

ROUNDBABOUTS

Source: Insurance Institute for Highway Safety, 2014

WHAT IS A ROUNDABOUT?

- The modern roundabout is a circular intersection with design features that promote safe and efficient traffic flow.
- The modern roundabout was developed in the United Kingdom in the 1960's.
- Roundabouts are used in many countries, and increasingly in the United States.
- Slow speeds in roundabouts aid in the smooth movement of traffic into, around, and out of the roundabout.



ROUNDBABOUTS VS. TRAFFIC CIRCLES

- Modern roundabouts are much smaller in size than older traffic circles.
- Older traffic circles do not calm or slow traffic as much as modern roundabouts. Vehicle speeds are higher in older traffic circles compared to modern roundabouts.
- Modern roundabouts utilize large entry angles to create entry deflection to increase vehicle control.

Older Traffic Circle



HOW DO ROUNDABOUTS AFFECT SAFETY?

- Roundabouts promote safety in several ways.
- Vehicle speeds are lower at roundabouts versus intersections with traffic signals.
- Roundabouts reduce severe crashes caused by right-angle, left-turn and head-on collisions.
- Roundabouts reduce the likelihood of rear-end crashes caused by abrupt stops at red traffic lights.
- Modern roundabouts reduce the incentive for drivers to speed up on approach, as is often done at green traffic lights.



HOW DO ROUNDABOUTS AFFECT TRAFFIC FLOW?

- Several studies conducted by IIHS and others have reported significant improvements in traffic flow following conversion of traditional intersections to roundabouts.
- A study of three locations in New Hampshire, New York and Washington state where roundabouts replaced traffic signals or stop signs found an 89% average reduction in vehicle delays and a 56% average reduction in vehicle stops.
- Because roundabouts improve the efficiency of traffic, they also reduce emissions and fuel consumption.
- Roundabouts have been found to reduce carbon monoxide emissions by up to 45%.



Source: Insurance Institute for Highway Safety, 2014

HOW DO ROUNDABOUTS AFFECT LARGE VEHICLES?

- To accommodate trucks and large vehicles such as buses and tractor-trailers, roundabouts provide an area between the circulatory roadway and the central island. This area is known as a truck apron.
- Truck apron's are designed to allow for the rear wheels of larger vehicles to safely track over them.



Source: Insurance Institute for Highway Safety, 2014

ARE ROUNDABOUTS SAFE FOR PEDESTRIANS?

- Roundabouts are generally safer for pedestrians than traditional intersections.
- In a roundabout intersection, pedestrians walk on sidewalks around the perimeter of the circular roadway.
- Studies in Europe indicate that on average, converting conventional intersections to roundabouts can reduce pedestrian involved crashes by about 75%.
- Single-lane roundabouts, in particular, have been reported to involve substantially lower pedestrian crash rates than comparable intersections with traffic signals.



Source: Insurance Institute for Highway Safety, 2014

DO DRIVERS LIKE ROUNDABOUTS?

- Studies show that some drivers are initially skeptical or opposed to roundabouts.
- Several IIHS studies reveal that driver opinions of roundabouts quickly become positive when they become familiar with them.
- A 2002 IIHS study where single-lane roundabouts replaced stop sign-controlled intersections found that 31% of drivers supported roundabouts before the construction, compared with 63% support shortly after construction.
- Follow-up surveys regarding roundabouts that have been in place more than a year conclude that public support increases to the 70% range.



Source: Insurance Institute for Highway Safety, 2014

HOW DO ROUNDABOUTS AFFECT OLDER DRIVERS?

- Older drivers are more likely to be wary of roundabouts, but they are particularly likely to benefit from them in terms of improved safety.
- Relative to other age groups, senior drivers are over involved in crashes at intersections.
- In 2012, 37% of fatal passenger vehicle crashes involving drivers age 70 and older were intersection crashes, compared to only 24% of fatal crashes of drivers less than age 70.



