



Rail Accident Investigation Branch

# Rail Accident Report



**Collision between a passenger train and an agricultural trailer at Nordan Farm user worked crossing, near Leominster, Herefordshire  
22 May 2025**

Report 06/2026  
May 2026

This investigation was carried out in accordance with:

- the Railway Safety Directive 2004/49/EC
- the Railways and Transport Safety Act 2003
- the Railways (Accident Investigation and Reporting) Regulations 2005.

© Crown copyright 2026

You may reuse this document/publication (not including departmental or agency logos) free of charge in any format or medium. You must reuse it accurately and not in a misleading context. The material must be acknowledged as Crown copyright and you must give the title of the source publication. Where we have identified any third party copyright material you will need to obtain permission from the copyright holders concerned. This document/publication is also available at [www.gov.uk/raib](http://www.gov.uk/raib).

Any enquiries about this publication should be sent to:

RAIB  
The Wharf  
Stores Road  
Derby UK  
DE21 4BA

Email: [enquiries@raib.gov.uk](mailto:enquiries@raib.gov.uk)  
Telephone: 01332 253 300  
Website: [www.raib.gov.uk](http://www.raib.gov.uk)

This report is published by the Rail Accident Investigation Branch, Department for Transport.

## Preface

The purpose of a Rail Accident Investigation Branch (RAIB) investigation is to improve railway safety by preventing future railway accidents or by mitigating their consequences. It is not the purpose of such an investigation to establish blame or liability. Accordingly, it is inappropriate that RAIB reports should be used to assign fault or blame, or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

RAIB's findings are based on its own evaluation of the evidence that was available at the time of the investigation and are intended to explain what happened, and why, in a fair and unbiased manner.

Where RAIB has described a factor as being linked to cause and the term is unqualified, this means that RAIB has satisfied itself that the evidence supports both the presence of the factor and its direct relevance to the causation of the accident or incident that is being investigated. However, where RAIB is less confident about the existence of a factor, or its role in the causation of the accident or incident, RAIB will qualify its findings by use of words such as 'probable' or 'possible', as appropriate. Where there is more than one potential explanation RAIB may describe one factor as being 'more' or 'less' likely than the other.

In some cases factors are described as 'underlying'. Such factors are also relevant to the causation of the accident or incident but are associated with the underlying management arrangements or organisational issues (such as working culture). Where necessary, words such as 'probable' or 'possible' can also be used to qualify 'underlying factor'.

Use of the word 'probable' means that, although it is considered highly likely that the factor applied, some small element of uncertainty remains. Use of the word 'possible' means that, although there is some evidence that supports this factor, there remains a more significant degree of uncertainty.

An 'observation' is a safety issue discovered as part of the investigation that is not considered to be causal or underlying to the accident or incident being investigated, but does deserve scrutiny because of a perceived potential for safety learning.

The above terms are intended to assist readers' interpretation of the report, and to provide suitable explanations where uncertainty remains. The report should therefore be interpreted as the view of RAIB, expressed with the sole purpose of improving railway safety.

Any information about casualties is based on figures provided to RAIB from various sources. Considerations of personal privacy may mean that not all of the actual effects of the event are recorded in the report. RAIB recognises that sudden unexpected events can have both short- and long-term consequences for the physical and/or mental health of people who were involved, both directly and indirectly, in what happened.

RAIB's investigation (including its scope, methods, conclusions and recommendations) is independent of any inquest or fatal accident inquiry, and all other investigations, including those carried out by the safety authority, police or railway industry.

This page is intentionally left blank

# Collision between a passenger train and an agricultural trailer at Nordan Farm user worked crossing, near Leominster, Herefordshire

## 22 May 2025

### Contents

<b>Preface</b>	3
<b>Summary</b>	7
<b>Introduction</b>	8
Definitions	8
<b>The accident</b>	9
Summary of the accident	9
Context	9
<b>The sequence of events</b>	16
Events preceding the accident	16
Events during the accident	18
Events following the accident	19
<b>Analysis</b>	21
Identification of the immediate cause	21
Identification of causal factors	21
Identification of underlying factors	28
Additional observation	30
Previous occurrences of a similar character	30
<b>Summary of conclusions</b>	32
Immediate cause	32
Causal factors	32
Underlying factors	32
Additional observation	32
<b>Previous RAIB recommendation relevant to this investigation</b>	33
Previous recommendation that had the potential to address one or more factors identified in this report	33
<b>Actions reported as already taken or in progress relevant to this report</b>	34
Actions reported that address factors which otherwise would have resulted in an RAIB recommendation	34

<b>Recommendations and learning points</b>	35
Recommendations	35
Learning points	36
<b>Appendices</b>	37
Appendix A - Glossary of abbreviations and acronyms	37
Appendix B - Investigation details	38

## Summary

At around 10:37 on 22 May 2025, a passenger train collided with an agricultural trailer being towed across the railway at Nordan Farm user worked crossing, in Herefordshire.

The train was travelling on the Down Main line between Ludlow and Leominster at around 80 mph (129 km/h) when the accident occurred. Six passengers and one member of staff received minor injuries. The train did not derail, but significant damage was caused to the leading vehicle of the train and to the agricultural trailer.

The accident happened because the signaller gave permission to the tractor's driver to use the crossing, despite the proximity of the approaching train. The signaller had forgotten about the presence of the train when they gave permission and did not check signal box equipment which was indicating the presence of the train beforehand, as they had been trained to. The signaller's actions may have been affected by an interruption to their established routine for giving users permission to use the crossing, an increase in their workload, distraction and the effects of fatigue.

As Nordan Farm level crossing is a passive user worked crossing, it has no engineered safeguards to warn or protect a crossing user of an approaching train and safe operation is solely reliant on the signaller's decision as to whether it is safe to cross or not.

RAIB found that Network Rail's level crossing risk assessment process did not effectively recognise nor control the higher risk present at some crossings during intensive seasonal use. This was an underlying factor. RAIB also found that Network Rail did not have a coherent process for deciding whether a vehicle using a user worked crossing should be considered as large, low or slow moving. This was a possible underlying factor.

RAIB has made two recommendations, both addressed to Network Rail. The first seeks to improve the effectiveness of risk management processes at crossings that see a high variance of use across the year. The second asks Network Rail to consider the actions it took in response to a previous RAIB recommendation and is aimed at assisting signallers and crossing users in deciding whether a vehicle should be treated as large, low or slow moving.

RAIB also identified four learning points. The first reminds staff to comply with their company's mobile phone policies. The second reminds staff to assess their level of fatigue and inform their company as needed. The third highlights the importance of signallers using available instruments and indicators when considering level crossing requests. The fourth reminds signallers to follow the correct process for applying signal protection.

# Introduction

## Definitions

- 1 Metric units are used in this report, except when it is normal railway practice to give speeds and locations in imperial units. Where appropriate the equivalent metric value is also given.
- 2 Some of the timings stated in this report are taken from paper records such as the train registers and level crossing occurrence books that were in the signal boxes involved. These timings are recorded by hand and are rounded to the nearest whole minute, and so there may be some minor discrepancies in the timings stated.
- 3 The report contains abbreviations and acronyms, which are explained in appendix A. Sources of evidence used in the investigation are listed in appendix B.

## The accident

### Summary of the accident

- 4 At around 10:37 on 22 May 2025, train reporting number 1V37, the 08:30 passenger service from Manchester Piccadilly to Cardiff Central, collided with an agricultural trailer being towed across the railway at Nordan Farm level crossing, in Herefordshire (figure 1). The train, operated by Transport for Wales Rail Limited, was travelling on the Down Main line between Ludlow and Leominster at around 80 mph (129 km/h) when the accident occurred.



Figure 1: Extract from Ordnance Survey map showing location of the accident at Nordan Farm level crossing.

- 5 The train driver was uninjured in the accident, but a driver assessor riding in the train's cab, and six passengers on board the train, were treated on site for minor injuries. The driver of the tractor that was towing the trailer was unharmed.
- 6 The train did not derail as a result of the collision, but significant damage was caused to its leading vehicle, and to the agricultural trailer.

## Context

### Location

- 7 Nordan Farm level crossing is located on the Welsh Marches line between Ludlow and Leominster stations, 36 miles and 54 chains from the zero point at Shrewsbury station. The area immediately around the crossings is predominantly flat farmland, with a small number of residential dwellings (figure 2).

