

Essex and Others Level Crossing Reduction Order

Equality and Diversity Overview TWAO Document Ref 367516/RPT197

September 2018

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1 Introduction and approach

1.1 Introduction

This Equality and Diversity overview has been prepared by Mott MacDonald on behalf of Network Rail in relation to the closure of, and/or changes to rights at, 61 level crossings on railway lines within the counties of Essex, Hertfordshire, Southend on Sea, London Borough of Havering and Thurrock. Collectively, these level crossing closures or changes will be contained in the draft Essex and Others Level Crossing Reduction Order which is part of the wider Anglia Level Crossing Reduction Strategy.

This report has been produced in response to updated proposals for the sites identified below in order to:

- support good decision-making by ensuring that equality and diversity issues are taken into account when delivering the Strategy in Essex and Others;
- summarise the equality, diversity, and inclusion impacts arising from the implementation of the Strategy in Essex and Others; and
- identify whether level crossing sites are likely to require a full Diversity Impact Assessment (DIA) to ensure that the individual closures are implemented having shown due regard to Network Rail's obligations under the Public Sector Equality Duty.

1.2 The Anglia Level Crossing Reduction Strategy

The purpose of the Anglia Level Crossing Reduction Strategy is to improve safety, allow Network Rail to more effectively manage its assets in the Anglia Region, reduce the ongoing maintenance liability of the railway and help enable various separate enhancement schemes to be developed in the future. Network Rail has considered options to provide alternative means of crossing the railway and developed proposals for the possible closure or change to public rights of way at around 130 level crossings in Anglia.

The Strategy comprises 5 phases; however, the Essex and Others Order only relates to Phases 1 and 2. Phase 1 (mainline) and 2 (branch line) comprise selected level crossings where the proposals do not include any new form of grade separation across the railway.

The proposals are based on level crossings where benefits may be deliverable and affordable within the Network Rail Control Period 5 (to 31/3/19).

Phases 3 to 5 are intended to cover new grade separated crossings of the railway and diversion or downgrading of major highways. Network Rail has advised that these later Phases are likely to be implemented within Control Period 6 (2019 to 2024) after Phases 1 and 2 have been implemented. Phases 1 and 2 are not dependent on later Phases being implemented.

Within Phases 1 and 2, the Anglia Level Crossing Reduction Strategy comprises three separate projects, in the following administrative areas:

- The county of Cambridgeshire (the Cambridgeshire Level Crossing Reduction Order);
- The county of Suffolk (the Suffolk Level Crossing Reduction Order); and
- The county of Essex, the county of Hertfordshire, the unitary authorities of Thurrock and Southend-on-Sea and the London Borough of Havering (the Essex and Others Level Crossing Reduction Order).

Each of the three projects will be the subject of a separate application under the Transport and Works Act (TWA) 1992. Each Transport and Works Act Order (TWAO) application will include the necessary powers to implement the projects including the closure of certain crossings; the power to construct scheduled works (footpath/bridleway bridges and potentially new or altered roads) and other ancillary works; the extinguishment of or alteration (including downgrading) of the rights of way across certain levels crossings; the creation of new diversionary rights of way and the temporary occupation of, or permanent acquisition of, land or rights in land to construct and maintain works to create the new rights of way.

The nature and purpose of the works to be constructed is therefore:

- To close or downgrade the level crossings and extinguish / amend existing rights of way across them, including erection of fencing; and
- To provide new rights of way (public or private) on diversionary routes where possible, including the construction of a number of footpath/bridleway bridges, and new or altered roads, creation of public paths, bridleways and cycle track and additional footways under the provisions of the Highways Act 1980. These will require associated fencing, stiles, gates, signs, or other conveniences to create the new rights of way and may in some instances require surfacing to be provided.

1.3 Level crossing sites

The table below provides a summary of each of the sites within the Essex and Others TWAO application.

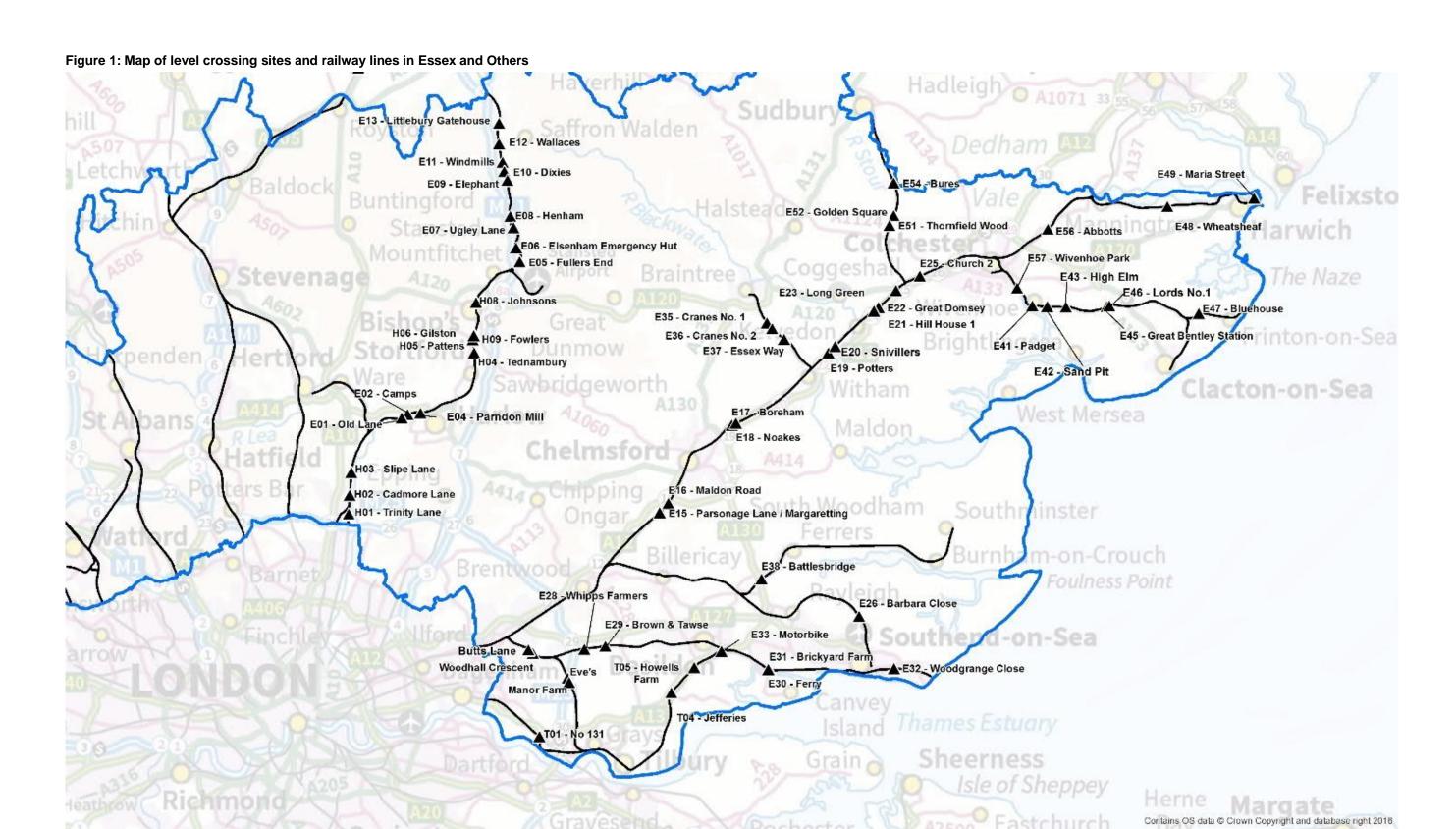
Table 1: Essex and Others level crossing summary

