

Smooth Moving

for all ages and abilities

Edmonton

Presentation to Safety Codes Council Summit 2023
19 October 2023 - Breakout Session #2 - 11:00am
Robert Lipka - Barrier Free Sub-Council &
Principal Urban Designer, City of Edmonton

Acknowledgement

I wanted to thank all of the staff at SCC for organizing this Summit and of course to all of you for joining us. I hope that you will find the presentation interesting and of course useful!



Disclaimer

Please note that the views, thoughts, and opinions expressed in the following presentation belong solely to the authour, and do not necessarily reflect the views of the authours' employer(s), organization, committee or other group or individual.



A bit about me first...

Current

- Principal Urban Designer - [City of Edmonton](#) provide reviews in urban design, universal design & CPTED - 7+ years;
- Member - [Technical Committee on Outdoor Space - Fed Gov't](#);
- Member - [Barrier Free Sub-Council](#) - [Safety Codes Council](#); and
- Instructor - Online & Continuing Education at the [University of Alberta](#).

Previous work -

- Urban Designer at [Auckland Transport](#) (AT)/[Auckland Council](#) - 10 years;
- Community Planner - [City of Toronto](#) for 7 years; and
- Planner - [MBTW Group](#) in Don Mills, Ontario - 3 years
- Plus much more...!

Things to discuss today...

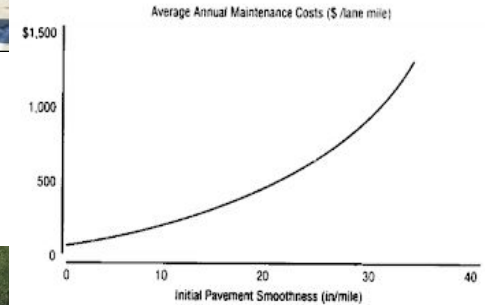
- What is 'Smooth Moving'?
- Universal Design (UD):
 - What is it? Why is it important?
 - Discuss the 7 principles of UD & the 'Accessible Journey'
 - Does the built environment work for everyone?
- Images + some learnings - "the Good, the Bad and the Ugly"
- Priorities and initiatives to integrate health & wellbeing into our built environment at the City of Edmonton

What 'Smooth Moving' is all about?

- The term 'smooth moving' is an engineering term used by the American Association of State Highway and Transportation Officials (AASHTO);
- It describes the condition of pavement to ensure safe/convenient movement of vehicles;
- I have stolen the term - use it to describe the movement of people of all ages and abilities in our neighbourhoods, towns and cities.



Initial Pavement Smoothness vs. Average Annual Maintenance Costs*



Now, let's talk about Universal Design



What is Universal Design (UD)?

The design of all products and environments to be usable by all people to the greatest extent possible without the need for **adaptation** or specialized design.

*Basically, it's about creating
places/things for as many
people as possible!*

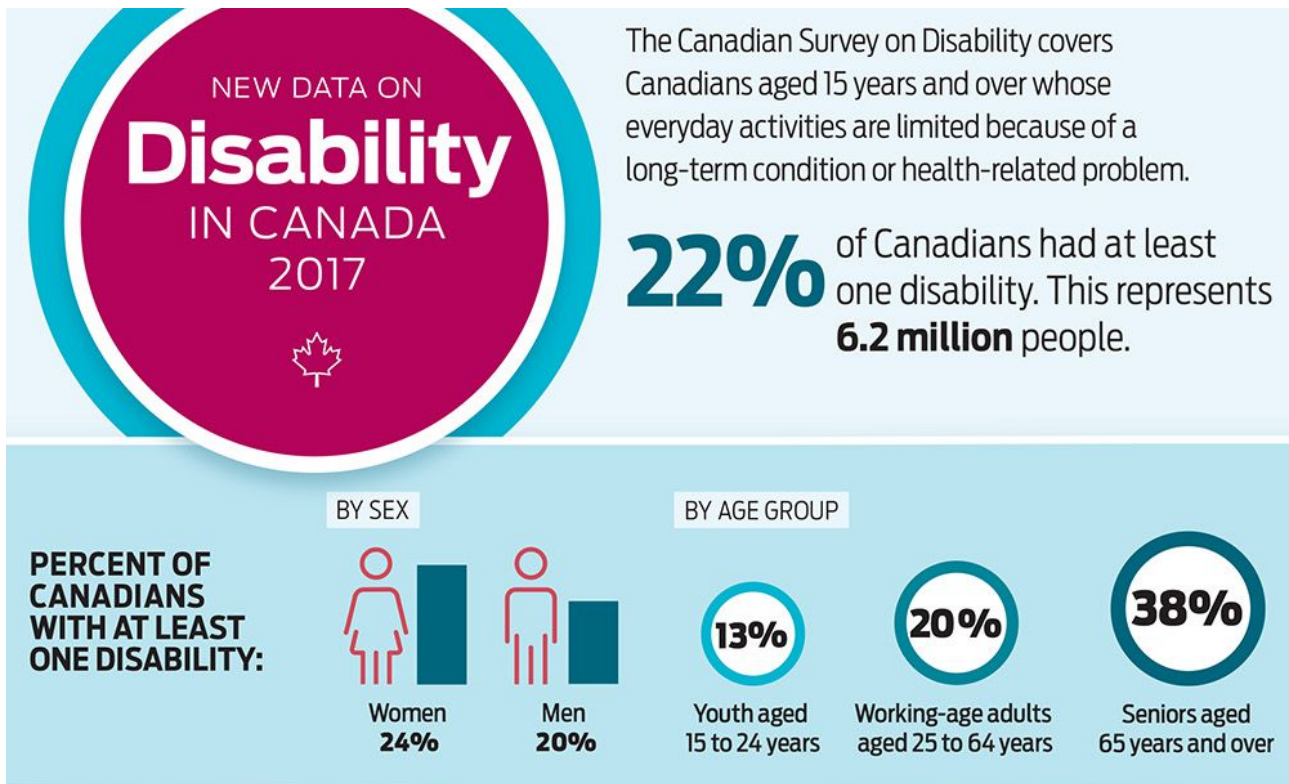
Why is UD important?