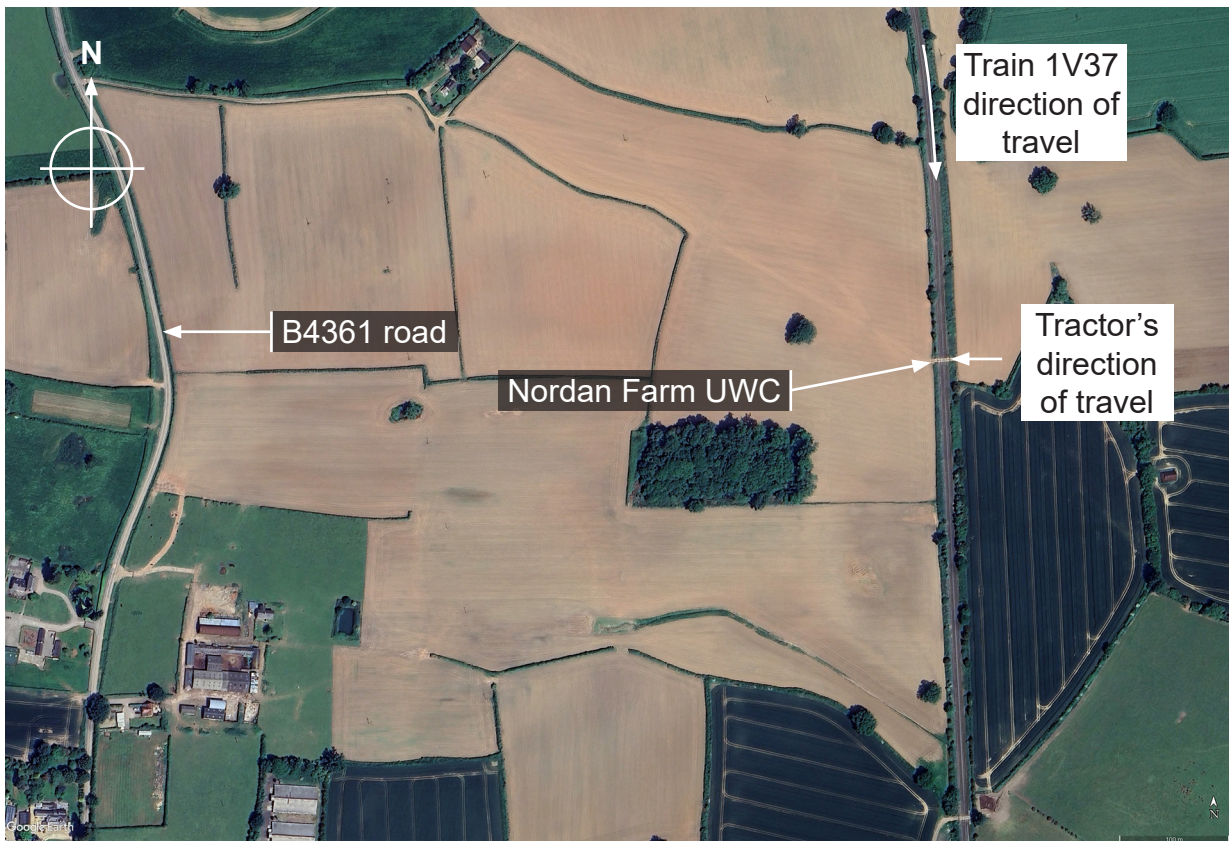


Figure 2: The area around Nordan Farm level crossing.

8 The railway at this location runs north to south and consists of two non-electrified running lines, both with a maximum permitted speed of 90 mph (145 km/h). To the north, the railway curves to the west, restricting sighting of approaching trains when viewed from the crossing. Around 4.5 miles (7 km) north of the crossing, the railway passes Woofferton signal box. To the south, the railway is straight for around 1.3 miles (2 km), before it enters the town of Leominster. The signal box at Leominster, which is just south of the station, is around 2 miles (3.2 km) from the crossing (figure 3). Bromfield signal box is located about 7 miles (11 km) north of Woofferton signal box.

### Organisations involved

- 9 Network Rail owns and maintains the infrastructure at this location, which is part of its Wales and Western region. Network Rail also employs the signalling staff involved.
- 10 Transport for Wales Rail Limited (TfWRL) operated the train involved in the collision and employs the train driver, driver assessor and other on-train staff.
- 11 Network Rail and TfWRL co-operated freely with this investigation.

### Train involved

- 12 Train 1V37 was formed of a DVT (driving van trailer) at the leading end, five passenger coaches and a class 67 locomotive. Although the DVT has a cab which allows the driver to control the train, it provides no traction power of its own. This is provided by the locomotive at the rear of the train.
- 13 There is no evidence that the way the train was driven had any effect on the accident.

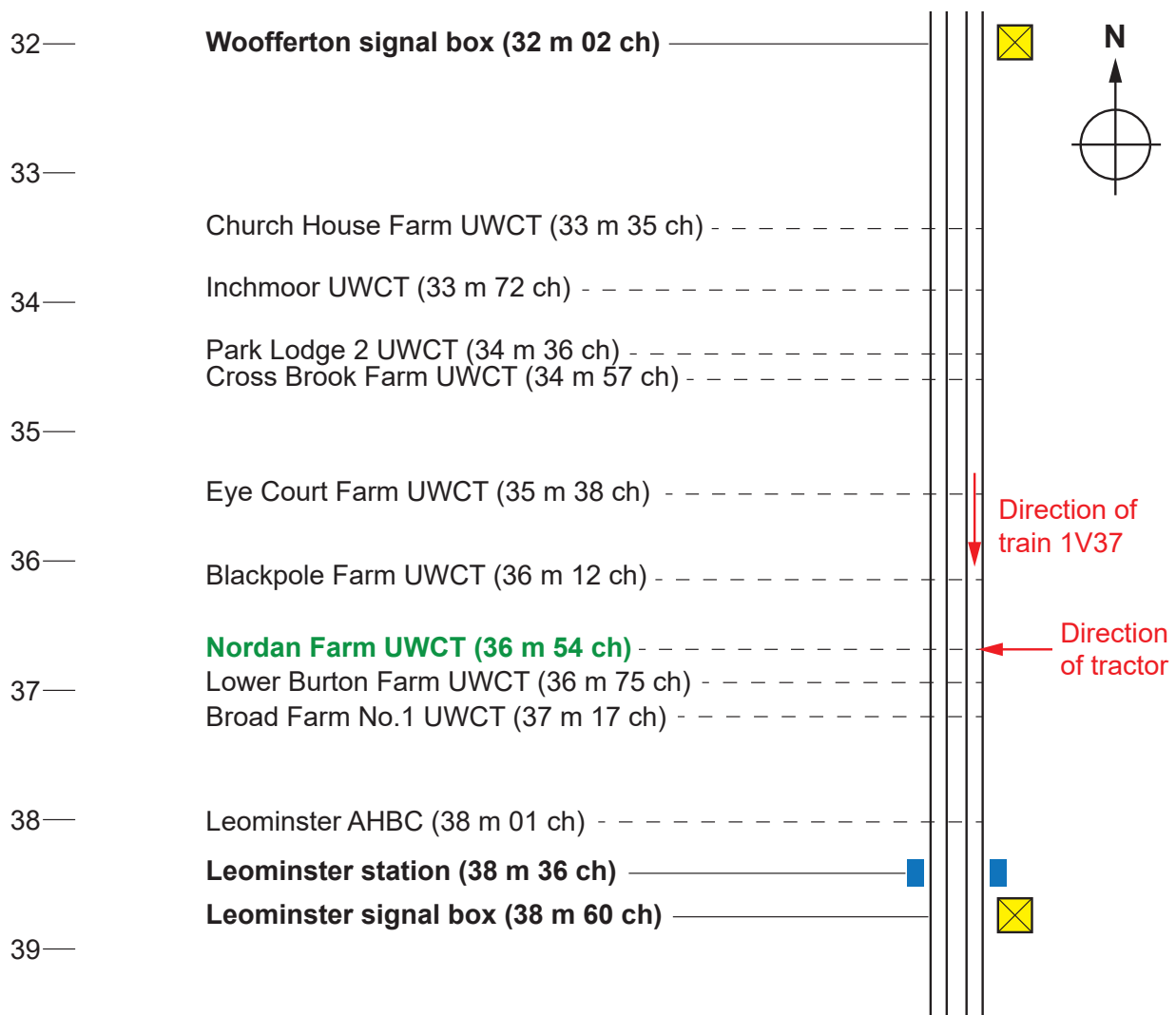


Figure 3: The railway between Woofferton and Leominster, including Nordan Farm level crossing.