Code	Name
E01	Old Lane
E02	Camps
E04	Parndon Mill
E05	Fullers End
E06	Elsenham Emergency Hut
E07	Ugley Lane
E08	Henham
E09	Elephant
E10	Dixies
E11	Windmills
E12	Wallaces
E13	Littlebury Gatehouse
E15	Parsonage Lane / Margaretting
E16	Maldon Road
E17	Boreham
E18	Noakes
E19	Potters
E20	Snivillers
E21	Hill House 1
E22	Great Domsey
E23	Long Green
E25	Church 2
E26	Barbara Close

Code	Name
E28	Whipps Farmers
E29	Brown and Tawse
E30	Ferry
E31	Brickyard Farm
E32	Woodgrange Close
E33	Motorbike
E35	Cranes No. 1
E36	Cranes No. 2
E37	Essex Way
E38	Battlesbridge
E41	Paget
E42	Sand Pit
E43	High Elm
E45	Great Bentley Station
E46	Lords No. 1
E47	Bluehouse
E48	Wheatsheaf
E49	Maria Street
E51	Thornfield Wood
E52	Golden Square
E54	Bures
E56	Abbotts
E57	Wivenhoe Park
H01	Trinity Lane
H02	Cadmore Lane
H03	Slipe Lane
H04	Tednambury
H05	Patterns
H06	Gilston
H08	Johnsons
H09	Fowlers
HA1	Butts Lane
HA2	Woodhall Crescent
HA3	Manor Farm
HA4	Eve's
T01	No 131
T04	Jefferies
T05	Howells Farm
Source: Netv	work Rail and Mott MacDonald

Source: Network Rail and Mott MacDonald

The figure below shows the location of the level crossing sites within Essex and Others County that form part of the project.



Source: Network Rail / Mott MacDonald

1.4 Approach to the DIA process

National policy drivers behind the DIA process

Under the Equality Act 2010, public bodies (or those carrying out public functions) are required to show due regard to equality under the Public Sector Equality Duty (PSED).

A key element of the PSED requires public bodies to consider all individuals in shaping policy, in delivering projects and services, and in relation to their own employees. It requires that government departments, public authorities, and those responsible for delivering public functions, including Network Rail, have due regard to the following three aims:

- Eliminating unlawful discrimination, harassment, and victimisation;
- Advancing equality of opportunity between different groups; and
- Fostering good relations between different groups.

Public authorities must demonstrate that they have shown due regard to the PSED through informed decision-making. While the PSED does not specify a particular process for considering the likely effects of policies, programmes and projects on different sections of society for public authorities to follow, this process is usually undertaken through some form of equality analysis, which can include DIA.

The DIA process is intended to support good decision making. It encourages public bodies to understand how different people will be affected by their activities, so that their policies and services are appropriate, accessible to all and meet the needs of different sections of society. By understanding the effect of their activities on different people, and how inclusive delivery can support and open up opportunities, public bodies can be more efficient and effective. The PSED therefore helps public bodies to deliver the Government's overall objectives for public services.

The PSED specifies that public bodies should minimise disadvantages experienced by people due to their protected characteristics, take steps to meet the different needs of people from protected groups, and encourage participation from these groups where participation is disproportionately low. Undertaking a DIA helps to demonstrate how Network Rail is complying with the PSED by:

- Providing a written record of the equality considerations which have been taken into account;
- Ensuring that decision-making includes a consideration of the actions that would help to avoid or mitigate any negative impacts on particular protected groups;
- Supporting evidence-based decision-making; and
- Supporting more transparent decision-making processes.

Network Rail equality, diversity, and inclusion drivers

The Network Rail Equality, Diversity, and Inclusion Policy and Framework were published in October 2014 and identified the following aims (amongst others) to ensure that equality, diversity, and inclusion are embedded in their culture:

- Enhance decision-making and innovation, by encouraging positive interactions and involvement throughout the business;
- Increase their ability to relate to existing and potential customers wherever they exist;
- Build effective and productive relationships in the wider community through partnerships with community-based groups and stakeholders;
- Be committed to exceeding the minimum legal requirements; and

 Be committed to reviewing all existing policies within Network Rail to ensure they demonstrate equality, diversity, and inclusion values.

The project will also support the delivery of Network Rail's Everyone Strategy, and in particular the following commitments:

Commitment 1: Get everyone home safe every day

This commitment puts safety centrally to network design, management, and maintenance. Improving crossing safety reduces the risk of crossing the railway for all users. The Strategy will help to improve safety for rail users by reducing interaction with the railway.

Commitment 2: Deliver reliable infrastructure

This commitment focusses on the management of all Network Rail assets, with the aim of reducing long-term costs. The Strategy will help to deliver more reliable infrastructure.

Commitment 6: Being a customer focused organisation

This commitment focusses on ensuring clearer accountability to local people, and understanding the needs of customers, to become more flexible and collaborative. The Strategy is working with local stakeholders and aims to help to improve the safety of journeys for infrastructure users.

Commitment 9: A railway fit for the future

This commitment focusses on sustainability, making the business more efficient, and protecting and future-proofing railway assets. An inclusive and accessible railway will link people to communities, education, and jobs – ultimately delivering economic growth. The Strategy helps to deliver required improvements to ensure network infrastructure is fit for future use.

About the DIA

An DIA is a systematic assessment of the likely or actual effects of policies or proposals on social groups with the following protected characteristics (as defined by the Equality Act 2010):

- Age, including all age groups, such as children aged 16 and under, younger people aged 16-25 and older people aged 65 and over.
- **Disability**, including people with sensory impairments, mobility impairments, learning disabilities, mental wellbeing disabilities, and long term medical conditions.
- **Gender reassignment**, including persons who are proposing to undergo, are undergoing, or have undergone gender reassignment.
- Marriage and civil partnership, with a focus purely on discrimination on the basis of
 whether someone is married or in a civil partnership single people are not covered by this
 characteristic.
- Pregnancy and maternity, including pregnant women and nursing mothers.
- Race and ethnicity, including ethnic or national origins, colour, or nationality.
- Religion or belief, including all religion, faith, or belief groups, including lack of belief.
- Sex, including both women and men.
- Sexual orientation, including heterosexuals, lesbians, gay men, and bisexual people.

The process does this by:

Assessing whether one or more of these groups could experience disproportionate effects
(over and above the effects likely to be experienced by the rest of the population) as a result
of the proposed policy being implemented. A DIA includes examining both potential positive
and negative effects.

