

2. DESIGN CRITERIA

2.12 Visibility

Sightlines

These are required to enable drivers to see a potential hazard in time to slow down or stop comfortably before reaching it. It is necessary to consider the driver's line of vision, in both vertical and horizontal planes, and the stopping distance of the vehicle.

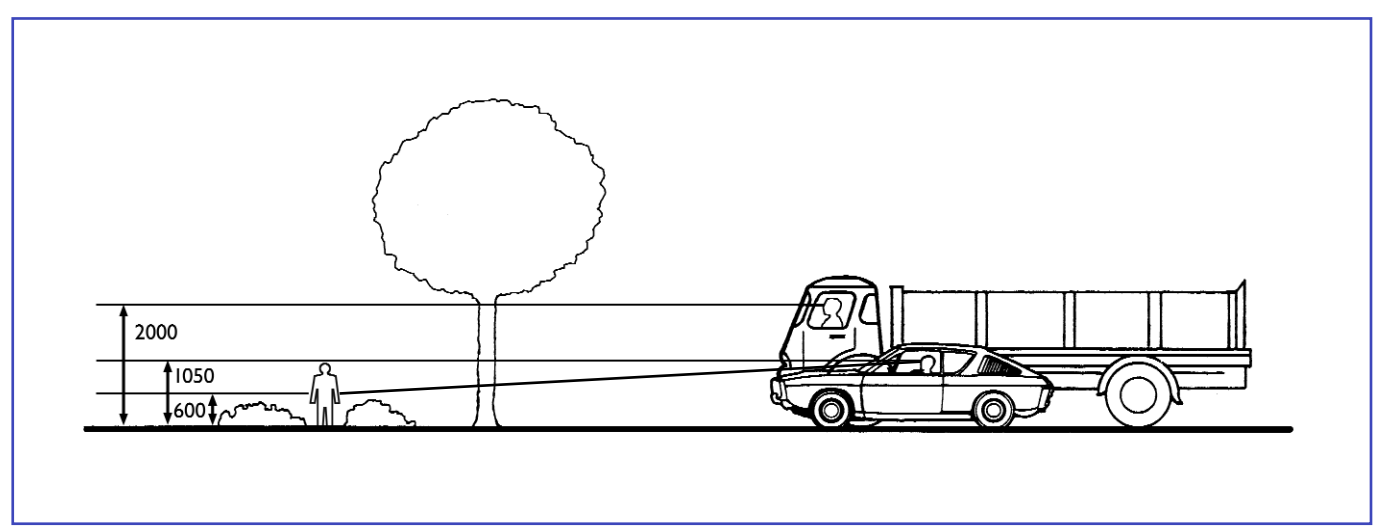
The design of sightlines is discussed in detail in both DB32 and its companion guide Places, Streets and Movements. This

section draws together the advice in those two documents. The guidance given here needs to be assessed in the circumstances of each case. Sightlines should never be reduced to a dangerous level.

The diagrams and commentary given here describe the most salient points involved.

Vertical Visibility Envelope

The required vertical visibility envelope is defined below:



