

# ROUNDBABOUTS

## FREQUENTLY ASKED QUESTIONS

December 2024

### WHAT IS A ROUNDABOUT?

A roundabout is a circular-shaped intersection designed to **increase safety** and **reduce traffic congestion** at an intersection.

### WHY CHOOSE ROUNDABOUTS AT INTERSECTIONS?



#### SAFETY

- » Based on research here in the U.S. over the past 20 years, **roundabouts reduce fatal and injury crashes by greater than 70%<sup>1</sup>** and injury crashes by greater than 40% when they replace stop control and signalized intersections.
- » The potential for serious crashes is reduced based on fewer conflict points, low-angle merging and diverging conflict points that replace crossing conflicts, and slower vehicular speeds.
- » The slower speed and similar directions of travel help reduce the potential for serious crashes because of **fewer conflict points**.



#### TRAFFIC MANAGEMENT

- » Roundabouts also **reduce traffic congestion**.
- » Roundabouts are designed for vehicles to yield and travel through the roundabout at a **slow speed** with all vehicles traveling counterclockwise.



#### ECONOMIC

- » Roundabouts are economical with less maintenance and energy costs compared to traditional signalized intersections. New construction may be more economical than traditional signalized intersections, but not always.



#### ENVIRONMENTALLY FRIENDLY

- » Roundabouts improve air quality by reducing vehicle emissions via the decrease in vehicle idling and delay. The quantity of impervious surface area is decreased, compared to conventional intersections, resulting in less storm water runoff needing to be treated at the intersection.



#### RESILIENCY

- » Roundabouts continue to operate during and after inclement weather since the intersection does not depend on electricity.



#### GATEWAYS AND BRANDING

- » The center landscaped island of roundabouts can be themed using vegetation, ornamental grasses and stones, short dry-stack walls, and other amenities to create a destination-type branding for the intersection. Some roundabouts in the U.S. have gone so far as to put in gateway treatments with enhanced landscaping, artwork, or other placemaking elements while not encouraging pedestrians to visit the central island.

### ARE ROUNDABOUTS NEW?

**Sort of.** Modern roundabouts have been used in the United States for over 30 years, making them new-ish when compared with traffic signals. Because of their many advantages, roundabouts have become increasingly common. Today, there are more than 11,000 roundabouts built in the U.S. and many state highway departments, counties, and cities are implementing roundabout-related programs to bolster their success in communities.



<sup>1</sup> <https://www.cmfclearinghouse.org/results.php?qst=roundabout>

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### **WHY IS THERE A NEGATIVE PERCEPTION OF ROUNDBABOUTS?**

**Roundabouts are a relatively new type of intersection** as compared to conventional intersection control types (traffic signals and stop signs).

Many motorists who are not familiar with driving roundabouts can feel uneasy and confused about how to navigate a roundabout. Once motorists become familiar with safely driving through a roundabout, **they will notice the improved traffic flow and feel at ease.**

Since roundabouts are new to our area, **please expect a short adjustment period as motorists get used to driving them.** Some drivers may stop at the yield sign or need a larger gap in traffic than others before they proceed to enter the roundabout – this reinforces the safety aspect of a roundabout. Drivers can take their time and enter when they feel it is safe to do so.

### **ARE ROUNDBABOUTS MORE DIFFICULT FOR SENIORS AND INEXPERIENCED DRIVERS TO MANEUVER THROUGH?**

Driving a roundabout takes practice for anyone. One benefit for seniors and inexperienced drivers is that roundabouts allow drivers to proceed at their own pace.

If you, as a driver, do not feel comfortable entering the roundabout due to certain vehicles that are already **circulating inside the roundabout, you can wait for an appropriate gap in traffic before entering and proceeding to your exit.** Through practice and education, anyone can become comfortable driving through roundabouts.

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### SAFETY

#### ARE ROUNDABOUTS SAFE FOR PEDESTRIANS?

**Yes, roundabouts are safe for pedestrians.**

In a typical roundabout, pedestrians walk on sidewalks around the perimeter of the circulatory roadway. If it is necessary for pedestrians to cross the roadway, they cross only one direction of traffic at a time. In addition, crossing distances are relatively short, and traffic speeds are lower than at traditional intersections. The location of crosswalks at roundabouts is away from the main travel zone, which provides motorists with more space and time to yield to pedestrians in the crosswalk.

At conventional intersections, pedestrians are required to have a 270-degree cone of vision and rely on drivers to obey traffic laws. At roundabouts, a pedestrian's cone of vision is reduced to 30-degrees due to only needing to cross one direction of traffic at a time.

Many of the severe and fatal crashes that occur at conventional intersections between a pedestrian and motorist are caused by the motorist not obeying the intersection control (running a red light, turning right on red when prohibited, not signaling their intent on a turning movement, and not yielding to the crosswalk area).

#### WHAT ABOUT BICYCLISTS? IS IT SAFE FOR THEM?

Bicyclists choosing to enter the roundabout on the roadway should obey the rules of the road as a vehicle and follow the flow of traffic. Bicyclists using the roadway should ride near the middle of the lane to remain visible to motorists.

Another option is for bicyclists to dismount and walk their bike on the adjacent sidewalks (like pedestrians), or use the bike ramp and the shared-use path where bike ramps and shared use paths are provided.

## IF ROUNDABOUTS ARE SO SAFE, WHY AREN'T THEY USED AT EVERY INTERSECTION?

Roundabouts are not appropriate everywhere. There are many factors when determining a proper location for a roundabout.

