



## Modern roundabout

### Definition

A circular intersection with yield-control for all entering traffic, channelized approaches, counter-clockwise circulation, and appropriate geometric curvature to ensure travel speeds of less than 30 mph. The adjective ‘modern’ is used to distinguish newer circular intersections conforming to the characteristics of roundabouts from older-style ‘rotaries’ and ‘traffic circles’.

### Objective

To maintain traffic flow at lower speeds through an intersection with the goal of reducing overall delay, collisions, and collision severity at the intersection (when operating within roundabout design capacity). Can replace signalized and stop-controlled intersections.

### Advantage

Operational efficiency—maintains flow of traffic, reducing delay to roadway vehicles (motorized and bicyclists). Lower operating cost than signalized intersection.

Improved safety through reduction of crossing conflicts, total number of conflict points, and severity of conflict points. Safety benefits can extend to pedestrians.

Provides environmental benefits by reducing vehicle delay and the number and duration of stops compared with signalized or all-way stop-controlled alternatives.

By facilitating U-turns, roundabouts can assist in larger, access management strategies.

Can have traffic calming effects and aesthetic benefits, serving as ‘gateways’ or ‘transition points’ between higher speed (rural) roads and lower speed (urban) environments.

### Challenge

Pedestrians with vision impairments may not be able to obtain necessary information to navigate the intersection safely.

Bicycle lanes are not recommended within the circulatory roadway of roundabouts, as it has been demonstrated internationally to have adverse safety effects.

Multi-lane roundabouts lose many of the safety benefits of single-lane roundabouts. In general, multilane roundabouts are not recommended in areas with high levels of pedestrian and bicycle activity.

Can require more ROW to install and/or cost more than other common intersection types.

May require additional educational efforts and activities to ensure roadway users understand how to operate within roundabout.

### Resources

Roundabouts: An Informational Guide, Second Edition [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_672.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_672.pdf).

FHWA Proven Safety Countermeasures: Roundabouts [http://safety.fhwa.dot.gov/provencountermeasures/fhwa\\_sa\\_12\\_005.htm](http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_005.htm).

Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities [http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rpt\\_674.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_674.pdf).

Pedestrian Access to Modern Roundabouts: Design and Operational Issues for Pedestrians who are Blind <http://www.access-board.gov/research/roundabouts/bulletin.htm>.

Manual on Uniform Traffic Control Devices <http://mutcd.fhwa.dot.gov/> (See Chapter 3.C and Sections 2B.43-45).

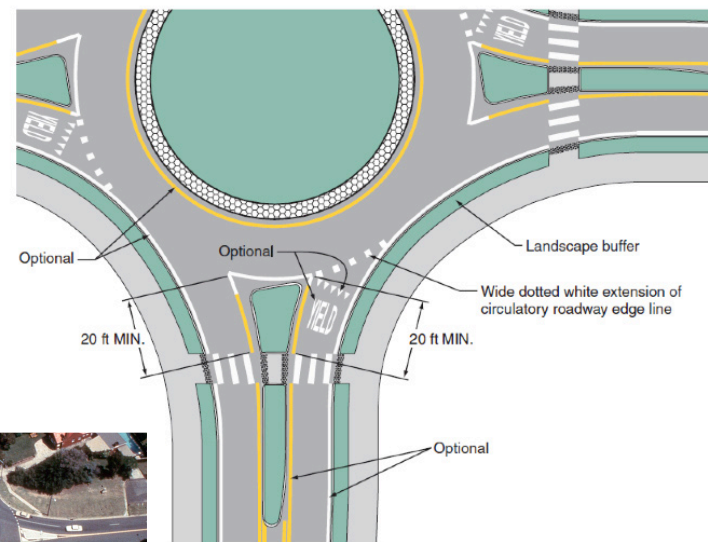
ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach <http://www.ite.org/css/> (Chapter 10—Modern Roundabouts).

Roundabout Outreach and Education Toolbox <http://safety.fhwa.dot.gov/intersection/roundabouts/roundabouttoolbox/>.

FHWA Intersection Safety—Roundabouts: Technical Implementation and Tools, Research, Resources <http://safety.fhwa.dot.gov/intersection/roundabouts/>.

NYDOT Guidance for Roundabout Users — Information and animations of vehicular, pedestrian and bicycle movements <https://www.dot.ny.gov/main/roundabouts/guide-users>.

Lake County Roundabouts Case Study <http://www.cmap.illinois.gov/documents/10180/262443/LakeCountyRoundabouts.pdf>.



Images (clockwise from main image):

Example of a modern roundabout. Source: Federal Highway Administration, “Designing for Pedestrian Safety.”

Additional examples: Sources: Manual on Uniform Traffic Control Devices (MUTDC); Chicago Metropolitan Agency for Planning; Chicago Metropolitan Agency for Planning; Carl Sundstrom, pedbikeimages.org; Dan Burden, pedbikeimages.org.