- Identifying opportunities to promote equality more effectively or to a greater extent.
- Developing ways in which any disproportionate negative impacts could be removed or mitigated to prevent any unlawful discrimination and minimise inequality of outcomes.

Methodology

The preparation of this DIA overview document included the following tasks:

- A review of the different level crossing sites within the Essex and Others Order to understand the content and proposed changes at each site.
- Desk based evidence and policy review focussing on key national, regional and local policy, Network Rail's strategic aims, and key published literature on rail infrastructure, the pedestrian environment, accessibility, safety, severance and community cohesion, and their relationship to equality and diversity.
- Analysis of available data on different protected characteristics to provide a comparison with national and regional averages, and to map the density of different equality groups within Essex and other counties.
- A review of work already undertaken on the sites in relation to equality and diversity, including previous DIA scoping work submitted as part of Phase 1 of the Anglia Level Crossing Reduction Strategy work, and the draft DIAs being prepared for selected scoped in sites as part of Stage 2.
- Analysis of available evidence to identify key conclusions and recommendations relating to the proposed level crossing closures within Essex and Others.

Overall, the DIA overview report provides a summary of the potential impacts identified from the equality analysis work undertaken in order to support the TWAO submission for the project in Essex and Others.

1.5 Purpose and structure of this report

This report has been collated from existing evidence prepared as part of the TWAO submission and as part of the DIA process.

The remainder of this report is structured as follows:

- Chapter 2 provides an overview of the key impact arising from the project and those groups upon whom those impacts are likely to fall disproportionately.
- **Chapter 3** provides a demographic profile of Essex and Others, focussed on those protected characteristics most at risk, and on those for whom data is available.
- Chapter 4 provides an overview of the post implementation impacts associated with individual sites that form part of the project.

2 Key impacts and at risk groups

2.1 Introduction

This chapter identifies potential issues associated with level crossing closures and the groups likely to be affected by those issues; it is based on a review of relevant literature, level crossing details and user data provided by Network Rail, as well as an examination of the demographic data for the area. Potential impacts and issues related to level crossings closures are identified and the relevant protected characteristics are identified under each issue heading.

2.2 User safety

Level crossings account for an estimated 9% of the total rail system safety risk¹ and account for half of all fatalities on the railways when suicides and trespasses are excluded.² In 2014 there were ten accidental deaths on level crossings including eight pedestrians and two people killed in vehicles hit by trains.³ If a walking trip includes a level crossing, the fatality risk to a pedestrian is approximately double the risk of an average walking trip without a level crossing and overall there is around an 8% increase in the risk of a fatality during an average car journey that includes a level crossing, compared with one that does not.⁴

The safety issues associated with level crossings do not impact all users uniformly. Certain user groups are particularly vulnerable to level crossing hazards because they have more difficulty processing the speed of objects coming towards them. Research conducted on behalf of the House of Commons Transport Select Committee, showed that **children** perceived cars moving towards them at more than 20 mph as stationary. **Older people** may also be vulnerable because their field of view can diminish over time; studies have suggested that this can be at a rate of between 1° and 3° per decade.⁵

In addition, research by University College London has shown that older pedestrians (aged 65 or over) walk more slowly than other pedestrian users (the mean walking speed achieved in controlled studies was 0.9 metres per second (m/s) in men and 0.8 m/s in women, compared to mean for the population as a whole of 1.2 m/s), placing them at greater risk.⁶

Similarly, **disabled people** may also be more at risk than those without a disability. Not only are crossing speeds likely to be slower for people with disabilities, but level crossings require users to cross a surface which may pose physical challenges due to its structure, gradient and exposure to the track. Pedestrians with sensory, physical or cognitive impairments may be less able to cross safely because of these factors. People with visual or hearing impairments can

¹ Network Rail (unknown date): 'Level crossings risk reduction in CP5'

² House of Commons Transport Committee (2014): 'Safety at level crossings: Eleventh Report of Session 2013–14'

³ RSSB (2014) 'Overview of safety performance for 2014' http://www.rssb.co.uk/Library/risk-analysis-and-safety-reporting/SafetyPerformance-Overview-2014.pdf

⁴ House of Commons Transport Committee (2014): 'Safety at level crossings: Eleventh Report of Session 2013–14'

⁵ House of Commons Transport Committee (2014): 'Safety at level crossings: Eleventh Report of Session 2013–14'

⁶ 1.2 meters per second is the speed assumed in the programming of pedestrian level crossings on the road network, and is generally taken to be the mean walking speed.

also have difficulties crossing safely due to not being able to pick up on the variety of visual and audible warning messages at level crossings.⁷

Other analysis of level crossing accidents data show that **men** are more commonly struck by trains at level crossings than females, and the risk of being struck by a train increases steadily with age for adult users. Male pedestrians dominate accidents at level crossings, associated with 70% of all train strikes. Given that males represent approximately 49% of the population as a whole (according to UK government statistics) this would suggest male pedestrians are more at risk at level crossings than female pedestrians.⁸

2.3 Accessibility

Where a level crossing is replaced by a bridge, underpass or diversion there is a potential effect on accessibility. Whilst some users can face difficulties when trying to cross level crossings due to design issues, accessibility challenges can also arise where a level crossing is replaced by a bridge, underpass or diversion which does not fully accommodate the needs of all those using it.⁹

Certain protected characteristics groups, particularly **disabled people** and **older people**, are more likely to experience accessibility difficulties than the general population. Footbridges, underpasses and diversions can act as barriers for those with mobility impairments, can confuse blind and partially sighted people, create additional distance for frail and elderly people to travel, and be a difficult gradient to manage for those in wheelchairs, **people pushing prams** or carrying heavy bags.¹⁰

2.4 Walking distances

Walking distances are an important consideration for people with certain protected characteristics, and schemes that can affect existing walking distances may result in disproportionate impacts on some groups – such as **disabled people** and **older people**. For example, Inclusive Mobility – a key document to support inclusive design of the pedestrian environment – found that of people with a disability who are able to walk, around 30% can walk no more than 50 metres without stopping or experiencing severe discomfort and a further 20% can only manage between 50 and 200 metres.¹¹ Similarly, older people are also more likely to have difficulties walking long distances than the general population.

The study also found that **disabled people** tend to find standing to rest difficult and/or painful and therefore it is important for the provision of seated resting points where walking distances are increased for users.

2.5 Community severance

Level crossings provide a means of traversing the rail network and can act as an important point of access for the communities in which they are situated. The removal of level crossings therefore has the potential to cause issues related to community severance. Although there is

⁷ Rail Safety and Standards Board (2011): 'Research Programme: Operations and Management - Improving safety and accessibility at level crossings for disabled pedestrians'

⁸ Rail Safety and Standards Board (2011): 'Research Programme: Operations and Management - Improving safety and accessibility at level crossings for disabled pedestrians'

⁹ Law Commission (2010): 'Level Crossings: Consultation Paper'.

¹⁰ Accesscode (2009): 'External Environment Fact Sheet'.

