

The logo for the City of Edmonton, featuring the word "Edmonton" in a white, sans-serif font on a dark blue rectangular background.

COMPLETE STREETS DESIGN AND CONSTRUCTION STANDARDS PUBLIC PRIMER

City of Edmonton



INTRODUCTION

Complete Streets are streets for everyone: people who walk, wheel, bike, take transit, or drive. They are designed to be safe, attractive, comfortable, and welcoming to people of all ages and abilities.

Complete Streets can exist in neighbourhoods of all shapes and sizes; from Downtown to Strathcona and in more suburban neighbourhoods such as Ambleside, Allard, Meadows, and Secord. The Complete Streets Design and Construction Standards ensure that planners, engineers and developers consistently design streets for their context and users, and that they operate safely for everyone.

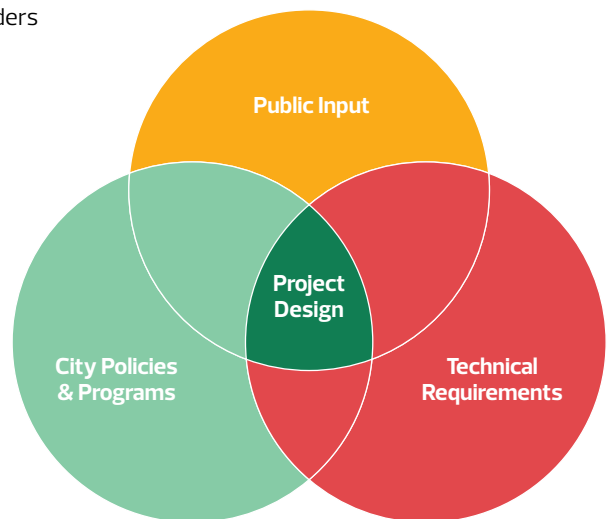
This primer gives a high level overview of the standards for the public. Page and section numbers that reference the Complete Street Design and Construction Standards are provided throughout.

STREETS ARE BOTH A LINK AND A PLACE

Streets take up a significant amount of space in our city. When we only use them for driving, they are less inviting for other people who might want to use that space. Streets can connect people to their destination and can also be places themselves where people live, work, and play. When we use streets as both links to get us around, and places where we can spend time, they become more valuable to residents and businesses.

The Complete Streets design approach considers many things such as:

- + Street type and purpose
- + Ease of construction
- + Ease of operation and maintenance
- + Sustainability of the design
- + City policies
- + Future planning
- + Availability of funding



In addition to City policies and technical requirements, public input is considered for each stage of roadway projects according to the City's 'Public Engagement Policy' C593.

STREET TYPES

SECTION 1.8.1, pages 18–20

Street type considers the following three components:

1. Relationship of buildings to the street
(Do the buildings face the street or back on to it?)
2. Surrounding land use
(What kinds of buildings are along the street?)
3. Functional classification of the street
(What is the street primarily designed to do?)

1. Relationship of the Building to the Street:



Street Oriented: Characterized by buildings that are built to minimum setbacks with building entrances directly on the street, prioritizing walking and wheeling activity over driving activity. Vehicle access is typically from side streets or alleys.



Non-Street Oriented: Characterized by greater building setbacks from the street and building entrances that face away from the street (most often facing surface parking lots or other streets).

STREET TYPES (CONT.)

SECTION 1.8.1, pages 18–20

2. Surrounding Land Use:



Residential: Areas where people live.



Community Destinations and Open Spaces: Areas that are visited by residents on a regular basis, like schools, district parks, recreation centres, hospitals, universities and colleges, and other major public and institutional uses.



Commercial/Mixed Use: Areas with commercial and retail uses and places of employment ranging from main street-style retail areas, to downtown office towers, to shopping malls. Mixed use is achieved when these areas also have places of residence, which encourages people to live, work and socialize in the same area.



Industrial: Areas with warehouses, manufacturing establishments, and large industrial plants and that may include commercial functions. Transportation behaviour is unique from other employment areas due to truck access requirements and lack of residential uses.

STREET TYPES (CONT.)

