Appendix A

Dorset County Council Guidance Note Selection and Priority Assessment

Procedure for the Provision of

Pedestrian Crossings and Associated Facilities

1 Requests for Pedestrian Crossing Facilities

1.1 Where requests are received from members of the public which have no support from the local community, the requester will be asked to seek wider community support from their local town or parish council. To help the requesters, addresses of the town or parish clerks and also their county councillor shall be included in the reply letter asking them to seek support from their town or parish council. The town or parish council will take over the role of the requester.

1.2 When a request is received from an elected member, town or parish council, it shall be acknowledged in accordance with the corporate guidance and entered on a register of requests for pedestrian crossings.

1.3 All requests shall be collated by Dorset Highways, who shall maintain the register of requests.

1.4 An initial survey of the requested site shall be undertaken by Dorset Highways to establish if the site should be taken forward to a full survey.

1.5 In the event that it is judged that the site is unsuitable or does not fit into the assessment framework, the requester shall be so informed. Full reasons for not supporting the request shall be given. Should it be judged that an alternative scheme such as a refuge island or signing of the site or similar would be more appropriate, this is to be communicated at the same time.

1.6 If the site is suitable for consideration for the provision of pedestrian crossing facilities, the register of requests shall be updated and Dorset Highways shall then process the request to its conclusion.

2 The Survey

2.1 Dorset Highways will undertake a survey. The survey shall take place along the stretch of road 50 metres either side of the requested location (100 metres in total). In addition, the survey shall be carried out at the most appropriate time of year. This shall be determined by experience of the site and previous collected data.

2.2 The survey shall collect the information as set out in LTN 1/95 assessment procedure and framework document and include a fully classified count of pedestrians and vehicles.

2.3 It is essential to record the numbers of pedestrians, prams/pushchairs, elderly persons, unaccompanied children, mobility impaired, visually impaired or blind persons, crossing cyclists, equestrians and others, including wheelchairs and electric scooters.

2.4 A method of calculating the degree of difficulty shall be formulated in order to weight this in the overall assessment of site conditions and merits (see paragraph 2.11).

2.5 A full classified count of vehicles shall be provided in 15-minute steps. Cycles are to be included in this count as they can delay the progress of pedestrians in the same manner as vehicles.

2.6 Dorset Highways shall provide a report once all data has been collected in an agreed format. The base PV^2 value shall be shown, along with the weighted score for that site. PV^2 is an established method of measurement of the degree of conflict between vehicles and pedestrians.

2.7 PV^2 is a viable starting point in order that we can prioritise requests and rank them into an acceptable order. The purpose of weighting is to more easily incorporate the social need requirements into the assessment procedure.

2.8 People perceive the risk in crossing roads individually; the risks are determined by the number and gaps in the traffic. Some people accept gaps in traffic where others would not. The average gap regarded as acceptable varies according to the age and ability of the pedestrian. The acceptable gap is also determined by the width of the road, the number of traffic streams (one way, two way, single or multi-lane), speed composition of traffic, and visibility. Research has established that on an average 7.3-metre wide urban carriageway with two way traffic, the average acceptable gap is seven seconds for an able person, up to 12 seconds for an elderly person, and twice as much again for a mobile but disabled person. (Established from empirical data.)

Unaccompanied children (under 16) are generally able to accept relatively short gaps in traffic from a physical point of view, however, in vulnerability terms they often equate to the same category as the elderly. In order to weight the pedestrian count to reflect the degree of difficulty experienced by the different groups of people and the public's concerns about crossing the road, the following weightings shall be applied to the figures:

Under 16s count as 4 Over 65s count as 4 Equestrians 4 Disabled (includes wheelchairs) 6 Others including cyclist crossing 1.

2.9 It is necessary to understand and allow for the effects of traffic composition on pedestrians. Traditionally no account has been made on the composition of traffic in the PV^2 formula and all vehicles have had a value of 1. However, studies on saturation flow have determined that there is a relationship between composition and capacity, and the different types of vehicle have been weighted accordingly. It is therefore reasonable to weight traffic or vehicles in the pedestrian assessment criteria based on their likely impact on what gaps pedestrians would be willing to take. A bus or large goods vehicle will intimidate the vulnerable pedestrian because of increased fears of these types of vehicles failing to stop quickly in an emergency situation. This

leads to longer gaps in traffic being required before an acceptable gap is perceived by the vulnerable pedestrian. Therefore the weighting to be applied to the vehicles in the assessment criteria are:
Light vehicles (cars) 1.0 Medium commercial 1.5 Heavy commercial 2.3 Buses and coaches 2.0 Motorcycles 1.0* Pedal cycles 1.0*
*These vehicles impact on pedestrians in the same way as light vehicles and are therefore up-rated to reflect this. (Ref 2.)

