Addressing Equity in Winter City Design

Courtney Nguyen
Neal LaMontagne
CEA Transportation Connects Alberta
Edmonton 2024

Victoria Park Freezeway
Edmonton AB

Hello!

Courtney Nguyen (she/her)
Planner
V3 Companies of Canada

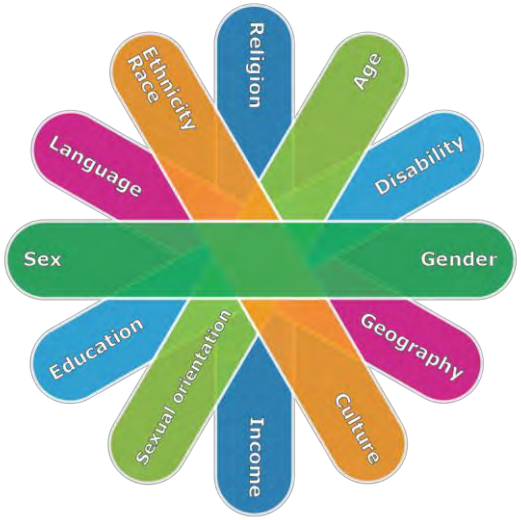
Neal LaMontagne (he/him)
Faculty Lecturer
University of Alberta

University of Alberta
Edmonton AB

Agenda

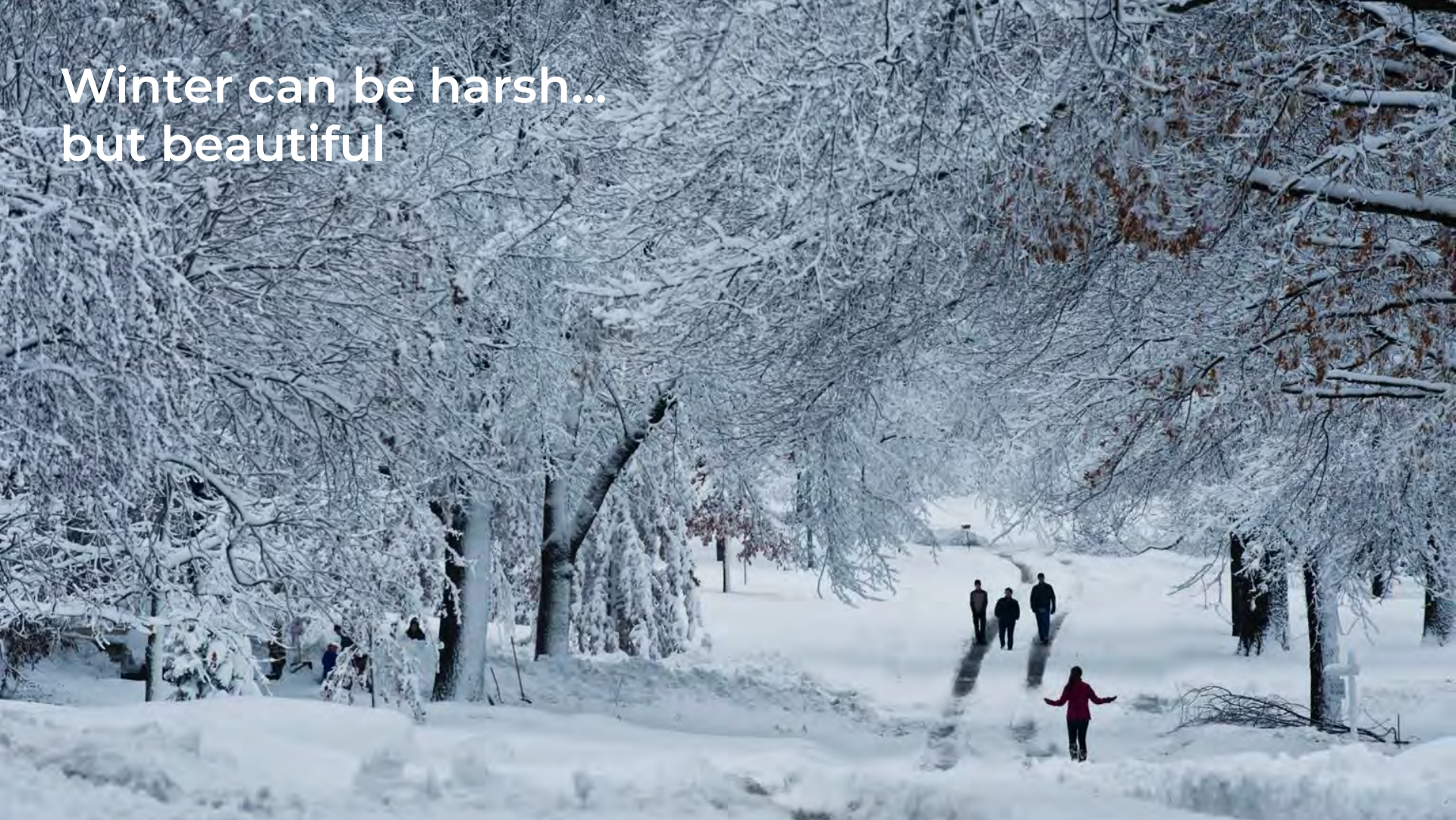
Winter

Design



Equity

Design for the Winter City


Winter can be harsh...
but beautiful

Winter transforms the Canadian City

Churchill square
Edmonton AB

Winter can be transformational (by design)

Bentway Skate Trail
Toronto, ON

Winter sharpens inequities

Winter is a design challenge

A Winter City Design Agenda

Winter Design in a Nutshell

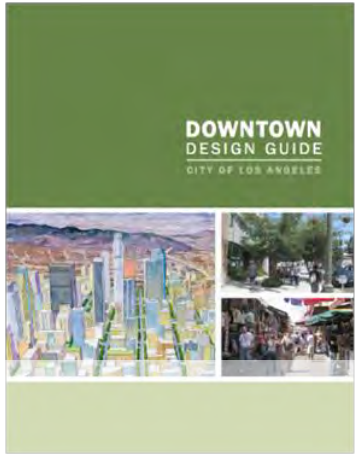
The Winter Design Guidelines are comprehensive. For the sake of simplicity, however, the five main principles of winter city design are:

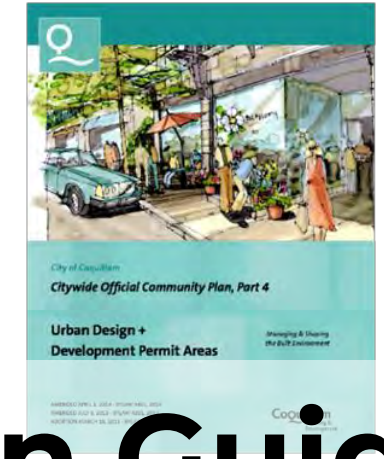
1. Incorporate design strategies to block wind, particularly prevailing winds and downdrafts.
2. Maximize exposure to sunshine through orientation and design.
3. Use colour to enliven the winterscape.
4. Create visual interest with light, while being mindful of intensity, spread, contrast and colour.
5. Design and provide infrastructure that supports desired winter life and improves comfort and access in cold weather.

WARMTH AS A CLASS ISSUE

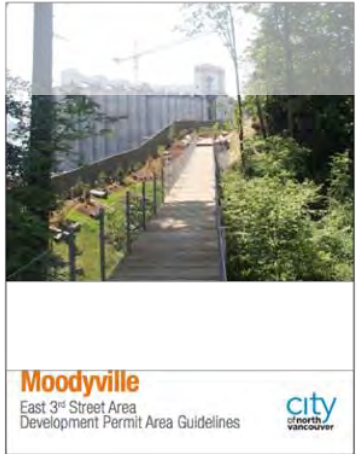
In the context of "winter cities", and thinking that winter cities are different in important ways from cities in warmer climates, this sense of downtown ownership and use becomes an important issue. Winter provides another slant on our normal ways of sorting out people. Warmth is a class issue in a winter city environment, though it has seldom been conceptualized as such. To be warm, dry and comfortable whenever possible in the winter is a luxury afforded to those who have dependable sources of income. Others make do as best they can - sleeping on heating grates or in subway stations - and generally making those who are warm uncomfortable by their presence. The presence of people without resources is not limited to winter cities. All cities face problems with the social organization of space, primarily in the downtowns. To overlay the reality of cold and windy weather on this already difficult issue does, however, add another dimension to this discussion.

