

# Evaluation of Geosocial Data Representativeness based on Human Spatial Memory Perspective: The example of Foursquare check-ins

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Teriitutea Quesnot & Stéphane Roche  
Université Laval, Center for Research in Geomatics, QC, Canada

**3 Key points**

# I | Smart Cities

**4 global figures**



2% of Earth's Land  
Surface

Planet « Tegernsee »  
by Dirk Paessler on Flickr





# Half of the World's Population


Crowd by James Cridland on Flickr





# 75% of World's Energy Consumption

Energy Consumption by Catskills Photography on Flickr



# 80% of CO<sub>2</sub> Emissions

Los Angeles Smog by Ben Amstutz on Flickr



# The Smart City

The suitable alternative

# *Ability* to Understand



# Transmission of Informations

Real-time & Location-based

# Digital Infrastructure



**Relevant Data needed**

# 2 | Big Geosocial Data



101000010000110010000111  
00100011100000001100100  
1010010100000001101110  
10101**BIG0**1**DATA**00101  
1101010101010010000010  
101000000001000100101  
111001001001001010010

# Geographical attributes

Latitude / Longitude

# Social Network

Context

# Location-Based Social Networks





Samsung GALAXY S4

My History

The Next Big Thing

Share My Stats

JAN 30 14

02 : 46 : 59 pm

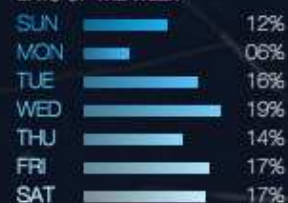
The Next Big Thing is Here

836

OUT OF 842 CHECK-INS

Pavillon Abiti-Pri...  
QUÉBEC, QC

DAYS OF THE WEEK



TOP PLACES



TOP CATEGORIES



# A Huge Place Database

## 60 million of Places stored



# Question

Can we use these data  
to improve  
the urban intelligence ?