2.10 Serious consideration should be made for weighting those sites which have potential savings in accidents when assessing the relative merits of each request. The accident record is used to further weight merits of each request. The accident record is used to further weight and balance the numerical value of each requested site. This weighting, known as the accident factor A, is derived from the formula:

$A = (1 + \underline{N})\ 10$

Where N = number of pedestrian injury accidents within 50 metres either side of the requested crossing location during the last three years.

2.11 Difficulty experienced in crossing a road is influenced by the width of the road, the speed of traffic, and the number of lanes being crossed. The difficulty factor (D) can be calculated to represent a factor to add to the equation when assessing the priority ranking. The factor is based on a standard 7.3 metre urban road with a speed limit of 30mph with two way traffic as defined in paragraph 2.8. Roads which have higher speeds are additionally weighted to reflect the greater difficulty in ascertaining acceptable gaps in traffic (see also paragraph 2.12).

Two way roads up to 30mph speed limit Actual width / 7.3 Two way roads over 30mph speed limit 1.2 x actual width / 7.3

One way single lane roads up to 30mph speed limit 0.8 x actual width / 7.3 One way single lane roads over 30mph speed limit Actual width / 7.3 (Ref 3.)

2.12 Current advice from the DfT is that serious consideration should be given to speed reduction measures before installing at grade (surface) crossings where the 85^{th} percentile speed is greater than 50mph. (Ref 1.)

2.13 The new assessment formula can be expressed as follows:

$ADPV^2$, where A = accident weighting factor D = difficulty factor P = weighted sum of pedestrian movements V = weighted volume of traffic.

The new formula will be said to be met 100% when the value of $ADPV^2$, based on the average of the four busiest hours for the PV^2 element, equals or exceeds 1×10^8 (100 million) for a single carriageway, or 2×10^8 for a dual carriageway.

The level of justification on a road, for instance a dual carriageway, where it would be appropriate to install two separate crossings, will require the justification to be double that of a single two way carriageway. This is because pedestrians will be provided with two separate crossing points, each dealing with one direction of traffic flow.

2.14 Once all the data has been assembled and the information included on the framework added, the new formula score will be used in the assembling of the final position of that request in the ranking table.

3 Assessing the results

3.1 Once a year Dorset Highways shall produce a report on the priority assessment table giving recommendations on each request for crossing facilities. The report to elected members shall detail the appropriate type of crossing facility that should be implemented at each requested site including 'Do Nothing'.

3.2 Recommendations to install shall be reported on the basis that successful bids shall be included in the works programme for the next financial year.

3.3 The number of requests that are implemented will be the subject of the available budget being available.

3.4 Elected members, town and parish councils will be kept informed of the progress of their requests at each appropriate stage.

4 What type of facility

4.1 Dorset Highways shall assess the information collected and the scores attained by each request.

4.2 The most appropriate answer for each request shall be given. When the $ADPV^2$ score is 0.4×10^8 or less, then a controlled crossing is not recommended and alternatives such as pedestrian refuges or recommending 'Do Nothing' will be considered. Also when the $ADPV^2$ score is 0.4×10^8 or less this would indicate that the crossing would be infrequently used and could, because of this infrequent use, potentially become more dangerous and raise the accident profile of this site due to the lack of pedestrians.

4.3 Where the 85^{th} percentile speed exceeds 50mph, a surface crossing should not be installed. Physical and other measures to reduce speed to an acceptable level may be deemed appropriate to allow the installation of such crossings.

4.4 Wherever possible cost effective solutions will be considered first. For instance, a zebra pedestrian crossing installation is as effective in providing a safe crossing facility, and in a situation where it is not near a signalled junction, or in a linked scheme and the 85^{th} percentile speed is below 35mph, then this option should be considered in the first place.

5 References

5.1 The Assessment of Pedestrian Crossings - Local Transport Note 1/95.

5.2 The prediction of saturation flows for road junctions controlled by traffic signals. 1986 Report No. RR67 Publication date: 1985 -1993 Authors R M Kimber, M Macdonald, N B Hounsell.

5.3 Empirical data - West Sussex County Council - P Atkins.