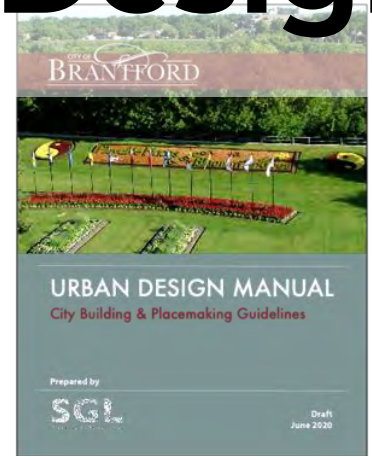
In warm weather cities, the homeless and the indigent are present, but they are able to move around on foot rather easily. If people have to sleep outside, it is not life threatening. In winter cities these groups are constrained to the downtown and its fringes in several ways: what limited amounts of single room occupancy housing are available are generally in this region of the city, along with attendant services like detoxification centers, blood plasma centers, drop-in centers that also provide meals. In addition, due to the constraints imposed by the

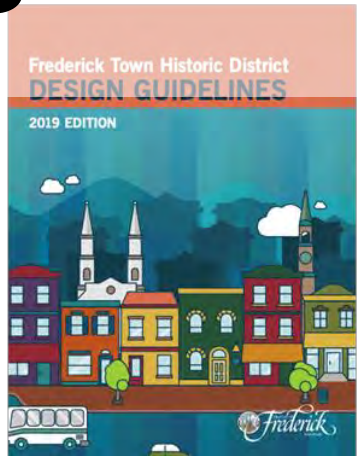




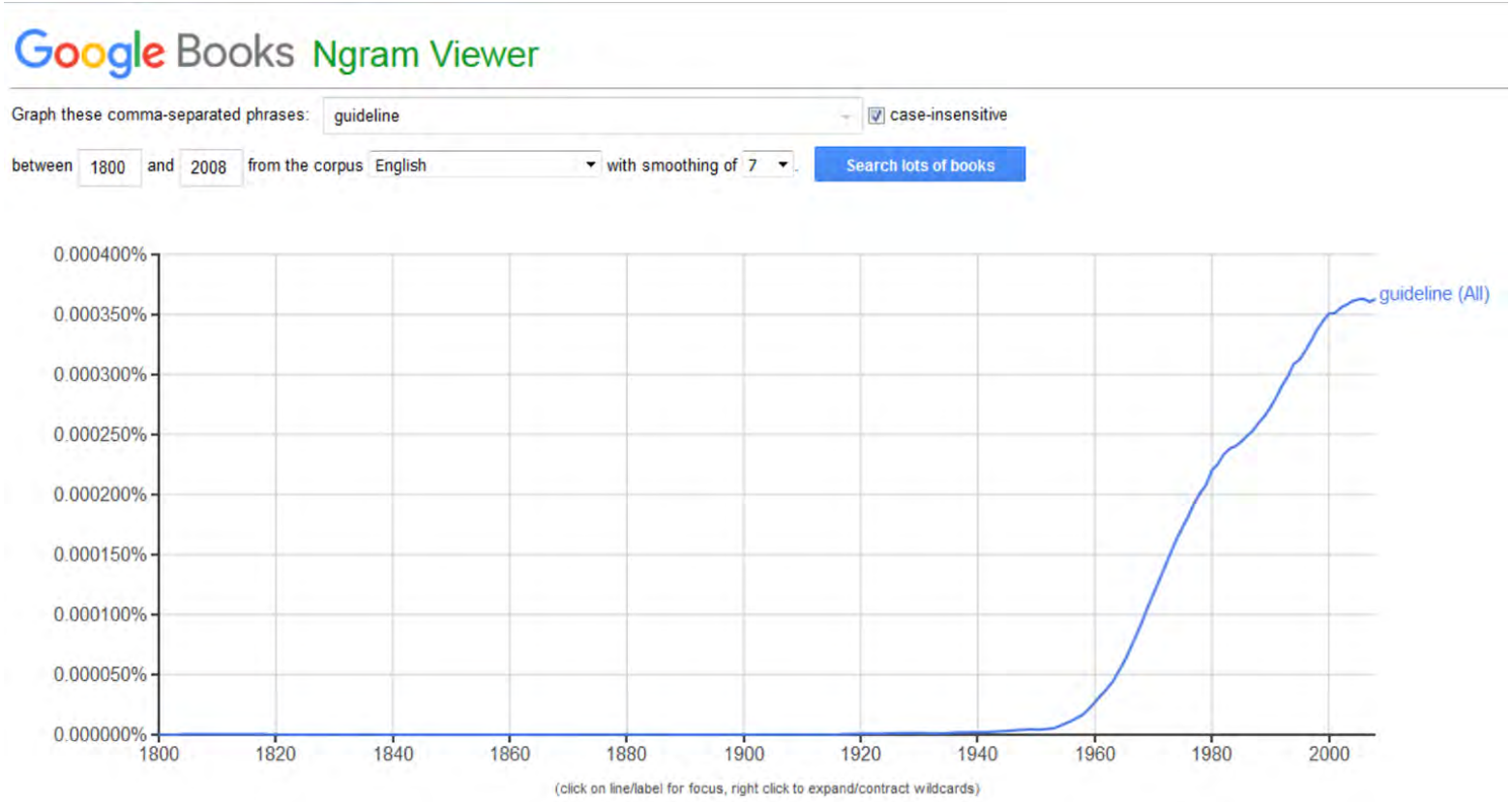
Design Guidelines



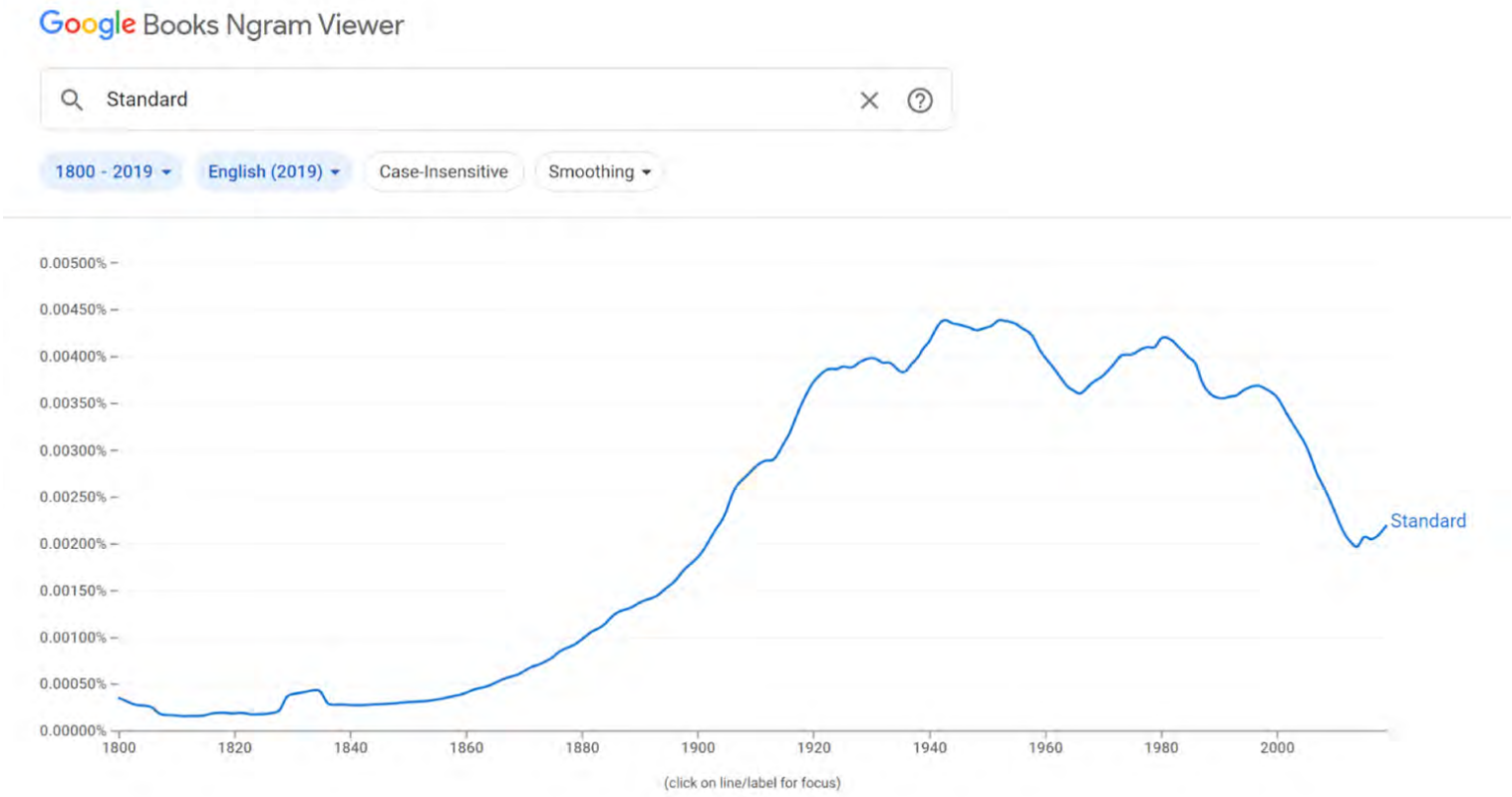




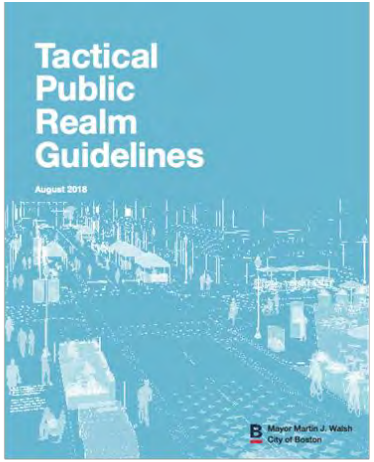
Guidelines are on the rise

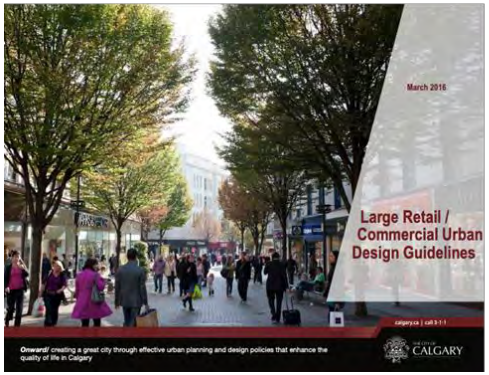


Standards are not



Guidelines: ever expanding





Design Guidelines: an interesting challenge

how can we achieve outcomes that need to be:

- **creative** (we want to encourage creative solutions)
- **contextual** (we need sensitivity to varied contexts)
- **evolving** (new solutions inform future solutions)
- **uncertain** (we don’t know what we want… just what we don’t!)

Key Challenges

Designing the city without designing buildings[1]

- design governance as a second order activity (shapes decisions)

Design as a creative and contextual activity

- difficult to prescribe solutions

Raising the floor without lowering the ceiling

- offer direction without limiting choice

How to make the creative solution the easy one

Jonathan Barnett
Urban Design as Public Policy
1974

