



Implementation & Equity 201:

The Path Forward to Complete Streets

Complete Streets Canada: Designing for change

Webinar begins at 1PM EST



Smart Growth America
Improving lives by improving communities



National Complete
Streets Coalition

Complete Streets Canada: Designing for change

January 23, 2018



Smart Growth America
Improving lives by improving communities



**National Complete
Streets Coalition**



toronto centre for
active transportation



Stantec



Nimotalai Azeez

Program Associate,
National Complete
Streets Coalition



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

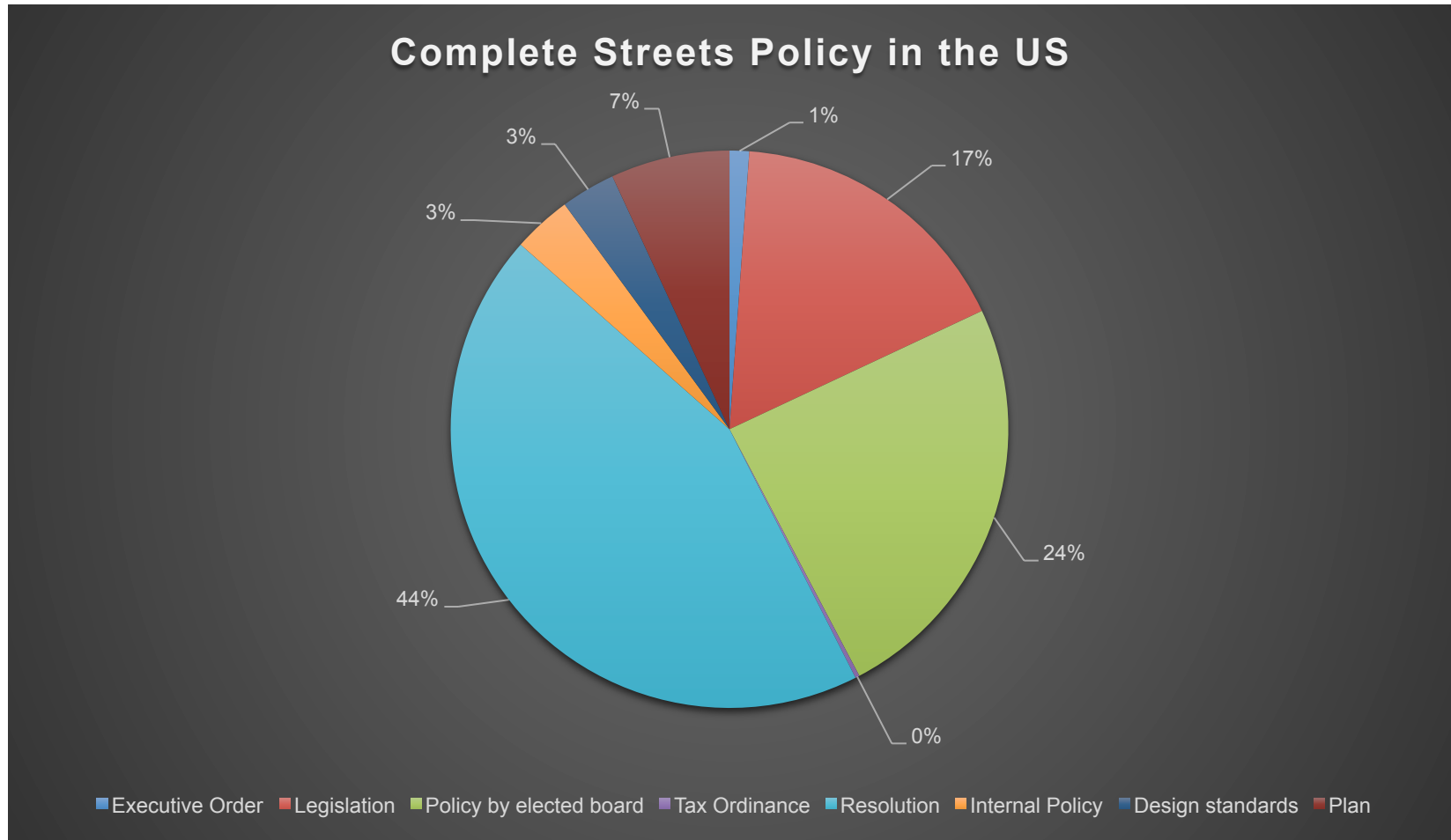
TCAT & Complete Streets

TCAT is centralizing the Complete Streets movement in Canada:

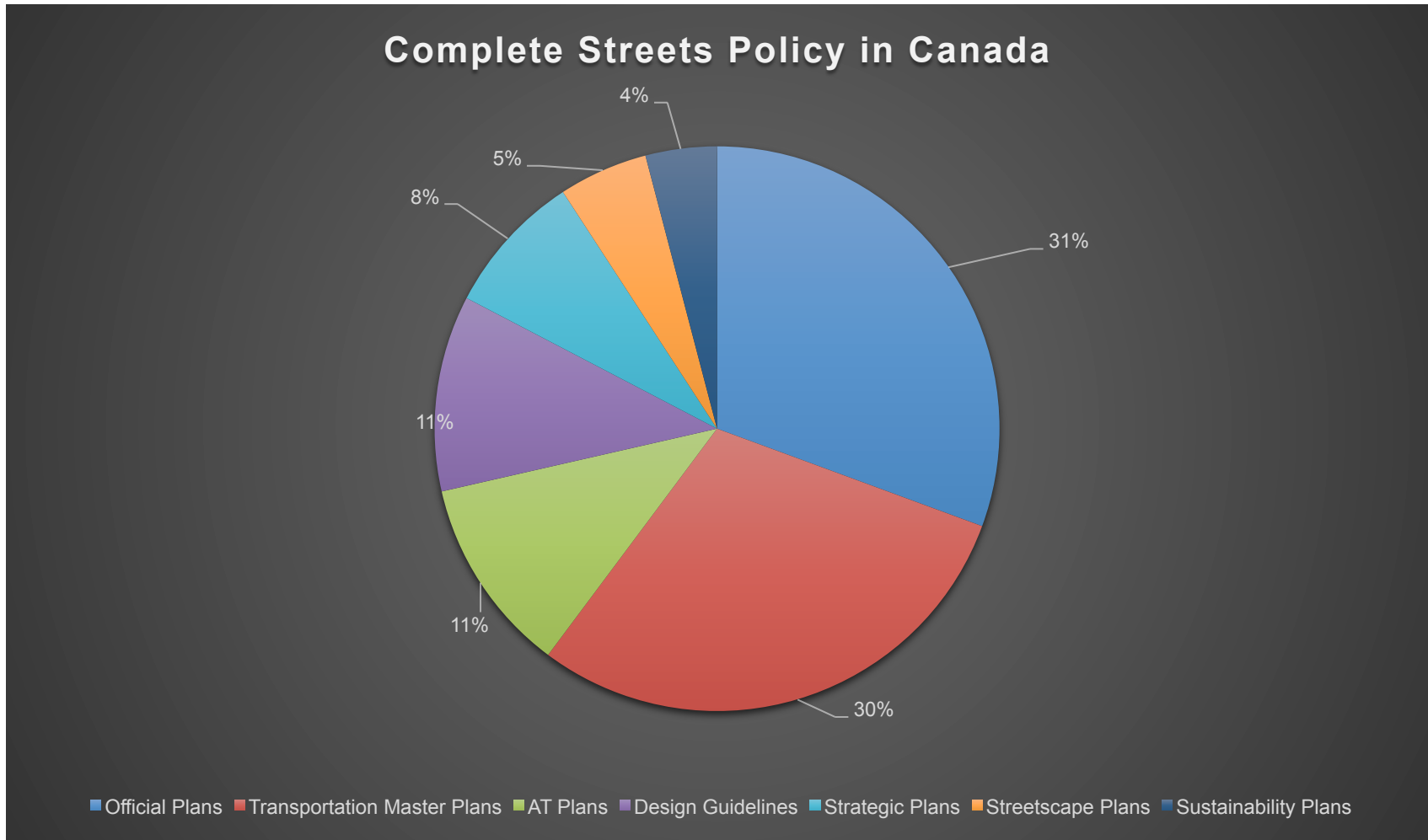
- Complete Streets for Canada website
- Developing Canadian resources: case studies, research, design and policy tools
- Complete Streets Forum
- Complete Streets Game
- Complete Streets policy development & analysis



Complete Streets Policy in the US



Complete Streets Policy in Canada



Source: Complete Streets for Canada: www.completestreetsforcanada.ca

Complete Streets Canada: Designing for change

Thank You. We'd love to hear from you!

Nancy Smith Lea, Director
Toronto Centre for Active Transportation

www.tcat.ca |
www.completestreetsforcanada.ca



Complete Streets for Canada

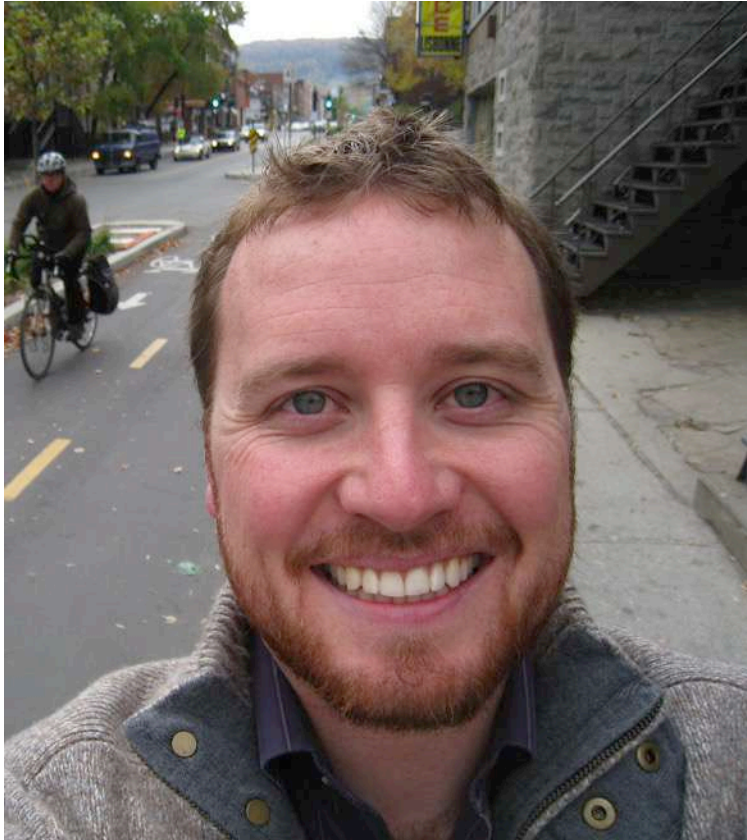
policy and design hub for building safe and inviting streets for all

