

How to Measure and Plan the Walkability of a Territory? Three Applications of the Walkability Assessment Tools for Seniors (WATS)

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Walking among seniors

Barriers to walking (Lockett *et al.* 2005; Kerr *et al.*, 2012)

- ▶ Indicators of danger
- ▶ Risks related to traffic
- ▶ Risks of falling



Incentives to walking (Kahana *et al.* 2003; Risser *et al.*, 2010; Michael *et al.*, 2006)

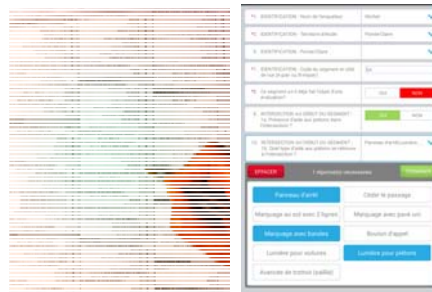
- ▶ Diversity of destinations, Community based activities
- ▶ High quality landscape, Greenery
- ▶ Street furniture
- ▶ Public transportation



Audit tools to evaluate walkability

- ▶ Alternative to usual data base (Handy *et Clifton*, 2001 ;Talen, 2003 ;Paez *et al.*, 2010).
- ▶ **First urban audits**
 - ▶ Systematic Pedestrian and Cycling Environmental Scan (SPACES) (Pikora *et al.* 2002)
 - ▶ Irvine-Minnesota Inventory (IMI) (Day *et al.*, 2006).
 - ▶ Pedestrian Environmental Data Scan (PEDS) (Clifton *et al.*, 2007)
 - ▶ Senior Walking Environmental Assessment Tool (SWEAT) (Cunningham *et al.*, 2005 ; Michael *et al.*, 2009).

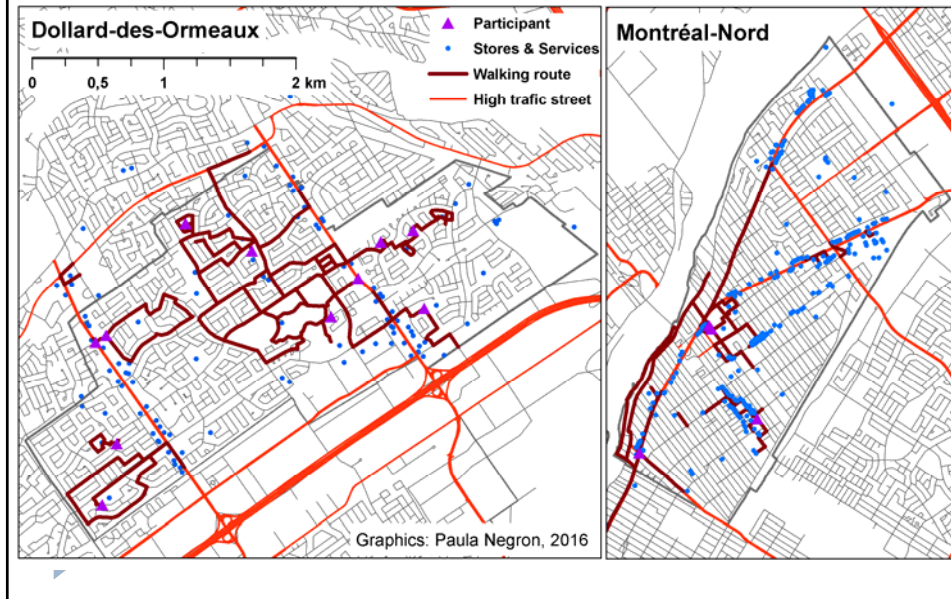
- ▶ **Development of WATS** (Walkability Assessment Tools for Seniors -MAPPA)
 - ▶ Adapted for seniors in Montreal
 - ▶ Data collected for each side of the street
 - ▶ Paper (first version) and Tablet (recent)
 - ▶ Integration into a GIS



Application # 1: Do commercial destinations have walkable environments?



