

	RSD Internal Guidance	RIG-2011-03
User worked railway crossings (UWC)		
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Summary	This guidance informs Inspectors and Inspector Assistants about the safety issues at user worked crossings (UWC) and the existence of advisory material to support inspection, enforcement and advice / education work.	
Original consultation	RSD – Donald Wilson, Allan Spence, Sue Johnston, Chris Collett, David Whitmarsh, David Keay, Tracy Phillips RPP – Ian Maxwell Legal Support – Rupert Lown, William Keag	
Subsequent consultation (reviews only)	RSD Regulatory Management Team - Sally Williams RSD Level Crossings Project Team - Michelle Travers, Simon Smith	

Detail Terms used:

Infrastructure manager (IM) – responsible for developing and maintaining the infrastructure (Railways and Other Guided Transport Systems (Safety) Regulations 2006)

Non infrastructure employer – a person or body with duties under HSWA (can include self-employed). This may also be an authorised user

Authorised user - a person or body with the legal right to cross the railway usually by virtue of owning or renting land, property or an undertaking nearby

Background:

For obvious reasons this RIG mainly describes the situation where Network Rail (NR) is IM, but private crossings are also found on heritage railways, where similar issues will arise.

In January 2018, there were 2,239 user worked crossings on Britain's mainline railway infrastructure¹. UWCs accounted for 2 of 6 deaths at level crossings on the national infrastructure in 2016-17¹. There was a serious collision causing passenger and train crew injuries at a UWC near Sudbury in Suffolk on 17th August 2010.

Previous inspection work:

Inspections have revealed a number of factors that are likely to increase both the risk of collision and the possibility of more serious consequences of such a collision. These factors are as follows:

- Increasing agricultural production;
- Bigger farm machines crossing more often in short, high intensity timeframes (harvesting, cultivating etc);
- Faster trains more frequently on all lines;
- More crossing by all types of vehicles because of:
 - Rural development, recreation, farms converted to dwellings, rural businesses;
 - Farming land being split up and sold off.

Inspection also identified other users of private rail crossings, in particular people in the following sectors/groups:

- Utilities;
- Agricultural contractors / machinery rings;
- Business and domestic goods delivery companies and transport undertakings;
- Sporting and social clubs and organisations;
- Local authorities and other bodies such as the Environment Agency;
- Waste and recycling collection contractors.

The work concluded that the most effective way of inspecting private crossings was to include the authorised user(s) in any inspection, by appointment if necessary. This proved the only way of gaining an accurate picture of who was using a crossing, how often, with what vehicles, and to what purpose.

It should be noted that there are legal rights and responsibilities attached to being an 'authorised user'. The duties require that a person or body with the legal right to cross the railway does so correctly and has responsibility for others to do the same. For the mainline railway BTP are the enforcing authority.

In practice many crossings are used by a large number of individuals and vehicles who use the right of way without restriction. These vehicles present the same risk as those of the authorised user(s).

Action by the IM and ORR inspection, advice and education should not be limited to authorised users alone. It is not uncommon to find that rights to cross the railway have devolved to tenants/contractors and the authorised user may not personally have used the crossing(s) for some time.

Management of risk by the IM

The main features of safety management by the infrastructure manager at UWCs are that the crossing is suitably maintained, in good condition and that there is adequate warning of an approaching train to enable the user to cross safely.:

1. The IM should co-operate with authorised users and develop site specific risk assessments taking account of:
 - accurate information from users about the actual use of the crossing, particularly vehicle type, speed and length and driver position for sighting crossings;
 - accurate information provided to the user about the crossing controls, including the presence of live electrical conductors and their location;
 - the frequency of use (seasonality and intensity);
 - the appropriateness of the protection for the use of the crossing;
 - the practicality of the controls provided by the IM and the employer;
 - foreseeable abnormal situations that may arise;
 - how emergencies should be dealt with.