Complete Streets Canada: Designing for change



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



Smart Growth America
Improving lives by improving communities



**National Complete
Streets Coalition**

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



Organisation
des Nations Unies
pour l'éducation,
la science et la culture



Arrondissement historique
du Vieux-Québec
inscrit sur la Liste du
patrimoine mondial en 1985





Samuel-De Champlain Promenade



Sentier des Grèves



Saint-Charles River Park Corridor



Three Sisters Pedestrian / Cycling Bridge

WATER



«Return the river to the population»

W ALLS



Château Frontenac



©OTQ, Jeff Frenette

Ramparts Promenade



Grand Prix Cycliste Québec

WINTER



Plains of Abraham



Rue du Petit-Champlain



Rue Sous-le-Fort

WALKABILITY



Ruelle des Ursulines



La Grande-Allée



Rue Sault-au-Matelot

WATER



WALLS



WINTER



WALKABILITY



WHY COMPLETE STREETS?

QUEBEC CITY AFTER AMALGAMATION IN 2002

Aging population, low density urban fabric, social inequities

Impacts on:

Infrastructure planning - Street redesign

Parks and public spaces - Sports / recreation / educational facilities

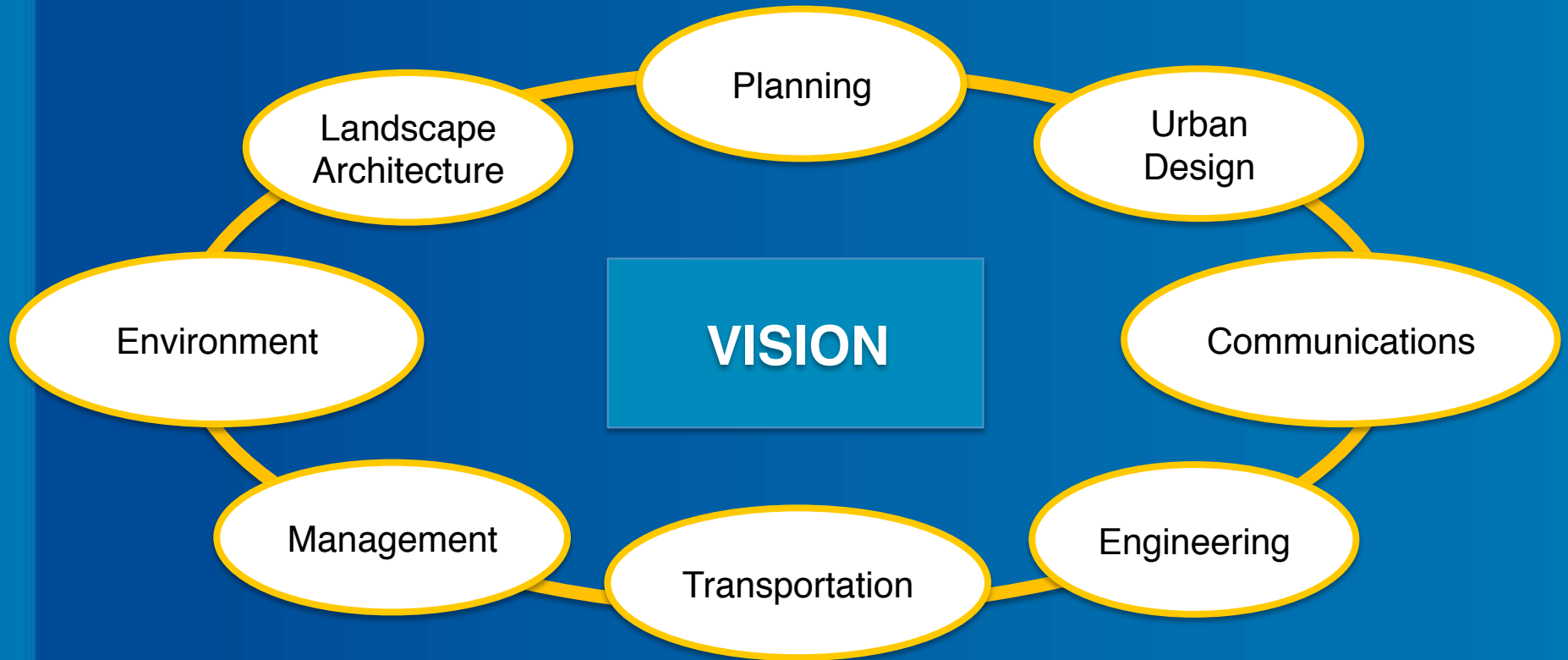


Complete Streets for Quebec City: *Priorities, methodology and implementation*



PRIORITIES

Creation of an interdisciplinary working group



PRIORITIES

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**

Universal accessibility
(2010)



Public Art
(2013)



Street tree plan
(2016)



Roadway design
(2008)

Sustainable Mobility
(2011)

Bike plan
(2016)

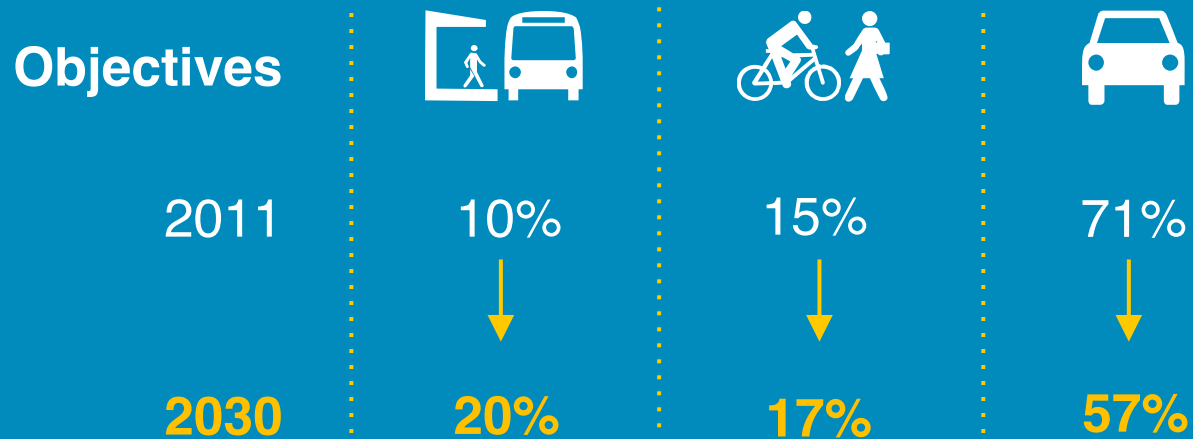
BRT
(2016)

PRIORITIES

A new approach to urban mobility

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

Plan de Mobilité Durable, Québec, 2011



PRIORITIES

Conventional approach



Complete Streets approach



Avenue d'Estimauville

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.*

PRIORITIES



WINTER Streets

- > *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.*

PRIORITIES

Design objectives



ACTIVE
Streets



GREEN
Streets



WINTER
Streets

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 / CIRRIIS (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.etudieici.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

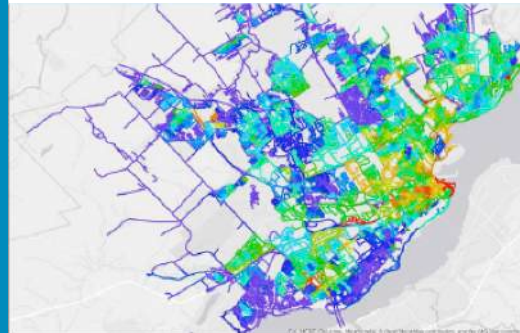
Public transportation



Street right-of-way



Tree cover (%)



Human activity density



METHODOLOGY

Multicriteria analysis: Defining street hierarchies

	A	B	
• Densité d'activité humaine	100	200	
• Indice défavorisation	Interm conf d us	Interm conf d us	Préférence:
• Indice canopée	40	40	Extrême
• Plan réseau cyclable	Plan planifié	Plan planifié	Très forte
• Emprise de rue	15 m	10 m	Forte
• Débit piéton	Nb dénég 3	Nb dénég 3	Modérée
• Planification urbaine	1 plan	1 plan	Faible
• Réseau RTC	Parcours présents	Parcours présents	Très forte
			Nulle

METHODOLOGY

Multicriteria analysis: Defining street hierarchies



METHODOLOGY

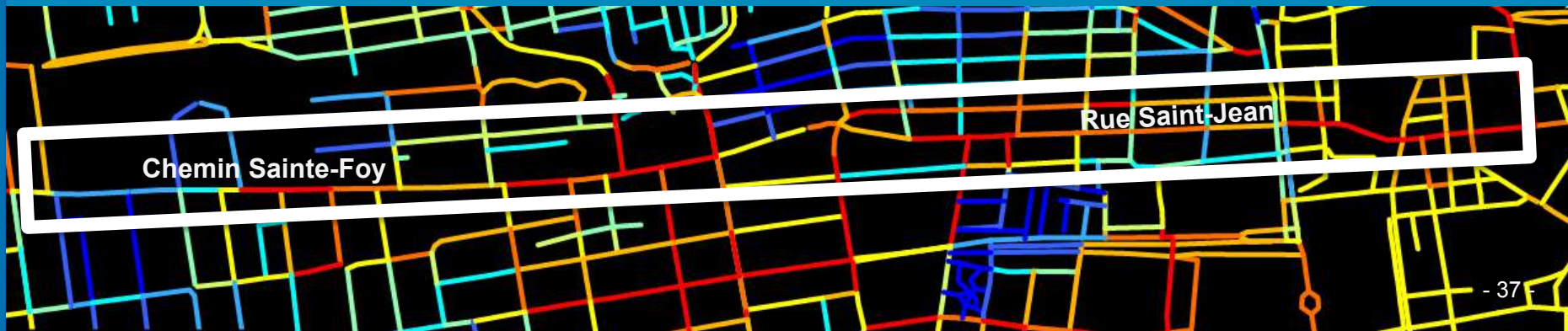
Multicriteria analysis: Defining street hierarchies

