

# **Transpennine Route Upgrade East of Leeds**

## **Peckfield Level Crossing - Alternative Options Evaluation Summary**

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## 1. INTRODUCTION

### 1.1 Purpose

This briefing note provides a summary of the main alternative options considered to mitigate the impacts of the closure of Peckfield Level Crossing (“the level crossing”) and the reasons for selecting the preferred option, which is Option 1 described in section 1.6.1.

The level crossing is required to be closed to facilitate the Transpennine Route Upgrade (TRU) programme. The TRU comprises a series of upgrades between Manchester and York which will deliver improved network performance, increased track capacity, improved journey times, and the electrification of the route.

The closure of the level crossing will allow an increase in line speeds and the delivery of electrification which will contribute both to improved performance, improved journey times and decarbonisation of the route. Without closure of the level crossing these benefits will not be realised.

### 1.2 Option Selection Process

Alternative options to mitigate the impact of the level crossing closure were identified and subjected to a multi-criteria analysis, based on the main assessment topics listed below.

- 1 Environment, Sustainability and Consent Risk:** addressing environmental concerns, planning policy, and other consent risks.
- 2 Land & Property:** addressing impact on land, property and businesses, including agriculture and the convenience and suitability of alternative public right of way routes.
- 3 Cost:** addressing capital and maintenance cost constraints.
- 4 Design / Engineering Feasibility:** to address design complexity.
- 5 Construction:** to address construction complexity.
- 6 Maintenance:** to address maintenance burdens.
- 7 Deliverability:** impact on project programme timescales and deliverability of defined project benefits requirements.

This multi-criteria analysis was undertaken by discipline experts to determine the preferred option. Stakeholder (including public) consultation on alternative options was also undertaken at various stages and consultation feedback was considered as part of the option selection process.

### **1.3 The Peckfield level crossing and Public Right of Way**

The level crossing is an existing bridleway Public Right of Way (PRoW) crossing with a telephone, located about 400m west of Micklefield Railway Station, Grid Reference: SE 44025 32739, within the metropolitan borough of the City of Leeds, West Yorkshire.

The bridleway is defined on the Leeds Public Rights of Way Map as the Definitive Bridleway MICKLEFIELD 8, known as Pit Lane, which commences at the Old Great North Road, proceeding in a south westerly direction, across the railway and terminates at the A63 Selby Road, a distance of approximately 1.9km in total. This bridleway is referred to hereafter as the Pit Lane Bridleway. North of the railway, between the railway and the Old Great North Road, the Pit Lane Bridleway runs alongside the Micklefield recreation ground.

The level crossing provides access between Pit Lane (also known as Lower Peckfield Lane) to the north of the railway and Pit Lane to the south of the railway.

There are five residential properties located adjacent to the railway on the north side, close to the level crossing and Pit Lane Bridleway and these properties are referred to hereafter as the Railway Properties. Access to the Railway Properties is gained from the Old Great North Road to the northeast via the single-track gravel construction Pit Lane / Lower Peckfield Lane, and from Pit Lane south of the railway via the level crossing. The residents of the Railway Properties use the level crossing regularly and the impact of the level crossing closure on these residents was a main consideration in identifying options for mitigation.

### **1.4 Level crossing user surveys**

Table 1 presents a summary of user surveys of the level crossing that were undertaken in 2014, 2016, 2021 and 2023. These surveys were typically undertaken over a consecutive seven-to-nine-day period and an additional origin – destination survey was undertaken in 2023.

**Table 1. Summary of Peckfield Level Crossing User Surveys**

	No. of crossings (both ways, north & south bound))			
	2014	2016	2021	2023
Max daily pedestrian use	89 (Sat)	126 (Sat)	59 (Sat)	81 (Sun)
Average weekday pedestrian use	23	31	22	45
Max daily pedal cycle use	1	3	2	2
Max daily PRM use	No data	3	0	0
Max daily equestrian use	0	0	0	0

Table 1 Notes

- PRM = Persons with reduced mobility (e.g. pram, impairment, wheelchair, mobility scooter).
- Railway personnel excluded where known.

The level crossing surveys show that the vast majority of level crossing use was by pedestrians and that usage numbers have remained relatively consistent over a ten-year period, with maximum usage at weekends of between 59 and 126 pedestrians and an average weekday usage of 22 to 45 pedestrians.

The most recent level crossing user survey was undertaken in February/March 2023, confirming that the level crossing is used mostly by pedestrians, with only 5 cycle crossings in the one-week survey period and no equestrian or other crossings.