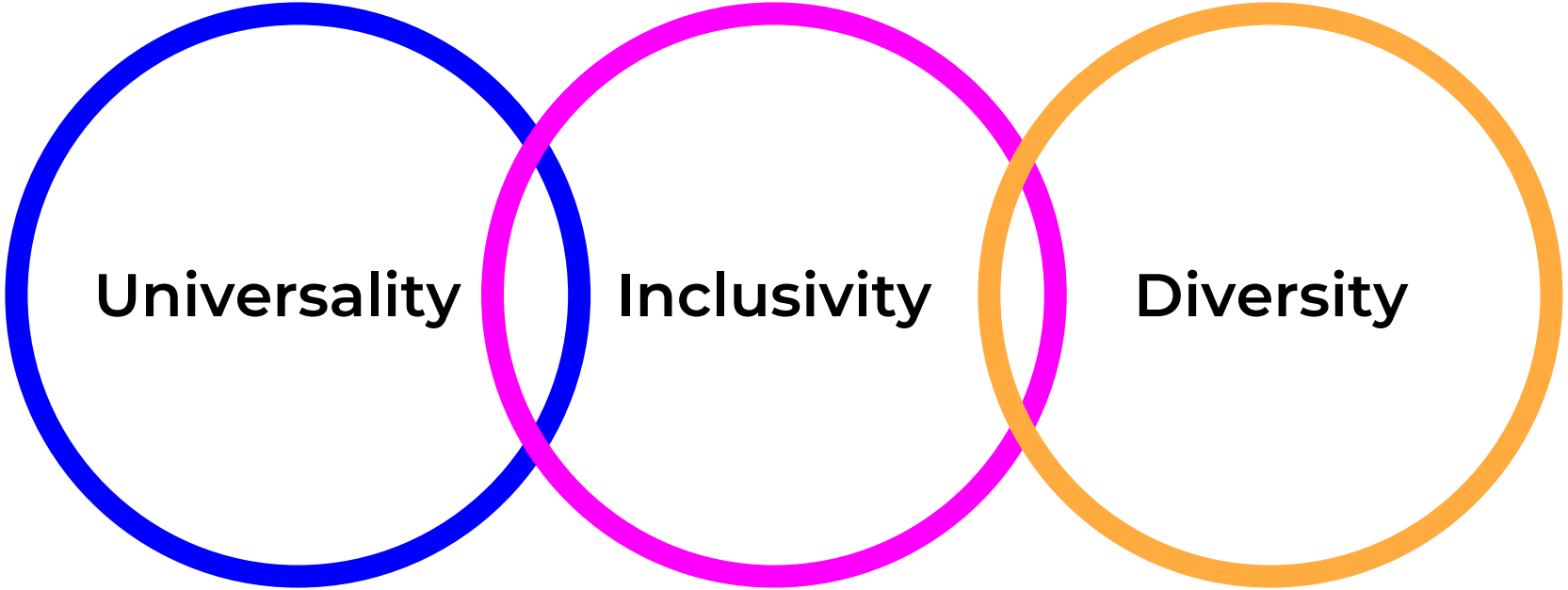
Inform < - - - > Enforce

Design for Equity

“For nearly every injustice in this world, there’s an architecture, a plan, a design that has been built to sustain it.”

Bryan C. Lee Jr

Design for Equity: a (draft) framework



\+ transgenerational equity

Design for Equity: key principles

to be effective and equitable, guidelines should be

- **collaborative + community driven** (good process is critical)
- **contextual** (informed by diverse local knowledge and lived experiences)
- **clear** (provides useful insight to inform creative responses)
- **challenging** (amplifies underrepresented + equity deserving perspectives, sometimes at the expense of traditional design values
- **visionary** (presents a positive vision that inspires + tips the balance towards more inclusive design)

Universality

Universality

design that accommodates everyone, regardless of ability or disability, to the greatest extent possible, without the need for adaptation and specialized design

a barrier and burden free built environment

Not everyone navigates the city in the same way

- people with **impaired mobility** (e.g. people unable to walk easily, older people or unusually small or tall people)
- people with **limited perception**, such as blind and visually impaired people, or those who are Deaf or have partial or profound hearing impairment
- people with **cognitive impairments** such as mental illness, impaired speech, learning difficulties, or dementia

design that accommodates all

THE PRINCIPLES OF UNIVERSAL DESIGN

Version 2.0 (4/1/97)

1 EQUITABLE USE

The design is useful and marketable to people with diverse abilities.