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

DESCRIPTION

DE: Wilfrid-Hamel, boulevard **A:** Bourdages, rue
PPI: Divers PPI **LONGUEUR (m):** 705
PROGRAMME: Aménagement du territoire
TYPE D'INTERVENTION: Consolidation et amélioration

CLASSIFICATION: Collectrice secondaire / Locale principale
VITESSE (km/h): 50 **DJMA:** N/D
EMPRISE (m): ± 18,2 **CHAUSSEE (m):** N/D

CONSTATS

TRANSPORT
Potentiel d'un axe de déplacements actifs
Proximité du réseau cyclable du Parc linéaire de la rivière Saint-Charles
Proximité des parcours Régulier 64, 74 & 84 et Metrobus 802
Liaison avec la nouvelle passerelle des Trois-Sœurs

ÉQUIPEMENTS
Connexion à 4 équipements d'enseignement (C.F.P. Louis-Joliet, C.F.P. de Québec, École secondaire Cardinal-Roy/Wilbrod-Bhéria, Sacre-Coeur)
Proximité d'un grand équipement de loisir (rivière Saint-Charles)
Proximité de générateurs de déplacement (Fleurs de Lys, commerces)
Liaison avec l'INDPC

DÉFAVORISATION & CONSIDÉRATIONS ENVIRONNEMENTALES
Secteur très défavorisé socialement (2011)
Faible canopée sur le tronçon visé
Grande aire de stationnement

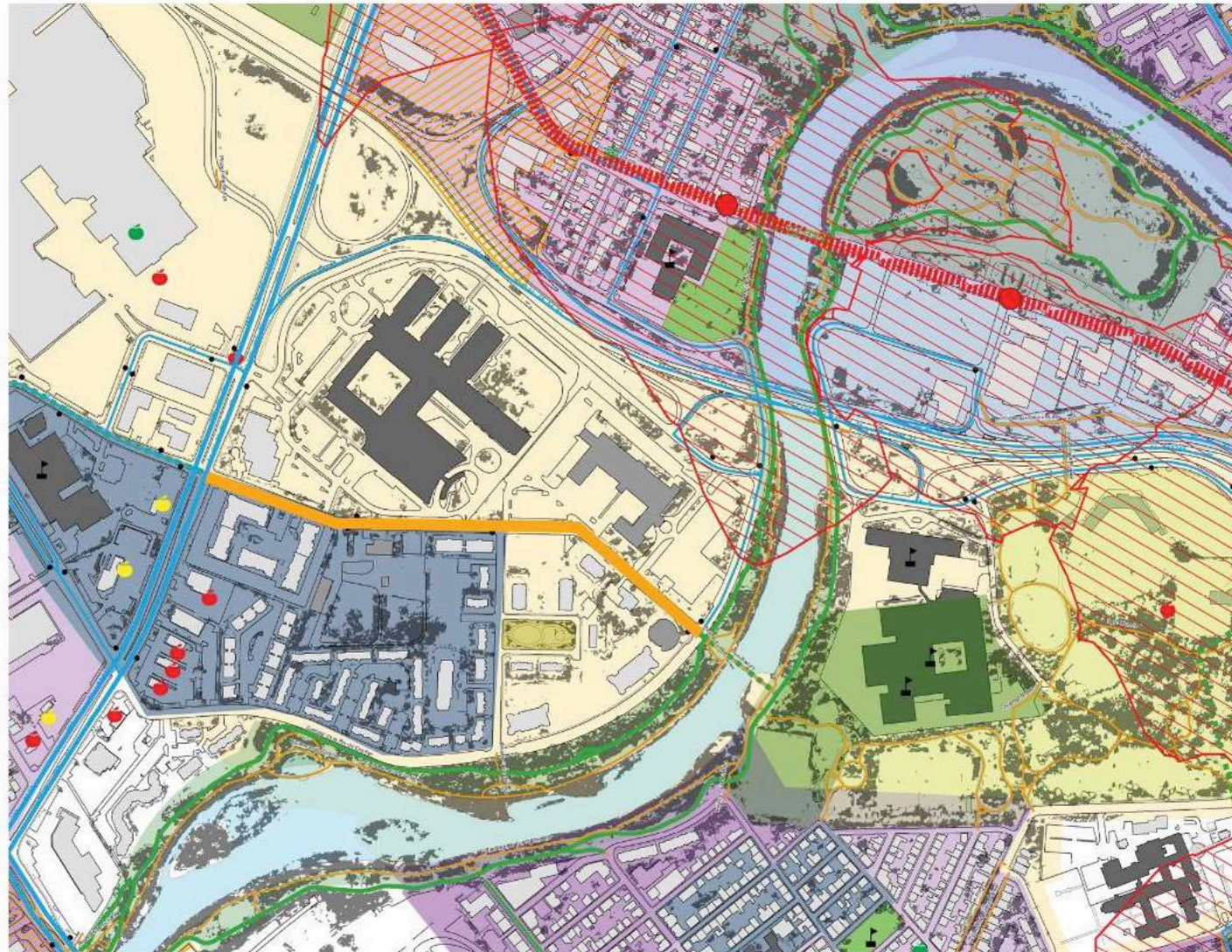
NOTES

PASSERELLE DES TROIS-SŒURS
Lien piétonnier-cycliste important avec quartiers adjacents et parc