Create built environments that work for all:

- Seniors;
- People with disabilities;
- Parents pushing strollers;
- People carrying bags;
- Design once, not differently for each group;
- Improved productivity, sustainability, efficiency and injury prevention.



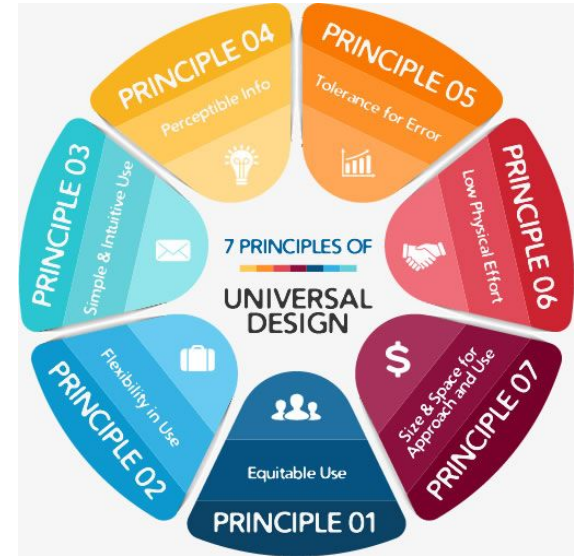
Why important? Many are affected...



Source: Statistics Canada 2017

Seven Principles of Universal Design

1. Equitable Use
2. Flexibility in Use
3. Simple and Intuitive Use
4. Perceptible Information
5. Tolerance for Error
6. Low Physical Effort
7. Size and Space for Approach and Use



Key opportunity*... in some instances while striving to make things easier for some users they limit the opportunity to challenge others.

#1 Equitable Use

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



#2 Flexibility in Use

The design accommodates wide range of individual preferences and abilities.