GUIDELINES
- **1a.** Provide the same means of use for all users: identical whenever possible; equivalent when not.
- **1b.** Avoid segregating or stigmatizing any users.
- **1c.** Make provisions for privacy, security, and safety equally available to all users.
- **1d.** Make the design appealing to all users.

EXAMPLES
- Power doors with sensors at entrances that are convenient for all users
- Integrated, dispersed, and adaptable seating in assembly areas such as sports arenas and theaters

2 FLEXIBILITY IN USE

The design accommodates a wide range of individual preferences and abilities.

GUIDELINES
- **2a.** Provide choice in methods of use.
- **2b.** Accommodate right- or left-handed access and use.
- **2c.** Facilitate the user's accuracy and precision.
- **2d.** Provide adaptability to the user's pace.

EXAMPLES
- Scissors designed for right- or left-handed users
- An automated teller machine (ATM) that has visual, tactile, and audible feedback, a tapered card opening, and a palm rest

3 SIMPLE AND INTUITIVE USE

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

GUIDELINES
- **3a.** Eliminate unnecessary complexity.
- **3b.** Be consistent with user expectations and intuition.
- **3c.** Accommodate a wide range of literacy and language skills.
- **3d.** Arrange information consistent with its importance.
- **3e.** Provide effective prompting and feedback during and after task completion.

EXAMPLES
- A moving sidewalk or escalator in a public space
- An instruction manual with drawings and no text

4 PERCEPTIBLE INFORMATION

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

GUIDELINES
- **4a.** Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- **4b.** Maximize "legibility" of essential information.
- **4c.** Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- **4d.** Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

EXAMPLES
- Tactile, visual, and audible cues and instructions on a thermostat
- Redundant cueing (e.g., voice communications and signage) in airports, train stations, and subway cars

5 TOLERANCE FOR ERROR

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

GUIDELINES
- **5a.** Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- **5b.** Provide warnings of hazards and errors.
- **5c.** Provide fail safe features.
- **5d.** Discourage unconscious action in tasks that require vigilance.

EXAMPLES
- A double-cut car key easily inserted into a recessed keyhole in either of two ways
- An "undo" feature in computer software that allows the user to correct mistakes without penalty

6 LOW PHYSICAL EFFORT

The design can be used efficiently and comfortably and with a minimum of fatigue.

GUIDELINES
- **6a.** Allow user to maintain a neutral body position.
- **6b.** Use reasonable operating forces.
- **6c.** Minimize repetitive actions.
- **6d.** Minimize sustained physical effort.

EXAMPLES
- Lever or loop handles on doors and faucets
- Touch lamps operated without a switch

7 SIZE AND SPACE FOR APPROACH AND USE

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

GUIDELINES
- **7a.** Provide a clear line of sight to important elements for any seated or standing user.
- **7b.** Make reach to all components comfortable for any seated or standing user.
- **7c.** Accommodate variations in hand and grip size.
- **7d.** Provide adequate space for the use of assistive devices or personal assistance.

EXAMPLES
- Controls on the front and clear floor space around appliances, mailboxes, dumpsters, and other elements
- Wide gates at subway stations that accommodate all users

THE PRINCIPLES WERE COMPILED BY ADVOCATES OF UNIVERSAL DESIGN, IN ALPHABETICAL ORDER:

Bettye Rose Connell, Mike Jones,
Ron Mace, Jim Mueller,
Abir Mullick, Elaine Ostroff,
Jon Sanford,
Ed Steinfeld, Molly Story,
and Gregg Vanderheiden.

NOTE:
The Principles of Universal Design are not intended to constitute all criteria for good design, only universally usable design. Certainly, other factors are important, such as aesthetics, cost, safety, gender and cultural appropriateness, and these aspects must also be taken into consideration when designing.

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Center for Universal Design, College of Design

design.ncsu.edu/research/center-for-universal-design

‘Two-sense’ orientation

“Enhancing Unsighted People’s Understanding of City Through Non-Ocularcentric Mobility System Planning - The Case of Canadian Cities”

Eyouel Yimer
Masters Research Project

Equitability of use

G Peters @mssinenomine · Jun 18

We absolutely need design for seating and reclining in public space but we also need the design of the space and the seating to be accessible and inclusive of more than young non-disabled thin (often also not designed for pregnant) adult body.

Alt text for photos in next tweet.

> **AI Generated Tweetbot** @shawnmicallef · Jun 18
>
> A selection of loose furniture seen in New York on a run to Battery today. Toronto chastising & naysaying provincialism is deep. twitter.com/moore_oliver/s...

3 8 39 2,831

Principles for dementia-friendly design

These principles show how the strategies and actions presented in Section 2 (Guidelines) can positively impact people living with dementia and their care partners. There are six principles for dementia-friendly design:

Familiar

Familiar environments help people living with dementia recognize where they are and find where they want to go by designing features that people have seen before and can easily recognize. Familiar neighbourhoods support independence and wayfinding.

Legible

Legible spaces help people living with dementia navigate their neighbourhoods by using obvious design cues to clearly communicate the function or purpose of a space, feature, path, or building.

Distinct

A distinct environment includes features that are unambiguous, varied, and interesting. People living with dementia rely on distinctive spaces and landmarks as visual cues for wayfinding.

Accessible

Accessible environments make it easy and convenient for people of all abilities to access services and amenities within walking distance of their homes, supporting independence and social inclusion. Accessibility applies to all aspects of the built environment.

Comfortable

Comfortable environments are welcoming and non-intimidating. People living with dementia may have difficulties with sensory overstimulation, such as with bright lights, crowds, or loud noise. They can benefit from serene, quiet, and pleasant spaces to pause, rest, or socialize.

Safe

Safe environments allow people to spend time in the public realm without experiencing fears or risks. People living with dementia may be less aware of physical and social dangers and can experience contrast sensitivity, which increases the risk of falling.

happycities.com/projects/dementia-inclusive-planning-and-design-guidelines

Inclusivity

Inclusivity

design that treats everyone with dignity and respect and invites all, including underrepresented and marginalized groups, to feel welcome in public spaces

encouraging multiple users and activities to interact and share the public realm

Not everyone experiences public space the same way

- people who are marginalized and impoverished, especially in spaces that emphasize consumption
- people who feel different and unwelcome because of the ways spaces are coded for who belongs and is represented
- people who feel unsafe or unaccommodated because they feel or are vulnerable in a space

Keep public space public (and ensure it feels that way)

601

Provide for multiple publics (design for coexistence)

Resist ‘hostile architecture’

https://www.tripsavvy.com/hostile-architecture-cities-travel-5195718

EDMONTON JOURNAL

Local News

'Barbaric' spikes on benches outside Jasper Avenue CIBC will be removed after community opposition

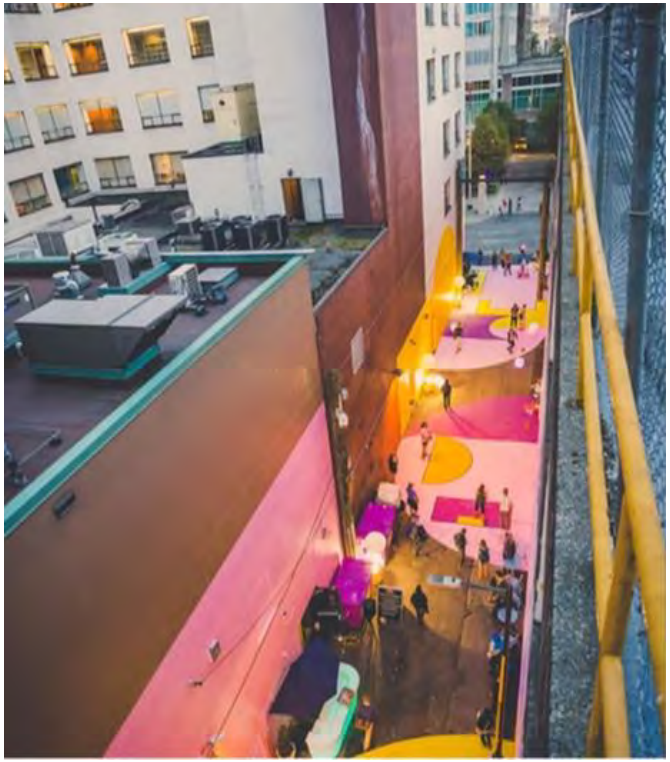
Dustin Cook

Published Jul 30, 2020 • 3 minute read

40 Comments

Amos Kajner-Nonnekes, principal founder of studio Design, et cetera, poses with the wood-backed cushions he has created to counteract the metal spikes that have been installed on benches around the 10102 Jasper Ave. CIBC branch, July 30, 2020. CIBC said the spikes will be removed after community feedback. PHOTO BY DAVID BLOOM /David Bloom/Postmedia

