

4.X Curb Extension (Bulb Out)

Definition

Curb extensions (also known as bulb outs) are created by extending the sidewalk or curb line into the roadway. Curb extensions are intended to increase safety by reducing crossing distance and enhancing pedestrian visibility, calm traffic (particularly right-turning vehicles), and provide extra space along sidewalks for pedestrians and amenities.

Applicability and Use

- May be considered at signalized or unsignalized intersections and midblock only where on-street parking is present.
- Particularly valuable at unsignalized locations with high volumes of pedestrian traffic (e.g. near schools, major transit stops), wide streets with long crossing times, or where there are demonstrated pedestrian safety issues.
- May extend into either one or multiple legs of the intersection, depending on other operational and design factors such as parking configuration, desired transit stop location, and on-street bicycle facilities.
- May be used at transit stops (i.e. bus bulb) to increase transit stop waiting area capacity and facilitate in-lane stopping of transit vehicles.
- May provide space for utilities, signs, and amenities such as bus shelters or waiting areas, bicycle parking, public seating, public art, street vendors, newspaper stands, trash and recycling receptacles, natural drainage and greenscape elements.
- May provide space for ADA compliant, directional curb ramps where sidewalks are narrow.
- Should not be used on arterials that have peak hour parking restrictions to move traffic more efficiently.
- Potential impacts to underground utilities, curbside parking, delivery access and garbage removal, snow plows, and street sweepers should be evaluated prior to installation.

Public Art Opportunity



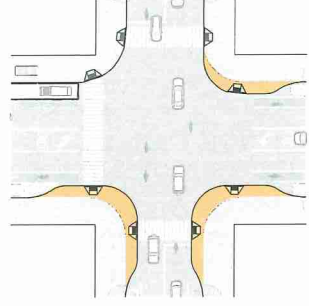
Curb extensions may provide space for placemaking elements such as public art, seating, bicycle racks, and landscaping.



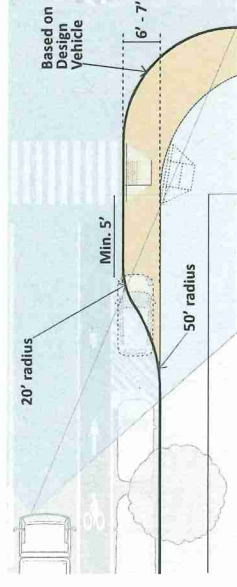
Curb extension at W Exchange St and St Peter St.
(Photo by Jim Smith)



Curb extension at W Exchange St and St Peter St.
(Photo by Jim Smith)



Curb extensions may be placed on all 8 sides of an intersection or any combination of sides wherever there is space.



Curb extension design is determined by many factors including design vehicle, maintenance operations, and meeting other objectives such as safety, integration of green infrastructure, public art and pedestrian amenities.

Design Considerations

- May be placed on all eight sides of an intersection, just one side or any combination. Curb extension placement and design will depend on geometry of intersection, turning movements of larger design vehicles, and other factors listed under 'Applicability and Use'.
- Width should be equal parking lane width minus one foot, and should never encroach into the adjacent bike lane, where present.
- Length may vary, but should generally extend at least 5 ft beyond the extension of the corner property line. At a minimum the curvature of the curb extension should start outside of the crosswalk. Longer curb extensions improve sight lines and

provide more space for pedestrian use and landscaping.

- Curb radius depends on design vehicle, but should generally be as small as possible. When curb extensions conflict with turning movements, the design should be modified (i.e. increased radii or reduced size) rather than eliminated whenever possible due to the safety benefits they provide for pedestrians.
- The angle of curvature for the parking side of extension should facilitate snow plow operation and can also be used to reduce encroachment of parked vehicles (for improved sight lines). **Does city have minimum/maximum/preferred**
- Where used at uncontrolled intersection approaches minimal objects should be sited within the curb extension in order to maintain sight lines.
- May require the relocation of existing storm drainage inlets, but conditions may allow for maintaining existing drainage.

radius on parking side for street sweeping, plowing equipment??

- In areas with high parking demand (e.g. Downtown) and where a bike lane is present, white diagonal markings may be used in the area between the first parking space and the curvature of the curb extension to further improve sight lines.

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References

- Mn/DOT Road Design Manual
- State Aid Manual
- Comprehensive Plan
- Standard Plates