#### Positive indicators include, but are not limited to:

- » High crash rate locations
- » High frequency of near-misses and perceived safety concerns
- » Intersections with large traffic delays
- » Complex geometry (more than four approach roads, for example)
- » Frequent left-turn movements

#### Where a roundabout might not be the best solution, but can be installed after engineering study and validation:

- » Significant right-of-way acquisition is required to build the footprint
- » Within a coordinated traffic signal network
- » Directly adjacent to a railroad
- » Where the ratio of traffic on the major street as compared to the minor street is 9:1 or greater

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### WHAT TO DO IF ...



#### ...A LARGE TRUCK ENTERS THE ROUNDABOUT?

**Keep a safe distance around large vehicles as they tend to make wide turns.**

Roundabouts are carefully designed to accommodate all vehicles safely and effectively with large turning radii such as large trucks (semis), tractor-trailers, emergency vehicles, and buses. Roundabouts provide an area between the circulatory roadway and the central landscaped island, known as a truck apron, over which the rear wheels of these vehicles can safely track. The truck apron is typically composed of a colored and textured concrete to make it visible to drivers and to discourage routine use.



#### ...AN EMERGENCY VEHICLE IS ENTERING A ROUNDABOUT?

**The key is to make sure you are not an obstruction to an emergency vehicle.**

If you are already in the roundabout, continue driving to the next available exit, drive out of the roundabout, and then pull over to the right side of the road and stop. This allows the emergency vehicle to safely pass.

Do not enter a roundabout when an emergency vehicle is approaching. Instead, move to the right and stop so the emergency vehicle can safely pass.



#### ...IT'S MY FIRST TIME DRIVING AT A ROUNDABOUT?

**First, slow down.** Then look for wayfinding signs that will help guide you to your desired exit. Be aware of pedestrians and cyclists using the roundabout. Wait for a comfortable gap in traffic before entering the circular roadway. If you do not feel comfortable entering the roundabout, you can wait until you feel safe entering. Once you enter the roundabout, stay in your lane. When it's time to exit, use your right turn signal, stay within your lane, and exit.

Roundabouts are a relatively new type of intersection. There are many people who will be using a roundabout for the first time. Since roundabouts are new to our area, please expect a short adjustment period as motorists get used to driving in roundabouts.



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### DESIGN

#### **WHY ARE ROUNDBABOUTS BEING UTILIZED MORE AT INTERSECTIONS?**

When comparing roundabouts to traffic signals, roundabouts are favorable due to the reduction of injury and fatal crashes that occur. This is the reason why the Federal Highway Administration has encouraged public agencies (cities, counties, and state highway departments) to use roundabouts since 2008. Simply put, roundabouts help get our family, friends, and neighbors home safe at night. Roundabouts may also result in reduced up-front construction costs and enhanced operational performance meaning less delay for drivers, less maintenance cost than traditional traffic signals, and provide aesthetic appeal to communities. A roundabout is typically the optimum intersection control solution for any intersection that is expected to accommodate less than 50,000 vehicles per day.

#### **HOW IS THE SIZE OF A ROUNDBABOUT DETERMINED?**

Roundabout sizes vary depending on traffic volumes, capacity needs, intersection location/context, and the largest anticipated vehicle at the intersection along with other factors. Most modern roundabouts will have a diameter less than 180 feet with some roundabouts, such as mini-roundabouts, having a diameter as small as 60 feet.

#### **CAN A ROUNDBABOUT HANDLE THE SAME TRAFFIC VOLUME AS A SIGNALIZED INTERSECTION?**

Roundabouts are designed to keep traffic flowing by dispersing traffic across the roadway network instead of platooning traffic as traffic signals do. Although there are several dozen roundabouts in the U.S. that operate with greater than 50,000 vehicles per day, most intersections exceeding this amount of traffic volume will be better accommodated by traffic signals due to the need for more than two lanes.



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### MULTILANE

#### **FOR MULTILANE ROUNDBABOUTS, HOW DO I KNOW THE PROPER LANE FOR THE DIRECTION I WISH TO TRAVEL?**

There are guide signs and pavement markings located prior to the entrance to roundabouts that indicate the appropriate lane for your desired direction of travel. While some lane configurations may change from one roundabout to another, typical driving rules apply:

- » If you want to make a through movement or right-turn you should approach and enter the roundabout in the right (outer) lane
- » If you want to make a U-turn, left-turn, or continue through the intersection you should approach and enter the roundabout in the left (inner) lane

Look for the white and black regulatory signs while approaching a roundabout that provide the lane assignment for the intersection.

#### **WHEN TWO VEHICLES ARE APPROACHING A MULTILANE ROUNDBABOUT AT THE SAME TIME, SIDE BY SIDE, WHICH MOTORIST HAS THE RIGHT-OF-WAY?**

Both vehicles have equal right of way to enter the roundabout from their respective lane. However, both vehicles must yield to traffic already circulating within the roundabout.

Remember, yield to all traffic that is circulating inside the roundabout that conflicts with your entering movement and enter the roundabout only when there is a safe gap in traffic.

If you are approaching a roundabout at the same time as a semi, yield and give way to the larger truck. Large trucks will often overtake both lanes of a two-lane roundabout and they lose sight of adjacent vehicles as they enter, circulate, and exit a roundabout. Always try to remain in a position behind a large truck where you can see their driver's side mirror or passenger side mirror. Never enter a roundabout in the blind spot of a large truck.

