

Roundabouts FAQ:

What is a roundabout?

A roundabout is a circular intersection in which traffic flows counterclockwise around a center island. A roundabout requires all entering traffic to yield at entry and its design ensures travel speeds are around 25 mph or less.

Are roundabouts safer than signalized intersections?

Roundabouts are designed to be safer and more efficient than a traditional intersection. The geometry creates a low speed (20-30mph) environment inside the circulatory roadway, as well as at the entry and exit locations. The design prevents high angle crashes such as “T-bone” and left turn angle crashes. Lower angle, low speed crashes tend to be less severe than higher angle, high speed crashes. When compared to other intersections, roundabouts result in a 90% reduction in fatalities, 76% reduction in all injuries, and a 35% reduction in crashes.

How do roundabouts affect traffic congestion?

Drivers also have fewer delays in a roundabout. Drivers only have to watch for traffic from the left, and if there is an adequate gap available, they can enter the roundabout without stopping. Once in the roundabout, drivers have the right-of-way, so they will not have to stop or yield to exit. If the driver does need to yield at entry to traffic inside the roundabout, their delays are brief and typically less than the time they would have been delayed at a traffic signal.

Why is there going to be a roundabout at the intersection of Plainfield Road and Parkview Drive?

The intersection of Plainfield Road and Parkview Drive will be connected to a new roadway network within the 98 acre development known as the Neighborhoods at Summit Park. This roadway network will connect Plainfield Road, Malsbary Road, Carver Woods Drive and Glendale-Milford Road. The roadway network and associated development will include several types of housing options, retail and commercial space which will generate additional traffic and change some traffic patterns. Roadway improvements will be required in order to facilitate the future traffic demands. Installing a roundabout at this location will accommodate the future traffic demand, while providing improved connectivity with the City’s road network and provide a safer intersection improvement.

How much traffic can a roundabout accommodate?

A single-lane, four-leg roundabout can accommodate more than 20,000 vehicles per day. For double-lane roundabouts, 40,000 to 50,000 vehicles per day can be accommodated, depending on the traffic patterns.

How do semis, oversized loads and other large vehicles navigate roundabouts?

The design of the intersection will allow oversized loads and other large vehicles to navigate the roundabout while still providing adequate visual and physical indicators to guide and slow passenger vehicles. One way this is accomplished is with truck aprons – an area between the central island and the traveled way that is mountable by larger vehicles but not used by passenger vehicles.

What about drivers who are not familiar with roundabouts?

Roundabouts are designed to be simple to use. The geometry cues drivers to slow down, allowing more time for decisions. Once the driver reaches the yield line, he/she yields to traffic already in the roundabout. The only decision remaining is if the driver wants to take the first exit to turn right, the second exit to continue straight, the third exit to turn left, or the fourth exit to make a U-turn.

What about pedestrians who are not familiar with roundabouts?

Roundabouts have significantly lower design and operating speeds. Vehicles entering or within the roundabout typically operate at speeds ranging from 15 to 25 mph. With lower speeds and more driver awareness, roundabouts are associated with a lower risk of injury or death in the event of a collision. Pedestrian crossing distances are shorter. Pedestrians typically cross one lane of one-way traffic at a time and therefore crossing times are reduced. Raised medians separate two way travel lanes which provide refuge for pedestrians and shorten walking distances.

Are roundabouts worth the cost to install them?

With limited electrical costs and lower maintenance costs, operational savings from roundabouts have been estimated at an average of \$5,000 per year. In addition, the service life of a roundabout is approximately 25 years, versus approximately 10-20 years of service life for traffic signals.

Are roundabouts good for the environment?

Replacement of signalized intersections with roundabouts has been found to reduce vehicle emissions and fuel consumption by 30% or more. This is due to the reduction in idle time by vehicles waiting for the light to change.