BC Community Road Safety Toolkit

BRITISH COLUMBIA | RoadSafetyBC

BC Road Safety Strategy

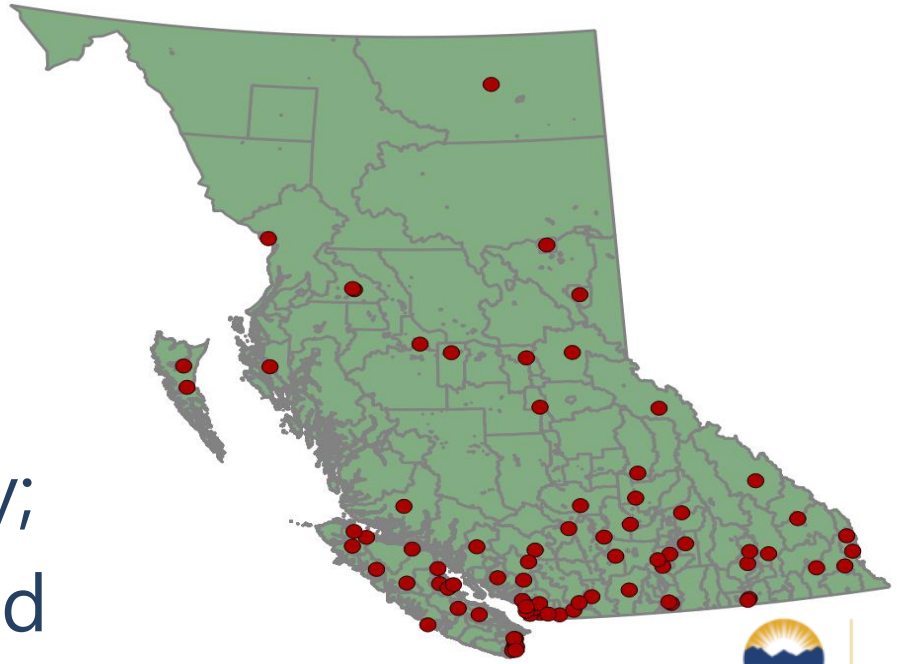
BC Road Safety Strategy

BRITISH COLUMBIA | RoadSafetyBC

2015 BC Community Road Safety Survey

Top road safety issues facing BC communities:

- Driver speeds;
- Cyclist safety;
- Pedestrian safety;
- Intersection safety;
- Winter driving; and
- Commercial vehicle traffic



BRITISH COLUMBIA | RoadSafetyBC

What is the Toolkit?

An **online resource** to help local governments improve road safety

Describes **roadway designs** and **physical road improvements**

BRITISH COLUMBIA | RoadSafetyBC

How does the Toolkit Work?

Off-street Walking and Bicycle Paths

Description

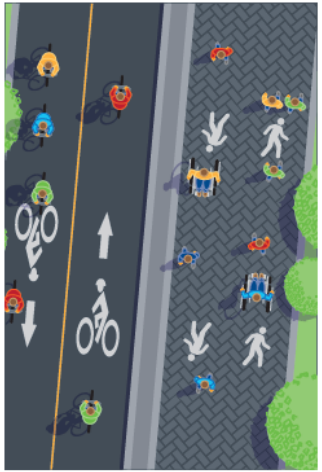
Off-street paths provide routes for walking and cycling away from streets and motor vehicle traffic. They are typically found in parks, alongside waterways, or in other quiet areas. They may be "multi-use" with people on foot and bicycle on a single path, or they may be designed as separate walking and bicycle paths.

How it Works

Off-street paths are located away from motor vehicle traffic, thus virtually eliminating the potential for crashes with motor vehicles.

Studies have shown that:

- Cycling injury risk can be reduced by 30 to 90%, compared to on-street riding with no cycling infrastructure.



Best results occur when:

- Off-street walking and bicycle paths provide convenient routes to and from popular destinations like grocery stores and other amenities. This can be done by connecting off-street paths to on-street routes with sidewalks and protected and connected bicycle lanes (page 12);
- Bollards, posts, street furniture, etc. are strategically and thoughtfully placed (or moved) well away from cyclists paths, so that people on bicycles have a smaller risk of crashing into them;
- Paths are well-maintained and free of uneven surfaces, holes, roots, leaves and gravel, all of which increase the risk of tripping or slipping, and increase crash risks for cyclists using the path;
- There are clear, unobstructed sight lines to ensure that people on bicycles have time to react to potential conflicts;
- Paths are well-lit, to reduce night time crash risks and improve personal security;
- There is separation between spaces for pedestrians and cyclists; and
- In places where walking paths or bicycle paths intersect with streets, raised crossings (page 26) and rectangular rapid flashing beacons (page 25) help ensure that drivers see people crossing the road and slow down.

