



The Carr Lane Accident

A report on the accident that
occurred on
19 June 1990 at Carr Lane footpath
and bridleway level crossing in the
Eastern Region, British Railways



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First published 1991

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ISBN 0 11 885663 4

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The Permanent Under Secretary of State
Department of Transport

22 May 1991

Sir

I report for the information of the Secretary of State for Transport that, in accordance with the Direction dated 9 August 1990, I acted as Assessor to Her Majesty's Coroner for South Yorkshire (East District) at the Inquest into the deaths of Mrs Janet Smith, Daniel John Smith (aged 4) and Emma-Jane Brydon (aged 7).

At approximately 19.15 on 19 June 1990 Mrs Smith, accompanied by her two sons and a neighbour's daughter, was attempting to cross over the Carr Lane footpath and bridleway crossing, Bessacarr, Doncaster, when she and two of the children were struck and killed by a northbound passenger train travelling at speed. The third child, 6 year old Davy Smith, was uninjured.

At the Inquest held in the Doncaster Magistrates Court on 30 August 1990 the jury returned verdicts of Accidental Death on all three of the deceased; verdicts with which I was in complete agreement.

A COOKSEY
HM Deputy Chief Inspecting Officer

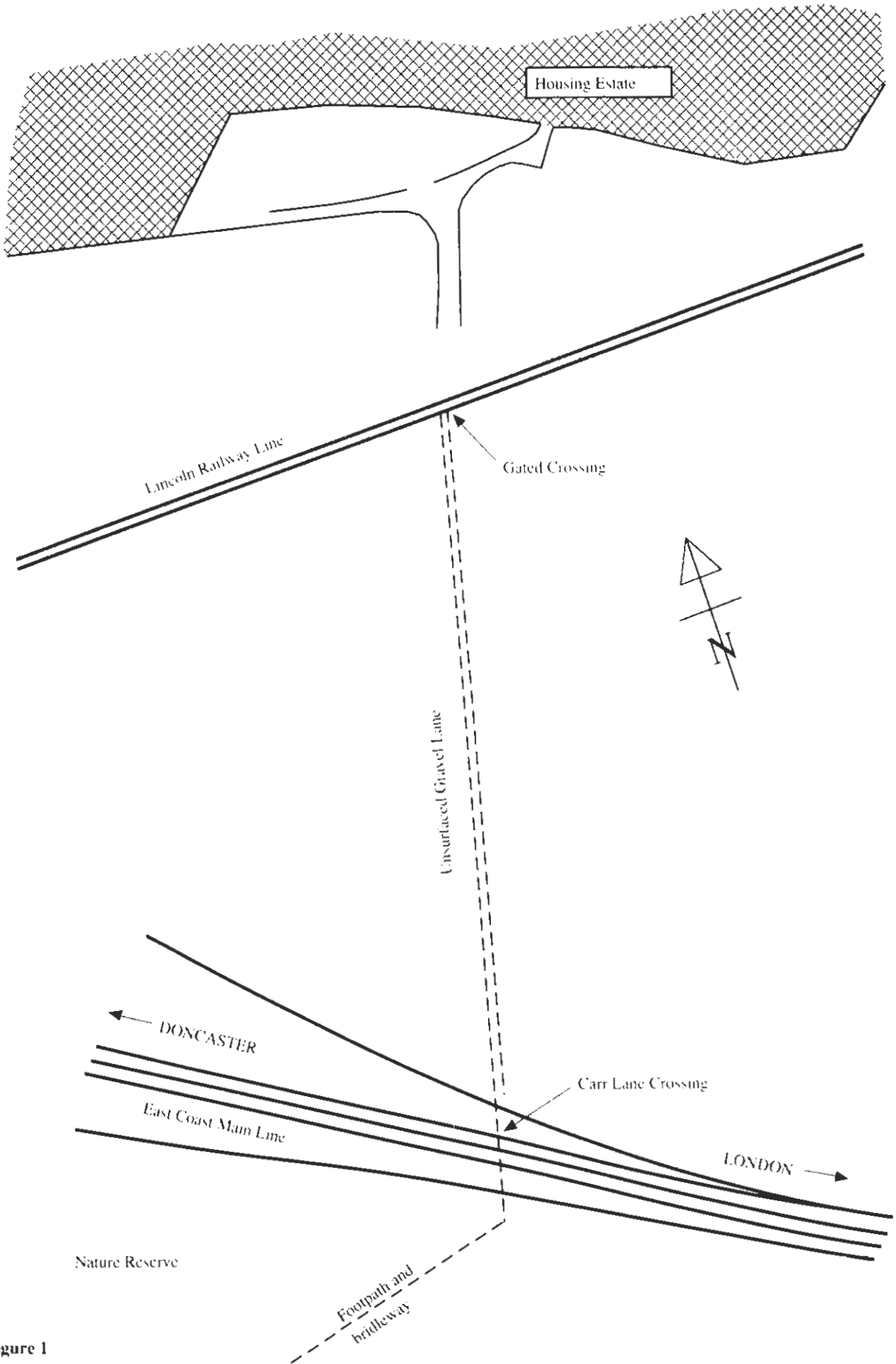


Figure 1

DESCRIPTION

Site of the accident

1 Carr Lane footpath and bridleway crossing lies some 3 miles to the south of Doncaster station on the East Coast Main Line (ECML) of British Railways. It is understood that some years ago there was at this site a vehicular level crossing, which was closed, leaving the footpath and bridleway. To the east of the ECML there is another railway line and to the east of that railway there is a large housing estate. To the west of the ECML there is open country and, in particular, a large nature reserve, which is fenced off where it borders the footpath and bridleway. The area around the crossing is depicted in Figure 1.

2 The layout of the crossing itself is depicted in Figure 2. There are five railway tracks at the crossing. From east to west they are the Up Loversall Curve, the Up East Slow, the Up Main, the Down Main, and the Up West/Down West Slow lines. The maximum permissible line speeds are as follows:

Up Loversall Curve	50 mile/h
Up East Slow	70 mile/h
Up Main	125 mile/h
Down Main	125 mile/h
Up West/Down West Slow	70 mile/h

The Up West/Down West Slow line is a bi-directional line.