### Level crossing involved

- 14 Nordan Farm level crossing is a user worked crossing with telephones (UWC(T)). There are signs displayed at the crossing, giving users instructions on the process to follow. Users wishing to cross are required to use the telephones provided, which connect directly to the supervising signal box at Woofferton, to gain permission from the signaller to cross. During the call, when requested, users should inform the signaller how long they need to cross, including an allowance for opening and closing the gates. The signaller will then grant or deny permission, based on a determination of the position of any approaching trains, and whether there is sufficient time to cross before a train's arrival.
- 15 Nordan Farm level crossing's sole purpose is as an accommodation crossing, to allow a single farming business to get to land on the east of the railway, which is otherwise inaccessible. It is on private property with no public right of way. The farmers who use the crossing are designated as 'authorised users' of the crossing. Authorised users are given information by Network Rail about how to use the crossing correctly and are then expected to pass this information on to any employees or other people who may have to use the crossing.



Figure 4: Approach to Nordan Farm UWC(T) from the east showing a) the general signage arrangements and b) the sign with instructions to use the crossing.

16 The railway through this area sits slightly higher than the surrounding farmland, meaning the approach to the crossing on both sides is up a small incline. These approaches are unsurfaced tracks, with a metal gate provided in line with the railway boundary. The crossing itself consists of permanently fixed timber sleepers which provide a crossing surface for vehicles, animals and pedestrians, but only within the limits of the railway tracks themselves. The remainder of the crossing is infilled with standard railway ballast (figure 5). While not intended for ordinary road vehicles, this type of crossing is suitable for the agricultural vehicles which use the crossing, such as the one involved in the accident.



Figure 5: Nordan Farm level crossing, including repair work done after the accident.

17 The crossing is geographically closer to Leominster signal box than Woofferton signal box (paragraph 8). Nevertheless, for historic reasons, the crossing is supervised by Woofferton signal box (see paragraph 22).

### Signalling systems and signal boxes involved

- 18 The Welsh Marches line through this area is signalled by semaphore signals, using the absolute block signalling system, including block instruments. This is a method of controlling trains where a signaller offers a train to the next signal box along the line. If the section of line (known as the block section) ahead is clear and safe to enter, this train is accepted by the next signaller.
- 19 While these signal boxes are now fitted with telephones, most routine communications between the boxes uses bell codes. These are sent by the signaller pressing a plunger on the block instrument which rings a corresponding bell in the adjacent signal box (figure 6). The resulting series of beats sounded by the bell should conform to a standardised code, allowing messages to be sent and received. These codes allow trains to be offered and accepted, and for the movement of trains in and out of block sections to be communicated.
- 20 As well as the bell, the block instrument also has a commutator switch and associated indicators which set and display the state of the sections on the approach to that signal box. The commutator and the indicators on the block instrument each have three states:
  - a. 'NORMAL' shows that there are no train movements in the block section (and hence a train can be offered by an adjacent signal box).
  - b. 'LINE CLEAR' indicates that the signaller has accepted a train from an adjacent signal box, although the train has not yet entered the block section.
  - c. 'TRAIN ON LINE' indicates that the signaller has been informed by an adjacent signal box that a train has entered the block section (and so no other train can enter the same section).
- 21 After a train has passed through the block section, the signaller at the exit of the section will confirm the train is complete (by observing the train's tail lamp as it passes the signal box) and return the block instruments to NORMAL, resetting the sequence for the next train. The signaller will also send and receive the appropriate bell codes to confirm that the train has left the section.
- 22 Woofferton signal box is located about halfway between the towns of Ludlow and Leominster, at the site of the disused Woofferton railway station. The signal box controls the points for two crossovers and the Down Goods loop, as well as the signals at Woofferton. Two user worked crossings are controlled by Woofferton signal box. These are Nordan Farm and Eye Court Farm, both of which are located between Woofferton and Leominster. The layout of the signal box includes a mechanical frame which houses the levers controlling the points and signals (figure 7). This includes the protecting signal for the down line between Woofferton and Leominster. Above the levers is a shelf with various indicators and the two block instruments for the two lines. A lectern is positioned to the right-hand side of the lever frame which holds the level crossing occurrence book. This is used to keep a record of any level crossing requests that are made. A telephone is positioned on a desk at the back of the signal box, which can connect to other signal boxes and lineside telephones, such as those at Nordan Farm UWC(T). The desk also has a computer terminal and the train register book, which is used to record train movements through the area controlled by the signaller.



Figure 6: The block instruments at Woofferton.



Figure 7: Interior of Woofferton signal box.

- 23 Leominster signal box controls seven user worked crossings, all also located between Leominster and Woofferton. This signal box controls the protecting signal for the up line between Leominster and Woofferton.

#### Agricultural vehicles involved

- 24 The tractor involved weighed around 7.7 tonnes. When the accident occurred, the twin-axle trailer was fully loaded with silage. Based on the loading visible on the train's forward-facing CCTV, RAIB estimates the total trailer weight to have been between 13 and 16 tonnes. The trailer was attached to the tractor with a drawbar connected to a towing assembly on the rear of the tractor.

#### Staff involved

- 25 The signaller at Woofferton signal box is employed by Network Rail. At the time of the accident, they had been a resident signaller at the signal box for just under 1 year and held the relevant competencies for their duties.
- 26 The signaller at Leominster signal box is employed by Network Rail. At the time of the accident, they had been a relief signaller for 3 years. They were qualified to operate, and regularly worked at, both Leominster and Woofferton signal boxes and held the relevant competencies for their duties.
- 27 The level crossing manager (LCM) is employed by Network Rail and held the relevant competencies for their duties.
- 28 The tractor driver was driving for the farm's business when the accident occurred. They are an authorised user and were familiar with the crossing and its operation.

#### External circumstances

- 29 The weather at the time of the accident was fine and clear. The sun was high in the sky to the south of the crossing, and its position was not a factor. The crossing is in a quiet, rural location and there was no evidence that any noise or other external circumstances influenced the accident.

## The sequence of events

### Events preceding the accident

- 30 At around 15:30 on 21 May 2025, the day before the accident, the Woofferton signaller received a text message from a colleague asking if they could cover a shift on the following day. The signaller accepted the request to provide cover. Around 2 hours later, the signaller received news of a family emergency. This subsequently required the signaller to leave their home at around 23:10 and meant that, by the time they got back home and into bed, it was around midnight.
- 31 The signaller woke up at around 04:30 the following day (22 May), leaving shortly afterwards for their shift at Woofferton signal box, which was planned to start at 05:30. They signed the train register to show their arrival at the signal box at 05:21 and, after a short handover with the previous signaller, started their shift. Over the next 4 hours, nine trains passed through the area controlled by the Woofferton signaller.
- 32 At 08:39, the signaller received a personal mobile phone call that lasted 18 minutes. No trains were in section at any point during this call. The signaller also received three text messages at around 09:08, which they then sent a reply to. Again, no trains were in section at this time, although one had already been accepted from Leominster, entering the section around 3 minutes later.
- 33 At 10:03, the crossing occurrence book shows that the signaller received a call from Nordan Farm UWC(T) asking for permission to cross. The signaller used a prompt card provided in the crossing occurrence book to guide the conversation. A recording of this call shows that the signaller asked for the type of vehicle being used and how long the crossing would take. In response, the signaller was told by the crossing user that it was a “tractor and trailer” and that the crossing should take around 1 minute. As there were no trains either accepted or in section at this time, the signaller immediately granted permission to cross.
- 34 The signaller considered the tractor and trailer to be a ‘*large, low or slow-moving*’ vehicle which required signal protection as detailed in module TS9 of the railway Rule Book (see paragraph 81). At this crossing, signal protection is provided by reminder appliances that are placed on the appropriate signal lever in the signal box, to remind the signaller to maintain the signal to protect the crossing at danger (red).
- 35 The signaller called their colleague at Leominster signal box to ask for a reminder appliance to be applied to the protecting signal on the Up Main line, while simultaneously applying a reminder appliance to the protecting signal on the Down Main line at Woofferton. Shortly afterwards, the crossing user called back to state that the crossing sequence was complete, and the gates were closed. This was recorded by the signaller in the level crossing occurrence book at 10:05. The signaller called Leominster signal box and withdrew the signal protection, also removing the reminder appliance on their own signal lever at Woofferton.

