

Improving signage at private level crossings – A response from the Institution of Railway Signal Engineers (IRSE)



IMPROVING SIGNAGE AT PRIVATE LEVEL CROSSINGS

Introduction

This document forms the response of the Institution of Railway Signal Engineers (IRSE) to the Department for Transport (DfT) consultation on Improving Signage at Private Level Crossings, published on 6 April 2022.

The IRSE is the international professional body of railway engineers whose portfolio of responsibilities includes the design and construction of level crossings.

In preparing this response the IRSE has assembled a group of experts having extensive experience in the management of level crossings in the mainline and minor / heritage railways sectors. Details of the experience and qualifications of members of the group can be found at Appendix C of this response.

The IRSE welcomes the opportunity to contribute to this consultation on what is a very important and urgently needed improvement. The response makes suggestions for change not already identified in the consultation but considered to be within scope and aims to offer constructive criticism of the proposals. It also comments on matters where there is anticipated to be impacts from the proposals that have not been explicitly covered in the published documents.

The response is structured in line with the topic questions advanced in the consultation document. Further reasoning and evidence supporting each question response is provided in Appendix A.

1

What are your views on the case for change that is set out in this document?

The case for change is not adequately made in the consultation, notwithstanding it is the view of the IRSE that improvement is urgently required.

The case only quantifies the change in terms of general road traffic increase of 106 per cent over the past 25 years. This statistic is not aligned with the use of private crossings and is only one of several factors which should support the case for change. The use of traffic volumes is less relevant, as the selection of the method of protection (gates, barriers, signs) is chosen with that as a factor.

The consultation omits any reference to changes in pedestrian or equestrian use.

A significantly better understanding of human factors accrued during the life of the present Regulations should be referenced. The contribution of human factors and societal change, to safe use and to accidents which have occurred at private crossings, is a substantial reason for change.

The reference of two RAIB accident reports may be representative only. There is a substantial body of evidence from research into design and interpretation of signage along with other RAIB reports where signs were contributory that could be referenced. A sample list of reports produced by RAIB each of which has some relevance to the consultation is included at appendix D.

Estimates relating to the actual types of users should be provided to help substantiate the case for change.

The consultation singles out 'van' use as a key driver of the need for change without quantifying the volume of incidents recorded that were related to other user types. No mention is made of users with various types of disability. This is necessary to enable appropriate weight to be given to the type and design of signs proposed for the future, especially where multiple user

types may exist.

The case for change could be strengthened by drawing from a broader scope of evidence.

The opportunity to provide improved indications is relevant, however power operated barriers have been a feature of some private crossings for many years and Power Operated Gate Operation (POGO) is not the sole driver for incidents. More recent Miniature Stop Light (MSL) systems have been provided with larger aperture light units. Consideration should be given to sign designs that are compatible with a future long-term upgrade of traditional (50mm) MSL units to larger aperture lens. The IRSE has not identified a specific benefit for retaining 50mm lens in the long term, though that change is outside of the scope of this consultation.

Overall, the consultation implies moving both the matter of safe use of private crossings along with the problem of accidents and incidents and its attendant economic/financial burden from the current Authorised Users and their invitees exclusively onto the Railway Authority/Operator. Page 11, section 1, specifically paragraph 1.17 refers to the "principal duty" falling to the level crossing operator. It is the IRSE view that this is, and should continue to be, a shared responsibility with a duty of co-operation with users. The IRSE does not support the objective of transferring responsibility in its entirety to the railway operator but sees the responsibility for safe use as a continuing shared objective, except where specific historic legal right has allocated it differently.

2

What do you think of the time period suggested for the rollout of the new signs? Do you think that this time period could be, or should be, further shortened?

The time to implement is heavily dependent on enacting the legislation. Therefore, it would be better expressed as a number of months/years after enactment, if indeed a fixed timescale is required. Committing the duty holder(s) to a timescale, over at least part of which, they have no control is unfair.

The consultation is focussed on Network Rail controlled infrastructure and the funding model associated. However, there are many minor / heritage railways and other administrations who do not have the same ready access to funds or procurement and delivery mechanisms. Consideration should be given to an appropriate methodology to determine a timescale by which these operators can achieve the changes required. See also response to question 5 - Costs, which is closely linked.

Consideration should be given to the impact of changing signs in dissimilar timescales where crossings are in close proximity, although not on the same line of railway but may be used by the same users.

It is likely that other associated work will be necessary such as renewal, relocation or increase in the number of posts to support the number and size of signs proposed. This will substantially change the programme time. In principle a short well-coordinated programme is desirable for efficiency of project/programme management costs.

The IRSE does not agree that this is a task which can be undertaken by staff redirected from routine maintenance. Demonstrable competence will be necessary to place signs and to design and erect suitable supporting structures where this is necessary. It is also important that maintenance staff are not distracted from the delivery of important maintenance tasks, which could impact on safety and asset performance.

The programme timescale will be affected by the availability of competent staff. Asset records required by Construction (Design and Management) Regulations will be necessary, especially if replacement supporting structures are required. Training/briefing of private users and their invitees/employees may also affect the implementation timescales.

All of the above factors should be taken into account when determining the implementation/ compliance timescale.

3

What are your views on the content and format of the signage proposed at Annex B? Are there improvements or suggestions you recommend, especially in relation to those who may have disabilities?

The proposed signage is improved from the current Regulations, however the IRSE Working Group has identified further improvements that could be made. A detailed commentary on each sign is included at Appendix B of this report. There follows here, some general observations regarding the proposals.

The significant number of signs and variants of signs may lead to over provision and potential user confusion. The principle of 'Keep It Simple' should apply to all aspects of the signage, including the number and variations of signs which designers/installers have to apply at any single site. A proliferation of instruction/information signs could lead to a perception of 'sign clutter'. Something which the Department for Transport (Roads) has previously campaigned against as part of its revision to the Traffic Signs Regulations and General Directions 2016. The IRSE is aware that Network Rail has access to a tool to assist the selection and placement of signs at level crossings. It would be desirable for this to be evaluated by the DfT and potentially for the Department to facilitate access to it for minor / heritage and other private railways.