Continuous Centre Two-way Left-turn Lanes

Description

A continuous two-way left-turn lane (TWLTL) is a special shared lane in the centre of a roadway reserved for mid-block left-turns into or out of driveways or side streets.

How it Works

A TWLTL improves safety by separating turning vehicles from through lanes and by providing a refuge for vehicles entering through lanes from access points along a road.

Evidence of Effectiveness

CRFs for all crashes can be calculated using the formula on page 42 of the BC Ministry of Transportation and Infrastructure's Collision Modification Factors for British Columbia. This CRF only applies on road segments where the access point density is greater than 3.

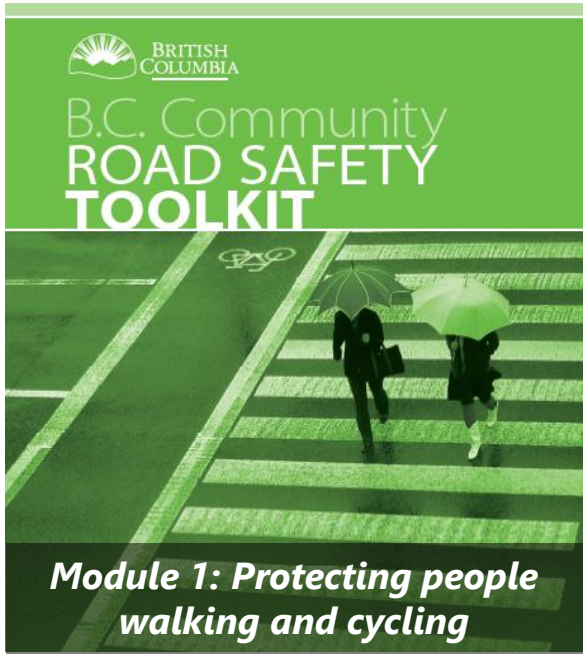
Typical Implementation Considerations

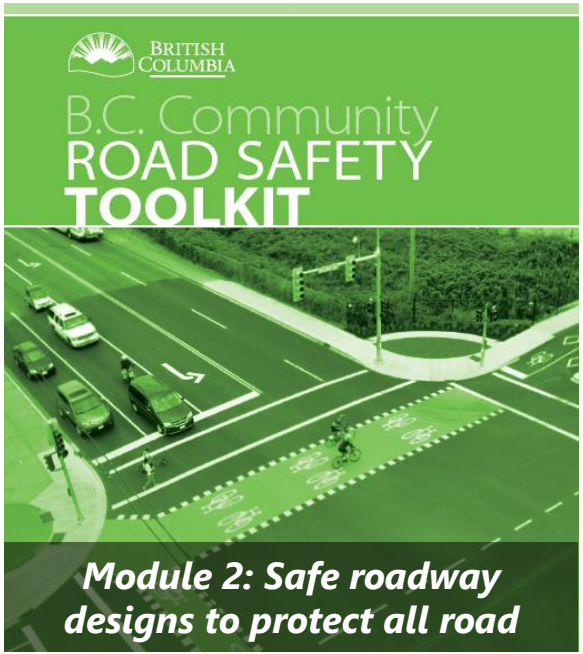
Due to the complexity and number of design factors to be considered, each site needs to be examined by experienced design and traffic operations personnel to determine the improvements required to successfully implement a TWLTL. The Transportation Association of Canada (TAC) Geometric Design Guide provides a good description of the major factors to be considered. Some of these are listed here.