- 36 At 10:05, just after the tractor and trailer had crossed at Nordan Farm, the Woofferton signaller accepted train 1W55 from Leominster. The block instrument for the up line between Leominster and Woofferton was set by the signaller to LINE CLEAR to prepare for the arrival of the train, which at this point was still south of Leominster. The signaller at Leominster then cleared the signals on the up line, including the section signal which would allow the train to enter the section of line between there and Woofferton.
- 37 At 10:09, the signaller received a second crossing request from Nordan Farm UWC(T). As train 1W55 had still not arrived at Leominster, the Woofferton signaller had no trains in the section between Leominster and Woofferton, so they granted immediate permission to cross and then applied signal protection on their lever. The Woofferton signaller called the Leominster signaller to apply signal protection as they had done before. This required the Leominster signaller to replace the protecting signal on the up line back to danger ahead of train 1W55's arrival. Having to do this was commented on by the Leominster signaller during the call.
- 38 At 10:11, the user at Nordan Farm UWC(T) called to report that their vehicle was now clear of the crossing. The signal protection was withdrawn and the signal at the start of the section between Leominster and Woofferton was again cleared. This did not affect the passage of train 1W55 as, by this time, it was stationary at Leominster station where it was due to call. Train 1W55 departed from the station and entered the section between Leominster and Woofferton, heading north, at 10:13. Having received confirmation from Leominster that the train was entering the section, the Woofferton signaller set the up line block instrument to TRAIN ON LINE.
- 39 Very shortly afterwards, the Woofferton signaller received a third crossing request from Nordan Farm UWC(T). Due to the presence of train 1W55 in the section between Leominster and Woofferton, this request was denied, and the user was asked to call back once the train had passed the crossing. At 10:17, after the train had passed the crossing, the request was remade and permission was granted.
- 40 At 10:22, the Woofferton signaller accepted train 1V37 from Bromfield, which was on the down line, heading south. The block instrument for the down line between Bromfield and Woofferton was set to LINE CLEAR by the Woofferton signaller to prepare for the arrival of the train and the Bromfield signaller cleared the signal at the start of the section.
- 41 Two more crossing requests were made from Nordan Farm UWC(T) at 10:21 and 10:26. Both were granted and had signal protection applied in the same manner as for the previous uses. During the call at 10:26, the signaller also asked the crossing user how much longer they would be using the crossing that day and were told that they expected there would be intermittent requests for the next 2 hours. The Woofferton signaller did not call the Leominster signaller back to remove the signal protection after this crossing use.

- 42 At 10:26, train 1V37 entered the section between Bromfield and Woofferton signal boxes on the down line, heading south. A bell code to confirm this was sent between Bromfield and Woofferton and the block instrument for the section was set to TRAIN ON LINE. The Woofferton signaller then sent a bell code to offer this train to Leominster. The Leominster signaller accepted the train, and the block instrument for the down line between Woofferton and Leominster was set to LINE CLEAR to prepare for its arrival. The Woofferton signaller then cleared the signal at the start of the section.
- 43 At 10:32, the Woofferton signaller accepted northbound train 1W92 from Leominster and the up line block instrument was set to LINE CLEAR. However, due to the applied signal protection, the Leominster signaller was unable to clear their signals. They called the Woofferton signaller at 10:33 to ask if Nordan Farm UWC(T) was in use and if the protection could be removed. The Woofferton signaller confirmed that it could be removed and stated that they had forgotten to call back after the previous crossing use had finished.
- 44 The Leominster signaller also questioned why signal protection was being applied for crossing uses that were only taking 1 minute. They explained that their own practice was to only apply protection for those that would take 3 minutes or more. The Leominster signaller finished the conversation by stating that the ultimate decision on the matter laid with the Woofferton signaller. The Woofferton signaller knew that the Leominster signaller was more experienced than them, particularly for dealing with requests from user worked crossings, and the Woofferton signaller decided to stop applying signal protection for any further requests that morning.
- 45 At around 10:34, train 1V37 passed Woofferton signal box on the down line, heading south. The appropriate bell code was sent between Woofferton and Leominster to confirm that the train had entered the section between Woofferton and Leominster and the block instrument for the section was set by the Leominster signaller to show TRAIN ON LINE. The train was recorded in the train register at both signal boxes as having entered the section at 10:35.

### Events during the accident

- 46 At 10:37, the Woofferton signaller received another call from Nordan Farm UWC(T) requesting permission to use the crossing. This permission was granted immediately, despite train 1V37 being within the section between Woofferton and Leominster and approaching the crossing. As a result of the conversation that the Woofferton signaller had had with the Leominster signaller (paragraph 43), the signaller had decided not to apply signal protection, although the train was already past the section signal by this time.
- 47 After ending the call, the crossing user climbed back into their tractor to begin to cross. The gates at the crossing were opened for them by others in their group positioned on either side of the crossing.

- 48 Train 1V37 approached Nordan Farm crossing on the down line around a right-hand curve, travelling at around 83 mph (134 km/h). The crossing first came into view around 9 seconds before the collision. Forward-facing CCTV recovered from the train shows the tractor and trailer entering the crossing from the left of the train's direction of travel (the eastern side of the crossing) around 5 seconds before the collision.
- 49 Around the same time, the train driver applied the train's service brake in rapidly increasing levels of braking. Around 1 second before the collision, they made an emergency brake application.
- 50 Train 1V37 struck the trailer in its midsection, immediately over the first axle. The connection between the trailer's drawbar and its underframe sheared off, leaving the drawbar attached to the tractor, which had just cleared the up line. The trailer deformed around the front of the train and was pushed for around 540 metres along the line, before the train came to a stop with the trailer still wrapped around it (figure 8a).
- 51 The tractor was immediately driven clear of the crossing into the field on the western side of the tracks (figure 8b).



Figure 8: The vehicles after the collision showing a) the train and trailer and b) the tractor.

## Events following the accident

- 52 After the train had come to a stand, the train driver made a railway emergency call (REC) using the GSM-R (Global System for Mobile Communications – Railway) radio in their cab. This sent a message to all nearby trains to stop. It also initiated a call to the nearest signal box, which was Leominster. The Leominster signaller immediately reset their signals to danger and issued an instruction to the adjacent signal boxes, including Woofferton signal box, to stop all trains.
- 53 The tractor driver used the level crossing telephone to call the Woofferton signaller and report what had happened.

- 54 As well as seriously damaging the trailer, the collision caused damage to the front of the train, including breaking the windscreen. A driver assessor, riding in the train's cab, sustained a nose injury. Of the remaining 7 staff and 66 passengers on board, 6 passengers reported receiving minor injuries and were treated at the scene by the ambulance service. The proximity of the other user worked crossings in the area allowed for passengers to be evacuated to the nearby road for onward transportation. The line reopened in the evening of the following day, 23 May.

## Analysis

### Identification of the immediate cause

#### 55 The tractor and trailer were permitted to cross into the path of the approaching train.

- 56 The crossing user had been given permission to cross the line with a tractor and trailer at Nordan Farm level crossing as train 1V37 approached (paragraph 46). The crossing user, who was driving the tractor, was unaware of the approaching train until a few seconds before the collision. Although the tractor driver then tried to speed up, there was insufficient time to avoid the collision.
- 57 The train had been given authority to enter the section between Woofferton and Leominster (paragraph 42). The train driver began applying the train's brakes 5 seconds before the collision and applied the emergency brake 1 second before the collision (paragraph 49). These brake applications only slightly reduced the train's speed, with the train striking the trailer at 80 mph (129 km/h).

