Audit de Potentiel Piétonnier Actif Sécuritaire (PPAS)

Safe and Active Transportation Audit for Walkable Neighborhoods

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and

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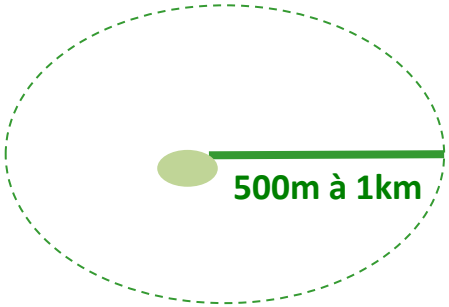
Montreal Public Health Department
and Université de Montréal

HEALTHYCANADA by design

Agence de la santé et des services sociaux de Montréal
Québec

Achieving Neighborhood Walkability

Usual indicator: mixed-use neighborhood



- Local shopping facilities
- Diverse housing typology
- Public institutions and schools
- Parks and green spaces
- Access to high-level Transit

Pionner Square. Photo Skunks. http://www.flickr.com/photos/skunks/155287738/

Avenue Mont-Royal à Montréal
source: Gouvernement du Québec

Ville de Bâle

AS Dubé

Usual indicator : street network connectivity

Figure 22. The effect street patterns can have on walking distances, comparing grid-based streets (left) and loop and cul-de-sac streets (right). The two dots on each map are about the same distance apart measured as a straight line. Examples are from East York and North York near Don Mills.

Usual indicator: residential density

Minimum: 35 units/hectare


Photos: Anne Sophie Dubé

http://www.stroupecondoblog.com/tag/woonerf/

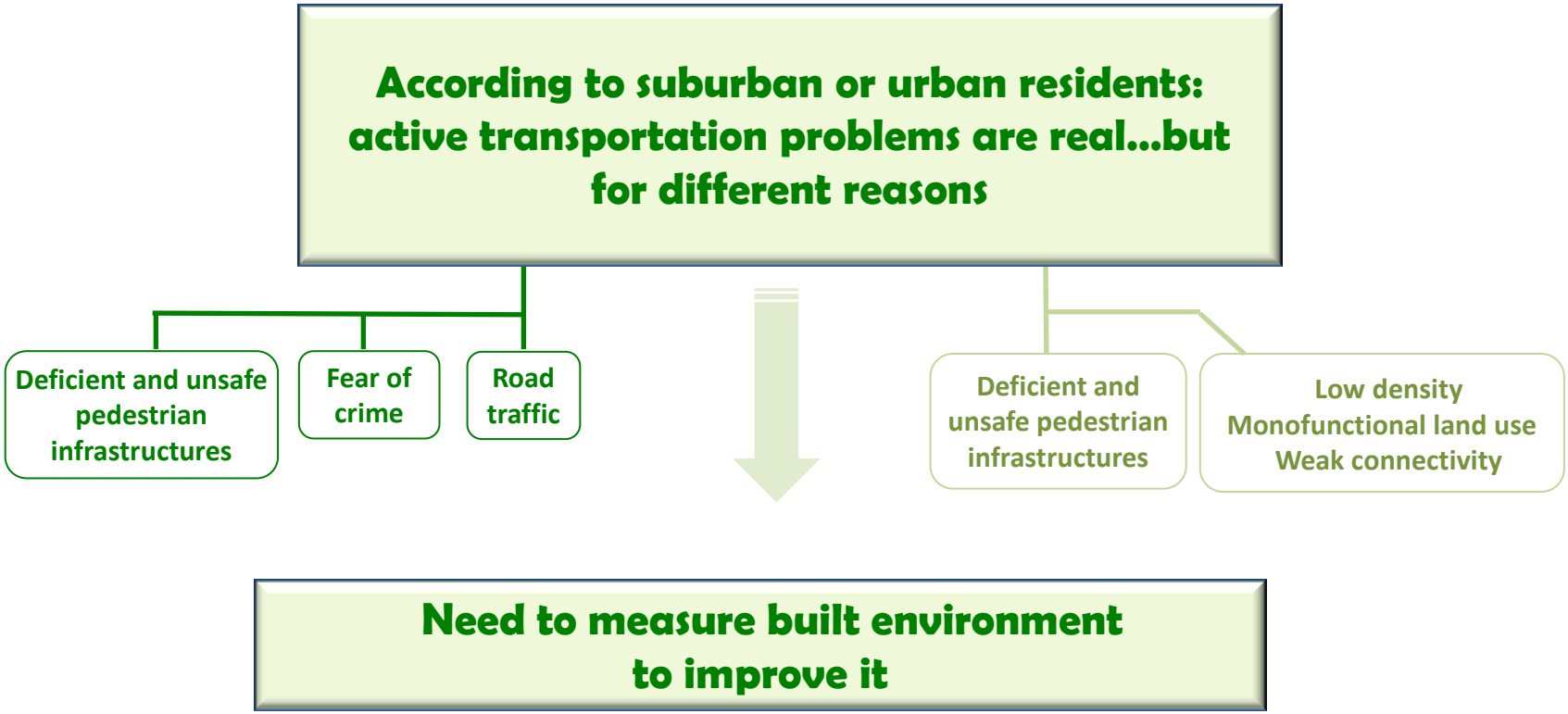
Photo : Source VINAC construction
Pris dans LeDevoir 16 avril 2011