The consultation proposals do not expose the implications of having many of the proposed signs provided in dual language (Welsh / English) which is a requirement in Wales under the Welsh Language Act 1993.

The opportunity to use or provide for a 'Q code' (or similar) to enable users to access site specific step by step instructions along with audio / visual support, has not been considered.

Most users are likely to have access to a mobile communication device and mobile network coverage of the railway is generally extensive. This would also benefit the subcategories of disability where hearing or sight is an issue. The consequent simplification and reduction in signage at those sites would also benefit the railway operator /

industry in general.

The level of detail provided on the proposed signs is intended to address each user type, however if the user type changes, the burden of changing the signage will be significant.

Also, if the responsibility for this lies with the railway authority there is no incentive on the 'Authorised User' or successor to that role to manage the use of what is actually a private crossing. At least some private crossings in their Act of Parliament place the financial responsibility for user driven change to the crossing on the 'Authorised User' usually after the first provision.

The placement of signs in National Parks and other places of significant natural beauty is contentious. Objections will most likely be raised by the National Park Authorities to the size and volume of signs proposed. This does not appear to have been addressed in the proposals. However, the provision of smaller machine-readable signage may help to address this objection.

4

This consultation suggests that the concept of an authorised user is outdated and therefore does not need to be set out in legislation. The duty of care imposed by the Occupiers Liability Acts and HSWA are considered to be adequate. Instead, the revised signage proposed in this document and the continued outreach and briefings provided by crossing operators will help ensure the safety of those using level crossings. What do you think of this proposal?

This implies that all crossings will be treated as if they can be and are used by the general public regardless of their legal status. See page 15, paragraph 2.12. The IRSE Working Group raises a number of questions, centred around this matter. Who would enforcement action be taken against if there was a persistent problem of failure to comply with safe crossing instructions? Would it be the user or the owner of the private rights or the railway authority?

If the future signage scenario envisages facilitating the safe passage of the general public over these types of private crossings, consideration should be given to whether it will be permissible or even desirable to use similar signage on public and private crossings. Currently private crossings signs are used at public footpaths and bridleways.

A benefit would be that more members of the public would be likely to encounter the signs and therefore understand their meaning and intent. If this is not the case,

then the general public could become more confused by encountering different signage at private and public crossings which are similar in appearance and differentiated only by their legal categorisation.

The average general user is unlikely to appreciate the legal difference.

The principle of Authorised User recognises the duty of care in other legislation. The term is widely understood to recognise the Authorised User as someone most likely to know who traverses their crossing. For example, they will be aware of their invited users, their uninvited users such as Royal Mail who have a legal duty to deliver post. If the concept of a responsible party knowing who uses the crossing is removed all crossings could effectively become 'public'.

On Public highways, prosecutions are enacted under Road Traffic Acts; at Private crossings BTP prosecute under railway byelaws and 'Offences Against the Person Act 1861', also 'Offences Against the Malicious Damages Act 1861'.

As to Health and Safety at Work Act offences, the Health and Safety Executive is the enforcing authority except for rail and level crossing related issues when it is the responsibility of the Office of Rail and Road (ORR). Liability Acts appears to be a Civil matter that may get prosecuted when injured party sues the railway/landowner. It does not appear to fall within the authority of British Transport Police, HSE or ORR to enforce.

It would be helpful to provide clear direction or even rationalise this legislation in order to provide clear and consistent application of enforcement, especially in relation to the proposed signage.

The principle of requiring the crossing operator to brief all users on the safe use of a private crossing seems to be flawed. The railway operator is less likely to know or be

aware of the range of users than the 'Authorised User'. The IRSE believe that the instructions for safe passage at any crossing should be simple, comprehensive, unambiguous and deliverable without reliance on supplementary briefing. The move towards pictogram-based signage supports this.

This point is reinforced by considering that this signage is used for public footpath and bridleway crossings, where briefing of users by the railway operator is impracticable and unreasonable.

As far as the IRSE Working Group is aware neither the Office of Rail and Road, British Transport Police nor the Health and Safety Executive hold the necessary powers to prosecute under the Occupiers Liability legislation.

The IRSE believe that the concept of the authorised user should be strengthened and codified in legislation. This opinion is based on the need for clear identification of those to whom the duty of care falls in law, and the recognised shared responsibility and co-operation required from users to pass safely over a level crossing.

5

What is your view of the costs for placing signs that we have used in this document? What are the cost impacts of different timescales for replacing signage? Are there any other comments you wish to make about costs, either generally or in relation to your organisation?

The IRSE believe that the costs suggested in the consultation are understated and unrealistic.

The preparation of this consultation appears to pre-date the severe loss of income experienced by all railways, especially minor / heritage railways during the Covid-19 pandemic.

It is likely that other associated work will be necessary such as renewal, relocation or increase in the number of posts to support the increase in the number and size of signs proposed. This will substantially change the project costs.

The IRSE does not agree that this is a task which can be undertaken by staff redirected from routine maintenance. Demonstrable competence will be necessary to place signs and to design and erect suitable supporting structures where this is necessary. The risk of allocating sign changes to maintenance staff is they may also be distracted from the delivery of important maintenance tasks, which could impact on safety and asset performance. Experience from when the national telephone STD codes had a '1' added in 1996. In some areas of Railtrack it was made a formal project with survey, design and specification and a professional sign supplier and installer was appointed. In other areas the maintainer was used, crossings were missed along with the deadline and the cost per crossing was greater.

The cost for replacement will be increased by the need for scrutiny of existing signage and application design decisions, which could be significant.

The costs should also take into account that posts and other supporting structures may not be useable for the new signs. The new signs in general are larger, especially when considering they will be used in combination with multiple instructional/information signs.