*Key opportunity**

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#3 Simple and Intuitive Use

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



#4 Perceptible Information

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



#5 Tolerance for Error

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



#6 Low Physical Effort

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



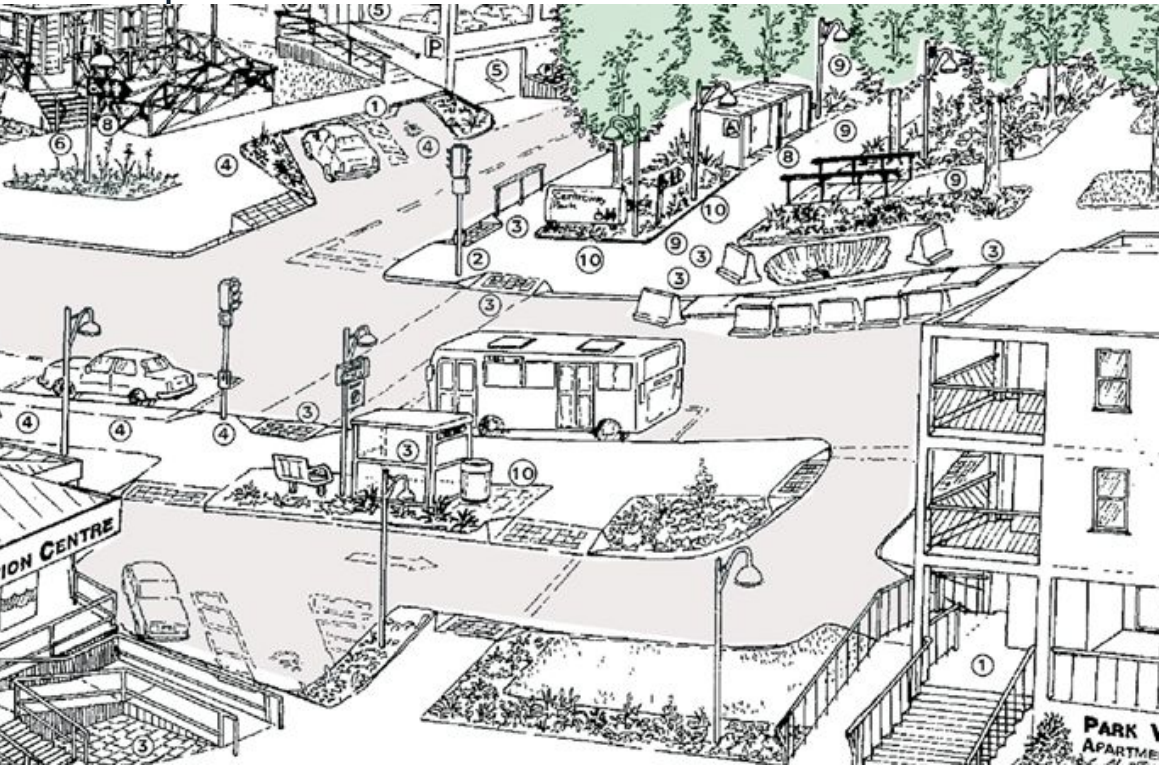
*Key opportunity**

#7 Size & Space for Approach & Use

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



The 'Accessible Journey' in New Zealand

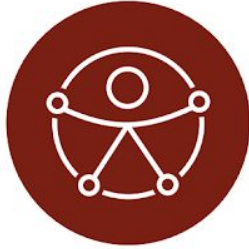


Calls for the complete integration of transport, public space and buildings:

“If one link is broken or inadequate, the whole journey becomes impractical or impossible.”

Accessible Public Land
Transport Inquiry, Human
Rights Commission, NZ,
2005

How are they delivering this?



Outcome 5: accessibility

**We access all places, services and information
with ease and dignity**

“We can get from one place to another easily and safely, for example from home to school, work or to a friend’s house. We can also access all public buildings, spaces and facilities with dignity and on an equal basis with others.”

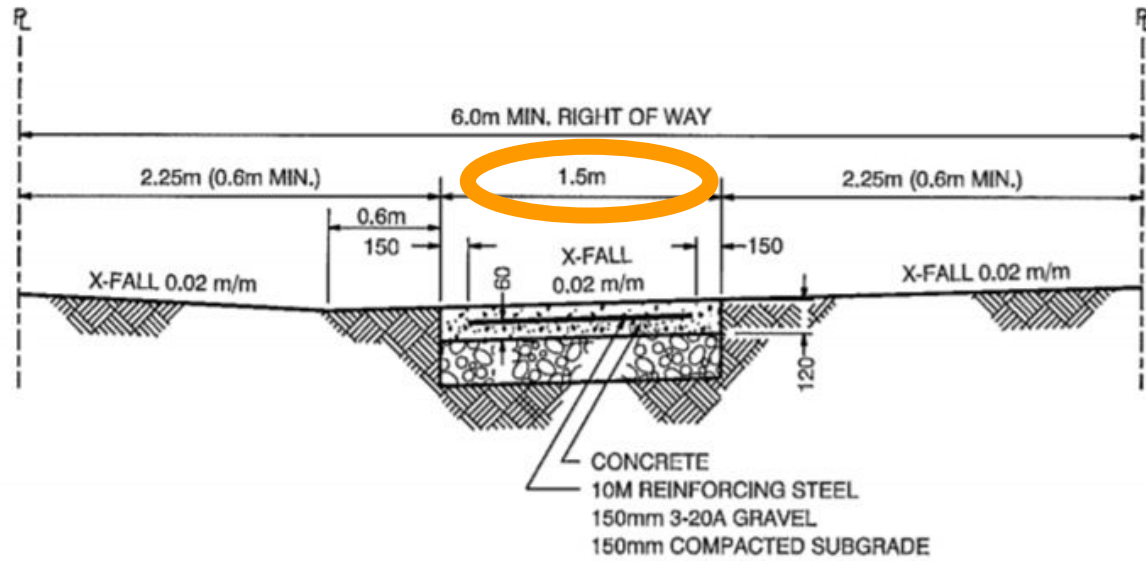
**New Zealand
Disability
Strategy
2016–2026**