### Identification of causal factors

- 58 The accident occurred due to a combination of the following causal factors:
- The signaller gave permission for the tractor driver to cross when it was not safe to do so (paragraph 59).
  - Nordan Farm UWC(T), as a passive crossing, did not provide any engineering safeguards to warn or protect a crossing user of approaching trains, and relied solely on the signaller's decision to grant permission to cross (paragraph 85).

Each of these factors is now considered in turn.

#### The signaller's actions

#### 59 The signaller gave permission for the tractor driver to cross when it was not safe to do so.

- 60 Calls made to signal boxes, including those from level crossings, are recorded by railway systems. Recordings of conversations provided to RAIB confirm that the crossing user requested permission to cross the line at 10:37 (paragraph 46). The signaller granted this permission within seconds. The tractor then began to cross the line.
- 61 This causal factor arose due to a combination of the following:
- The signaller had forgotten that there was a train in section when they granted permission for the tractor to cross (paragraph 62).
  - The signaller did not check the block instrument before granting permission for the tractor to cross (paragraph 75).
  - The signaller did not apply signal protection before granting permission for the tractor to cross. This is a possible causal factor (paragraph 80).

Each of these factors is now considered in turn.

Signaller's awareness of the train**62 The signaller had forgotten that there was a train in section when they granted permission for the tractor to cross.**

- 63 Signallers working in absolute block areas do not have access to the same level of information as those operating with more modern signalling systems. While block instruments indicate that a block section is occupied, they do not show where the train is located within the distance covered by the instrument (paragraph 18). These sections can be several miles long, so signallers routinely rely on their training, experience and the passage of time to develop a mental model of the progress of a train through a section. This process assists in the efficient running of the timetable and allows signallers to anticipate when they will need to undertake various other tasks.
- 64 Module TS9 of the railway Rule Book GERT8000, 'Level crossings – signallers' regulations', issue 5 dated 7 September 2024, details the duties a signaller must undertake when dealing with level crossing requests. Section 2.1.1 states that, when a signaller receives a telephone call from a crossing, they must determine whether '*there is enough time for the crossing to be used before the next train passes over it*'.
- 65 At around 10:34, train 1V37 passed Woofferton signal box, about 3 minutes before the accident occurred (paragraph 45). The signaller had observed the train pass, reset their signals, sent and received appropriate bell codes, and recorded the train entering section in the train register. Despite these activities, when the request from Nordan Farm UWC(T) was made at 10:37 to use the crossing, witness evidence indicates that the signaller had forgotten about the presence of the train and immediately granted this permission.
- 66 The accident occurred during the sixth use of the level crossing that morning. For the first five crossings, the signaller had applied signal protection on their section signal and requested the same precaution to be taken at Leominster for trains coming from that direction. After the fifth crossing, the signaller did not call their colleague at Leominster to withdraw this protection (paragraph 41). When the Leominster signaller called the Woofferton signaller to enquire whether this protection could be removed, they also questioned whether it was really required given that the tractor and trailer crossing times were short (paragraph 44). While the decision on whether to apply protection was the responsibility of the Woofferton signaller, they decided to follow the advice of their more experienced colleague in the Leominster signal box and did not apply signal protection further.
- 67 This meant that, from this point onwards, the method of work that the Woofferton signaller used to control the crossing had changed. It is possible that this interruption to an established routine and the change to the signaller's way of working that it introduced contributed to the signaller forgetting about the presence of the train. Whether the lack of application of signal protection affected the causality of the accident is discussed further from paragraph 80.

- 68 RAIB undertook an activity analysis at Woofferton signal box, on a similar day and time to when the accident occurred. This confirmed that this signal box has a relatively low workload during normal operation, typically signalling around two trains per hour in each direction. While out-of-course events, such as line blockages or maintenance work on the signal box, do occur, they do not typically increase the signaller's workload significantly.
- 69 User worked crossing requests received at Woofferton signal box are rare, and normally only come from Nordan Farm UWC(T). Records provided to RAIB show that, in the 11-month period between June 2024 and May 2025, a total of 47 requests were made over 18 separate days.
- 70 In contrast, on the morning of the accident, the Woofferton signaller received six crossing requests over a 35-minute period. This resulted in around 20 telephone calls being made or received to either the crossing user or the Leominster signaller. This accounted for an increase in workload which was both significant and unexpected, and required the Woofferton signaller to make repeated, active decisions about crossing requests, in addition to their normal signalling duties.
- 71 On the day before the accident, shortly after agreeing to cover the shift, the signaller received news of a family emergency (paragraph 30). Witness evidence shows that this news was on the signaller's mind during their shift. This is further supported by their prolonged personal phone call during the shift (paragraph 32) at a time when signallers are instructed not to interact with their phones.
- 72 The signaller was undertaking the shift after having no more than 4.5 hours of sleep (paragraph 31). Fatigue can be caused by a reduction in sleep quality or quantity. The extent to which sleep loss causes fatigue varies among individuals and can depend on overall health, daily activities and typical sleep patterns. Fatigue can influence judgement and alertness, and it is possible that this affected the signaller's performance and decision-making. Witness evidence suggests that, while the signaller did feel tired, they felt able to complete their shift safely and effectively, and did not feel the need to report this to their manager. Although Woofferton signal box would receive routine visits from managers who would observe the work of signallers, no such visit was undertaken on the day of the accident.
- 73 When people are distracted or under stress, they are not as effective at making appropriate decisions. Decisions may become unsystematic and hurried with a lack of a full consideration of all the options available to them at that time. RAIB considers that the distraction associated with the family emergency possibly affected the signaller's performance and decision-making. This is supported by Cooper et al<sup>1</sup> who identified that, as situations become more demanding, skilled performance, as an output, decreases.

---

<sup>1</sup> Cooper S, Porter J and Peach L, 'Measuring situation awareness in emergency setting: a systematic review of tools and outcomes', Open Access Emergency Medicine, pages 1 to 7, DOI: 10.2147/OAEM.S53679 (2014).

- 74 The ability to maintain awareness of a situation, as one of the main precursors to decision-making, can degrade with stress and be affected by interruptions, fatigue and distractions, and can impose a heavy load on the working memory. Working memory has a limited capacity and, if the situation is stressful, or unfamiliar, or the person is focused on one particular task, then the ability to process new information becomes diminished. RAIB considers that the combination of these factors almost certainly affected the signaller's performance and decision-making on the day of the accident.

*Indications available to the signaller*

**75 The signaller did not check the block instrument before granting permission for the tractor to cross.**

- 76 The block instruments within Woofferton signal box are positioned towards the centre of the block shelf, adjacent to the signalling bells (figure 6). The left-hand block instrument, furthest from the telephone and the occurrence book lectern, shows the status of the line between Woofferton and Leominster. At the time the signaller granted permission for the tractor to cross, this block instrument was displaying TRAIN ON LINE on the down line and LINE CLEAR on the up line. The TRAIN ON LINE indication showed that there was a southbound train on the down line between Woofferton and Leominster, which includes Nordan Farm UWC(T).
- 77 If the signaller had correctly checked and interpreted the indication on the block instrument when deciding whether it was safe for the tractor to cross, they would have realised that a train was in the section and refused the request from the crossing user. The train register book showed that the correct entries were made when train 1V37 entered the signal section, and the signaller may also have realised where the train was, had they checked this.
- 78 Newly appointed signallers attend an intensive signalling course at the start of their careers. Once this is successfully completed, they will begin further specific and on-the-job training at one or more signal boxes. This additional training is given by local managers or trainers and will cover any box-specific instructions and operating nuances.
- 79 As part of this training at Woofferton signal box, the signaller was trained and assessed in the safe handling of user worked crossing requests. This included a requirement to check the available indications, namely the block instrument or the train register, to verify the presence or absence of a train to inform their decision. The available evidence shows that the signaller did not do this effectively when they granted permission for the tractor and trailer to cross. This occurred because they were relying on their mental model to determine the positions of trains. As discussed above, this mental model was subject to the possible effects of fatigue, distraction and an increased workload which made it ineffective (paragraphs 66 to 74).