Application # 2: Where do seniors walk?

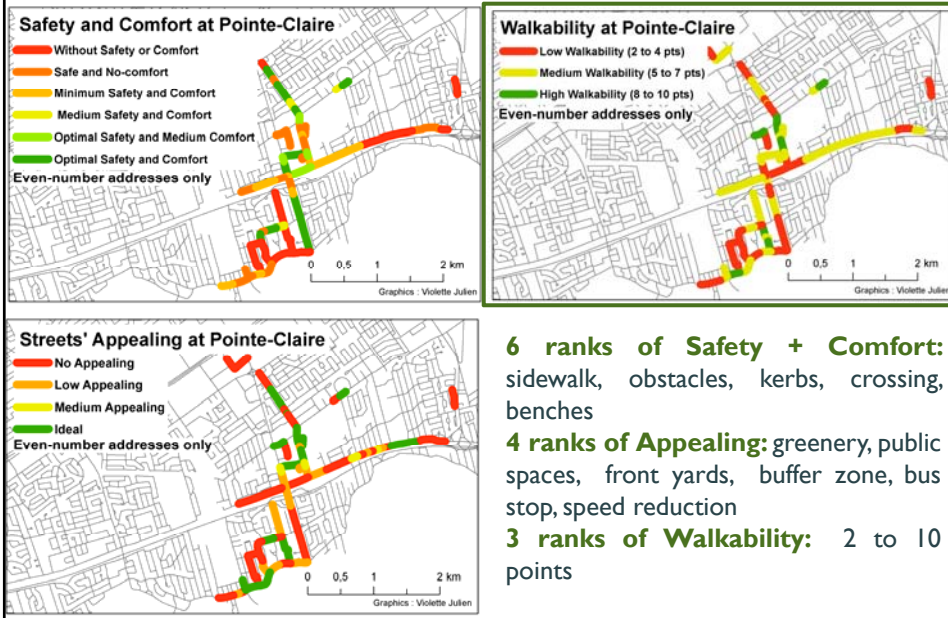


Application # 2: Where do seniors walk?

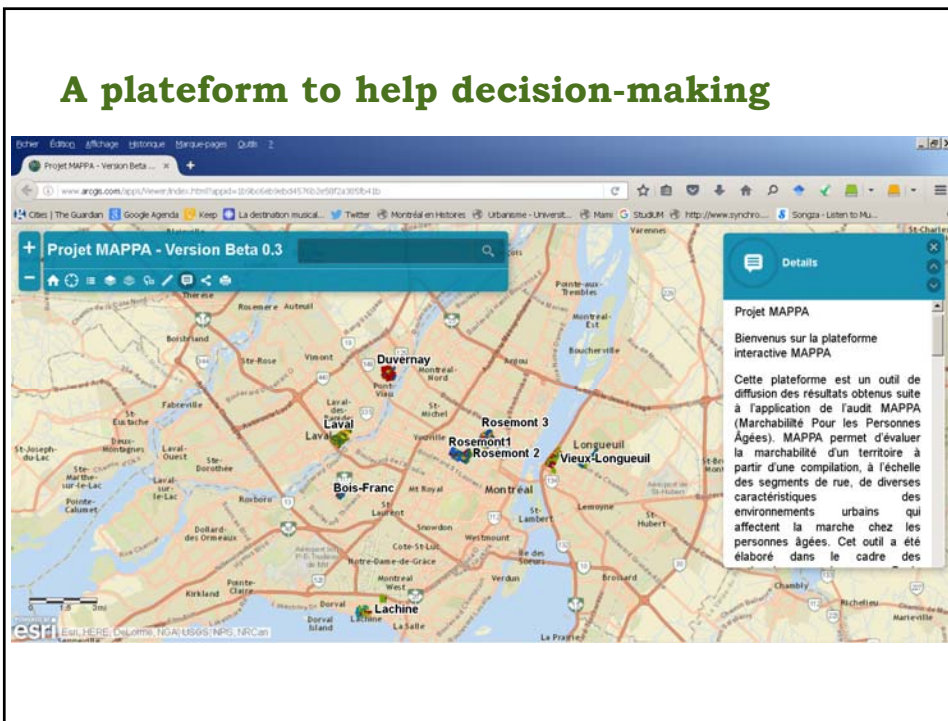
	Dollard-des-Ormeaux (N=352)	Montréal-Nord (N=890)
	%	%
Help to cross at the intersection (1)	70%	64%
Stop sign	73%	9%
Pedestrian crossing: Two lines	51%	82%
Traffic light	1%	87%
Pedestrian light	2%	27%
Deterioration of the crossing area	16%	44%
Front yard with vegetation (2)	100%	96%
Less than 3 feet	0%	28%
Between 10-20 feet	2%	35%
Between 20-30 feet	78%	12%
More than 30 feet	20%	0%
Presence of sidewalks	30%	97%
Width < 4 feet	1%	13%
Between 4 - 6 feet	99%	82%
More than 6 feet	0%	5%
Obstacles on the sidewalks	26%	40%
Good quality sidewalks	52%	72%
Commercial activities and services (4)	16%	30%
Presence of a bus-stop	14%	42%
Benches	1%	2%
Shade (vegetation) (3)	73%	56%
Speed reduction measures	16%	38%
Lighting for pedestrian	20%	2%

