

APPLICATION FORM

RAIL CROSSING DIVERSION ORDER (SECTION 119A HIGHWAYS ACT 1980)

To Sustainable Travel Officer
 Highways and Transport
 Council Offices
 Wellington Road
 Ashton-under-Lyne
 OL6 6DL

Telephone 0161 342 3704

Applicant Details

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	Manchester M1 2NY
Telephone	07810556234
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Please outline in red the land that you own on a scaled Ordnance Survey base map with a signature and date

Please attach any additional sheets as needed

Details of Rail Crossing Affected

Name / number	Moss Lane Farm Crossing
Town	Ashton Under Lyne
Grid reference	SJ919993
Details of rail crossing	User works crossing with Public footpath ASH/108 scheduled over.

Details of Right of Way Affected

Path Status	Footpath
Path Number	ASH/108
Town	Ashton under Lyne
Details of existing route including any limitations	Public footpath ASH/108 17m over the operational railway, as coloured red between the points A - D on the attached map. There is a vehicular gate and wicket gate to the south of the crossing and a wicket gate only to the north of the crossing. There are telephones on both sides for pedestrians to request permission to cross.
Details of proposed diversion including any limitations	Public footpath ASH/108 62m over the footpath coloured black between the points A-B-C-D as shown on the plan The new means of crossing will be via a metal footbridge 2metres in width with an integrated surface
<p>Please show the proposed diversion on a scaled Ordnance Survey base map with a signature and date. Please include details of the new means of rail crossing along with widths and proposed surfacing.</p> <p>I confirm that the existing pathway subject to this application is unobstructed</p>	

Please attach any additional sheets as needed

Land Ownership Information

I confirm that the owner of all the land crossed by the existing and proposed public right of way are as follows:

Name	Network Rail
Address	1 Eversholt Street
	London
	NW1 2DN
Telephone	02075578000

I confirm that all landowners that are affected have agreed to the diversion of the path.

Please attach any additional sheets as needed

Public Utility Information

I confirm that there is no public utility infrastructure affected by the proposed diversion. This infrastructure can include but is not limited to Water Mains, Public Sewers, Electricity cables and Gas pipes. *(If infrastructure is affected then please provide the public utility company's details below)*

Company	
Contact name	
Address	
Telephone	
E-mail	
Details of infrastructure affected	
Company	
Contact name	
Address	
Telephone	
E-mail	
Details of infrastructure affected	

I confirm that all public utility companies that are affected have agreed to the diversion of the path and that I have enclosed their written consent. N/A

Please attach any additional sheets as needed

Justification for Rail Crossing Diversion Order	
Details of current use by public	<p>The crossing provides access through the agricultural land between Ashton Moss to the North and Little Moss to the south. A 9 day census was undertaken between Saturday 2nd November and Sunday 10th November 2013. The busiest day was Saturday the 2nd November with 10 pedestrians using the crossing. The majority of the users observed were walking dogs. It was observed that over the 9 day duration of the survey 4 people used the telephone and 35 people did not use the telephone. No children, no livestock and no horses were observed using the crossing for the duration of the survey.</p>
Need for the diversion and risk if use is continued	<p>Network Rail is submitting this application under section 119A of the Highways Act to divert the existing public footpath over a new footbridge to be constructed. As part of the North West Electrification Project, the Manchester Victoria to Stalybridge route has been selected for electrification with the installation of 25kV AC overhead line equipment. These works will permit an increase in the line speed and frequency of services on the route.</p> <p>As a result of the changes works to the type, speed and frequency of services, the Project has identified that the risk profile at all the footpath crossings on this route will be increased. The Project undertook a detailed survey, census and re-assessment exercise to determine how each crossing was affected and what mitigation measures were available at each site.</p> <p>The current line speed over the level crossing is 70mph. However there is a temporary speed restriction to 40mph because of restricted sighting distance. Following the works the line speed would increase up to 80mph and the service pattern would increase from 2 trains per hour in each direction (4 in total) to 8 trains per hour in each direction (16 in total). The increase in line speed requires an increase in the sighting distance that has to be available to users at the level crossing, which following the electrification works, will no longer be achieved. As part of the electrification works, stanchions will be erected within Network Rail's operational land to support the overhead power lines. These stanchions have a limited separation distance; and this will further restrict the sighting distances available for users of the crossing.</p> <p>This, together with the increase in line speed, and frequency of services requires some method of mitigation to reduce the risk to users of the level crossing.</p>
Effect of the proposal on safety for users	<p>The construction of a bridge and the subsequent diversion of the footpath will remove users from the level and allow safe access over the bridge.</p>
Effect of the diversion on the	<p>There will be no effect to the convenience of users. Pedestrians will no longer need to use the wicket gates at this</p>

Please attach any additional sheets as needed

convenience to users	location.
Effect of the diversion on any connecting rights of way	There will be no effect on the connecting rights of way.
Are there any other solutions to the problem	No
Why have these solutions been disregarded?	Renew as is with telephones for pedestrian use. Discounted as records show that only 10% of pedestrians use the telephones. Discounted as this would not remove pedestrians from accessing the railway.
	Renew as is with telephones and restrict the speed to 40mph Discounted as records show that only 10% of pedestrians use the telephones Discounted as this would not remove pedestrians from accessing the railway. This would have an adverse impact on train times and negate the additional benefit to passengers
	MSL Discounted as would not prevent a pedestrian from accessing the railway Maintenance costs would exceed the costs of a footbridge and a footbridge would be the safer option.
	Close crossing and divert the footpath to another crossing Discounted due to distance of diversion and also diversion could expose pedestrians to risks from vehicles Opposition from local landowners
	Replace with Underpass Discounted due to topography of location
	Close crossing and divert over new footbridge Recommended as there is a significant reduction to operational risk.

Maintenance of route		
Are you prepared to maintain all or part of the path or way to be created?		
Yes <input checked="" type="checkbox"/>	Part <input type="checkbox"/>	No <input type="checkbox"/>
Are you prepared to enter an agreement with the Council under Section 119A(8)?		
Yes <input checked="" type="checkbox"/>	Part <input type="checkbox"/>	No <input type="checkbox"/>

Please attach any additional sheets as needed

I agree to the following general conditions:

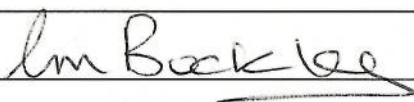
- 1 Where the proposed path is physically undefined, the width of the new footpath shall not be less than 2m except where circumnavigating localised obstructions where the width shall not be less than 1.5m. In the case of a new bridleway, the width shall not be less than 3 metres
- 2 Any gates (stiles will not be permitted) shall conform to Tameside MBC specifications. Any bridlegates must be able to be opened from horseback
- 3 The surface of the proposed path shall be to a standard acceptable to Tameside MBC

I hereby undertake to:

- 1 Pay Tameside MBC, within 28 days of receiving an account, the cost of the Public Path Diversion Order

I recognise that, although at present the approximate cost of an application (which has received no objection) is £1000, this figure is for each Order and cannot be guaranteed. I recognise that if there are objections to the Order at the Order making stage, that the costs can rise.

- 2 Pay any expenses incurred in bringing the new path into a fit condition for use by the public
- 3 Defray any compensation which may become payable to any other landowner affected by the diversion

Signed	
Dated	25/8/2016

Where a * appears, please delete the option(s) that is/are not applicable.

THIS FORM SHOULD BE COMPLETED IN ALL RESPECTS. If you are in any doubt as to what is required, the Council's Sustainable Travel Officer will be pleased to assist you. You may however, wish to consult with your own legal advisor before completing the form and it is recommended that you should do so if you are in any doubt as to the legal consequences of submitting an application.



The information that you provide on this form will be available for public viewing as part of the case file on this issue only.

Please attach any additional sheets as needed



**Trans Pennine Electrification West
Level Crossing Risk Assessment
Moss Lane Farm level crossing**



Prepared by: James Ashley	Signature: 
Date: 16/01/14	Job Title: Project Manager, Parsons Brinckerhoff
Checked By: David Webb	Signature: 
Date: 16/1/14	Job Title: Principal Engineer, Parsons Brinckerhoff
Accepted for issue by: Craig Gelder	Signature: 
Date: 16/01/2014	Job Title: Senior Project Engineer, Parsons Brinckerhoff

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Revision History

Issue	Date issued	Revision details	Issued by	Issued to
P01	16 January 2014	Issued to Network Rail.	James Ashley	Iain Chapman

1. Introduction

1.1 Trans Pennine electrification and line speed enhancement

The Department for Transport published the document “Britain’s Transport Infrastructure: Rail Electrification” in July 2009. The document sets out the commitment of the UK Government to install 25kV overhead line electrification on more of the rail network in Britain. This includes the ‘North West Electrification’ which consists of routes from Manchester to Liverpool via Newton-le-Willows, Huyton to Wigan, Preston to Blackpool and Manchester Victoria to Euxton Junction.

The Trans Pennine Electrification West Project is part of wider enhancement project of the railway network in the North of England, designed to provide shorter journey times and higher capacity, and is part of a collection of projects known as the North of England Programme (NoEP). The Trans Pennine Electrification West project (also known as NWEF Phase 5) comprises of the following elements:

- Manchester Victoria – Stalybridge JTI
- Ashton Moss North Re-Signalling and Re-Control
- Denton Junction Re-Signalling and Re-Control
- Level Crossing works between Baguley Fold and Stalybridge
- Thorpes Bridge to Newton Heath Electrification (Grip 2 only)
- To provide an electrified Eastern Access to Ardwick Depot

The *Trans Pennine Electrification West Project* is a consolidated programme of improvements and upgrades along the *Ashton Line* (which also includes the Manchester Victoria to Stalybridge line and associated branches). The objectives of the consolidated project are as follows:

- Improvement of journey times between Manchester Victoria Station and Stalybridge.
- Electrification of the line and associated branches to enable the introduction of electric services as part of the indicative industry agreed Train Service Specification (TSS) for December 2016 along the Trans Pennine route.
- Immunisation of Network Rail assets against the affects of AC overhead Line equipment (and DC overhead line equipment from the nearby Metrolink system where applicable) in the geographical area of this project.
- Resignalling of life expired signalling systems at Ashton Moss North and Denton Junction signalling control areas with re-control into the Manchester ROC.
- Provide electrification of the eastern end of Ardwick Depot and provision of operationally flexible train service movements in and out of the Depot.

1.2 Project location

The locations for this project on which the Services / Works are based are situated between Stalybridge Station (MVL2, 7m62ch) to Manchester Victoria Station (MVM, 0m 0ch). Figure 1 provides a high level view of the Trans Pennine Electrification West project boundaries.

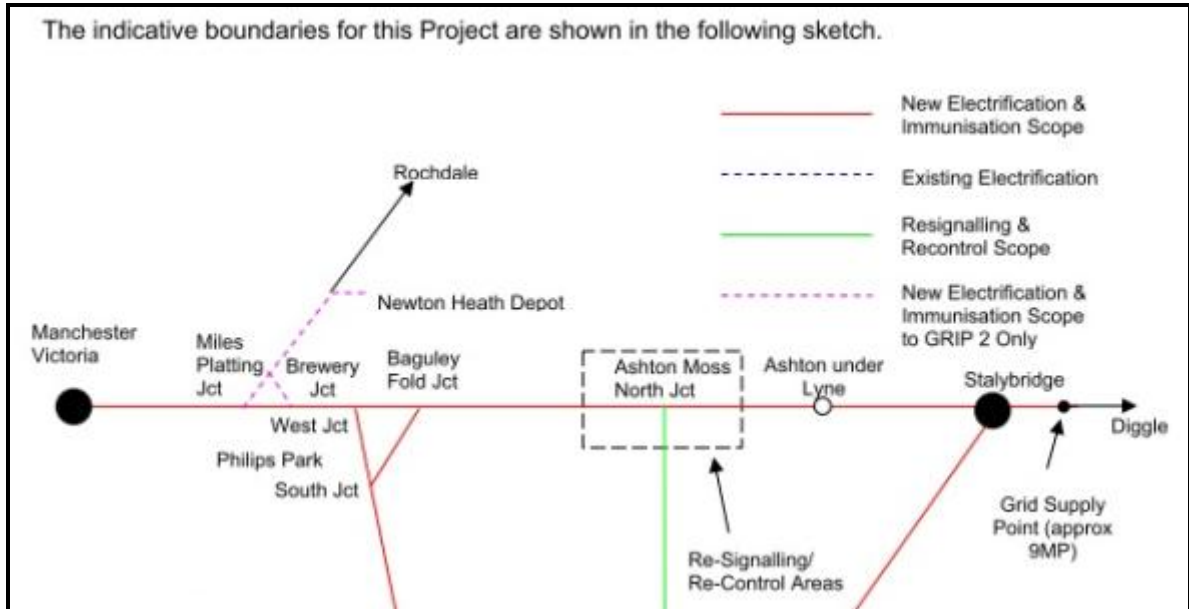


Figure 1: Trans-Pennine West Electrification: Manchester Victoria to Stalybridge

1.3 Level Crossings

As part of the scope of work, level crossings are required to be identified and assessed to gain an understanding of their current status. The information gained from the crossing assessments will then be applied when consideration is being made of the proposed project works i.e. line speed increase and installation of new OLE infrastructure. The level crossings on the route have been advised by Network Rail in the Project Requirements Specification (PRS) Doc Ref: 132199-ESE-SPE-NWR-000001 Rev 1.0 and in the Signal Engineering Remit Doc Ref: NR/LNWN/ER/0104 Issue 0.1

A summary of the crossings to be considered is shown in Table 1 and the geographical locations of the crossings are shown in Figure 2.

