Road Layout
Design

CD 123
Geometric design of at-grade priority and signal-controlled junctions

(formerly TD 41/95, TD 42/95, TD 40/94, and those parts of TD 50/04 and TD 70/08 relating to priority and signal-controlled junctions.)

Revision 1

Summary
This document provides requirements for the geometric design of at-grade priority and signal-controlled junctions.

Application by Overseeing Organisations
Any specific requirements for Overseeing Organisations alternative or supplementary to those given in this document are given in National Application Annexes to this document.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Highways England team. The email address for all enquiries and feedback is: Standards_Enquiries@highwaysengland.co.uk

This is a controlled document.
NOTE 1 Visibility is measured from the eye heights and to the object heights given in CD 109 [Ref 5.N].

NOTE 2 The visibility splays shown are for a junction where left and right splays are required.

NOTE 3 Where there are hard strips on the major road, point X is measured from the continuation of the line of the nearside edge of the running carriageway of the major road.

NOTE 4 Inappropriate positioning of lay-bys, bus stops, traffic signs and other street furniture can result in obstruction to visibility splay.

NOTE 5 Parked vehicles can obstruct visibility splays and where necessary restrictions can be introduced to mitigate this risk.

3.5 The speed of the major road for determining point Y in the visibility splay shall be based on:

1) design speed only for direct accesses and priority junctions on new major roads;
2) design speed only for priority junctions that form part of a through route on existing major roads; and
3) design speed or speed measurement for direct accesses and priority junctions that do not form part of a through route on existing major roads.

NOTE Speed measurement of an existing major road involves calculating the 85th percentile speed of traffic.

3.6 A visibility splay to the right on the minor road shall be provided:

1) at all priority junctions and direct accesses where minor road traffic can join a 2-way major road; and
2) at all priority junctions and direct accesses where minor road traffic can turn left to join a 1-way major road.

3.6.1 Visibility splays to the right on the minor road should also be provided at priority junctions and direct access where minor road traffic can turn right to join a 1-way major road and there are contraflow provisions (e.g. for cyclists).

3.7 A visibility splay to the left on the minor road shall be provided:

1) at all priority junctions and direct accesses where minor road traffic join a 2-way single carriageway major road;
2) at all priority junctions and direct accesses where minor road traffic can turn right to join a 2-way dual carriageway road and the central reserve gap is not wide enough to accommodate a waiting design vehicle; and
3) at priority junctions and direct accesses where minor road traffic can turn right to join a 1-way major road.

3.7.1 Visibility splays to the left on a one way road should also be provided at priority junctions and direct access where minor road traffic can turn left to join a 1-way major road and there are contraflow provisions (e.g. for cyclists).

NOTE Where the minor road is one way leading from the major road, no visibility splays for vehicles turning out of the minor road are required as these movements are not permitted.

3.7.2 On a one-way major road, visibility splays may be provided in both directions for vehicles turning out of the minor road.

NOTE Visibility splays in both directions at a one-way major road provides a level of future proofing, and accommodates potential traffic management arrangements.

3.8 The minimum distances used to locate point X and therefore generating the visibility splay shall be:

1) 2 metres for direct accesses;
2) 2.4 metres for simple priority junctions; and
3) 4.5 metres for all other priority junctions.

3.8.1 The distances used to locate point X and therefore generating the visibility splay should be: