

Epsom Circle Intersection: Epsom, NH

Priority Ranking: 5

Description of Safety Concerns

The safety concerns at this intersection are primarily due to the relatively high circulating volumes and speeds in the circle. This is partly due to the nature of traffic circles, especially when compared to roundabouts which are intentionally designed for lower speeds.

In addition, there are other safety concerns specific to this traffic circle. These concerns are directly related to the commercial driveways that exist in three of the four quadrants of the circle as shown in Photo 5.5.1. The drives are wide and create confusion and multiple potential conflict points in the circle.

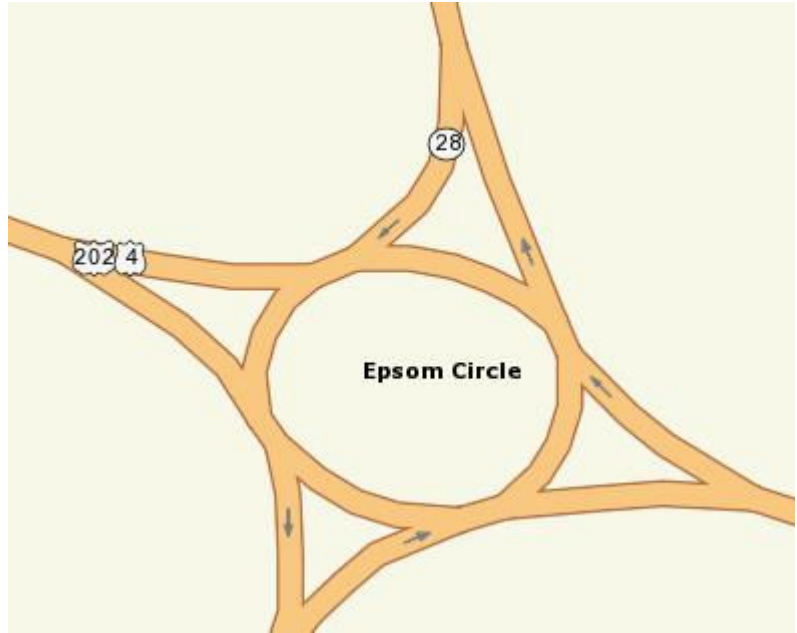


Photo 5.5.1 Aerial View of Epsom Circle



There is also a concern that the dual use center turn lane on the eastern approach extends right up to the delta island and allows vehicles to cross traffic in either direction at a high volume/high conflict location.

Additional Observations:

Weekday peak hour delays on some approaches to the circle are known to be lengthy, and weekend delays are also common. This is relevant because delays can lead to motorist frustration which can also affect driver behavior entering the circle, traveling through the circle and even trying to make up time after the circle. Motorists in the approaches are required to yield so they are forced to wait for and fill gaps in the circulating traffic stream. All of these conditions can lead to aggressive behavior.

It was also noted that there are no bike or pedestrian accommodations through the intersection, however bikes can use the circle as vehicles do.

Potential Solutions

Mid-term / Medium Cost Improvements

Approximate Cost: \$75,000+

- ❑ Construct curbing and medians to reduce the opening widths of the commercial drive openings as an access management enhancement. Complete closure of those drives is preferred from a safety perspective, but would likely involve right-of-way costs.
- ❑ Extend the delta island on the eastern approach to discourage crossing US Route 4 near the circle.

These improvements are depicted in Illustration 5.5.1.

- ❑ Possibly construct minor geometric modifications in the approaches to encourage reduced speeds during non-peak periods when it is currently possible to travel through the circle with little deceleration if there are no oncoming vehicles.

Long Range / High Cost Improvements

Approximate Cost: Unknown

The traffic circle has reportedly been studied by others in the past, more from an operational perspective than a safety perspective. A two lane roundabout has been discussed and could provide safety and operational benefits because it could handle higher traffic volumes at lower speeds. This would be a high cost project and would likely involve right-of-way compensation costs to close the commercial drive access to the roundabout.

Illustration 5.5.1 Medium Cost Conceptual Improvements