No.	Name	ELR	Miles	Yards	Chains	Type	Style	Current Protection Arrangements
1	Moss Lane (Jakes) Footpath	MVL1	5	176	8	Footpath with wicket gates	Footpath	Signage
2	Moss Lane Farm	MVL1	5	374	17	User Worked Crossing (vehicle gate with telephones) Co-located with a public footpath crossing with wicket gate.	Occupation / Footpath	Telephone to Ashton Moss and Baguely Fold signal boxes and signage
3	Clayton Bridge	MVL1	3	484	22	CCTV	Highway	Baguely Fold SB
4	Jaum Field Farm	MVL1	5	594	27	User Worked with Gates	Occupation	n/a

Table 1: Level crossings on the route from Manchester Victoria Station to Stalybridge Station



Figure 2: Geographic locations of level crossings between Manchester Victoria Station to Stalybridge Station

1.4 Level crossing verification

Network Rail advised that two of the identified crossings along the Manchester Victoria to Stalybridge route are not required to be risk assessed as they are to be addressed by other work streams. The crossings which are not being assessed as part of this project are shown in Table 2:

Crossing Name	ELR	Miles	Yards	Type	Status
Clayton Bridge	MVL1	3	484	CCTV	The crossing is being considered for upgraded to MCB-OD under a separate work stream by Network Rail.
Jaum Field Farm	MVL1	5	594	User Worked with Gates	Crossing to be closed under a separate work stream by Network Rail.

Table 2: Level crossings confirmed as not required for assessment under this project, November 2013

2 Level crossing assessment

This document provides the necessary supporting safety information for a decision making process for Moss Lane Farm level crossing which is a User Worked crossing with gates. The aim of the report is to lead to recommendations for the most suitable level crossing option that reduces the risk to as low as reasonably practicable (ALARP).

As shown in Table 1 of this report, Moss Lane (Jakes) footpath crossing is located 198 yards to the west of Moss Lane Farm user worked crossing. A separate risk assessment report has been produced to consider Moss Lane Footpath Crossing ref: NHE_132199-8460-MVL1-00-REP-R-000001

2.1 Approach to the risk assessment

This risk assessment has been produced to consider the existing level crossings as part of the development work for the upgrade of the line between Manchester Victoria and Stalybridge.

Available information pertinent to the level crossing has been reviewed, including:

- All Level Crossing Risk Model (ALCRM) data
- Safety Management Information System (SMIS) incident and accident data
- Discussions with the Operations Risk Control Co-ordinator and Liabilities Negotiations Advisor
- Office of Rail Regulation (ORR) guidance document, Level Crossings: A guide for managers, designers and operators, RSP 7, December 2011
- Data gathered during a 1 hour site visit on Thursday 14th November 2013, including crossing measurements, site information and photographs.
- Desktop information including information from local authority website.
- Level crossing census findings captured over 9 days between Saturday 02nd November and Sunday 10th November 2013
- Omnicom footage – September 2011

The report also demonstrates the decision making undertaken in determining the practicality of this proposal and the evaluation of the necessary safety measures required at the level crossing, culminating in a single preferred option.

2.2 The need for assessment

There are significant changes proposed as part of the Trans-Pennine West electrification programme including electrification, re-control of Ashton Moss, Journey Time Improvements and increase in service pattern. These changes will affect both the railway infrastructure and the operation of the railway. This report will consider the impact that the proposed changes to the Manchester Victoria to Stalybridge line will have on the safe operation of all the level crossing, and the safety of the public as a result of the works. The risk assessment will mostly consist of qualitative narrative which is supported by quantitative information such as ALCRM and Cost Benefit Analysis (CBA) scores as necessary.

3 Description of the site

3.1 Crossing details



Figure 3: Moss Lane Farm level crossing looking south, November 2013

Crossing name	Moss Lane Farm
Crossing type	User Worked Crossing (vehicle gate with telephones)
Strategic route	North West Urban
Network Rail line of route	Miles Platting Jn. To Marsden
Engineers Line Reference (ELR)	MVL1
Mileage	5m 17ch
OS grid reference	SJ 919 993
Post code	OL7 9LA
Road name (type)	A public footpath passes over the crossing only.
Local authority	Tameside Metropolitan Borough Council
Supervising signal box	Ashton Moss North Junction and Baguely Fold
Number of running lines	Two
Maximum permissible line speed	Currently 40 mph TSR in place over the crossing. (70 mph shown in Sectional Appendix)
Proposed line speed	80 mph on Up and 80 mph on Down
Electrification (type)	The line is not currently electrified but will be as part of Trans Pennine West Electrification project.

Table 3: Location details for Moss Lane Farm level crossing, November 2013

3.2 Crossing location and function

Moss Lane Farm level crossing is located east of Ashton-Under-Lyne and northeast of Droylsden, in Greater Manchester. The crossing type is User Worked and there are telephones installed on both sides of the crossing. Considering the potential for vehicle use over the crossing it was noted during a site visit in November 2013 that on the north side of the crossing is no gate which could be used to allow a vehicle onto the crossing and the width of the crossing surface could not accommodate a vehicle.

There is a public right of way over the railway, which is positioned between fields on the north side of the crossing and Moss Lane, which is an un-surfaced carriageway to the south of the crossing. Directly to the south west of the crossing is a large area of undeveloped land and 255 metres to the east of the crossing is the M60 motorway.

The Tameside Metropolitan Borough Council website, advises current public rights of way and the map extract shown in Figure 4 shows the footpath over Moss Lane Farm level crossing.



Figure 4: Extract from Tameside Metropolitan Borough Council website. A red circle highlights the public footpath across Moss Lane Farm level crossing, November 2013

3.3 Environment

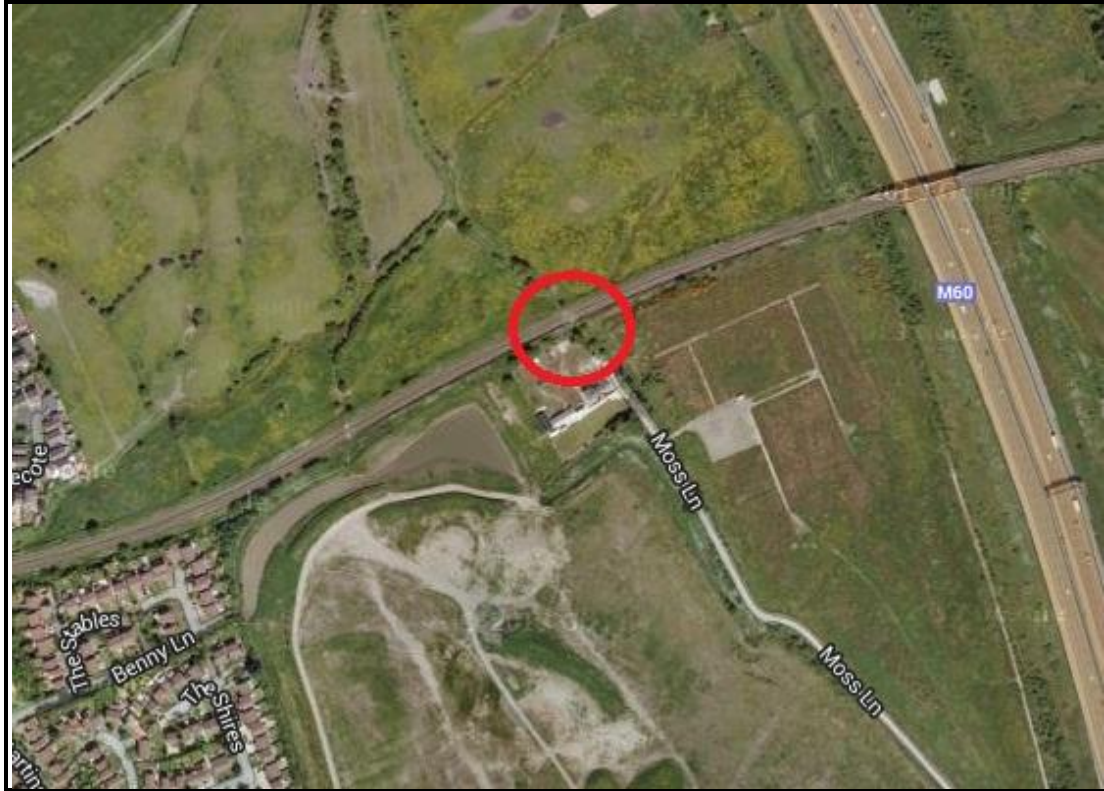


Figure 5: Aerial image of Moss Lane Farm level crossing and surrounding area.

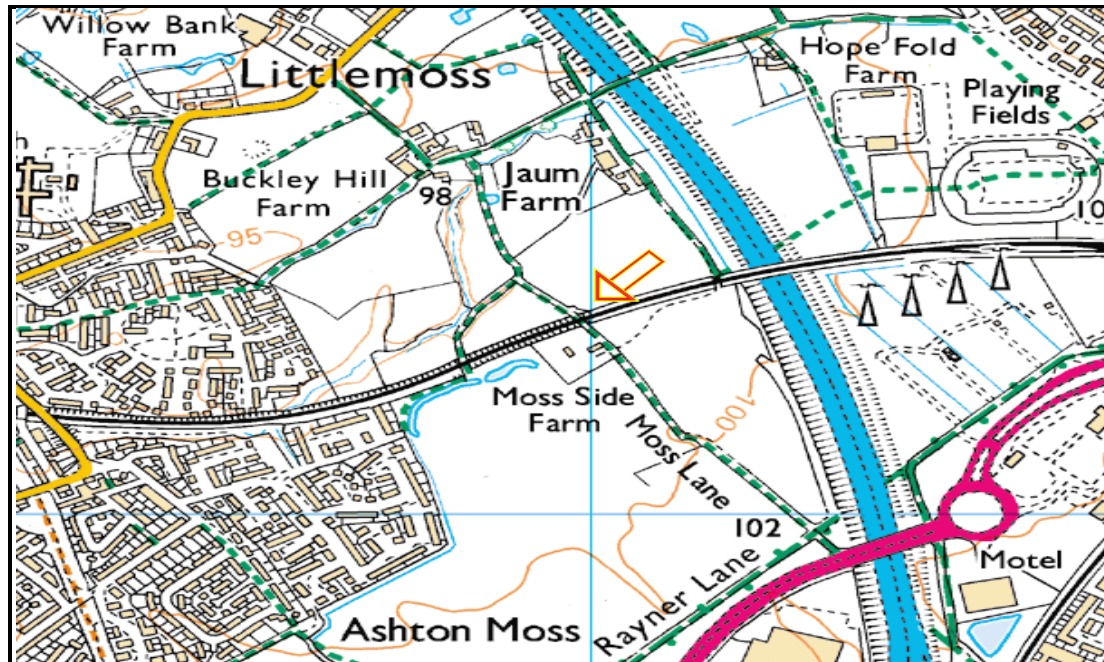


Figure 6: Ordnance Survey map extract showing Moss Lane Farm level crossing and surrounding area.