OPPORTUNITÉS

ÉCHÉANCIER

2017 2018 2019



METHODOLOGY

An inclusive process



Web survey



Participatory
design sessions



Public forums

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

METHODOLOGY

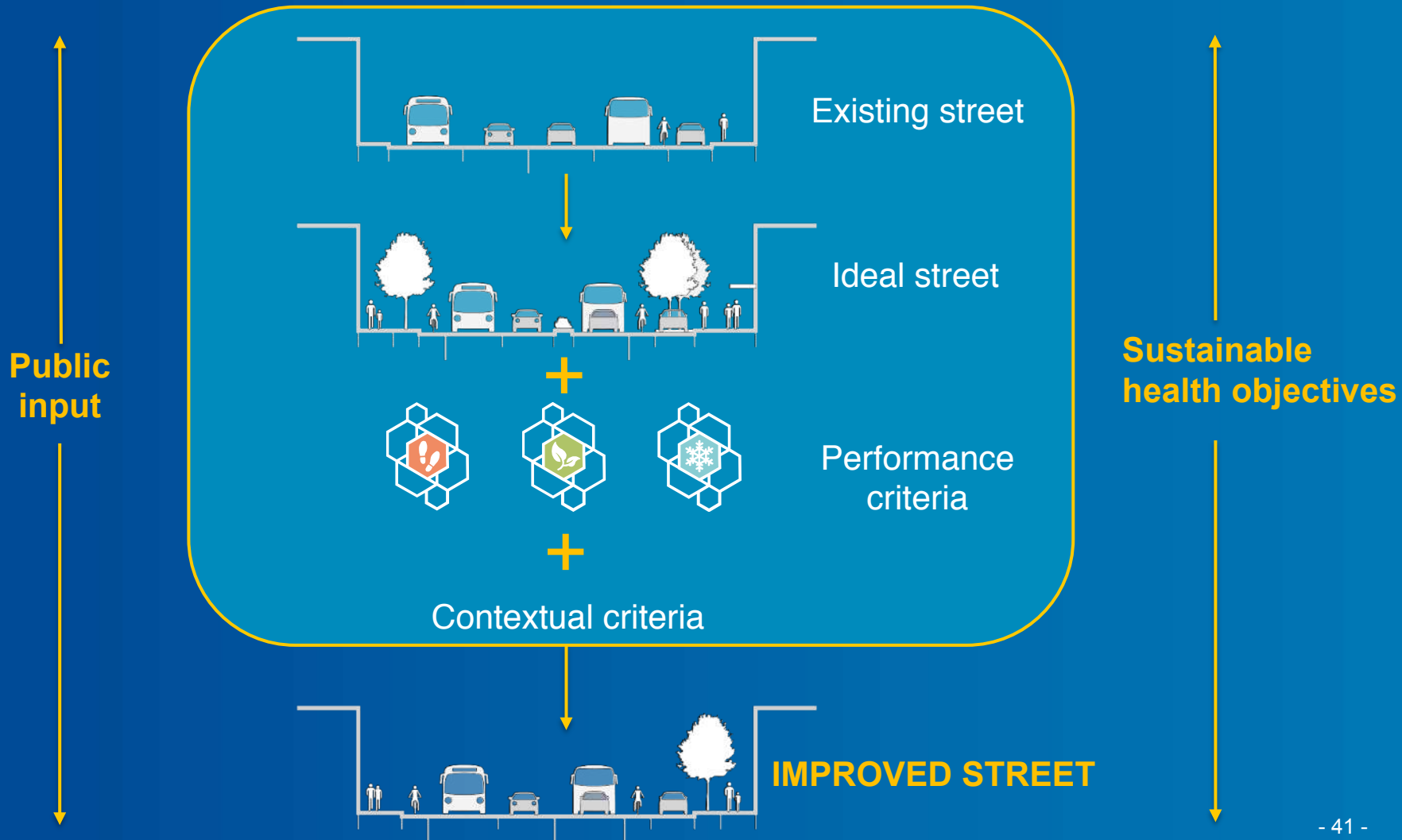
A unique approach



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

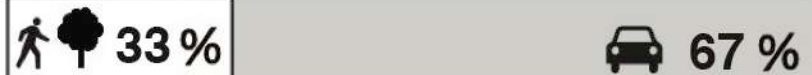
IMPLEMENTATION

Complete Streets for improving citizens' quality of life



IMPLEMENTATION

Rue du Pont, 2016-2017



before



after



\$ n/a

IMPLEMENTATION

Rues Saint-Jean/Turnbull, 2017



before



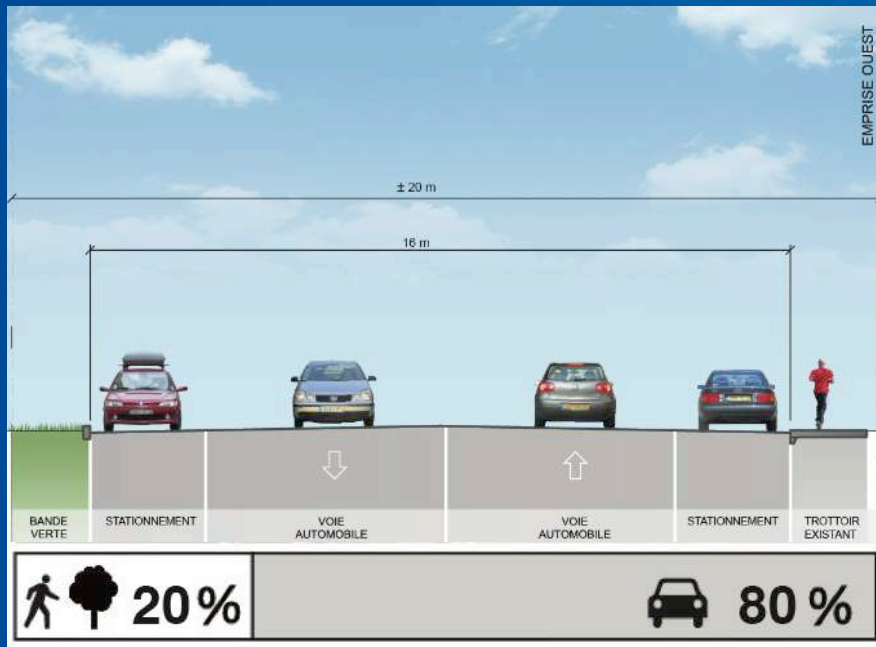
after



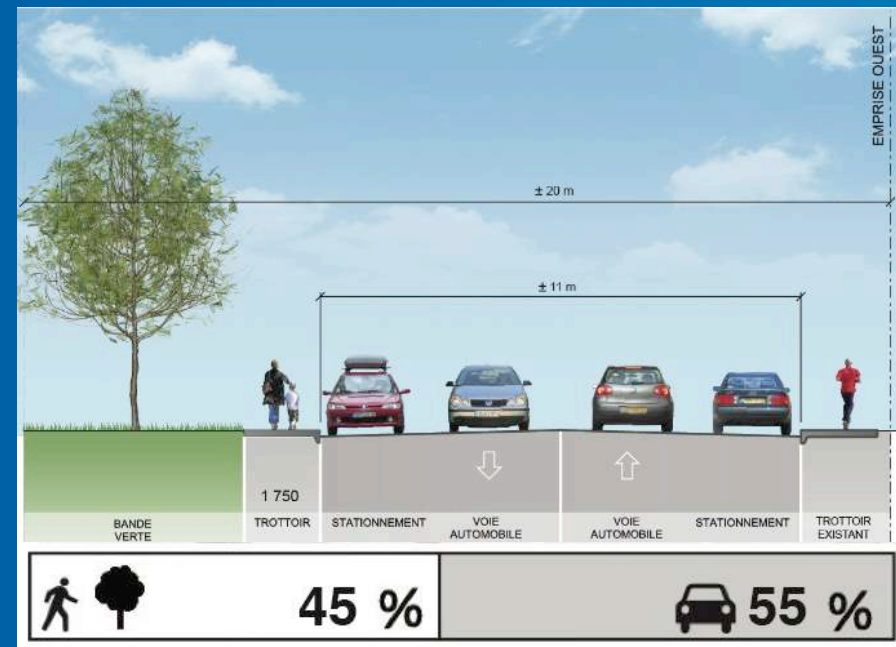
\$ + 4 %

IMPLEMENTATION

Avenue Ducharme and rue Émile-Fontaine, 2017



before



after



\$ + 15 %

IMPLEMENTATION

Rue Saint-Ambroise, 2017



before



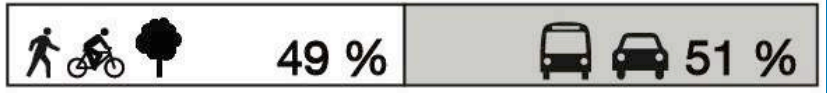
after



\$ +13 %

IMPLEMENTATION

Chemin de la Canardière, 2017



before

after



\$ + 39 %

IMPLEMENTATION

Route de l'Église, 2018-2019



before



after



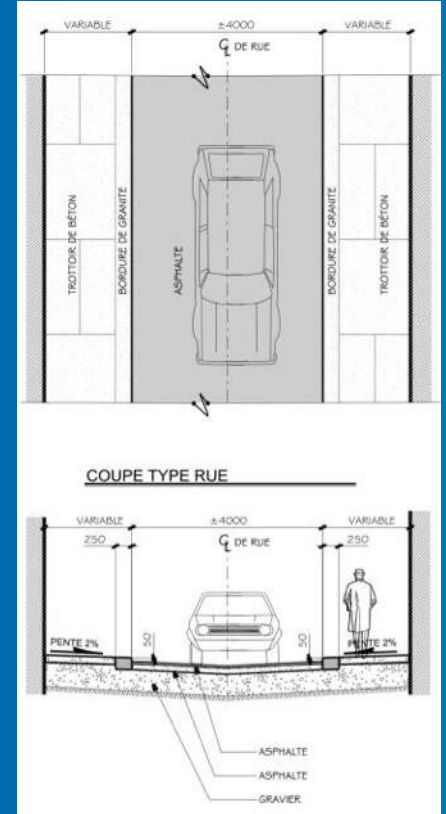
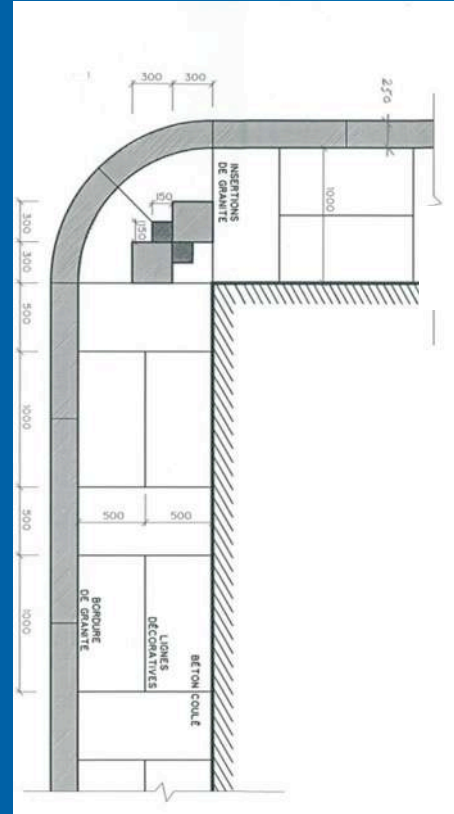
\$ + 60 %

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

- 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.

The right investment, at the right spot, at the right time



*l'accent
d'Amérique*

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/




Smart Growth America
Improving lives by improving communities



**National Complete
Streets Coalition**



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

 @ryan_martinson

Complete
Streets in
Canada



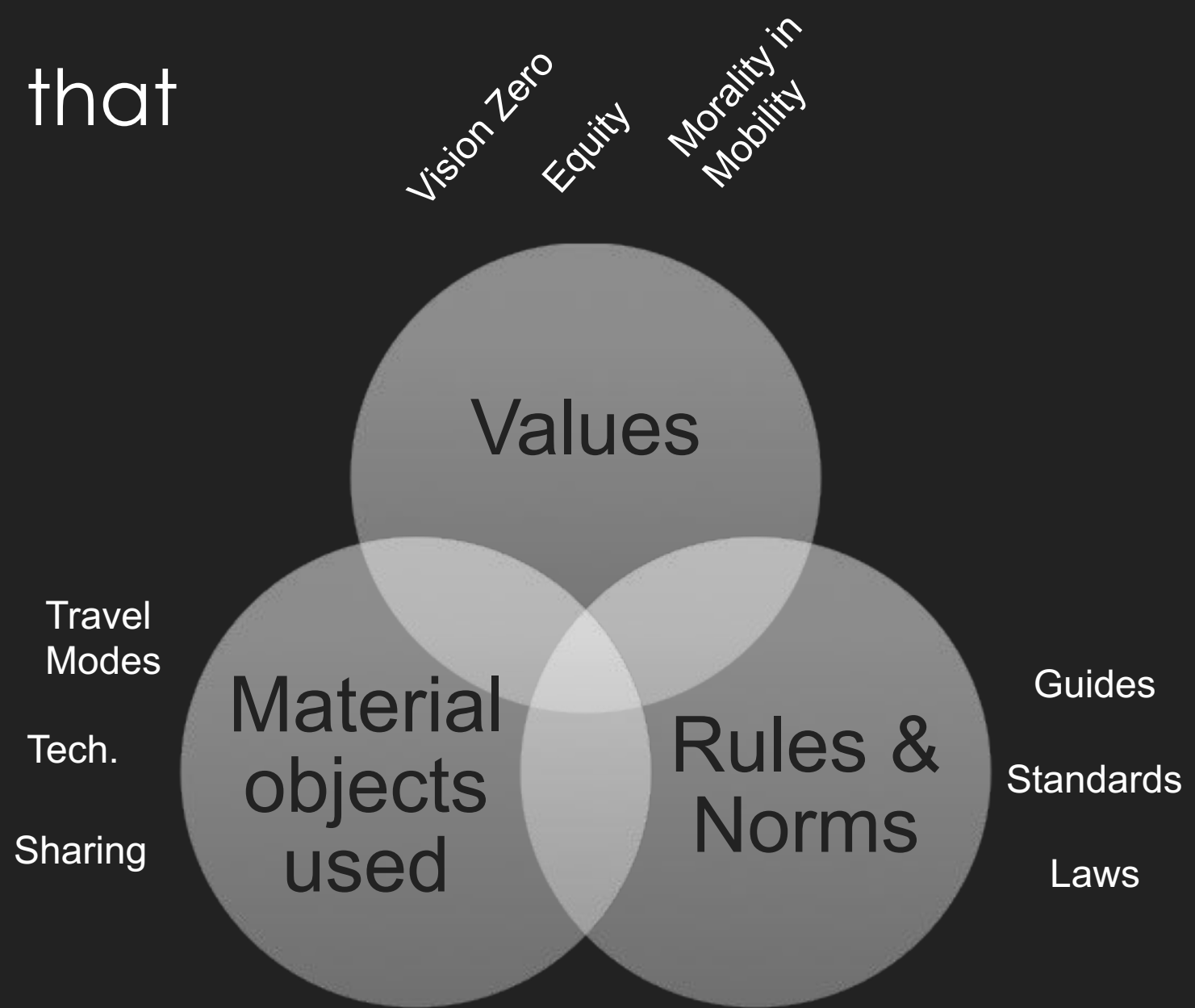
A very different built environment and street users

