

5.0
The Questionnaire

5.0 Introduction to the Questionnaire,

At the start of this project the author questioned, like many signal engineers before him, why the road traffic signals at level crossings are different from conventional road traffic signals found at thousands of road junctions. The author also felt that as, relatively speaking, level crossings are rare in the context of the overall road infrastructure, particularly with the geographical variation that exists in level crossing location. The author also felt that the level crossing road signals would, or may be, understood to a lesser degree than a conventional set of traffic lights, this would make the road user more vulnerable at level crossings and, more importantly, endangering railway traffic.

As mentioned in chapter 4, Mackie, Higgs and Cooper¹²⁷ have carried out four studies within the UK looking at the understanding of road signs, between 1967 and 1989. Mackie's first study included the 'Level Crossing without gates/barriers' to Diagram 771 and was a before and after study carried in north east Hampshire where the new symbolic signs were first tried out. He recorded an average response of 33% correct before and 54% after the introduction of signs. His control group recorded 43% and 34% respectively. Mackie's 2nd and 3rd studies did not include level crossing signs. Cooper's 1989 study included three signs, 'Level Crossing with gate/barrier' (Diagram 770), 'Level Crossing without gate/barrier' (Diagram 771) and 'St Andrews Cross' (Diagram 774).

The first issue was solved following a long discussion between the author and HM Railway Inspectorate¹²⁸. The official view is that conventional traffic lights would be displaying a green aspect for most of the time and, consequently, complacency would cause accidents at AOCL and AHB types of crossings where the timing sequence is as short as practical to prevent impatience by the road user. Some other countries do indicate to the road user that the crossing is clear. Canadian research¹²⁹ suggests that legal liability would be the deciding factor for *not* utilising conventional traffic signals.

¹²⁷ 1) Motorists Understanding of the meaning of symbolic traffic signs, A.M. Mackie & M.M. Higgs, Proceedings, International Conference on Highway Signs, Symbolology, Washington DC, Jun. 1972, Federal Highway Administration. 2) National Survey of knowledge of new traffic signs, A.M. Mackie, Road Research Laboratory Report No 51, Ministry of Transport, 1967. 3) Progress in learning the meanings of symbolic traffic signs, A.M. Mackie, Road Research Laboratory Report No LR91, Ministry of Transport, 1967. 4) Comprehension of traffic signs drivers and non-drivers, B.R. Cooper, Transport & Road Research Laboratory, Department of Transport, 1989, ISSN 0266 5247.

¹²⁸ Discussion, Author and John Hopkinson, HM Principal Inspecting Officer of Railways, Level Crossing Section, HMRI, London.

The second issue is more difficult to quantify. The latest available figures¹³⁰ available for the number of protected crossings in the UK indicate that there are 1509. This figure excludes crossings in Northern Ireland which, when included, increase this figure to 1568. It is difficult to confirm that these are all public level crossings; some may be private crossings with additional road signs¹³¹ dictated by circumstances prevalent at the crossing concerned; Du Pont AHB on NIR is one such example; a private crossing with public signposting and signals. Additionally there are a further 4222 un-protected crossings, excluding footpaths and Northern Ireland. The figure for Northern Ireland is not known. A lot of these crossings will be subject to signage from The Private Crossings (Signs & Barriers) Regulations 1996¹³².

Even if one assumes that all these crossings have a minimum of two sets of road signs, that indicates a total signage of each individual sign of circa 12000. The figure for road traffic signals is substantially lower with possibly circa 3200¹³³ sets of signals. The excellent booklet, Know your road signs¹³⁴ implies there are upwards of 2.5M road signs and signals on the roads of England today (1995).

It was therefore concluded that it would be a useful exercise to expand the original view of considering level crossing road traffic signal comprehension and test the public's knowledge of road signals and signs appertaining to level crossings with a suitable questionnaire.