The area surrounding Moss Lane Farm level crossing is a mixture of rural, residential and redundant land. A public footpath passes over the crossing in a north / south orientation through agricultural land to the north and land between the conurbations of Ashton Moss to the north and Littlemoss to the south. To the immediate south of the crossing is a building which appears to be a residential property with additional buildings which appear to be stables. An area of undeveloped "brown field" land is located south of the crossings beyond the building.

During the one hour site visit in November 2013, no pedestrians were observed using the crossing. It was noted on site that the footpaths on the approach to the crossing were clearly identifiable on the approach to the crossings from both sides.

A 9 day level crossing census was undertaken between Saturday 02nd November and Sunday 10th November 2013. The findings from the census advised that the busiest day was Saturday 02nd November 2013 with 10 pedestrians using the crossing. The majority of the users observed were walking dogs. It was also noted that over the 9 day duration of the survey 4 people used the telephones and 35 people did not use the telephones installed on both sides of the crossing. There were no children and no livestock or horses observed using the crossing for the duration of the survey.



Figure 7: Aerial images of Moss Side Farm and Moss Lane Farm level crossing and surrounding area.

The National Heritage List for England is the official and up-to-date database for all nationally designated assets, including Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields and Protected Wreck Sites. To understand if Moss Lane Farm level crossing is located near any heritage sites, the National Heritage website was consulted. There are no specific heritage related items located in the immediate vicinity of Moss Lane Farm level crossing.

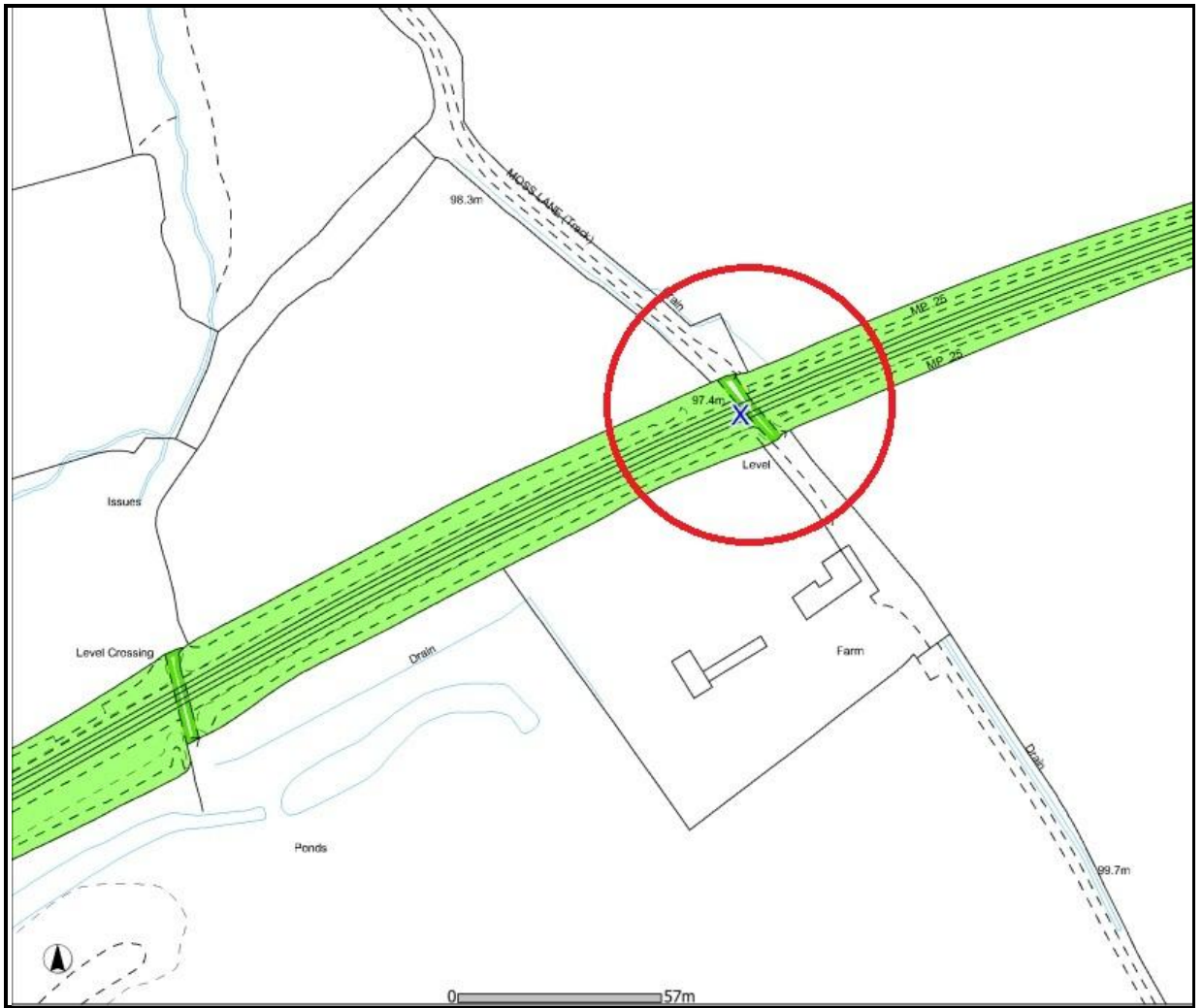


Figure 8: Extract from GI Portal identifying land ownership, March 2013

3.3.1 Directional approaches to the crossing

a) The approach to Moss Lane Farm level crossing from the south (Up Line)



Figure 9: Moss Lane travelling towards Moss Lane Farm level crossing. The red circle highlights the gate at the crossing. The vehicle on the bottom left corner is the closest position a vehicle could get to the crossing.
November 2013



Figure 10: Un-surfaced footpath approaching Moss Lane Farm level crossing from south. Established vegetation on both sides of the footpath.
November 2013



Figure 11: Un-surfaced footpath approaching Moss Lane Farm level crossing. The gate was in good condition and padlocked on the left side.
November 2013



Figure 12: View of wicket gate with sign advising pedestrians to use the telephone before crossing.
November 2013

The approach to Moss Lane Farm level crossing from the south is along Moss Lane and Rayner Lane which are un-surfaced public carriageways from the A6410 carriageway, also known as Lord Sheldon Way. The un-surfaced carriageway leads onto an un-surfaced footpath, as shown in Figure 10, which continues towards the railway, bordered by established vegetation, as shown in Figure 10. The footpath descends with a very small gradient until it meets the railway boundary gate, where the footpath gradient changes to be flat, as shown in Figure 11. The footpath passes over the railway in a south to north direction.

After passing over the crossing there is a wicket gate and the footpath continues into an undeveloped agricultural field.

b) The approach to Moss Lane Farm level crossing from the north (Down Line)



Figure 13: View of the agricultural land to the north of the railway, before meeting with the level crossing.
November 2013



Figure 14: View of the footpath approach to Moss Lane Farm crossing from the north after passing through agricultural land.
November 2013



Figure 15: View of footpath approaching the crossing. Train passing over the crossing travelling on the up line.
November 2013



Figure 16: View of footpath approaching a fixed fence in the centre of the image and wicket gate on the left side of the image.
November 2013

The approach to Moss Lane Farm level crossing from the north is a public footpath within agricultural fields. The footpath follows a line of trees travelling in a north west to south west direction. The footpath is un-surfaced and is flat as it approaches the crossing to meet with the wicket gate, as shown in Figure 16. There is no means for a vehicle to access the crossing from the north side of the crossing. After passing through the wicket gate the footpath is level as it approaches the crossing over the railway.

3.3.2 General crossing details

The immediate approach to the crossing from the south is flat and un-surfaced, as can be seen in Figures 17 and 18. Approaching from the north the footpath is un-surfaced and un-defined, as shown in Figure 17. There is also a troughing route which passes across the path from the gate to the crossing surface. There are Stop Look Listen signs and telephones located on both sides of the crossing, as shown in the Figures 19 and 20.



Figure 17: Ground condition approaching Moss Lane Farm level crossing from the north. November 2013



Figure 18: Crossing surface viewed from the north side of Moss Lane Farm level crossing. November 2013



Figure 19: Stop Look Listen sign and telephone located on the south side of Moss Lane Farm level crossing. November 2013



Figure 20: Stop Look Listen sign and telephone located on the north side of Moss Lane Farm level crossing. November 2013

3.4 Local properties, businesses and amenities

The immediate area surrounding Moss Lane Farm level crossing can be seen in Figure 5, and is a mixture of undeveloped “brown field” and agricultural land. There is a building located at the crossing, on the south side of the railway which appears to be residential with stables. There are a number of public footpaths in the vicinity of the crossing, as shown in the map extract in Figure 6.

The settlement of Littlemoss is located 600 metres to the north of the crossing and is a small village which includes a number of operational farms. Willow Bank farm is located in Littlemoss and offers caravan storage for approximately 150 units.

To the south west of the crossing is the town of Droylsden which has an approximate population of 23,000. The residential town offers a wide range of retail and service amenities. There is also public transport links provided by both tram and bus services into Manchester and surrounding areas.

970 metres to the south of the crossing is Ashton Moss Metrolink station, which opened in October 2013 which includes a large car park for people using the trams which operate along the East Manchester line. The trams from Ashton Moss station travel westbound towards Manchester Piccadilly and eastbound towards Ashton-under-Lyne.

260 metres to the east of the crossing is a rail bridge which passes over the M60 principle carriageway. The M60 carriageway divides the land between Droylsden and Aston Under Lyne. There are a limited number of pedestrian crossings over the M60 within the vicinity of Moss Lane Farm level crossing.