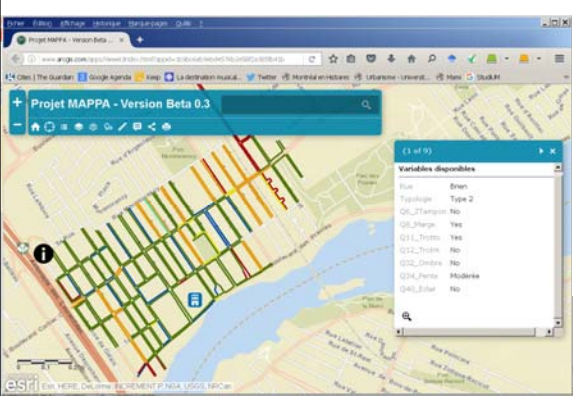


Application #3: Combining Safety, Comfort and Appealing for seniors



A platform to help decision-making





Projet MAPPa - Version Beta 0.3

Variables disponibles

Rue	Bien
Passage	Type 2
Q41_Temps	No
Q41_Marge	Yes
Q11_Terrin	Yes
Q12_Terrin	No
Q22_Ombre	No
Q34_Pente	Moyenne
Q45_Eclair	No


Audit MAPPa

Application à Laval-des-Rapides

Le quartier Laval-des-Rapides est situé au sud du centre de la ville, sur le territoire de la ville de Laval. Les segments sont classés dans les lignes suivantes et les audits principalement dans trois secteurs de quartier, soit celui de l'avenue de Laval, celui des rues de la Concorde, et celui de la rue de la Concorde. Tous les segments ont été audités dans le cadre de l'audit MAPPa, à l'exception de 10 segments.

Les conditions de mobilité peuvent être améliorées dans les segments classés 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Il est recommandé de continuer à améliorer les conditions de mobilité dans les segments classés 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.



Outil
MAPPa
Mobilité pour les personnes âgées

Projet MAPPa - Version Beta 0.3

Audit MAPPa

Application dans l'arrondissement du Vieux-Longueuil

Audit MAPPa

Application à Rosemont (secteur 1)

Audit MAPPa

Application dans l'arrondissement de Lachine

Audit MAPPa

Application dans le quartier Duvernay

Audit MAPPa

Application dans le quartier Bois-Franc

Concluding remarks



Thanks for your questions
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