Whilst level crossings are rare, there are areas of the country that have a high density of level crossings, such as Lincolnshire, and other areas where they are few and far between, such as Northamptonshire. The approach taken with the questionnaire was to undertake two separate appraisals concentrating on:

- Areas where there is a high incidence of level crossings
- Areas where there is a low incidence of level crossings

¹²⁹ Flashing Lights & Barriers at Grade Crossings; present problems and directions for the future, E. Hauer, Report No TP5308E, Toronto University, 1984.

¹³⁰ Table 15, Page 52, Railway Safety, HM Chief Inspecting Officer's Annual Report on the safety record of the Railways of Great Britain, 1997/98, Chapter 6, HSE/HMRI, 1998, ISBN 0 7176 1655 X.

¹³¹ Some will have more than two sets as a result of road layouts in the vicinity of the crossing.

¹³² Statutory Instrument SI 1996/1786, The Private Crossings (Signs & Barriers) Regulations 1996, HMSO, 1996, ISBN 0 11 062794 6.

¹³³ It is not possible to determine how many gated crossings have road signals; some do. Similarly, some crossings have more than two sets of lights as a result of road layouts.

¹³⁴ Know your traffic signs, page 10, Dept of Transport, HMSO, 1995, ISBN 0 11 551612 3.

5.1 Design of the Questionnaire

Considerable thought, and study of The Highway Code, Know your traffic signs, The Traffic Signs Regulations and General Directions 1994¹³⁵, Railway Safety Principles and Guidance¹³⁶, The Traffic Signs Manual^{137/138} and The History of British Traffic Signs¹³⁹ was undertaken in order to ensure a thorough and accurate understanding of the signs and signals involved.

This study led the author to believe that a three part questionnaire was needed. This had to be designed in a way that did not make it obvious test related to railway level crossing regulations.

- Part 1, General
- Part 2, Road Signs
- Part 3, Road Signals

With the following characteristics:

- multi-choice type
- anonymous
- colour coded for high/low incidence of crossings, for ease of data handling
- based on a spontaneous response
- use the correct terminology as found in the Highway Code
- illustrations as similar as possible to those in the Highway Code
- question with a choice of options, one of which would be the correct one; two of which would be incorrect; one of which would be a Don't Know; one of which would give the respondent the opportunity of his or her own answer; giving five possible answers.

¹³⁵ Statutory Instrument No. 1519, The Traffic Signs Regulations and General Directions 1994, pages 99-105, 136-179, 257, 260, HMSO, 1994, ISBN 0 11 044519 8.

¹³⁶ Railway Safety Principles and Guidance Part 2, Section E, Guidance on Level Crossings, HMRI/HSE, 1996, ISBN 0 7176 0952 9.

¹³⁷ The Traffic Signs Manual Chapter 4, Warning Signs, pages 21-23, HMSO, ISBN 0 11 550725 6, 2nd Edition, 1986.

¹³⁸ The Traffic Signs Manual Chapter 5, Road Markings, pages 32/33, HMSO, ISBN 0 11 550708 6, 2nd Edition, 1985.

¹³⁹ The History of British Traffic Signs, Department of Transport, Traffic Signs Branch, 2nd edition, 1997.

5.1.1 Questionnaire Part 1 - Personal

The first section was intended to establish whether the respondent was a motorist or pedestrian and whether they were normally resident in the United Kingdom. This section comprised of questions 1 to 4. The respondent was asked to tick Yes or No as appropriate to their own situation.

5.1.2 Questionnaire Part 2 - Signs

The second section contained questions 5 to 19 and each question was illustrated with a specific road sign. Of the fifteen different questions, six related to level crossings:

- Level Crossing with Gates or Barrier (Diagram No. 770)
- Level Crossing without Gates or Barrier (Diagram No. 771)
- Overhead Live Wires at Level Crossing or Tramway Crossing (Diagram No. 779)
- Risk of Grounding (Diagram No. 782)
- Level Crossing Count Down Markers (Diagram Nos. 789, 789.1 & 789.2)
- St Andrews Cross (Diagram No. 774)

All were illustrated with the exception of the question relating to the count down markers where the respondent was asked to indicate the relevant colour scheme. Given the rarity value of the crossing signs, the remaining signs were chosen from those less common in most cases. The intention of the remaining questions was to disguise the level crossing questions. During a peer review of the dissertation it was suggested that respondents should also have been asked about the frequency of use of level crossings. The author believes such a question may have amounted to a leading question.