An origin-destination survey was undertaken in parallel with the February/March 2023 user survey. The main findings of this origin-destination survey were that the main use purpose was dog walking and almost all crossings were made by people from the local area, rather than by longer-distance walkers.

Public consultation on the proposed level crossing closure was undertaken in 2022, including questions on the use of the level crossing. By far the largest level crossing use purpose (48%) was leisure. Only 10% and 7% usage respectively was for work and school commute purposes. 73% of respondents (127

respondents) said they use the level crossing on foot, 18% by bicycle (31 respondents) and just 2% (4 respondents) by wheelchair or mobility scooter. 3% (5 respondents) said they crossed with a horse.

## 1.5 Diversion Route

This section describes example diversion routes that could be taken when the preferred Option 1 is implemented.

### ***Example 1. Journey south to north from Peckfield Level Crossing to the junction of the Pit Lane Bridleway and Old Great North Road.***

Starting at the level crossing, south of the railway and taking a northerly journey with onward connection via the PRoW network to the north, beyond the Pit Lane Bridleway, the diversion that people would be required to use to avoid the level crossing would involve using Pit Lane (Eastbound) followed by Great North Road (Northbound).

Based on estimated pedestrian travel times it would currently take around nine minutes (600m) to travel from Pit Lane South to Pit Lane North at the junction with Great North via the level crossing and the Pit Lane Bridleway. Once the level crossing is removed this same journey via Pit Lane / Great North Road would take approximately eleven minutes (900m). This +300m journey results in a predicted average increased journey time of two minutes with the level crossing removed which is considered a negligible impact.

### ***Example 2. Journey south to north from Peckfield Level Crossing to south end of Pit Lane Bridleway, north of the railway line.***

Starting at the level crossing, south of the railway and taking a northerly journey directly across the level crossing to access the Pit Lane Bridleway or the Micklefield recreation ground, the diversion that people would be required to use to avoid the level crossing would involve using Pit Lane (Eastbound) followed by Great North Road (Northbound), then via the Micklefield recreation ground access road and a newly created footpath westwards to re-connect with the Pit Lane Bridleway. This route is approximately 900m, taking about eleven minutes for pedestrians, compared to the approximately 60m direct route across the level crossing (taking less than one minute). However, it must be noted that:

- the 2023 origin-destination survey revealed that most level crossing use was by local people involving dog walking; and
- the Option 1 scheme (see below) involves the construction of a new PRoW along the southern boundary of the Micklefield recreation ground, which would create a new circular walking route, provide better access from the Railway Properties to Micklefield and reduce the demand for the level crossing route.

Therefore, the example 2 diversion route would be an absolute worst-case diversion of a journey infrequently required to be taken.

### **Example 3. Journey south to north from the new residential development off Pit Lane to the junction between Pit Lane Bridleway and the Micklefield recreation ground.**

A more common diversion route would involve crossing the railway from the new residential development south of Pit Lane, to gain access to the PRow network north of the railway.

Starting at a point on Pit Lane, south of the railway, the diversion that people would be required to use to avoid the level crossing would involve using Pit Lane (Eastbound) followed by Great North Road (Northbound), then via the Micklefield recreation ground access road, through the recreation ground on a path in a north-westerly direction, to join the Pit Lane Bridleway approximately half way between the level crossing and its junction with the Old Great North Road. This route is approximately 600m, taking about nine minutes for pedestrians, which is just 100m (about 1 minute) further than the approximately 500m route to the same destination, across the level crossing.

## **1.6 Options Considered at Peckfield**

During the option selection process, several alternative options and sub-options were considered. The five main alternative options considered are summarised in this section. Only options that deliver level crossing closure were considered, as options involving upgrades to the level crossing would not deliver the requirements of the TRU project for safe line speed increases and increased train frequencies and the associated benefits.

A description of each option is provided in sections 1.6.1 – 1.6.5 and a summary of the assessment of each option is provided in section 1.7.

### **1.6.1 Option 1 - New footpath and Pit Lane improvements.**

- Creation of a new PRow footpath north of the Railway, to connect the Pit Lane Bridleway near to the Railway Properties, via a route along the southern boundary of the Micklefield recreation ground and the recreation ground access road, to the Old Great North Road.
- Diversion route of between approximately 100m and 900m.
- Improvements to the surface of Pit Lane (Lower Peckfield Lane) between the railway and the Old Great North Road and the construction of three vehicular passing points.
- The creation of a small car park and vehicle turning area at the southern end of Pit Lane (Lower Peckfield Lane) to provide car parking and improved accessibility for the Railway Properties.

