



ROUNDABOUTS

Definition

Modern roundabouts are a type of circular intersection where drivers travel counter-clockwise around a center island. There are no traffic signals or stop signs in a modern roundabout. Instead, drivers yield at entry to the traffic already in the roundabout, then enter the intersection and exit at the desired street.

History

The modern roundabout concept was formulated in the United Kingdom in the early 1960s. They quickly became prevalent in the UK and France; but, they did not come to the United States until 1990 when the first one was built in a large Las Vegas, NV residential community (Summerlin). The total number of roundabouts in the U.S. now stands at around 5,000 (compared to ~26,000 in the UK and ~32,000 in France).

Characteristics

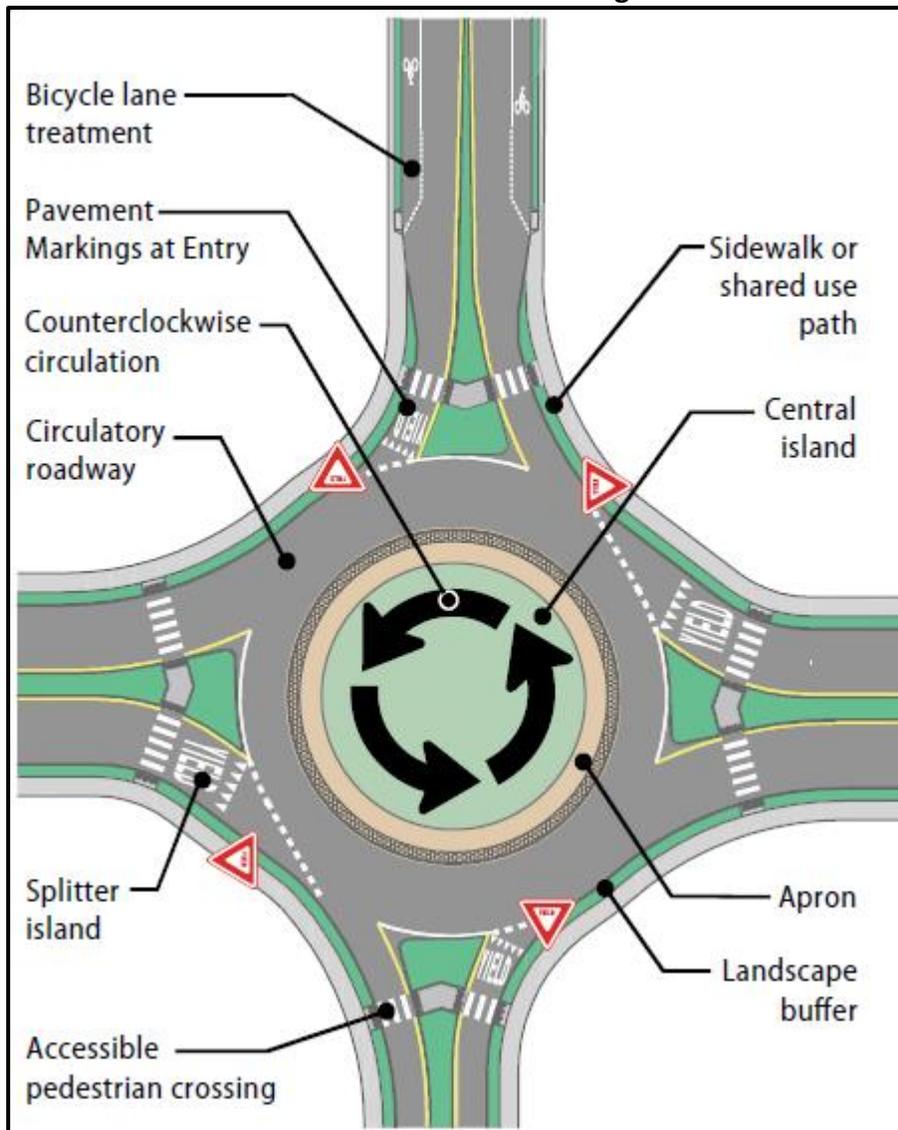
Roundabouts have three fundamental and essential characteristics:

1. *Counter-clockwise Flow.* Traffic travels counter-clockwise around a center island.
2. *Entry Yield Control.* Vehicles entering the roundabout yield to the traffic already circulating.
3. *Low Speed.* Curvature that results in lower vehicle speeds, generally 15-25 MPH, throughout the roundabout.

A roundabout is different than a traffic circle. Traffic circles at major intersections often have stop signs or traffic signals within the intersection, and drivers enter the circle on a straight line without having to yield to traffic. Traffic circles often will become congested if numerous vehicles enter at the same time. Small traffic circles are also found in residential neighborhoods and are used to replace stop signs at four way intersections.

Modern roundabouts can accommodate vehicles of all sizes, including emergency vehicles and tractor trailers. A main feature is a raised central island, and the circular shape serves to reduce speeds and reduce the likelihood of t-bone or head-on collisions. The entrances to a roundabout also feature triangular “splitter” islands that slow and help direct traffic flow into the roundabout. These islands also provide refuge for pedestrians.

Modern Roundabout Design



Source: U.S. Dept. of Transportation, Federal Highway Administration

Benefits

Studies have shown the following results at intersections where stop sign or traffic signals were previously used:

- 37% reduction in overall collisions
- 75% reduction in injury collisions
- 90% reduction in fatality collisions (approx. ¼ of all U.S. traffic fatalities are associated with intersections)
- 40% reduction in pedestrian collisions
- 20-89% reduction in delay per vehicle

Disadvantages

- Require more ROW space
- More up-front construction cost vs. traditional intersections (although long-term cost may wind up being less)
- No priority for emergency vehicles
- Difficult to cross for vision impaired pedestrians
- Can be more dangerous for cyclists unless a separated cycle lane is provided
- Can create traffic back-ups during peak hours if the traffic flow from each approach is not relatively equal
- Can be confusing due to unfamiliarity