5.1.3 Questionnaire Part 3 - Signals

Questions 20 to 34 related to Road Signals. Four of these questions related to level crossings:

- Flashing Red Man (Diagram No. 4006)
- Sequence of operation, Level Crossing Road Signals (Diagram No. 3014)
- Flashing Red Man (Diagram No. 4006)

- Level Crossing Road Signals (Diagram No. 3014)

The question relating to the Flashing Red Man was included twice in different forms as it is an exceptionally rare signal. This acted as a form of control question as the results from both questions should be similar and, the author believes, largely incorrect; conversely a high proportion of correct answers would suggest a non-spontaneous response.

It was also concluded that the flashing 'Another Train Coming' signal would be a spurious question as it was felt that the answers received would be almost totally correct. It was therefore decided not to include this signal. On a similar basis the Miniature Stop Lights were not shown. Two questions were illustrated; Two were not; one of which required identification of the operational sequence; one was a direct question; Where would you see a flashing red man signal? The remaining questions related to other traffic signals such as tramway, pelican and tidal flow signals. As with part 2, the intention of the remaining questions was to disguise the level crossing questions.

One final question was included as a control measure. Question 35 asked the respondent to state whether they had identified the subject of the questionnaire. A high, correct response would suggest that the purpose of the questionnaire had been identified and the author considered that this would indicate a flawed exercise.

Some difficulty was experienced in reproducing the road signal illustrations on the questionnaire due to the inability of monochrome photocopying to show a reasonable representation of the colours. The cost of a full colour questionnaire was prohibitive and therefore some of the signal illustrations were produced in full colour as a cross referenced supplement to the questionnaire, and shown to respondents during the form filling.

A paragraph of instructions was produced, principally to aid those who kindly assisted the author in asking respondents to participate. A sample of the questionnaire, supplementary page of illustrations and instructions is shown in Appendix E.

5.1.4 Final Construction Check

Prior to mass production of the forms the draft questionnaire was proof read and attempted and/or commented on by a number of people including the author's dissertation supervisor and two colleagues who are Members of the Institute of Advanced Motorists. Their feedback, constructive criticism and results ironed out the perceived anomalies in the method of presentation.

A number of corrections and alterations were made in the light of the comments made, following which the form was produced en-masse in three distinct colours:

- Green Forms; Areas where there are a high incidence of level crossings.
- Yellow Forms; Areas where there are a low incidence of level crossings.
- White Forms; General, for test appraisal.

5.2 Methodology employed in undertaking the Questionnaire

The principal aim of the questionnaire was to gain an understanding of the public's knowledge of the signs and signals in two distinct areas of level crossing incidence. To identify the appropriate areas a combination of the author's general railway knowledge and Quail maps¹⁴⁰ were used to locate the areas of high and low incidence of level crossings.

Currently, there are 32.53 million licensed drivers¹⁴¹ in England, Scotland and Wales, and a population of 58.8 million¹⁴² of which 46.56 million are 10 years of age or over and the author concluded that the Highway Code should be obeyed or, at least, understood by the majority of the population, both drivers and non-drivers. The author has a personal belief that it is not un-reasonable to expect that everyone over ten years old should be aware of the contents of the Highway Code. A decision was therefore taken not to allow children under ten years of age to complete the form. Attempts were made to target small groups of people in each area to allow a comparative analysis of the groups concerned.