3 There are wide spaces between the Up Loversall Curve and the Up East Slow line, and between the Down Main line and the Up West/Down West Slow line. The crossing, therefore, consists of three parts: the two outer parts over the single lines and the centre part over the three lines including the two high speed lines.

4 The eastern approach to the Carr Lane crossing from the housing estate is over an unmanned gated vehicular crossing on the Doncaster to Lincoln railway line and along an unsurfaced gravel lane. To the west of the Carr Lane crossing is a narrow rough path which leads to Loversall. Access to and egress from the Carr Lane crossing is through self-closing gates. At the time of the accident warning notices were erected adjacent to the gates on either side of the railway. Details of these notices are given on Figure 2.

5 This part of the ECML has four-aspect colour-light

signals controlled from Doncaster Power Signal Box and trains are signalled in accordance with British Railway Track Circuit Block Regulations.

The train

6 The train was the 17.33 London King's Cross to Doncaster and Hull passenger train. It was formed of a Class 254 High Speed Train (HST) consisting of 8 passenger vehicles with a diesel power car at the front and rear of the train.

EVIDENCE

7 At the Inquest evidence of identification of the deceased was given by police officers, Mr R Smith, the husband of Janet Smith and father of Daniel John Smith, and Mr P Brydon, the father of Emma-Jane Brydon. Dr S Beck, the pathologist, described his examination of the bodies and the extensive injuries they had suffered. It was his conclusions that Mrs Smith and the children died from multiple injuries which were consistent with them having been struck by a train.

8 Driver M Atkinson was at the controls of the 17.33 London King's Cross to Doncaster and Hull passenger train. He was accompanied by Driver J D Austin. As the train passed beneath the M 18 motorway bridge travelling at 120 mile/h on the Down Main line and the footpath crossing first came into view they saw a woman and three children making their way over the crossing. They appeared to be crossing from the "right-hand" (East) side of the line to the "left-hand" (West) side and all of them were wheeling bicycles. The woman was in the lead and the children were spread out over the crossing behind her.

9 Mr Atkinson sounded the horn of the train and he saw the woman throw her bicycle down to the side of the Down Main line and go back towards the children. Mr Atkinson made an emergency brake application. Both drivers told how Mrs Smith reached two of the children, who were between the two main lines, but the children appeared to be holding onto their bicycles. Then Mrs Smith and the children appeared to fall over.