### Use of signal protection

**80 The signaller did not apply signal protection before granting permission for the tractor to cross. This is a possible causal factor.**

81 The decision of whether signal protection should be applied is based on the vehicle that is being taken across the crossing. Rule Book module TS9 states that *'Before you authorise anyone to use the crossing with animals or a large, low or slow-moving vehicle, or anything with small wheels that may get caught in a flangeway, you must ... make sure that the protecting signals are placed or kept at danger or the route has been closed'*.

82 A prompt card supplied to Woofferton signal box by Network Rail listed a number of questions to assist signallers in gaining this information (figure 9). The first three questions were:

- a. *'What are you crossing with?'*
- b. *'Is your vehicle large or slow moving?'*
- c. *'If you include opening and closing the gates, how long will it take you and your vehicle to cross?'*

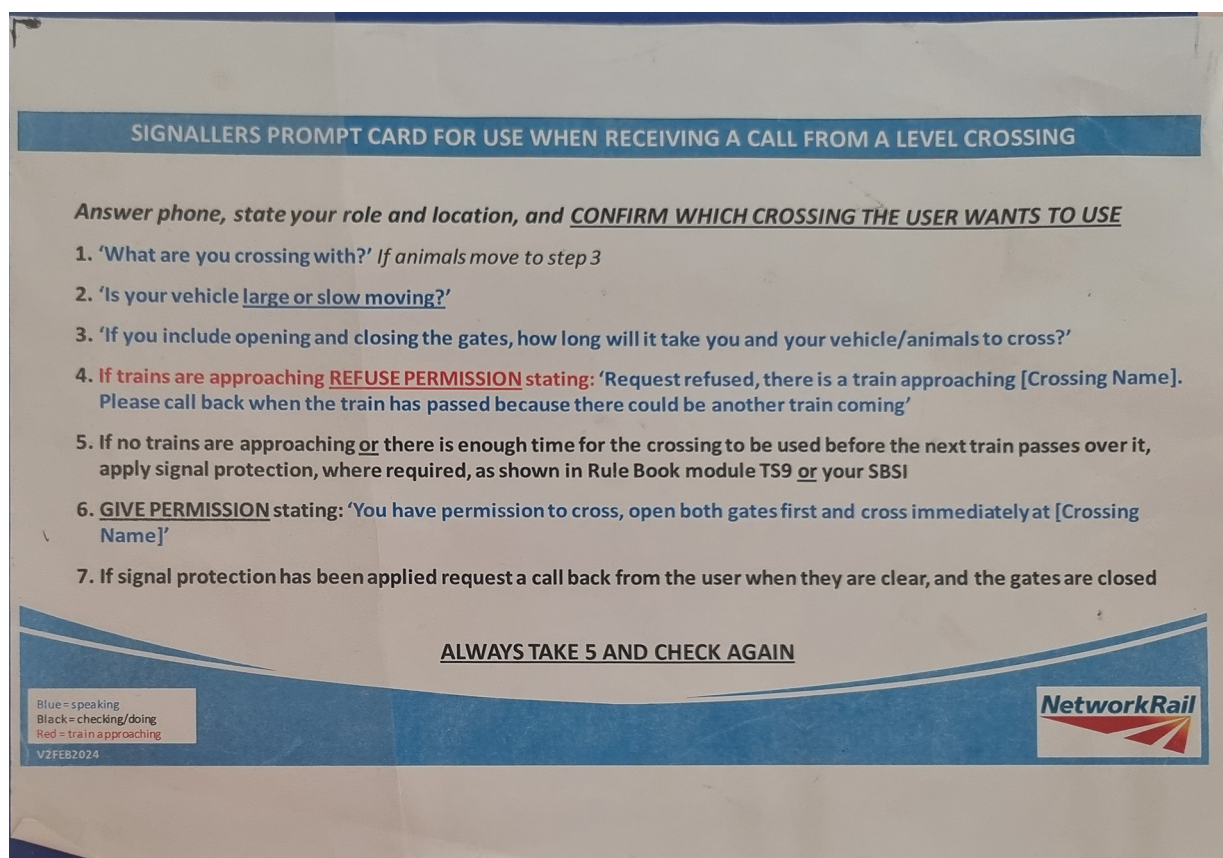


Figure 9: Level crossing prompt card at Woofferton signal box.

- 83 When dealing with the requests to use Nordan Farm UWC(T) on the morning of 22 May 2025, there is witness evidence that the Woofferton signaller used the prompt card, and recordings show that they asked the crossing user what was crossing (paragraph 33). Upon hearing the reply of “tractor and trailer”, the signaller made the decision that this vehicle was ‘*large or slow moving*’ within the meaning of module TS9, although they had not specifically asked this, despite it being the second question on the prompt card. In turn, this led them to apply signal protection for the first five requests they granted. After the challenge from the Leominster signaller on using protection in this way (paragraph 43), the signaller chose not to apply further signal protection.
- 84 When the next crossing request was made at around 10:37, train 1V37 was already past the signal protecting the section between Woofferton and Leominster. This means that applying signal protection would not have directly prevented this accident from occurring. However, the act of calling the signaller at Leominster signal box to apply protection and/or the application of reminder appliances at one or both signal boxes, and any entries then made into the occurrence book, may have led one or both signallers to identify that train 1V37 was in section and was approaching the crossing. If this had been spotted in time, it is possible that the signaller may have had sufficient time to stop the train using a GSM-R REC call.

#### Risk controls at user worked crossings

**85 Nordan Farm UWC(T), as a passive crossing, did not provide any engineering safeguards to warn or protect a crossing user of approaching trains, and relied solely upon the signaller’s decision to grant permission to cross.**

- 86 Network Rail categorises its level crossings as either ‘active’ or ‘passive’. Active crossings provide a warning of an approaching train to the user via the use of lights, barriers and audible alarms. Passive crossings, in contrast, place the onus on the crossing user to determine whether it is safe to cross, either by looking and listening for trains, or by calling a signaller to get permission to cross. Nordan Farm crossing, as a UWC(T), is a passive crossing. Nationally, UWC(T)s such as Nordan Farm account for around a quarter of all level crossings.
- 87 When a user needs to cross at a UWC(T), they are guided by signage to use the telephone provided to call the signaller and obtain permission to cross. The user should, on request, give an accurate account of what vehicle they are crossing with, and an estimate of how long they require to cross, including the time needed for the opening and closing of any gates or barriers. The quality and content of this conversation are important factors in allowing the signaller to make an effective and safe decision.
- 88 The signaller must decide whether the user has sufficient time to cross based on the information the user provides. This requires the signaller to determine the location of any relevant trains, and to judge how long it will be before they reach the crossing. They must also take a view on whether the user is likely to have accurately estimated the time needed to cross. There are no other safeguards to prevent permission being granted in circumstances where this may potentially be unsafe, for example, if a signaller or crossing user make an error, or if the information provided is inaccurate.

- 89 Network Rail's process for managing risk at level crossings relies on an assessment of the crossing by an LCM. This includes measuring sighting distances and the traverse length of the crossing, conducting a census of the number of crossing users, and using railway data to determine the number of trains. The results of this assessment are entered into Network Rail's computer-based All Level Crossing Risk Model (ALCRM), which calculates a quantitative risk score for the crossing.
- 90 The LCM uses the information from the site visit and the output from ALCRM to produce a written narrative risk assessment (NRA). The NRA documents their findings and, if the risks are not deemed to be controlled so far as is reasonably practicable, proposes options to mitigate them further. The expected reduction in quantitative risk score from ALCRM is used to calculate a cost-benefit ratio for each of the proposed risk mitigations. The cost-benefit ratio is a whole-life calculation of how much each proposed measure costs and by how much it is expected to reduce the risk. The LCM also applies a gross disproportion factor to this calculation, which balances the risks and consequences at that particular crossing with the cost and time required to mitigate those risks. The LCM then uses their experience and professional judgement to supplement this calculation and determine whether the options are likely to be reasonably practicable to implement, when considering the qualitative factors associated with risk at the crossing. Where the LCM determines that an option is likely to be reasonably practicable to implement, they take it to the next step in Network Rail's decision-making process.
- 91 Investment approval is required to implement a selected risk control option at a crossing. In the Wales and Western region, any work above the level of minor enhancements, such as fitment of active warning systems, will be considered by the level crossing steering group, based on recommendations made by LCMs. The group's final decision on the improvements to take forward is based on consideration of a variety of factors. These include the narrative risk assessment, the ALCRM risk score, the condition of the crossing, the suitability of the crossing for certain improvements (particularly for the fitment of technology) and the nature of any known use or misuse.
- 92 The two potential options that had been considered at Nordan Farm UWC(T) to reduce crossing risk were closure of the crossing and the fitment of miniature stop lights (MSLs). A closure was not considered viable as there would be no alternative access for the landowner to the fields on the eastern side of the railway.
- 93 MSLs consist of red and green lights. The green light indicates that no trains are approaching. When a train reaches the strike-in point the light automatically changes to red, and an audible alarm sounds to indicate that users must not cross. The strike-in point, where the approaching train activates the crossing, is set at a distance calculated to allow users a safe amount of time to cross when trains are travelling at the maximum speed permitted on the line.