2. Closure of crossings is the most effective way of reducing level crossing risk and this should be actively pursued. Effective dialogue is necessary as the arguments for closing crossings are compelling and the alternatives to crossing the railway may become increasingly attractive as rail traffic increases. Many examples of imaginative ways of closing crossings exist. In particular multiple crossings (sometimes one for each field) can be amalgamated easily and cheaply.

3. The provision of equipment at crossings must be appropriate for the actual current usage. For example, cattle / trespass guards may still be fitted where livestock is no longer crossing the railway, but may not have been provided at other crossings where changes of land use require them.
4. The arrangements for enabling a signaller to identify the location of a train before permission to cross the railway is given should ensure that, in the first instance, the risk of human error is avoided or otherwise reduced so far as is reasonably practicable by other than procedural measures.
5. The arrangements for all users to cross the railway 'out of hours' need to ensure safety so far as is reasonably practicable.
6. Lineside signs and structures should not be deployed in a manner that reduces sighting at telephone (or other) crossings.

Inadequacies in risk assessment, and failures of maintenance of crossings (including the failure to control vegetation in order to achieve sighting distances for sighting crossings) should be considered as serious potential breaches of HSWA, if there is evidence that these have given rise to risk to users or the railway. It should be noted that the warning times given in *Level Crossings: A guide for managers, designers and operators* http://orr.gov.uk/data/assets/pdf_file/0016/2158/level_crossings_guidance.pdf are the **minimum** to be achieved.

At sighting crossings it is imperative that the driver's actual position in a vehicle when looking to see if it is safe to cross provides adequate sighting of trains. There have been examples where sighting has been taken by the railway from wholly inappropriate locations (eg, on foot, 2m from the running rail) and the user has been left with inadequate sighting from their vehicle.

For NR, the Principal Inspector of the Level Crossings Project Team will support enforcement action where existing control measures are found to give rise to risk to the safety of users of UWC and passengers and train crew. In particular, support will be provided where there is evidence of the failure to engage with the authorised user to jointly assess the risk, or where control measures have been eroded from a higher standard previously achieved at the crossing, particularly where there is insufficient warning to the user of the approach of trains. The core principles are:

- Evidence that closure of the crossing has been properly considered;
- Active engagement with the authorised users to gather accurate usage information (including seasonality);
- Removal of vegetation / disused structures inhibiting sighting at all types of crossings;
- Active evaluation of the controls provided by the IM as being appropriate for the authorised user and their use of the crossing;
- Provision of accurate train location information to the signaller so that

- they can give real-time instructions to those wishing to cross;
- Suitable out of hours arrangements for use of the crossing;
- Plans for dealing with emergencies at all times.

Enforcement should be considered where these are not addressed

Inspectors should be aware that telephone user worked crossings (UWC(T)s) have inherent issues arising from the incidence of non-use of the telephone by users. While the railway may cite these incidents as user violations, they nevertheless have the potential to result in a catastrophic derailment.

It is for this reason that ORR has adopted a view that there should be no new telephone user worked crossings, for example where linespeeds are increasing. There are new technologies coming on line, such as EBIGate, Vamos and Covtec systems that generally are reasonably practicable alternatives to fitting new telephones.

The role of a non infrastructure employer at UWCs

To control catastrophic risk there needs to be effective management of safety by an employer or business conducting an undertaking that crosses the railway. The core principles that should be followed are:

1. Co-operating with the IM to explore possibilities for closing crossings;
2. Taking steps to eliminate the risk e.g. taking alternative routes, adjusting cropping / livestock regimes to avoid/minimise crossing usage;
3. Understanding the crossing controls they and their staff use;
4. Devising a suitable safe system of work for using the crossing, subject to appropriate review;
5. Ensuring that workers have been briefed in the safe system of work;
6. Supervising to ensure staff understand and use the crossing instructions and controls;
7. Considering other hazards present (sloping approaches, overhead lines) and their interaction with plant / equipment ,for example, suitably positioning radio aerials where crossing beneath OHLE;
8. Proactively considering foreseeable abnormal situations such as the need to reverse, how snow and ice can affect safety, seasonal or other peaks in usage;
9. Having a planned response to problems with the controls at the crossing (e.g. the telephone not working);

10. Planning for out of hours operations;
11. Having a planned response ready for emergencies;
12. If possible working at the same time as planned possessions;
13. Deploying a banksman to use the telephone and or gates, with a risk assessed and agreed method of work between the parties using the crossing and the infrastructure manager;
14. Asking for a crossing attendant;
15. Restricting access to private roads leading to the crossing.