Photos: Anne Sophie Dubé

Challenge 1

LONG TERM SCALE TO CHANGE WALKABILITY BASED ON THESE INDICATORS IN ALREADY BUILT NEIGHBORHOODS


According to suburban or urban residents: active transportation problems are real…but for different reasons
Deficient and unsafe pedestrian infrastructures
Fear of crime
Road traffic
Deficient and unsafe pedestrian infrastructures
Low density
Monofunctional land use
Weak connectivity
Need to measure built environment to improve it

Need to measure built environment to improve it

Promote active transportation
+
Prevent road injuries

At micro scale
+
Short term improvement

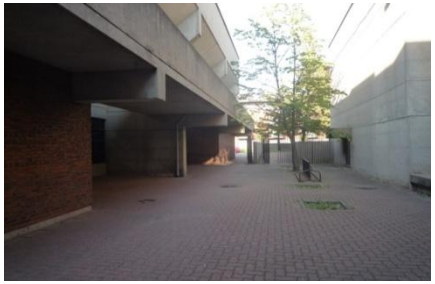
Limited street and intersection data available
(micro scale)

Source: Landcom 2006

Condition and functionality of sidewalks

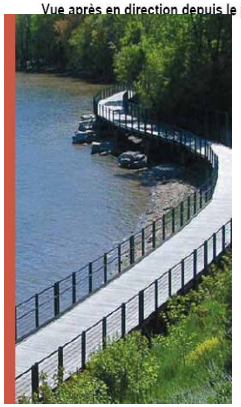
Vue avant en direction depuis le pied de la falaise Saint-Jacques

Pied de la falaise Saint-Jacques (situation projetée)



Vue après en direction depuis le pied de la falaise Saint-Jacques

Crime prevention through environnmental design (≅cpted)