3.5 Rail approach & usage

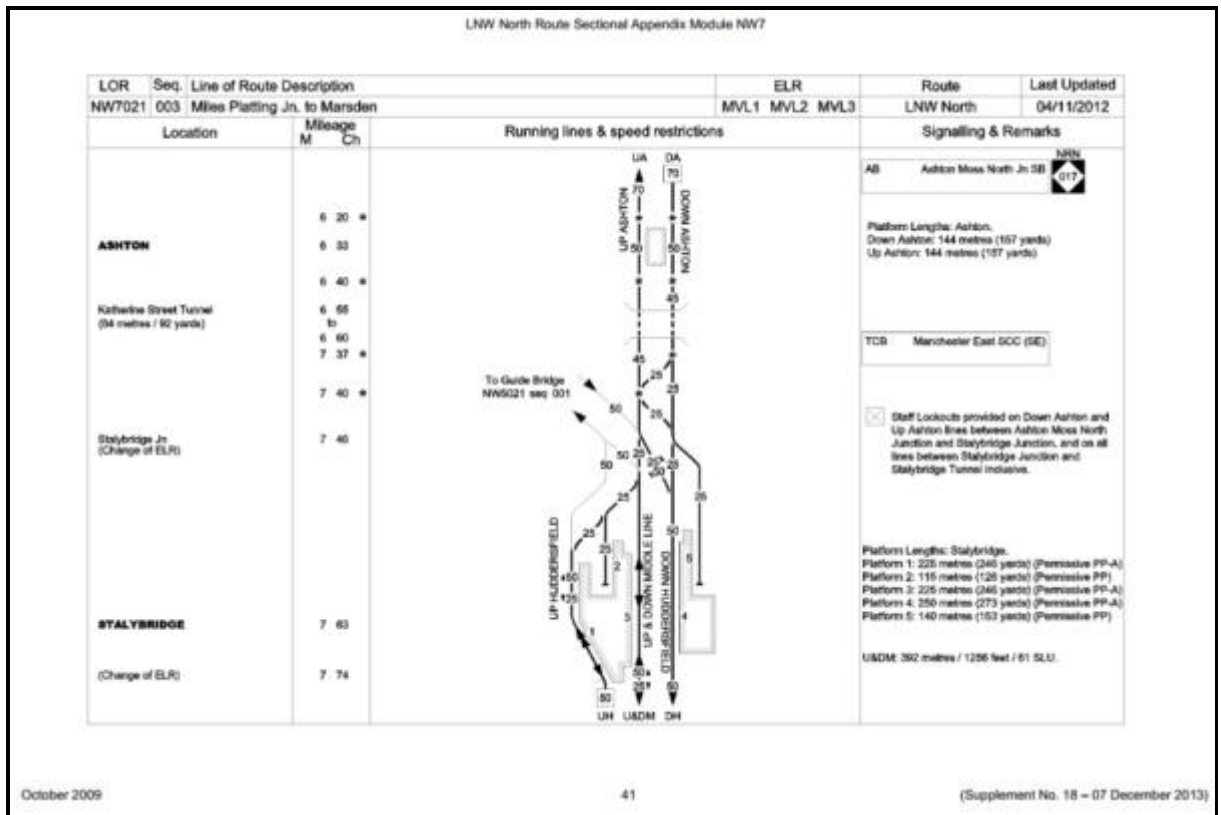
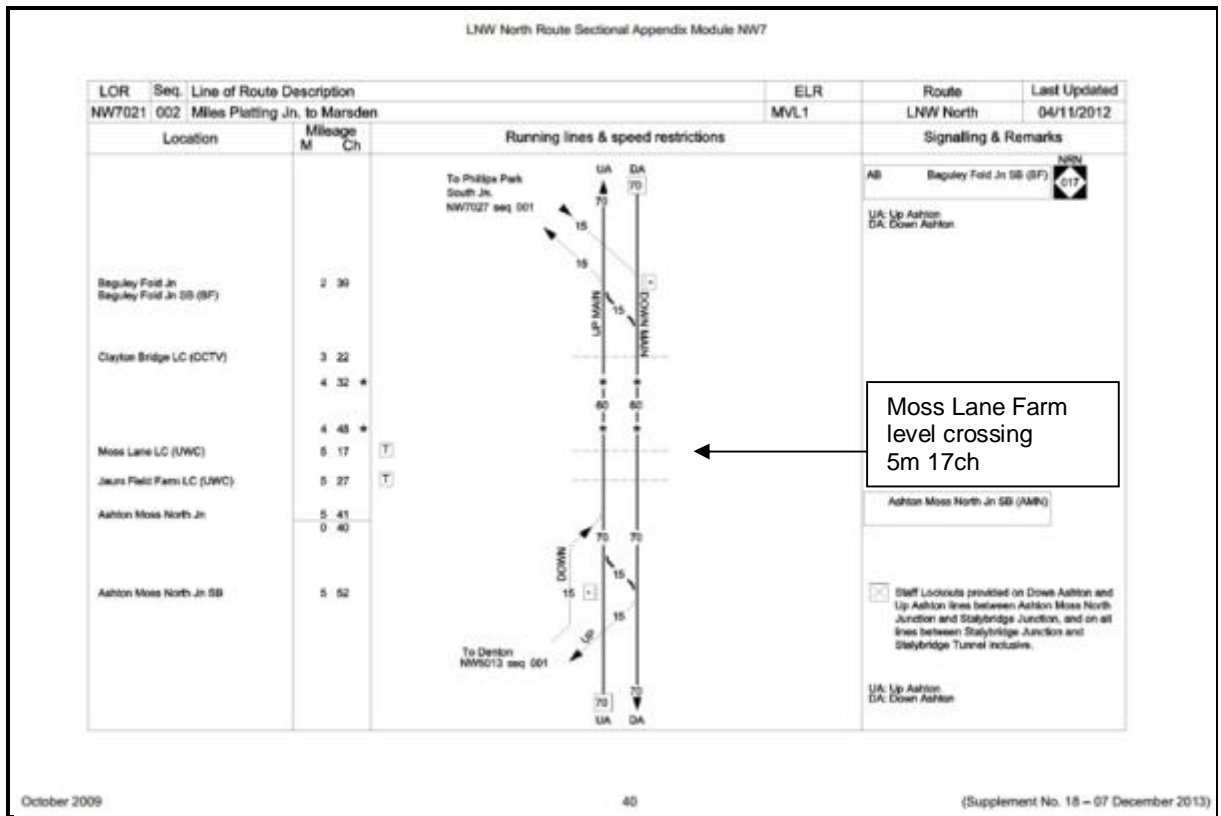


Figure 21: Sectional Appendix extract for Moss Lane Farm level crossing on Miles Platting Junction to Marsden route. November 2013



Figure 22: Down to Ashton Under Lyne approaching the crossing on the right side of the image. View from centre of Moss Lane Farm level crossing looking west. November 2013



Figure 23: Up to Manchester Victoria approaching the crossing on the right side of the image. View from centre of Moss Lane Farm level crossing looking east. November 2013

Moss Lane Farm level crossing is located on the line of route from Miles Platting Junction to Marsden on the uni-directional Up Ashton and Down Ashton lines. The nearest railway station in the Down direction (towards Marsden) is Ashton Under Lyne, which is situated 1.2 miles away. The nearest railway station in the Up direction is Manchester Victoria, which is 5.1 miles away. The crossing is a User Worked Crossing with wicker gates and has fencing along both sides of the railway where the footpath meets with the lineside.

The permissible line speed at the crossing location is 70 mph for all trains, as shown in the Sectional Appendix. The permissible line speed is 70 mph for all trains, in the Down direction for 0 mile 49 chains before the crossing. The permissible speed in the Up direction is 70 mph for 1 miles and 3 chains before the crossing. Ashton Moss North Junction is 0 miles 24 chains in the Down direction. Bagley Fold Junction is 2 miles 58 chains in the Up direction.

The gradient of the line at the crossing is ascending 1:100 in the Down direction and descending 1:100 in the Up direction.

The current protecting signals for Moss Lane Farm User Worked crossing are identified on the signalling plans Ashton Moss Nth Jcn Drawing No. AMN/2/1OF1 version BM1 and Baguley Fold SB Drawing No F012-79751 version BE3 and are summarised in Table 4:

Line	Signal Number	Distance from crossing (metres)	Controlling Signal box	Approximate distance of the Level crossing from the controlling signal box (miles)
Down direction	BF23	3181	Baguley Fold	2.72
Up direction	AMN50	362	Ashton Moss North Junction	0.44

Table 4: Protecting signals for Moss Lane Farm level crossing

There are no whistle boards currently installed on the approach to Moss Lane Farm level crossing.

Road traffic light signals and signal overrun controls are not provided at Moss Lane Footpath level crossing and TPWS is not fitted to the protecting signals.

For the purpose of this report it is assumed that the route is in operation 24 hours a day, seven days a week. This assumption is based on the current working table and taking into account empty stock moves around Ardwick and Newton heath depots.

The current service pattern is 2 trains per hour in each direction (total of 4). The proposed service pattern is 8 trains per hour in each direction (total of 16).

There is currently no freight planned to use the route or are there any planned to be implemented in the future.

The Weekly Operating Notice (WON) shows a 40 mph Temporary Speed Restriction (TSR) being in place between 5 miles 8 chains and 5 miles 19 chains, which includes Moss Lane Farm User Worked level crossing. Table 5 provides an extract from the WON which shows that the TSR has been in place from February 2011.

NW7021 MILES PLATTING JN TO MARSDEN									
T2011/ 79800	Clayton Bridge LC (CCTV) and Jaum Field Farm LC	Down Main	-	5	1	5	9	40	LC Sighting (11/02) Network Rail (NWR)
T2011/ 79798	Ashton Moss North Jn SB and Moss Lane LC	-	Up Main	5	19	5	8	40	LC Sighting (11/02) Network Rail (NWR)

Table 5: Extract from the WON advising details of TSR's.

3.6 Future Developments

Tameside Metropolitan Borough Council planning website provides details of planning applications for the area surrounding Moss Lane Farm level crossing. The website was consulted and it advises there are significant plans to redevelop the land directly to the south of the railway. A planning application has been approved for the development of a 9 hole golf course, driving range, five-a-side and eleven-a-side football facility. The application was approved in December 2009 and is being developed by Muse Developments Ltd and Stayley Developments Ltd. A map taken from the planning application is shown in Appendix C of this report.

The future development of the railway involves re-signalling and re-control of the route, provision of overhead electrification and increasing the line speeds, as explained in Section 1.1 of this report.

3.7 Incident history at the level crossing

Network Rail's Safety Management Information System (SMIS) is used to capture information relating to incident and accident data at level crossings. The information recorded is inline with fatalities, collisions, barrier strikes, near misses, vandalism and misuse. At Moss Lane Farm level crossing, there are recorded incidents in SMIS relating to defective telephones at the crossing, as detailed in Table 6 of this report.

Event date and time	ELR	Crossing name and mileage	SMIS Component	Description	Narrative
03/04/2008 09:54:00	MVL1	Moss Lane (5m 375yds)	Level crossing - equipment failure	Crossing phone defective at Moss Lane Crossing	Ashton Moss signaller reported Down side telephone at Moss Lane Crossing out of order, caution imposed. 1140: Telephones temp restored by Thales at 1140 .NWR 1212: Tail cable reterminated by engineer to restore fault fully.
18/02/2010 17:35:00	MVL1	Moss Lane (5m 375yds)	Level crossing - equipment failure	Level crossing failure - Phone at Moss Lane LC not operational.	At 17:21 The Ashton MSS signaller reported that he had been receiving spurious prank calls from the user worked foot crossing at Moss Lane. The Guide Bridge MOM was advised and confirmed he would attend. The MOM advised at 17:30 that there were no people present but that it was apparent that the phone on the down side of the track was not operational. The Ashton Moss signaller was advised and confirmed he would caution all trains over the crossing. The Doncaster Telecomms team were advised and estimated an arrival time on site of approximately one hour. The Guide Bridge MOM advised that he was leaving the site as he was scheduled to cover the Guide Bridge and Manchester Piccadilly areas. The Manchester North MOM was asked to attend once the evening peak at Victoria had ended. The Manchester North MOM and Telecomms staff were confirmed as on site at 18:40 and the Telecomms crew contacted control at 20:49 to advise that they were continuing to work on the fault. At 20:55 communications at the crossing were restored, yet the phone was still ringing in spuriously. As communications were restored, the MOM left the site and the caution to trains was removed. The Telecomms staff continued to work on the new problem and fully restored the phone at 21:51.

Table 6: Extract from SMIS detailing out of order telephones at Moss Lane Farm level crossing.

4 Option assessment

4.1 Current residual risks

Moss Lane Farm level crossing is situated between agricultural fields and un-developed land, near Droylsden, Greater Manchester. The approach to the crossing from the south is along un-surfaced public carriageways which passes through undeveloped “brown field” land. From the north the approach is along a public footpath through uncultivated agricultural land. The gradient of the approach from the south is flat and the approach from the north is a flat.

The current ALCRM scores for Moss Lane Farm level crossing have been advised, for the Temporary Speed Restriction of 40 mph, as follows:

Crossing Type	ALCRM safety score
User Worked crossing (UWCt) (vehicle gate with telephones)	M13
Footpath over Moss Lane Farm crossing	B4

The footpath over the crossing is a public right of way over the railway and observations were made during a 1 hour site visit on 14th November 2013 that no one used the crossing whilst the site visit took place. It was noted that the footpaths on the approach to the crossing contained fresh vegetation suggesting they had not been used much in recent times. The footpaths were clearly identifiable on the approach the crossings from both sides.

The findings from the census advised that the busiest day was Saturday 02nd November 2013 with 10 pedestrians using the crossing. The majority of the users observed were walking dogs. It was also noted that over the 9 day duration of the survey 4 people used the telephones and 35 people did not use the telephones installed on both sides of the crossing. There is a requirement for people to use the telephone as instructed on the sign installed on the wicket gate when approaching the crossing from the south, as shown in Figures 11 & 12. It is noted that there is no sign installed on the wicket gate on the north side of the crossing. There were no children and no livestock or horses observed using the crossing for the duration of the survey.

The surface of the crossing appeared to be in good condition, as shown in Figures 17 & 18.

4.2 Level crossing warning time

4.2.1 Crossing measurements

Measurements were estimated on site at Moss Lane Farm level crossing on Thursday 14th November 2013 with regards to the current sighting for pedestrians using the crossing. The information captured was estimated due to the poor sighting in the vicinity of the crossing and the COSS ruling it was not safe to collect the measurements by walking in the cess. The estimated values were then verified using Omnicom footage and are shown in Appendix A of this report.