 Office for
Disability Issues
The Taiti Māi Ngā Tāwhiri Hauāhanga
Represented by the Ministry of Social Development

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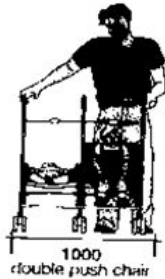
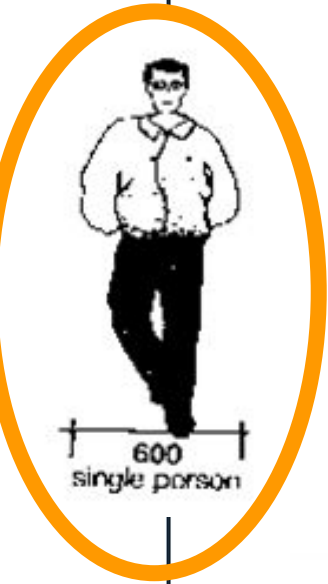
Does our built environment work for everyone?

How much space do we need for the 'average' person?

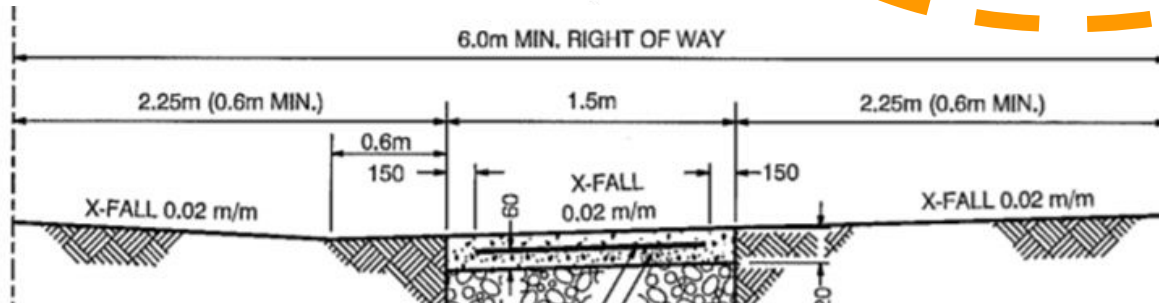


TYPICAL SECTION

Some need more than the 'average'...



Bariatrics - the branch of medicine that deals with the study and treatment of obesity.



Disabilities we need to design for...

BY DISABILITY TYPE

TOP FOUR MOST COMMON



Pain-related
15%



Flexibility
10%



Mobility
10%



Mental health-
related
7%



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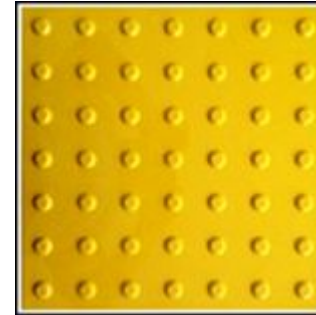
What about vision? We all see differently...



Tactile Walking Surface Indicators (TWSI's)



Warnings



Directionals



These are standardized walking surfaces that convey information to people with vision loss through texture.

These grooves are definitely not TWSI's!



Some examples from our built environment...