¹¹ Department for Transport (2005): 'Inclusive mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure'

not one agreed definition, community severance is generally understood to be comprised of three key dimensions:

- Physical barriers: such as the introduction of new or removal of existing infrastructure
- Psychological or perceived barriers: such as traffic noise or road safety fears
- Social barriers: such as the disruption of 'neighbourhood lifestyle' or inhibition of social interaction

The safety risks associated with existing level crossings could act as both a real and as a perceived barrier; however, the removal of level crossings and the replacement with / diversion to new or existing infrastructure such as bridges and underpasses may potentially act as a physical barrier. There is recognition that some social groups are more vulnerable to the effects of community severance than others; including **disabled people** with restricted mobility; **older people** and school children (**younger people**). As identified above, older people are more at risk of social isolation which can be compounded by transport barriers. The effects of community severance also have a disproportionate effect on disabled people who also experience higher rates of social exclusion and existing barriers to transport.

2.6 Rurality

The majority of the proposed level crossings closures in Essex and Others are in rural areas. Rural areas are more likely to have problems associated with access to services, public transport and shops as they have a lower population density than urban areas and tend to be a greater distance away from key services. ¹⁴ Generally, people living in rural settlements have lower overall accessibility to key services compared with people living in towns and cities, and those people living in rural areas in a sparse setting usually experience the lowest overall levels of accessibility. ¹⁵

Rural areas also have a higher proportion of **older people**; over 50% of the population in rural areas are aged 45 and above, compared with around 40% in urban areas. ¹⁶ Social isolation is a key concern for many groups in rural areas, but particularly for older people, and transport can be a key influencing factor – it is considered as a basic necessity of rural life. ¹⁷

Transport barriers (for example, no longer having a private driving licence, inconvenient timetables or inaccessible bus stop locations¹⁸) can limit older residents' access to basic services, reduce social and civic participation, and pose critical challenges to engagement with health services.

2.7 Summary of impacts and protected characteristic groups

The table below summarises the findings of the desk-based review process, and the groups identified as being particularly vulnerable to changes in level crossing arrangements in Essex and Others.

¹² Department for Transport (2005): 'Understanding Community Severance'

¹³ Bristol City Council (2014): 'Social isolation and physical and sensory impairment'

¹⁴ Department for Transport (2013): 'Valuing the social impacts of public transport'

¹⁵ Defra (2015): 'Statistical digest of rural England: April 2015 edition'

¹⁶ Defra (2015): 'Statistical digest of rural England: April 2015 edition'

¹⁷ Defra (2015): 'Statistical digest of rural England: April 2015 edition'

¹⁸ Department for Environment Food and Rural Affairs (2013) '2013 Rural Ageing Research Summary Report of Findings'

Table 2: Impacts by protected characteristic group

Impact	Relevant protected characteristic	Potential impact identified
	Disabled people – people with mobility and sensory impairments	Higher crossing risk than general population due to reduced mobility
User safety	Age – older people	
ŕ	Age – younger people	Higher crossing risk than general population due to difficulty judging speeds
	Sex - males	Higher crossing risk than general population
Accessibility	Disabled people – those with mobility impairments	Difficulty using non-accessibly designed level crossings,
	Age - older people	bridges, underpasses and diversions due to steps, steep gradients, uneven surfaces, and other design shortcomings
	Pregnancy / Maternity – people with pushchairs	leading to inaccessible routes
Walking	Disabled people – those with mobility impairments	Difficulty in walking longer distances due to frailty of mobility
distances	Age - older people	- impairment
	Disabled people	Higher vulnerability to impacts of community severance than
Cit	Age – older people	general population due to potential lack of transport options
Community severance	Age –younger people	and reduced mobility
	All protected characteristics	Access to relevant community facilities restricted by change in access arrangements
Rurality	Age – older people	More likely to experience social isolation and difficulty accessing services due to high proportions of older people in rural locations

3 Essex and Others Demographic Profile

3.1 Introduction and population overview

This chapter examines the demographic profile of groups with the following protected characteristics as defined by the Equality Act 2010 (age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race and ethnicity, religion and belief, gender and sexual orientation) both nationally and in Essex, Hertfordshire, Havering, Thurrock and Southend-on-Sea (Essex and Others).

Analysis shows that the area of Essex and Others with the highest densities of people from all groups with protected characteristics is in the south. There are also areas in the east and west of the county with moderate to high densities. The north of the region has a rural nature and therefore has low densities of all groups. This indicates a rural urban split within the region. The map below indicates this:

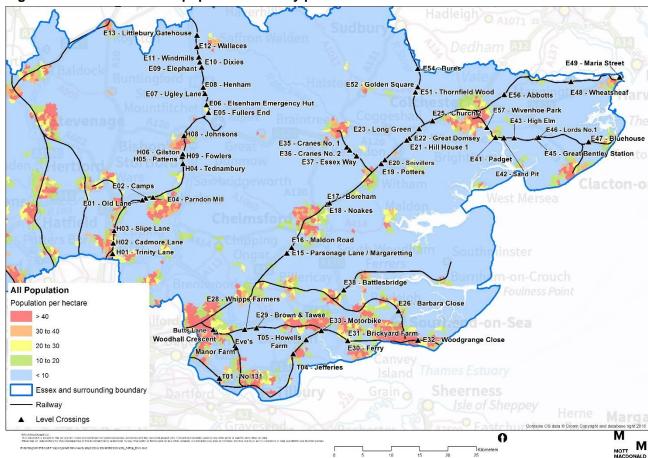


Figure 2: Essex and Others population density per hectare

Source: ONS Census 2011 – mid-year population estimates 2015

3.2 Age

This section explores two key age brackets that may experience disproportionate impacts when compared with the general population:

- · Children (aged under 16); and
- Older people (aged 65 and over).

Children (Under 16s)

The table below indicates that the proportion of people living in Essex and Others is the same (19%) as the national figure.

Table 3: Number and proportion of people under the age of 16 living in Essex and Others

Age – under 16	Essex and Others	England
Number	623,700	10,405,100
Percentage	19	19

Source: ONS Census 2011 - mid-year population estimates 2015

The map below illustrates that:

- There are many areas within the region that have a high density of people under 16; this is particularly prevalent in the south, in areas such as Southend-on-Sea, Basildon and Upminster.
- There are other areas within the region, such as Stevenage in the west and Colchester in the east.
- The rural north has low densities of people under 16, suggesting that the majority of people from this group live in urban areas.

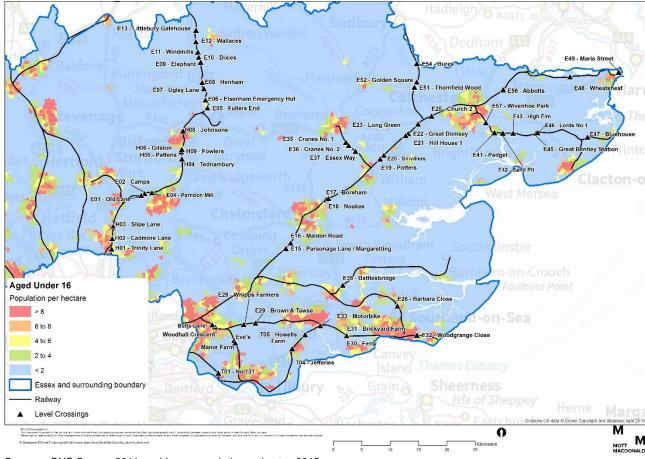


Figure 3: Essex and Others under 16 population density per hectare

Source: ONS Census 2011 - mid-year population estimates 2015

Older people (65 and over)

As identified in the table below, the proportion of people over 65 living in Essex and Others is the same as than national figure (18%).

