

Rationale and Recommended Design for the Intersection of 14th Street East and Cumberland Avenue South

As part of the 14th Street Bikeway, Pedestrian, and Traffic Safety Improvement Project, two design options were developed to improve cyclist and pedestrian crossings at the intersection of 14th Street East and Cumberland Avenue South. This memo will discuss the recommended design option and the rationale behind the decision.

Design Options

The following designs options were developed for the intersection of 14th Street East and Cumberland Avenue South.

Option 1

A bi-directional raised cycle track would be built on the north side of 14th Street East between Bottomley Avenue and Cumberland Avenue South to improve the safety and connectivity to the multi-use pathway east of the Cumberland Avenue intersection. This option would involve the removal of parking on the north side of 14th Street East between Cumberland Avenue and Bottomley Avenue. Parking would be maintained on the south side of 14th Street East.

Option 2

Curb extensions would be constructed on all four corners and cross-rides would be provided on all four legs of the intersection of 14th Street East and Cumberland Avenue South. A two-phase crossing would be required for cyclists to transition from the 14th Street Neighbourhood Bikeway to the multi-use path east of Cumberland Avenue. This option maintains on-street parking between Cumberland Avenue and Bottomley Avenue.

Both design options include the installation of cyclist detection to the existing traffic signals at 14th Street East and Cumberland Avenue.

Public Feedback

During the public meeting hosted virtually on September 17, 2020, the public was asked to indicate their preferred design option at the intersection of 14th Street East and Cumberland Avenue South with a thumbs up in the discussion form, the results were as follows:

- Option 1: bi-directional raised cycle track – 5 thumbs up
- Option 2: cross-rides and curb extensions – 2 thumbs up

Technical Analysis

	Option 1 Bi-directional cycle track	Option 2 Curb extensions and cross-rides
Cycling Network	<p>Provides good connection to 14th Street multi-use pathway, east of Cumberland Avenue South</p> <p>Transition between cycle track and on-street bikeway could create conflicts</p> <p>Provides cyclist detection at the intersection of 14th Street East and Cumberland Avenue South</p>	<p>Cyclists may need to make a two-phase crossing to access the 14th Street multi-use pathway, east of Cumberland Avenue South</p> <p>Provides cyclist detection at the intersection of 14th Street East and Cumberland Avenue South</p>

	Option 1 Bi-directional cycle track	Option 2 Curb extensions and cross-rides
Pedestrian Safety	Status quo	Curb extensions would reduce pedestrian crossing distances
Parking	Eliminates on-street parking on the north side of 14 th Street between Bottomley Avenue and Cumberland Avenue South	Maintains on-street parking on both sides of 14 th Street between Bottomley Avenue and Cumberland Avenue South
Recommendation	Not recommended.	Recommended because of the pedestrian safety improvements and maintenance of on-street parking on both sides of Bottomley Avenue.

Recommended Design

The recommended design for the intersection of 14th Street East and Cumberland Avenue is Option 2. Option 2 is the simplest solution for cyclists to travel in any direction at the intersection of 14th Street East and Cumberland Avenue, provides curb extensions to shorten pedestrian crossings, and maintains parking on both sides of 14th Street East between Bottomley Avenue and Cumberland Avenue South.

The design for the intersection is shown in the attached figure.

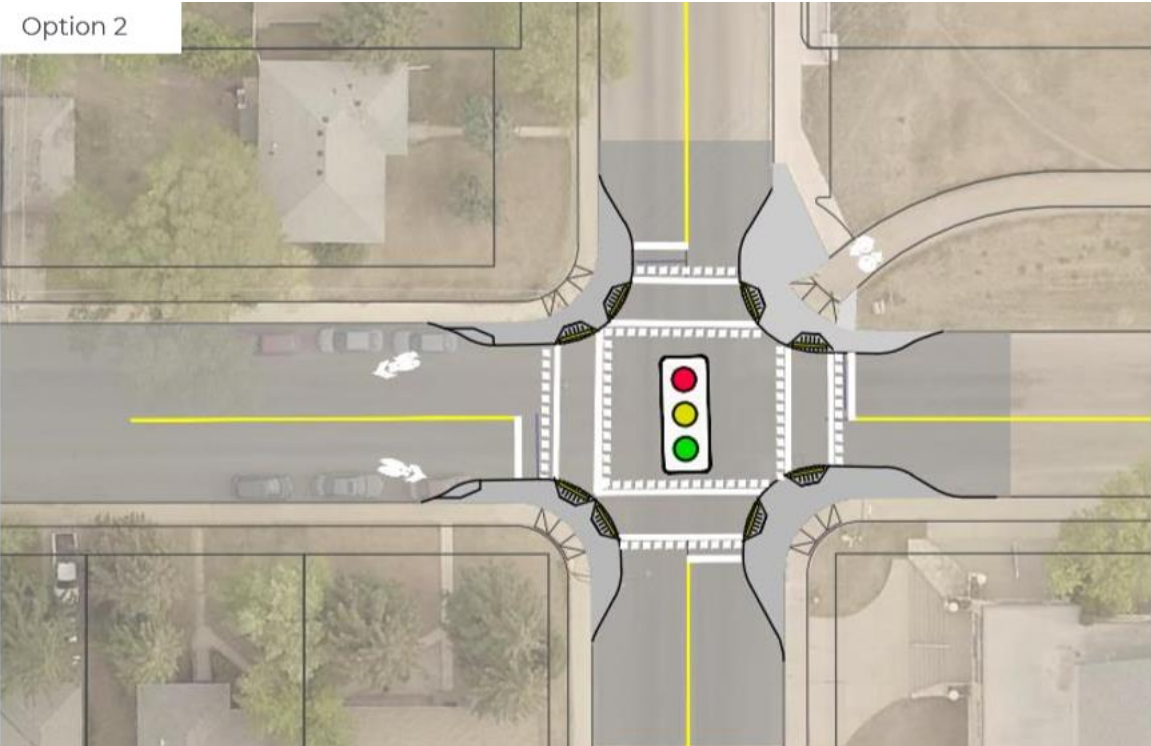


Figure 1: 14th Street East and Cumberland Avenue Recommended Design