

Roundabouts

Connecticut Department of Transportation
Bureau of Engineering and Construction

Traffic and Safety Engineering

Definitions and Features

A roundabout is a one-way, circular intersection in which traffic flows around a center island. All roundabouts have the following design features:¹

- Traffic entering the roundabout yields to traffic already in the roundabout.
- Pavement markings and raised islands direct traffic into a one-way, counterclockwise flow through the roundabout.
- Geometric curvature is designed to reduce the speed of entering vehicles.

Other roundabout features include truck aprons to accommodate large and emergency vehicles driving through the intersection and pedestrian crossings with splitter islands for increased pedestrian safety.²

Roundabouts should not be confused with traffic circles, which are designed to control traffic with stop signs, traffic signals, or no formal control. Entering traffic does not always yield to traffic already in the traffic circle. Traffic circles also have a larger diameter circle and accommodate higher speeds.

Roundabouts provide multiple benefits over traditional intersections, including:

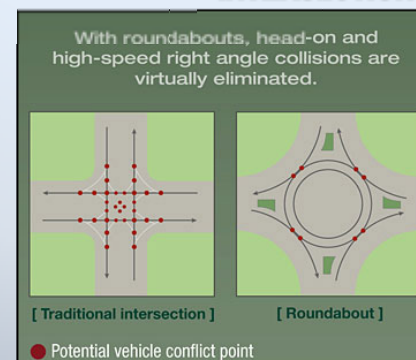
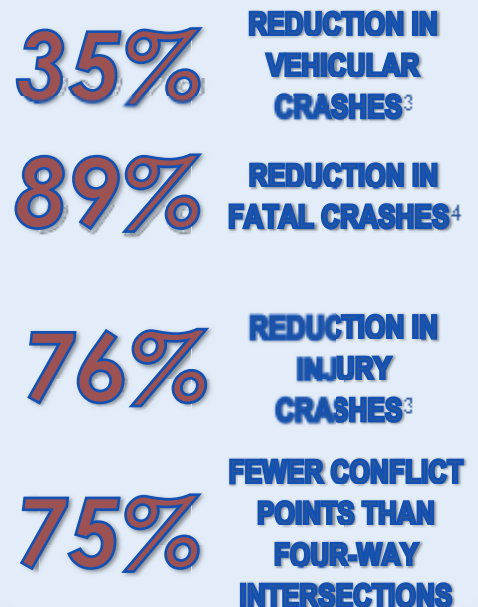
- Reduced delay and improved traffic flow
- Reduced speeds
- Less idling and air pollution
- Improved safety
- Reduced maintenance costs
- Longer service life compared to signalized intersections
- Aesthetically pleasing



Proven Safety Benefits

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The Federal Highway Administration has identified roundabouts as a proven safety countermeasure for intersection design. Safety benefits of roundabouts include:



Roundabout Conflict Points Reduction

Rules for Roundabouts

Drivers

- When approaching a roundabout, yield to any pedestrians or bicyclists in the crosswalk.
- Yield to all circulating traffic at the yield line.
- Enter the roundabout when sufficient space is available.
- Do not pass or change lanes within the roundabout.
- If there is more than one lane, use the left lane to turn left and the right lane to turn right.
- Do not stop in the roundabout. Clear the roundabout to allow emergency vehicles to pass.
- When exiting the roundabout, use the right turn signal to notify other drivers, pedestrians, and bicyclists.
- Yield to any pedestrians and bicyclists crossing within the crosswalk when exiting the roundabout.⁵
- If you miss your exit, continue around the roundabout and exit.

Pedestrians

- Stay on designated walkways when approaching and leaving the roundabout.
- Only cross at designated crosswalks. Do not cross to the center island.
- Enter the crosswalk only when there is an adequate gap in traffic. Do not assume all motorists will stop for pedestrians.
- Cross to the splitter island, which offers safe refuge between two different directions of traffic flow.
- Once there is an acceptable gap in traffic, cross to the other end of the crosswalk.⁵

Bicyclists

- If comfortable riding with traffic, bicyclists may take the lane and circulate the roundabout. When entering the circle, bicyclists must yield to traffic already in the circle, ride at the speed of traffic in the roundabout, and use their right hand signal when exiting the roundabout.
- If uncomfortable riding with traffic, bicyclists may dismount their bike and cross the roundabout as a pedestrian at designated crosswalks.⁵



Roundabout Crossing: Pedestrians and Bicycles

Further Information on Roundabouts

Additional information about roundabouts can be found at <http://www.ct.gov/dot/roundabouts> or contact Joseph Ouellette at (860) 594-2721.

References

- 1) "Roundabouts: An Informational Guide", FHWA Publication No. FHWA-RD-00-067, June 2000.
- 2) "Roundabout Information: Roundabout Features", New Hampshire Department of Transportation. <http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/roundabouts/documents/RoundaboutFeatures.pdf>
- 3) "NCHRP Report 572: Roundabouts in the United States. National Cooperative Highway Research Program, TRB, NAS, Washington, D.C., 2007.
- 4) "Safety Effect of Roundabout Conversions in the United States: Empirical Bayes Observational Before-After Study", Transportation Research Record 1751, Transportation Research Board (TRB), National Academy of Science (NAS), Washington, D.C., 2001.
- 5) "Guidance for Roundabout Users", Connecticut Department of Transportation. <http://www.ct.gov/dot/cwp/view.asp?a=4109&q=469222&PM=1>.