Table 4: Number and proportion of people over 65 living in Essex and Others

Age – over 65	Essex and Others	England
Number	588,600	9,711,600
Percentage	18	18

Source: ONS Census 2011 – mid-year population estimates 2015

The map below illustrates that:

- The density of people over 65 is highest in the south of the region, particularly around Southend-on-Sea and Upminster.
- Other areas have moderate densities, such as Chelmsford and Clacton-on-Sea.
- A large proportion of the region, particularly in the north, has low densities of people over 65.

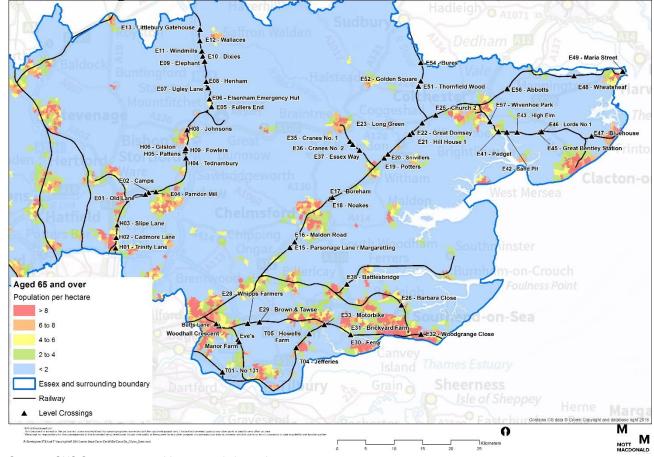


Figure 4: Essex and Others over 65 population density per hectare

Source: ONS Census 2011 – mid-year population estimates 2015

3.3 Disability

The Equality and Human Rights Commission notes that: "You're disabled under the Equality Act 2010 if you have a physical or mental impairment that has a 'substantial' and 'long-term' effect on your ability to do normal daily activities." 19

For the purposes of the demographic profile, we have analysed the number of people living with a long-term limiting illnesses (LLTI) within Census and mid-year population data.

As identified in the table below, the proportion of people living in Essex and Others with a LLTI is slightly lower (2%) than the national figure.

¹⁹ See: http://www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/protected-characteristics-definitions/.

Table 5: Number and proportion of disabled people in Essex and Others

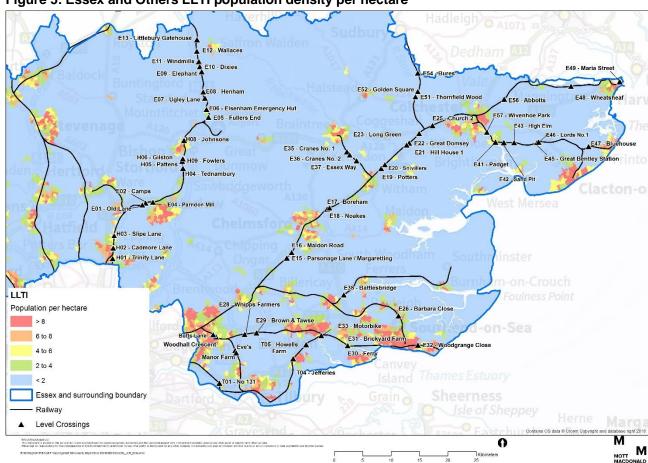
LLTI	Essex and Others	England
Number	496,300	9,352,600
Percentage	16	18

Source: ONS Census 2011 - mid-year population estimates 2015

The map below illustrates that:

- As above, there are multiple urban centres with moderate to high densities of people with an LLTI, particularly around Upminster and Southend-on-Sea.
- This indicates a split between the rural and urban with the majority of people living in urban centres.

Figure 5: Essex and Others LLTI population density per hectare



Source: ONS Census 2011 – mid-year population estimates 2015

3.4 Gender reassignment

There are multiple definitions of 'gender reassignment'. For the purposes of equality law, gender reassignment is defined as 'a process which is undertaken under medical supervision for the purpose of reassigning a person's sex by changing physiological or other characteristics of sex,

and includes any part of such a process.' This means that an individual does not need to have undergone any specific treatment or surgery to be protected by the law.²⁰

There are no official or census data for the number of gender variant people in Essex and Others or in England.

The ONS, though, has estimated that the size of the Trans community in the UK could range from 65,000 to 300,000.²¹ Additionally, statistics from the Ministry of Justice show that between 2005 and 2014, 3,662 full Gender Recognition Certificates have been issued.²²

3.5 Marriage and Civil Partnership

Marriage and civil partnership is covered by the Equality Act 2010 only on the grounds of unlawful discrimination.²³ People who are married, or in a civil partnership, must be treated the same as people who are not and, similarly, same sex civil partners must be treated the same as married heterosexual couples on a wide range of legal matters.

In 2011, 50% of people in Essex and Others counties were married, which is slightly higher than the national percentage of 47%.²⁴ While for those in same sex civil partnerships, Essex and Others and the national figure both stand at 0.2%.

Table 6: Marriage and civil partnership

Marital Status	Essex and Others ²⁵			England
	Number	Percentage	Number	Percentage
Total population	2,483,131	100	2,483,131	100
Single (never married or never registered a same-sex civil partnership)	783,447	32%	783,447	32%
Married	1,233,012	50%	1,233,012	50%
In a registered same-sex civil partnership	3,791	0.2%	3,791	0.2%
Separated (but still legally married or still legally in a same-sex civil partnership)	62,833	3%	62,833	3%
Divorced or formerly in a same-sex civil partnership which is now legally dissolved	223,873	9%	223,873	9%
Widowed or surviving partner from a same-sex civil partnership	176,175	7%	176,175	7%

Source: ONS Crown Copyright Reserved [from Census 2011]

3.6 Pregnancy and Maternity

The EHRC defines pregnancy as 'the condition of being pregnant or expecting a baby'.²⁶ Protection against maternity discrimination is for 26 weeks after giving birth.

²⁰ EHRC (2013): 'Transgender: what the law says'. See: http://www.equalityhumanrights.com/advice-and-guidance/your-rights/transgender/transgender-what-the-law-says/.

²¹ ONS (2009): 'Trans Data Position Paper'.

²² Ministry of Justice (2014): 'Tribunals and gender recognition statistics: July to September 2014' See: https://www.gov.uk/government/statistics/tribunals-and-gender-recognition-certificate-statistics-quarterly-july-to-september-2014.

²³ See: https://www.equalityhumanrights.com/en/equality-act/protected-characteristics.

²⁴ ONS (2010): 'Population estimates by marital status. See: http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-by-marital-status/mid-2010/index.html.

²⁵ Data has been reviewed for the counties of: Essex, Hertfordshire, Thurrock, Havering and Southend-on-Sea.

²⁶ See: http://www.equalityhumanrights.com/advice-and-guidance/new-equality-act-guidance/protected-characteristics-definitions/.