The posts may also not be in the optimum position for readability of the new sign. Wind loading rules for attaching signs to structures will likely have changed since original sign installation, and in some cases the posts/structures may need premature renewal to accommodate the new signs safely.

It would therefore appear that many existing posts would need to be replaced or supplemented by a duplicate post. The suggestion that this work could be carried out by maintenance staff concurrent with other planned maintenance (paragraph 5.1) is flawed for the reasons given above and, in the answer, to Question 2 above.

It is the IRSE's view that the DfT should consider provision of funding on an equitable basis to railway operators to support this change in Regulations which will be significant in relation to income for some railways.

6

What are your views on whether the Department should publish guidance to help level crossing operators apply for the authorisation of non-prescribed signs?

Guidance should be made available; however clear direction should also be provided to discourage a proliferation of variants of prescribed signs. The number of variants of signs proposed, if adopted as proposed, suggests that few further bespoke variants should be needed.

Clarity should be provided on the duties of the Regulator and the duties of the Secretary of State with respect to the making of level crossing orders and the authorisation of sign variations. In the experience of the IRSE Working Group, authorisation of applications for variation to signs are often protracted and, in some cases, unresolved after many years.

Guidance should specifically address the process for Transport and Works Act authorisation under Section 52 'placing railway signs on private land'. The IRSE Working Group's experience is that there are considerable problems in this area which prevent the railway operator putting up signs in a more appropriate position. It is the IRSE's view that DfT should provide guidance similar to the chapters of the 'Traffic Signs Manual' to support these proposed Regulations.

7

Are there any other comments that you wish to make in relation to these proposals?

Variants of signs

It is the IRSE's opinion that too many variants are proposed, which although well intended is likely to result in more confusion, less compliance and therefore not achieve the objective of the change to the Regulations.

Machine readable signs

The lack of provision for machine readable signs (e.g., Q codes) is an oversight which in the opinion of the IRSE misses the opportunity to provide accessible audible and visual step by step instructions specific to each crossing. This would provide increased clarity to users and aid those who have visual or reading disabilities (dyslexia).

The same oversight applies to the imminent arrival of future autonomous vehicles. Machine readable instructions should be incorporated to avoid a further wholesale change to signage in the near future.

Disability provision

The consultation proposals lack ambition for improvement for those with disabilities. The provision of accessible pre-recorded audible instructions could be included for the benefit of users with reading disabilities. No mention is made for the inclusion of 'Braille' for the benefit of visually impaired users.

Public use of private crossings

Page 11, paragraph 1.5 refers to the signs being placed on or near a private road or path which crosses the railway. There are some instances where the crossing is shortly after turning off a public road and therefore the sign, or at least advance warning, would need to be placed on the public road. Has this been considered? (See RAIB report ref. 12/2018 Froggnal Farm).

Page 20, Paragraph 4.7 of this consultation. The matter relates to the public interpretation of signs not just the legal authorisation.

Some incisive remarks are made in the report into the Accident at Naas private level crossing on 1 March 1979 which are relevant to the consideration of public use of similar crossings. (See HMSO Report published 28 May 1981). These relate to Miniature Warning Lights – MWL, the forerunner of Miniature Stop Lights – MSL with which many private crossings are equipped.

Whole system approach

The IRSE Working Group is concerned that replacement of signs as an isolated activity without consideration of the user interaction with the whole system of protection will lead to adverse unintended consequences. It is recommended that a holistic consideration of the method of protection including type of lights, gates, barriers, sounders and their inter-relationship with the signage is considered before committing to a wholesale replacement of signs in isolation.

Paragraph 5.2 – Consideration should be given to the risks created by ad-hoc replacement of signs which are in close proximity to other existing signs where both types may be encountered by the same (unfamiliar) user within a short timeframe. This is a factor in paragraphs 5.4 and 5.6 where highest individual crossing risk is given more weight.

It is understood that there are some crossings existing where the stop lights (MSL) are duplicated on the near and far side of the railway. Likewise, there are push button operated barrier systems as well as hand pumped barrier systems in existence which will need careful consideration to ensure that incorrect operating instructions are not provided. This could undermine the credibility of any accompanying safety instruction.

Liability and insurance

Paragraph 4.10 refers to the proposed concept, suggesting a shift of the responsibility for 'briefing' onto the Railway Operator by way of the proposed Regulations. This is a significant change of liability for railway operators, some of whom, particularly the minor / heritage railways sector, port or other railway freight terminal operators may not be equipped to discharge, especially any change to public liability insurance and its costs. The IRSE Working Group does not consider it realistic to expect a minor / heritage railway operator or a freight terminal operator to reach out to parcel delivery companies, road haulage associations et. al.?

Scope of Regulations

Application of private crossing signs is current practice for public footpath and public bridleway level crossings whether adjacent to private vehicle level crossings or not. This signage includes for public footpath and public bridleway level crossings adjacent or integrated with the private vehicle level crossing. The legislation should be clarified to apply to public footpath and public bridleway level crossings without the need for authorisation by the Department under the Traffic Signs Regulations and General Directions 2016.

Currently the use of Wig-Wag signals is not permitted at private crossings, without special authorisation. However, there may be benefit in including these as part of the portfolio of signs which are available to manage private crossings. Provision of a 'Standing Red Person' could also be a useful addition to the cadre of tools available to manage users at private crossings. The IRSE suggests that consideration be given to including such provision in the proposed Regulations, to avoid special authorisation on each occasion of use.

The consultation has not taken into account railways that operate in the National Parks. Experience shows that the National Park Authorities will object to signs erected on any part of the railway. Erecting signs outside the railway boundary in a National Park is unlikely to be accepted.

Appendix A - Supplementary supporting evidence

Question 1

The proposals should reference the relevant transferrable knowledge accrued from public level crossings. This should include research and acquired data from current installations. This should provide good evidence of behaviours around level crossings. There seems to be no good reason for using different signs to convey the same message whether the crossing legal status is public or private.