NIMBI:
Not
In
My
Back
Igloo

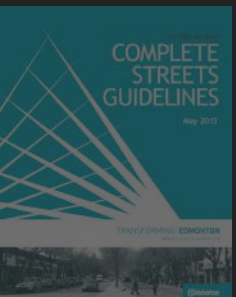
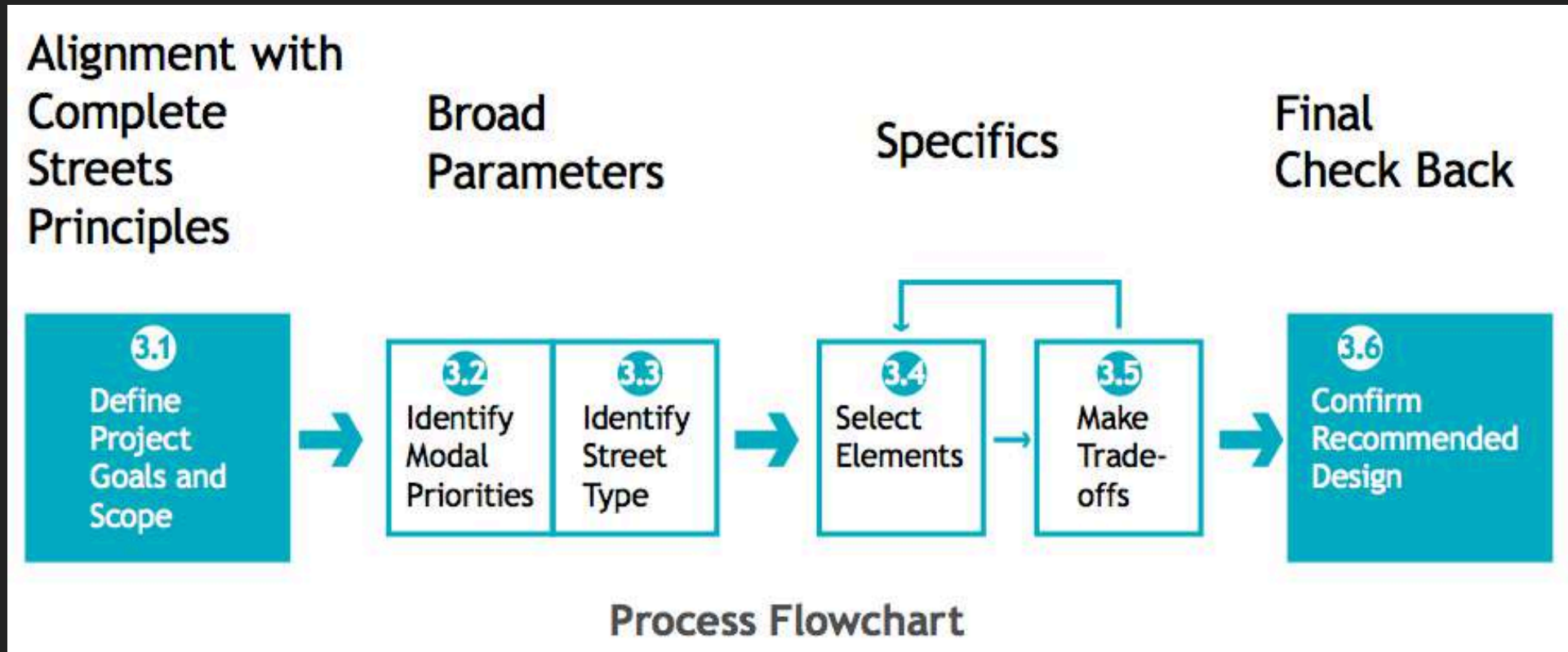


Culture is something that we can influence

- 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.



Process vs Prescription



Source:
Edmonton
Complete
Streets
Guidelines

1990 COLLECTOR SET



SCORE™ NHL® HOCKEY

PREMIER EDITION
445 PLAYER CARDS

INCLUDES FIVE EXCLUSIVE
ERIC LINDROS CARDS



INCLUDES FIVE EXCLUSIVE
BONUS CARDS
ERIC LINDROS

1990 COLLECTOR SET

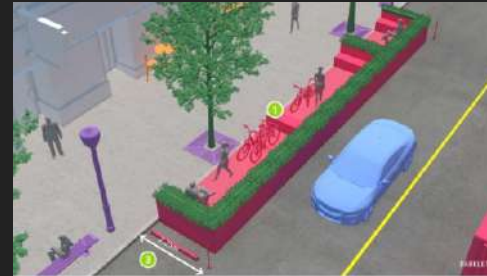
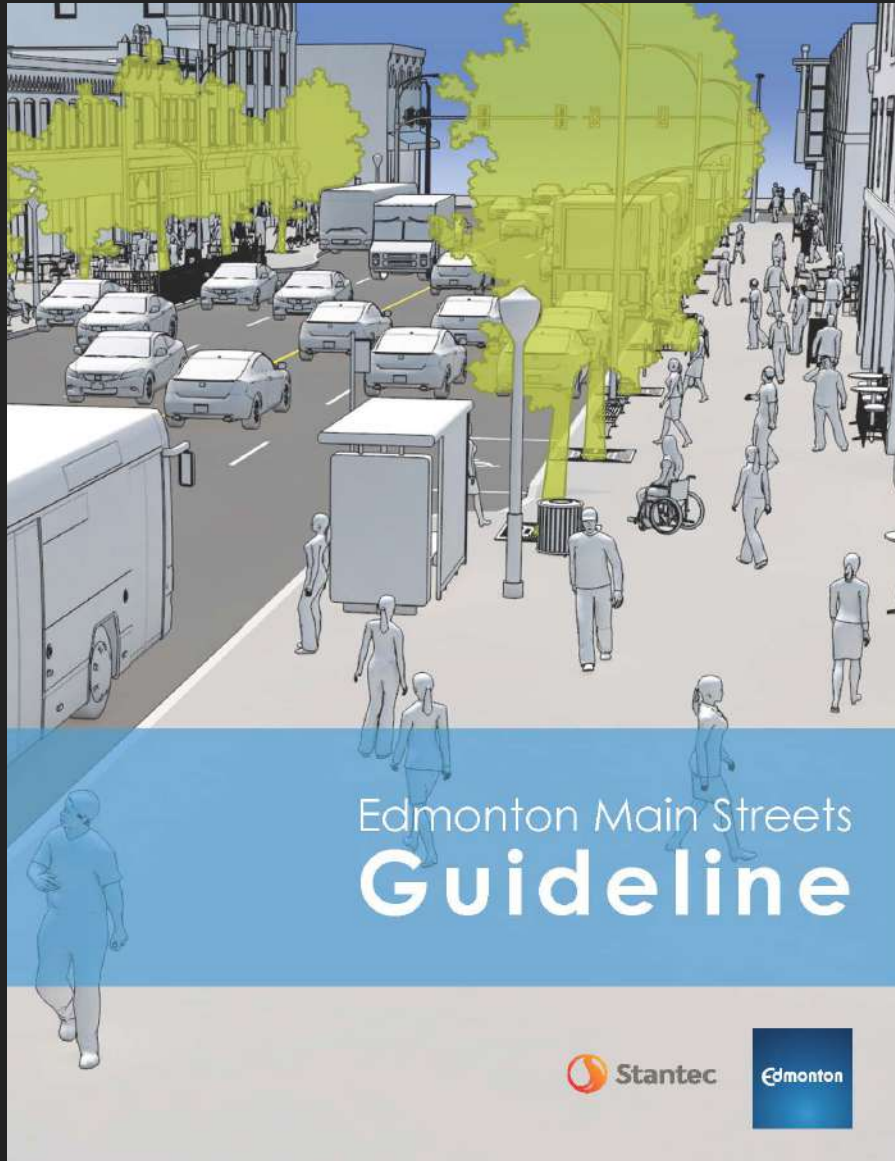


SCORE™ NHL® HOCKEY

PREMIER EDITION
445 PLAYER CARDS



Design Flexibility



3.5.7 Parklets & Patios

Description
 Parklets are small scale public parks while patios are typically associated with an adjacent business. Parklets and patios are located in the flexible space provided by the ancillary zone and provide additional public programming space along Main Streets to support them as destinations and places for activity.

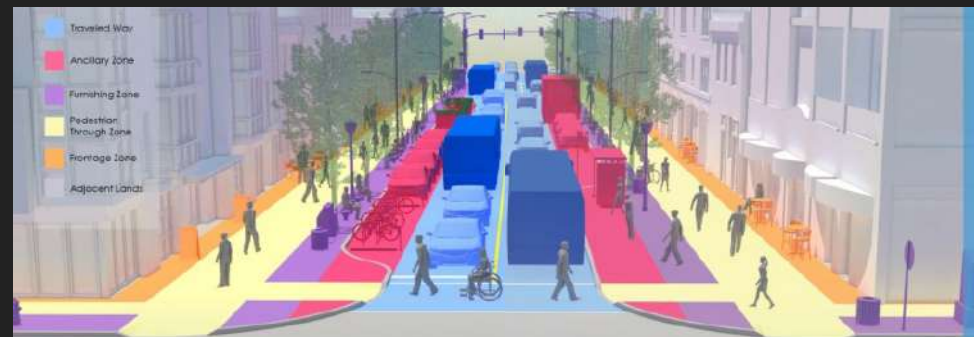
Requirements
 Parklets and patios can be temporary or permanent structures and should include a flush transition from the curb to avoid tripping hazards or, in the case of parklets, may include steps to transition from the sidewalk to the street. Parklets and patios typically include a wood surface and railing around their edge (i.e., along the edge between the ancillary zone and travel way) and may also include furniture and other temporary installations. The surface may be the asphalt or paving material of the ancillary zone. Seating and tables or other street furniture (e.g., flower pots) can be added to parklets and patios.