Source: Kino Québec

Source: Eric Fredericks, Walkable Neighborhoods

Ambiance and green spaces

Road safety provided by environmental measures

Source: S.Paquin

Source: Transportation alternative
et California Department of transportation

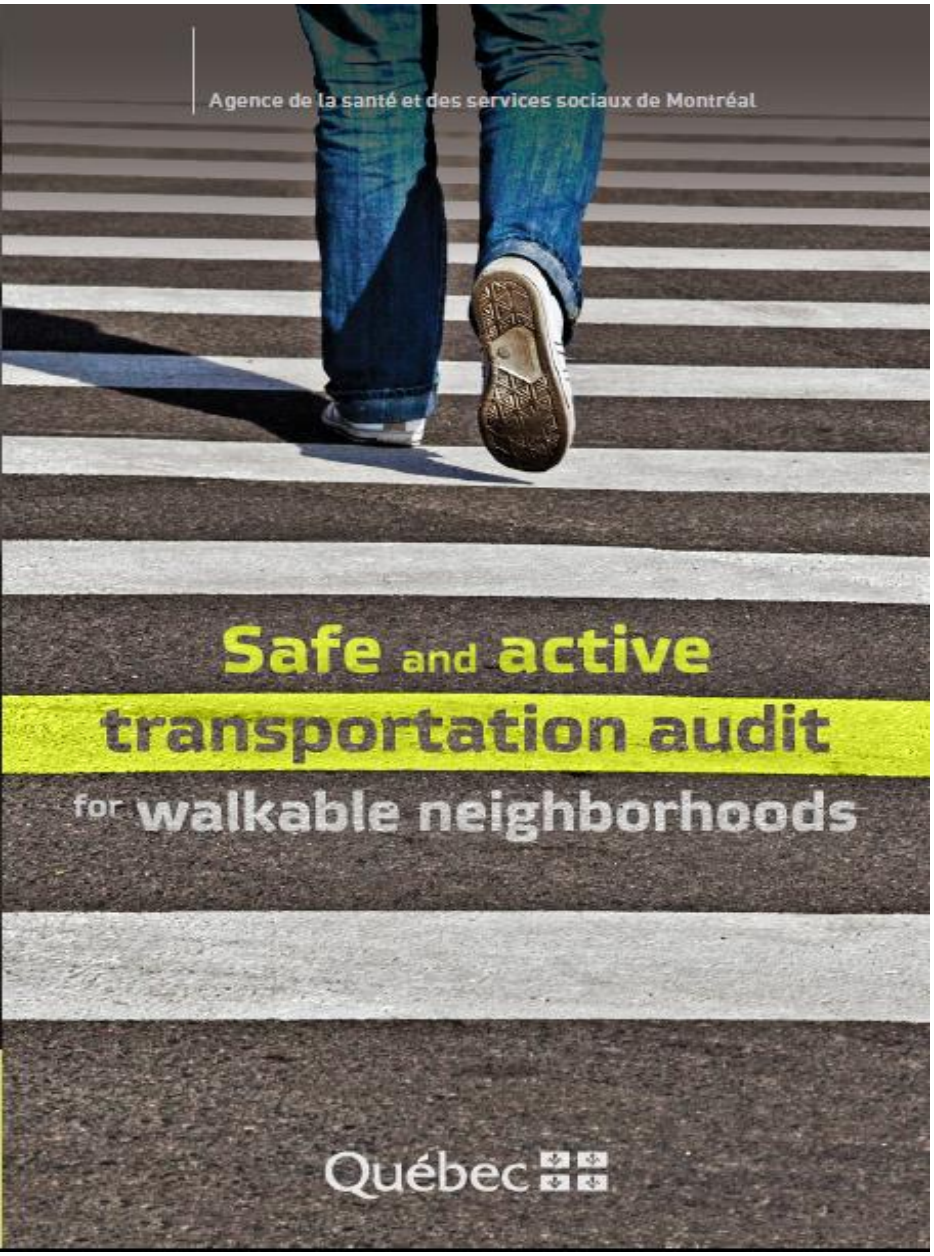
Challenge 1

Long term scale to change Walkability based on these indicators in already built neighborhoods

Challenge 2

LIMITED DATA FOR THESE INDICATORS

(STREET AND INTERSECTION LEVEL)



- An observationnal instrument consisting of systematic, objective and validated indicators for assessing walkability in an neighborhood or site
- 80 indicators measured through the Safe and Active Transportation Audit (PPAS)
- PPAS was validated in CLASP 1 on 528 streets et intersections

PPAS: street and intersection walkability indicators

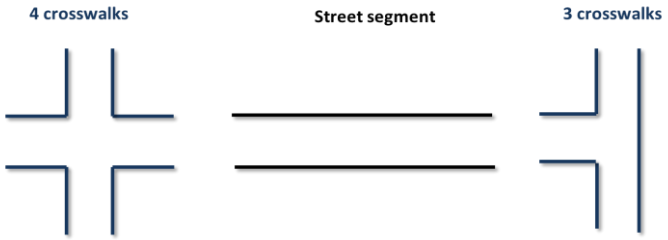
(to improve built environment at short-mid term)

- Condition and functionality of sidewalks
- Safety of all road users (focus on intersections)
- Urban safety, ambiance and green spaces
- Bikeways and physical access to public transit

+

- Land uses (inventory)
- Residential density (estimation)
- Connectivity (estimation)

