



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

December 2, 2014

CIRCULAR LETTER 2014-24

ROUNDBOUT PAVEMENT MARKING AND SIGNING

COUNTY ENGINEERS/SUPERINTENDENT OF HIGHWAYS
MUNICIPAL ENGINEERS/DIRECTORS OF PUBLIC WORKS/MAYORS
CONSULTING ENGINEERS

The IDOT Bureau of Operations developed the attached guidance on pavement marking and signing for roundabouts based on other states' best practices. This document provides additional guidance beyond what the 2009 MUTCD provides. This guidance is intended to assist traffic engineers with designing pavement markings, signs, and other traffic control devices within, and approaching, roundabouts.

This guidance will be reflected in future revisions to Chapter 34 of the Bureau of Local Roads and Streets Manual.

Please contact the BLRS Local Policy unit at DOT.LocalPolicy@illinois.gov with any questions.

Sincerely,

A handwritten signature in black ink that reads "James K. Klein".

James K. Klein, P.E., S.E.
Acting Engineer of
Local Roads and Streets

TP/tw

Attachment

cc: Greg Smothers, Illinois Association of County Engineers
Joe Schatteman, Illinois Municipal League
Bryan Smith, Township Officials of Illinois

GUIDELINES FOR ROUNDABOUT PAVEMENT MARKING AND SIGNING

The 2009 MUTCD contains several options regarding pavement marking and signing use at roundabouts and provides much more information than previous versions of the MUTCD. However there is still a lack of detail in the 2009 MUTCD. Since this is a relatively new intersection design, guidelines and requirements are frequently changing on the national level with different traffic control designs and applications being used frequently. These are a list of guidelines intended to assist traffic engineers with designing pavement markings, signs, and other traffic control devices for roundabouts.

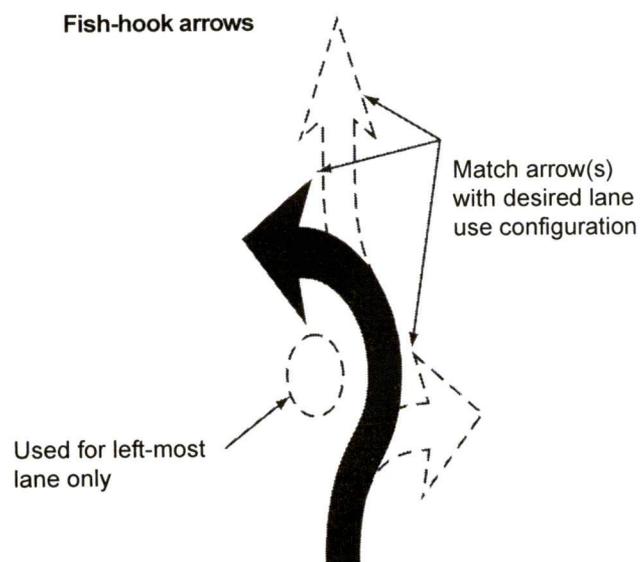
PAVEMENT MARKING

See Section 3C of the MUTCD for additional information and examples.

Approach Pavement Markings

Single lane roundabouts do not require lane use pavement markings.

A main goal of pavement markings at a multilane roundabout is to get the driver in the correct lane in advance of the yield line. On multi lane approaches, it is recommended to use fish-hook arrows for the approach lane markings. While standard arrows are allowed by the 2009 MUTCD, there is concern that a standard left turn arrow used in approaching the roundabout could be misinterpreted by motorists as a requirement to turn the wrong way entering the roundabout. It is suggested that three sets of fish-hook pavement markings for each lane be used in advance of a multilane roundabout. The center dot should be used on the left most lane.



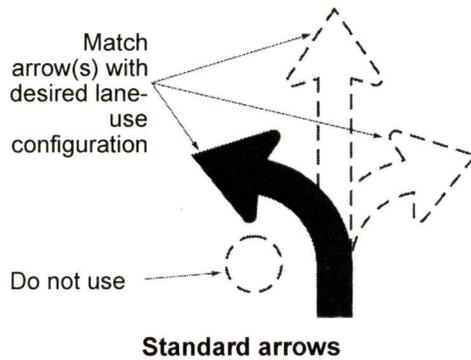
It is recommended to use continental crosswalk markings near roundabouts due to the amount of transverse markings that are already required for lane line extensions around the circular roadway. Crosswalks should be placed at least 20 ft. from the edge of the circular roadway.