The sighting distance measurement methodology is based upon a person located at the crossing at pre-determined positions of 2 metres and 3 metres from the nearest running rail. In addition to the sighting measurements are recorded from the Stop Look Listen sign, referred to as the decision point. At Moss Lane Farm crossing the Stop Look Listen signs were measured as follows:



- Decision point on the approach to the Up Line = 2.8 metres
- Decision point on the approach to the Down Line = 3.7 metres




Table 6 explains the four sighting measurements recorded at the crossing, with regards to each of the three distances from the running rail, as explained above.




Abbreviation	Description of sighting measurement	Comment from site visit
Dt – D	A train travelling on the Down line, observed by a pedestrian located at the crossing on the Down side.	See Appendix A for comments from site notes.
Dt – U	A train travelling on the Down line, observed by a pedestrian located at the crossing on the Up side.	
Ut – D	A train travelling on the Up line, observed by a pedestrian located at the crossing on the Down side.	
Ut – U	A train travelling on the Up line, observed by a pedestrian located at the crossing on the Up side.	

Table 7: Description and comments on sighting distances estimated at Moss Lane Farm level crossing in November 2013

Photographs taken during the site visit to Moss Lane Farm level crossing in November 2013

<p>Dt – D at 2 metres</p>	 A photograph showing a perspective view of two parallel railway tracks. The tracks are made of dark metal rails on a bed of grey gravel. To the left of the tracks, there is a grassy embankment topped with a silver metal fence. In the background, there are several trees with green and some autumn-colored foliage under a clear blue sky. The tracks recede into the distance on the right side of the frame.
<p>Dt – D at 3 metres</p>	 A photograph showing a perspective view of two parallel railway tracks, similar to the one above. The tracks are made of dark metal rails on a bed of grey gravel. To the left of the tracks, there is a grassy embankment topped with a silver metal fence. In the background, there are several trees with green and some autumn-colored foliage under a clear blue sky. The tracks recede into the distance on the right side of the frame.

<p>Dt – U at 2 metres</p>	 A photograph showing a perspective view of railway tracks receding into the distance. The tracks are flanked by dense green vegetation on the left and a grassy embankment on the right. The sky is blue with scattered white clouds.
<p>Dt – U at 3 metres</p>	 A photograph taken from a closer perspective than the first, showing the railway tracks curving slightly to the right. The foreground is dominated by tall, dark green grasses and reeds on the left side. The sky is bright blue with light clouds.
<p>Dt – U at decision point (2.8 metres)</p>	 A photograph showing the railway tracks from a distance similar to the first image. The tracks are straight and lead towards a small structure or crossing in the distance. The vegetation on the left is dense, and the right side shows a grassy embankment. The sky is clear blue with some clouds.

<p>Ut – D at 2 metres</p>	 A photograph showing a perspective view of two parallel railway tracks. The tracks are made of steel rails on a bed of gravel ballast. The tracks recede into the distance under a clear blue sky with some light clouds. The surrounding area is a mix of green grass and brown, dry vegetation on a slight embankment.
<p>Ut – D at 3 metres</p>	 A photograph showing railway tracks from a slightly greater distance than the previous image. The tracks are more prominent in the foreground, and the surrounding vegetation, including tall grasses and trees, is more visible. The sky is bright blue with scattered white clouds.
<p>Ut – D at decision point (3.7 metres)</p>	 A photograph of a railway crossing sign. The sign is rectangular with a white background and a red border. It contains the text "Stop", "Look", "Listen", and "Beware of trains" in bold black letters. Below the sign is a white rectangular box with a yellow background and a black curved arrow pointing to the right. The sign is mounted on a wooden post. In the background, there are railway tracks, tall grass, and trees under a blue sky.

<p>Ut – U at 2 metres</p>	 A photograph showing a perspective view of railway tracks receding into the distance under a clear blue sky. The tracks are flanked by grassy areas and a few trees in the background.
<p>Ut – U at 3 metres</p>	 A photograph taken from a closer distance to the railway tracks. A white sign with a black 'U' symbol is mounted on a wooden post in the foreground. The tracks lead towards a tree in the distance.
<p>Ut – U at decision point (2.8 metres)</p>	 A photograph very similar to the one at 3 metres, showing the 'U' sign in the foreground and the tracks leading to the tree in the distance. The perspective is slightly different, indicating a closer vantage point.

Figure 24: Photographs of sighting distances captured at Moss Lane Farm level crossing, November 2013

Distance from running rail	Measurement from Up side		Measurements from Down side	
	Ut-U	Dt-U	Ut-D	Dt-D
2m	130m	125m	200m	145m
3m	60m	90m	180m	80m
Decision Point	90m	100m	180m	80m

Table 8: Sighting measurements estimate at Moss Lane User Worked crossing, November 2013 and verified using Omnicom footage September 2011




<p>Train approach on Down Line 125m from the crossing</p>	
<p>Train approach on Up Line 180m from the crossing (at Moss Lane Footpath crossing)</p>	
<p>Train approach on Up line 15m from the crossing</p>	

Figure 25: Images from Omnicom of train cab view of Moss Lane Farm crossing, September 2011

4.2.2 Pedestrian crossing times

Using the current configuration of the footpath over the crossing it is possible to calculate an approximate value for the time required for a pedestrian to pass over the crossing. The calculation uses measurements identified in Appendix B which are taken from the decision point to decision point and the walking speed advised in the ORR guidance document, Level Crossings: A guide for managers, Section 2.161. There is no foreseeable requirement to consider users of the crossing with impaired mobility, as referenced in the guidance document, due to the topography and environment of the location and the current evidence of the very low numbers of crossing users.

Considering the pedestrian speed advised in the ORR guidance document for an able bodied person, the time required to cross can be calculated as follows:

$$\text{Crossing time (seconds)} = \frac{\text{Distance over the crossing (metres)}}{\text{Speed to pass over the crossing (metres per second)}}$$

$$\text{Distance over the crossing} = 2.8 + 5 + 3.7 = 11.5\text{m}$$

$$\text{Pedestrian speed} = 1.2 \text{ m/s}$$

$$\text{Time required to cross} = \mathbf{9.6 \text{ seconds}}$$

4.2.3 Sighting Time

Using the required crossing time and the line speed over the crossing the sighting time can be calculated.

For an able bodied person, the sighting time can be calculated as follows:

$$\text{Sighting distance (m)} = \text{Line speed (m/s)} \times \text{required crossing time (s)}$$

$$\text{The required crossing time is} = 9.6 \text{ s}$$

The current line speed over the level crossing shown in the Sectional Appendix is 70 mph, however it is noted that a TSR is in place restricting the speed over the crossing to 40mph. For the purpose of these calculation 40 mph will be used = 17.88 m/s

$$\text{Required sighting distance} = \mathbf{171.6 \text{ metres}}$$

Considering the sighting measurements captured, the only position which would provide adequate sighting would be Ut-D with a pedestrian positioned at 2 metres from the running rail. Considering the general sighting measurements captured for the required sighting of a train being observed by a pedestrian, under the current TSR and crossing configuration, the sighting alone is not adequate.

4.2.4 Whistle boards

It is noted from Omnicom footage, dated September 2011, that whistle boards are currently not installed on the approach to Moss Lane Farm level crossing. See Section 6.4.1 of this report for further details of whistle board use at level crossings.

5 Projected residual risks

5.1 Projected risks associated to rail

Inline with the proposal to electrify and increase the line speed of the Ashton Line there are a number of residual risks which will impact users of the Moss Lane Farm level crossing. With regards to the current crossing it has been demonstrated the current pedestrian sighting is inappropriate for the Temporary Line Speed of 40 mph. It is noted that telephones and instructional signs are installed at Moss Lane Farm level crossing, however the 9 day crossing census undertaken in November 2013 demonstrated that only 10% of crossing users are complying with the requirement to use the telephones. For the line speed to be increased over the crossing there will be a requirement to have an extended sighting distance to allow pedestrian users to cross over the railway or undertake modifications to the crossing.

Electrifying the line will require structures to be installed in the cess which will support the Overhead Line, which may affect the sighting for pedestrian users of the crossing.

As a result of the proposed new timetable there is a proposed increase in the number of trains using the line. The current service pattern is 2 trains per hour in each direction, total of 4. The proposed service pattern is 8 trains per hour in each direction, total of 16. The increase in the number of trains is likely to have an impact on the risk to pedestrian users of the footpath crossing.

It has been demonstrated via the ALCRM score of M13 that the User Worked Crossing is currently rated as safe as it can be, without being closed. Therefore, providing the telephones are retained as the method of protecting the User Worked Crossing, the ALCRM score is unlikely to change.

5.2 Projected risks associated with local area development

Considering the information that planning permission has been granted to develop a golf course and leisure facility on the land directly to the south of the crossing, it is likely that there will be an increase in people using the area surrounding the crossing. As the proposed development does not extend to the land north of the railway, it is unlikely that the crossing will see a significant increase in use.

The opening of Ashton Moss Metrolink station and car park 970 metres to the south of the crossing means there is an increase in opportunity for people to access the area. While there are no significant amenities to the north of the crossing, which would attract people to use the Metrolink and subsequently the crossing, there may be an increase in people using the area for outdoor recreational activities, such as walking.

6 Options for Level Crossing works

6.1 Closure

6.1.1 Possible alternative routes and their impacts

Moss Lane Farm User Worked crossing includes a public footpath crossing over the railway between an undeveloped area of land and agricultural fields. Considering mapping information of the area there are other crossing points over the railway which could be used, but would require additional distance to be covered.

180 metres along the railway to the west of Moss Lane Farm crossing is Moss Lane Footpath (Jakes) crossing, which is a public footpath crossing over the railway. The approach from the north to both Moss Lane footpath and Moss Lane Farm crossing is made by a single footpath which divides at approximately 100 metres before the crossings, as can be seen in Figure 26. From the south side of the railway the crossings are accessed using independent footpaths, which do not meet before the crossing. There is an option to create a new public right of way to the south side of the railway, which would link the independent approaches to the crossings. By linking both footpaths from the south, it would provide an alternative route over the railway and allow Moss Lane Farm crossing to be closed.

To enable a new public right of way to be created consideration would be required with regards to land purchase and the private residence located at Moss Lane Farm Crossing. In addition, investigation would be required to establish the ground condition of the “undeveloped land” to the south of the railway as there are currently small “ponds” of water located close to the south side of the railway. There is likely to be a significant cost involved with regards the creation of the link between the crossings and the land may not be suitable to provide a safe public right of way without undertaking significant landscaping/ground work. In addition, the new public right of way is likely to be located close to the private residence located at Moss Lane Farm crossing, which could result in objections being raised by the owners of the property.

Considering the existing footpaths in the area surrounding the crossing, to the west would require a person to walk an additional distance of 2 miles to reach the opposite side of the railway. The majority of the alternative route to the west includes a mixture of surfaced and un-surfaced footpaths. The alternative pedestrian route to the west of the crossing is shown as a solid pink line on the map extract in Figure 26.

Considering the existing footpaths in the area surrounding the crossing, to the east of the crossing would require someone to walk an additional distance of 2 miles to reach the opposite side of the railway. The alternative route would be on a mixture of surfaced and un-surfaced footpaths. The alternative pedestrian route is shown by a solid green line on the map extract in Figure 26.

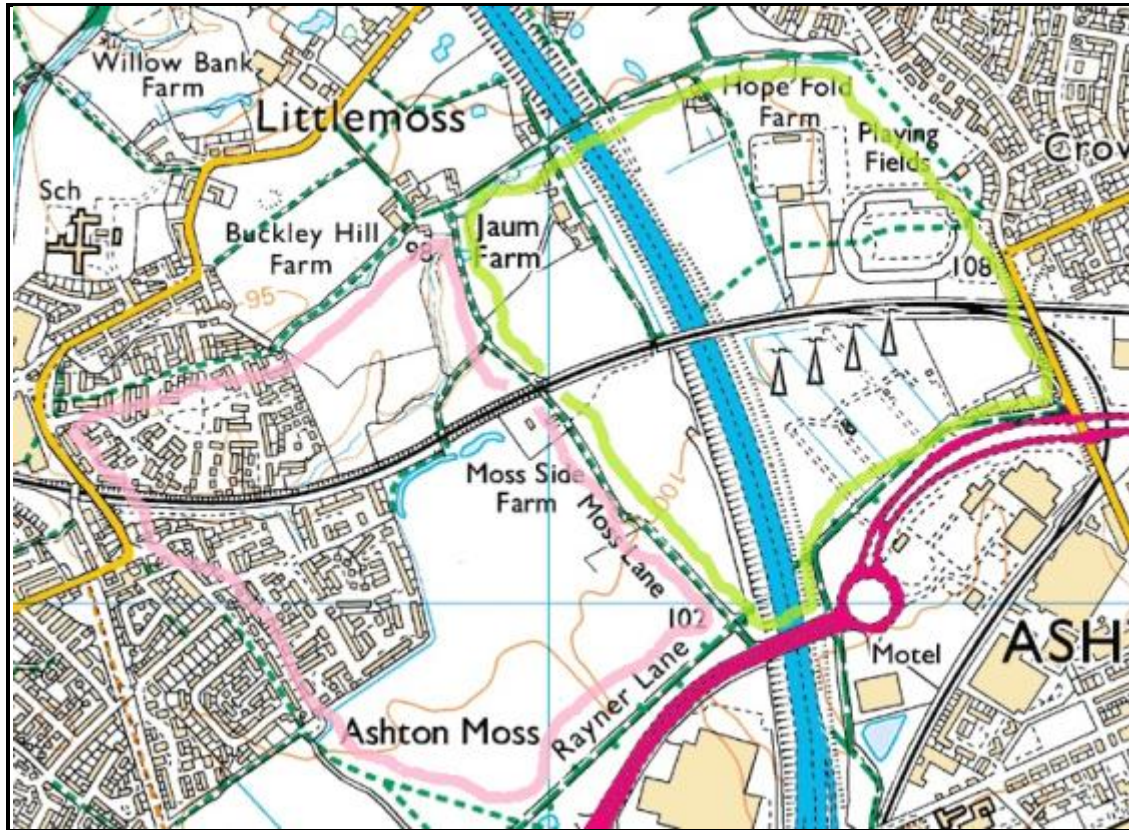


Figure 26: Extract from Ordnance Survey map showing alternative routes for pedestrians over the railway, November 2013

Considering the User Worked Crossing at Moss Lane Farm, there is no evidence to suggest the existing crossing can be used by vehicles. The current crossing surface could not accommodate a vehicle and there is a fixed post & wire fence on the north side of the crossing as shown in Figure 16, which would prevent any vehicle from gaining access to the land to the north side of the railway. As a result, no consideration is made of alternative routes for vehicles over Moss Lane Farm crossing.

6.2 Downgrade impact (e.g. remove public status)

To downgrade the crossing would require the public footpath crossing to be changed to a private footpath crossing. Making the footpath private would not address the projected risks and is not considered further in this report.

6.3 Bridge or underpass

The topography to the south of the level crossing is flat on the approach and flat when approaching from the north of the crossing. The orientation of the footpath approaches to the crossing from both sides is relatively straight. The land to both the north and south of the crossing within the railway boundary appears to be owned by Network Rail, as shown in Figure 8. There is a residential building 40 metres to the south of the crossing and consideration would be required of the potential for invasion of privacy by people using a bridge to pass over the railway. The construction of a footbridge may impact on the visual amenity of the area and consideration would also be needed with regards the cost benefit of providing a bridge. Consideration would also be required of existing over head lines located 30 metres west of the crossing, shown in Figure 27, and the positioning of a footbridge.

A report has been created which considers the potential for constructing a footbridge at Moss Lane Farm level crossing. Document Reference: NHE_132199-8460-MVL1-00-REP-W-000004

A sub surface crossing would not be a suitable structure at this location due to the cost benefit and low crossing usage, and the risk of introduction a space for potential antisocial behaviour.



*Figure 27: Image of overhead lines passing over the railway, taken from Moss Lane Farm crossing looking west.
November 2013*

6.4 Alternative forms of protection

6.4.1 Whistle boards

To facilitate a higher line speed, it may be appropriate to install whistle boards up to a maximum distance of 400 metres from the crossing, although there are considerations with regards whistle board use at Moss Lane Farm level crossing. It is noted that in the Rule book ref: GE/RT8000/TW1 Issue 8 October 2008, Section 10.2 Using the warning horn, c) Sounding the horn as a warning: Whistle boards; You must sound the horn when passing a whistle board between 0700 and 2300. You must not sound the horn when passing a whistle board between 2300 and 0700 (except in an emergency or when anyone is seen on or near the line).

The property located at the south side of the crossing would experience the sound of the horn. Therefore it would not be appropriate to install whistle boards for the crossing due to the planned high frequency of train services and the increase in the number of trains using the line.

6.4.2 Miniature Stop Lights

Installing Miniature Stop Lights (MSL) on both sides of the crossing would provide an additional level of warning to users when compared with the existing arrangements. The installation of MSL on both sides of the crossing would provide an adequate safe warning time to users, however the cost benefit must be considered and unlike the bridge option it would not mitigate the potential risk of a pedestrian being struck by a train.

Common practice for provision of a new MSL crossing would be to provide audible warning devices on both sides of the crossing as part of the installation. The area surround the crossing is rural and includes a property located to the south of the crossing. Considering the project proposals to increase the frequency of train services on the line, it is likely that there would be objections to the noise pollution from the owners of the property and from people who use the area for recreational use.

6.4.3 Telephones

There are existing telephones installed on both sides of the crossing which connect to the controlling signal boxes. There is a sign located on the pedestrian gate to the south of the crossing which advises people to use the telephone to contact the controlling signal box, as shown in Figure 12. It is noted that there is no sign on the gate when approaching the crossing from the north. The findings of the 9 day survey of the crossing advised only 10% of people passing over the crossing used the telephones, for the duration of the survey.

Considering the project proposals, a work load assessment would be required to establish if the calls could be accommodated and the ongoing maintenance of the required infrastructure. Retaining the telephones for pedestrian users at the crossing provides a high level of protection if they are used, however in not used correctly it would leave a potential risk of a pedestrian being struck by a train.

6.4.4 Retain the current crossing

The sighting observations and calculations made on site in November 2013 and the calculations detailed in section 4.2.4 of this report advise that based on sighting alone, the existing footpath crossing is not compliant to the current Temporary Line Speed of 40mph. While telephones and instruction signage is installed for users to contact the controlling signal box, evidence shows they are not being used correctly. Management of vegetation in the immediate vicinity of the crossing would provide no more than a minor improvement to the sighting at the crossing.

In line with the proposals to increase the current line speed over the crossing to be 80mph, it would not be appropriate to retain the current footpath over the crossing.

Considering the User Worked Crossing, the current ALCRM score demonstrates this to be at the highest level of safety i.e. M13. Considering the proposals of the project and the method of protection for the User Worked Crossing being the telephone to the signal box, the User Worked crossing could be retained. There would be a requirement to enhance the current gate and fence on both sides of crossing to create a robust barrier to deter anyone who is not a register user from using the crossing incorrectly.

7 Option Selection

7.1 Introduction

The tables on the following pages identify options considered for the renewal of Moss Lane Farm level crossing.

Fatalities and weighted injuries (FWI)

FWI is an annual figure for the loss of a life at a level crossing. For Moss Lane Farm level crossing, FWI and ALCRM values have been advised by Network Rail, for the current crossing.

Crossing status	FWI	ALCRM value
Existing User worked crossing (UW Ct)	n/a	M13
Existing Public Footpath over the crossing	0.001224541	B4
Change the crossing with Miniature Stop Lights, without considering the forecasted increase in services and line speed.	To be provided by Network Rail	To be provided by Network Rail
Upgrade crossing with Miniature Stop Lights considering the forecasted increase in services and line speed	To be provided by Network Rail	To be provided by Network Rail
Crossing closed by bridging	0.0	M13

When information is available with regards FWI and costs for provision of the level crossing options, appropriate calculations can be undertaken to consider cost benefit ratio values.

OPTIONS CONSIDERED	Renew as existing User Worked Crossing (UWct) and footpath crossing	Renew as existing User Worked Crossing (UWct) and provide a footbridge for pedestrians	Renew as existing User Worked Crossing (UWct) and footpath crossing, but restrict the speed over the crossing	Upgrade crossing with Miniature Stop Lights (MSL)	Close level crossing and divert the footpath	Close level crossing and provide footbridge	Close level crossing and replace with underpass
Description	Renew the existing User Worked Crossing with telephones and the public footpath crossing.	Renew the existing User Worked crossing with telephones and provide a foot bridge to accommodate the public footpath crossing.	Renew the existing User Worked Crossing but restrict the speed over the crossing.	Upgrade the existing level crossing by providing Miniature Stop Lights on the approach to both sides of the level crossing.	Close level crossing and divert the existing footpath over existing footpaths in the surrounding area which pass over the railway.	Close the at grade footpath over the crossing and provide a footbridge at the same location for pedestrian use.	Close the at grade footpath over the crossing and provide an underpass at the same location for pedestrian use.
Justification and Benefits	The telephones located at the crossing provide an acceptable level of protection for the User Worked Crossing.	Significant reduction to operational risk at the crossing by closure of the footpath level crossing.	Avoids the absolute requirement to provide a footbridge and permits the decision points to be positioned at 2 meters thus shortening the crossing time and therefore sighting requirement.	Reduction to operational risk at the crossing by providing an additional level of warning to users. The installation of MSL on both sides of the crossing would provide an adequate safe warning time to users.	Significant reduction to operational risk at the crossing by full crossing closure. Removal of operator and maintainer work load with regards inspection and monitoring of crossing infrastructure. There are existing bridges over the railway in the surrounding area which could accommodate additional pedestrian usage.	Significant reduction to operational risk at the crossing by full closure of the level crossing. Reduction of operator and maintainer work load in comparison with inspection and monitoring of current crossing infrastructure.	Significant reduction to operational risk at the crossing by full closure of the at grade crossing.

OPTIONS CONSIDERED	Renew as existing User Worked Crossing (UWCt) and footpath crossing	Renew as existing User Worked Crossing (UWCt) and provide a footbridge for pedestrians	Renew as existing User Worked Crossing (UWCt) and footpath crossing, but restrict the speed over the crossing	Upgrade crossing with Miniature Stop Lights (MSL)	Close level crossing and divert the footpath	Close level crossing and provide footbridge	Close level crossing and replace with underpass
<p>Disadvantages and Dis-benefits</p>	<p>The intention is to increase the line speed over the crossing which will increase the level of risk at the footpath crossing.</p> <p>The increase in risk would be reflected in the ALCRM score which is currently not acceptable.</p> <p>ORR guidance advises “like for like” renewal of existing crossings should be seen as a last resort.</p>	<p>The requirement to maintain both UWCt and footbridge has an increased maintenance liability.</p> <p>Disruption caused as a result of the required access for construction.</p>	<p>Due to the location of the crossing within the section, there would be an adverse impact on the rail journey times.</p> <p>The crossing type would not prevent a pedestrian from accessing the railway.</p> <p>ORR guidance advises “like for like” renewal of existing crossings should be seen as a last resort.</p>	<p>MSL would not prevent a pedestrian from accessing the railway.</p> <p>Introduction of a new asset to the railway has a maintenance liability.</p> <p>Maintenance costs are likely to exceed maintenance costs for a footbridge.</p>	<p>Closure of the level crossing would require users to make an increased distance in their journey to cross the railway.</p> <p>There is the potential for pedestrians to misuse the crossing, by ignoring the closed footpath status. Misuse could lead to an increase in the level of risk at the crossing.</p> <p>Likely opposition from local council, residents and interest groups who use the footpath crossing with regards the increase in distance to cross the railway.</p>	<p>Introduction of a new asset to the railway has a maintenance liability.</p> <p>Disruption caused as a result of the required access for construction.</p>	<p>The topography of the immediate vicinity of the crossing is not appropriate for construction of an underpass. Any structure built under the railway would need to consider how a pedestrian would reach ground level to connect with the footpath.</p> <p>Introduction of a new asset to the railway has a maintenance liability, specifically associated with lighting and drainage for a subsurface structure.</p> <p>Costs associated with construction of a structure under the railway and on an embankment.</p> <p>Disruption caused as a result of the required access for construction.</p>

OPTIONS CONSIDERED	Renew as existing User Worked Crossing (UWCt) and footpath crossing	Renew as existing User Worked Crossing (UWCt) and provide a footbridge for pedestrians	Renew as existing User Worked Crossing (UWCt) and footpath crossing, but restrict the speed over the crossing	Upgrade crossing with Miniature Stop Lights (MSL)	Close level crossing and divert the footpath	Close level crossing and provide footbridge	Close level crossing and replace with underpass
Option result	<p>Discounted, as there is no guarantee that people would use the line side telephones as the crossing requires them to do.</p>	<p>Recommended, as there is a significant reduction to operational risk at the crossing closure of the at grade crossing for pedestrians.</p> <p>It has been demonstrated via. ALCRM that the level of safety at the UWC can be retained at a high level.</p>	<p>Discounted, as any reduction in the proposed line speed over the crossing would impact on the journey time improvement.</p>	<p>Discounted, as MSL would not stop a pedestrian from accessing the railway when in operation.</p>	<p>Discounted, as the additional distance required for a pedestrian to cross the railway would not be acceptable and there is an increase safety risk for pedestrians using footpaths along highways.</p>	<p>2nd Recommendation, as there is a significant reduction to operational risk at the crossing by full closure of the at grade crossing.</p>	<p>Discounted, due to the topography in the immediate vicinity of the crossing being unsuitable for construction of a sub surface crossing.</p>

7.2 Recommendation

The recommendation for upgrade of Moss Lane Farm crossing, based upon the current available information, would be to close the at-grade footpath crossing and install a footbridge over the railway. The User Worked Crossing can be retained at Moss Lane Farm based upon the current ALCRM score being M13 and would be unlikely to change inline with the project proposals. This option would significantly improve the current level of safety at the crossing.