# 3 | Landmarks

**What ?**

# Visual Attraction

Height, Width, Color, Form

Les gratte-ciel de Québec by OrangeMania on Flickr





# Semantic Attraction

## Historical & Cultural significance

Vieux-Québec la nuit by Djof on Flickr





# Structural Attraction

## Intersection, Boundaries & Accessibility

Hilton Québec by RiversideMiniland on Flickr

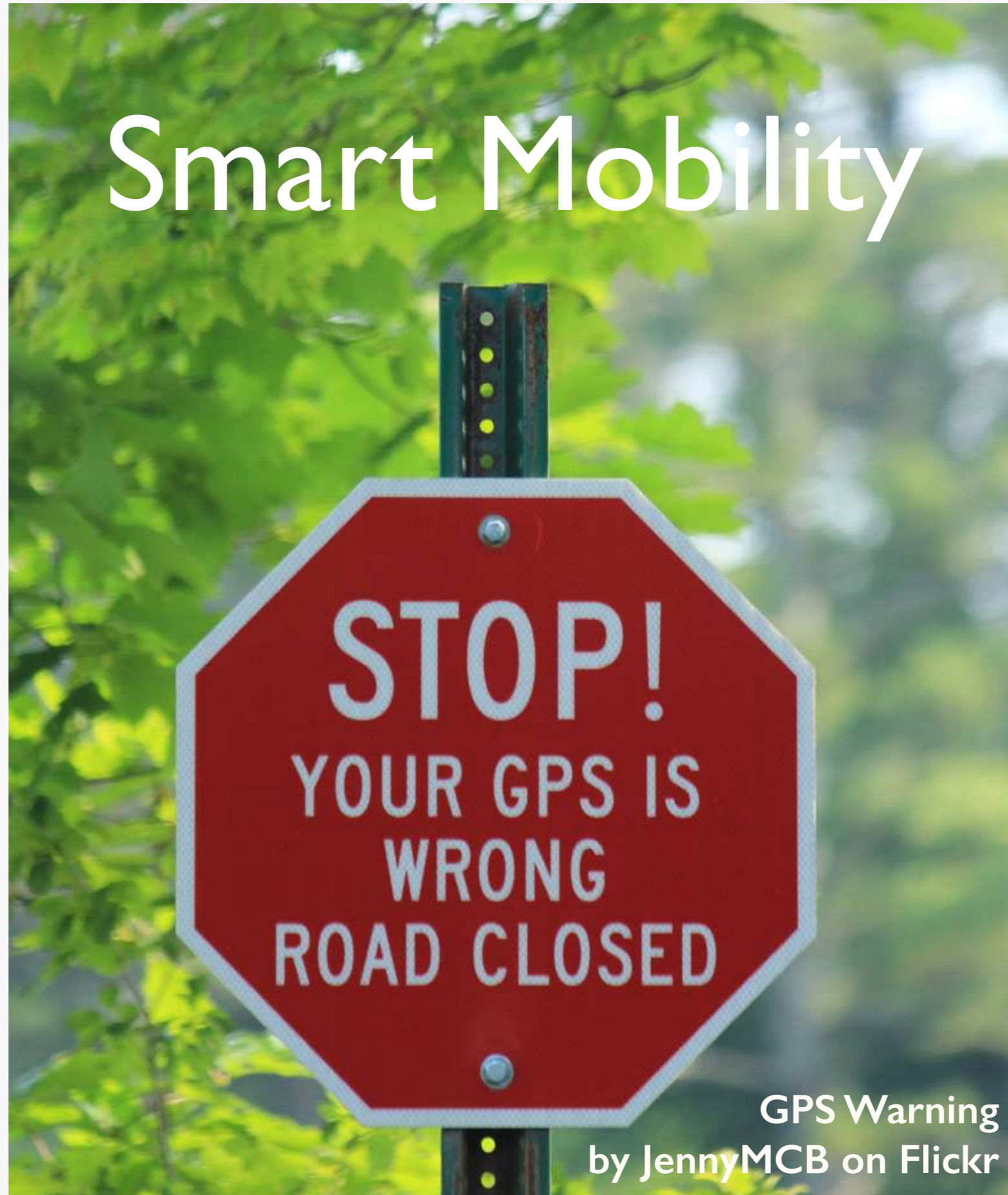
**Why ?**

# Innovative approach

Foursquare Check-ins + Wayfinding



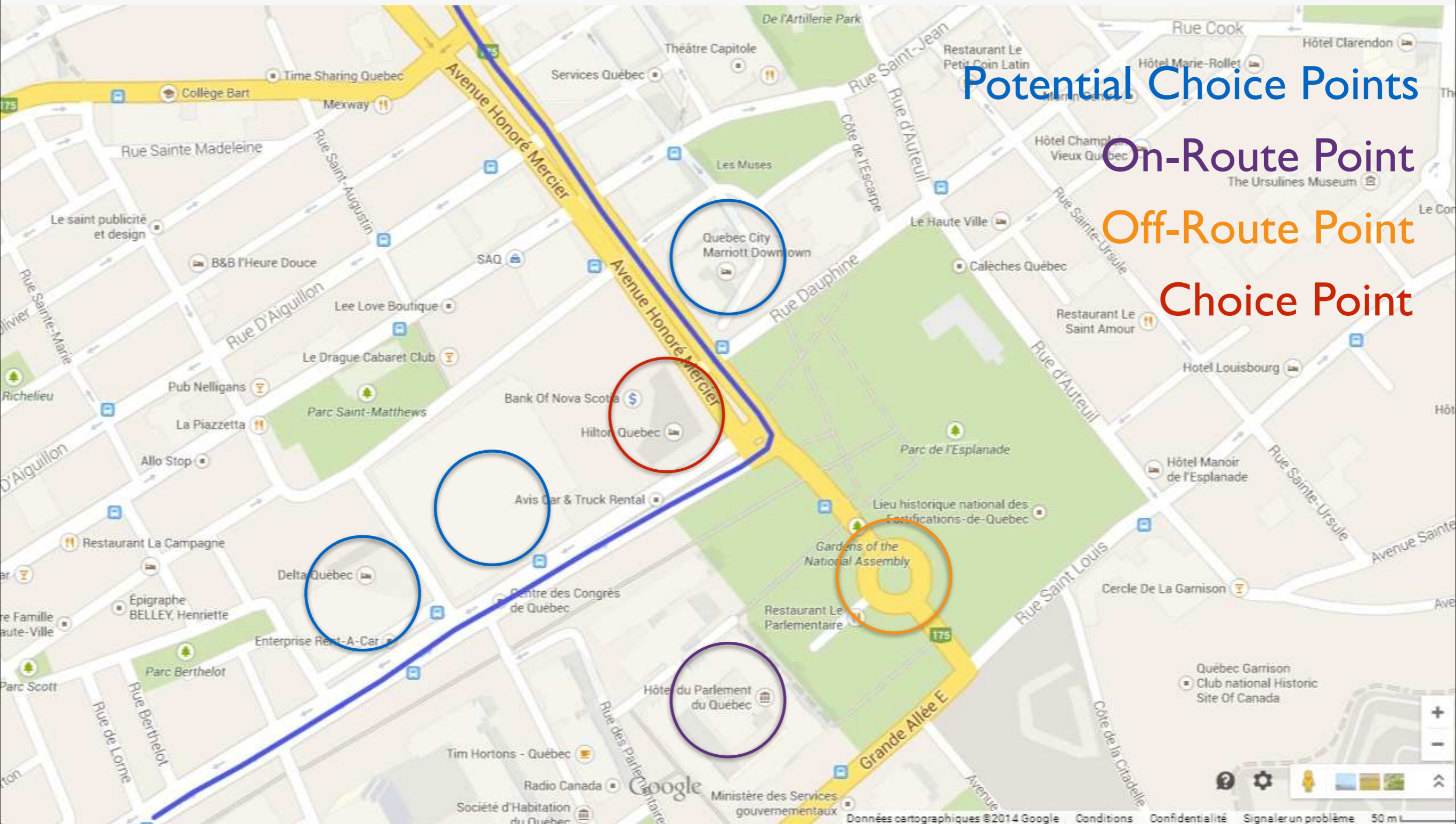
# Smart Mobility



GPS Warning  
by JennyMCB on Flickr

# Automatic Landmarks Detection Systems





Potential Choice Points

On-Route Point

Off-Route Point

Choice Point

# ALDSs are limited

Only Visual & Structural Attraction

# Foursquare Check-ins

Semantic Attraction

**How ?**

# Check-ins Harvest

GNIP (Quebec City)



# Key Places

Geosocial activity

# Conduct interviews of Foursquare's Mayors

Human Spatial Memory

# Conclusion

Exploratory approach & Practical Application

**Thank you**

for listening