ABERDEEN CITY COUNCIL

COMMITTEE	Communities, Housing and Infrastructure
DATE	19 May 2015
DIRECTOR	Pete Leonard
TITLE OF REPORT	Roundabouts – Policy on landscaping and vegetation maintenance
REPORT NUMBER:	CHI/14/017

1. PURPOSE OF REPORT

This report considers the introduction of formal policy with regard to the maintenance of landscaping and vegetation on roundabouts.

2. RECOMMENDATION(S)

It is recommended this Committee approves:

i) the policy suggested within this report when considering the maintenance of landscaping and vegetation on roundabouts.

ii) that officers in Environment Services / Traffic Management develop a programme, based on road safety priority, that would ensure, over time, existing roundabouts conform to the adopted policy.

3. FINANCIAL IMPLICATIONS

The cost associated with maintaining roundabouts during the financial year 2014/15 was circa £100K.

The cost estimate for re-landscaping a small roundabout can be up to £3K, while for a large roundabout it can be up to £10K.

A prioritised programme of roundabout re-landscaping works will be drawn up by officers in accordance with the suggested policy and existing service budgets.

4. OTHER IMPLICATIONS

There are no other implications worthy of being identified in the abstract here.

5. BACKGROUND/MAIN ISSUES

5.1 Over recent years there have been concerns raised by road users over the extent and height of vegetation on some roundabouts within Aberdeen City. These concerns relating to the reduction in visibility splays for road users approaching the roundabout or on the circulatory carriageway, and as a result the possible detriment to road safety. Likewise, similar concerns have also been expressed over visibility splays when considering pedestrian crossing points in the immediate vicinity of roundabouts.

5.2 These road safety concerns have centred on a few roundabouts in the City, and in turn remedial work has been carried out where necessary. However it is considered prudent to consider the introduction of a formal policy (See Appendix 1) on the maintenance of landscaping/vegetation on roundabouts to ensure a consistent approach throughout the City. This proposal would thereby ensure adequate road safety levels are maintained for road users on or in the immediate vicinity of roundabout junctions.

5.3 A graphic illustration on the effect of landscaping/vegetation on visibility splays can be observed in a series of photos of the Cromwell Road/Forest Avenue/Union Grove roundabout junction in Appendix 2.

5.4 The vegetation on this roundabout has been the subject of concern from drivers, cyclists and pedestrians. Drivers highlighted difficulties on entering the roundabout as a result of vehicles on the circulatory carriageway being obscured, while cyclists, through the Aberdeen Cycle Forum, have highlighted similar concern, both in respect of entering the roundabout, and being able to be observed by other road users whilst on the circulatory carriageway. Also, while the Zebra Crossing to the west on Cromwell Road conforms to standards with regard to location and visibility, pedestrians and drivers have highlighted the vegetation lessens the visibility splays towards/from this facility. As a result of the aforementioned concerns, the vegetation on this particular roundabout was scaled back in late 2013 and received further attention in late 2014 when it was totally re-landscaped.

5.5 The ’Design Manual for Roads and Bridges’ (DMRB), produced by the Department for Transport, and adopted by Transport Scotland in the design of the principle road network, has been used as a point of reference when developing a policy towards the maintenance of landscaping/vegetation on roundabouts. While the DMRB sets a standard of good practice that has been developed principally for Trunk Roads, it is also relevant to local road schemes and considered as the national design standard. In this regard, its chapter titled the ‘Geometric Design of Roundabouts’ provides suitable guidance on forward visibility, visibility to the right, and circulatory visibility.

5.6 While concerns have been expressed over the height and extent of vegetation, it is relevant to consider that beyond amenity benefits, the landscape treatment of roundabouts can have practical advantages from a traffic engineering point of view by making the roundabout more obvious to approaching traffic. Planting can also provide a positive background to chevron signs on the central island while visually uniting the various vertical features associated with signs etc. on the central island thereby reducing any appearance of clutter.

5.7 The areas required for visibility splays should be either hard surface or planted with grass or species having a low mature height and low maintenance characteristics. Where the diameter of the central island allows and there is no adverse effect on visibility splays, higher and denser species of shrubs, and/or coppiced trees, without thick trunks, can be planted towards the centre of the island. Any planting should have bulk and substance in winter as well as during the summer months.

5.8 A summary of most significant points contained within the policy proposed is:

- when considering circulatory visibility at least the outer 2 metres of the central island should be hard standing or planted with grass or similar low level vegetation. (In certain circumstances, where the speed of circulating traffic is low and visibility unhindered, this distance could possibly be reduced to an absolute minimum of 1 metre)

- where the central island is less than 10 meters in diameter, the height of vegetation should not exceed 1.05 metres in height above the level of circulatory carriageway. It may also be possible to consider leaving established trees where the canopy is above two metres; however it would be crucial to ensure the number of trees planted is not to an extent where trunks effectively start to act as a screen blocking visibility.