- Observations by a trained examinator are done on both sides of a street segment
- Each crosswalk at intersection is evaluated



Intersection (form 1) **Street segment (form 2)** **Intersection (form 1)**

sample of street segment form

Nom de l'évaluateur : _____ Date : _____ Heure début : _____ Heure fin : _____

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3. Les caractéristiques des voies de déplacement

3.1 Nb. voies officielles : _____ 3.2 Nb. voies effectives: _____ 3.3 Limite de vitesse : _____

	1-OUI	2-NON	9-N/A
3.4 Rue à sens unique	☐	☐	
3.5 Cul de sac	☐	☐	
3.6 Dénivellation	☐	☐	
3.7 Voie piétonne	☐	☐	
a. Trottoir d'un côté	☐	☐	☐
b. Trottoir des 2 côtés	☐	☐	☐
c. Sentier, allée	☐	☐	☐
3.8 Largeur de la voie piétonne			
a. Insuffisante (- de 1,7 m)	☐	☐	☐
b. Suffisante (entre 1,7 et 2,5 m)	☐	☐	☐
c. Large (+ de 2,5 m)	☐	☐	☐
3.9 État de la voie piétonne			
a. Bon	☐	☐	☐
b. Moyen	☐	☐	☐
c. Faible	☐	☐	☐
3.10 Espace tampon	☐	☐	
a. Avec aménagement paysager	☐	☐	☐
b. Asphalté, bétonné, pavé	☐	☐	☐
c. Mobilier urbain	☐	☐	☐
d. Lampadaire	☐	☐	☐
3.11 Largeur espace tampon			
a. Moins 1 m	☐	☐	☐
b. Plus de 1 m	☐	☐	☐
3.12 Entrée charretière ruelle	☐	☐	
3.13 Entrée charretière	☐	☐	
a. Fort	☐	☐	☐
b. Faible	☐	☐	☐
3.14 Obstruction visibilité entrée charretière	☐	☐	☐

	1-OUI	2-NON	9-N/A
3.15 Présence de mobilier urbain	☐	☐	
a. Banc	☐	☐	☐
b. Poubelle	☐	☐	☐
c. Support à vélo	☐	☐	☐
d. Cabine téléphonique	☐	☐	☐
e. Fontaine à boire	☐	☐	☐
f. Parcomètre avec support à vélo	☐	☐	☐
3.16 Obstacles sur la voie piétonne	☐	☐	
a. Jardin vert	☐	☐	☐
b. Mobilier urbain	☐	☐	☐
c. Voiture	☐	☐	☐
3.17 Continuité du trottoir	☐	☐	
3.18 Connectivité du trottoir	☐	☐	
3.19 Panneau indiquant passage piéton, écoliers, terrain de jeux	☐	☐	
3.20 Mesure d'apaisement de la circulation	☐	☐	
a. Dos d'âne	☐	☐	☐
b. Avancée de trottoir	☐	☐	☐
c. Bollard, Bac à fleurs	☐	☐	☐
d. Support à vélo	☐	☐	☐
e. Autre :	☐	☐	☐
3.21 Traverse piétonne	☐	☐	☐
3.22 Commentaires :			

Outil Potentiel Piétonnier Actif et Sécuritaire (PPAS) - Direction de santé publique de l'Agence de Montréal (2012). 2

- Data concerning walkability indicators are available for each **street segment** and **intersection**