10 The drivers were aware of an impact at the crossing and Mr Atkinson used the radio fitted in the driving cab to alert the railway control of the accident before the train was brought to a stand between a half and three-quarters of a mile north of the crossing. Mr Atkinson used the telephone at the next signal to inform the signalman at Doncaster Power Signal Box of what had occurred. It was evident to him from the condition of the front of the power car that the woman and the children had been struck.

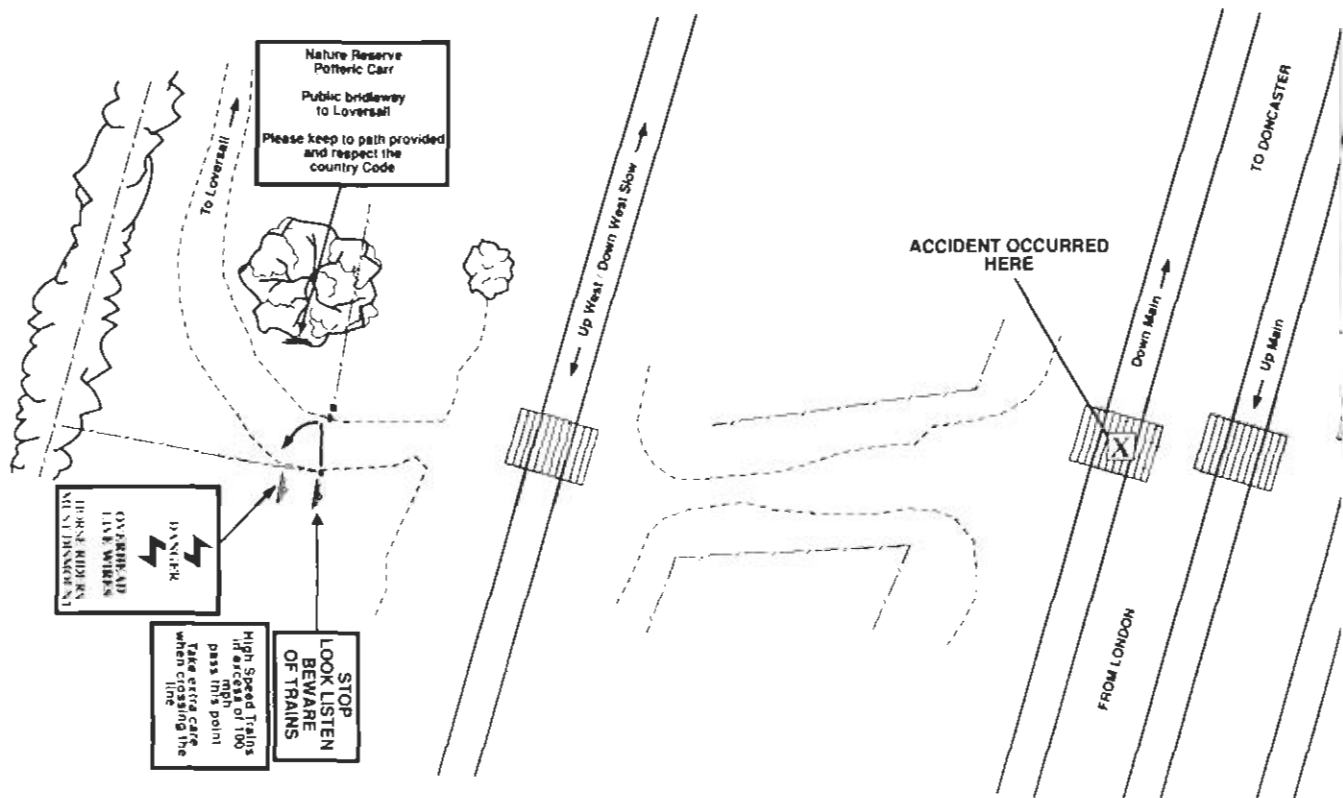


Figure 2 Accident at Carr Lane Crossing, Doncaster on 19 June 1990 (Signs and notices are shown as they are sited and viewed)

11 The accident was witnessed by two teenage 'loco-spotters' D J Grayson and S J Gray, who regularly met after school at the crossing. On the day of the accident Grayson had arrived at the crossing first and was joined by Gray at about 18.30. They took up a position in the space between the Up Loversall Curve and the Up Slow lines. Aided by a pair of binoculars Grayson had seen Mrs Smith and the three children riding bicycles along the "dirt track" from the direction of the Lincoln railway line. The time was about 19.20.