SECTION 1.8.1, pages 18–20

3. Functional Classification of the Street:

- + **Freeway:** high traffic volume, with grade separated limited access, and high speed (e.g. Whitemud Drive or Anthony Henday Drive).
- + **Arterial:** high traffic volume, connects collector roads to freeways or allow for cross-town travel (e.g. 170 St or 23 Ave).
- + **Collector:** low to medium volume road that connects local streets to arterial roads (e.g. Mill Woods Road or Greisbach Road).
- + **Local:** low volume road within a neighbourhood that provides access to people's homes or businesses (e.g. McLean Close SW or Ebbers Way).
- + **Alley:** low volume road within a neighbourhood that provides rear access to people's homes or businesses.
- + **Shared Street:** low volume, low speed streets that are shared among users and primarily designed for people walking and biking (e.g. Rice Howard Way and 96 St (The Armature)).
- + **Pedestrian Only Street:** streets that prohibit vehicles at all times, or at specific times (e.g. 104 St during the Downtown Farmer's Market).

MODAL PRIORITY

SECTION 1.8.2, pages 21–25

When designing a street, some modes are given a higher priority than others. This helps to inform which design elements should be included and what trade-offs might need to be made. For example, on a walking priority street, people walking and wheeling would be given more consideration in the design process than other modes. However, all modes that are planned to use a street will be accommodated safely or moved to parallel routes.

Modes are different ways of getting around – whether it's walking, wheeling, riding the bus, biking, or driving.

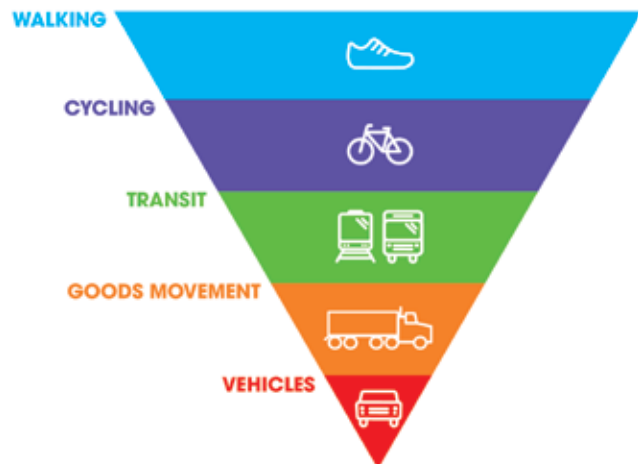


Figure 1 This shows an example modal priority triangle for a walking and wheeling priority street.

DESIGN ZONES

SECTION 2.1.1, pages 27–28

In Edmonton, the area used for streets is divided into a series of design zones that include space for people who are driving, those who are walking or wheeling, and those who are biking. The zones apply to all streets, but elements in the design zones look different depending on the context.



Figure 2 This picture is an example of zones for a residential local road.



Figure 3 This picture shows the zones for a street oriented commercial road (or a Main Street).

DESIGN ZONES (CONT.)

SECTION 2.1.1, pages 27–28

The design zones include the following:

- + **Adjacent Lands:** the land (or buildings) that are directly beside the street.
- + **Frontage Zone:** the space between the adjacent land and the pedestrian zone. This provides clearance from building fronts, doors opening outwards, and architectural features. It can be a combination of public or private space.
- + **Pedestrian Through Zone:** the area where people walk and wheel.
- + **Furnishing Zone:** located on streets with separated sidewalks between the curb and the Pedestrian Through Zone. It serves as a safety separation, and as an area to place items such as traffic signs, street lights, transit shelters, benches, trees, landscaping, and snow storage.
- + **Travelled Way:** the space for people to travel – whether they're riding the bus, biking, or driving, or walking and wheeling as they cross the street.
- + **Ancillary Zone:** located between the Travelled Way and the Furnishing Zone, this space can be used flexibly depending on the context and characteristics of the street. Uses can include parking for vehicles and bicycles, patios, parklets, transit stops, and curb extensions.

Together, the furnishing zone, adjacent lands, pedestrian through zone, and ancillary zone make up the “public realm”.



