

The City of Calgary

Landscaping Guidelines within Roundabouts

2014 June

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1. Background

The modern roundabout is a traffic control device. It is a form of circular intersection where traffic flows counter clockwise around a raised central island, thereby preventing vehicles from passing through the intersection on a linear path. Entering motorists yield to traffic already circulating in the roundabout. Roundabouts offer the opportunity to improve intersection safety and potentially reduce maintenance costs while increasing intersection capacity and reducing delay.



Landscaping the central island of the roundabout can enhance the safety by making the intersection a focal point and by lowering speeds. Landscaping can clearly delineate the central island, making it clear to drivers that they cannot drive straight through. Landscaping limits the visibility in the roundabout, thus reducing speeds. Landscaping also can discourage pedestrian traffic. Also, the use of landscaping at a roundabout is one of the distinguishing features that give roundabouts an aesthetic advantage over traditional intersections and can potentially complement urban design. For this reason, the City of Calgary has developed this document to assist the design of the landscaping within roundabouts. Current practice is to landscape the central island with grass and/or low maintenance/drought-tolerate plants. This document is meant to provide guidance for measures above and beyond those standards.



2. Principles

Landscaping or features within a roundabout should be a part of the design and not simply an enhancement undertaken after construction of the roundabout. The landscaping or features should adhere to all safety requirements while, at the same time, increasing the efficiency of the intersection treatment. Because the visibility of the intersection layout is an important element in the efficiency of the design, the landscaping must not interfere with drivers perception of the layout. The type of road, design speeds and amount of area available for landscaping must all be taken into consideration. The landscaping or features should fit within the context of the surrounding area, should not distract drivers, and should not interfere with pedestrian safety nor encourage pedestrians to enter into the central island.

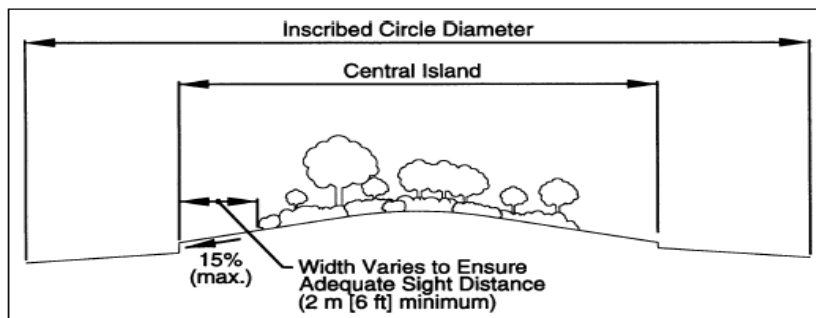
3. Guideline Considerations



3.1 Treatments

1. The landscaping or features within the centre island are a component to improve the safety of a roundabout. Elements should be selected so the sight distances are maintained but not exceeded in order to encourage lower speeds. Therefore, different elements should be considered for the inner and out portions of the central island. The planting zone width within the central island will depend on the size of the roundabout and the required sight distances. A raised central island with garden soil and mulch instead of top soil is desired to reduce salt splashing, improve plant growth and reduce weeds. Increasing the soil depth to a minimum of 30 cm will also reduce the impact of droughts and manage much of the rain that falls on the roundabout.

Exhibit 7-24. Landscaping of the central island.



2. Landscaping or features that distract the driver should be avoided. Therefore, anything that moves or requires detailed reading should be avoided. Eg. windmills, water from a fountain, advertising, etc. Landscaping or features should be seen and appreciated from the approach to the roundabout, not at the point where a motorist is yielding. Public art may be a consideration however must be discussed and pre approved by The City before it can be considered.



3. Current practice is to landscape the central island with grass and/or low maintenance/drought-tolerant plants. This guide suggests that the landscaping be a low maintenance, salt resistant, drought resistant design that provides continuous vegetative colour between the spring and fall months. And if possible, the winter months.
4. The size of the roundabout should influence the landscaping or features. Landscaping specification should, at a minimum, follow the Standard specification for landscape construction by The City of Calgary. (<http://www.calgary.ca/PDA/DBA/Pages/Urban-Development/Publications.aspx>)



3.2 Pedestrians

1. Landscaping treatments should not be designed to encourage pedestrians into the centre island. If concrete treatments are part of a design, they should not resemble a sidewalk or pathway. The use of coloured or textured concrete can be an effective measure to discourage pedestrians.

3.3 Utilities

1. Major landscaping features must not interfere with the access to utilities or ability to perform maintenance on utilities that may pass through the roundabout. However, shrubs or movable features may be considered within the line assignment of utilities. For details on utilities layout through a roundabout, please contact Line Assignment section within The City.
2. Irrigation systems shall not be provided within a roundabout due to high maintenance issues and the potential for water spraying onto the roadway.

3.4 Low Impact Development

1. Roundabouts can provide opportunities for Low Impact Development (LID) features.
2. LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features and, minimizing hard surfaces to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product. These practices ultimately improve the quality and decrease the volume of stormwater entering our

waterways. It may be difficult to direct drainage into the central island, since roundabouts are generally cross-falled to the outside. Special consideration from Roads will be needed if drainage is to be redirected into the central island.

3. Splitters and approaches could also be used as locations for LID provided they meet the guidelines herein.
4. If LID features are being examined, Roads and Water Resources should be consulted early in the process.
5. A design guidance manual for LID will be available from Water Resources in late 2014. While roundabouts are not specifically addressed, the LID design principles covered in the document will be used to evaluate all LID designs.

3.5 Streetlighting

1. Streetlighting should meet the City of Calgary standards for lighting the roadway and pedestrian areas.
2. If decorative lighting is part of a design, solar lighting should be investigated as utility connections within a roundabout are not desired.



3.6 Signage

1. Roundabouts are a traffic control device and the landscaping is part of the design. The landscaping / feature elements should not include signs, lettering, third party signs or advertising that would distract motorists and / or entice pedestrians into the centre of the roundabout. The only exception would be a traffic signage or a community name.

3.7 Maintenance

1. Maintenance of landscaping or features should be considered before the design of the roundabout is completed. The responsible party for the maintenance should be identified early in the design process. New roundabouts with landscaping above and beyond City standards should have an enhanced maintenance agreement with the Parks Department providing for maintenance. Or they should have private organizations (i.e. homeowners associations, property management agencies, developers, etc.) provide guaranteed funding for maintenance of the landscaping with The City. Retrofit roundabouts should have low-maintenance landscaping or a maintenance agreement similar to new roundabouts.



2. If feature elements are installed within the central island, a license of occupation agreement must be approved by the Roads business unit. Please contact Corporate Properties to enter into this agreement.
3. Maintenance vehicle access should also be considered as part of the design.

4.0 Reference

Acknowledge:

City of Ontario, "Traffic and Transportation Guidelines", Aug 2013-11-28

Federal Highways Administration publication: "Roundabouts: An Informational Guide"

City of Colorado Springs – Roundabout Design Standards, Oct 2005

Florida DOT, Florida Roundabout Guide

City of Halifax, Roundabouts Aesthetic and Design Report, Jan 2011