Roundabouts

Kanata North Transportation Committee

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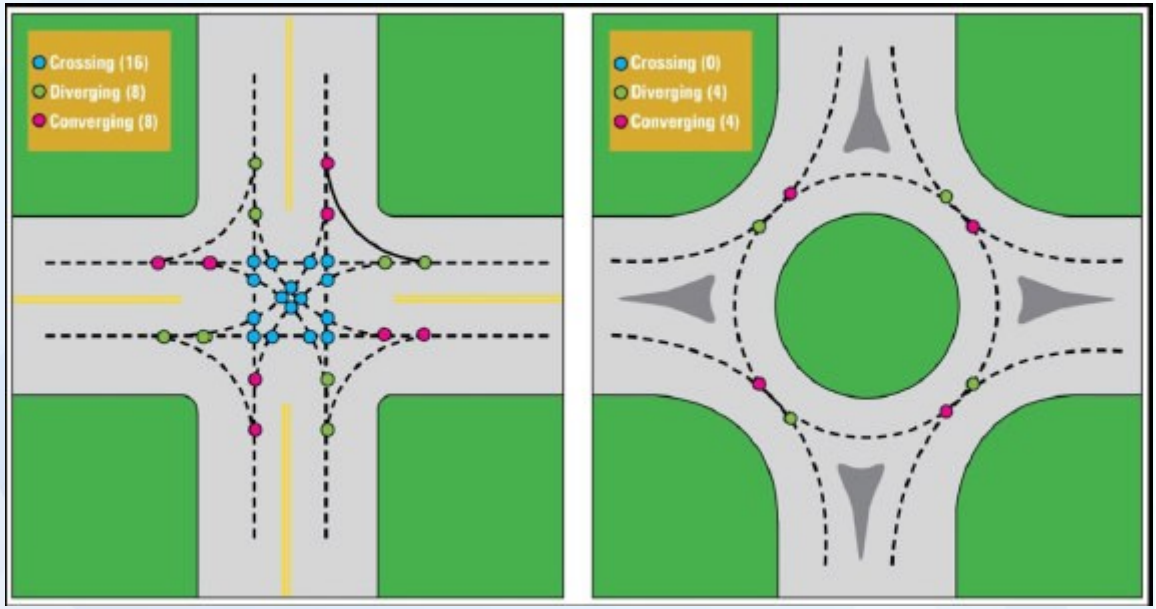
Basic principles of roundabout traffic flow

- Low speed on approach through the use of a centre island and splitter islands
- Approaching vehicles yield to traffic already in the roundabout
- Vehicles drive counter-clockwise and always to the right of the central island
- Low speed on exit
- Continuous movement of traffic

Advantages of roundabouts

- Reduces severe collisions
- Reduced number of conflict points
- Pedestrian crossing distances are generally less
- Pedestrians only need to check for traffic from one direction at a time
- Good for managing access
- Reduced delays
- Lower fuel consumption and emissions,
- No signal maintenance and they work during power outages
- More streetscaping



Safety

- Statistically, roundabouts are much safer for drivers and pedestrians than both traffic circles and traditional intersections. Roundabouts have shown to reduce fatal crashes by 90 per cent, injury crashes by 75 per cent, and pedestrian crashes by 30 to 40 per cent. Typically there are fewer injuries and less damage to vehicles because:
  - vehicles are moving at slower speeds
  - all traffic is moving one-way
  - pedestrians crossing roundabouts only have one direction of traffic to cross at a time
  - there are fewer potential conflict points for pedestrians and motorists
  - drivers only make right turns
  - the direction of traffic flow eliminates right-angle and head-on collisions, which occur in other intersections and often cause serious injury
- US Department of Transportation - Federal Highway Administration collision comparisons
  - Two-way stop controlled intersection to a roundabout – 82% reduction in severe collisions
  - Signalized intersection to a roundabout – 78% reduction in severe collisions

Disadvantages with roundabouts

- Higher construction costs (particularly in retrofit situations)
- No pedestrian signals
- Requires more space
- Harder to prohibit certain movements
- More difficult to allow for transit priority
- Requires public education on how to use
- Cyclists must either take the lane through a roundabout or dismount and walk through the pedestrian crossings
- Ottawa Student Transportation Authority lists roundabouts as an obstruction for children walking to schools

Where do roundabouts work best?

- Roundabouts work best away from stop controlled or signalized intersections
- Roundabouts operate best when there is equal or close to equal flows on all approaches
- Roundabouts are a good feature to use to transition from a higher speed environment to a lower speed environment

Installing roundabouts

- Council direction is to consider the use of a roundabout before considering the installation of a traffic signal
- Recently the Planning Department completed their ‘Building Better and Smarter Subdivisions’ policy, this policy includes requirements to install traffic calming devices into the initial subdivision construction which can include roundabouts at intersections within the community
- The City has retrofitted many intersections along arterial roads and constructed roundabouts as part of road widenings some examples being:
  - Trim Road and Dairy Road
  - Trim Road and St Joseph Boulevard
  - Campeau Drive and Palladium Drive
  - Brian Coburn Boulevard and Strasburg Street
  - Campeau Drive and Huntmar Drive

Questions?