It has been established that the requirement for provision of a footbridge which is DDA (Disability Discrimination Act) compliant is not required. The reasons for not providing the DDA compliant solution being the rural environment to the north of the crossing and un-surfaced footpaths approaching the crossing from both south and north.

The removal of the at-grade crossing appears to be feasible given the substantial route upgrade works being carried out as part of the Trans Pennine Electrification West Project. However, information from ALCRM has not been provided to advise the assessment at Moss Lane Farm level crossing on the cost benefit of the proposed options. Therefore it is recommended that the cost benefit is considered with regards the suggested options.

To support the proposal of closure a 9 day user census was carried out in November 2013. The findings of the census advised the number of users of the crossing is low, with the busiest day recording a total of 10 people and the least busy day recording 2 people using the crossing.

The option for closure and replacement with an underpass has been discounted due to the practicability of construction and maintenance liability. The option for closure and re-direction of pedestrians over other existing or new footpaths has been discounted due to the increase in safety risk of using footpaths along highways, the increase in distance required to travel to reach the opposite side of the railway and likely high cost associated with establishing a new public right of way.

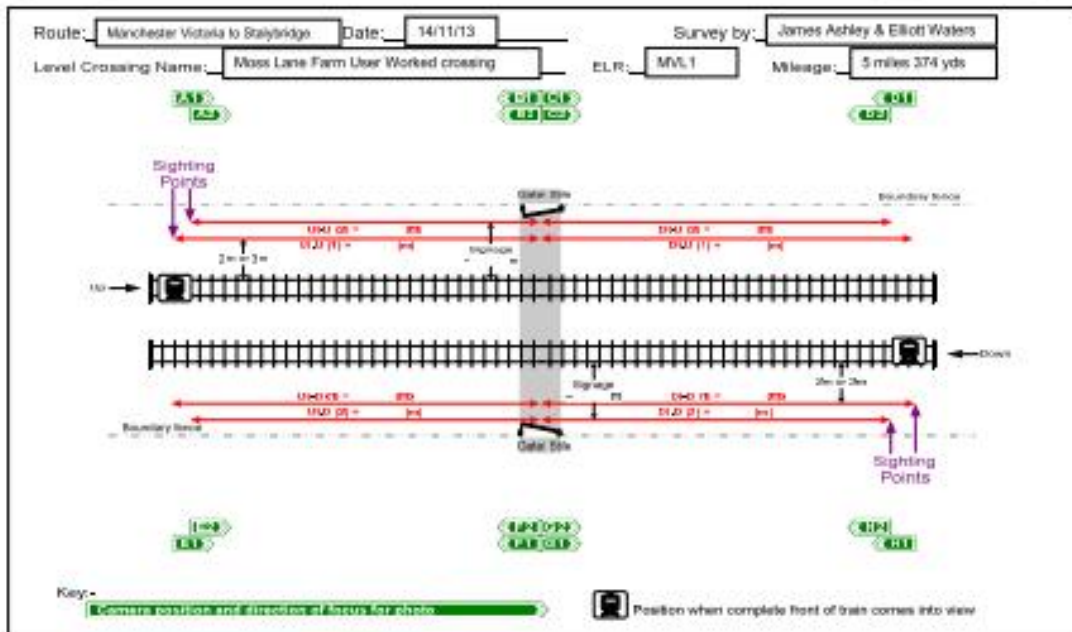
The options for installation of warning equipment such as MSL (with or without audible alarms) has been discounted as there is still potential for a pedestrian to be struck by a train on the crossing, if not used correctly. The continued use of telephones at the crossing would be likely to increase the work load of the controlling signaller, although this would require a work load assessment to be undertaken to confirm the assumption. It has also been demonstrated that users of the crossing are not complying with the requirement to use the telephones located at the current crossing.

8 Approvals

Accepted By Name: (RSIM/ORO)	Signature:
	Job Title:
Date:	
Accepted By Name: (RAM)	Signature:
	Job Title:
Date:	

9 Appendix A: Moss Lane Farm User Worked level crossing site measurements and notes

Day: Thursday 14th November 2013 Time: 11:40 – 12:40 Weather conditions: Sunny, bright, low level sun



Definitions

The decision point is where the Stop, Look and Listen sign is located. If additional walking distance is required from the sign to the railway, this needs to be captured using a sketch of the layout on site with dimensions of additional distance to cover. Datum for measurements will be from the centre line of the crossing at 2 metres from the nearest running rail and 3 metres from the nearest running rail.

Number	Type of measurement	Measurement				Comments
		Up		Down		
1.	Current distance of the level decision point (i.e. stop look listen sign) from the nearest running rail.	2.8 metres		3.7 metres		Fields on the Down side House on the Up side
2.	Sighting distance of crossing decision point at 2m and 3m Ut-U(1), Dt-U(1), Ut-D(1), Dt-D(1)	Ut-U(1)	Dt-U(1)	Ut-D(1)	Dt-D(1)	Note: Due to sighting restrictions, values for sighting distance were estimated by the COSS on the day. Verification has been undertaken using Omnicom footage.
2a.	2m from nearest running rail	130 m	125 m	200 m	145 m	Location identifiers from site: Ut-D=Sighting point beyond the yellow triangle Ut-U = Moss Lane Farm crossing
2b.	3m from nearest running rail	60 m	90 m	180 m	80 m	
3.	Sighting distance from existing sign Ut-U(2), Dt-U(2), Ut-D(2), Dt-D(2)	Ut-U(2)	Dt-U(2)	Ut-D(2)	Dt-D(2)	
		90 m	100 m	180 m	80 m	
4.	Distances of existing whistle boards from the centre line of crossing (where applicable).	Up approach to crossing		Down approach to crossing		Omnicom footage shows there are no whistle boards installed. However there is a 40mph TSR in place on both the Up and Down lines. It was noted during the site visit that train horn could be heard from trains approaching from the Up direction. This may be a local operating instruction.
		No whistle boards are installed, see notes.		No whistle boards are installed, see notes.		

On site observations (Vandalism, crossing use / misuse, crossing condition)

No people were observed using the crossing during the 1 hour site investigation. Stop Look and Listen signs were installed on both sides of the crossing and there was no sign of vandalism or miss use of the crossing. Overhead power lines were observed passing over the railway located between Moss Lane Farm UWC and Moss Lane Footpath crossing. The 5 mile post was observed in the Up direction, close to the crossing.

Up Side (South side of crossing)

A well defined footpath approached the crossings gate leading from a public footpath and private building on Moss Lane. The crossing gate was in good condition, with a vehicle access gate padlocked closed and a pedestrian gate at the side. It was noted that while there is a vehicle access gate, there is no surface provision for a vehicle to pass over the railway. The crossing surface was in good condition.

Down Side (North side of crossing)

Pedestrian gate was in good condition. The footpath beyond the gate was very wet with not evidence of regular use.

10 Appendix B: Aerial view of Moss Lane Farm User Worked level crossing



Figure 28: Aerial image of Moss Lane Farm level crossing with dimension. Image taken from Google footage.

Measurement description	Distance (metres)	Comments
Between outside rail on the Down side to the outside rail on the Up side.	5	Measurement taken from Google image
Down side: Decision point to running rail	3.7	Measurement taken from site notes
Up side: Decision point to running rail	2.8	Measurement taken from site notes.
Decision point to Decision point	11.5	Measurement taken from site and Google image.

11 Appendix C: Map of proposed golf course and leisure facility south of Moss Lane Farm level crossing



Diversity Impact Assessment

Name of policy, programme or project: North West Electrification Project – Moss Lane Farm User Worked Crossing

Your Name: Tom Howard

Your Position: Scheme Project Manager

Department: Infrastructure Projects

Step 1: Clarifying Aims

Q1. What are the aims of this project/piece of work?

Reasons for Project:

The Northern Hub is a programme of targeted upgrades to the railway in the North of England. Scheduled for completion in 2019, it will allow hundreds more trains to run each day and provide space for millions more passengers a year.

The Hub is about the whole of the North of England. The services and economic benefits run as far as Newcastle and Hull in the East to Chester and Liverpool in the West. For the purposes of delivery, the Northern Hub is split into two work streams: Manchester; and Routes.

Moss Lane crossing is situated on between Manchester and Stalybridge, a short distance past a curve with limited driver sighting. For safety reasons a 40MPH Temporary Speed Restriction (TSR) is currently imposed to give the driver adequate sighting of users on the crossings. Prior to the TSR a Whistle Board was in place, where the train drivers would issue a warning horn / whistle on approaching, but this has been removed and the TSR enforced due to resident complaints.

The Moss Lane Farm User Worked Crossing work will be part of Phase 5 of the North West Electrification project (NWEF). The removal of the TSR would enable a package of Journey Time Improvement works that will increase the line speed to 70MPH

The project aims to improve public safety by removing the conflict between speeding trains and users of this public footpath crossing by providing an alternative route for people to cross the railway.

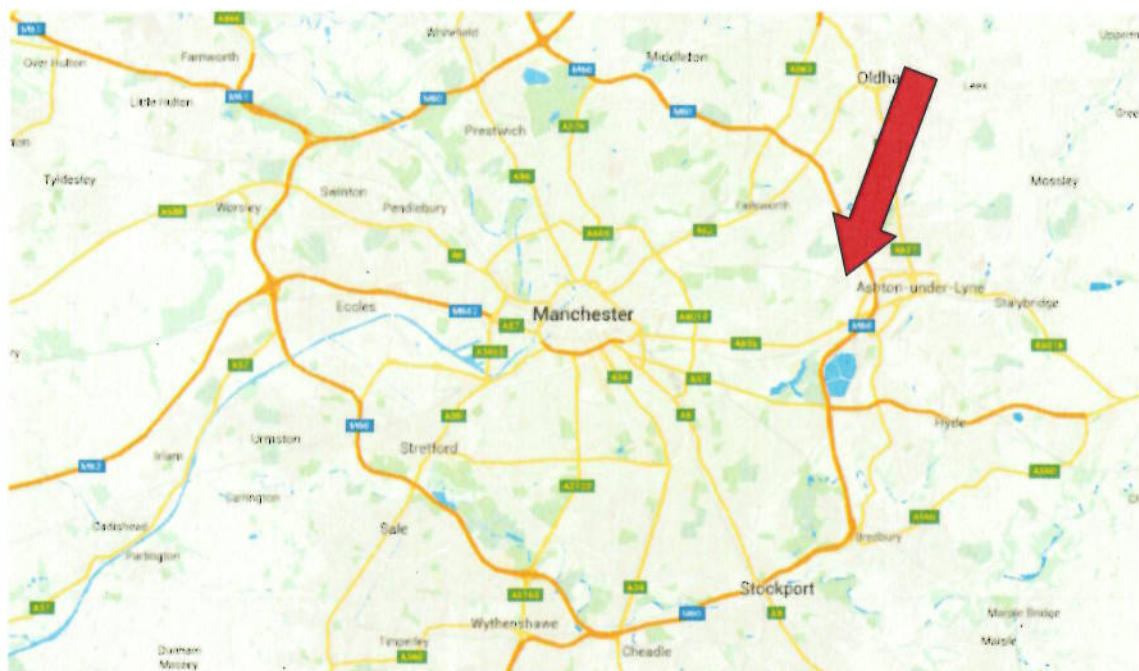
Moss Lane User Worked Crossing:

Moss Lane Farm User Worked Crossing is located north east of Droylsdon, approximately 6 miles from Manchester City Centre, just inside the M60 motorway ring road.