¹⁴⁰ Quail Maps, The Quail Map Company, Exeter, UK; Vol. 2, England, East, 1998, ISBN 1 898319 29 4; Vol. 3, Western Region, 1989, ISBN 0 900609 63 X; Vol. 4, London Midland Region, 1990, ISBN 0 900609 74 5; Vol. 5, England South & London Underground, 1994, ISBN 1 898319 07 3; Vol. 6, Ireland, 1995, ISBN 1 898319 12 X

¹⁴¹ Question to DVLC, figure as of 5.4.98 excluding Northern Ireland.

¹⁴² Mid 1996 figures, from Marketing Pocket Book, NTC Publication, 1997, ISBN 1 899314 82 2

This was unsuccessful, with only two groups of police officers and one group of sixth formers responding to the author's request. Further targeting was therefore abandoned, due mainly to time constraints in seeking others.

The author undertook a number of questionnaire sessions with the public in various areas and was assisted by a number of friends in various parts of the country, without whom this exercise would not have been possible.

5.2.1 Problems

After some time, it became apparent that the first part of the questionnaire was causing some minor confusion. The intention of the first four questions was to differentiate motorists from pedestrians and also to identify any foreign nationals amongst the responses so that care could be taken with such responses on the assumption that such people may not be well placed to understand British practice.

Question 4 - Are you a NON Driver/Pedestrian? caused the confusion as some respondents who answered yes to Question 1, Do you DRIVE? also insisted that they were pedestrians and thus answered yes to both questions. The author's logic in preparing the wording for the questions was that a yes to question 1 would require a no to question 4 and vice-versa. All drivers are pedestrians; only some pedestrians are drivers!

5.3 Area of survey

5.3.1 White (Forms) Areas, General, for test appraisal

Questionnaires were answered in London, Birmingham, York and a few miscellaneous places by workplace colleagues who were unaware of the author's studies. The purpose of this appraisal was to ensure that the questionnaire was viable before commencing on the main public runs. A very thorough study of the first few responses revealed a minor 'leading statement' in the instructions that could possibly mislead and this was therefore changed. It also revealed one minor proof reading oversight that was corrected on the form prior to bulk printing. Following some 35 responses it was decided to proceed with the Yellow and Green appraisals.

5.3.2 Green (Forms) Areas, where there is a high incidence of level crossings

Questionnaires were answered in the following parts of the country;

- | | | | |
|--------------------------|----------------|--------------------------|----------------------|
| <input type="checkbox"/> | Lincolnshire | <input type="checkbox"/> | East Yorkshire |
| <input type="checkbox"/> | Norfolk | <input type="checkbox"/> | East Nottinghamshire |
| <input type="checkbox"/> | Suffolk | <input type="checkbox"/> | Essex |
| <input type="checkbox"/> | Cambridgeshire | <input type="checkbox"/> | Sheffield |
| <input type="checkbox"/> | Durham | <input type="checkbox"/> | East Sussex |

5.3.3 Yellow (Forms) Areas, where there is a low incidence of level crossings

Questionnaires were answered in the following parts of the country;

- | | | | |
|--------------------------|------------------|--------------------------|-----------------------|
| <input type="checkbox"/> | Northamptonshire | <input type="checkbox"/> | North Buckinghamshire |
| <input type="checkbox"/> | Manchester | <input type="checkbox"/> | West Nottinghamshire |
| <input type="checkbox"/> | Oxfordshire | <input type="checkbox"/> | Carlisle |
| <input type="checkbox"/> | Reading | <input type="checkbox"/> | London |

5.4 Analysis of the Questionnaire

5.4.1. General Commentary

On receipt of each group of forms they were identified in numerical sequence and given a group identifier relating to the area that the respondents were recruited in; e.g. Green forms numbered 54-72 were completed by Lincolnshire police officers. No individual can be identified from any questionnaire form.

5.4.2 General Statistics

These are total figures and include the police responses. One 'green' respondent was noted as being a driver and not holding a licence.

