

# CORNER RADIUS REDUCTION

## Purpose

Reduce motor vehicle turning speeds, reduce pedestrian crossing distances, increase pedestrian visibility, and expand waiting areas for pedestrians crossing.

## Description

Reduced corner radius by changing the curb line or using temporary materials such as paint and bollards. Motorists will generally reduce their speed to navigate a sharper turn.

## Estimated Cost



## Applicable Locations

- Corner radius reduction can be applied to intersections in an urban, suburban, or rural context.
- Intersections with low truck volumes can also make use of corner radius reduction.

## Applicable Street Types

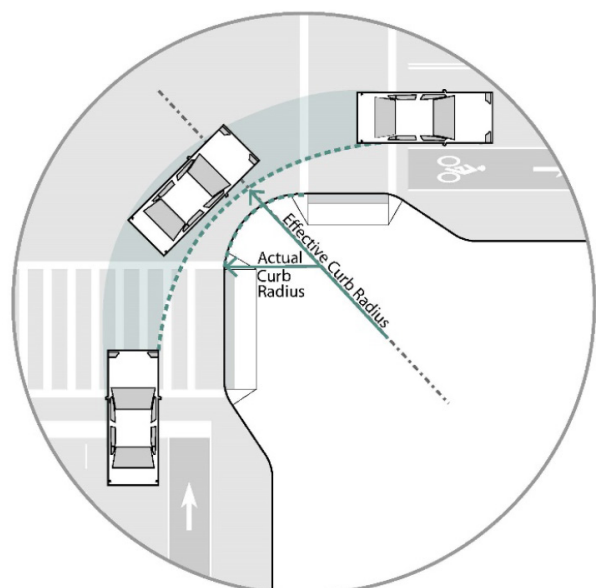
All street types.

## Safety Benefits

- Reduce turning motor vehicle speeds.
- May reduce the risk of pedestrians in collisions with right-turn vehicles.
- Reduce crossing distance for pedestrians and thus reduces pedestrian exposure.
- A reduced crossing distance may allow for shorter traffic signal cycle lengths, increasing compliance.<sup>16</sup>

## Expected Crash Reduction

Initial research indicates curb radius reduction may reduce turning speeds, which can increase motor vehicle yielding to crossing pedestrians and reduce the severity of crashes.<sup>17</sup>



## Design Guidance

- Implementation should tailor design to the largest design vehicle size that frequently uses the intersection. This effective turning radius should determine actual curb radius.
- See the Montgomery County Complete Streets Design Guide and Montgomery County Bill 33-13 for recommended curb radius dimensions and design vehicle designation.
- Install with curb ramps and high-visibility crosswalk markings. Corner radius reduction allows for better placement of curb ramps and crosswalks.
- Mountable truck aprons can be implemented to encourage a smaller effective radius for passenger cars or small trucks, while accommodating larger vehicles as well.

## Considerations

- The corner radius should make intersections as compact as possible while accommodating large vehicles that frequent the intersection.
- Corner radii that are too small may encourage motor vehicles to drive over the curb and onto sidewalks and bikeways.
- In some instances, large vehicles may encroach on the opposing travel lane when turning. See Montgomery County Complete Streets Design Guide for specific guidance on allowable encroachment.