  The aforementioned is a departure from the DMRB that states “Planting on a central island of less than 10 metres diameter is not generally appropriate due to visibility requirements.” The justification for this departure is the DMRB is primarily providing guidance on Trunk Roads, whereas the majority of roundabouts that fall within this category in Aberdeen City are in low speed urban environments where stopping distances for vehicles is reduced. It is therefore possible to retain a degree of planting while at the same time not compromising road safety.

- vegetation on roundabouts is considered in terms of growth during the spring/summer seasons, and the resources made available to maintain the landscape. The aforementioned ensuring that vegetation encroaching on visibility splays does not become an issue at any point throughout the year.

5.9 In conclusion, while the aesthetic impact of roundabouts is of importance, the safety of road users negotiating these features is paramount. The introduction of a formal policy would provide Environment Services with a framework in which to maintain landscaping on roundabouts and mitigate the possibility of any future issues when considering road safety. It is therefore recommended this Committee approves the policy set out in Appendix 1, and consequently that officers within Environment Services / Traffic Management develop a programme, based on priority, that would ensure existing roundabouts conform to the adopted policy.

6. IMPACT

6.1 The introduction of a formal policy on maintaining vegetation on roundabout landscapes will ensure visibility splays for road users negotiating these features are adequate; thereby ensuring road safety is not compromised.

6.2 The content of this report meets with the local Community Plan objectives to continually improve road safety and maximize accessibility for pedestrians and all modes of transport.

6.3 The content of this report in line with the Council's Transportation Strategy to improve safety for all road users by continuing to reduce the number of casualties in traffic collisions.

6.4 These proposals have no negative outcomes with respect to Equality and Human Rights Impact Assessment.

7. MANAGEMENT OF RISK

If the recommendations with regard to the maintenance of landscaping/vegetation on roundabouts is not accepted there is the risk road safety levels could be compromised thereby resulting in on-going public concern, negative media reporting, and reputational damage. Conversely, there could be possible negative comments from parties that are disappointed when the scaling back of existing vegetation proves significant. Likewise, in certain cases, roundabout sponsors could also potentially express disappointment. In this respect, concerned parties would be provided with a thorough rationale as to the necessity for these actions and that ultimately road safety is of paramount importance.

8. BACKGROUND PAPERS

The Highways Agency, Transport Scotland, Welsh Assembly Government, The Department for Regional Development Northern Ireland. *Design Manual for Roads and Bridges. TD 16/07 Volume 6, Section, Part 3 'Geometric Design of Roundabouts'.* The Stationary Office Ltd

http://www.dft.gov.uk/ha/standards/dmrb/vol6/section2/td1607.pdf

9. REPORT AUTHOR DETAILS

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Appendix 1

Aberdeen City Council

Policy with regard to the maintenance of landscaping / vegetation at roundabout junctions

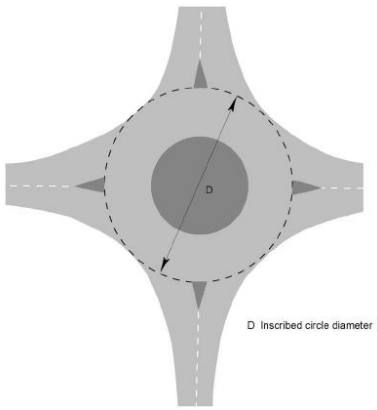
1. Apart from amenity/environmental benefits, the landscape treatment of roundabouts can have practical advantages from a traffic engineering point of view by making the roundabout more obvious to approaching traffic. Planting can also provide a positive background to chevron signs on the central island while visually uniting the various vertical features associated with signs etc. on the central island thereby reducing any appearance of clutter. However care must be taken not to obscure the visibility splays required by road users to negotiate these features safely.

2. The areas on a central island required for visibility splays should be either hard surface or planted with grass or species having a low mature height and low maintenance characteristics. Where the diameter of the central island allows and there is no adverse effect on visibility splays, higher and denser species of shrubs, and/or coppiced trees, without thick trunks, can be planted towards the centre of the island. Any planting should have bulk and substance in winter as well as during the summer months.

3. The vegetation on roundabouts must be considered in terms of growth during the spring/summer seasons, and the resources made available to maintain the landscape. The aforementioned ensuring that vegetation encroaching on visibility splays does not become an issue at any point throughout the year.

4. As a point of reference when considering visibility splays at roundabouts it will be necessary to be aware of the inscribed circle diameter of a roundabout. This is the diameter of the largest circle that can be fitted into the junction outline. See Figure 1.