Page 13, paragraph 2.1. The consultation should provide evidence to support the claim that traffic at private level crossings has increased similarly to that quoted for general traffic increases.

Page 13, paragraph 2.2. The reference to rail traffic increases since 1996 should also be justified with data, especially since train services on many routes have been significantly reduced during the Covid-19 pandemic and continue at lower levels for other reasons such as staff shortages.

It is understood that Network Rail undertake CCTV census data gathering at many private crossings, often over a period of 9 days. This data could be used to support or refute the claim that delivery drivers present a greater risk at private level crossings. The experience of the Working Group is that there is no noticeable increase in the manner stated except where those drivers cause incidents, and then come to the attention of the authorities as a result.

There are believed to be a small number of Miniature Warning Light crossings remaining where the light indications are provided on the far side of the railway. The IRSE suggests that these and therefore the signs relating to them should be phased out.

Referring to the IRSE response to Question 1 our evidence in support of the final paragraph is given as;

Private Crossings are created in individual railway acts using terms from Railway Clauses Consolidation Act 1845 & Railway Clauses Consolidation (Scotland) Act 1845. That includes Transport & Works Acts, English & Scottish versions in more recent years along with agreements made with landowners affected by railway construction in the form of deeds. Doing away with the term Authorised User leaves potential confusion regarding the party to whom this legislation applies. This is based on the long-established custom and practice of referring to the Authorised User widely used in correspondence and meetings with parties who share responsibility for safe passage over the railway.

Question 2

The proposed timescale is not supported as other factors other than the delivery mechanism should be considered. For example; adjacency of crossings used by the same users (inconsistency), additional work likely to be required concurrently, competence and availability to staff to undertake the work, priority with respect to other (safety related) work, condition of existing signs/support equipment, time to procure materials, time for application design decisions and records management and reasonable opportunity (combination with other work).

It would be helpful, especially for minor / heritage railway operators to be provided with guidance on the prioritisation and risk management of this change. Not all railway operators e.g. minor / heritage railway operators have access to the same levels of expertise that organisations like Network Rail have.

Question 3 - Detailed comments on proposed signs.

It is the view of the IRSE that there are too many proposed signs,

identified in the range D1 – D39. This potentially jeopardises the objective of providing simplified pictorial signage.

The IRSE Working Group has identified a number of changes which may be beneficial to the design of specific signs, these are shown in the table at appendix B. In a number of cases the Working Group has indicated its endorsement of the proposed design.

Some of the symbols do not reflect the actual likely use, e.g; Tractor & trailer with hay bales. Consider also the large combine harvester or specialist HGV., e.g; low loader with excavator, that might visit industrial premises on the far side of the railway.

Consideration should be given to placing 'red triangles' around pictograms that show symbols from the 2016 Regulations, e.g. Risk of Grounding.

Dog walkers are a group identified as being more at risk of harm on a level crossing along with horse riders. Special attention should be given to these users to ensure the additional precautions applicable to them are conveyed, e.g. Making sign SI40 mandatory.

The proposals for extensive instructional and information text on signs are not supported, on the basis that the average reading age of the UK population is 9 years. It is suggested that alternative methods of conveying supplementary information are explored.

Question 4 – Authorised User.

Page 20, paragraph 4.10, 4.11. The matter of who enforcement action may be taken against in the event of persistent failure to use a crossing safely should be made clear, along with which enforcing body is responsible. It may be simpler to allocate all such responsibility to the Police.

The Working Group is of the opinion that safety improvement would be supported if there is an offence of misusing a crossing (or similar) which can be used in the same way that speed limits are enforced to modify behaviour on roads.

Page 12, paragraph 1.12, 1.13 - The definition of 'Occupier' may include occupation under numerous diverse terms, e.g. owner, tenant, leaseholder, etc. Use of the Occupiers Liability Acts to enforce safe crossing use is in the opinion of the IRSE a weak option.

Page 12, paragraph 1.13 – The requirement to discharge the duty of care does not appear to have been addressed adequately in the Regulations. The IRSE Suggest that a contact telephone number for the 'Authorised User' or equivalent future role should be included in crossing signage to discharge the 'briefing' requirement.

Page 12, paragraph 1.13 – Consideration should be given to the implications for insurance companies who have an interest in the Public Liability aspect, especially for minor / heritage and private railways. Having a clearly identified 'Authorised User' or equivalent is essential to the demonstration of an effective duty of care.

Page 12, paragraph 1.17 – The emphasis is placed on the signs being prescribed or authorised. The key to safe operation is for the Safe Operating Procedure or Safe System of Work to be intuitive. This appears to have been relegated in its importance.

Page 11, paragraph 1.11 – Safe use of a crossing almost invariably requires co-operation between the railway operator and those permitted to use the crossing. If the role of 'Authorised User' is dispensed with who will assume the other party in the duty of co-operation required under other legislation referred to.

Question 5 Costs and implementation.

Page 23, Paragraph 6.2 - This assumes the level crossing operators have the skills to erect the new types of signs required. This may not be the case and may require employment of competent contractors.

Page 23, Paragraph 6.3 – The discussion here refers to a pre-covid-19 era. Minor / heritage and other railways are now in a different financial position compared to when the costs and their allocation was being considered.

Question 6

Placing of signs on private land not owned/controlled by the railway operator.

Who will be responsible for installing and maintaining signs on land not owned /controlled by the railway operator? Clarity should be provided on the legal responsibilities involved including where a railway employee may be injured by a farm animal/ agricultural machinery while installing or maintaining such a sign.

The IRSE suggests that it may be better to amend the Transport and Works Act (TWA) Section 52 to place that duty and costs onto the landowner, particularly, if an employer in their own right. Historic Court cases have supported the view that the railway is not obliged to upgrade above the requirements of the 1845 Acts, such as change of use. This should be addressed in the Regulations.

Consideration should be given to provision of a 'flow chart' style of process to guide applicants through the process of application for authorisation of variants. Explanation of the legal terms used would be useful along with guidance on where the signs should be placed in relation to the crossing.