Problem Crossings

A number of crossings are considered to be prone to near misses and incidents. Some of these may have been the subject of enforcement by BTP and / or ORR in the past. Inspectors who become aware of these should consider requiring the railway operator to contact the users, including train companies and the legal owner of the land, to produce an action plan to bring the issues under control. It will be appropriate for ORR to attend meetings and ensure that those who need to deliver actions to improve safety do so. Problem crossings may have local speed restrictions to reduce the risk, where a permanent solution ought to enable such restrictions to be lifted.

Inspectors must note that enforcement action against non-railway undertakings requires detailed consideration of the facts of each case to ensure that any enforcement is properly taken. ORR lawyers must therefore be consulted before any such enforcement is launched.

Principles of Inspection

The key principles that every inspector and inspector assistant should consider when inspecting a UWC are:

Can the crossing be used safely for the purpose for which it is needed today or in the near future (i.e. until the next inspection)?

In order to assess this accurately ORR staff must have engaged with the actual users of the crossing and considered their activities. Talking to representatives of the IM alone will not provide ORR with enough information to consider whether the crossing is safe to use. Visiting by appointment will usually be appropriate.

If the answer is:

- No, the user cannot cross / traverse his plant / equipment or stock safely, with adequate warning of the approach of trains then action is expected; and
- Inspectors should consider the obligations of both the IM and the relevant duty holder to ensure appropriate safe systems of work exist for the crossing.

Appendix A contains initial expectations for enforcement, based on the evidence collected by the inspector at the specific location. Inspectors should appreciate each case will have distinctive nuances. Enforcement action should be directed so as to secure and sustain safety. The inspector should make a reasoned judgement regarding the impact of punitive actions on either the IM or the crossing user. The decision should be guided by action which is considered to deliver a lasting outcome and in the case on non-railway undertakings ORR lawyers must be consulted.

Appendix B is a leaflet providing guidance for businesses whose employees may need to cross the railway.

Appendix C is a safety notice for users of railway level crossings on farms.

These can be found at <http://orr.gov.uk/what-and-how-we-regulate/health-and-safety/guidance-and-research/infrastructure-safety/level-crossings/types-of-level-crossings>.

Inspectors should actively consider enforcement to achieve compliance at crossings.

Appendix A – enforcement expectations for user worked crossings

Control	Example of defect	Duty holder	Breaches that may exist	Possible actions
Gates, barriers	<ul style="list-style-type: none"> • Broken hinge(s) • Broken or missing catches • Restraining device defective / missing • Different gate widths • Gates opening towards running lines if capable of fouling or putting user at risk • Misaligned gates • Gates left open / poor discipline 	Infrastructure manager	ROGs Reg 5 or 6 ROGs Reg 19 HSWA Section 3(1) Power Reg 5 Power Reg 6	1. Minimum – Written advice 2. Improvement notice with minimum timescale 3. Prohibition notice a. ESR to achieve appropriate sighting distance b. No movement of trains over the crossing unless a crossing attendant is present
		Crossing users		1. Seek ORR Legal advice on the specifics of the case