Parklets and patios are typically 2.25m wide (measured from face of curb) while their length varies by location. The design of a parklet or patio structure should not impede surface stormwater drainage from flowing along the

street underneath the parklet or patio. For year-round installations, further considerations related to snow-removal and street sweeping need to be incorporated into the design including the material selection.

The design of each parklet or patio can be distinct to reflect the unique character of the Main Street and, in the case of patios, the adjacent business associated with the patio.

Other References
 The 2013 Main Street Design Guide includes additional information on the planning and design of parklets and patios (page 17).



2.2 MAIN STREET DESIGN ZONES

The Main Street right-of-way is divided into design zones that provide different functionality for people walking, spending time, and traveling through the street. The following diagram illustrates the design zones along Edmonton's Main Streets.

- 2.2.1 Adjacent Landscapes**
 This zone provides adjacent land uses such as ground floor retail and food and beverage establishments that attract people to Edmonton's main streets and generate pedestrian activity.
- 2.2.2 Frontage Zone**
 Adjacent to the building, this zone is used as a support and/or extension of the active land uses along Edmonton's Main Streets. Uses can include ground floor retail display, cafe seating,

temporary storage, drop-off, and other activities to support active use of the street by people and businesses.

2.2.3 Pedestrian Through Zone
 This zone provides an active pedestrian mobility for people of all ages and abilities to access the various pedestrian-oriented destinations along and around Edmonton's Main Streets.

2.2.4 Furnishing Zone
 This zone provides an area for installing street-level and signal poles, street trees, transit stops, and benches in addition to seating and utilities to support Edmonton's Main Streets destinations and places.

2.2.5 Ancillary Zone
 Located between the travelled way and the furnishing zone, this zone provides the opportunity for various permanent and temporary pedestrian-oriented uses depending on the context and characteristics of the Main Street. The zone includes flexible space between buildings and along an individual block. Uses can include parklets, patios, motor vehicle or bicycle parking, loading zones, a mobile parking, cab stations, transit stops, and taxi stands.

2.2.6 Travelled Way
 This zone provides an area for travelling through a Main Street area or to access Main Street destinations for people travelling by automobile and transit, and for the delivery of goods. It also provides space for the space used to land or receive the parking and loading and an accessible arrival to motor vehicles to their events and facilities.

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

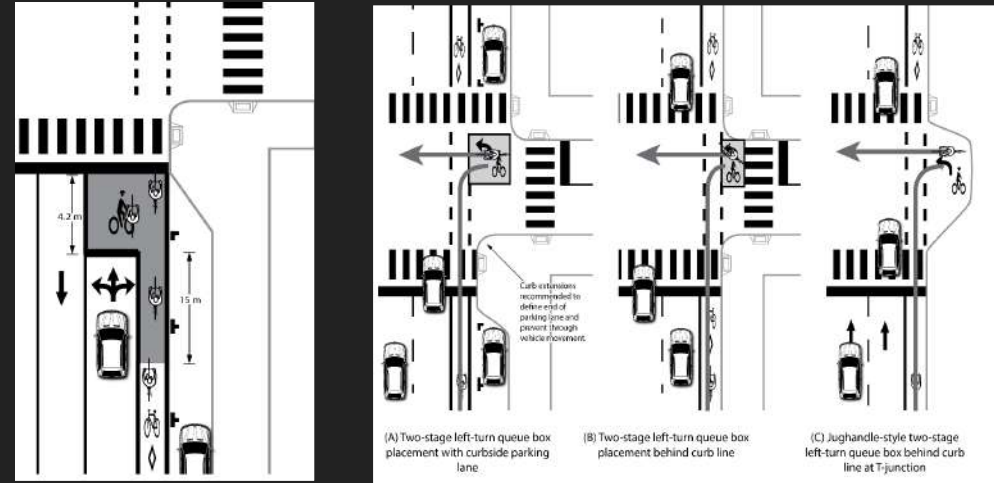
Facility	0 km/h	30 km/h	50 km/h	80 km/h
Unbuffered or Buffered Bike Lane	██████████	██████████	██████████	██████████
Protected Bike Lane	██████████	██████████	██████████	██████████
Bike Path / Multi-Use Path	██████████	██████████	██████████	██████████
Bicycle Boulevard	██████████	██████████	██████████	██████████
Shared Roadway	██████████	██████████	██████████	██████████
Shared Lane	██████████	██████████	██████████	██████████
Advisory Bike Lane	██████████	██████████	██████████	██████████
Bicycle Accessible Shoulder	██████████	██████████	██████████	██████████

Legend

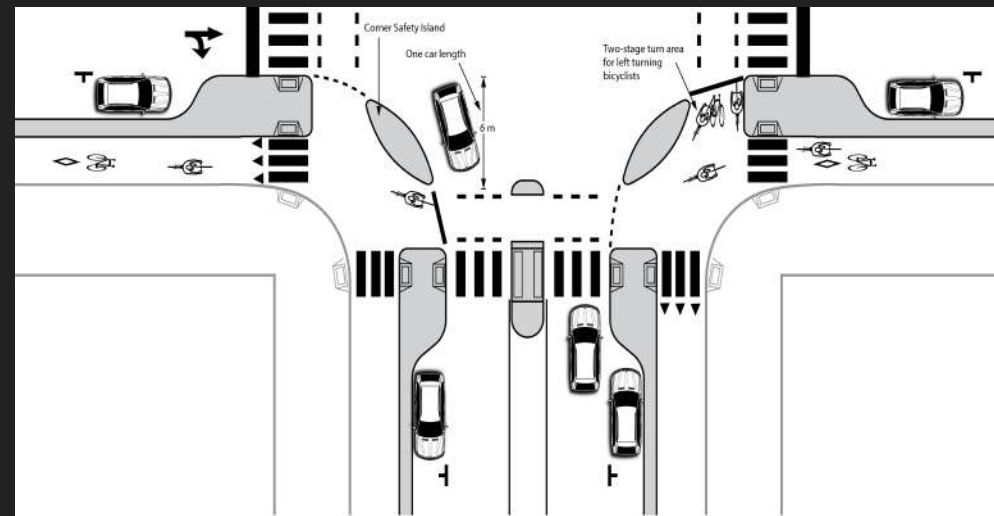
Facility is suitable █████

Depends on context ███

Design treatments like two-stage turn boxes



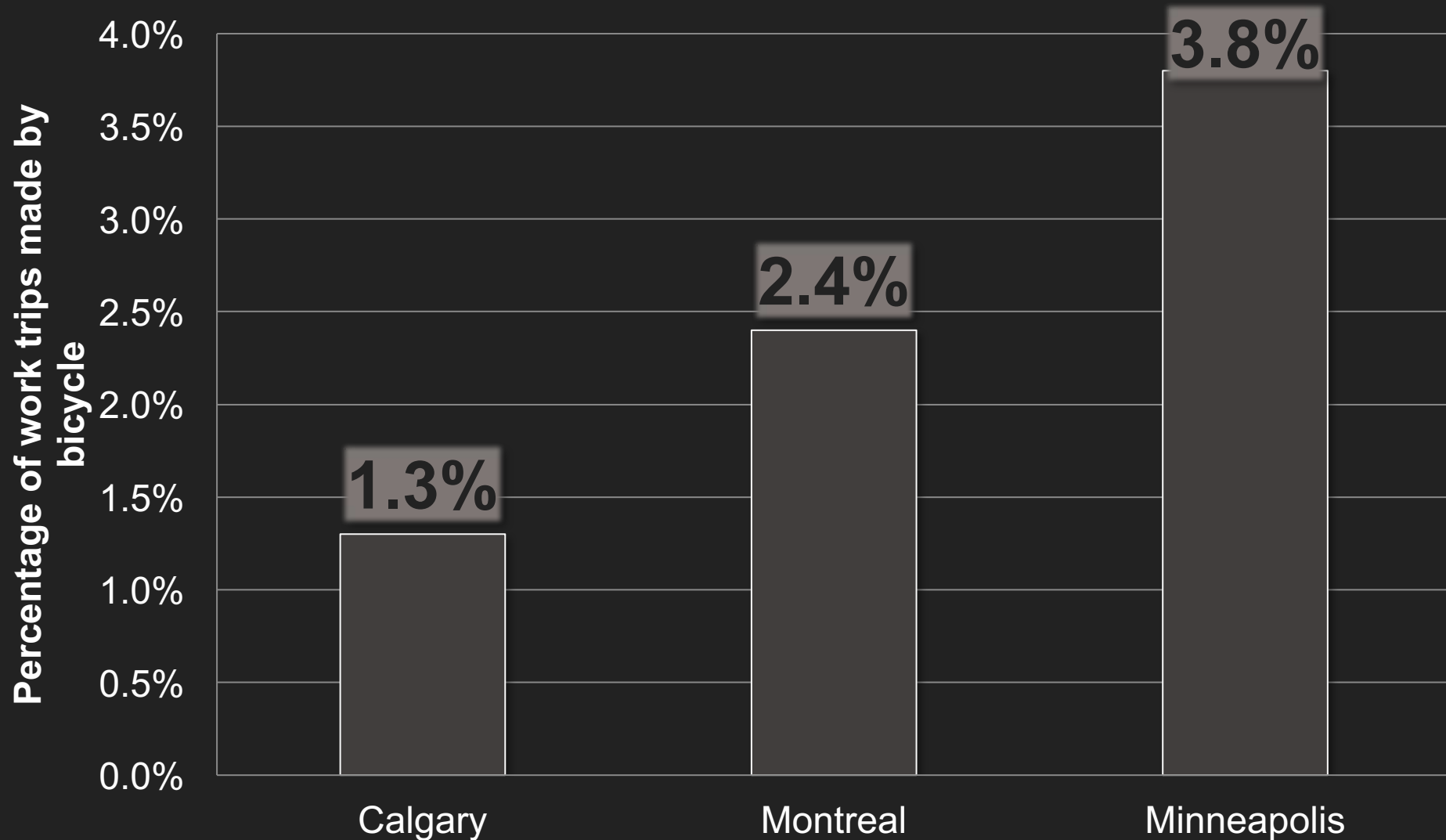
And protected intersections



All pavement markings shown are indicative only. Refer to the MUTCDC or TAC Bikeway Traffic Control Guidelines for Canada for approved guidance on pavement markings.