Yield lines should be installed at the entry point of each approach lane to a roundabout.

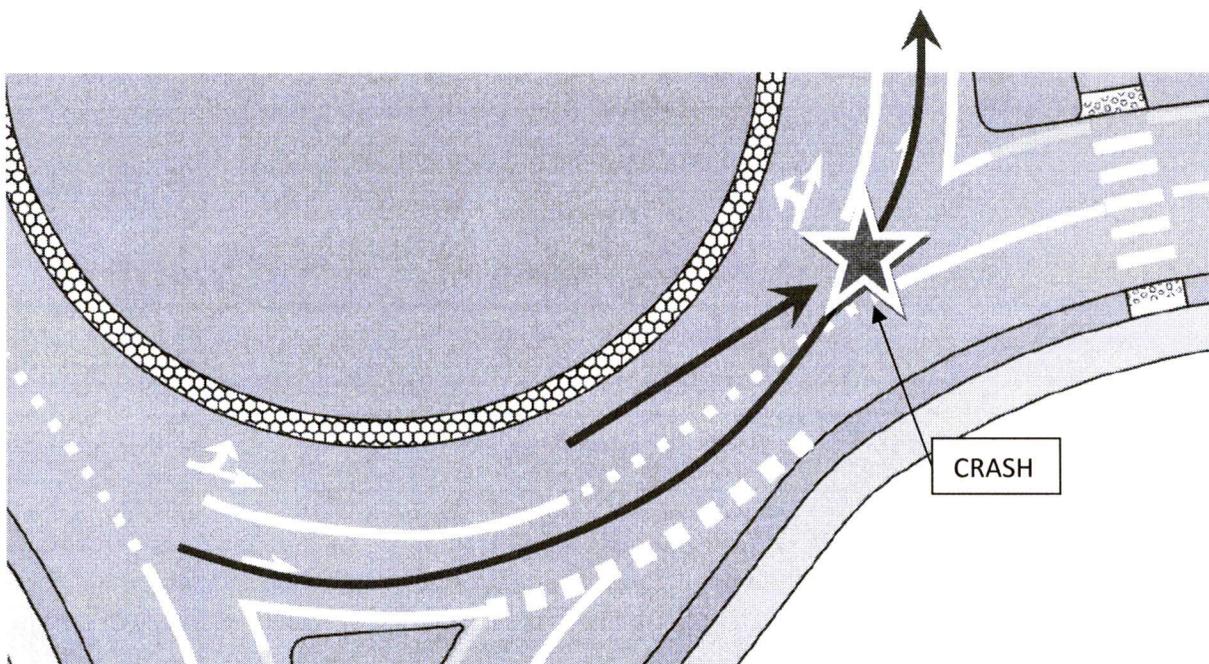
Circulatory Roadway Pavement Markings

Single lane roundabouts need no circulatory roadway pavement marking, except for outer edge line markings. Edge line markings adjacent to the splitter island should be a solid 8 inch white line. Edge line extensions across approaches should be 18 inches wide using a 2 foot skip – 2 foot dash pattern. Edge line extensions shall not be used across exits from the circulatory roadway.

For multiple lane roundabouts, any arrow lane markings within the circular roadway should be standard arrows. The center dot should NOT be used within the circular roadway.