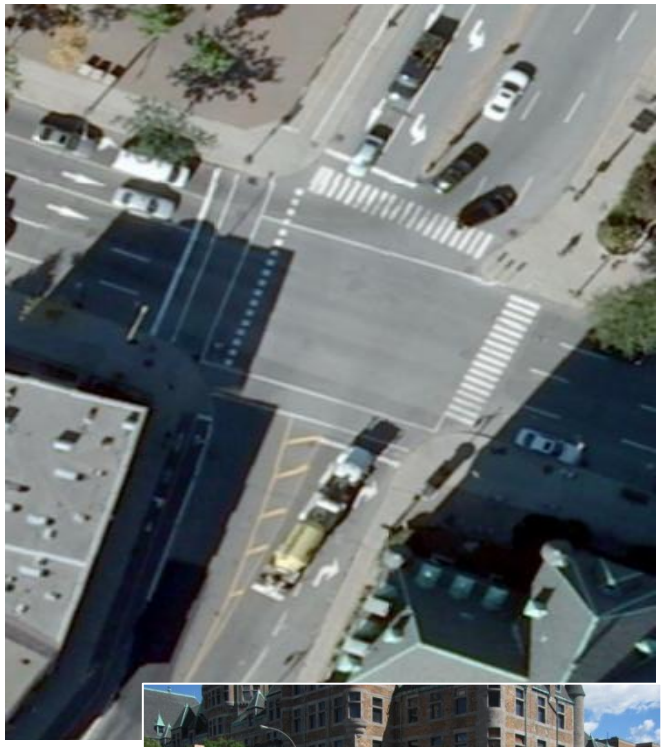
but

- That can also be combined to provide a more complete **diagnosis of the neighbourhood's walkability**