### **1.6.2 Option 2 – As Option 1 plus new bridleway to East Garforth**

- All elements of the Option 1 scheme described in 1.6.1.
- Creation of a new public bridleway route to East Garforth\* via a crossing over the A656.
- Diversion route between approximately 100m and 900m.

\*Alternative new bridleway creation routes which did not extend beyond the A656 were also considered.

### **1.6.3 Option 3 – As Option 1 plus new bridleway through recreation ground**

- All elements of the Option 1 scheme described in 1.6.1.
- Creation of a new public bridleway route (two alternative route options) through Micklefield recreation ground.
- Diversion route between approximately 100m and 900m.

### **1.6.4 Option 4 – New ramped bridge**

- Construction of a new ramped bridleway bridge approximately 130m west of the existing level crossing, creating a bridleway diversion route of approximately 500m.

### **1.6.5 Option 5 – New stepped bridge**

- Construction of a new stepped footbridge bridge approximately 130m west of the existing level crossing, creating a public footpath only diversion route of approximately 300m.

## 1.7 Assessment of Alternative Options

Table 2 provides a summary of the assessment of alternative options, in accordance with the multi-criteria analysis methodology described in section 1.2.

**Table 2 – Summary of multi-criteria analysis for Peckfield Level Crossing mitigation options**

	Assessment Topic							
Option description	Environment sustainability and consent risk	Land & property	Cost	Design/ engineering feasibility	Construction	Maintenance	Deliverability	Summary
<b>1. New footpath and Pit Lane improvements</b>	<p>Alternative footpath route involves an approximately 100m to 900m diversion via level ground on existing footways / a new footpath.</p> <p>Level crossing user survey data suggests, with Option 1 scheme in place, this is an acceptable alternative access route.</p> <p>Limited amount of construction work minimises environmental impact.</p> <p>Level footpath connectivity between Railway Properties and Micklefield is improved.</p> <p>Connectivity for longer distance journeys or cyclists is maintained via an alternative route which involves a short distance (approximately 300m) detour in the context of longer journeys.</p>	<p>Very small amount of land acquisition required.</p> <p>Very small impact on recreation ground, businesses and agricultural land.</p> <p>Accessibility improvements provided for the Railway Properties adjacent to railway.</p> <p>Provides a pleasant, accessible (level), alternative route, via existing footway on Pit Lane, the Old Great North Road and a new footpath through the recreation ground.</p> <p>User surveys have recorded very low-level crossing usage by persons of reduced mobility and zero usage by equestrians.</p>	<p>Low-cost solution – minimises use of public funds.</p>	<p>Simple design.</p>	<p>Low build complexity. Simple construction, with limited track access requirements and negligible impact on public or railway ops and maintenance during construction.</p>	<p>Limited maintenance requirements.</p>	<p>Railway engineering access limited to requirements for level crossing decommissioning.</p>	<p>Delivers a simple, accessible alternative access route with minimal cost and environmental impact.</p> <p>Impact on residents of Railway Properties mitigated by provision of a new footpath to Micklefield village and improvements to Pit Lane access route.</p>