Question 7 – Other matters arising.

Scope of Regulations

There were and may still be, a small number of public road crossings with MSLs, some with 1996 Regulations signage. Consideration should be given to changing these to public status with both signage and signals. Examples are; Shaws LC (MSL), Coltishall Lane LC (User Operated Gates).

It is believed there is no such entity as a private bridleway. This may allow some simplification.

It would be helpful to the consideration of costs and timescales if the quantum of crossings of the main types could be provided.

The Oppenheim Report of 1983 into management of pedestrians at public level crossings opined about the provision of a Miniature Warning Light system on the footway alongside public road Wig-Wag signals. This evolved into the Standing Red Person now included in the Traffic Signs Regulations and General Directions (2016). It is the suggestion of the IRSE that use of the Standing Red Person could usefully be extended to private crossings. Consideration should be given to including this in the proposed Regulations.

In our response to question 3 it is known that at least the Welsh Highland Railway and Ravenglass and Eskdale Railway operate in National Parks.

There are a number of Miniature railways – typically 12" gauge - layouts which operate within private sites such as Zoos, Stately homes/ gardens. These present a variety of signs to users with little or no consistency. The IRSE asks if these should be included in the proposed Regulations to encourage greater consistency and therefore awareness by users of the hazards at railway crossings.

There are sites where a long-distance footway/cycleway has been created parallel to and directly alongside a railway. Consideration should be given in the Regulations to these difficult and potentially increasing cases where a crossing enters from/exits onto the cycleway/ footway at right angles. At least four minor / heritage railways are known to have this scenario.

Appendix B – Table of comments on proposed signs.

Sign	Comment
UV01	Is this intended as an advance warning sign or only provided at the crossing?
HL01	What does 'high level' mean in this context? 'STOP' would imply an 'instruction' not 'information'
HL03	What does 'high level' mean in this context? 'STOP' would imply an 'instruction' not 'information'
HL04	What does 'high level' mean in this context? 'STOP' would imply an 'instruction' not 'information'.
WW01	This leaves a question of what the user is expected to do between midnight and 6am. It may be better to reword to 'Audible warning provided between 6am and midnight' to allow for where the train horn is a simulated sound. Also, this could be used at other crossings having a time muted audible warning.
CC02	Variants C and D are so similar as to warrant combining.
DI01	Wording in element 1 is controversial – change 'number' to 'the signaller' or 'the signaller using the number shown'. The sign requires to telephone but the application rule defines it as for a crossing without telephones. Is the user expected to have access to their own personal telephone? The 'tractor and trailer' symbol in element 1 could imply hay/straw loads only, a more generic trailer may be better. Element 3 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI02	Comments as per DI01 plus is this going to drive a need for elevated telephones for equestrian users to avoid dismounting. (The equestrian rider is shown mounted, the cyclist could be construed as dismounted). Element 3 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI03	Comments as per DI01
DI04	Comments as per DI01
DI05	Comments as per DI01
DI06	Comments as per DI01
DI07	Comments as per DI01
DI08	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI09	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI10	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI11	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI12a	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.

Appendix B – Table of comments on proposed signs (continued)

DI12b	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI13	No comments.
DI14a	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI14b	Element 2 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI15	Element 3 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.
DI16	Element 3 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.
DI17	The 'tractor and trailer' symbol in element 1 could imply hay/straw loads only, a more generic trailer may be better.
DI18	This could be rationalised if the wording at Element 2 point 3 and point 6 was changed to 'Push and hold button to open crossing' and 'Push and hold button to close crossing'. (This comment applies to DI18, DI19, DI20, DI20b & DI21)
DI19	This could be rationalised if the wording at Element 2 point 3 and point 6 was changed to 'Push and hold button to open crossing' and 'Push and hold button to close crossing'.
DI20	This could be rationalised if the wording at Element 2 point 3 and point 6 was changed to 'Push and hold button to open crossing' and 'Push and hold button to close crossing'.
DI20b	This could be rationalised if the wording at Element 2 point 3 and point 6 was changed to 'Push and hold button to open crossing' and 'Push and hold button to close crossing'.
DI20p	No comment.
DI20k	No comment.
DI21	This could be rationalised if the wording at Element 2 point 3 and point 6 was changed to 'Push and hold button to open crossing' and 'Push and hold button to close crossing'.
DI22	Element 3 points 4 and 5 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.
DI23	Element 3 points 4 and 5 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.
DI24	No comment.
DI25	Element 1 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI25s	Element 1 point 1 may be better worded as 'Stop, Listen and Look in both directions'.
DI26	Element 1 point 1 may be better worded as 'Stop, Listen and Look in both directions'. Element 1 points 2 and 3 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.

Appendix B – Table of comments on proposed signs (continued)

DI27	Wording could imply that permission is not required if only one horse is being taken across. Element 1 points 3 and 4 and element 2 points 2 and 3 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gates.
DI30	Element 1 points 4 and 5 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI30s	No comment.
DI31	Element 1 points 4 and 5 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI32	Wording in element 1 is controversial – change 'number' to 'the signaller' or 'the signaller using the number shown'. The sign requires to telephone but the application rule defines it as for a crossing without telephones. Element 3 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI33	Wording in element 1 is controversial – change 'number' to 'the signaller' or 'the signaller using the number shown'. The sign requires to telephone but the application rule defines it as for a crossing without telephones. Element 3 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI34	Wording in element 1 is controversial – change 'number' to 'the signaller' or 'the signaller using the number shown'. The sign requires to telephone but the application rule defines it as for a crossing without telephones. The application criteria mention separate bridleway access but nothing on the signs refers to equestrian users.
DI36	Element 1 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI37	Element 1 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI37s	No comment.
DI38	Element 1 point 2 may be better worded as ' - Stop, Listen and Look in both directions'. Element 1 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
DI38s	Element 1 point 2 may be better worded as ' - Stop, Listen and Look in both directions'.
DI39	Element 1 point 2 may be better worded as ' - Stop, Listen and Look in both directions'. Element 1 points 3 and 4 are somewhat contradictory. 'Cross quickly' may be better than 'without stopping' when required to close the gate.
SI40	It is recommended that this sign should be modified and become mandatory at all level crossings. (A high incidence of unsafe events resulting from out of control dogs).
SI41a	No comment.
SI41b	No comment.
SI42	No comment.