DIAGNOSIS OF AN INTERSECTION

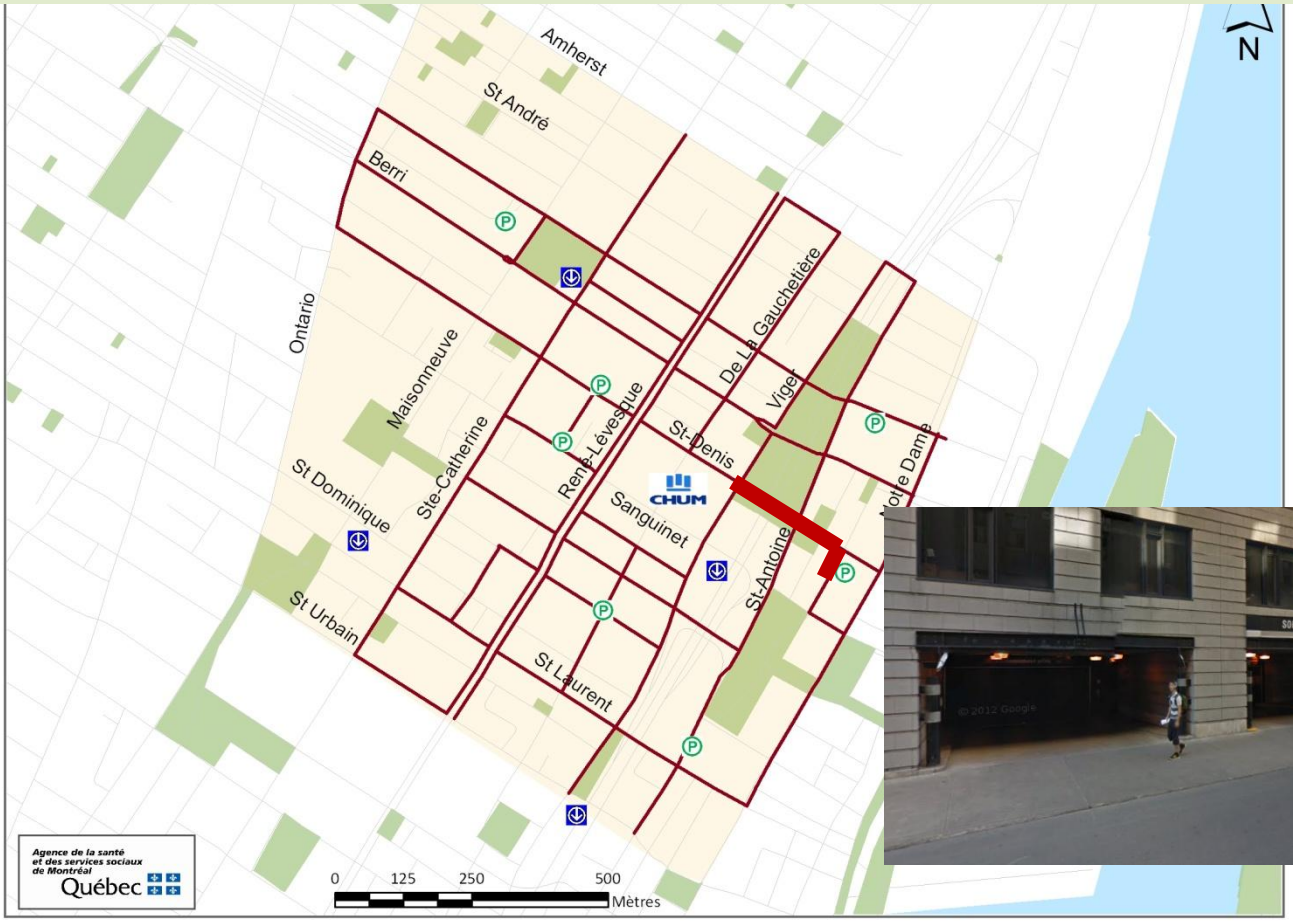
Intersection Berri et Saint-Antoine

- Traffic Light for cars and 3 pedestrian crossing lights with countdown display
- 4 painted pedestrian crossings: two parallel and two zebra (white blocks)
  - Well maintained (visible)
- No parking within 5m of the crossing, prohibited by sign (except one side)
- Good visibility across intersection
- More information is available on the form



DIAGNOSIS OF A ROUTE

Route between hospital and parking



Source photo: GMAP 2013

4 street segments and 3 intersection

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Pathways for pedestrians

- Sidewalk
  - 75% are wide enough (1.7 m to 2.5 m)
  - are in good condition (few bumps or cracks)
  - without permanent obstacles
- 50% of sidewalk have a buffer space
  - 50% of buffer space are more than 1 m
  - buffer space covered by asphalt, cobblestones, landscaping and street furniture
- Street lighting furniture:
  - road scale (cobra neck): 100% of street segments
  - pedestrian scale: 75% of segments
- More information can by collected with PPAS

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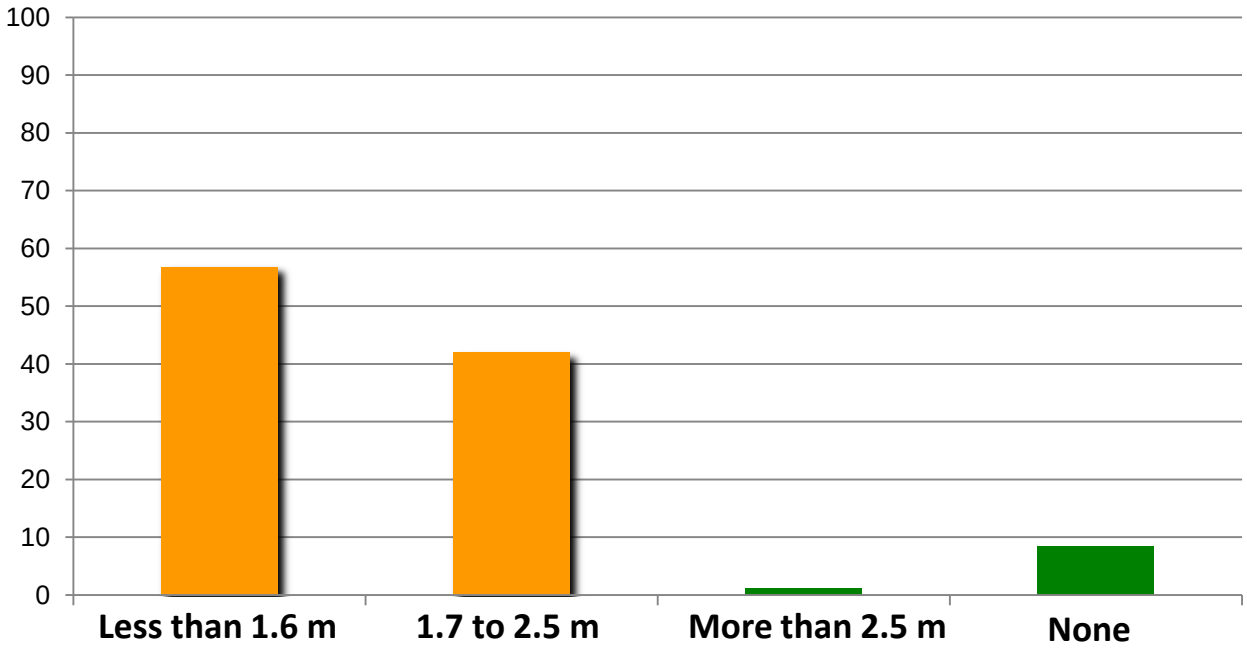
DIAGNOSIS OF THE NEIGHBORHOOD