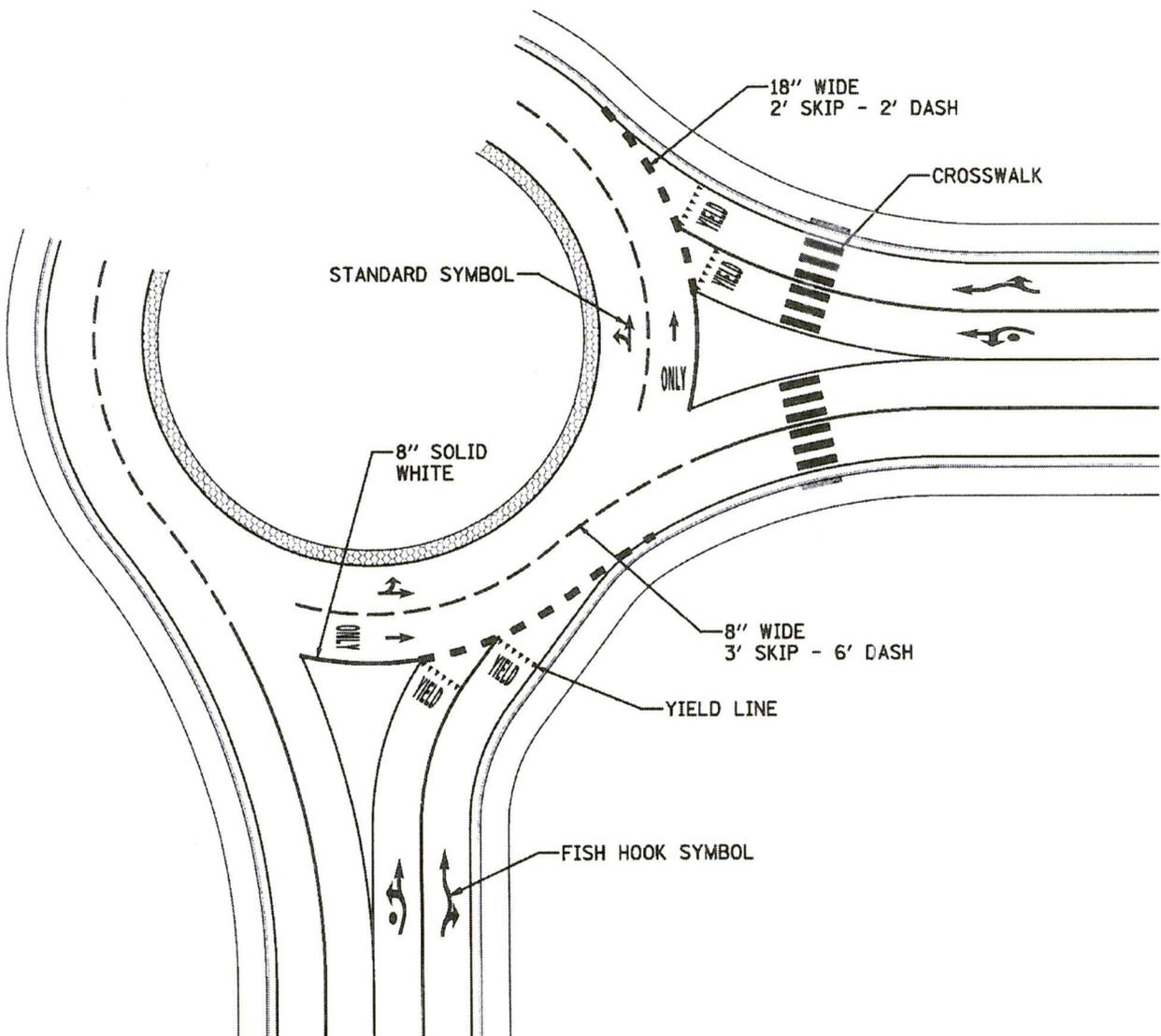
The outside lane is typically designed as an 'exit' lane for multi-lane roundabouts, meaning that any vehicles in this lane are to leave the circular roadway at the next exiting roadway. There have been several instances with multi-lane roundabouts around the nation where motorists in the outside lane have misunderstood this and stayed in the outside lane while crossing the exit and collided with traffic in the adjacent lane who are also allowed to exit the circular roadway.



To help combat this, the following recommendations should be applied:

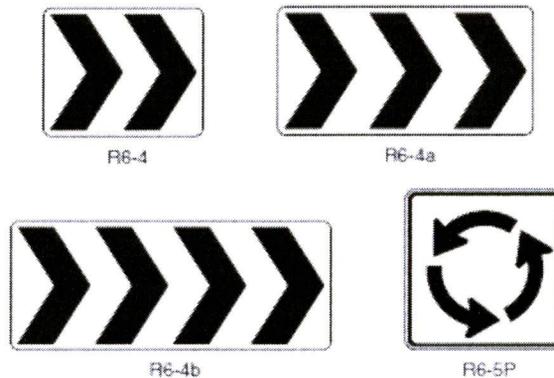
In the exit only lane(s) of the roundabout, it is recommended to use the lettering "ONLY" pavement marking underneath the straight thru arrow (right most lane(s)). These pavement markings should be placed immediately after the previous exit and should not extend into the upcoming approach roadway area.

It is recommended to use a consistent skip dash pattern separating lanes through the circulating roadway and through the weaving area of the exit lane consisting of an 8 inch wide, 6 foot long stripe with a 3 foot long skip.