Rethink CPTED



Alley Oop
Vancouver BC
HCMA / Downtown Vancouver BIA

Diversity

Diversity

design that serves a diverse array of cultural activities and forms of expression, celebrates group differences and makes visible multiple publics

A built environment that reflects the complexity and diversity of its full community

Public space design should reflect the actual public

- public space designed for ‘everyone’ can seem designed for no one (except a status quo)
- public space is an opportunity for many should see themselves reflected in the spaces and life of the city
- collaborating with diverse communities is an opportunity for more meaningful design

The Generic City?

Alex Bozikovic
@alexbozikovic

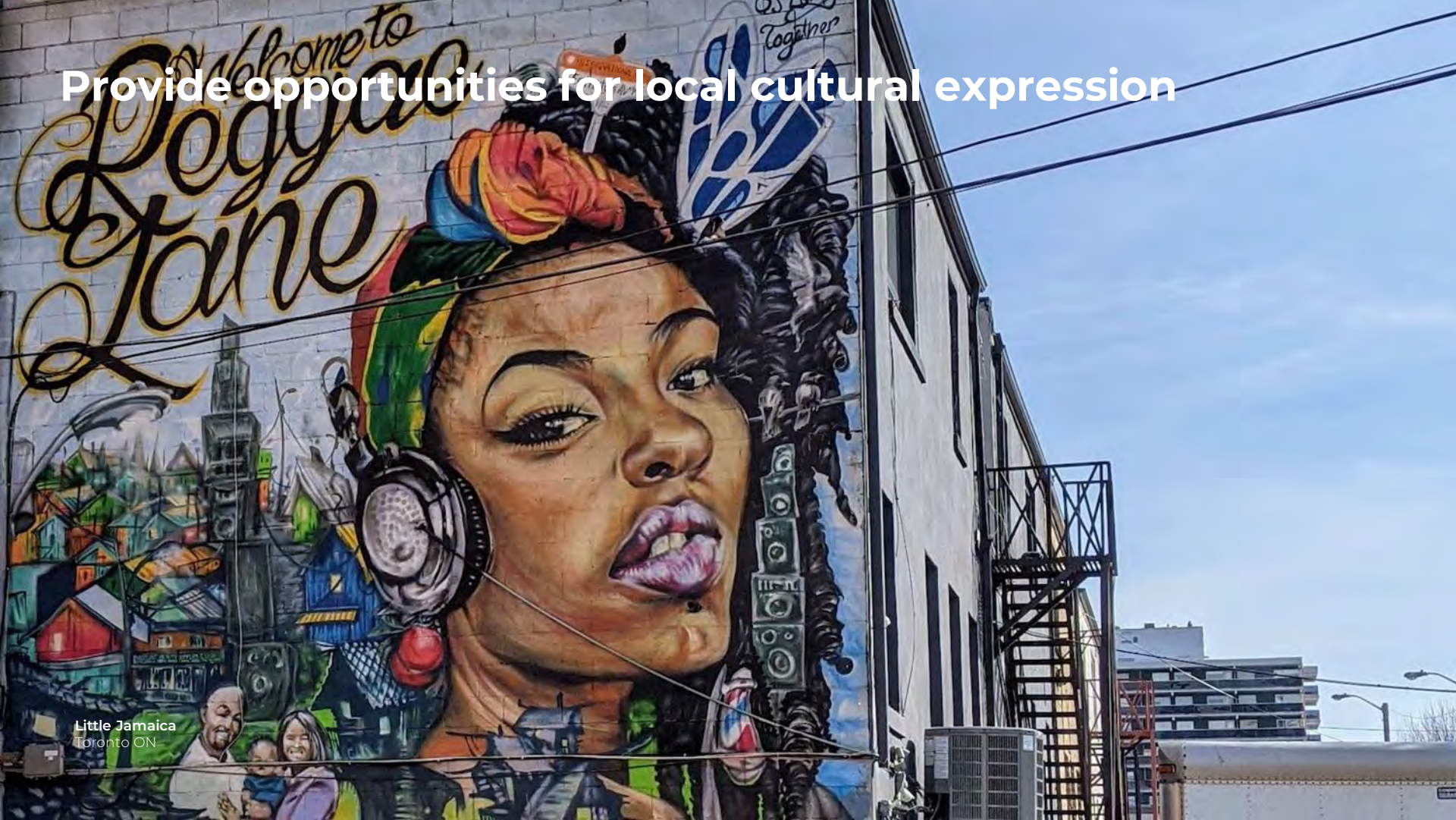
Activating the public realm is my passion

https://twitter.com/alexbozikovic/status/1671626658481070080

Urbanism can either repress ways of inhabiting the city or reveal new sensory possibilities that instigate novel forms of political subjectivity. In this respect, urbanism serves an important boundary-making function in maintaining modes of being and forms of visibility. A city, as envisioned by urban designers, may also produce representations and future projections that, although not always intentional, have the effect of concealing the sensibilities of multiple publics and rendering invisible unequal social relations. **What urban design considers as the "public" is always partial and incomplete.**

