



NEIGHBORHOOD ROUNDABOUT

Neighborhood roundabouts are circular or elliptical islands located at the intersection of low speed and low volume neighborhood residential streets. Roundabouts provide advantages for all road users as they reduce the need for a full stop and enable vehicles to continuously move through an intersection when conflicting traffic is not present. They can be installed using simple markings or raised islands, but they also provide great opportunities to include stormwater management facilities, landscaping, or pieces of art.

USE

- An ideal treatment for uncontrolled intersections, roundabouts can reduce vehicle speeds and crashes in low-volume areas.
- Roundabouts are a good alternative to stop-controlled intersections and are usually preferred to four-way stops. They are more efficient and slow traffic to a neighborhood speed.
- Enhance roundabout visibility with signage and pavement markings, if needed.

DESIGN

- Provide approximately 15 feet of clearance from the curb face to the outer edge of the circle.
- A mountable curb/curb apron should be provided at roundabouts where large trucks or emergency vehicles require access in constrained spaces.

- Crosswalks may be marked to clarify where pedestrians should cross and grant them priority. ADA-compliant ramps are required.
- Regulatory and/or warning signage should be provided to remind traffic to proceed counterclockwise around the circle.
- Roundabouts are ideal locations for art or neighborhood gateway treatments where likelihood of encroachment by larger vehicles is minimal; however, elements must not obstruct visibility.

Landscaping in the center island can reduce the impervious surface area in the roadway and allow stormwater infiltration or retention.

Street trees located should avoid blocking sight lines to ensure safety.

A neighborhood or community partner should be identified for maintenance of any plantings.

OPERATIONS AND MAINTENANCE

- Roundabouts should be designed with snow removal in mind. They can be used for snow storage when necessary, although this may negatively impact planted materials and can block sight lines along the roadway.
- Roundabouts should allow adequate width in the adjacent travel lane to accommodate snow removal vehicles as well as turn radii that facilitate snow clearing and removal.

SPECIAL CONSIDERATIONS

- Careful attention should be paid to the available lane width and turning radius.
- Incorporate intersection crossing markings to guide bicyclists through the intersection if being used as a community bicycle facility.
- If plantings are incorporated, they should require minimal maintenance and access paths for maintenance crews should be incorporated into the overall design.
- Designs should consider the speed of the roadway.
- Access to underground utilities should be considered.
- Plantings should be hardy and drought and salt resistant.

REFERENCES

- City of Grand Rapids Street Classification Policy, 1996
 - Section 12. Traffic Calming, 12.3
- NACTO: Urban Street Design Guide, 2013
 - Intersections: Minor Intersections
 - Mini-Roundabout <http://nacto.org/publication/urban-street-design-guide/intersections/minor-intersections/mini-roundabout/>
- AASHTO: Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004
 - Section 3.3.2: Crossing Distance Considerations
 - Section 3.3.3: Turning Movements
- AASHTO: Guide for the Development of Bicycle Facilities, 2012
 - Section 4.12.11: Bicycle Travel at Roundabouts
- ITE Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, 2010

- Chapter 10. Intersection Design Guidelines: Modern Roundabouts <http://library.ite.org/pub/elc43c-2354-d714-51d9-d82b39d4dbad>
- ITE/FHWA: Traffic Calming: State of the Practice, 1999
 - Chapter 3: Toolbox of Traffic Calming Measures
 - Horizontal Measures <http://library.ite.org/pub/48b037de-a555-47f5-2651-bb412d17bab5>
- Chapter 4: Engineering and Aesthetic Issues
 - Geometric Design Dimensions: Traffic Circles and Roundabouts <http://library.ite.org/pub/e27821e7-2354-d714-51e1-e3d3096ec30b>
- MMUTCD, 2011
 - Part 2 Signs: Chapter 2B. Regulatory Signs, Barricades, and Gates http://mdotcf.state.mi.us/public/tands/Details_Web/mmucdpart2b_2011.pdf
 - Part 2 Signs: Chapter 2C. Warning Signs http://mdotcf.state.mi.us/public/tands/Details_Web/mmucdpart2c_2011.pdf
 - Part 2 Signs: Chapter 2D. Guide Signs – Conventional Roads http://mdotcf.state.mi.us/public/tands/Details_Web/mmucdpart2d_2011.pdf
 - Part 3 Markings: Chapter 3C. Roundabout Markings http://mdotcf.state.mi.us/public/tands/Details_Web/mmucdpart3_2011.pdf

DETAILS

- MDOT Pavement Marking Standards
 - PAVE-951-A Roundabout Markings http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_pave-951-a.pdf
- MDOT Standard Highway Signs
 - SHS-E01-REG “R” Regulatory Signs http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_signs_e01_regulatory.pdf
 - SHS-E02-WARN “W” Warning Signs http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_signs_e02_warning.pdf
 - SHS-E08_D_GUIDE “D” Guide Signs http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_signs_e08_d_guide.pdf