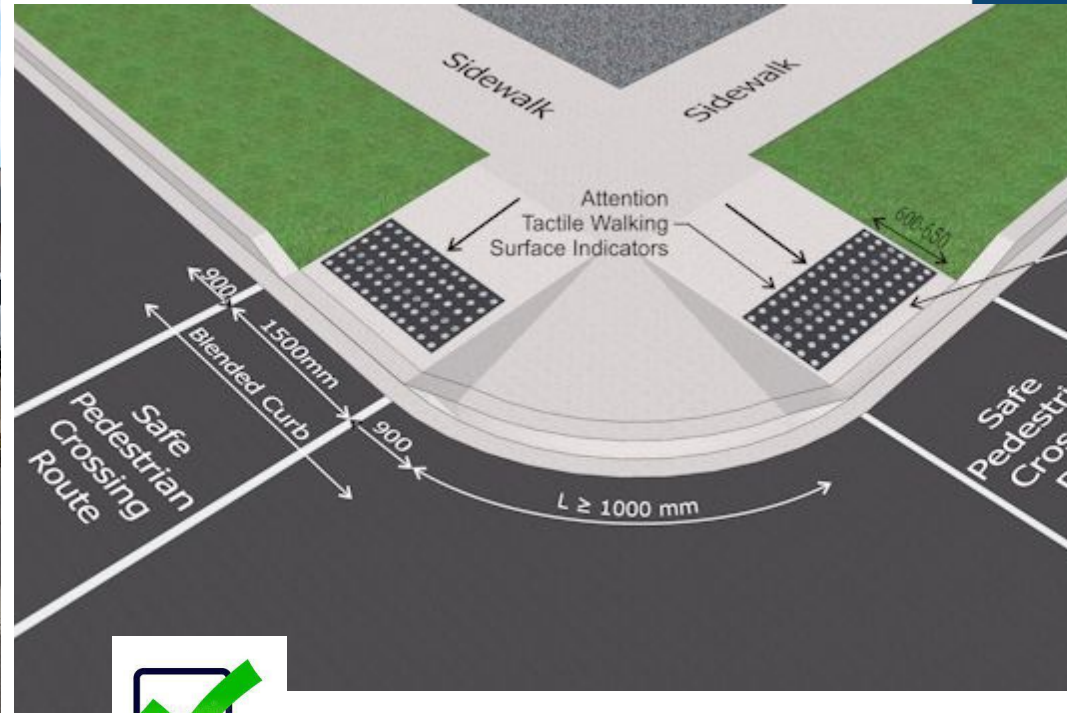


Our 'roller coaster' driveway effect...



**Universal Design Principle
#3 Simple and Intuitive Use**

Corner designs which direct you the wrong way!



**Universal Design Principle
#1 Equitable Use**

Many 'impediments' to walking...



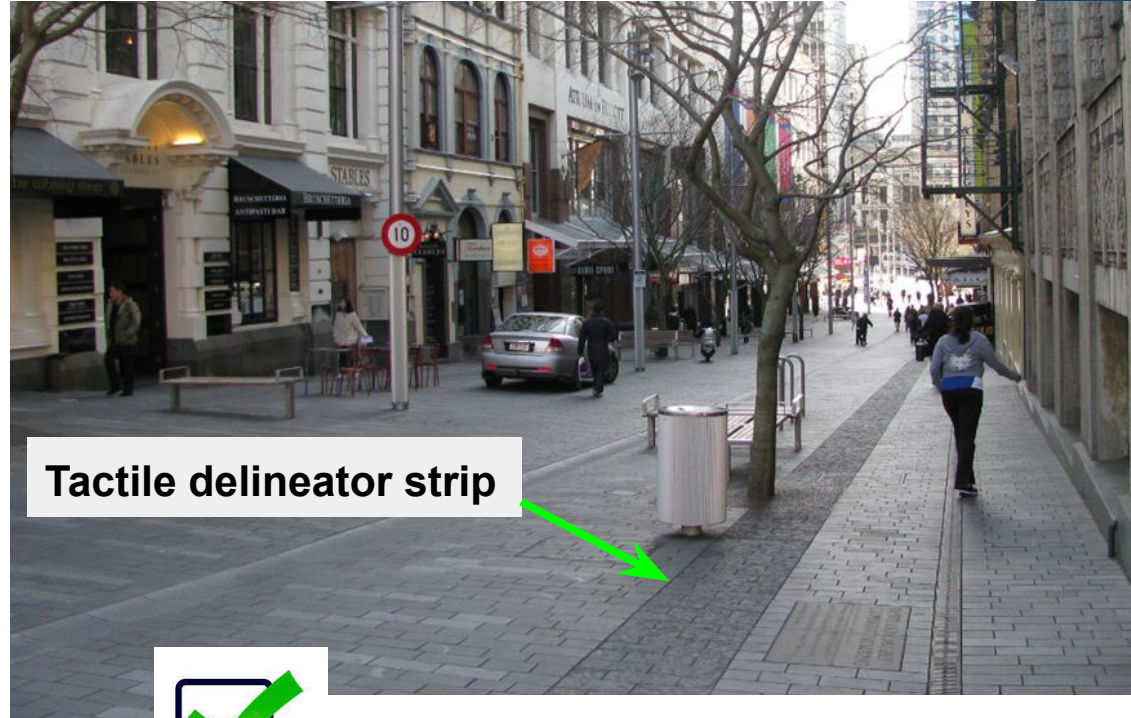
**Universal Design Principle
#7 Size and Space for Approach
and Use**

Diverting pedestrians during construction...