Neighbourhood Sidewalk Widths

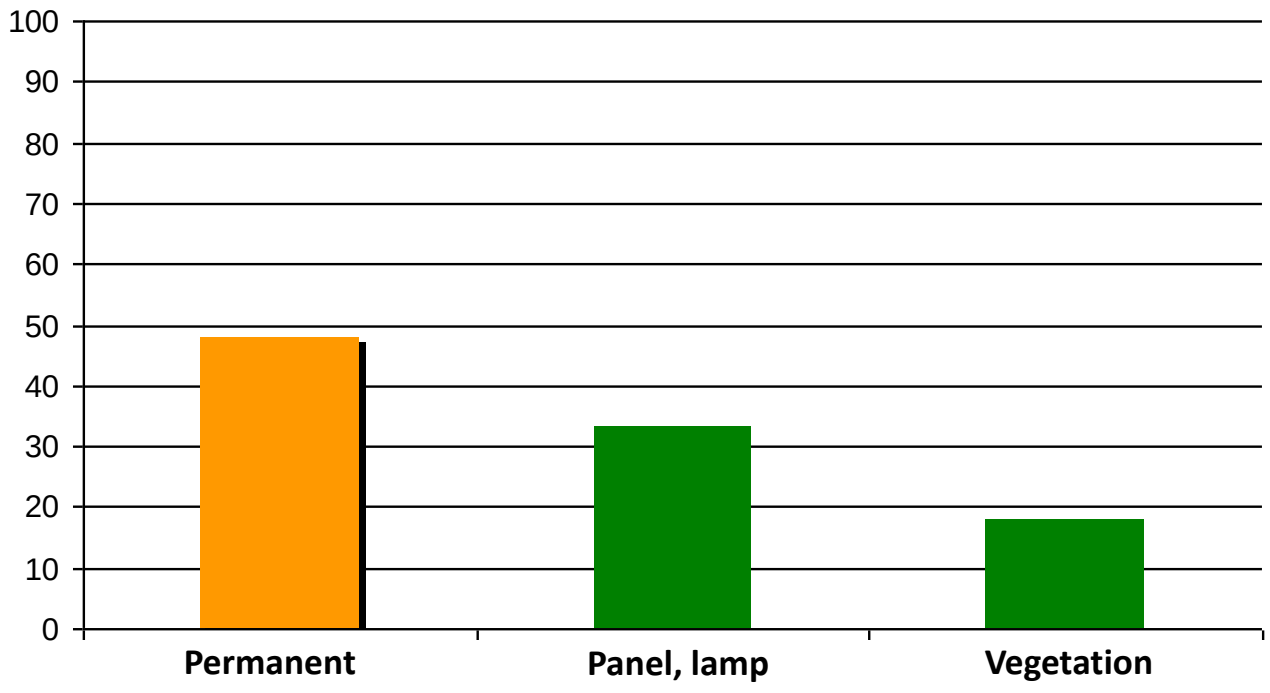


St-Jacques

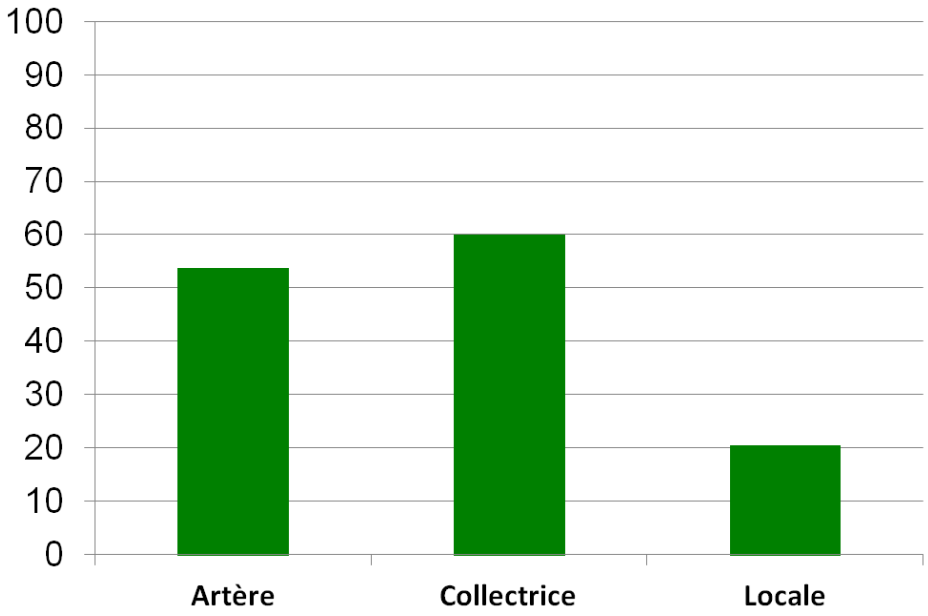
St-Jacques

Ste-Marie

Obstacles on Walkway



Availability of Pedestrian Crossings according to Street Type



CONCLUSION

Usefulness of PPAS

- Walkability diagnosis and identification of problems

- Mobilization of citizens and public authorities


La foule illuminée de Mason 1985

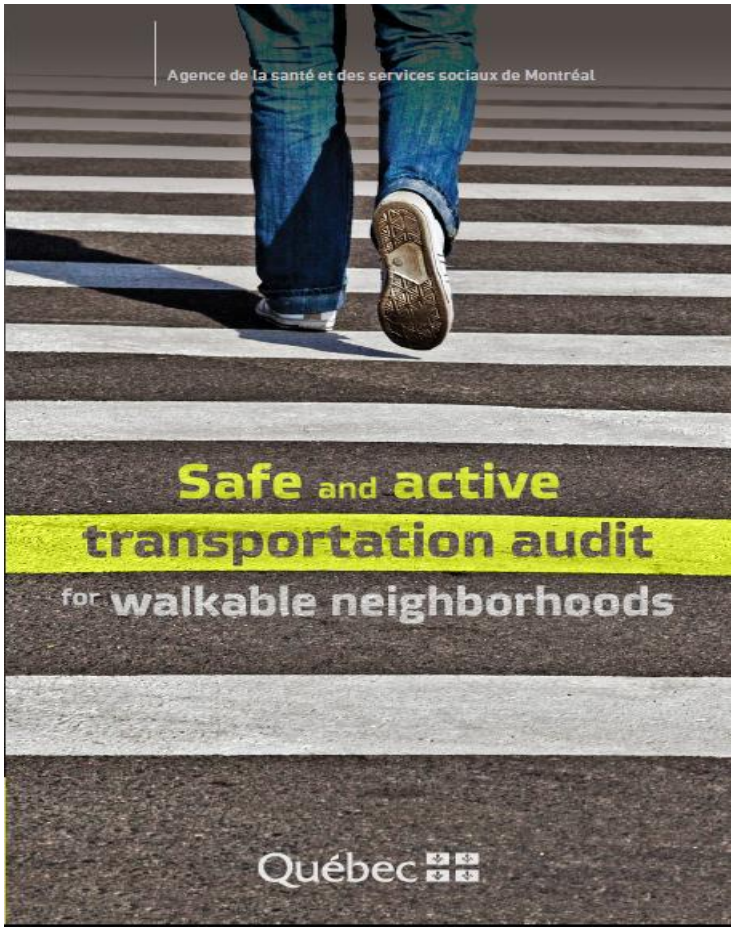
- Supporting evidence-based decisions
  - Local transportation plan and pedestrian plan
  - Enhancement of urban corridors
  - Improvement of area around transit (TOD)
  - Revitalization of neighborhoods
  - Annual road repair program


Humancapitaladviser.com

PPAS Toolbox

- Observation forms for street segment and intersection
- User manual
- Database set and template to calculate statistics
- 2 day training session
- Walkabout tool with quick user guide
- Guideline to writing walkability reports

➢ 78 stakeholders were trained since spring 2013
(NGOs, municipalities and public health professionnals)



The Safe and Active Transportation Audit (PPAS) is a tool to support **public health objectives** and **municipal goals aimed at citizen quality of life**