Appendix B – Table of comments on proposed signs (continued)

SI43	No comment.
SI44	No comment.
SI45	No comment.
IS580b	No comment.
SI3179	No comment.
CA03	No comment.
CB01	No comment.
BA02	Suggest 'In each direction' instead of 'bi-directional working' to increase the likelihood of understanding by users whose first language may not be English.
MSLs -1	No comment.
MSLs -2	No comment.
MSLs - 3	No comment.

Existing signage from 1996 Regulations transferred to 2022 Regulations.

Sign	Comment
104	Does this need to be a regulated sign? Future technologies may offer different methods of operation which could be included on the operating panel.
105	No comment.
106	This should be an instruction sign not a warning! It would be enhanced by providing the word 'STOP' across the centre. (With separate instructions for how to proceed safely).
107	No comment. (Provide a contact number for if telephone is not working)
108	Of questionable value. If the crossing needs MSLs then permitting to cross without authorisation is exposing the user to unacceptable risk. Provide an emergency contact number or re-word to say, 'cross quickly'. 'Cross cautiously' may imply a sedentary procession.
111	No comment.
112	No comment.
113	Although a critical risk sign the 'danger' element is not highlighted. (Red)?
115	Should 'shut' be replaced with 'close'.

Appendix C – Qualifications and experience of the IRSE Working Group.**Mr. Andy Knight BA(Hons) FIoD MIOd FIRSE - President of the Institution of Railway Signal Engineers**

A highly skilled signalling engineer with over 40 years' experience in the Railway Industry. A proven background in the design, Implementation and management of training and competence schemes for signalling engineers. A training professional with expert communications and organisational skills who has helped to design and implement a suite of competence standards and relevant events across the range of Signal Engineering throughout the world. A proven ability to work at a strategic level. Recently voted in as IRSE President for 2022/23 which will see him lead the Institution and ensure they maintain their strategic aims.

Major (ret'd.) Ian Hughes CMIOSH MIRSE MIMechE

Chartered Safety and Health Practitioner and company director. Over 25 years' experience of railway engineering including level crossings related experience. Includes experience with the British Army, Royal Electrical and Mechanical Engineers in the UK and overseas. Further extensive experience as head of independent consultancy providing safety advice to minor / heritage railways.

Mr. John Tilly MSc(Eng) FIRSE FCILT

Independent Consultant in railway signalling and level crossing engineering. Over 50 years' experience covering main-line, metro and minor / heritage railways in the UK and overseas including 20 years level crossing related work some as Principal Inspector of Level Crossings for the UK Railway Safety Regulator (HMRI). Special Advisor, Transport Select Committee, UK Parliament, Safety at Level Crossings Inquiry 2013/14 (HC680). Specific experience of level crossing investigations and support to court cases. Contributor to Law Commission Report 2014 on improving level crossing legislation.

Mr. Ken Vine CEng BSc FIRSE FIET

40 years' experience in railway signalling, through posts in design, construction, maintenance, equipment development, project engineering and project management. Most recently employed as Network Rail's Principal Engineer for Level Crossing Technology (2014 to 2018), then Network Technical Head of Level Crossing Engineering (2018 to 2022). Now employed as a Principal Consultant working on a variety of engineering safety management projects.

Mr. Colin Gibbons CEng BSc MIRSE MIET

Principal Engineer in Network Rail Technical Authority with responsibility for Signalling and Level Crossing application principles, which is delivered through collaboration as Signalling Principles Group Chair, assurance as Major Schemes Review Panel member and Chair of the signalling and level crossings engineering standards variation panel. 42 years' experience in GB Signalling, predominantly in roles for Signalling Design for projects, and including roles as technical lead for Signalling Risk Assessment, Signal Sighting and application data for SSI systems.

Mr. Ed Rollings CEng MSc FIRSE MIET

Independent Consultant in railway signalling systems and level crossing engineering. Over 35 years' experience specifically related to development, design, implementation and maintenance of level crossings. Former Technical Head of level crossings engineering for main line railway administration, expert witness on level crossing matters, advisor to projects for replacement/renewal of level crossings. Contributor to international professional journals on level crossing topics.

Mr. Paul Darlington CEng FIRSE (Reviewer)

47 years' experience in railway telecoms and signalling, with posts in maintenance, training, design, construction, project engineering and asset management. Last two full time employment roles were Network Rail's Head of Telecoms Engineering and then Route Asset Manager Signalling North West, where he led many level crossing renewals and enhancements. Paul retired in October 2012 and in his spare time writes for Rail Engineer magazine and is the Managing Editor of IRSE News.

Appendix D – RAIB Reports List

The following reports produced by RAIB have been identified as having relevance in some way to the consultation on improving signage at private level crossings.