There is no single indicator by which to measure the overall distribution of 'pregnancy and maternity' within a given area. There are, however, a number of proxy measures that can be used.

In 2014, the total fertility rate decreased to 1.83 children per woman (from 1.85 in 2013).²⁷ In England in 2015, there were 697,852 live births, with 16,335 in Essex.²⁸

A further proxy measure for pregnancy and maternity is available by identifying the population under the age of 1. This is set out in the table below.

Table 7: Number and proportion of people under the age of 1 living in Essex and Others

Age – under 1	Essex and Others	England
Number.	38,900	663,000
Percentage	1	1

Source: ONS Census 2011 - mid-year population estimates 2015

The proportion of people living in Essex and Others who are under 1 is comparable to the national figure at 1%.

The map below illustrates that:

- There are small areas of moderate to high density of people under 1, located primarily in urban centres.
- The vast majority of the region, however, has a low density once again the rural urban split is prevalent.

²⁷ ONS (2015): 'Birth summary tables'. See: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthsummary tables

²⁸ ONS (2015): 'Birth summary tables'. See: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/datasets/birthsummary tables.

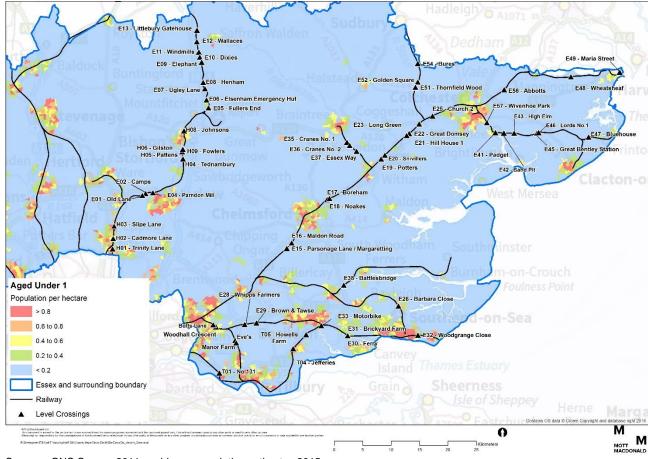


Figure 6: Essex and Others population under 1 density per hectare

Source: ONS Census 2011 – mid-year population estimates 2015

3.7 Race and ethnicity

Race and ethnicity refers to a group of people defined by their race, colour, nationality (including citizenship), ethnicity, or national origin.

As set out in the table below, the proportion of people from a BAME background living in Essex and Others is lower (6%) than the national proportion.

Table 8: Number and proportion of people from BAME backgrounds living in Essex and Others

BAME	Essex and Others	England
Number	435,000	10,733,200
Percentage	14	20

Source: ONS Census 2011 - mid-year population estimates 2015

The map below illustrates that:

- There is a rural / urban split within the region, with the majority of people from BAME backgrounds clustered in the urban centres, such as Upminster and Clacton-on-Sea.
- There are multiple hotspots within the region, where density is moderate.

The vast majority of the county, however, has insignificant densities of people from this
protected characteristic group.

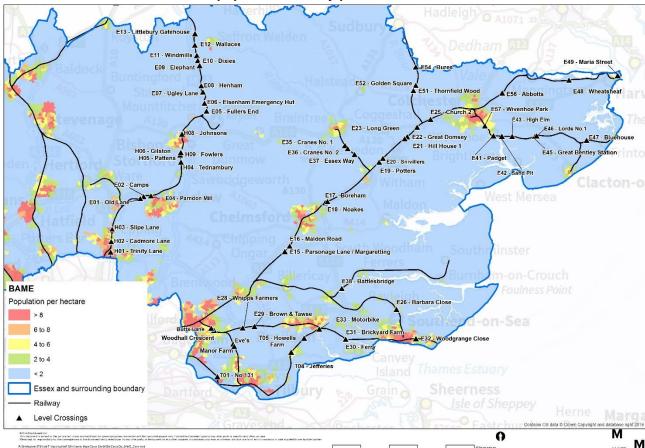


Table 9: Essex and Others BAME population density per hectare

Source: ONS Census 2011 - mid-year population estimates 2015

3.8 Religion and belief

Religion and belief refers to any religion or belief, including lack of belief.

Distinctions are frequently drawn in order to identify those professing a 'minority faith' which in the UK tends to include Buddhism, Hinduism, Islam, Judaism, and Sikhism (as well as other faiths, such as Baha'i and smaller groups such as pagans). This distinction is made because in most areas the majority of the population tend to express their religion or faith as some form or denomination of Christianity, as a professed lack of religion or faith (including atheists and humanists) or a preference not to answer.

As shown in the table below, the proportion of people from a minority faith group living in Essex and Others is lower than the national proportion (4% lower).

Table 10: Number and proportion of people from minority faith groups living in Essex and Others

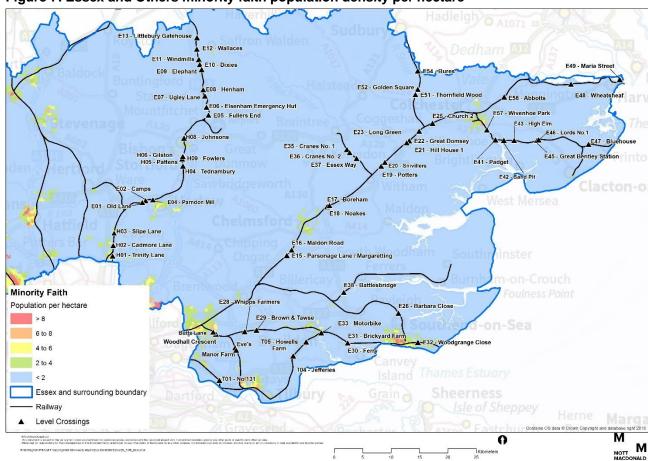
Minority faith	Essex and Others	England
Number.	157,400	4,614,200
Percentage	5	9

Source: ONS Census 2011 - mid-year population estimates 2015

The map below illustrates that:

- The region as a whole has very low proportions of people from a minority faith group.
- Whilst there are small areas with moderate densities, even these places have relatively low proportions. This areas are predominately situated in the urban centres.

Figure 7: Essex and Others minority faith population density per hectare



Source: ONS Census 2011 - mid-year population estimates 2015

3.9 Sex / gender

Sex is defined as the biological distinction between a man and a woman, while gender is the socially-determined roles of men and women, which are often accompanied by social norms such as specific dress conventions and established social and familial roles.

According to the 2015 Mid-Year Population Estimates (based on the 2011 Census), there were 31.1 million men (49% of the total population) and 32.1 million women (51% of the population)

in Great Britain. In Essex and Others, there were 1,504,340 men (49%) and 1,573,904 women (51%).²⁹ This represents similar trends to those nationally.

3.10 Sexual orientation

Sexual orientation concerns whether a person's sexual attraction is to their own sex, the opposite sex or both sexes. In general, consideration of this characteristic focuses on lesbians, gay men and bisexuals who frequently refer to themselves as the LGB community.