Figure 1 - Inscribed Circle Diameter at a Normal or Compact Roundabout with a Symmetric Outline



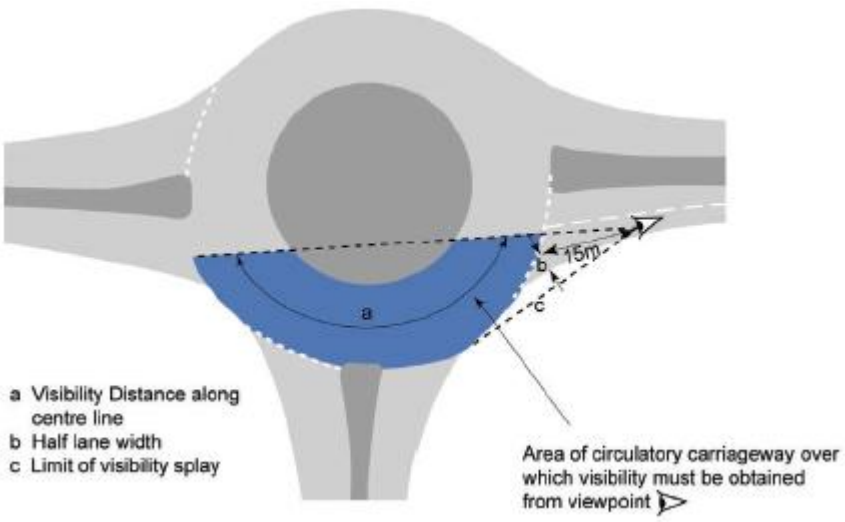
5. **Forward visibility at entry –** Drivers of all vehicles approaching the give way line must be able to see objects of height between 0.26m and 2m on the full width of the circulatory carriageway for the visibility distance given in Table 1 (measured along the centre of the circulatory carriageway as shown in Figure 2). The visibility must be checked from the centre of the nearside lane at a distance of 15 metres back from the give way line, as shown in Figure 2.

Table 1

Inscribed Circle Diameter (m)	Visibility Distance* (m) ('a' in Figures)
<40	Whole junction
40 - 60	40
60 - 100	50
>100	70

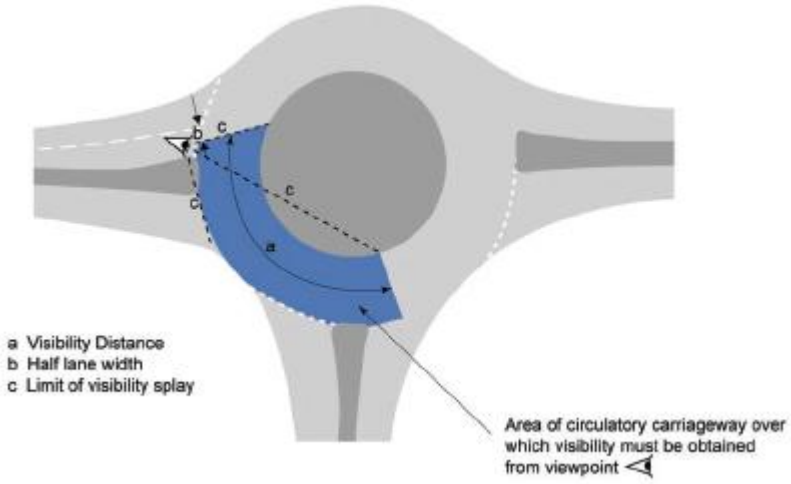
***** In an urban environment where the central island is less than 10 metres it will be possible to permit vegetation to a maximum height of 1.05 metres, above the circulatory carriageway, while at least the outer 2 metres (1 metre absolute minimum in certain circumstances – seek advice from Traffic Management) of the central island should be hard standing or planted with grass or similar low level vegetation. It may also be possible to consider leaving established trees where the canopy is above two metres; however it would be crucial to ensure the number of trees planted is not to an extent where trunks effectively start to act as a screen blocking visibility.

Figure 2 - Forward visibility required at entry



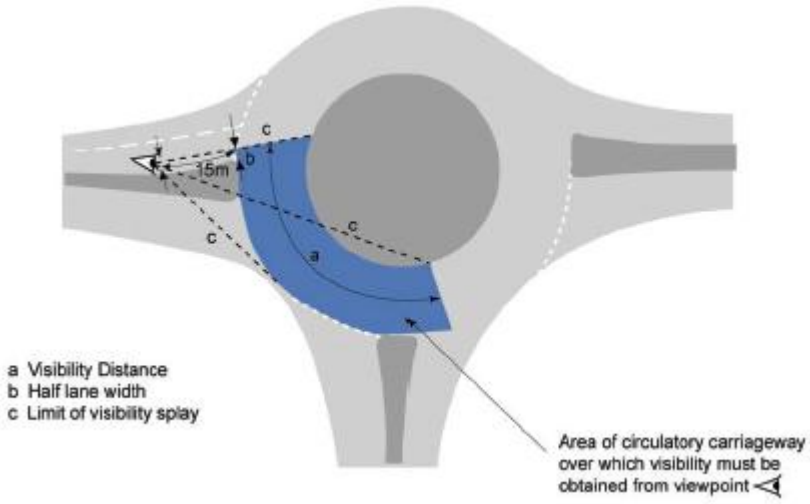
6. **Visibility to the right -** Drivers of all vehicles approaching the give way line must be able to see the full width of the circulatory carriageway to their right, from the centre of the offside lane at the give way line, for the Visibility Distance given in Table 1(measured along the centre of the circulatory carriageway), as shown in Figure 3.