Michael Rios

Provide opportunities for local cultural expression

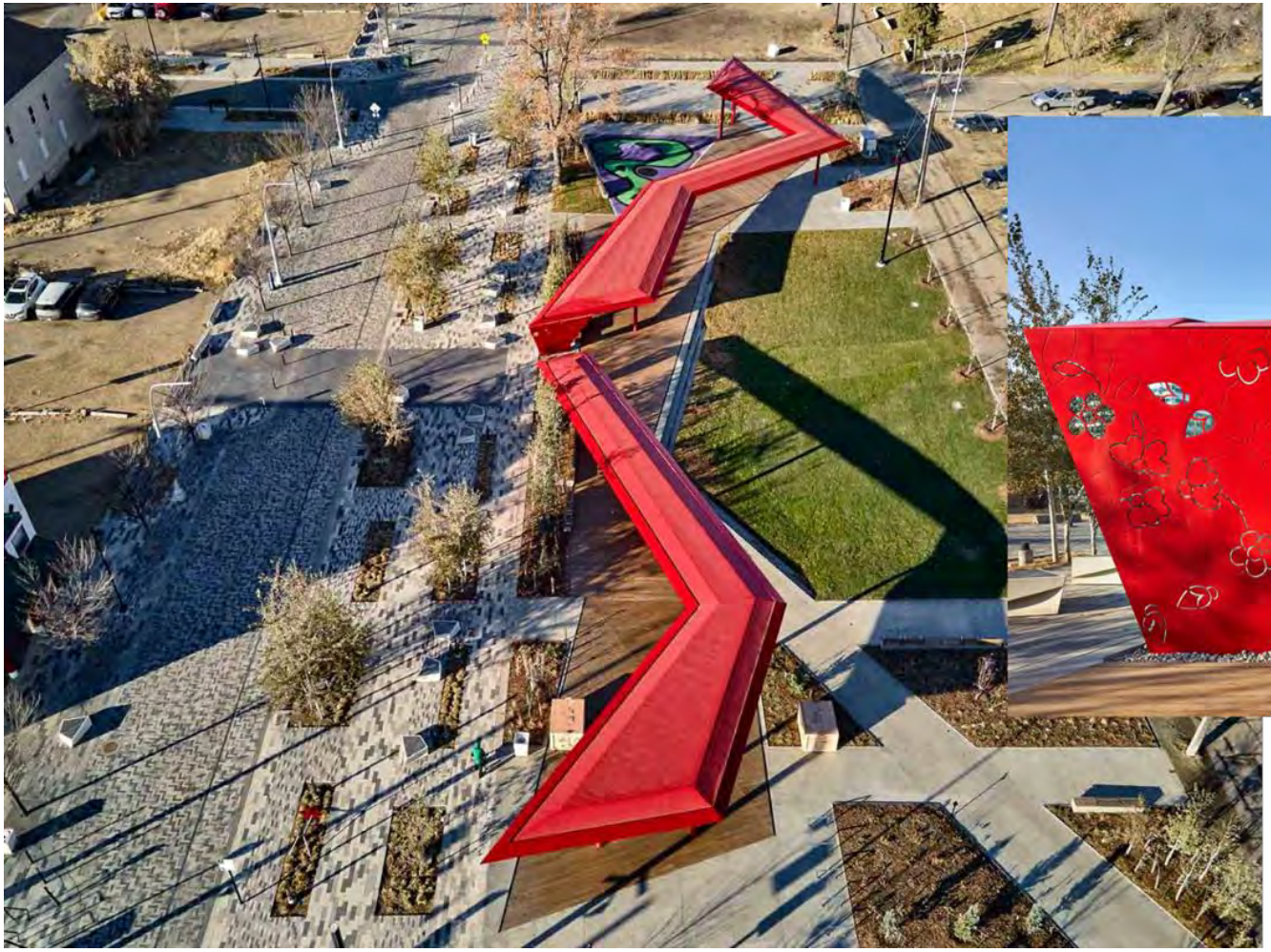


Little Jamaica
Toronto ON

Babs Baldachino
Adam Nathaniel Furman

Allow many to tell the stories of place

St. Frances Cree Bilingual School
Saskatoon SK
Proposal by Tawaw Architecture Collective



Kinistinâw Park
Edmonton AB
park design by DIALOG /
artwork: Family Pattern by Tiffany Shaw

Challenge ‘traditional’ notions of character

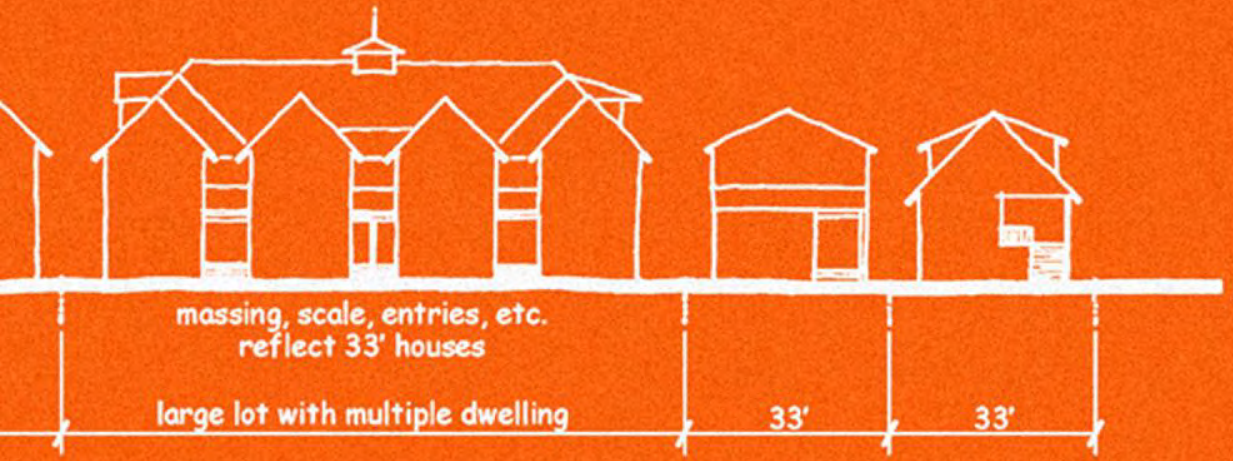


Illustration by Christopher Cheung (thetyee.ca)

Make space for noise

Hot & Noisy Mahjong Nights
Chinatown
Vancouver BC

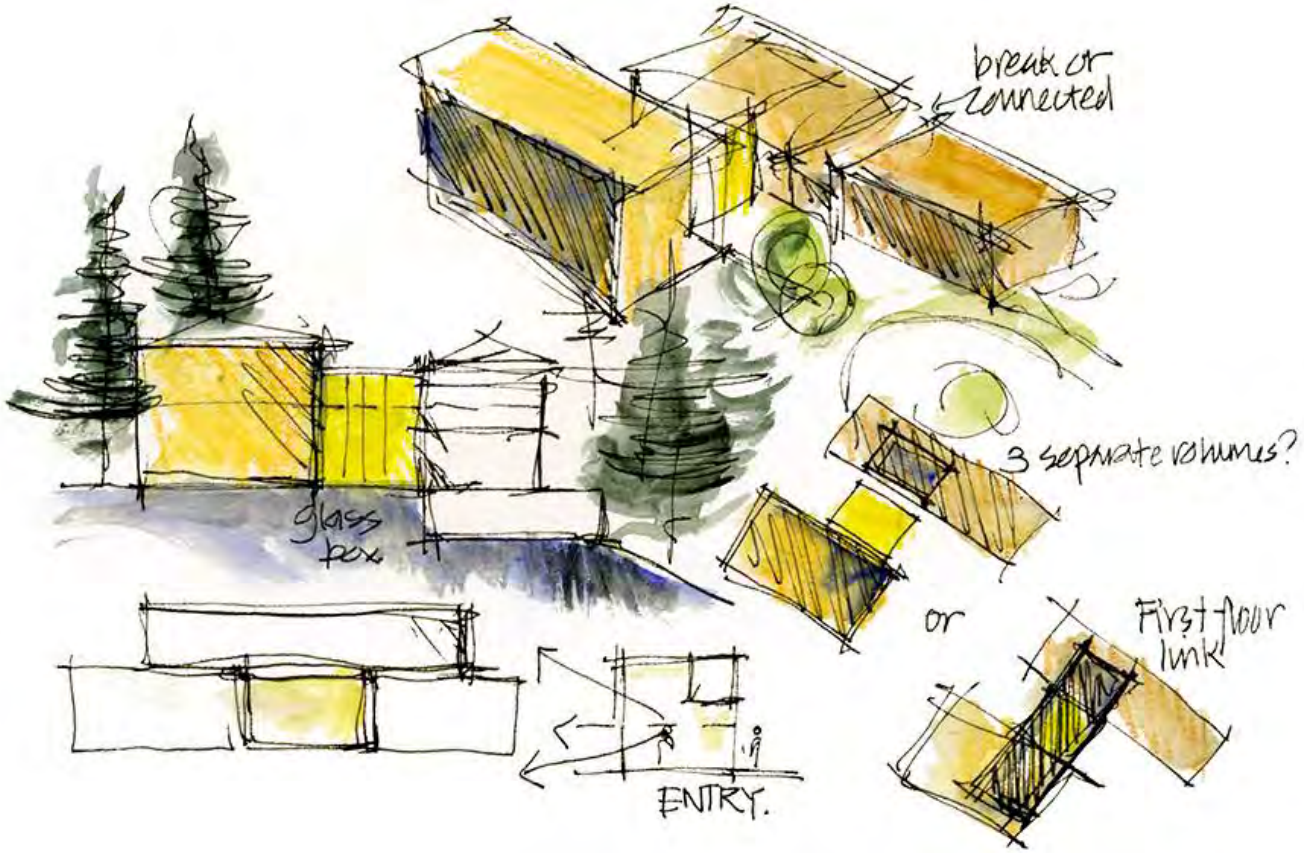
Transgenerational Equity

design that reduces the impact of new development on affordability and sustainability.

A built environment that does not unfairly burden upcoming generations

We can do better!

Design is a process.



Universality. Inclusivity.
Diversity.