A ~~very Canadian~~ thing... weather

These colder and snowier places have a higher percentage of work trips made by bike



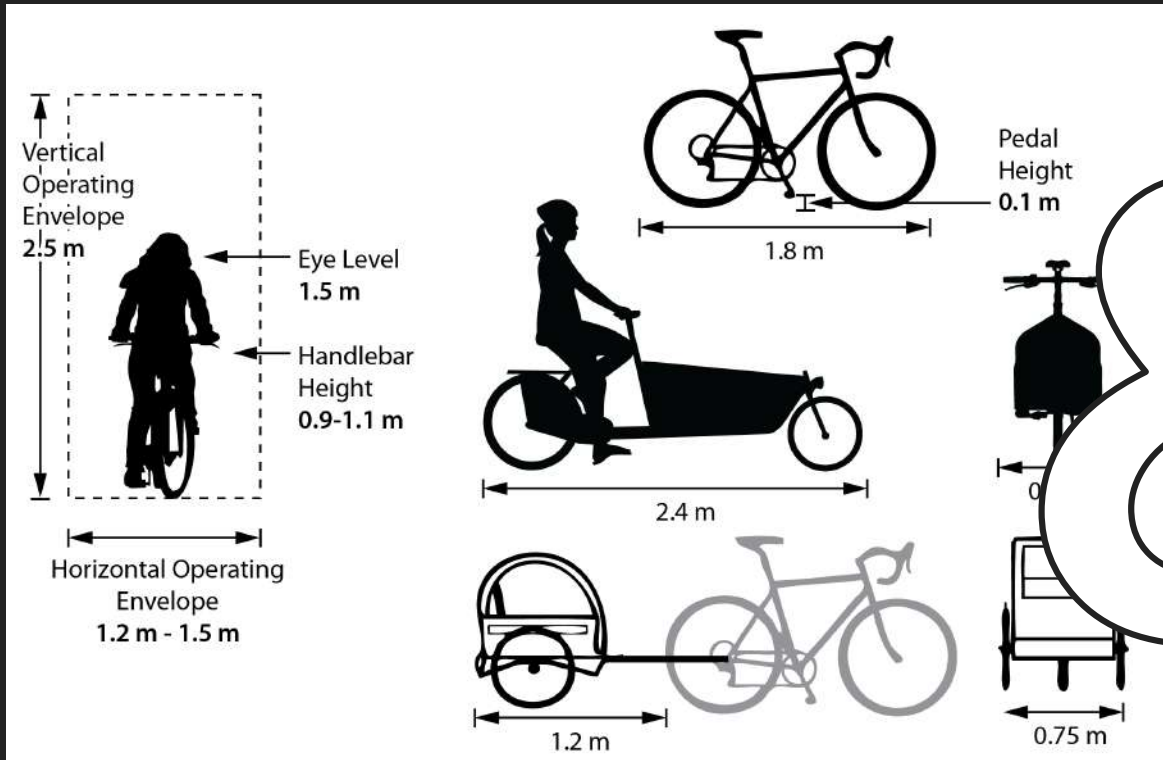
Winter Maintenance/ Operation

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

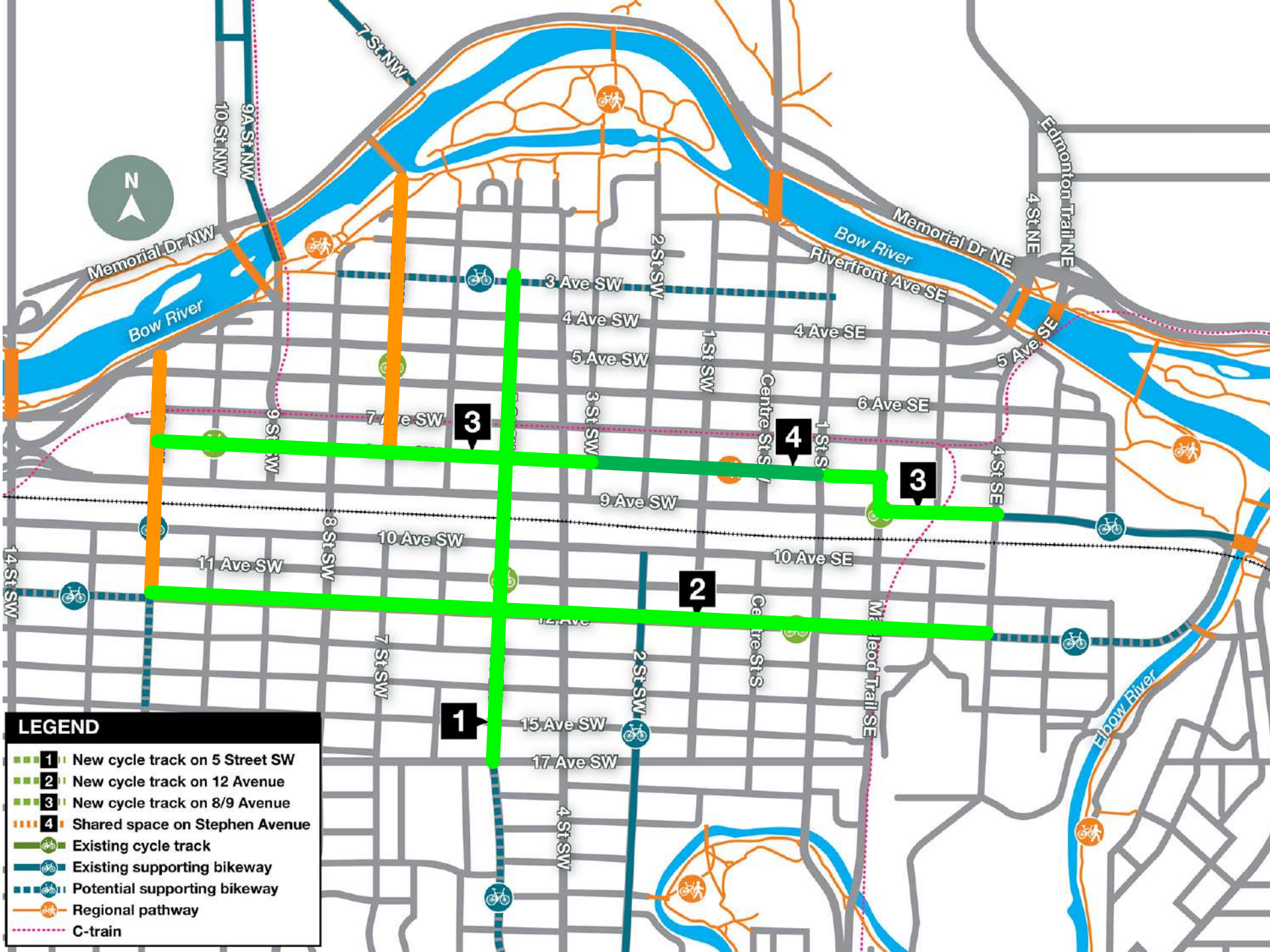






6.5

kilometres of bike infrastructure
designed and constructed to
create a network in the
downtown core



LEGEND

- **1** New cycle track on 5 Street SW
- **2** New cycle track on 12 Avenue
- **3** New cycle track on 8/9 Avenue
- **4** Shared space on Stephen Avenue
- Existing cycle track
- Existing supporting bikeway
- Potential supporting bikeway
- Regional pathway
- C-train

Before

After







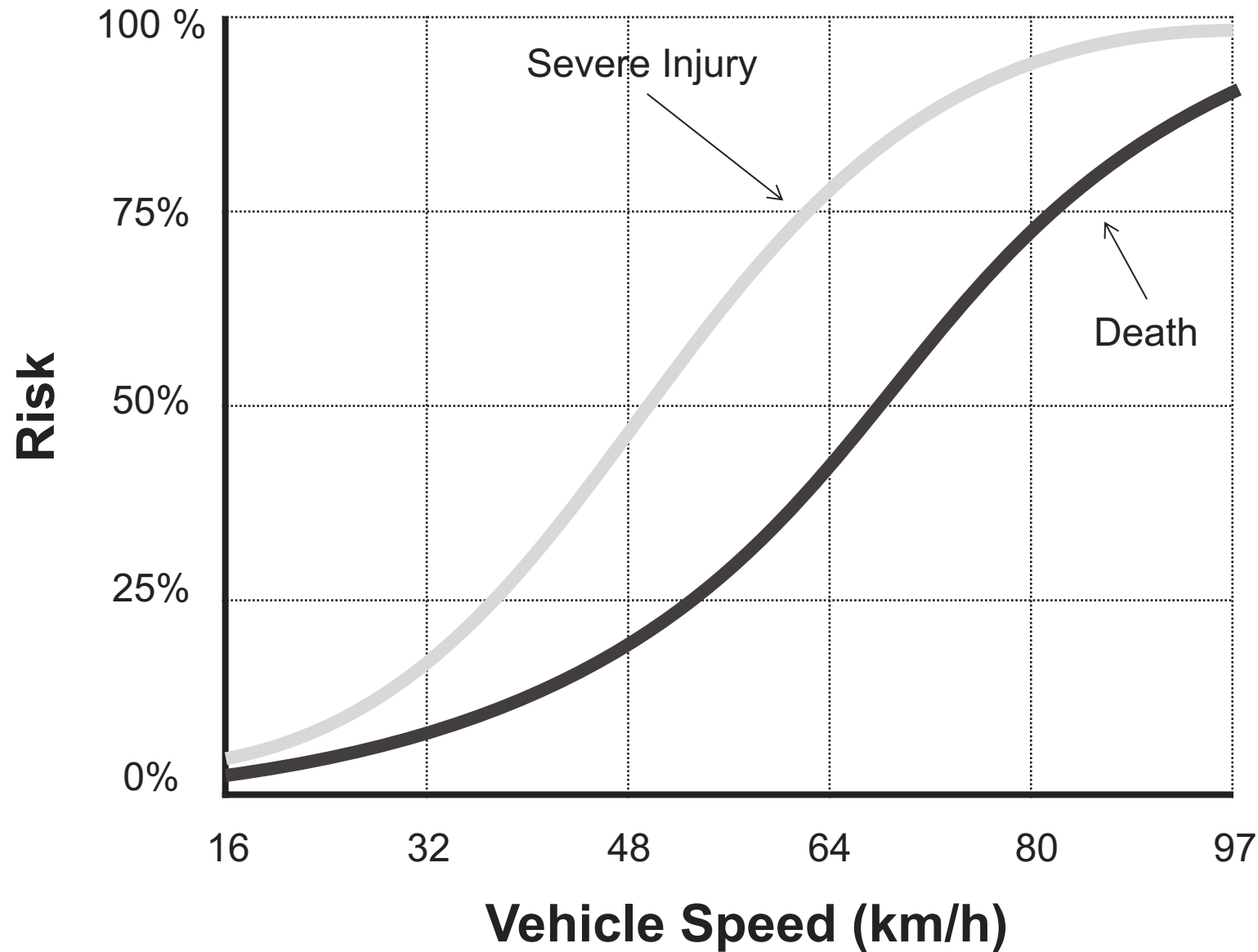
What's different in Canada?