- 94 Installation of MSLs was described in the NRA by the LCM as an '*aspiration at this location*'. While shown to be cost beneficial in terms of risk reduction, the LCM concluded that this option should be dismissed because the crossing was only lightly used. They recommended that this option should be revisited if use of the crossing changed. By the end of the process, the LCM concluded that the risk was being managed to be as low as was reasonably practicable.

## Identification of underlying factors

### Level crossings with variable use

#### **95 Network Rail's assessment of risk at level crossings does not effectively recognise nor control the higher risks present at some crossings during seasonal use.**

- 96 The usage of the crossing is one of the main inputs to the ALCRM calculation of the risk score and the overall risk at a crossing is directly proportional to the frequency of use. To understand this, the LCM undertakes a census during a visit to the crossing as part of the risk assessment process (paragraph 89).
- 97 At crossings with variable use, such as those which follow a farming cycle like Nordan Farm UWC(T), Network Rail will combine the results of different censuses to get an average usage. At Nordan Farm crossing, Network Rail determined that for 99% of the year there was effectively no use of the crossing and hence negligible risk. The remaining 1% of the year would see between 10 and 20 crossing requests with tractors or other farm vehicles and hence would be at a higher risk.
- 98 The quantitative results from these two censuses were then combined based on their relative percentages to give an overall score for the year as a whole. Because of the significant bias towards the times where the crossing is not being used, this average came out as very low, and did not reflect the higher risk present when the crossing was being intensively used. In turn, this led to a lower chance of this crossing receiving funding for safety improvements, as other crossings with a higher risk will be prioritised (paragraph 91).
- 99 The narrative risk assessment process also allows the LCM to supplement the quantitative ALCRM score with qualitative information, using their professional judgement, if they feel that the circumstances or local risk factors justify this approach.
- 100 Network Rail guidance for LCMs states that they should try and obtain information about potential periods of increased crossing usage during their communication with authorised users, so that they can consider additional control measures. However, there is no requirement for a user to warn Network Rail that a crossing will be used on a given day. On the day of the accident, the signaller was unaware that the farm intended to use this crossing until the first time the tractor driver called (paragraph 33). This meant there was no opportunity for Network Rail to apply enhanced and targeted control measures to help reduce the risk during this significant increase in use.

### Large, low or slow-moving vehicles

**101 Network Rail's level crossing risk management process does not provide signallers, other railway staff or crossing users with a coherent and consistent process for deciding whether a vehicle using a UWC(T) should be treated as large, low or slow moving. This is a possible underlying factor.**

102 Large, low or slow-moving vehicles present a greater risk to the railway than smaller vehicles, as they normally take longer to cross, and are more likely to damage or derail a train in a collision due to their size and mass.

103 Module TS9 of the Rule Book requires signal protection to be provided for large, low or slow-moving vehicles (paragraph 81). There is no definition of 'large, low or slow-moving vehicles' in the railway Rule Book or in other information provided by Network Rail in the context of UWC(T)s. However, RAIB found there was a generally accepted practice by signallers of treating any request by a user for a crossing time of 3 or more minutes as requiring signal protection.

104 Roadside signs on the approach to automatic half-barrier level crossings define large and slow:

- large means over 18.75 metres long
- large means over 2.9 metres wide
- large means over 44 tonnes total weight
- slow means 5 mph (8 km/h) or less.

The length and weight criteria correspond to the maximum values for vehicles usually permitted on UK public roads, and the maximum width corresponds to the abnormal load definition in UK road traffic legislation (figure 10).



Figure 10: Examples of highway signs provided at automatic half-barrier crossings.

- 105 RAIB's investigation into a serious irregularity at Bagillt, Flintshire (see paragraph 110), made a recommendation addressed to Network Rail seeking to improve the management of risk of large, low and slow-moving vehicles using UWC(T)s. In response to this, Network Rail issued a revised script for the prompt card available to signallers to assist them in the safe operation of UWC(T)s. However, this script still does not define what vehicles should be considered as large or slow moving.
- 106 The Woofferton signaller used this revised script on the day of the accident (paragraph 33). However, as the script did not define what vehicles should be considered as large or slow moving, there was no consensus between the Woofferton signaller and the Leominster signaller on this subject. Further conversations between RAIB and other operational staff who work in the route confirmed this lack of consensus.
- 107 Had this been clearly defined, both the Woofferton and Leominster signallers would have known how to define a tractor and trailer. Depending on that definition, signalling protection may have been maintained (paragraph 79).

### Additional observation

#### 108 The Woofferton signaller routinely granted permission to cross before applying signal protection.

- 109 On the occasions when the Woofferton signaller decided that signal protection was required, they granted permission for the tractor driver to cross before contacting the Leominster signaller to apply the protection (paragraphs 33, 37 and 41). Module TS9 of the railway Rule Book states that *'Before you authorise anyone to use the crossing with a ... large or slow-moving road vehicle ... you must make sure that the protecting signals are placed or kept at danger'*. On one occasion, this led to the Leominster signaller replacing signals ahead of a train, after the tractor driver had been given permission to cross (paragraph 37). This was not causal to the accident because the Woofferton signaller had by then decided to stop using signal protection.

### Previous occurrences of a similar character

- 110 On 17 August 2018, a passenger train passed over Bagillt user worked level crossing, Flintshire, shortly after a very large road vehicle had crossed ([RAIB report 11/2019](#)). Railway signals had not been set to stop trains from approaching the crossing. The communication between the vehicle's driver and the signaller did not lead to the signaller identifying the vehicle as large, low or slow moving. This investigation led to a recommendation addressed to Network Rail regarding the use of user worked crossings by these types of vehicles (see paragraph 118).

- 111 On 14 June 2016, the passenger of a car that was waiting to cross the line was opening the gates at Dock Lane user worked crossing, Suffolk, when a train passed over the crossing ([RAIB report 08/2017](#)). The signaller had given permission for the car to cross the line after the car driver had contacted them using the telephone provided at the crossing. The signaller knew the train's approximate location before the call and was aware of its proximity to Dock Lane user worked crossing. However, during the call they did not use this information to make their decision.
- 112 On 10 April 2016, a train struck a tractor on Hockham Road UWC(T), near Thetford, after the tractor driver was given permission to cross when the approaching train was only about 1 minute from the crossing ([RAIB report 04/2017](#)). The signalling system there was different to that at Woofferton signal box. Nevertheless, there are similarities with the accident at Nordan Farm UWC(T) as the signaller used an incorrect mental model of where the train was located and may have been affected by fatigue.
- 113 On 7 July 2018, a train narrowly avoided a collision with a car that was crossing the railway at Plain Moor user worked crossing, between York and Malton ([RAIB safety digest 09/2018](#)). The car driver had previously been given permission to cross by the signaller. This near miss occurred on a section of railway signalled under the absolute block system, and the signaller involved had given permission to use the crossing after they had accepted a train into the relevant section of the line. In this case, the signaller misjudged the time available to the crossing user relative to the time the train would arrive at the crossing.