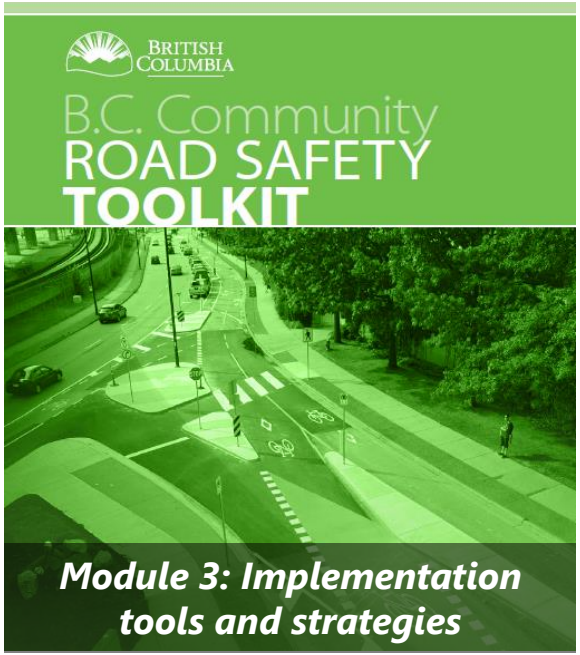
TWLTLs are normally used with 3 and 5 lane cross sections, with 5 lanes being the most common. They are best suited for urban roads with operating speeds of 50 to 60 km/h. A traffic volume of 24,000 vehicles per day is generally recommended; however, this measure has been successfully implemented for volumes up to 35,000 per day. In some cases a TWLTL is achieved by eliminating a parking lane or by converting an existing 6 lane road to 5 lanes with a centre TWLTL and curbside cycling lanes. Arterial roadways with straight flat alignments and low to moderate volume number of driveways represent typical applications.

TWLTLs are generally not extended through major intersections and are not suitable for high volume driveways. A combination of exclusive left-turn lanes at high volume driveways and a TWLTL elsewhere may be feasible if the high volume accesses are well spaced in relation to the other accesses.