Strategy

Roots
Abominable Sports
Rexall
GAP
Banff

SAVE
$50

Breakfast
Lunch
Dinner
Catering
PICK UP
WINDOW
THIS WAY

N
Project Area
Provincial Historical Area
Strategy Area 1: Gateway Blvd & Public Lands
Strategy Area 2: Whyte Ave & Alleyways
Key Public Realm Streets / Alleys
Saskatchewan Dr NW
Whyte Ave (82 Ave)
Gateway Blvd
109 St
99 St
1
2
3
4
5
6
7
8
9
10
11
12
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14
15

Mobility &
Movement

Inclusion &
Equity

Open Space
& Activities

Comfort &
Safety

SUMMER 2022
Phase 1
Opportunities & Priorities & Public Engagement
WINTER 2023
Phase 2
Draft Recommendations & Public Engagement
WINTER 2024
Phase 3
Draft Public Realm Strategy & Review
SPRING/SUMMER 2024
Final
Old Strathcona Public Realm Strategy
FUTURE IMPLEMENTATION

764
Survey Participants

130
Pop-up Event Visitors

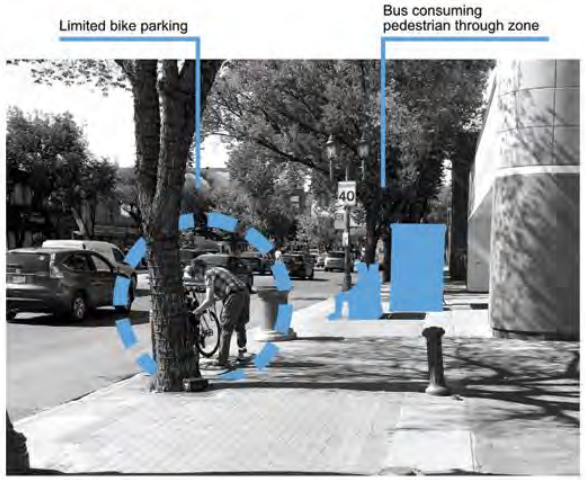
213
Map Comments

Old Strathcona
Public Realm Strategy
The Old Strathcona Public Realm Strategy (OSPRS) will envision a new future for parks, plazas, parking lots, sidewalks, alleys and streets. A series of design ideas have been drafted that explore possible improvements.
Project Timeline:
Phase 1
Phase 2
Phase 3
Old Strathcona Public Realm Strategy
Phase 2 public engagement closes on March 5, 2023

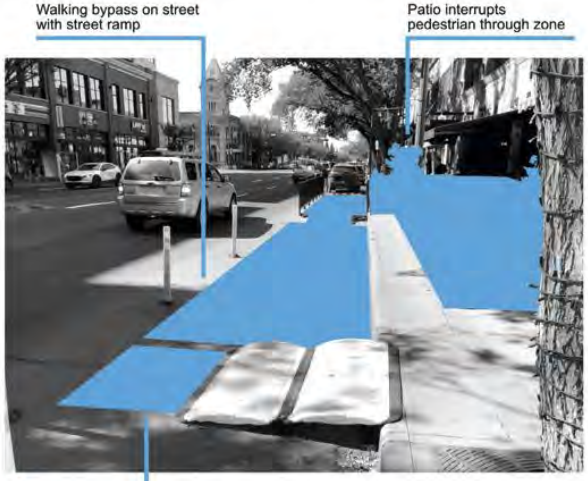
Idea 1 Description
What We Heard in Phase 1

Idea 2 Description
What We Heard in Phase 1

Idea 3 Description
What We Heard in Phase 1


Limited bike parking
Bus consuming pedestrian through zone

No pedestrian lighting
Tables and chairs in pedestrian through zone
Poor tree health
No shade


Walking bypass on street with street ramp
Patio interrupts pedestrian through zone
Poor landing zone

Signs in pedestrian through zone
People sitting in frontage zone impacting pedestrian through zone
DONAIR
PIZZA
Uneven surfaces

Proposed
Redefined Residential Parking Program
Time-Restricted Free Parking
Paid Parking
Old Strathcona BIA Boundary
On-Street Parking Types
Accessible Parking
Paid Parking
Time-Restricted Free Parking
Unrestricted Parking

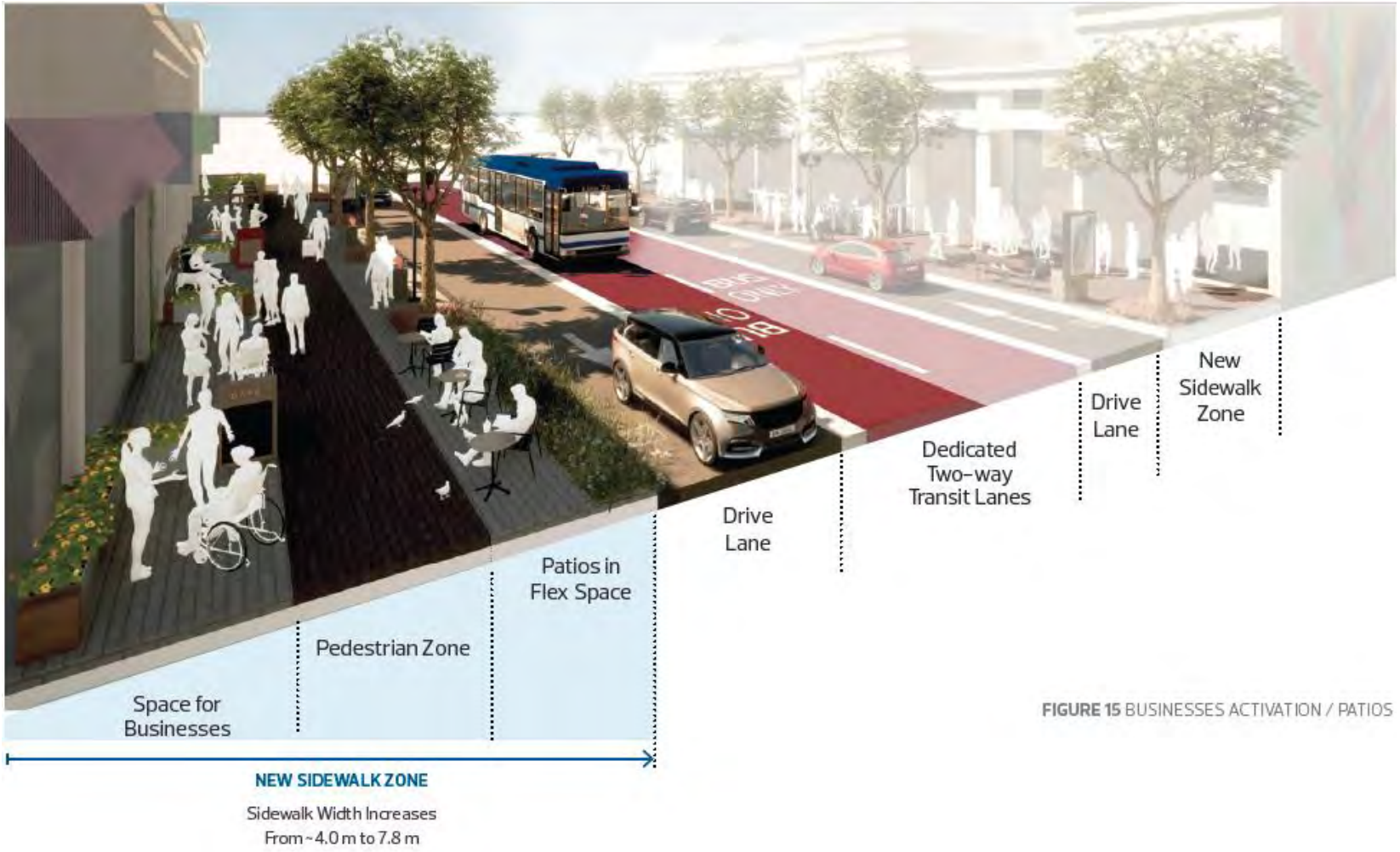


FIGURE 15 BUSINESSES ACTIVATION / PATIOS

FIGURE 16 BIOSWALES AND RAIN GARDENS

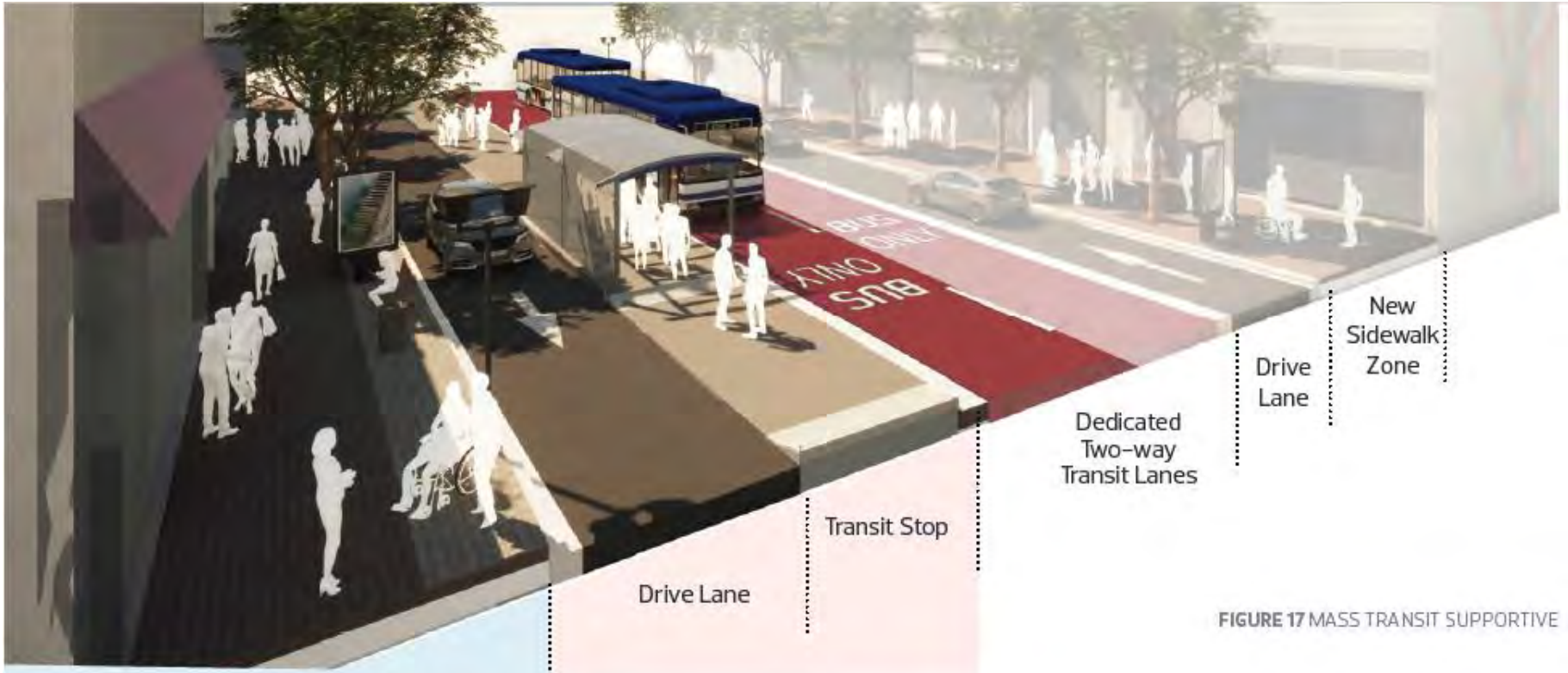


FIGURE 17 MASS TRANSIT SUPPORTIVE

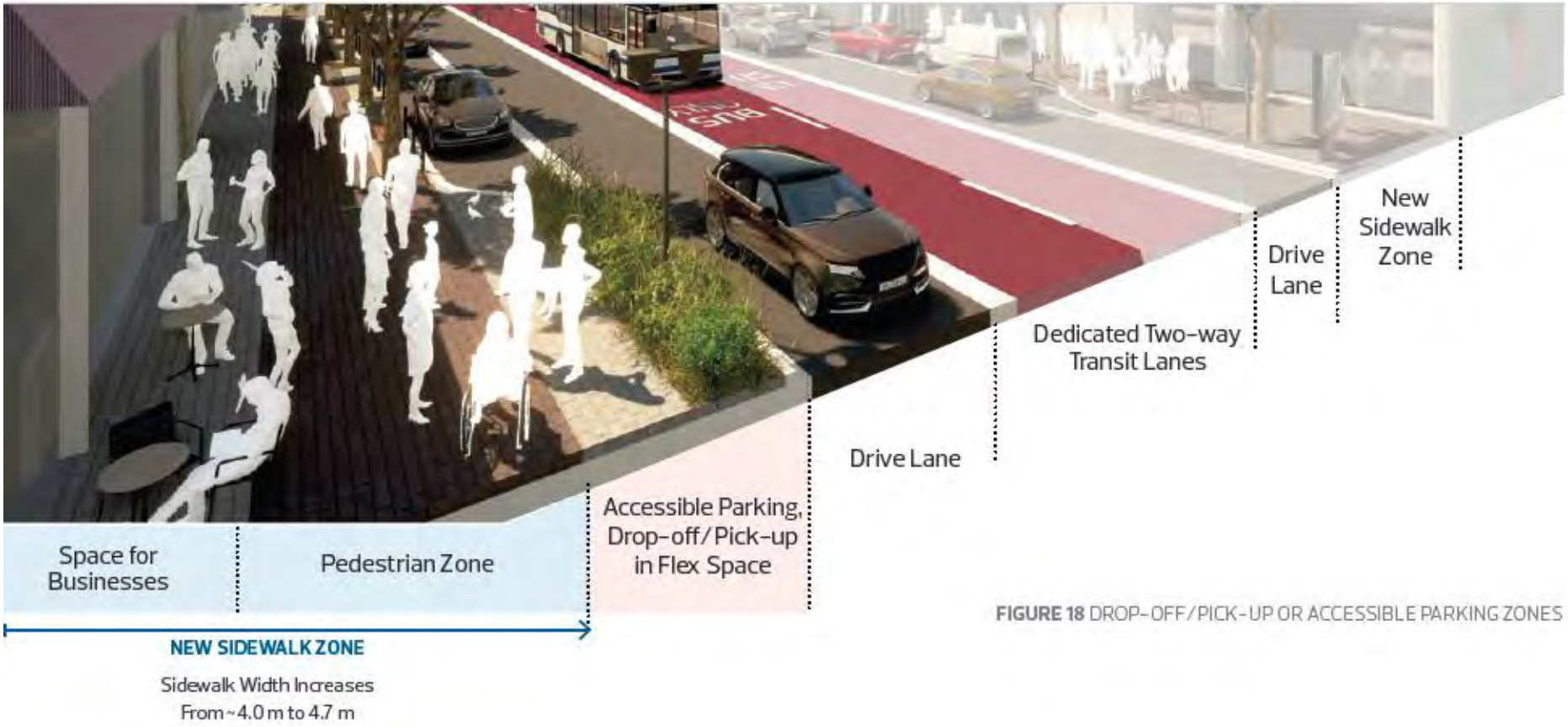


FIGURE 18 DROP-OFF/PICK-UP OR ACCESSIBLE PARKING ZONES

Universality. Inclusivity.
Diversity.

Design with care.

Inclusivity but *acknowledging* our diversity.

107 ST
106 ST
105 ST
GATEWAY BLVD
102 ST
101 ST
100 ST
99 ST
83 AVE
WHYTE AVE (82 AVE)
CALGARY TRAIL
Bioswale / Rain garden
Drop -off / Pick-Up/ Accessible Parking
Business Activation / Patio
Potential Mass Transit Stop Location
10 minute walk
Drop-off / Pick-Up / Loading potential on adjacent streets and avenues
On-street Parking - Examples of adjacent streets or avenues to manage parking supply and turnover

Communities provide the answers.

thoughts?

CITY252

DESIGNING AND DRAFTING DESIGN GUIDELINES

SFU
CITY PROGRAM

Thank you!