



MODERN ROUNDABOUTS

Modern roundabouts are being designed at 9 intersections throughout the project area. In response to questions normally raised when roundabouts arrive in a community, this page contains general roundabout information, as well as links to other web sites where you may find additional information.

The roundabout above is located at Avon Road and US-6 in Avon, Colorado. The previous intersection used traffic signals and often was severely congested. Following construction of this roundabout, traffic volume increased but congestion and the number of crashes decreased dramatically.

Roundabouts were developed in England in 1956. Several decades of technological advances have greatly improved performance and led many road agencies to adopt them as an alternative to traffic signals. Crash rates are generally 20-50% less than a signalized intersection and injury crashes are reduced 50-75% for cars and 30-50% for pedestrians. The crashes that do occur are much less serious and rarely fatal. The improved safety is attributed to the elimination of broadside and head-on collisions, reduction of traffic speed through the intersection and providing pedestrians a safety refuge when crossing. Roundabouts usually cause less delay than traffic lights and often allow a narrow road to function better without widening. Although safety is the main reason that roundabouts have become popular, reduced delay, attractive appearance, and speed control are other reasons that roundabouts have been



built. Roundabouts are not the best solution in every situation. In the case of the Northwestern Connector Project, it was found that the proposed roundabouts will provide a level of service above that which could be obtained by convention signalized intersections while providing the excellent safety features previously mentioned.

In spite of extensive roundabout utilization around the world, they have only recently been implemented in the U.S. Since 1990, more than 100 roundabouts have been built in the U.S. People are often unfamiliar with roundabouts and skeptical about whether they will work. Opinion surveys in U.S. cities where roundabouts have been constructed have shown an 80-90% approval rating.

Roundabouts are often confused with traffic circles, which are viewed negatively because of congestion, high crash rates, poor entry conditions and high speeds. However, there are significant differences between traffic circles and roundabouts. The main differences are shown in the following table:

TRAFFIC CIRCLES

Diameter is arbitrarily determined by the space available and is often very large, allowing higher speeds and unsafe conditions.

Approaches are generally perpendicular to the traffic circle (requires drivers to stop and turn right at a 90° angle), or they are designed to permit a high speed merge.

High speeds do not allow adequate gaps, for merging traffic and can cause a complete stoppage of traffic within the circle. Speeds can approach 50 mph.

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Diameter is calculated based on traffic volumes and movements and are much smaller.

Approaches are flared and deflected around the central island and speeds are constrained to 10 - 20 mph by design. Entering vehicles must yield to circulating vehicles.

Roundabouts provide a low speed environment (20-25 mph), creating more adequate gaps and traffic within the roundabout has right-of-way, preventing entering traffic from causing traffic stoppages within the roundabout.

Examples of traffic circles are located in Indianapolis , on the campus of Michigan State University , Boston , Washington , D.C., New Jersey , and Portland , Oregon . Traffic circles can be used successfully in low traffic situations, such as within a subdivision.

MODERN ROUNDABOUTS HAVE BEEN CONSTRUCTED IN:

- **CALIFORNIA:** CARLSBAD, SANTA BARBARA AND LONG BEACH
- **MARYLAND:** LISBON AND GAITHERSBURG
- **NEVADA:** SUMMERLIN AND LAS VEGAS
- **TEXAS:** OLMOS PARK AND ADDISON
- **COLORADO:** AVON AND VAIL

The first high capacity Michigan roundabout (in the Lansing area) opened in June, 2000. Since opening, this roundabout has performed extremely well and no crashes have been reported to date. Many other roundabouts are planned statewide.

If you have any questions regarding this project, please contact RCOC's Department of Citizen Services (DCS).

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