12 When they arrived at the crossing gate they all got off their bicycles and crossed over the first track. Grayson said that having reached the next line (Up East Slow line) Mrs Smith paused for perhaps half a minute and he assumed that she was weighing up whether it was safe to cross. Mrs Smith began to cross with the children following her.

13 Grayson heard the sound of a train approaching from the south. He turned and saw the train in the distance but Mrs Smith did not initially appear to have seen it. When she did she ran the rest of the way across the crossing and threw her bicycle down on the far side of the line before running back onto the crossing. She appeared to try and physically pull the children to the far side of the crossing. Suddenly the woman was on the ground.

14 He said he heard the train's horn sound once and then sound continuously before it reached the crossing and struck Mrs Smith and the children. Grayson ran

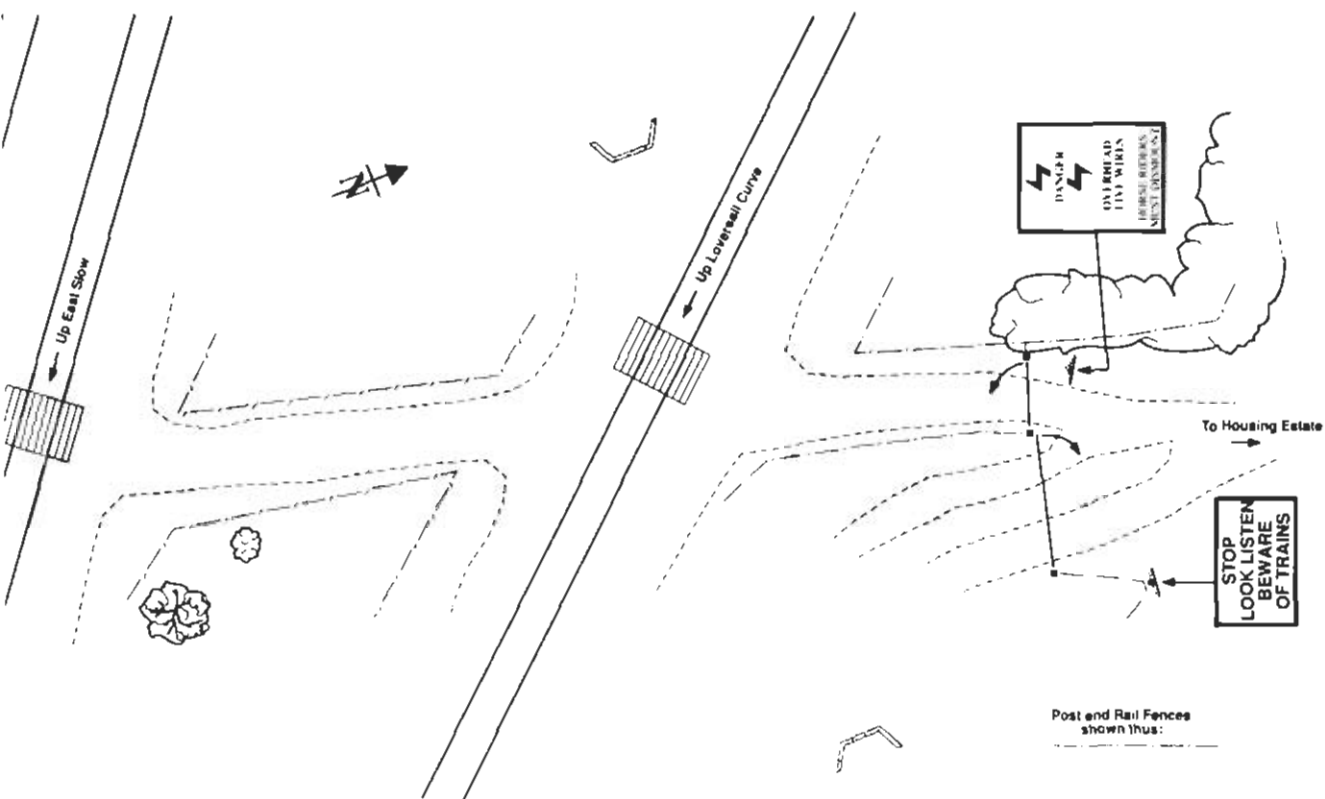
towards the house at the level crossing on the Lincoln line to raise the alarm. He had got about half way when Gray riding his bicycle caught him up and Grayson completed the rest of the distance with the use of the bicycle.