Accident at West Lodge level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 22 January 2008

Report 03/2022: Near miss at Coltishall Lane User Worked Level Crossing, Norfolk, 21 January 2021

Railway type: Heavy rail Report type: Investigation report Occurred: 20 January 2021

Fatal accident at Fairfield level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 6 May 2009

Accident at Moor Lane footpath level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 16 April 2008

Report 23/2016: Fatal accident at Grimston Lane level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 23 February 2016

Report 28/2014: Collision at Jetty Avenue level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 14 July 2013

Investigation into station pedestrian crossings

Railway type: Heavy rail Report type: Investigation report Occurred: 3 December 2005

Report 08/2017: Near miss at Dock Lane level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 14 June 2016

Report 05/2015: Fatal accident at Frampton level crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 11 May 2014

Investigation into safety at user worked crossings

Railway type: Heavy rail Report type: Investigation report Occurred: 30 August 2006

Report 13/2019: Fatal accident at Tibberton No. 8 footpath crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 6 February 2019

Report 11/2019: Serious operational irregularity at Bagillt user worked crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 17 August 2018

Fatal accident at a user worked crossing (Penrhyndaedreth) on 2 September 2009

Railway type: Heavy rail Report type: Bulletin Occurred: 2 September 2009

Double fatality at Bayles & Wylies footpath crossing, Bestwood, Nottingham

Railway type: Heavy rail Report type: Investigation report Occurred: 22 November 2008

Collision at Bratts Blackhouse No 1 User Worked Crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 22 May 2006

Report 12/2018: Collision at Frogmal Farm User Worked Crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 23 October 2017

Collision on Leighton Buzzard narrow gauge railway

Railway type: Heritage railways Report type: Investigation report Occurred: 25 August 2007

Collision at Sewage Works Lane user worked crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 17 August 2010

Report 14/2017: Fatal accident at Alice Holt footpath crossing, Hampshire

Railway type: Heavy rail Report type: Investigation report Occurred: 5 October 2016

Appendix D – RAIB Reports List (continued)**Report 05/2019: Collision between a train and utility vehicle at Dollands Moor freight yard**

Railway type: Heavy rail Report type: Investigation report Occurred: 4 September 2018

Report 06/2014: Collision at Buttington Hall user worked crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 16 July 2013

Collision at Black Horse Drove Crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 19 October 2005

Collision near Limavady Junction

Railway type: Heavy rail Report type: Investigation report Occurred: 2 August 2007

Collision at Leighton Buzzard

Railway type: Heritage railways Report type: Investigation report Occurred: 25 March 2007

Report 07/2016: Collision between train and tractor at Oakwood Farm User Worked Crossing

Railway type: Heavy rail Report type: Investigation report Occurred: 14 May 2015

Appendix E – Minor / Heritage Railways Specific Response to the proposal by Department of Transport regarding changes to private level crossing signage

The Department for Transport has requested responses to seven key questions as part of the proposed changes to the signage upon private user crossings. The Minor Railways Section as an organisation within the Institute of Railway Signal Engineers feels that it should be a part of this response given that the proposed changes affect legislation under which the minor railways represented by the Section operate.

The Minor Railways Section has asked that all heritage railway operations respond where practicable to the Department's proposals and questions so that a broad spectrum of responses can be gained and issues highlighted that both the Heritage organisations and the section feel should be addressed further.

The Section's response:

Question 1

What are your views on the case for change that is set out in this document?

We do not believe that the case for difference between the various types of user and the signage proposed will create a better system of signage. In essence, it could create more confusion between the signs and to which users the signs actually apply, especially if land uses change over time subsequent to the signs being erected.

Most users react to simple and easy to follow instructions. The proposed signs are cluttered and significantly change the style and size of the important message. It is particularly noted that the formerly key message of 'STOP, LOOK, LISTEN' is blended into the lesser messages both in terms of style and font such that the signs now appear to be simply black and white message boards. In addition, the red edging that formerly denoted instructions that should be obeyed has been removed.

Question 2

What do you think of the time period suggested for the rollout of the new signs? Do you think that this time period could be, or should be, further shortened?

We consider that the timescales for implementation of the proposed new signage should reflect that there is much work to be undertaken on the heritage sector before this can be achieved. We would question whether due attention has been given to the fact that many heritage railways have just come out of a two-year partial or total shutdown caused by the pandemic with little or no income.

Some of these railways are still paying back emergency loans, which will unduly impact their ability to operate services and organise events and, in some circumstances, could lead to the closure of the operation in the event that they are unable to effect the proposed signage changes in the timescales allowed.

In addition, most heritage railways and organisations that we have contacted have either not fully understood the proposed changes or are not even aware that they will or could be affected by the proposals. The timescales are therefore unreasonably short, even though there will always be heritage organisations that excel in 'getting ahead of the curve' as well as those that then follow on well afterwards. We therefore feel that more should have been done to engage the various organisations that could be affected; whether this engagement is to be via the Heritage Railway Association (HRA) the Institution of Railway Signal Engineers or other bodies is an issue that needs to be addressed.

Question 3

What are your views on the content and format of the signage proposed at Annex B? Are there improvements or suggestions you recommend, especially in relation to those who may have disabilities?

We consider that making a sign overly complicated adds to confusion and misuse. The standard acceptable 'Steam Train in a red triangle' sign identifies with any train regardless of whether it is a steam heritage line or a modern mainline railway; a recent article in the Independent newspaper pointed this basic fact out, that the current signs were designed to be simple, clear and concise.

The proposed sign with the gate, wall and oncoming train shown in perspective seems overly complicated for what it is trying to show; is it drawing attention to the oncoming train, the wall, the track or the gate buried within the sign's image?

The proposed signs also seem to be unclear as to the principal message as most of the important text is now mixed in with the rest of the sign towards the bottom. Given the complexity of the overall sign, we feel that most users' attention will have lapsed long before they read to the end of the sign, thus increasing potential risks.

The use of a red border on signs in the UK denotes a warning and an order. This is missing from the proposed signage, which could lead users to thinking that the signs are simply information rather than important instructions for use. When highway signs were originally created, simplicity was a key issue; many of the proposed signs now appear to over-complicate the principal message, or to bury it within the rest of the information.

As regards signs at Bridleways, it appears that there will need to be two signs: one for riders on horseback mounted at a height they can see, and another at a height suitable for pedestrians in the same way that pedestrian crossings have duplicated push-buttons for pedestrians and mounted riders. It is not clear how this then affects sighting of the crossing or the user from the perspective of either the train driver or from the user.

It is possible that new signs could be installed on heritage railways who then have to change the signs as the land use on the other side of the fence has changed. This would again add to the difficulty of risk-assessing the signage.