## Summary of conclusions

### Immediate cause

114 The tractor and trailer were permitted to cross into the path of the approaching train (paragraph 55).

### Causal factors

115 The causal factors were:

- a. The signaller gave permission for the tractor driver to cross when it was not safe to do so (paragraph 59). This causal factor arose due to a combination of the following:
  - i. The signaller had forgotten that there was a train in section when they granted permission for the tractor to cross (paragraph 62), **Learning points 1 and 2.**
  - ii. The signaller did not check the block instrument before granting permission for the tractor to cross (paragraph 75), **Learning point 3.**
  - iii. The signaller did not apply signal protection before granting permission for the tractor to cross. This is a possible causal factor (paragraph 80), **Recommendation 2.**
- b. Nordan Farm UWC(T), as a passive crossing, did not provide any engineering safeguards to warn or protect a crossing user of approaching trains, and relied solely upon the signaller's decision to grant permission to cross (paragraph 85), **Recommendation 1.**

### Underlying factors

116 The underlying factors were:

- a. Network Rail's assessment of risk at level crossings does not effectively recognise nor control the higher risks present at some crossings during seasonal use (paragraph 95), **Recommendation 1.**
- b. Network Rail's level crossing risk management process does not provide signallers, other railway staff or crossing users with a coherent and consistent process for deciding whether a vehicle using a UWC(T) should be treated as large, low or slow moving (paragraph 101). This is a possible underlying factor **Recommendation 2.**

### Additional observation

117 Although not linked to the cause of the accident, RAIB observes that:

- a. The Woofferton signaller routinely granted permission to cross before applying signal protection (paragraph 108), **Learning point 4.**

## Previous RAIB recommendation relevant to this investigation

118 The following recommendation, which was made by RAIB as a result of its previous investigations, has relevance to this investigation.

### Previous recommendation that had the potential to address one or more factors identified in this report

[Serious operational irregularity at Bagillt user worked crossing, RAIB report 11/2019, Recommendation 1](#)

119 This recommendation reads as follows:

*The intent of this recommendation is to ensure that Network Rail has a coherent and consistent process for managing the risks associated with large, low or slow-moving vehicles at user worked crossings with telephones.*

*Network Rail should, if necessary assisted by RSSB, carry out a review of the way that it manages the risk of large, low and/or slow-moving road vehicle movements across user worked crossings that are equipped with telephones (UWC(T)). This review should include consideration of:*

- *information that should be collected at crossings, and from authorised users, as part of Network Rail’s risk management process, including:*
  - *the crossing layout and other features likely to affect user crossing times;*
  - and*
  - *the types of vehicle likely to use the crossing and the frequency of this use;*
- *how information collected at crossings should be communicated to signallers;*
- *the types and characteristics of vehicles which necessitate signal protection;*
- *the means by which signallers can obtain sufficient detail of vehicle characteristics and likely crossing time to make an informed decision about whether it is safe for the vehicle to cross, and whether signal protection is required; and*
- *the information and instructions provided to users to help them judge whether their vehicle is ‘large, low or slow-moving’, and to give them a clear method of communicating this to the signaller.*

120 In February 2025, the Office of Rail and Road (ORR) reported to RAIB that the recommendation was closed as Network Rail had completed its actions in response. One of these actions was to update the signaller’s prompt card for UWC(T) requests, and the revised version was used by the signaller on the day of the accident at Nordan Farm UWC(T) (paragraph 106).

121 However, given that there still appears to be a lack of consensus over what constitutes a large, low or slow-moving vehicle, RAIB has made a further recommendation in this area (see paragraph 124, recommendation 2).

## Actions reported as already taken or in progress relevant to this report

### Actions reported that address factors which otherwise would have resulted in an RAIB recommendation

- 122 Immediately following the accident, an instruction was briefed to signallers in this area, stating that all tractors with trailers were to be considered as large vehicles for the purpose of UWC(T) crossing requests.
- 123 In early 2026, Network Rail's Wales route sent a one-off letter to all authorised users of UWC(T)s giving information on the responsibilities of authorised users and requesting that they notify the signaller or LCM if intensive use of a crossing was expected. This letter also included guidance of what vehicles should be considered as large, low or slow moving.

## Recommendations and learning points

### Recommendations

124 The following recommendations are made:<sup>2</sup>

- 1 *The intent of this recommendation is that Network Rail improves the effectiveness of its management of risk associated with user worked crossings.*

Network Rail should review its risk assessment processes for user worked crossings to ensure that:

- a) crossings that see a high variance of usage at different times of the year account for these variances when considering effective risk controls
- b) the risks that are being assessed include both those present at the crossings and those associated with the control of user movements by the signaller.

Network Rail should develop a timebound programme for the implementation of any appropriate changes to procedures, guidance and processes identified by this review (paragraphs 115b and 116a).

- 2 *The intent of this recommendation is that Network Rail has a coherent and consistent process for managing the risks associated with large, low or slow-moving vehicles at user worked crossings.*

Network Rail should review the actions taken in response to recommendation 1 of the RAIB investigation report into the serious operation irregularity at Bagillt (RAIB report 11/2019).

This review should consider what further improvements could be made to assist signallers and crossing users in deciding whether vehicles should be considered large, low or slow moving, and hence whether signalling protection should be provided.

Network Rail should develop a timebound programme for the implementation of any appropriate changes to procedures, guidance and signage identified by this review (paragraphs 115a.iii and 116b).

<sup>2</sup> Those identified in the recommendations have a general and ongoing obligation to comply with health and safety legislation, and need to take these recommendations into account in ensuring the safety of their employees and others.

Additionally, for the purposes of regulation 12(1) of the Railways (Accident Investigation and Reporting) Regulations 2005, these recommendations are addressed to the Office of Rail and Road to enable it to carry out its duties under regulation 12(2) to:

- (a) ensure that recommendations are duly considered and where appropriate acted upon; and
- (b) report back to RAIB details of any implementation measures, or the reasons why no implementation measures are being taken.

Copies of both the regulations and the accompanying guidance notes (paragraphs 200 to 203) can be found on RAIB's website [www.gov.uk/raib](http://www.gov.uk/raib).

## Learning points

125 RAIB has identified the following important learning points:<sup>3</sup>

- 1 Staff are reminded of the need to comply with their company's mobile phone policies. Using a mobile phone in situations other than where this is permitted by the relevant operating rules carries a significant risk of distraction and could lead to a serious accident or incident (paragraph 115a.i).
- 2 Staff are reminded of the importance of assessing their level of fatigue before and during duty, and to inform their company if they have any concerns about their ability to work safely (paragraph 115a.i).
- 3 Signallers are reminded to use all the available instruments and indicators when considering requests for permission to cross at level crossings (paragraph 115a.ii).
- 4 Signallers dealing with level crossing requests are reminded that, on occasions where signal protection is required, this protection should be applied before granting permission for users to cross (paragraph 117a).

---

<sup>3</sup> 'Learning points' are intended to disseminate safety learning that is not covered by a recommendation. They are included in a report when RAIB wishes to reinforce the importance of compliance with existing safety arrangements (where RAIB has not identified management issues that justify a recommendation) and the consequences of failing to do so. They also record good practice and actions already taken by industry bodies that may have a wider application.

## Appendices

### Appendix A - Glossary of abbreviations and acronyms

<b>Abbreviation / acronym</b>	<b>Full term</b>
ALCRM	All Level Crossing Risk Model
DVT	Driving van trailer
GSM-R	Global System for Mobile Communications – Railway
LCM	Level crossing manager
MSL	Miniature stop light
NRA	Narrative risk assessment
ORR	Office of Rail and Road
RAIB	Rail Accident Investigation Branch
REC	Railway emergency call
TfWRL	Transport for Wales Rail Limited
UWC(T)	User worked crossing with telephones

## Appendix B - Investigation details

RAIB used the following sources of evidence in this investigation:

- information provided by witnesses
- information taken from the train's OTDR
- CCTV recordings taken from the train involved
- narrative risk assessment for the crossing
- review of relevant standards and guidance
- site photographs and measurements
- weather reports and observations at the site
- information from signal box records
- signal box activity analysis
- a review of previous RAIB investigations that had relevance to this accident.

---

This report is published by the Rail Accident Investigation Branch,  
Department for Transport.

© Crown copyright 2026

Any enquiries about this publication should be sent to:

RAIB  
The Wharf  
Stores Road  
Derby UK  
DE21 4BA

Email: [enquiries@raib.gov.uk](mailto:enquiries@raib.gov.uk)  
Telephone: 01332 253 300  
Website: [www.raib.gov.uk](http://www.raib.gov.uk)