Toolkit Overview



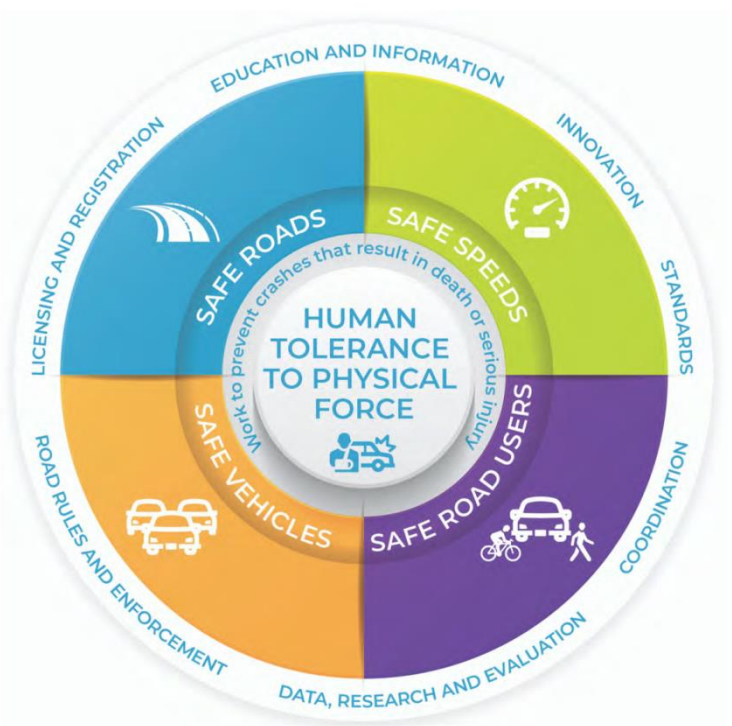




BRITISH COLUMBIA | RoadSafetyBC

Introduction to the Toolkit

Safe Systems Approach, Public Health Perspective, Active Transport and Equity



BRITISH COLUMBIA | RoadSafetyBC

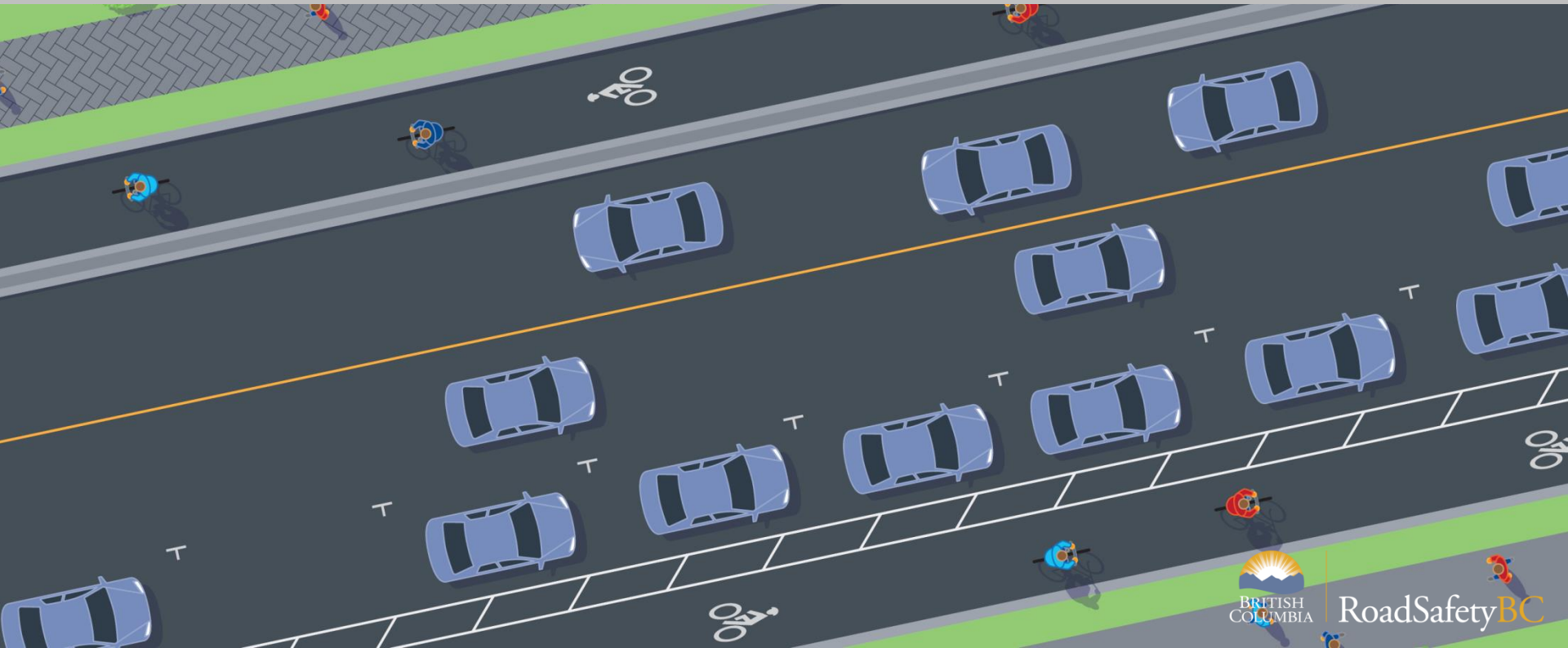
Protecting people walking & cycling

MODULE 1

1. Separating Road Users in **Physical Space**
2. Separating Road Users in **Time**
3. Increasing the **Visibility** of Pedestrians and Cyclists
4. Improving Safety through **Green Transportation Options**

Protected and Connected Bicycle Lanes

MODULE 1: Protecting people walking and cycling



BRITISH COLUMBIA | RoadSafetyBC

Safe Roadway Designs to Protect All Road Users

MODULE 2

1. Reducing Driver **Speeds**
2. Safe **Intersection** Design
3. Safe **Corridor** Design

BRITISH COLUMBIA | RoadSafetyBC

Narrowed Vehicles Lanes

MODULE 2: Safe roadway designs to protect all road users

BRITISH COLUMBIA | RoadSafetyBC

Implementation Tools and Strategies

MODULE 3

1. Strategic Planning and Evaluation;
2. Ensuring Safe Roadways;
3. Communications, Consultation, and Engagement;
4. Funding and Cost-saving; and
5. Promoting Active Transport.

BRITISH COLUMBIA | RoadSafetyBC

Establishing and Setting Targets

MODULE 3: Implementation Tools and Strategies

Summary

The toolkit is the result of the collaboration and expertise of road safety partners.

The Introduction as well as Modules 1, 2 and 3 are now available online:

www.gov.bc.ca/roadsafetybc/toolkit

BRITISH COLUMBIA | RoadSafetyBC

Questions?

Amanda Watson, Eng.L.

Co-Chair, Safe Roads and Communities Working Committee

Manager, Transportation, City of Vernon, BC