SIGNING

The R6-4 series roundabout directional signs (multiple chevrons) should be used in the center island of a roundabout and facing the entrance when space allows. These signs consist of chevron symbols on a **white** background with no border and should be mounted at a minimum height of 4 ft. The R6-4 (2 chevrons) should be used for single lane approaches. The R6-4a (3 chevrons) or R6-4b (4 chevrons) should be used for multi-lane approaches. A ONE WAY sign, R6-1R, installed in the central island opposite each entrance and mounted above the roundabout directional sign (R6-4) may be used to emphasize the direction of travel within the circulatory roadway. The R6-5P roundabout circulation plaque should be installed under the yield signs at the entrance if there is no room to place a roundabout directional sign (R6-4).



No Left Turn signs (R3-2), No U-Turn signs (R3-4), and combination No U-Turn/No Left Turn signs (R3-18) shall not be used at approaches to roundabouts to prohibit drivers from turning left onto the circulatory roadway of a roundabout. These signs may confuse drivers about the possible legal turning movements within the circular roadway of the roundabout.

Roundabout warning signs (W2-6) should be installed in advance of the roundabout in accordance with Table 2C-4 of the 2009 MUTCD. The use of advisory speed plaques for roundabouts is not recommended since it is difficult to define what an appropriate advisory speed should be.

A yield sign is required to be placed on the right side of an entrance to a roundabout. An additional yield sign should be placed on the left side of all entrances to a roundabout if a raised splitter island is present.

Diagrammatic lane assignment signs should also be installed either ground mounted or overhead in advance of multi-lane roundabouts. The diagrammatic symbols should match the pavement markings which would include the use of fish hook symbols and the dot symbol.

Stop Here for Pedestrians signs (R1-5 series) should not be used in advance of crosswalks that cross an approach to or departure from a roundabout.

Destination guide signs and route marking signs should be installed for roundabouts similar to installations for typical intersections when necessary. Left and advanced left arrows used on signs or directional plaques shall be replaced with 'fishhook' symbols to avoid motorists turning the wrong way entering the roundabout. See Figures 2D-8 and 2D-9 in the MUTCD for examples.

SPECIAL TOWN NAME SIGNS AND OTHER AESTHETIC OBJECTS

For the purposes of special town name signs and other aesthetic objects, it is important to distinguish between roundabouts and traffic circles / city squares. Traffic circles are generally larger in diameter (greater than 300 ft.) and may contain a center island not completely within state right of way. Traffic circles may include parking along the circular roadway and provide pedestrian access to the center island. Traffic circles may also establish yield control along the circulating roadway itself rather than the approaches or may establish stop control which is not allowed approaching a roundabout. The following restrictions for signs and aesthetic objects in roundabouts do not apply to traffic circles or city squares.

Special Town Name Signs and other aesthetic objects such as sculptures, flag poles, etc. may be installed in the center island of a roundabout. The sign or aesthetic object should preferably be placed in the center of the island but in no case shall it be placed within the clear zone from the edge of the center island. Clear zone values shall be determined based on the Recommended Clear Zone Distances tables in Chapter 38 of IDOT's Bureau of Design and Environment Manual. For the purposes of installing these signs in a center island, a truck apron shall be considered part of the roadway and should not be considered as part of the clear zone. In addition, the sign or aesthetic object shall not be placed within the intersection sight distance triangles as defined in the Intersection Sight Distance figure in Chapter 36 of IDOT's Bureau of Design and Environment Manual.

Regardless of the placement, special town name signs or aesthetic objects within a center island shall be installed on breakaway posts or shall otherwise be considered breakaway. Sign and object placement should also consider sight distances and visibility of standard road signs. The height of tall aesthetic objects shall be limited so that the object cannot reach beyond the edge of the center island if stricken. Small vegetation and landscaping is acceptable, but must be maintained to prevent overgrowth, obscuring of sight distance triangles, or washing out of landscaping materials onto the travelled way. Trees should not be planted within a roundabout. A separate landscaping permit would be required for proposed vegetation or landscaping. In addition, street furniture and any objects containing very small text should not be allowed within a roundabout as these objects may attract pedestrians into the center island.

Special town name signs, aesthetic objects, and landscaping installed within roundabouts shall only be allowed in accordance with Appendix 7.M of the Bureau of Operations Traffic Policies and Procedures Manual.