15 Gray gave evidence which confirmed the description of the events described by Grayson. While they were at the house at the other level crossing a distressed small boy riding a bicycle arrived and it was realised that he was the third child who had survived the accident.

16 Mr L R Hibbard, British Railways Area Operations Manager, gave evidence to the Inquest on the layout of the level crossing and the warning notices provided. He explained that it was the responsibility of the users of the crossing to take sufficient care when using the crossing.

REMARKS AND RECOMMENDATIONS

17 I believe that the evidence shows that when Mrs Smith became aware of the approaching train she found herself in a situation which was beyond her control. I consider no useful purpose would be served by attempting to analyse in detail exactly what happened immediately prior to Mrs Smith and the two children being struck by the train. Equally there would be no useful purpose in speculating on the reasons for Mrs Smith embarking on a cycle ride with the children which would take them over the Carr Lane crossing.



18 The Carr Lane crossing is of the visual warning type relying on the users of the crossing to stop and look to ensure that there are no trains approaching before commencing to cross the railway. Evidence was heard at the Inquest that the use of the crossing was evaluated by the British Railways Board for a maximum permissible line speed of 125 mile/h in 1976.

19 After the accident the minimum distances at which a train first came into sight were checked. For trains travelling at 125 mile/h the minimum sighting time available from a position of safety alongside the Up East Slow line (from where Mrs Smith and the children were attempting to cross the railway) was 11.26 seconds and from alongside the Down Main line was 7.8 seconds.

20 A pedestrian walking at 3 mile/h would take approximately 10.4 seconds to cross over the three lines. It would appear that while the time available for a pedestrian to cross towards Loversall was still just sufficient the time available to cross in the opposite direction was not adequate. Clearly since the assessment of the crossing was made in 1976 the distance over which approaching trains could be seen had been eroded and following the accident action was taken to remove the vegetation etc which was obstructing the view of approaching trains.

21 For many years the British Railways Board have provided crossing surfaces which are equivalent to the conditions to be found on the footpath approaches to the

individual crossing. For example, if the pedestrian has to walk for some distance along a rough cross-country footpath and over stiles the pedestrian is also capable of stepping over the rails in crossing the railway. However, at crossings which are more accessible a reasonably even surface at approximately the level of the rail heads is required.

22 Bridleways present particular requirements for a surface which can be used not only by horses but also which is suitable for use by cyclists who have the right to use bridleways [Section 30, Countryside Act 1968]. There is some debate as to whether it is better to ride or lead a horse over a bridleway crossing. It is necessary for horse riders to dismount before using crossings on lines electrified by the overhead catenary system where the wire height is below that stipulated for a public road. This is the situation which applied at the Carr Lane crossing. I consider it reasonable to expect cyclists to dismount and wheel their machines over a crossing.

23 After the accident British Railways placed additional stone ballast in the space between the Up and Down Fast lines and made some repairs to the timber surface over the Up Slow line. Also after the accident I discussed with Eastern Regional Officers how the physical condition of the crossing might be improved. Subsequently, I agreed with the Railway Officers that an improvement could be made by re-aligning the skew crossing with its staggered timber boarding over the three tracks. The primary advantage of making the

crossing at right angles to the railways is that the distance and hence the time taken to cross the railway is reduced to a minimum.

24 The curvature of the tracks and the cant (cross-elevation) applied to them mean that there will be considerable undulation in the crossing surface. I have accepted that to provide a fully timbered surface in these circumstances is both difficult and probably unnecessary providing the spaces between the timber sections are infilled with a suitably sized gravel. Sloped approaches onto and off the crossing proper are to be provided.