**Universal Design Principle
#3 Simple and Intuitive Use**

'Shared spaces' poorly designed (96 St.)...



Tactile delineator strip



**Universal Design Principle
#2 Flexibility in Use**

No ramp near disabled parking space....



**Universal Design Principle
#1 Equitable Use**

The step up to the LRT...



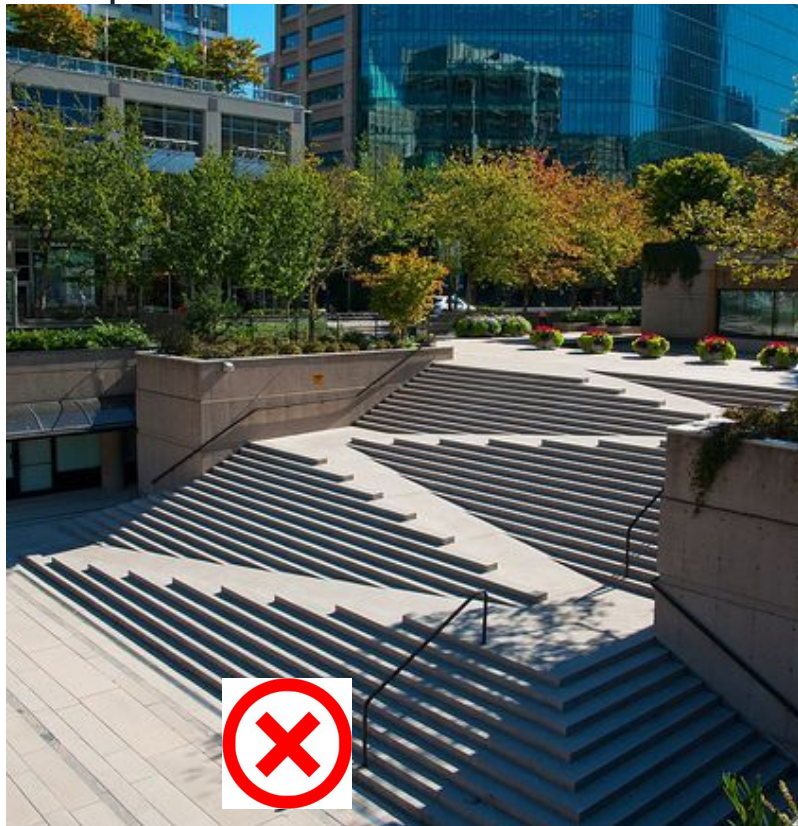
**Universal Design Principle
#6 Low Physical Effort**

Watch your head, arms coming down...



**Universal Design Principle
#5 Tolerance for Error**

Stop trying to combine stairs with ramps...



**Universal Design Principle
#4 Perceptible Information**

Tools to better integrate health & well-being into our built environment



ACCESSIBLE CANADA ACT

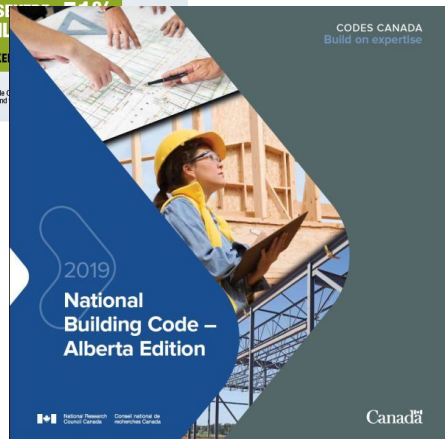
VISION PROACTIVELY ELIMINATE AND PREVENT BARRIERS AND ENSURE GREATER OPPORTUNITIES FOR PERSONS WITH DISABILITIES

MORE THAN **6 MILLION** CANADIANS AGED 15 AND OVER **HAVE A DISABILITY**

LESS THAN 60% OF THOSE AGED 25 TO 64 YEARS **HAVE JOBS**

CANADIANS WITH MILD DISABILITIES **EARN 12% LESS** AND THOSE WITH MORE SEVERE DISABILITIES **EARN 74% LESS** AND THEY ARE MORE LIKE

*"NOTHING ABOUT US WITHOUT US" The Accessibility Act with persons with disabilities and