There are no official or census figures for the LGB community and estimates vary. In 2005 the government estimated the number of LGB people in the UK at 3.6 million or around 6% of the population. This has been accepted by the charity Stonewall as a reasonable estimate of the UK LGB community.³⁰

Local area statistics are even harder to identify. Experimental statistics published by the ONS from the results of the Integrated Household Survey (undertaken from April 2011 to March 2012) indicated that around 1.5% of adults in the UK identify themselves as LGB. This is highest amongst people aged 16-24 (2.7%), compared with 0.4% of people aged 65 and over. In the East of England (including the county of Essex and Others), the overall figure for people identifying as LGB was slightly lower at 1%.³¹

²⁹ Data has been reviewed for the counties of: Essex, Hertfordshire, Havering, Thurrock and Southend-on-Sea.

³⁰ See: https://yougov.co.uk/news/2014/07/04/average-brit-knows-31-lesbians-55-gay-men/

³¹ Office for National Statistics (2012): 'Integrated Household Survey April 2011 to March 2012: Experimental Statistics'. See: http://www.ons.gov.uk/ons/dcp171778 280451.pdf

4 Site analysis

4.1 Introduction

This chapter provides a site by site analysis of the existing level crossing and local context, accessibility, risk factors and proposed works for each of the crossings in the Strategy within Essex and Others.

Due to the frequency and speed of

There are warning signs clearly

visible on either side, plus whistle

boards to warn of oncoming trains.

There have been no incidents of

misuse or accidents on this level

crossing.

the trains, plus low sighting time, the

level crossing has a risk rating of C8.

telephone is provided for farm vehicle

crossing deck is wooden with anti-slip

boards. There are also stiles on both

users and the level crossing has

metal gates on both sides; the

sides of the crossing.

4.2 Sites

Existing configuration			Future configuration			
Site Description	Accessibility	Risk Factors	Population and Amenities	Proposed works	Diversion route accessibility	Assessment
The level crossing is a public footpath located in rural Essex. It is noted that the current route is blocked and during a nine-day census (undertaken in July 2016) no users were recorded making use of Old Lane level crossing. The approach to the level crossing consists of a poorly defined footpath on either side and the crossing does not lead to any community resources. There is a wooden stile blocking the level crossing. Due to the lack of an even footpath and dense vegetation, this route would not be accessible for users with mobility or visual impairments, nor parents with pushchairs or small children.	consists of a poorly defined footpath on either side and the crossing does not lead to any community resources. There is a wooden stile blocking the level crossing. Due to the lack of an	An estimated 322 trains travelling at speeds up to 80mph use this part of does the line daily. There are warning signs clearly visible on either side, plus whistle fan boards to warn of oncoming trains.	The small town of Roydon lies to the South, but the level crossing is completely surrounded by agricultural fields. There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s.	Existing public rights of way over the level crossing will be extinguished. Users heading north on existing footpath EX/203/45 towards Old Lane level crossing will be diverted east onto existing footpath	The diversion route takes users across an alternative uncontrolled level crossing, Wildes level crossing, limiting the safety benefits of closure. The diversion also directs users to walk on unsurfaced paths. These uneven surfaces are likely to be unsuitable for	Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the
	misuse or accidents on this level crossing.	over 65s, people with a LLTI, and people from BAME and minority faith groups).	EX/185/79 where they can cross the railway at Wildes level crossing. Users can then continue north of the railway on existing footpath EX/203/44. Footpath EX/203/45 north of the railway approaching the level crossing will be extinguished to prevent the creation of a dead end. Footpath EX/203/45 south of the railway approaching the level crossing will be extinguished to prevent the creation of a dead end.	people with limited mobility – such as some disabled and older people, and		
			Crossing infrastructure at the level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.	Following this proposed diversion route increases walking distances from 320 to 445m – an increase of 125m. This may be challenging for some users with mobility impairments.		
Camps level crossing is public footpath crossing in Harlow, Essex.	The approach to the level crossing on both sides is via a well-worn track across fields, and is the obvious route from the farmhouse in the south-east to the field in the north-west. A	An estimated 322 trains travelling at speeds up to 80mph use the area daily, however there is only infrequent pedestrian or cyclist use. Due to the frequency and speed of	The crossing provides access between agricultural fields. To the south, the crossing is accessed via a grass path which starts approximately 250m south east of the crossing in an	Existing public rights of way over the level crossing will be extinguished and private vehicular rights will be retained. Users heading south on existing	The proposed diversion route increases walking distances from 848m to 1,507m. This is an increase of 659m and may be challenging for some users with mobility impairments.	Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in

area with some residential housing

and farm buildings. To the north of

agricultural fields, which are cut off by

the River Stort, around 350m north-

west of the crossing. There are no

There is a low to moderate density of

all equality groups for which we have

data in the immediate area (under 1s,

under 16s, over 65s, people with a

LLTI, and people from BAME and

minority faith groups).

community facilities in the area.

the crossing there are only

Users heading south on existing

footpath EX/185/75 towards Camps

level crossing will be diverted west

onto existing footpath EX/185/181

footpath EX/203/44 where they can

cross the railway at Wildes level

south of the railway on existing

connect to a new 2m wide P1

existing footpath EX/185/122.

crossing. Users can then continue

footpath EX/203/44 where they will

footpath along field margins. This

new footpath will divert users east to

and then south onto existing

Users are directed over an uncontrolled

crossing, Wildes Crossing, limiting the

The works also include the creation of

new 2m wide footpaths within field

margins - this may be challenging for

some users with mobility impairments

benefits of closing the crossing.

due to the potential for uneven

Although most of the route has a

gradient under 5%, the diversion

potentially includes stretches with

society. In general, personal safety for

This appears to be the most well used

track. As several crossings in the area

were proposed to be closed, closure

level crossing along this stretch of

would result in a lengthy diversion

investigate further the potential

A DIA was undertaken to

these groups will be improved by the

closure of the crossing.

Footpath EX/185/75 approaching the level crossing north of the railway will be extinguished and footpath EX/185/75 south of the railway will be extinguished to prevent the creation of a dead end.

Crossing infrastructure associated with pedestrian use over the level crossing will be removed and type F7 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

gradients of between 5% and 9.4% (especially on the southern side of the line). This may be challenging for older people, wheelchair users, or parents with pushchairs, although the gradients appear similar to those of the existing route.

problems and mitigation measures of closing this crossing.

E04 Parndon Mill

The level crossing is a public footpath located in rural Essex, north of the town of Little Parndon.

This crossing is currently closed and there is no crossing infrastructure to facilitate users crossing the line.

The approach to the level crossing consists of a pathway through a woodland border on both sides.

Despite having no census data, the level crossing is in close proximity to Sadlers Crossing (800m away), so information can be inferred. Sadlers sees 253 trains travelling at speeds up to 80mph, with limited pedestrian use.

The crossing separates an art gallery and furniture warehouse from the town, however there is a road crossing 200m to the east.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

There is currently no infrastructure to facilitate the crossing of the railway at this location. The proposed solution is to formalise the closure of this level crossing.

There are currently two proposed options for the closure of Parndon Mill level crossing, both have which have been assessed as part of the EIA screening request.

