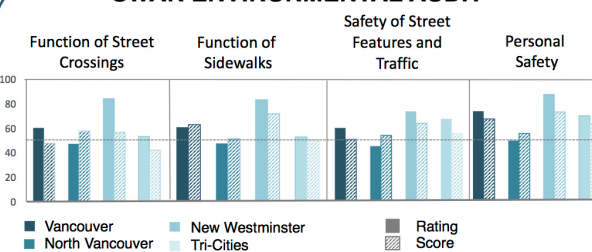


Pedestrian/Scooter Rules of the Road

- 27% report knowledge of rule to drive on far left facing traffic when no sidewalk
- 20% prefer or often drive on the road like a bicycle
- 40% report using bike lanes
- 27% report need for driving rules on sidewalk – keep right except to pass

"I can go on these (hiking)trails. No motor vehicles allowed but I can go on them on my scooter. And that's a huge, huge bonus. Cause my family's full of walkers and they want to walk, want to hike. And guess what, I get to join them. And that is wonderful."
Andrew North Vancouver

SWAN ENVIRONMENTAL AUDIT



Discussion and Future Directions

- There is confusion regarding the existing rules of the road for scooters resulting in scooter users applying their own rules or common sense.
- The most common concerns reported: Inattention of walking pedestrians; Physical environment hazards and features of the scooter that impact safety; Motor vehicle drivers who drive too fast or fail to yield ROW.
- Education campaign to increase both scooter users and general public awareness of scooter rules and etiquette.
- Engagement with city officials to increase awareness and need to include mobility scooters in city planning