In Canada, our physics looks like this:

$$E_k = \frac{1}{2} m v^2$$

... nope that's the same.

In Canada, speed kills.



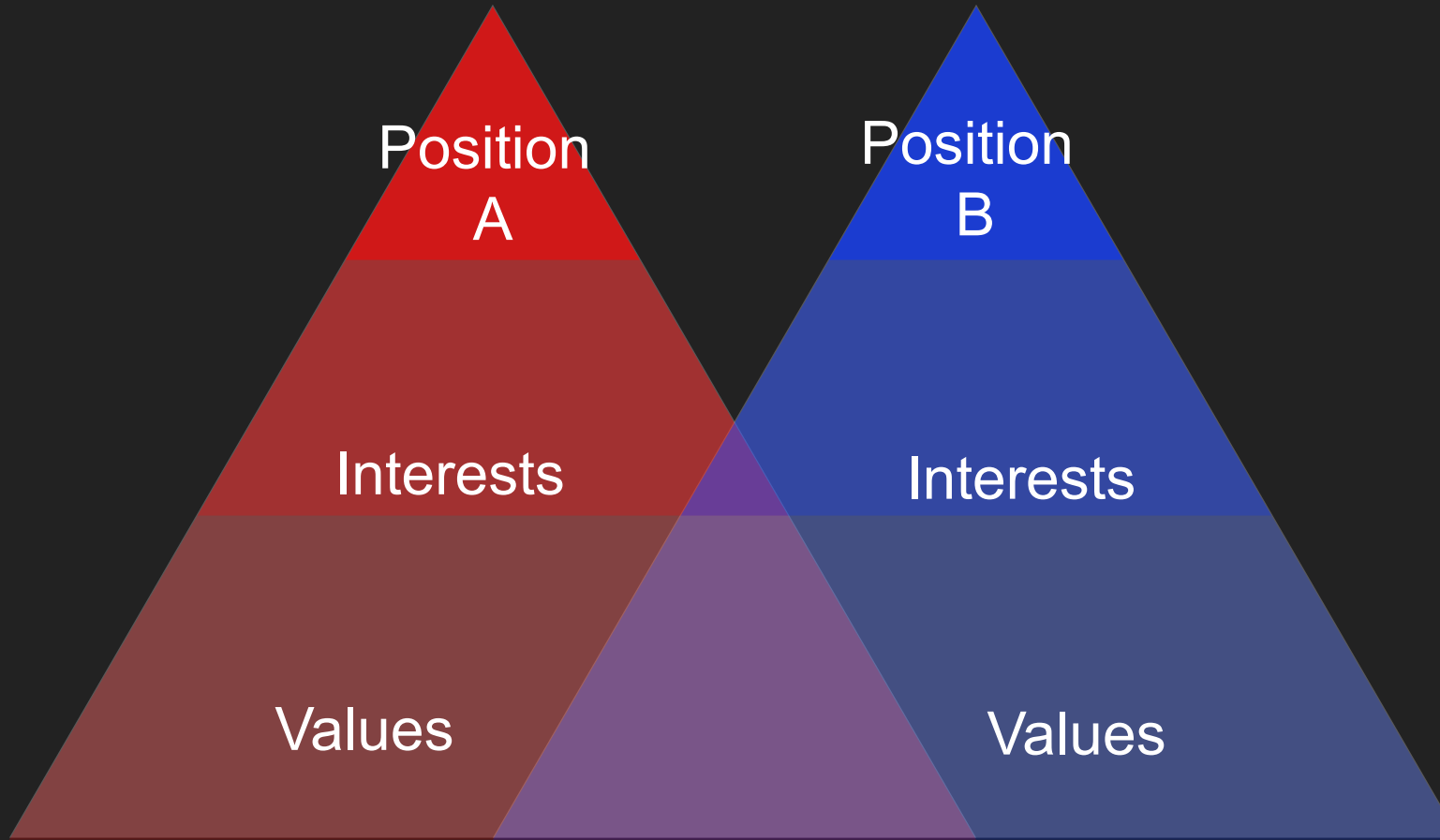
... nope
that's the
same, too.

In Canada, we create tools as extensions of ourselves.



Hmmm,
that's
still the
same.

In Canada, there are positions, interests, and values.



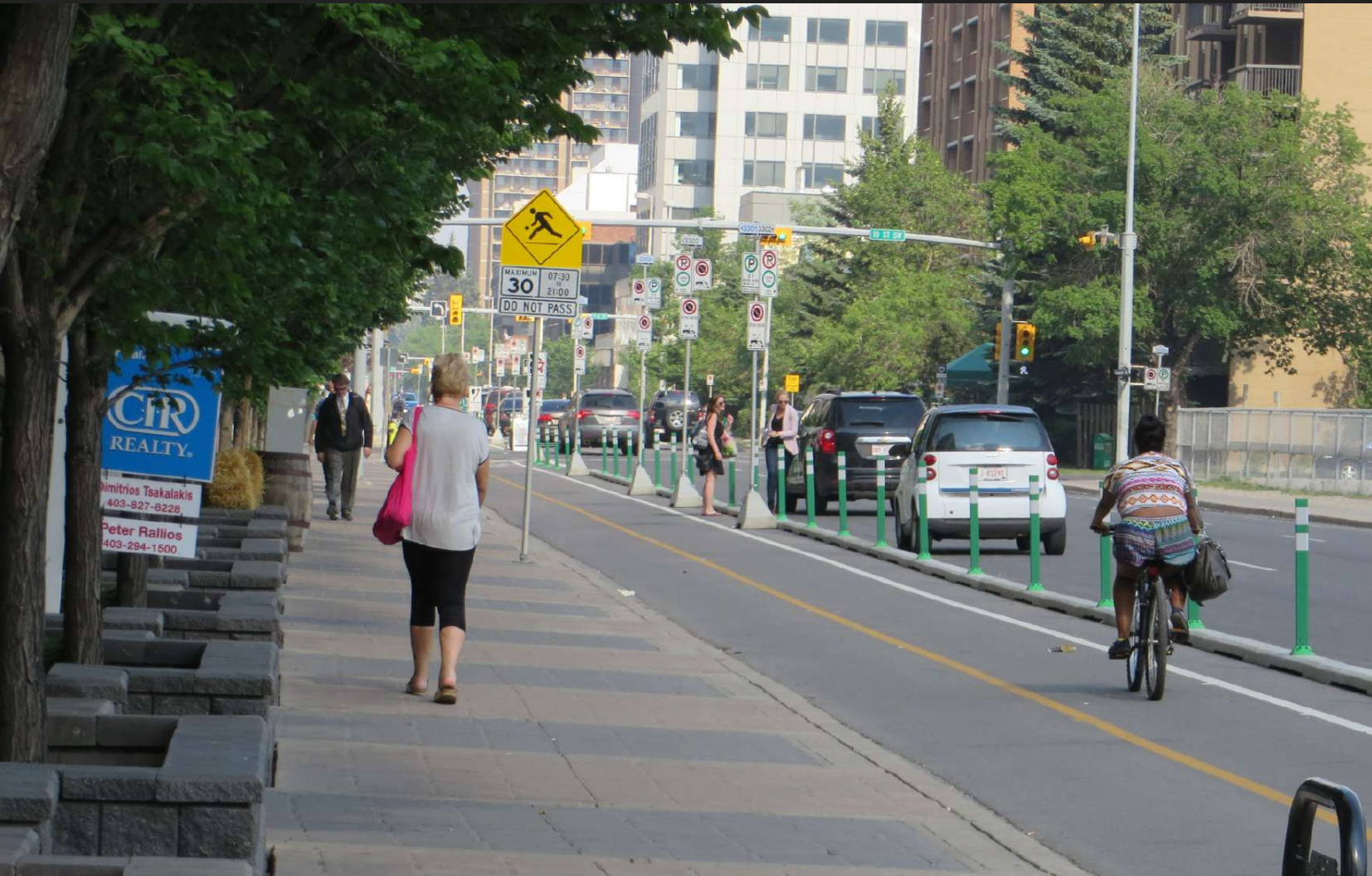
Well, this is a pretty universal idea.

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



**Send us your questions using the
ReadyTalk chat box.**



Smart Growth America
Improving lives by improving communities



**National Complete
Streets Coalition**

Photo: Adam Coppola

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

Photo: Oregon DOT



National Complete
Streets Coalition

