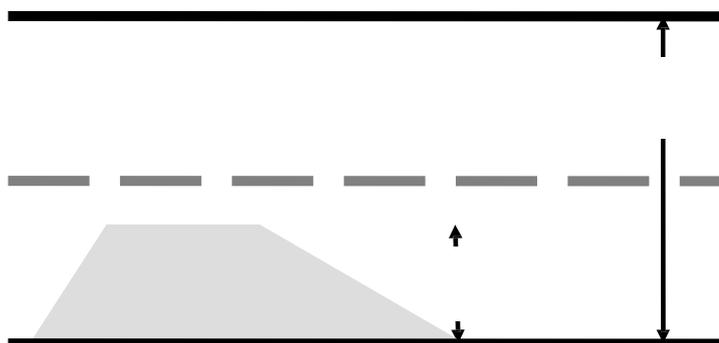


APPENDIX G: DERIVATION OF DISRUPTION EFFECT SCORE

G.1 Input Factors

The disruption effect score is based on the reduction in capacity resulting from an activity on the highway. The reduction in capacity may be calculated using an algorithm that requires the entry of a number of simple factors. These factors are as follows:

Factor	Description
[P]	The daily traffic flow, measured as an average am/pm peak hour flow in PCUs per hour, so that it takes account of HGV percentages. Source: Highway authority
[W]	The total width in metres of the carriageway (or the width of both carriageways for a dual carriageway road). Source: Ordnance Survey mapping using GIS tools
[S]	The width in metres of the activity occupying the carriageway, or in the case of activities on the footway, this would be the width in metres of the carriageway occupied by attendant vehicles and associated traffic management, as well as the width needed for any incursion of pedestrians, cyclists and horse riders into the carriageway. Source: Established as part of the works planning process



G.2 Calculation of Disruption Effect Score

The following algorithm is used to calculate the Disruption Effect Score:

$$\text{Disruption Effect Score} = [(P \times 100) / (1600 \times (W - S) / 3.65)]$$

G.3 Use of Disruption effect Score

The disruption effect score has a number of specific uses including: i) Derivation of the Traffic Impact Assessment, ii) Objective based prioritisation of activities for co-ordination, and, iii) Performance indicators. However, this is not a mandatory requirement.

G.4 Impact Assessment

The impact assessment is a broad indicator of the potential disruption that could arise from an activity on the highway.

G.4.1 Impact on General Traffic

The impact assessment for general traffic is derived directly from the daily disruption effect score for the activities, as follows:

The impact assessment for general traffic is derived directly from the daily disruption effect score for the activities, as follows: Disruption Effect Score	Impact
Greater than or equal to 75	Severe
Greater than or equal to 50 and less than 75	Moderate
Greater than or equal to 25 and less than 50	Slight
Less than 25	None

G.4.2 Impact on Buses

The impact assessment for bus traffic is assessed for defined bus routes only and is derived as follows:

The impact assessment for bus traffic is assessed for defined bus routes only and is derived as follows: Disruption Effect Score / Factor	Impact
Greater than or equal to 75	Severe
Dedicated bus lane closed	Severe
Greater than or equal to 50 and less than 75	Moderate
Dedicated bus lane diverted	Moderate
Greater than or equal to 25 and less than 50	Slight
Less than 25	None

G.4.3 Impact on Pedestrians

The impact assessment for pedestrian traffic is derived as follows:

Factor	Impact				
	Footway Hierarchy Category				
	1a	1	2	3	4
Closure	Severe	Severe	Severe	Severe	Moderate
Complete Diversion	Severe	Severe	Severe	Moderate	Slight
Partial Diversion	Severe	Severe	Moderate	Moderate	Slight
Narrowing >50%	Severe	Severe	Slight	Slight	None
Narrowing <50%	Severe	Moderate	Slight	None	None

A 'complete diversion' of a footway is where a new route for pedestrians has been established, for example where there is a requirement to cross the road to use the opposite footway.

A 'partial diversion' of a footway is where the route for pedestrians is diverted around the activity's site but remains on the same side of the road.

In addition, the impact of any activities on footways associated with urban transport facilities will be considered as 'severe'. For the purposes of this section these are any activities on footways that are within 100 metres of an entrance to a bus, tube, railway or tram station.