	Assessment Topic							
Option description	Environment sustainability and consent risk	Land & property	Cost	Design/ engineering feasibility	Construction	Maintenance	Deliverability	Summary
<b>2. Option 1 plus new public Bridleway to East Garforth</b>	<p>Alternative footpath route involves an approximately 300m to 900m diversion via level ground on existing footways / a new footpath.</p> <p>Limited amount of built work minimises environmental impact.</p> <p>Level footpath connectivity between the Railway Properties and Micklefield is improved.</p> <p>Connectivity for longer distance journeys or cyclists is maintained via an alternative route which involves a short distance (approximately 300m) detour in the context of longer journeys.</p> <p>Added benefit compared to Option 1 of new public Bridleway connectivity between Micklefield and Garforth and promotion of active transport.</p>	<p>Permanent acquisition of several third-party land plots required.</p> <p>Limited impact on recreation ground and businesses.</p> <p>Permanent loss of Grade 2 BMV agricultural land.</p> <p>Accessibility improvements provided for the Railway Properties adjacent to railway.</p> <p>Provides a pleasant, accessible (level) alternative route, via existing footway on Pit Lane, the Old Great North Road and a new footpath through the recreation ground.</p> <p>User surveys have recorded very low-level crossing usage by persons of reduced mobility and zero usage by equestrians.</p> <p>Provides a new accessible bridleway route to Garforth, although the route requires third party land, the crossing of the unrestricted A656 public highway across a railway overbridge.</p> <p>Safety risk associated with the railway level crossing would be transferred to the A656 crossing. Following consultation with Leeds City Council (LCC) (on a recommended safe highway crossing option involving a Pegasus crossing and permanent traffic light-controlled one-way running over the A656 bridge) LCC did not support this option due to impacts on the operation of the highway network.</p>	<p>Significant construction costs associated with building a new bridleway route and crossing over the A656.</p>	<p>Medium complexity – additional highway design required.</p>	<p>Low build complexity. Simple construction, offline, with limited track access requirements and negligible impact on public or railway ops and maintenance during construction.</p>	<p>Moderate maintenance requirements.</p> <p>Additional maintenance burden associated with new bridleway and A656 crossing.</p>	<p>Railway engineering access limited to requirements for level crossing decommissioning.</p> <p>A656 bridge works would be delivered in conjunction with bridge demolition and construction required for TRU.</p>	<p>Option would provide connectivity benefits but transfers safety risk from rail to road.</p> <p>Safe crossing scheme proposal unacceptable to LCC on highway operational impact grounds, transferring capacity restriction from rail to road.</p> <p>Additional cost and land impacts compared to Option 1.</p>
<b>3. Option 1 plus new public Bridleway through Micklefield recreation ground</b>	<p>Alternative footpath route involves an approximately 300m to 900m diversion via level ground on existing footways / a new footpath.</p> <p>Limited amount of built work minimises environmental impact.</p> <p>Connectivity between the Railway Properties and Micklefield is improved.</p> <p>Connectivity for longer distance journeys or cyclists is maintained via an alternative route which involves a short distance (approximately 300m) detour in the context of longer journeys.</p>	<p>Acquisition of more significant land / access rights through recreation ground required compared with Option 1.</p> <p>Greater impact on recreation ground compared to other options, due to the diversion of cycles and horses on a route through the recreation ground.</p> <p>Limited impact on businesses and agricultural land.</p> <p>Accessibility improvements provided for the Railway Properties adjacent to railway.</p> <p>Provides a pleasant, accessible (level), alternative route, via existing footway on Pit</p>	<p>Low-cost solution – minimises use of public funds.</p>	<p>Simple design.</p>	<p>Low build complexity. Simple construction, offline, with limited track access requirements and negligible impact on public or railway ops and maintenance</p>	<p>Limited maintenance requirements.</p>	<p>Railway engineering access limited to requirements for level crossing decommissioning.</p>	<p>Delivers a simple, accessible alternative access route with minimal cost and environmental impact.</p> <p>Impact on residents of Railway Properties mitigated by provision of a new footpath to</p>

