

### Smaller Corner Radii

#### Description

A corner radius reduction is the reconstruction of an intersection corner that places it further into the turning lane. The main purpose of a smaller radius is to slow down right-turning vehicles.

#### How It Works

Smaller corner radii make the path of a right-turning vehicle tighter, which requires a slower speed. Slower speeds increase the amount of time that road users have to react to a conflict, reduce the stopping distance in case the driver has to brake, and reduce the kinetic forces in the case of a crash.

Intersection corner reconstructions also work to position pedestrians further forward before they begin crossing a street, which increases their visibility to drivers, and shortens their crossing distance. This is important because corners are where drivers and pedestrians are most likely to encounter one another.

#### Evidence of Effectiveness

No CRFs were found for curb radii reductions. However, smaller curb radii are known to improve safety, especially for pedestrians and cyclists, at right-turn locations.

#### Typical Implementation

#### Considerations

Smaller corner radii can be applied on local and collector streets. They may not be effective in very large intersections because right-turning vehicles might not manoeuvre into the nearest receiving lane.

They may also not be suitable on routes with large volumes of buses or trucks, as large vehicles may need to move into the opposing lane in order to negotiate the turn. One possible way to mitigate the risks is by recessing the stop line in the nearest lane of the receiving street, allowing more room for a large vehicle to complete the turn.

In some cases, corner radii reductions through curb extensions may inhibit the installation of bicycle lanes. Consideration should be given in the planning stages to the possibility of bicycle lane construction in the future.