25 I have also agreed that considerable further improvement could be made to the appearance of the crossing, to assist the public who use it, by splitting the crossing into its three distinct parts. By providing each part with an obvious threshold with its own associated warning and instruction notices the public will be able to identify the places where they should confirm that no trains are approaching before they proceed. The modifications referred to in the above paragraphs have been completed by British Railways.

26 This tragic accident received extensive media attention and caused a heightening of public concern at the safety of public footpath crossings. For the period from 1979 to 1989 the number of accidents to pedestrians on footpath and bridleway crossings on the whole of the British Railways network was as follows:

Casualties (excluding suicides)

<i>Year</i>	<i>Fatal</i>	<i>Seriously Injured</i>
1979	4	1
1980	7	-
1981	2	3
1982	4	-
1983	1	2
1984	3	2
1985	2	1
1986	2	5
1987	5	-
1988	4	2
1989	2	4

27 The number of footpath crossings in existence in 1979 was believed to be 2088. In 1989 the number had marginally reduced to 1957. Many of them have fallen into disuse although the legal rights still exist. There is a need to identify those crossings which are being used and those crossings which are also bridleways. The British Railways Board has already implemented such a survey.

28 The basic criterion for the safe use of any footpath or bridleway crossing must be that the warning time available to the users of the crossing must exceed the time required by the user to cross the railway. It must be a first priority of the British Railways Board's survey to establish which crossings do not meet this criterion. As a matter of urgency the British Railways Board should obtain the necessary legal powers to divert, or, if the routine and regular use of the right of way does not justify its retention, to stop up those crossings which do not meet the criterion.

29 The original reasons for the existence of footpaths and bridleways have been replaced today by the use of the routes for leisure purposes. To divert or stop up rights of way will not receive universal approval but, nevertheless, it is essential that due regard is paid to the safety of the crossing and not just the amenity it may provide.

30 It will not always be possible to provide a view of approaching trains over a sufficient distance to give users time to pass over the crossing in safety. If the sighting time is only marginally sub-standard and the crossing usage only low, then the erection of 'whistle boards' at an appropriate distance from the crossing may provide a sufficient early audible warning to users. At bridleway crossings it may be necessary to provide telephones linked to a signal box, allowing horse riders to confirm it is safe for them to cross and to report when they have done so.

31 Where simple visual or audible warnings will not provide adequate time for users to cross the railway in safety, it may be necessary to provide visual and audible warnings automatically activated by the approaching train. Obviously, such installations can be vandalised and are expensive both to install and maintain. I consider this provision is unlikely to be justifiable at the majority of locations but may be appropriate at a few heavily used crossings which cannot be diverted.

32 Whether the cost of diverting crossings or providing automatic warning systems should fall wholly on the British Railways Board is a matter for debate. Clearly, the use of a crossing can be significantly altered by developments adjacent to the railway. The proximity of the nature reserve (regardless of whether access to it was intended to be from the Loversall footpath) on one side of the railway and a large housing estate on the other must have an effect on the usage of the crossing. In my opinion there is a need for those who develop land adjacent to the railway to have a part in any consequential improvements which may be required to adjacent railway crossings. Those authorities which give

permission for the development must ensure that proper consideration is given to any effects the development will have on the railway crossings.

33 However, the responsibility for ensuring that the arrangements at footpath and bridleway crossings are appropriate belongs to the British Railways Board. In order to fulfil their responsibilities it is essential that the British Railways Board have a properly organised system of routine inspection of all footpath and bridleway crossings. It is suggested that these inspections should take place at six-monthly intervals or, if automatic warning devices are provided, at, say, monthly intervals.

34 In order to make these regular inspections objective, the criteria on which the arrangements at each crossing were based must be available to those making

the inspection. The information available must be sufficient for any developments near the railway which will affect the use of the crossing to be identified and allow a re-assessment of the crossing to be made. In particular consideration should be given to providing some readily identifiable method of marking the sighting points for approaching trains. Such markers would also allow staff whose duties regularly take them about the railway to confirm that the growth of vegetation has not eroded sighting distances.

35 Whatever the warning arrangements for footpath and bridleway crossings the final responsibility for the safe use of these crossings rests with the user. However simple or advanced the warning system, unless members of the public heed the warning their safety cannot be guaranteed.



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ISBN 0-11-885663-4



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