2019
National Building Code – Alberta Edition

CODES CANADA
Build on expertise

Canada



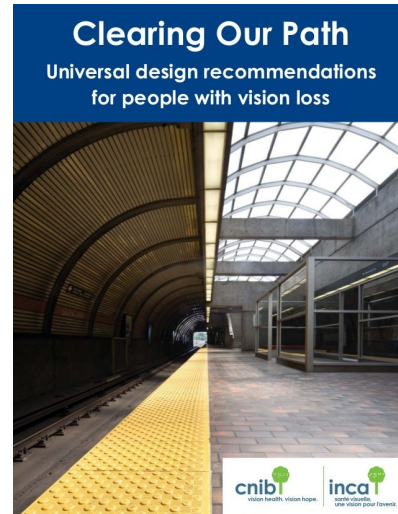
Safety Codes Council
Alberta Government

BARRIER-FREE DESIGN GUIDE

Fifth Edition
Summer 2017



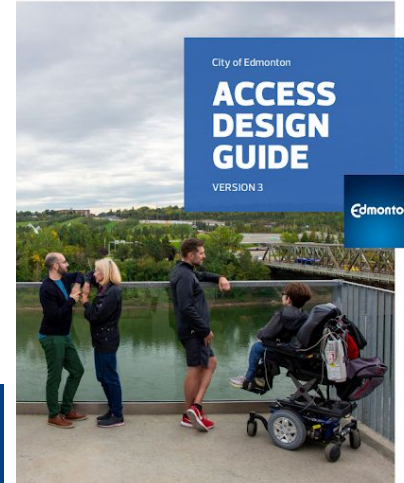
Rick Hansen Foundation



Clearing Our Path
Universal design recommendations for people with vision loss

cnibi
vision health, vision topics

inca
senior citizens
live vision prior to work



City of Edmonton
ACCESS DESIGN GUIDE
VERSION 3
Edmonton

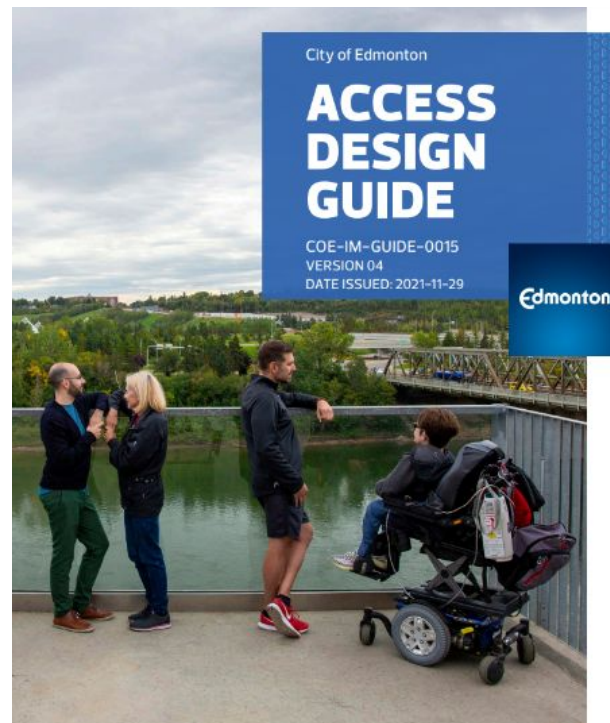


COMPLETE STREETS DESIGN AND CONSTRUCTION STANDARDS
City of Edmonton

Access Design Guide (ADG) - Version 4

To be used when planning, designing, building and maintaining City-owned facilities, parks and spaces.

Design professionals, building and construction industry, government and the community as a whole are encouraged to implement this guide in all projects constructed in the city.

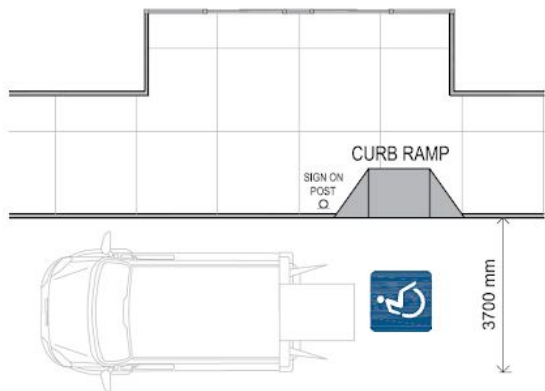


A couple examples from the ADG

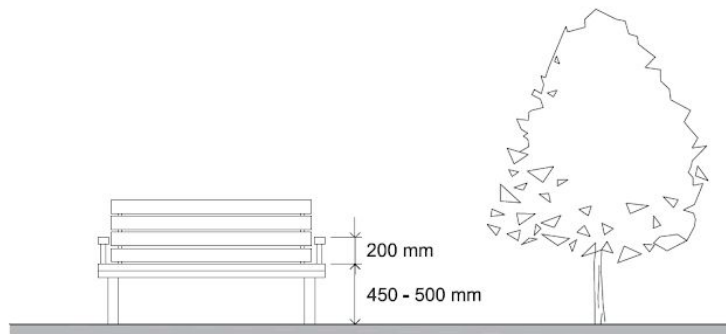
C.2. PASSENGER LOADING ZONES

- C.2.1 A dedicated passenger loading zone / lay-by that doesn't conflict with drive aisle, parking stalls and other loading zones shall be provided for support vehicles.