Table 5.A
General Questionnaire Statistics

General Statistics	White	Yellow	Green	Total
Forms Completed	48	200	201	449
Questions answered	1680	7000	7035	15715
% Ruined answers (individual questions)	0.36%	0.13%	0.043%	0.114%
% Non (blank) answers (individual questions)	1.73%	3.66%	0.84%	2.19%
% Don't Know answers Questions 5-34 (individual questions)	16.18%	14.87%	14.36%	14.37%
% Question 35 Don't know	54.17%	73%	72.64%	70.82%
% Question 35 Know, but incorrect	33.33%	20.5%	24.87%	23.83%
% Question 35 Know, Correct	12.5%	5%	1.99%	4.45%
% Drivers, Licence Holders, UK Resident, Non-Driver; all forms	Drivers 82.18%	Licence Holders 84.85%	UK Resident 98.22%	Non-drivers 21.16%

5.4.3 Analysis Methodology

The answers on each form were entered into a Lotus 123 spreadsheet developed for the purpose. Each form was colour identified on a separate spreadsheet page and the number identified consecutively in each colour.

Each question was given a constant series of numbers to indicate the answer given:

- In all cases a 0 indicates a non-answer e.g. all possible answers blank
- In all cases a 1 indicates the first box ticked

The Questionnaire

- In all cases a 2 indicates the second box ticked
- In all cases a 3 indicates the third box ticked
- In all cases a 4 indicates the fourth box ticked
- In all cases a 5 indicates the fifth box ticked
- In all cases a 6 indicates a ruined or indecipherable answer

Therefore Questions 1-4 could only have four possible spreadsheet answers - 0, 1, 2, 6; Questions 5-34 could have 0, 1, 2, 3, 4, 5 or 6; Question 35 was the exception with 0, 1, 2, 3, 6. In this case a respondent answering 2 was asked to state what the questionnaire was about, incorrect answers were marked 2, correct marked 3 - correct having identified level crossings.

Two additional columns were created;

- to record the exact wording of Question 35 No. 2 answers
- to record the exact wording given for any No. 5 answer - Other, State

These comments are shown in Appendix G.

Such a numbering arrangement within the spreadsheet allowed a comprehensive distribution analysis to be undertaken for each question within each colour grouping and as a total analysis.

5.4.3.0 Analysis Results

5.4.3.1 The Police

Two groups of police officers took part in the questionnaire; the green group comprising 19 officers from the traffic division in the Grantham, Sleaford and Spalding areas of Lincolnshire; the yellow group from West Nottinghamshire area consisting of 19 officers of various grades.

Overall analysis of both groups of forms reveals the following:

Lincolnshire

- 19 responses
- 0.3% non-answers

The Questionnaire

- 0% spoilt answers
- 65.79% correct answers (LC questions, average %)
- 10.7% Don't Know (questions 5-34)
- 0% Question 35 (purpose of questionnaire)

Nottinghamshire

- 19 responses
- 0.6% non-answers
- 0% spoilt answers
- 74.21% correct answers (LC questions, average %)
- 8.94% Don't Know (questions 5-34)
- 0% Question 35 (purpose of questionnaire)

5.4.3.2 Individual Analysis Lincolnshire Police (Green)

Lincolnshire Police scored an overall 65.79% correct answers, averaged over the 10 level crossing questions, 8.42% lower than the Nottinghamshire group. None of this group (0%) identified the Flashing Red Man signal (Q27 & Q31). They showed a substantially lower understanding (57.89%) of the St Andrew's Cross (Q19) sign that is always associated with the Level Crossing without Gates/Barriers (Q9) sign. For the latter they gained a near perfect score (94.74%). The score for Level Crossing with gates/barriers (Q7) sign was also low (78.95%) given the number of crossings in Lincolnshire, the bordering area of East Nottinghamshire and the East Coast Main Line. Comprehension of the operational sequence of (Q28) Level Crossing road traffic signals is also low (68.42%), although recognition of the signal (Q34) was perfect (100%).

