Implementation & Equity 201: The Path Forward to Complete Streets

Complete Streets Canada: Designing for change

Webinar begins at 1PM EST
Complete Streets Canada: Designing for change

January 23, 2018

Smart Growth America
Improving lives by improving communities

National Complete Streets Coalition

tcat

toronto centre for active transportation

VILLE DE QUÉBEC

l'accent d'Amérique

Stantec
Nancy Smith Lea
Director, Toronto Centre for Active Transportation (TCAT)
Complete Streets in Canada

Nancy Smith Lea, Director
Toronto Centre for Active Transportation, Clean Air Partnership
Complete Streets in Canada webinar | Jan 23, 2018
TCAT & Complete Streets

TCAT is centralizing the Complete Streets movement in Canada:

- Complete Streets for Canada website
- Developing Canadian resources: case studies, research, design and policy tools
- Complete Streets Forum
- Complete Streets Game
- Complete Streets policy development & analysis
Complete Streets Policy in the US

Source: The Best Complete Streets Policies of 2016, National Complete Streets Coalition
Complete Streets Policy in Canada

Source: Complete Streets for Canada: www.completestreetsforcanada.ca
Thank You. We’d love to hear from you!

Nancy Smith Lea, Director
Toronto Centre for Active Transportation

www.tcat.ca | www.completestreetsforcanada.ca
Peter Murphy
Urban Designer
Quebec City, Quebec
Ryan Martinson
Associate, Stantec
Calgary, Alberta
Emiko Atherton
Director,
National Complete Streets Coalition
Complete Streets for Quebec City:
Toward an Integrated Street and Public Space Network for Active Transportation and Sustainable Health

Peter Murphy AICP, Urban Designer
Planning and Development Service
Urban Design and Landscape Architecture Division
City of Québec, Canada

January 23, 2018
Complete Streets for Quebec City: Toward an Integrated Street and Public Space Network for Active Transportation and Sustainable Health

Presentation Plan

1. Overview of Quebec City: The four Ws
2. Complete Streets: Priorities, methodology and implementation
3. Advantages: Toward a new urban vision
Overview of Quebec City:
The four Ws
QUEBEC CITY

Map of the region showing distances from Quebec City to various cities:
- 150 miles to Montreal
- 300 miles to Ottawa
- 450 miles to Toronto
- 450 miles to New York
- 600 miles to Boston
- 600 miles to Detroit
- 600 miles to Washington
WATER

«Return the river to the population»
INTER

WINTER

Plains of Abraham

Rue du Petit-Champlain

Rue Sous-le-Fort
ALKABILITY

Ruelle des Ursulines

La Grande-Allée

Rue Sault-au-Matelot
Why Complete Streets?
QUEBEC CITY AFTER AMALGAMATION IN 2002

Aging population, low density urban fabric, social iniquities

*Impacts on:*

*Infrastructure planning - Street redesign*

*Parks and public spaces - Sports / recreation / educational facilities*
Complete Streets for Quebec City:
Priorities, methodology and implementation
PRIORITIES
Creation of an interdisciplinary working group

VISION

Landscape Architecture
Planning
Urban Design
Communications
Environment
Management
Transportation
Engineering
Vision for street and public space planning

Supporting and improving citizens’ well-being and quality of life must be placed at the centre of the decision-making process.
# PRIORITIES

Diverse planning documents related to **quality of life issues**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Diverse planning documents related to <strong>quality of life issues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### PRIORITIES

**A new approach to urban mobility**

«…ensure safe and optimal road sharing between motorists, cyclists, and pedestrians.»

*Plan de Mobilité Durable, Québec, 2011*

<table>
<thead>
<tr>
<th>Objectives</th>
<th>2011</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrians</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Cyclists</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>Motorists</td>
<td>71%</td>
<td>57%</td>
</tr>
</tbody>
</table>

Source: Plan de mobilité durable, 2011
PRIORITIES

Conventional approach

Complete Streets approach

Avenue d’Estimauville

Source: Google Street View
PRIORITIES

ACTIVE Streets

> Design streets primarily for walking and at a human scale to stimulate transit use.

> Place an importance on physical activity on streets to help improve public health.
PRIORITIES

GREEN Streets

> *Prioritize ecoresponsible interventions to reduce urban heat islands.*

> *Assure that air and water quality are improved and managed in a sustainable manner.*
> Remain active all year round in complete security.

> Consider winter as an important activity generator, so that we can take full advantage of all it has to offer.
Sustainable health

Place people at the centre of the planning and design process to support residents’ physical, psychological and social well-being.