Depending upon which signs are required, there could be issues with the size of some signs especially on heritage lines with linear cycleways or bridleways alongside. Many heritage operations are single track railways upon tight formations, some of which have tree lines and sighting issues that are not easily overcome. The signs, being larger, may therefore impact on sighting and lead to issues of boundary placement where rights of way are constrained.

It appears that, in practice, for some of the smaller gauge heritage lines, that the size of the signs (whilst not an issue for standard gauge rolling stock) could present a hazard to sight lines both for the driver and the crossing users.

It is noted that while signs currently used have been positioned to allow good sight lines for rail and non-rail users so have been tested in practice, it is not clear whether there has been any testing of the proposed signage on smaller gauge heritage railways to determine what extra risks may be incurred, rather than assuming that 'one size fits all'.

There are serious physical constraints on signage on some of the long-distance pathways, cycle

routes, (presumed to be public bridleways in some cases) routed on redundant track-beds and directly alongside operational heritage railways and possibly Network Rail, with railway fencing between the right of way and railway boundary.

The South Tynedale railway has a long-distance footpath from Alston, Cumbria, in a Northwards direction.

The Peak Railway has an adjacent cycleway which is part of the White Peak loop, from Rowsley/Northwood to Matlock. The railway has footpath user crossings at Rowsley with sprung gates and signs currently of the 'Stop, Look and Listen' type mounted on the railway side of the fence. The cycleway at this point is on the A6 road side of the formation with the railway on the 'river' side.

As the trail goes from Darley Dale towards Matlock the cycleway and the railway are on the banking throughout, as the railway was built above the river flood levels. The cycleway required some banking stabilisation near Warney Lane to accommodate the required 3 metres width. The formation is very tight for signage between railway and the adjacent cycleway which is also intersected by user worked crossings; Derbyshire County Council allows Horse riders where possible to do so (<https://www.derbyshire.gov.uk/leisure/countryside/access/cycling/white-peak-loop/white-peak-loop.aspx>).

The Avon Valley Railway has similar issues with tighter clearances, especially so at Bitton.

The Dartmouth Steam Railway has a public footpath running along the North side of the Dart estuary with comparable boundary issues. The path runs from Kingswear village centre to Britannia public level crossing by the Upper Ferry. At Grid Reference approx. SX 884 518 another public footpath crosses the railway at right angles and joins the estuary path. The possible locations for these considerably larger signs

will affect the sighting of trains and pedestrians by blocking visibility of each other's location, thus creating foreseeable level crossing hazards. Where is the guidance for this type of issues surrounding considerably larger signs and what consideration has been given? There will be NR crossings with similar issues.

It is not clear whether organisations operating heritage tramways have been consulted (e.g. Crich Tramway Village, Beamish Museum, the Black Country Living Museum and Heaton Park Tramway), as these may have crossings affected by the proposals.

In particular, where these organisations have tried to achieve a 'heritage feel' for their tramway layout, to now have modern oversized signs potentially having to be added will substantially detract from its heritage atmosphere.

It is not clear whether consideration has been given to cases where signs could be at odds with local government guidelines or in breach of planning regulations in areas such as National Parks.

It is not understood why the hexagonal stop sign on the vehicular crossing is not the same size as that defined in the TSR&GD regulations, which would ensure a consistent presentation to the user.

We have concern over signs when it comes to areas where dual language is required. This doesn't just at present affect National languages, as some regions of the UK have within themselves regional variations (e.g. Cornwall).

Will there be more affected changes at some future point if regional dialects become law and the signs then need changing again to include any future language legal requirements, this is already the case with trade descriptions on selling items not from a particular area?

Question 4

This consultation suggests that the concept of authorised user is outdated and therefore does not need to be set out in legislation. The duty of care imposed by the Occupiers' Liability Acts and HSWA are considered to be adequate. Instead, the revised signage proposed in this document and the continued outreach and briefings provided by crossing operators will help to ensure the safety of those using level crossings. What do you think of this proposal?

We are supportive of removing the concept of Authorised User. It should be the case that all crossings can be used by anyone.

If the authorised user concept is to be retained, however, then the gates should be locked and only 'released' by the Authorised User. This could be achieved by the use of Padlocks with unique keys, combination locks, magnetic gate locks or any other device over which the Authorised User could exercise control.

The changes could potentially encourage the public to use private crossings and thus impose extra cost on heritage railways, especially if the signs need to be upgraded. This needs to be carefully balanced, as recent examples of crossings being upgraded include the Swanage Railway (£0.5 million), Minehead (circa £1 million) being examples, not necessarily where the railway itself had to pay all of the costs but this highlights that the changes proposed could cause issues with extra costs being incurred as time goes on.

Question 5

What is your view of the costs for placing signs that we have used in this document? What are the cost impacts of different timescales for replacing signage? Are there any other comments you wish to make about costs, either generally or in relation to your organisation?

The costs of the proposed changes to signage may not fully reflect that in some cases, contractors may be required to undertake significant alterations and works to install new signs, especially if alterations to the geotechnical surface are required, sighting is compromised, or land works are required. Note that any current pricing methodology will likely be low considering the current inflation and monetary situations, with many suppliers putting up prices across the board.

Question 6

What are your views on whether the Department should publish guidance to help level crossing operators apply for the authorisation of non-prescribed signs?

We consider that any guidance, well presented and written can be useful for the heritage side.

Question 7

Are there any other comments that you wish to make in relation to these proposals?

The heritage railway community as a whole has been contacted to ensure that a wide spread of railways have the opportunity to forward their own responses and questions.

One item that was recently addressed by an online Workshop was that the DFT could have included more heritage organisations within the original proposals and testing some time ago. This would have alleviated many of the unknowns and brought the heritage railways on board earlier in the development of the proposals rather than now, at the last minute.

*Response on behalf of the
Institution of Railway Signal
Engineers, Minor Railways
Section.*