Explanation: Design of this space shall consider the use of facility and different types of vehicles (buses, DATS, rear/side loading vehicles) that will be used for drop off.

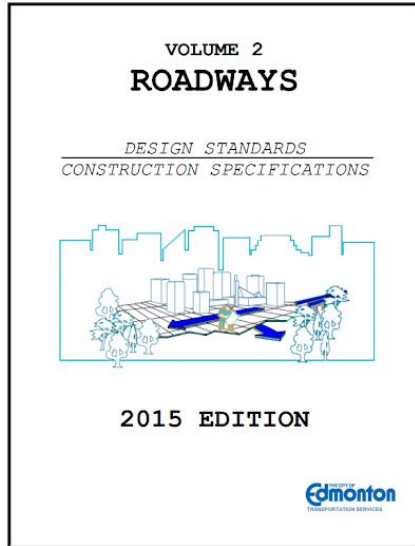


- D.4.5 The seat height shall be between 450 mm and 500 mm from the ground. Optimum height of seating for *seniors* is 460 mm.
- D.4.6 Height of armrests for benches with backrests shall be 200 mm from top of seat. Lower armrests can be provided for benches without backrests as they are primarily used as handles to push off of.



- D.4.7 A level and firm ground surface of minimum 850 mm x 1200 mm size shall be available adjacent to the bench to accommodate a wheelchair or stroller.

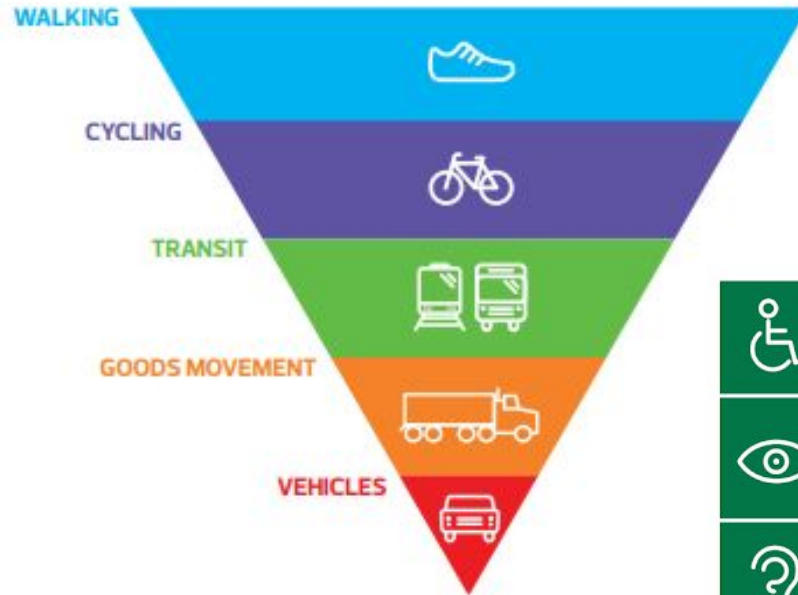
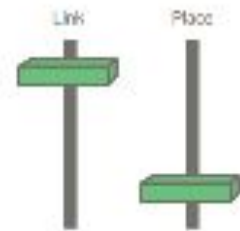
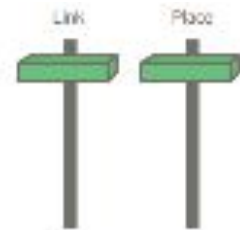
Complete Streets Design & Construction Standards



These Standards encourage a holistic approach to street design to develop a network of streets that are safe, attractive, comfortable, and welcoming to all users in all seasons. Allows for flexibility in design based on the mode of travel and the context of a specific area.



Complete Streets - for people, not just cars!



PHYSICAL ACCESS



BLIND OR LOW
VISION ACCESS



DEAF OR HARD
OF HEARING ACCESS



COGNITIVE LIMITATIONS
ACCESS

Changes to 97 Street - better for all users!



2017



2023

Edmonton

Thank you for listening...



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