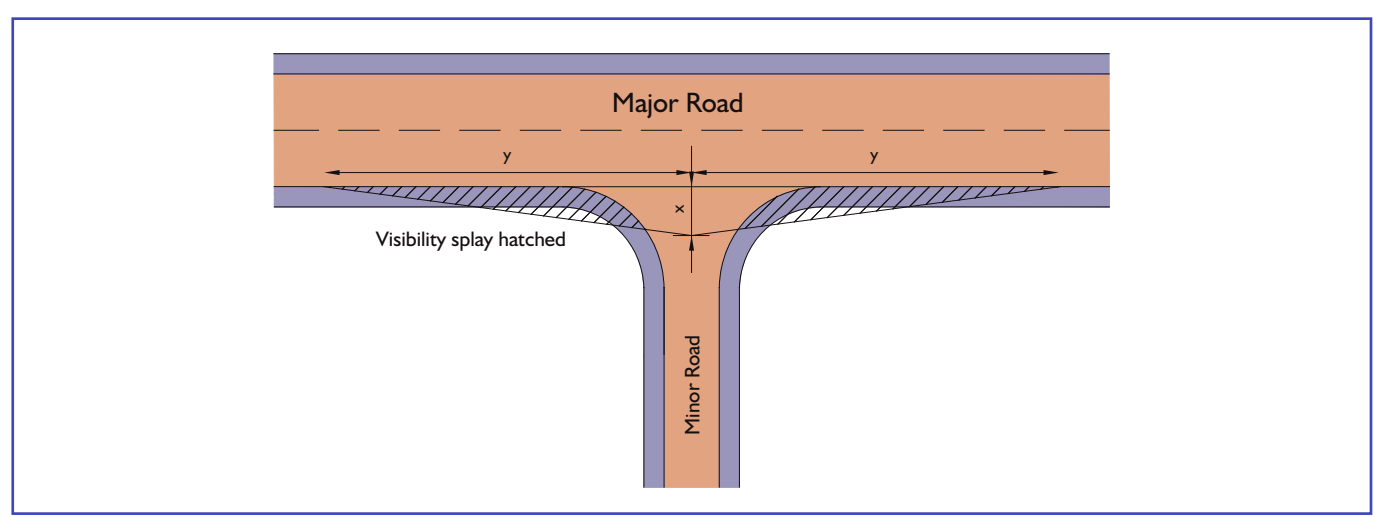
To enable drivers to see a potential hazard in time to slow down or stop comfortably before reaching it, it is necessary to consider the driver's line of vision, in both the vertical and horizontal planes, and the stopping distance of the vehicle.

As general guidance, it is suggested that a height of 600mm be taken as the point above which unobstructed visibility should be provided wherever the potential exists for conflicts between motorists and young children. This will apply along all sections of residential roads and is especially important where shared surface roads are used.

Junction Visibility

To ensure that drivers preparing to exit a minor road can see and be seen by traffic proceeding along the major road, clear visibility is required to both sides of the major road as shown below. Any junction must be constructed and maintained so that nothing is placed, installed or planted that will obstruct the visibility splay. Where possible, visibility splays should be defined with footways to the rear of the splay to clearly define the splay and to prevent misuse.

The following junction diagram and tables indicate the X and Y dimensions to be calculated for junction visibilities.



X Dimensions

To be measured along the centreline of the side road, from the channel of the priority road.

9m	Only to be used at major new junctions at the discretion of the Director of Environment
4.5m	The standard required for major new road junctions, for junctions of busy access roads, and for busy private access points
2.4m	The minimum necessary for junctions within development to enable a driver who has stopped at a junction to see down the major road without encroaching onto it. To be used on cycletrack junctions
2m	For single dwellings or small groups of up to half a dozen dwellings or thereabouts
Less than 2m	Only in exceptional circumstances will a distance of less than 2m be considered

Y Dimensions

To be measured along the channel of the priority road.

The Y dimension will depend on the speed of traffic on the priority road: the appropriate distance can be read off Table A or B. If the highest traffic speed on the road in wet weather (excluding the fastest 15% of vehicles) is known (DTp Advice

Note TA 22/81) then this speed or the next highest speed which appears in the table should be used as the priority road speed in Table A to arrive at the appropriate Y distance. Where there is a speed limit and the actual speed of traffic on the priority road is not known it will normally be necessary to provide Y distances as indicated within Table B.

Table A (Known vehicle speeds)

Major road speed (kph)	120	100	85	70	60	50	40	30
Major road distance (m)	295	215	160	120	90	70	45	33

Table B (Speed limit)

Speed limit (mph)	70	60	50	40	30	20
Major road distance (m)	295	215	160	120	90*	45*

* Includes an allowance for motorists travelling at 10kph above the speed limit. In addition to the dimensions quoted, where it can be shown that vehicle speeds will be contained to either 30mph or 20mph the respective Y distances in Table B can be amended to 60m and 33m respectively.

The speeds for residential areas shown in bold.

Forward Visibility

Stopping distances and forward visibility requirements:

Speed (mph)	30	25	20	15	10	5
Stopping distance Y (m)	60	45	33	23	14	6

- Required on bends as specified right;
- Note that the stopping distance Y is measured along the driven line rather than along a straight line between points; and
- The area required for forward visibility should be defined by positioning the footway to the rear of the visibility splay.