Contributors / collaborators in public health:

- Alliance santé Québec (Quebec Health Alliance)
- MSSSQ (Health and Social Services Ministry)
- INSPQ (National Institute of Public Health)
- IRDPQ / CIRRIS (Interdisciplinary Centre for Research in Rehabilitation and Social Integration)
- Accès transports viables
- Vivre en ville
METHODOLOGY

Multicriteria analysis: Identifying opportunities and priorities

Source: http://www.etudielci.ulaval.ca/

Faculty of Business Administration
• Department of Operations and Decision Systems
Faculty of Planning, Architecture, Arts and Design
• Graduate School of Land Management and Regional Planning
• School of Architecture
METHODOLOGY
Multicriteria analysis: Identifying opportunities and priorities

BASE CRITERIA

- Connectivity
- Citizen input
- Number of pedestrians
- Human activity density
- Street right-of-way
- Tree cover
- Population vulnerability
- Master plans
- Cycling network
- Public transportation
- Security
- Educational institutions

![Public transportation](image1.png)
![Street right-of-way](image2.png)
![Tree cover (%)](image3.png)
![Human activity density](image4.png)
METHODOLOGY

Multicriteria analysis: Defining street hierarchies

- Densité d'activité humaine
- Indice défavorisation
- Indice canopée
- Plan réseau cyclable
- Emprise de rue
- Débit piéton
- Planification urbaine
- Réseau RTC

A: 100
B: 200

- Préférence: Extrême
- Très forte
- Forte
- Modérée
- Faible
- Très forte
- Nulle

Source: Francis Marleau-Donais / UMRsu
METHODOLOGY
Multicriteria analysis: Defining street hierarchies
METHODOLOGY

Multicriteria analysis: Defining street hierarchies

Advantages:

• Eliminates arbitrary decisions
• Introduces transparency in the decision-making process
• Facilitates communications between all stakeholders
• Can be easily adapted and is flexible to allow for information updates and / or new indicators or criteria.

Limits:

• Is not a design tool but simply a decision-making tool
• Does not replace professional judgments
• Can be influenced by street segmentation.
**METHODOLOGY**

Multicriteria analysis: Applying additional indicators

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE: Wilfrid-Hamel, boulevard</td>
</tr>
<tr>
<td>PPI: Évans, PPI</td>
</tr>
<tr>
<td>PROGRAMME: Aménagement du bannière</td>
</tr>
<tr>
<td>TYPE D'INTERVENTION: Consolidation et amélioration</td>
</tr>
</tbody>
</table>

| CLASSIFICATION: Collectivité territoriale du bassin principal |
| VITESSE (km/h): 50 | D.A.M: N.O |
| EMPRISE (m²): 1.092 | CHAUSSEE (m): 1.09 |

<table>
<thead>
<tr>
<th>CONSTATS</th>
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<tbody>
<tr>
<td>TRANSPORT</td>
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<tr>
<td>POTENTIEL D'UN ACCÈS DE DÉPLACEMENTS ADDITIFS</td>
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<tr>
<td>PROXIMITÉ DU RÉSEAU ÉCARTÉ DE PERNETTE DE LA ROUTE SAINT-CHARLES</td>
</tr>
<tr>
<td>PROXIMITÉ DES PARCS RÉCREATIFS (44, 45 &amp; 84) ET MÉTROBUS 802</td>
</tr>
<tr>
<td>LIGNES DE LA RÉCA et de la rue de la Gare</td>
</tr>
</tbody>
</table>

| ÉQUIPMENTS |
| Commerces et équipements d'enseignement (C.F.P. Louis-Nicolas, C.F.P. de Guille, Écoles secondaires Camille-Remi/Wilfrid-Gilbert, Sainte-Croix) |
| Écoles secondaires Camille-Remi/Wilfrid-Gilbert, Saint-Germain-ès-Paris |
| PROXIMITÉ DES PARCS RÉCREATIFS (PARCS RÉCREATIFS SAINT-CHARLES et SAINT-GERMAIN-ÈS-PARIS) |
| ÉQUIPMENTS DE DÉPLACEMENT (ÉCOLES, commerces) |

| SECTORISATION & CONSIDERATIONS ENVIRONNEMENTALES |
| Projet de réaménagement urbain (2011) |
| Évitement des zones sensibles aux inondations |

<table>
<thead>
<tr>
<th>NOTES</th>
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<tbody>
<tr>
<td>PASSERELLE DES TROIS-SŒURS</td>
</tr>
<tr>
<td>Liaison piéton-cyclable importante avec quartiers adjacents et parcs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPPORTUNITÉS</th>
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<table>
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<tr>
<th>ÉCHÉANCIER</th>
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<tbody>
<tr>
<td>2017</td>
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</table>

Image of a map showing urban planning details.
METHODOLOGY
An inclusive process

Charrette for the redesign of avenue du Chanoine-Morel, November 15, 2016
**METHODOLOGY**

A unique approach

*First city in North America to use this software to evaluate opportunities for street redesign in accordance with Complete Streets principles.*

Source: Unité mixte de recherche en science urbaine, Québec
IMPLEMENTATION

Complete Streets for improving citizens’ quality of life

- **Public input**
- **Sustainable health objectives**
- **Contextual criteria**
- **Performance criteria**
- **Existing street**
- **Ideal street**
- **IMPROVED STREET**