* Delete as appropriate

Crossing surface	<ul style="list-style-type: none"> • Poor profile with grounding risk • Surface narrower than gates • Irregular edge (potential to ground e.g. rear steered vehicles) • Unsuitable surface (e.g. lack of grip for cattle) 	Infrastructure Manager	HSWA Section 3(1) ROGs Reg 5 or 6 ROGS Reg 19	<ol style="list-style-type: none"> 1. Minimum – Written advice 2. Improvement notice with reasonable timescale 3. Prohibition notice <ol style="list-style-type: none"> a. ESR to achieve appropriate sighting distance b. No movement of trains over the crossing unless a crossing attendant is present
		Crossing users		<ol style="list-style-type: none"> 1. Seek ORR Legal advice on the specifics of the case

Other aspects of the surface controls	<ul style="list-style-type: none"> • Defective approach surface(s) • Failure to control surface water with danger of ice forming in cold weather • Poor profile with risk of grounding • Potholes • Potential for vehicle overturn 	Infrastructure Manager	HSWA Section 3(1) ROGs Reg 5 or 6 ROGS Reg 19	<ol style="list-style-type: none"> 1. Minimum – Written advice 2. Improvement notice with minimum timescale 3. Prohibition notice
		Crossing users Landowner / tenant or other person responsible		<ol style="list-style-type: none"> 1. Seek ORR Legal advice on the specifics of the case
Out of hours arrangements* *engineering trains / RRVs may run at	<ul style="list-style-type: none"> • No answer at crossing phone • Phone does not divert • No pre recorded instruction at crossing • Pre recorded number does not 	Infrastructure Manager	HSWA Section 3(1) ROGs Reg 5 or 6 ROGS Reg 19	<ol style="list-style-type: none"> 1. Minimum – Written advice 2. Improvement notice with reasonable timescale 3. Prohibition Notice

times when the controlling signal box is not manned	<p>include details of train / plant movements</p> <ul style="list-style-type: none"> • No contact number for railway displayed • Failure to plan for out of hours use 			
		Crossing users		1. Seek ORR Legal advice on the specifics of the case
Signallers knowledge of train location	<ul style="list-style-type: none"> • Signaller unable to give accurate information on train location to the user i.e. the signaller cannot confirm the crossing is safe to use • Signaller has to consult other signallers / locations to ascertain train location 	Infrastructure Manager	HSWA Section 3(1) ROGS Reg 5 or 6 ROGS Reg 19	1. Consult with HM Principal Inspector on the specific circumstances of the crossing

	<ul style="list-style-type: none"> Lack of instructions to signaller for dealing with foreseeable abnormal situations (e.g. track circuit failures etc) 		Power Reg 4	
Risk assessment – Infrastructure Manager	<ul style="list-style-type: none"> Failure to address risk to pedestrians at UWC(t) with no public right of way Failure to identify vegetation that could be removed to achieve more than minimum warning times Structures / equipment impeding sighting at all types of crossing Failure to gain accurate information about the actual use of the crossing (e.g. size of machinery, animals on hoof, seasonal peak usage) Failure to respond to a request from a user to jointly assess the risk at a crossing 	Infrastructure Manager	<p>HSWA Section 3(1)</p> <p>ROGs Reg 5 or 6</p> <p>ROGS Reg 19</p>	<ol style="list-style-type: none"> Minimum – Written advice Improvement notice with minimum timescale Prohibition notice <ul style="list-style-type: none"> ESR to achieve appropriate sighting distance

Risk assessment – user (work activity proven)	<ul style="list-style-type: none">• Failure to apply hierarchy of risk control as outlined in ORR guidance• Failure to devise a safe system of work• Failure to identify foreseeable abnormal situations• Failure to brief staff on safe system of work• Failure to provide appropriate supervision• Failure to communicate with the Infrastructure Manager	Crossing users		1. Seek ORR Legal advice on the specifics of the case
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Appendix B – guidance for businesses



User Worked Railway Level Crossings

Devising a safe system of work for crossing the railway

This guidance is for businesses whose employees may need to cross the railway.

It is a list of issues to consider when drawing up a safe system of work for employees who cross the railway. It is focused on a type of crossing called a **user worked crossing**. These crossings require people to operate the crossing themselves.