Figure 3 - Visibility to right along circulatory carriageway required at entry (from Give Way Line)



Visibility to the right must also be checked from the centre of the offside lane at a distance of 15m back from the give way line, as shown in Figure 4.

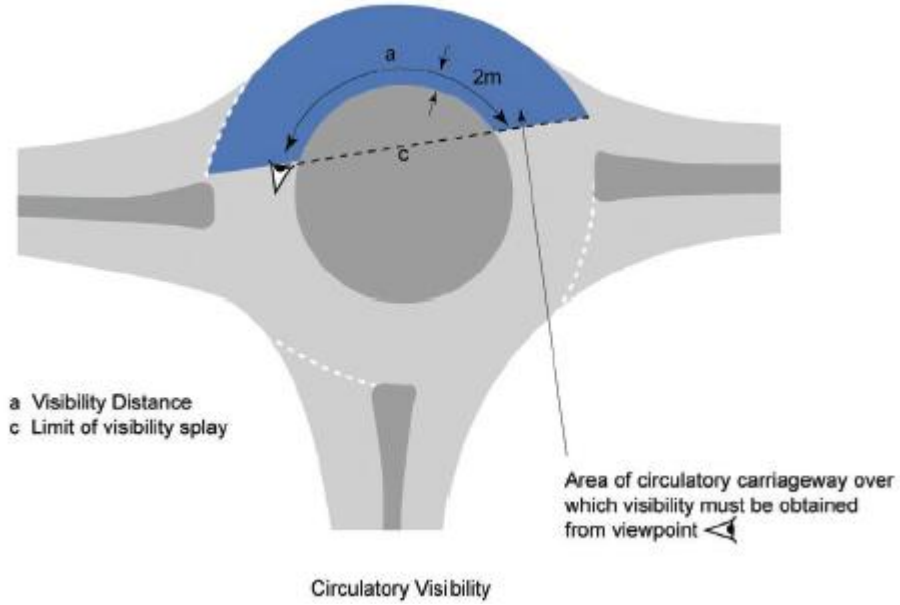
Figure 4 - Visibility to right along circulatory carriageway required at 15m in advance of Give Way line



In all cases, the envelope of visibility must be obtainable from a driver's eye height of between 1.05m and 2m to an object height of between 1.05m and 2m.

7. **Circulatory visibility -** Drivers on the circulatory carriageway must be able to see the full width of the circulatory carriageway ahead of them for the Visibility Distance given in Table 1. This visibility must be checked at a distance of 2m in from the central island, as shown in Figure 5. The envelope of visibility must be obtainable from a driver's eye height of between 1.05m and 2m to an object height of between 1.05m and 2m.

Figure 5 – Circulatory Visibility Required



It is often useful to improve the conspicuity of central islands by landscaping, but the circulatory visibility needs to be checked to ensure it is not obstructed. Normally, at least the outer 2m (1m absolute minimum in certain circumstances – seek advice from Traffic Management) of the central island should be hard standing or planted with grass or similar low level vegetation. It may also be possible to consider leaving established trees where the canopy is above two metres; however it would be crucial to ensure the number of trees planted is not to an extent where trunks effectively start to act as a screen blocking visibility.

8. In order to minimise the consequences of collisions in which a vehicle runs off the road, solid obstructions such as statues, trees or rocks should not be placed on the central islands of roundabouts with high speed approaches, or anywhere within the highway boundary where there is a high risk of collision. While the aforementioned, will not apply to the majority of roundabouts within Aberdeen City, it would nevertheless be considered prudent for Environment Services to seek advice from officers in Traffic Management prior to installing/planting such objects.

9. When considering the environmental benefits provided by roundabout landscaping reference should be made to the following policies: -

- Aberdeen Open Space Strategy 2011-2016
- Nature Conservation Strategy
- Council's proposed Climate Change Adaptation plan and
- Green Space Network Policy.

Also, prior to introducing any new plant species when landscaping it would be necessary to consult with the Council Environmental Policy Team.

<u>Appendix 2</u> – Image series of landscape changes on Forest Avenue / Cromwell Road / Union Grove Roundabout

Forest Avenue / Cromwell Road / Union Grove Roundabout

Image Date: May 2009

Image Date: October 2013

Image Date: April 2015