	Assessment Topic							
Option description	Environment sustainability and consent risk	Land & property	Cost	Design/ engineering feasibility	Construction	Maintenance	Deliverability	Summary
		Lane, the Old Great North Road and a new Bridleway through the recreation ground.  Surveys have recorded very limited level crossing usage by equestrians and cyclists.			during construction.  Greater construction impact on recreation ground compared with Option 1.			Micklefield village and improvements to Pit Lane.  Potential conflict between pedestrians and recreational / sporting activities and horses / cyclists.
<b>4. New ramped bridleway bridge</b>	Bridleway route involves an approximately 500m diversion via a ramped bridge.  Connectivity between the Railway Properties and Micklefield is reduced compared to Option 1 due to the longer walking route into Micklefield (via the bridleway bridge).  Connectivity for longer distance journeys for cyclists and horse riders is maintained via an alternative route which involves a an approximately 500m detour in the context of longer journeys.  Large scale structure will result in adverse landscape and visual impact on surrounding area, including close views from the Railway Properties and from land allocated in the Local Plan for travelling show people, to the south of the railway.	Permanent acquisition third-party land required.  Permanent loss of Grade 2 best and most versatile (BMV) agricultural land. Adverse impact on agricultural business.  Provides an accessible, safe alternative route for all users.  Would not deliver accessibility improvements to Pit Lane and footpath to Micklefield provided under Option 1.  Provides a pleasant, accessible (although ramped), alternative route,  User surveys have recorded very low-level crossing usage by persons of restricted mobility and cyclists and zero usage by equestrians. Level crossing usage does not justify provision of a bridleway bridge.	Significant construction costs associated with building a new bridleway bridge.	Simple, standard design.	Standard build complexity.  Discreet new asset, high degree of programme certainty.  Disruptive railway access required to construct.	Limited maintenance requirements.	Railway engineering access required.	Delivers an accessible alternative access route but diversion is 500m.  Landscape and visual impacts are greater than Option 1 due to scale of structure.  Involves a greater amount of permanent land acquisition a loss of some Grade 2 BMV agricultural land to accommodate bridge and access to it.  Significant build cost and disruptive railway access required for construction.
<b>5. New stepped footbridge</b>	Bridleway diversion route involves an approximately 300m diversion via a stepped bridge.  Connectivity between the Railway Properties and Micklefield is reduced compared to Option 1 due to the longer walking route into Micklefield (via the stepped bridge).  Connectivity for longer distance journeys for walkers is maintained via an alternative route which involves a short distance	Permanent acquisition third-party land required.  Permanent loss of Grade 2 BMV agricultural land. Adverse impact on agricultural business.	Medium construction costs associated with building a new stepped bridge.	Simple, standard design.	Standard build complexity.  Discreet new asset, high degree of programme certainty.  Disruptive railway access required to construct.	Limited maintenance requirements.	Railway engineering access required.	Delivers an alternative access route, but diversion route is 300m.  Landscape and visual impacts are greater than

	Assessment Topic							
Option description	Environment sustainability and consent risk	Land & property	Cost	Design/ engineering feasibility	Construction	Maintenance	Deliverability	Summary
	<p>(approximately 300m) detour in the context of longer journeys.</p> <p>Connectivity for longer distance journeys for cyclists and horse riders would be the same as Option 1.</p> <p>Medium scale structure will result in adverse landscape and visual impact on surrounding area, including close views from the Railway Properties and from land allocated in the Local Plan for travelling show people, to the south of the railway.</p>	<p>Would not deliver accessibility improvements to Pit Lane and footpath to Micklefield provided under Option 1.</p> <p>Provides a pleasant alternative route.</p> <p>Accessibility is reduced compared with other options due to step-only access.</p>						<p>option 1 due to scale of structure.</p> <p>Involves permanent land acquisition and loss of some Grade 2 BMV agricultural land.</p> <p>Medium build cost and disruptive railway access required for construction.</p>

## 1.8 Conclusions

Following the identification and evaluation of potentially feasible options, Option 1 was selected as the preferred option. Option 1 involves the creation of a new public footpath to connect the Pit Lane Bridleway, north of the railway line, to the Old Great North Road. A route via the existing public highway (footpaths) is then available to the junction of Pit Lane and Pit Lane Bridleway, south of the railway. The new public footpath will also provide a new direct pedestrian access between the Railway Properties and Micklefield and the railway station.

Option 1 requires very limited construction work and performs well on environmental and sustainability considerations. On land and property, Option 1 has minimal land take and low impact on agricultural land. Option 1 also provides accessibility improvements for the Railway Properties and a pleasant, accessible (level), alternative route, via an existing footway on Pit Lane, the Old Great North Road and a new footpath through the recreation ground.

On cost, design, construction, maintenance and deliverability, Option 1 performs the best of all options, being a simple and cost-effective scheme.

Based on extensive level crossing user survey information collected over a ten-year period, it can be concluded that weekday pedestrian user levels are limited to an average of between 22 and 45, increasing at weekends to a peak daily usage of between 59 and 126. Usage by cyclists is very low, with a maximum of 3 crossings per day recorded. Usage by persons of restricted mobility is very low and there are no survey records of equestrian use. These usage figures rule out justification for the construction of a ramped bridleway bridge, taking account of the environmental impacts, impact on land and the significant construction costs involved.

Network Rail also considered a stepped footbridge option, but this option shares many of the disbenefits of the ramped bridleway bridge option. The stepped bridge would involve a pedestrian only diversion of approximately 300m, compared with the at-level Option 1 diversion of between approximately 100m and 900m, depending on the journey being taken, and this difference is not considered significant in the context of the predominantly local recreational use of the level crossing. Additionally, a stepped footbridge would not provide the Option 1 benefit of a new direct footpath access into Micklefield for the Railway Properties, which is shorter and more convenient than the existing arrangement requiring passage over the level crossing.

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