Issues to consider include:

- 1. Does your business need to use the crossing?**
 - Is there an alternative route?
 - Is there any scope for closure, if your business is the “authorised user” for the crossing?
- 2. Can you eliminate the risk from crossing in any other way?**
 - Can you take animals across in a vehicle rather than on foot?
 - Can you change the land use to avoid or minimise the need to cross?
- 3. Understanding the crossing controls**
 - What does the railway provide at the crossing for those using it?
- 4. Understanding the instructions at the crossing**
 - Have you applied them to your circumstances?
 - Have you tested your workers’ understanding of them?
- 5. Additional hazards**
 - Such as sloping ground, overhead lines, skewed crossing, which may affect workers’ safety whilst crossing
- 6. Planning for foreseeable abnormal situations**
 - Are you crossing with an unusual vehicle (e.g. tracked)?
 - Is reversing necessary?
 - Is there snow and ice?
- 7. What to do if there is a problem with the crossing controls**
 - Can you and your workers recognise when there is a problem and take appropriate action?
- 8. Out of hours arrangements**
 - Do you know what the alternative contact number is?
 - Have your workers got it to hand?
- 9. What to do in an emergency**
 - Do you and your workers know how and when to contact the signaller?



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User Worked Railway Level Crossings

Other issues to consider in drawing up a safe system of work include:

- Pre plan your operations and discuss them with Network Rail
 - Is there a window to work in – such as planned possessions when the railway is not in use?
 - Can Network Rail provide a railway crossing attendant for the duration of your operations?
 - Could you employ your own banksman / gateman / phone operator to make your operation safer across the level crossing?
- Consider locking the gates if it is only your workers who are using the crossing.

Briefing workers who cross the railway

Briefing for workers on general use: They need an

- Understanding of the crossing instructions
- Understanding of the method of work

Briefing for workers on specific crossings: They need to know

- When to use the phone (and/or alternatives)
- If there is a lack of pedestrian facilities – how to cross safely

Briefing for workers on foreseeable abnormal situations: They need to know what to do about

- Adverse Weather – fog, darkness
- Abnormal situations / loads / vehicles / reversing
- Damaged, missing or malfunctioning controls at the crossing
- Out of hours arrangements
- Emergencies

Report damaged or defective crossings to Network Rail **08457 11 41 41**

Report misuse to:
British Transport Police on **0800 40 50 40** or Crimestoppers on **0800 555 111**

Issued by ORR Safety Directorate
For further information ring **0207 282 3798** or ORR switchboard **0207 282 2000**

Visit us online at www.rail-reg.gov.uk



Railway Level Crossings on Farms Safety notice

Every year people and farm vehicles are struck by trains while operating user worked level crossings on farmland. These simple rules will help to prevent deaths and injuries:



Follow the instructions given on the signs at the crossing every time you cross.



Always open the gates on **both sides** of the railway before taking a vehicle over the crossing. Make sure your exit from the crossing is **clear**.



Always **close** the gates on both sides of the railway **immediately** after use. This will prevent the next user driving straight across the railway without stopping.



If you employ staff or contractors or invite visitors, make sure that you have told them **how** to use the crossing safely.



If you get stuck on the crossing, get yourself and passengers out of the vehicle and clear of the crossing **immediately**. Inform Network Rail (or relevant railway operator) of the circumstances as quickly as possible.



Never attempt to cross if you can see or hear a train approaching and never stop your vehicle on or close to the railway lines.



Train speeds are deceptive. Don't be fooled into thinking that you can 'beat' an approaching train. The train will not normally be able to stop.



Abnormal loads, including vehicles that are unusually slow moving, require special arrangements to be made. You should contact Network Rail (or relevant railway operator) who will make arrangements to allow the vehicle to cross the line safely.

Report damaged or defective crossings to Network Rail **08457 11 41 41**

Report misuse to:

British Transport Police on **0800 40 50 40** or Crimestoppers on **0800 555 111**

Issued by ORR Safety Directorate
For further information ring 0207 282 3798 or ORR switchboard 0207 282 2000

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