5.4.3.3 Individual Analysis Nottinghamshire Police (Yellow)

Nottinghamshire Police scored an overall 74.21% correct answers averaged over the 10 level crossing questions. This group gained a high score (42.11% & 36.84% respectively) on the Flashing Red Man (Q27 & Q31) signal, which is surprising given the rarity of this signal and low incidence of level crossings in West Nottinghamshire. Overhead Live Wires at Level Crossing or Tramway Crossing (Q13) was low (63.16%) but there are no overhead electrified railway lines in their immediate vicinity. Comprehension of the operational sequence (Q28) of Level Crossing road traffic signals

is far lower than their Lincolnshire colleagues (52.63%), although recognition of the signal (Q34) was nearly perfect (94.74%).

It must be remembered that the police responses are taken from a small sample and thus may not represent a true picture.

5.4.3.4 Individual Analysis, Public, Green Area

Overall analysis of the forms reveals the following:

- 182 responses excluding police
- 0.84% non-answers
- 0.043% spoilt answers
- 55.33% correct answers (LC questions, average %)
- 18.04% Don't Know (questions 5-34)
- 2.20% Question 35 (purpose of questionnaire)

5.4.3.5 Individual Analysis, Public, Yellow Area

Overall analysis of the forms reveals the following:

- 181 responses excluding police
- 3.66% non-answers
- 0.13% spoilt answers
- 50.88% correct answers (LC questions, average %)
- 19.17% Don't Know (questions 5-34)
- 5.52% Question 35 (purpose of questionnaire)

5.4.3.6 Individual Analysis, Public, Test Run, White Area

Overall analysis of the forms reveals the following:

- 48 responses
- 1.73% non-answers
- 0.36% spoilt answers
- 57.71% correct answers (LC questions, average %)
- 16.18% Don't Know (questions 5-34)
- 12.5% Question 35 (purpose of questionnaire)

5.4.3.7 Public Analysis Conclusions

The public have a low range of understanding, at around 50-55%, of level crossing signs and signals. This is slightly better, at around 55%, but not a significantly superior, for those living in areas where there is a high incidence of level crossings. Appendix F reveals similar average figures for the remainder of the questionnaire.

The green group scored a higher percentage of correct answers for three of the four principal road signs, (Q7, Q9 & Q14), whilst the yellow group were better on the overhead electrification sign (Q13). Questions 18, 19 and 27 were reasonably balanced with both groups whilst question 28 must be of great concern with only 28% yellow and 35% green responses understanding the sequence of operation of the LC road traffic signals. Only one respondent commented that these signals were also used elsewhere e.g. Fire stations. The yellow group scored more on both flashing red man questions than the green group with 10.5% and 9.34% respectively for question 27 and 16.02% and 14.83% for question 31. Question 34 mirrors the police response with green group being 10% better at 93.95%. The purpose of the questionnaire was correctly assumed by 2.19% green and 5.52% yellow respondents respectively. The white group was consistently higher throughout and this is assumed to reflect the fact that most have a railway orientated background.

Questions 9 and 19 also give rise to another concern; both questions relate to open level crossings, e.g., without barriers. Over the whole survey, white, green and yellow, 8.46% (Q9) and 31.18% (Q19) answered 'Level Crossing *with* gates or barriers'; One could argue that the respondent has recognised a level crossing and using Mackie's theory has answered correctly. However, the author suggests, these respondents are in some danger; they will be expecting to find gates or barriers ahead; if they fail to see the red flashing lights or illegally cross at 27-29 seconds into the level crossing sequence they may well come into contact with the railway vehicle.

It is of very great concern that these figures indicate between 14.5 to 16 million drivers in the U.K. are lacking the knowledge required to drive safely across level crossings. The

figure gets worse if you consider the population as a whole; 20 to 23 million people! - the Highway Code applies to everybody, including pedestrians.