The crossing provides pedestrian access between Moss Lane and Cross Lane. Vehicles are permitted to use the crossing but in practice this does not happen due to the presence of a fixed wood fence on the north side and narrow access of the approaches.

A census was carried out at the crossing in Nov 13 and found that it had a daily average of 5 pedestrian users per day.

Location Map:



Ariel View:



Walkthrough, South to North 1 of 4:



South approach from Moss Lane past residential property



Residential Property

Walkthrough, South to North 2 of 4:



Approach to south of residential property



Muddy uneven path to south of crossing

Walkthrough, South to North 3 of 4:



Fence / gate to south of crossing



View of crossing from south looking north

Walkthrough, South to North 4 of 4:



Fence / gate to north of crossing



Unsurfaced footpath to north of crossing

Preferred solution:

A number of options have been considered by the designers of the scheme with the preferred option a standard stepped footbridge. The table below shows the other options considered with the advantages / disadvantages.

Solution	Main Advantages	Main Disadvantages
Retention of the existing crossing	The retention of the crossing is not practicable due to the imposed TSR as a result of the short sighting distances. The increase of line speed would result in an increased level of risk at the crossing. On this basis it is recommended that the crossing is closed with a diversion or an alternative means of access provided.	
Removal of the existing crossing	To close the existing crossing would result in removing the public footpath ROW and a diversion of approximately 2.5 miles which is considered to be too far to travel.	
Whistle Boards	Give notice to users of the crossing	<p>Trialed and received complaints from local residents</p> <p>Increase in line speed would still increase level of risk at the crossing</p>
Miniature Stop Warning Lights	Alerts pedestrians as to when safe to cross	<p>Incorporate yodel sound alarms (presenting a neighbourhood issue, as per whistle boards)</p> <p>Linked to signalling system, presenting an increased risk to the operation of the railway</p> <p>Relies on users wit, therefore risk at level crossing still exists, all be it at a reduced level</p>

<p>Subway / Underpass</p>	<p>Reduces risk at crossing</p> <p>Less visually intrusive</p> <p>Long term solution-Offers 24/7 undisrupted access across the railway.</p> <p>Not affected by introduction of new services or re-signalling.</p> <p>Compatible with cycle route and heavy usage by bicycles, wheelchairs and scooters.</p>	<p>Railway line closures- additional risk and disruption to rail services.</p> <p>Large land area needed for construction.</p> <p>Subway ramps anticipated to be longer than bridge ramps.</p> <p>Potential flooding risk- operational cost for pumping and maintenance.</p> <p>Subways often attract anti-social behaviour.</p> <p>Lengthy construction phase- not achievable with programme.</p>
<p>Footbridge with lifts</p>	<p>Reduces risk at crossing</p> <p>Less visually intrusive than bridge with ramps.</p> <p>Not affected by introduction of new services or re-signalling.</p>	<p>Very uncommon for lifts to be installed for the passage of highway users.</p> <p>Additional power supply needed- additional cost and time required for this.</p> <p>Operational risk of entrapment and failure which would mean there was not a 24/7 access across the railway.</p> <p>Risk of anti-social behaviour</p> <p>On-going operational and maintenance costs.</p>
<p>Footbridge with Ramps</p>	<p>Reduces risk at crossing</p> <p>Not affected by introduction of new services or re-signalling.</p>	<p>Large land area needed for construction</p> <p>Adds significant distance to shallow gradients</p> <p>Visually intrusive</p>

Q2. Could this work impact on people? If yes, explain how

If the preferred solution of stepped footbridge was to be adopted then it could affect people with restricted mobility. This has been taken into account together with the following:

Use:

A census was carried out in November 2013 and found a daily average of 5 pedestrians used the crossing per day.

Destinations:

The area surrounding Moss Lane Farm level crossing is a mixture of rural, and redundant land. A public footpath passes over the crossing in a north south direction through agricultural land.

To the immediate south of the crossing is a single residential property with outbuildings. The residential property is accessed from the south along Moss Lane and Rayner Lane which are both un-surfaced public carriageways from the A6410 carriageway, also known as Lord Sheldon Way. The property is approximately 0.7 miles from the A6140.

To the north of the crossing the un-surfaced footpath leads to Cross Lane and Lumb Lane where there are a small number of residential and farm properties. Survey data indicates low use of the route. The lack of local amenities would suggest that the type of use is predominantly for pleasure / dog walking rather than specific journeys.

Diversion:

If the level crossing was closed either on a temporary or permanent basis, the logical first choice diversion route would involve travelling back down Moss Lane and Raynor Lane to the south, along the A6140, to Richmond Street then Cross Lane to the north, this diversion would take approximately 45 minutes and is 2.3 miles in length. It is also worth noting that there are several sections of the route that do not have footpaths.



Step 2: The Evidence Base

Q3. Summarise what data we have about the diversity of the people potentially impacted by this work and any research on the issues affecting their inclusion.

A 9 day level crossing census was undertaken between Saturday 2nd November and Sunday 10th November 2013. The findings from the census advised that the busiest day was Saturday 2nd November 2013 with 10 pedestrians using the crossing. The majority of users were walking dogs. It was also noted that over the 9 day duration of the survey 4 people used the telephones and 35 people did not use the telephones installed on both sides of the crossing. There were no children and no livestock or horses observed using the crossing for the duration of the survey.

Data sourced from ONS for the super output area of Tameside 010B shows to what extent people's day-to-day activities are limited by long-term health problems or disability. 6% of residents were measured as having a health problem or disability that had lasted, or was expected to last, at least 12 months, and limited daily activities a lot. This includes impairments related to old age. 7% of residents in Tameside 010B have their day-to-day activities limited a little by a long-term health problem or disability.

Consider evidence in relation to;

- Disability (including evidence relating to access and inclusive design)
- Age
- Pregnancy/maternity
- Race
- Religion or belief
- Gender
- Sexual orientation
- Marriage/Civil Partnership
- Gender reassignment

Step 3: Impact

Q4. Given the evidence listed at step 2, what potentially negative impact could this work have on people who share protected characteristics.		
Protected Characteristic		Explain the potential negative impact
Disability	Y	<p>The impact is that a footbridge will install steps into the route which could impact users with restricted mobility.</p> <p>Access to the crossing is currently via an unmade, uneven path, in a rural location. The path route is narrow and the gate access to the crossing could currently restrict access to some persons with restricted mobility.</p> <p>While access by persons with this protected characteristic is constrained and highly improbable, it is not currently impossible</p>
Age	Y	<p>Access to the crossing is currently via an unmade, uneven path, in a rural location. The path route is narrow and the gate access to the crossing could currently restrict access to some persons with this protected characteristic.</p> <p>However, given the rural location, persons with this protected characteristic who can get to the crossing are believed to have a reasonable level of mobility. Given the nature of the uneven and steep terrain the inclusion of a stepped footbridge is not considered to affect persons with this characteristic.</p>
Pregnancy /maternity	Y	<p>Persons with other forms of restricted mobility as a result of pregnancy, or those using prams or pushchairs for small children are likely to be impacted by the provision of a stepped bridge should this solution be progressed.</p> <p>However, given the rural location, the crossing is understood to be used for leisure walks rather than traveling between housing and a place of work or town centre for example. The crossing survey showed the crossing was not used by children or people with children</p> <p>Should a stepped bridge be introduced therefore, it would be more difficult for persons with this protected characteristic to cross the railway.</p>
Race	N	There is no differential impact on people with this protected characteristic.
Religion or belief	N	There is no differential impact on people with this protected characteristic.

Gender	N	There is no differential impact on people with this protected characteristic.
Sexual orientation	N	There is no differential impact on people with this protected characteristic.
Marriage/Civil Partnership	N	There is no differential impact on people with this protected characteristic.
Gender reassignment	N	There is no differential impact on people with this protected characteristic.

Q5. What extra could you do to have a positive impact on diversity and inclusion?

Provision of an alternative level crossing is not considered a viable alternative, given Network Rail's national programme to eliminate risks to the safety of the public at level crossings by removing them wherever practical to do so.

Ramps: a 1 in 20 ramp and step bridge solution would require approximately 500qm of land take per ramp plus a further 150sqm for maintenance access. The installation of ramps would require additional land to be purchased and discussions to date have shown that the local land owners are not willing to sell the land. Although the option for a ramped footbridge has been discounted the design for the proposed footbridge will include provisions for future ramps to be fitted should they be deemed necessary at a later date.

Mechanical lift: provision of a lift would require much less land take. But has been discounted based on the users survey data and reasons above.

Community transport arrangements: community transport arrangements would not be viable in this rural location as it would not offer access to any local amenities.

Step 4: Consultation

Q6. How has consultation with those who share a protected characteristic informed your work?	
Who was consulted? ¹	Changes made as a result of consultation
Tameside Forum	<p>Network Rail has consulted with the Tameside Forum in 2012 about proposals for a footbridge. The group is an access / rights of way forum attended by members of the council, ramblers associations, equestrian associations, members of Peak & Northern Footpaths Society (PNFS).</p> <p>Whilst there were no specific individuals representing a group with protected characteristics, they were however a representative group from the local community.</p> <p>The question was asked whether there would be ramps installed to make the bridge more accessible. Response given that not at this time due to local land condition and survey date but that they could be at a later date should they be required. No objections raised.</p> <p>No changes made.</p>
Tameside Council	<p>Network Rail has met with the council rights of way officer, on two occasions between 2012 and 2014 regarding the proposals.</p> <p>The meetings were not specifically related to any protected characteristics but to discuss the councils position on rights of way.</p> <p>No objections raised, noted that forum would be opposed to outright closure.</p> <p>No changes made.</p>
BEAP	<p>In the absence of an active local accessibility panel, Network Rail has met with the Network Rail Built Environment Accessibility Panel to discuss the proposals.</p> <p>The Built Environment Access Panel (BEAP) are a group that assist Network Rail to deliver inclusive and accessible projects for disabled people, women and men of all cultures, faiths and ages.</p> <p>The BEAP members include a number of technical, access and disability campaigning professionals that have a diverse range of access needs and a wealth of knowledge.</p> <p>No objections raised.</p> <p>Suggested more information was gathered on whether any local amenities are in the area to the north of the crossing.</p>

¹ This could include our staff networks, local users, the BEAP (re disability), local faith leaders etc.

Step 5: Informed Decision-Making

Q7. In light of the assessment above, what is your decision? Please tick and provide a rationale	
1. Continue the work	The preferred option is to construct a stepped bridge. In light of the rural location and the unmade nature of the approach paths, plus the existing gated access, it is proposed to support the stepped bridge solution.
2. Justify and continue the work	
3. Change the work	
4. Stop the work	

Step 6: Action Planning

Q8. What actions will be taken to address any potential negative impacts and deliver positive impacts?		
Action	By when	By who
Review whether any changes to the local amenities impact the need for specific journeys.	12 Months	PM
Update DIA	6 Months	Consents manager

Step 7: Sign off

Name	Position	Signed	Date
Margaret Hickish	Access and Inclusion Manager		04/04/16
Samantha Morris	Project Sponsor		01/05/16
Alex Davies	Head of Environment and Consents		06/05/16

Step 8: Add an action to your plan setting out how you will monitor this DIA

Revision Date: 6th May 2016