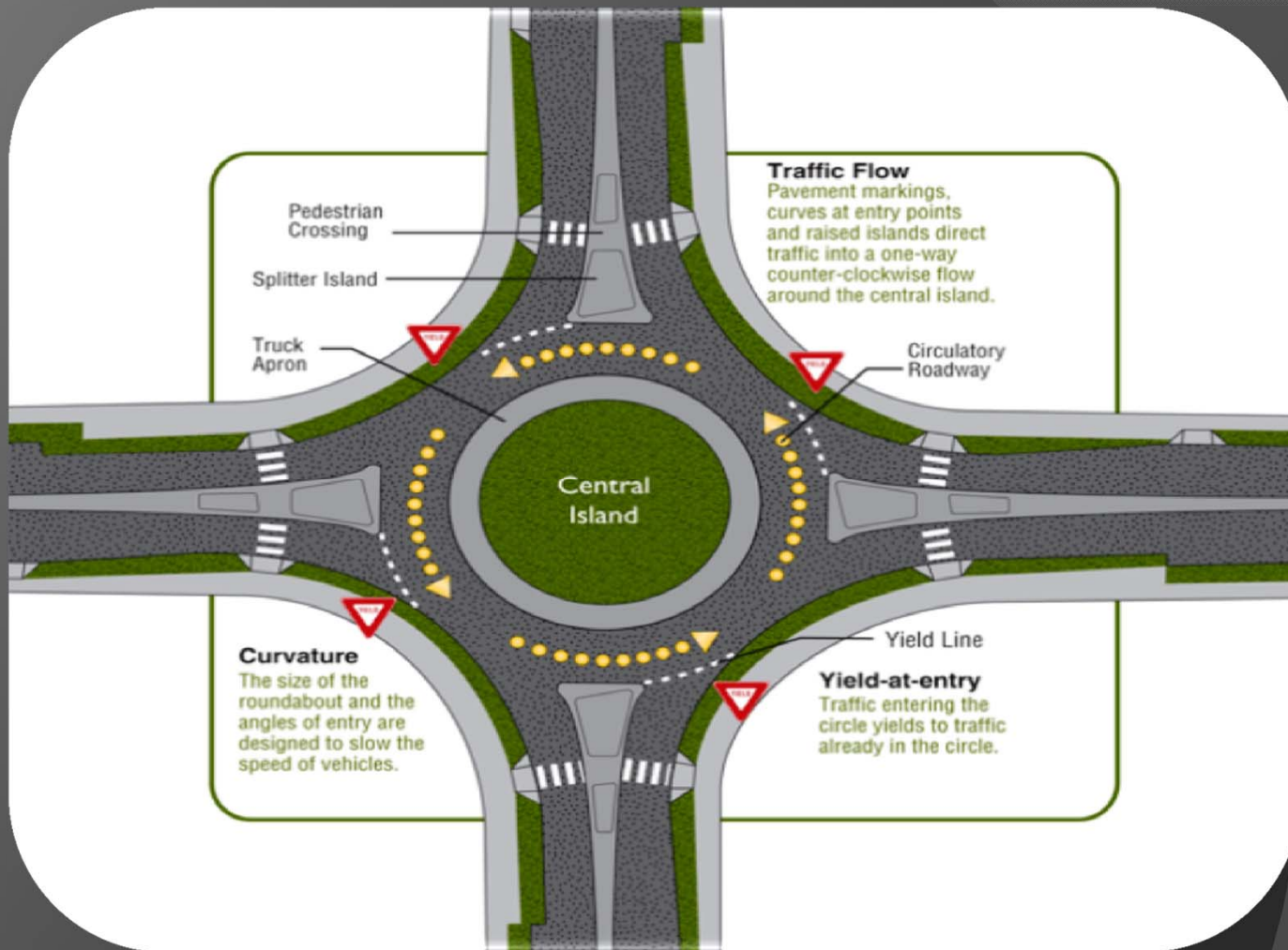
Source: Insurance Institute for Highway Safety, 2014

WHAT KINDS OF INTERSECTIONS ARE GOOD CANDIDATES FOR ROUNDABOUTS?

- Roundabouts are appropriate at many types and locations of intersections.
- Examples of appropriate locations for roundabouts include: high crash intersections, intersections with large traffic delays, intersections with complex geometry and intersections with frequent left-turn movements.
- Roundabouts can be constructed along congested arterials and at freeway exits and entrances, in place of signalized intersections.



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