Annex C

ADPV^2 Calculations

Haxby Road between Rose Street and just south of Greenfields

The following calculations use criteria specific to the above location, to assess whether a pedestrian crossing facility should be considered.

A key factor which determines the risk of crossing a road is the number and lengths of gaps in the traffic which may be perceived by pedestrians as being safe to use. The average gap regarded as acceptable varies according to the age and ability of the pedestrian, but is also affected by the width of the road. The same vehicle counts have been used throughout as only one count was taken between Vyner Street and Greenfields.

To take account of the potential accident benefits a weighting accident factor '**A**' is calculated as follows :
A = 1 + (N / 10) where N = number of pedestrian injury accidents **A = 1 + (0 / 10) = 1**

The level of difficulty experienced in crossing a road is influenced by the width of the road, the speed of traffic, and the number of lanes to be crossed.
Assuming a 7.3m width for a 'standard' urban 30mph two-way road a 'difficulty' factor '**D**' is determined by dividing the actual road width by 7.3; **D = 7.15/ 7.3 = 0.98**

The average pedestrian numbers '**P**' over the four highest hours is weighted to reflect the proportion of young, elderly and disabled as follows :

Under 16's count as 4	10.25 x 4 = 41	
Over 65's count as 4	0 x 4 = 0	
Disabled count as 6	0 x 6 = 0	
Remainder (including cyclists) count as 1	40.5 x 1 = 40.5	**P = 81.5**

The average vehicle numbers '**V**' over the four highest hours is weighted to reflect the proportion of heavy goods vehicles and buses :

Heavy goods vehicles count as 2.5	0 x 2.5 = 0	
Buses count as 2.5	23.75 x 2.5 = 59.38	
Remaining vehicles count as 1	1047.25 x 1 = 1047.25	**V = 1106.63**

The calculation for assessing the justification for a pedestrian crossing is expressed as :-

$$\mathbf{ADPV^2 = 1 \times 0.98 \times 81.5 \times 1106.63^2 = 0.98 \times 10^8}$$

Where the value of ADPV^2 is 0.7 x 10^8 or above a signallised crossing facility would normally be justified. Between 0.2 and 0.7 x 10^8 other crossing facilities such as a zebra or refuge should be considered.

Haxby Road between just south of Greenfields and Vyner Street

To take account of the potential accident benefits a weighting accident factor '**A**' is calculated as follows :
A = 1 + (N / 10) where N = number of pedestrian injury accidents **A = 1 + (0 / 10) = 1**

The level of difficulty experienced in crossing a road is influenced by the width of the road, the speed of traffic, and the number of lanes to be crossed.
Assuming a 7.3m width for a 'standard' urban 30mph two-way road a 'difficulty' factor '**D**' is determined by dividing the actual road width by 7.3; **D = 7.3/ 7.3 = 1.0**

The average pedestrian numbers '**P**' over the four highest hours is weighted to reflect the proportion of young, elderly and disabled as follows :

Under 16's count as 4	9.5 x 4 = 38	
Over 65's count as 4	0 x 4 = 0	
Disabled count as 6	0 x 6 = 0	
Remainder (including cyclists) count as 1	55.25 x 1 = 55.25	**P = 93.25**

Vehicles as before **V = 1106.63**

The calculation for assessing the justification for a pedestrian crossing is expressed as :-

$$\mathbf{ADPV^2 = 1 \times 1.0 \times 93.25 \times 1106.63^2 = 1.14 \times 10^8}$$

Where the value of $ADPV^2$ is 0.7×10^8 or above a signallised crossing facility would normally be justified.

Haxby Road between Vyner Street and Fountayne Street

To take account of the potential accident benefits a weighting accident factor '**A**' is calculated as follows :
A = 1 + (N / 10) where N = number of pedestrian injury accidents **A = 1 + (1 / 10) = 1.1**

The level of difficulty experienced in crossing a road is influenced by the width of the road, the speed of traffic, and the number of lanes to be crossed.
Assuming a 7.3m width for a 'standard' urban 30mph two-way road a 'difficulty' factor '**D**' is determined by dividing the actual road width by 7.3; **D = 7.65 / 7.3 = 1.05**

The average pedestrian numbers '**P**' over the four highest hours is weighted to reflect the proportion of young, elderly and disabled as follows :

Under 16's count as 4	9.5 x 4 = 38	
Over 65's count as 4	0.25 x 4 = 1	
Disabled count as 6	0 x 6 = 0	
Remainder (including cyclists) count as 1	86.75 x 1 = 86.75	**P = 125.75**

Vehicles as before **V = 1106.63**

The calculation for assessing the justification for a pedestrian crossing is expressed as :-

$$\mathbf{ADPV^2 = 1.1 \times 1.05 \times 125.75 \times 1106.63^2 = 1.78 \times 10^8}$$

Where the value of $ADPV^2$ is 0.7×10^8 or above a signallised crossing facility would normally be justified.