Figure 4 Ancillary zone uses – curb extensions and parklets (small scale public parks, seating areas, or sidewalk cafes)

DESIGNING IN CONSTRAINED SITUATIONS

SECTION 2.2, pages 31–32

The redesign of existing streets poses many challenges which are different than the design of new streets. Designs for existing streets must consider things like the locations of existing buildings, mature trees, utilities, major infrastructure such as LRT and private landscaping.

In some cases it may not be possible to meet the minimum requirements in the standards and trade-offs may be required. Overall, it is important that design elements are consistent within an area, and that transitions between areas make sense. Some examples of trade-offs (in no particular order) include:

- + Reduce the design speed
- + Remove the parking lane on one or both sides of the street
- + Remove medians and turning lanes
- + Remove vehicle lanes
- + Reduce sidewalk widths
- + Acquire additional land
- + Remove trees



Figure 5 Whenever possible, the City designs and constructs in ways to make sure trees are protected. In some cases trade-offs need to be made which could include reducing the roadway width, sidewalk widths, or in rare cases, removing the tree.

DESIGNING FOR PEOPLE WALKING

SECTION 3.3.4, pages 94–97

The Complete Streets Design and Construction Standards have a high focus on designing for people walking and wheeling. Generally, the standards follow the universal design principles and recommend the following:

- ✦ Wider minimum sidewalk widths to better serve people walking and wheeling. This will allow a person holding a child's hand to pass another person, or for a wheelchair user to pass another user.
- ✦ Building shared use paths on both sides of new arterial roadways to better serve people riding bicycles.
- ✦ Enhancing the safety of curb ramps for people walking and wheeling.



Figure 6 Pedestrian Zone

DESIGNING FOR PEOPLE RIDING BICYCLES

SECTION 3.2.2, pages 53–68

The standards introduce more guidance on biking. The main focus is on designing facilities for all ages and abilities, which means that they are safe, universally designed, context sensitive, and that they promote year-round biking.

The three main bike facility types are:

1. On-street bike lanes – which includes unprotected painted lanes (with or without a buffer), and protected bike lanes.
2. Off-street – Either for the exclusive use of people biking (like bike paths), or shared-use paths.
3. Shared roadways – On the street, where people biking and people driving share the travelled way.



Figure 7 Example of protected on-street bike lanes



Figure 8 Example of a shared use path



Figure 9 Example of a shared roadway

The City is developing the Edmonton Bike Plan, which is an update to the 2009 Bicycle Transportation Plan. The plan will provide strategic direction to grow the bike network and improve biking in Edmonton. (edmonton.ca/bikeplan)

TRAFFIC CALMING

SECTION 3.8, pages 161–166

As our city grows, our roads face more demands. When arterial roads are busy, some drivers will shortcut through neighbourhoods. The City has developed the Community Traffic Management Policy C590 to help neighbourhoods find solutions for shortcutting and other traffic issues. In both new and mature neighbourhoods, traffic calming can be applied to help reinforce the intended speed and use of a street. Traffic calming measures are grouped into three general categories: vertical deflections, horizontal deflections, and obstructions.

Traffic calming uses a combination of mainly physical measures to reduce the negative effects of vehicle traffic for neighbourhood residents and road users. Traffic calming measures can encourage slower speeds, discourage shortcutting, and improve safety for people who drive, bike and walk.



Figure 10 A raised crosswalk, which is an example of a vertical deflection.



Figure 11 Chicanes, which are an example of a horizontal deflection.



Figure 12 A full closure of a roadway, which is an example of an obstruction.

CLOSING

The Complete Streets Design and Construction Standards represent a major milestone for the implementation of Complete Streets in Edmonton. Over time, use of these standards will help to create a transportation network that can accommodate the needs of all users in a safe and context sensitive manner.

For more information on Complete Streets, please visit edmonton.ca/completestreets.

For more information on the design standards, please visit edmonton.ca/designconstructionstandards.

For comments or questions, please contact completestreets@edmonton.ca.

An aerial photograph of a residential neighborhood, showing houses, trees, and streets. The image is mostly covered by a semi-transparent green overlay. In the top right corner, there is a blue rectangular box containing the word "Edmonton" in white text.

Edmonton