Complete Streets for improving citizens’ quality of life

- **Public input**
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- **Contextual criteria**
- **Performance criteria**
- **Existing street**
- **Ideal street**
- **IMPROVED STREET**
IMPLEMENTATION
Rue du Pont, 2016-2017

before

<table>
<thead>
<tr>
<th></th>
<th>33 %</th>
<th></th>
<th>67 %</th>
</tr>
</thead>
</table>

after

<table>
<thead>
<tr>
<th></th>
<th>58 %</th>
<th></th>
<th>42 %</th>
</tr>
</thead>
</table>

$ n/a
IMPLEMENTATION
Rues Saint-Jean/Turnbull, 2017

before

after

$ + 4 \%$
IMPLEMENTATION
Avenue Ducharme and rue Émile-Fontaine, 2017

before

after

$ + 15 \%$
IMPLEMENTATION
Rue Saint-Ambroise, 2017

before

<table>
<thead>
<tr>
<th></th>
<th>before</th>
<th>after</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 %</td>
<td></td>
<td>43 %</td>
</tr>
<tr>
<td>70 %</td>
<td></td>
<td>57 %</td>
</tr>
</tbody>
</table>

+13 %
IMPLEMENTATION
Chemin de la Canardières, 2017

before

after

$ + 39 \%
IMPLEMENTATION
Route de l’Église, 2018-2019

before

| 27 % | 73 % |
|  |  |

after

| 39 % | 61 % |
|  |  |

$ + 60 %
IMPLEMENTATION
Local streets in Old Quebec

before

after

$ n/a
ADVANTAGES

Toward a new urban vision
ADVANTAGES

Toward a new urban vision

• Data-based decision-making: Transparent, rational and equitable

• Visual planning tools: Improved communications and understanding of design issues for increased efficiency

• Conciliation of over-all vision with local identity: Applicable in urban and suburban neighborhoods and to existing as well as new street designs.
ADVANTAGES

Toward a new urban vision

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• Visual planning tools: Improved communications and understanding of design issues for increased efficiency

• Conciliation of over-all vision with local identity: Applicable in urban and suburban neighborhoods and to existing as well as new street designs.

The right investment, at the right spot, at the right time
Complete Streets for Quebec City: Toward an Integrated Street and Public Space Network for Active Transportation and Sustainable Health

For further information (in French only):
https://www.ville.quebec.qc.ca/planification_orientations/amenagement_urbain/rues-conviviales/
Ryan Martinson, M.Eng., P.Eng.

Complete Streets in Canada

@ryan_martinson
A very different built environment and street users

NIMBI: Not In My Back Igloo
Culture is something that we can influence

- This may be broadly interpreted as 'ways of life'.

- It consists of the values that people hold, the rules and norms they obey, and the material objects they use.

- Also commonly regarded as systems of shared meanings.

From: Knox and Pinch, Urban Social Geography: An introduction, glossary
Process vs Prescription

Alignment with Complete Streets Principles

<table>
<thead>
<tr>
<th>Process Flowchart</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1</strong> Define Project Goals and Scope</td>
</tr>
<tr>
<td><strong>3.2</strong> Identify Modal Priorities</td>
</tr>
<tr>
<td><strong>3.3</strong> Identify Street Type</td>
</tr>
<tr>
<td><strong>3.4</strong> Select Elements</td>
</tr>
<tr>
<td><strong>3.5</strong> Make Trade-offs</td>
</tr>
<tr>
<td><strong>3.6</strong> Confirm Recommended Design</td>
</tr>
</tbody>
</table>

Source: Edmonton Complete Streets Guidelines
Our national guidance has had a shift in focus

Bicycles as vehicles

People riding bicycles
A tendency towards separation, based on research and design user considerations

Design treatments like two-stage turn boxes

And protected intersections
A very Canadian thing... weather
These colder and snowier places have a higher percentage of work trips made by bike.
Winter Maintenance/Operation

A ‘blue’ run is accessible to many people.

But, left unmaintained, moguls appear, and then this quickly is only available to a select few… and probably more risk takers.
What you design for may be different
Rapid Implementation of Complete Streets
Edmonton’s Downtown Grid: Fills the Central Gap
Edmonton’s Downtown Grid: Fills the Central Gap
6.5 kilometres of bike infrastructure designed and constructed to create a network in the downtown core.
What’s different in Canada?
In Canada, our physics looks like this:

\[ E_k = \frac{1}{2} m v^2 \]

... nope that’s the same.
In Canada, speed kills. ... nope that’s the same, too.
In Canada, we create tools as extensions of ourselves.

Hmmm, that’s still the same.
In Canada, there are positions, interests, and values. Well, this is a pretty universal idea.

Source: International Association for Public Participation
In Canada and everywhere in the world,

Everybody Poops

We still have human needs, wants, desires
To Recap

1. Culture change is possible
2. Process vs Prescription
3. Weather is just a thing
4. Make changes fast to show value
5. Let’s all focus on human centered design

Ryan Martinson, M.Eng., P.Eng.

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Ryan.Martinson@stantec.com
Send us your questions using the ReadyTalk chat box.
Next webinar: February 21st

February 21, 2018 12:30-1:30 PM EST
Implementation & Equity 201: The Path Forward to Complete Streets

Improving mobility access through Complete Streets and mobility management

@CompleteStreets

Elements of a Complete Streets Policy