5.4.3.8 Illustrations and Bar Charts

An illustration of each questionnaire sign and signal is shown on the following pages. In Appendix F, an analysis of each level crossing question is presented in two forms; the top bar chart shows the percentage of correct answers for the white, green and yellow areas and the two groups of police responses for each question in turn; the lower bar chart shows the distribution of answers for the three groups, the police being added to their respective colour group. Each bar chart shows the question number and answer in brackets e.g. Question 31 (2); title of sign or signal e.g. Flashing Red Man; the rest is self explanatory.

A more general analysis of the remaining questions on the form is also shown in appendix F.

Questionnaire Illustrations, page 5.17

<p><i>Top Left Fig. 5.1 Question 7 Warning Sign (Diagram No. 770); Level Crossing with Gates/Barriers at Duncrun West AHB LC, Co. Londonderry, NI.</i></p> <p><i>Note the old style 'Automatic Barriers' sign.</i></p>	<p><i>Top Right Fig. 5.2 Question 9 Warning Sign (Diagram No. 771); Level Crossing No Gates/Barriers at Matt Pitts Lane AOCL LC, near Wainfleet, Lincolnshire.</i></p> <p><i>Note the vegetation.</i></p>
<p><i>Bottom Left Fig. 5.3 Question 13 Warning Sign (Diagram No. 779); Overhead Live Wires at Level Crossing or Tramway Crossing at Banbury Lane MCBcctv LC, near Northampton, Northamptonshire.</i></p>	<p><i>Bottom Right Fig. 5.4 Question 14, Warning Sign (Diagram No. 782); (Top one) Risk of Grounding at Pilleys Lane AHB LC, Boston, Lincolnshire.</i></p> <p><i>Note the proliferation of other signs.</i></p>



Questionnaire Illustrations, Page 5.19

<p><i>Top Left Fig. 5.5 Question 18, Warning Sign (Diagram Nos. 789/789.1/789.2); Count Down Marker at High Ferry AHB LC, near Sibsey, Lincolnshire.</i></p> <p><i>Note the new style 'Stop when lights show' sign; the single and triple count down markers have one or three red stripes respectively.</i></p>	<p><i>Top Right Fig. 5.6 Question 19, Warning Sign (Diagram No. 774); St Andrews Cross at Dungeness Road LC, RHDR, Dungeness, Kent.</i></p> <p><i>Note the lack of backboard on signal, a measure to prevent the wind blowing the signal over in this very exposed location.</i></p>
<p><i>Bottom Left Fig. 5.7 Questions 27 & 31, Warning Signal; (Diagram No. 4006) Flashing Red Man at Sunningdale MCBcctv LC, Middlesex.</i></p>	<p><i>Bottom Right Fig. 5.8 Questions 28 & 34, Mandatory Road Traffic Signal (Diagram No. 3014): LC Road Traffic Signal at Brooklands AOCL LC, near New Romney, Kent.</i></p> <p><i>Note the additional red and white diagonal striped sign, signifying the 'entrance boundary' to the crossing. This sign is now illegal.</i></p>



5.5 Issues and Conclusions

The questionnaire has been a worthwhile exercise and, whilst the author has not got the same level of resources as organisations like the TRRL, which might have an effect on the overall accuracy, it seems to suggest that there is a serious deficiency in the relevant knowledge amongst the public. This must be of great concern.

This deficiency in knowledge may be as a result of considerable inconsistency in road signs; some prohibition signs have a 45° stripe through them, others don't, why ?; Why do we need two level crossing warning signs, when the motorist is required by law to stop at a level crossing, when necessary. Why do we need three types of countdown markers in the UK ? Surely one colour scheme would do ?

Secondly, and more likely, is the lack of any formal teaching of such information in schools or elsewhere. Most learner drivers are expected to memorise from the Highway Code for the driving test. Pedestrians and non-drivers, therefore, receive little or no education in the Highway Code.

If level crossings are successfully closed, the signage becomes rarer and thus the public are at even greater risk of misunderstanding the signs and signals as they will be seen less frequently.