Option A-B (if development proceeds): Users of existing footpath EX/185/73 on the south side of the railway heading east towards the level crossing will be diverted south on a new 2m wide P1 footpath on the east side of a wooded area before heading east along a new footpath created through the proposed development site on the existing sports fields south of Parndon Mill crossing. This footpath would connect users to Parndon Mill Lane where users can cross the railway via an existing overbridge. Users can then continue east on Parndon Mill lane, on the north side of the railway to connect to existing bridleway EX/185/128.

Option A-C (if development does not proceed): Option A-B (if development proceeds): Users of existing footpath EX/185/73 on the south side of the railway heading east towards the level crossing will be diverted south on a new 2m wide P1 footpath on the east side of a wooded area where users will connect to Elizabeth Way. Users will continue east along Elizabeth Way using existing footway where they will connect to Pardon Mill Lane where users can cross the railway via an existing overbridge. Users can then continue east on Parndon Mill lane, on the north side of the railway to connect to existing bridleway EX/185/128.

Both options would require the extinguishment of footpath EX/185/73 south of the railway on approach to the level crossing and footpath EX/185/73 north of the

The proposed diversion route increases walking distances from 130m to 666m – an increase of 536m. This may be challenging for some users with mobility impairments.

Safety is especially relevant as children, older people, disabled people and men are more likely involved in accidents at level crossings than other groups in

Under all options, the diversion connects users to Parndon Mill Lane where users can cross the railway via an existing overbridge. The overbridge does not have a footway on either side, meaning that users would be forced to walk in the carriageway. This may pose problems in terms of pedestrian safety.

Although most of the route has a gradient under 5%, the diversion potentially includes stretches with gradients of between 7.5 and 19%, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As there is currently no crossing infrastructure at this location and the crossing is currently closed, it is felt that closure and redirection has the potential to improve accessibility at this location.

Therefore, a DIA is not required.

level crossing to prevent the creation of a dead end.

New public wayfinding signage will be provided.

E05 Fullers End

This pedestrian only crossing connects Robin Hood Road to Tye Green Road in the southern part of Elsenham, Essex.

The crossing is accessible to people with limited mobility or wheelchair users, as it has paved entrances with enough room between the bollards to accommodate most wheelchairs and mobility scooters.

In addition to these, the crossing also uses traditional gates with a paved crossing over the track. These allow those with limited mobility or those who require the use of a wheelchair to use the crossing freely.

The overall risk rating at this crossing is C6, making it a relatively high risk crossing. This is due to the low sighting times, large number of users and frequent trains (approximately 130 per day, travelling at speeds of up to 70mph).

The mitigation against these risks include signage warning of the danger and the use of miniature stop lights that warn against approaching trains in real time. There were no incidents of misuse, no near misses and no accidents recorded between 2011 and 2015.

A nine-day census was undertaken in July 2016 and recorded 408 people using the crossing. This included 27 accompanied children and two people with a pushchair / pram. This indicates relatively high usage of the crossing.

The two roads on either side of the crossing both contain houses and businesses, as well as access to the wider area. This crossing provides a short connection to the village to those who live on the south-eastern side of the railway line and potentially employment to those who live on north western side. Those on the south eastern side will likely use the crossing access the surgery, post office, community shop and other facilities in the centre of the village. Whilst these facilities are reachable via a different route, the route via the crossing is much shorter and can reasonably be made without the use of a car.

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/13/29 heading east towards Fullers End level crossing, north of the railway will be diverted south on a new P1 footpath in field margin to connect to a new P5 footpath within field margin where lighting is currently being considered. This new footpath will allow users to head east to connect to Robin Hood Road where users can continue north along the existing highway to connect to existing footpath EX/13/28. Alternatively, users can head west along the new footpath and cross the railway via an existing underpass and continue east, south of the railway, new 2m wide P5 footpath where lighting is currently being considered.

Approximately 80m of footpath EX/13/29 linking to Robin Hood Lane, north of the railway will be extinguished. Crossing infrastructure at the level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

As part of the proposed diversion route, users will be required to walk in the field margin. Users will also be directed to Robin Hood Road, which is a narrow road without a footpath. This could potentially pose difficulties for some user groups.

The proposed diversion route also includes use of an existing underpass, which may have the potential to restrict accessibility for some users groups.

Following this route will result in a total walking distance of 671m, an increase of 194m compared to the existing route.

Although most of the route has a gradient under 5%, the diversion potentially includes stretches with gradients of between 5 and 13.4%, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

The proposal involved diverting people form an accessible level crossing to an underpass via undefined, grass tracks (field margins). Those unable to navigate across the terrain would need to use a lengthy route via the B1051.

Therefore, a DIA was undertaken for Fullers End level crossing.

E06 Elsenham Emergency Hut

The crossing is between an area of housing on Old Mead Road and several fields that are adjacent to the M11 motorway.

It is important to note that this crossing is currently closed for safety reasons.

The accessibility of this site is very limited as the extremely narrow and uneven alleyway through which the crossing is reached would exclude those with limited mobility, who use a wheelchair, or are travelling with a child in a pushchair.

The derelict concrete walls that line one side of the alleyway are leaning over, with some potential risk of collapse. This poses a particular risk to children who may be less aware of the risks.

This crossing has been given an overall risk rating of C10. There are approximately 130 trains per day using this section of the line, travelling at speeds of up to 70 mph. The high frequency of trains is a key risk factor identified for this site: other identified risks are the low sighting times and the risk of glare from the sun further reducing visibility. The use of signage and whistle boards are the safety measures included at this site. There have been no reported accidents, near misses or incidents of user misuse at this site, potentially at least partly due to the infrequency with which this crossing is used.

There is no apparent reason for using this crossing beyond accessing the fields and walking / cycling for leisure.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users wanting to use existing footpath EX/51/14 to connect to Elsenham Emergency Hut Level Crossing will be diverted onto Bedwell Road, leading to New Road using the existing highway. Users will the use the existing highway to head east towards the existing footbridge to cross the railway. Users will continue north east on the east side of the railway on a new P1 footpath in field margin to connect to existing footpath EX/25/15.

Alternatively, users of existing footpath EX/51/16 heading east on the west side of the railway to Elsenham Emergency Hut level crossing, will be diverted north onto existing footpath EX/51/14 which will connect to a new P1 footpath outside of Network Rail land heading north between the railway and the M11 to connect to existing

The proposed diversion route decrease walking distances from 960m to 931m, meaning that the route is 29m shorter. As such, no adverse impacts are likely to arise from this diversion.

The diversion route does though include use of a stepped footbridge, which may result in accessibility limitations for those who may struggle with this type of infrastructure – such as wheelchair users.

Parts of the diversion route also requires users to walk on uneven terrain along footpath EX/51/14. New Road, however, does have a narrow footpath on one side of the road.

The entire proposed diversion route has a gradient of under 5%. This is less steep than the current route and should not pose any problems in terms of accessibility.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As this crossing is currently closed due to safety reasons, it is not felt that the proposed diversion route will reduce pedestrian accessibility.

Therefore, no DIA is required.

footpath EX/51/24. There is currently no infrastructure to facilitate the crossing of the railway at this location.

Existing footpath EX/25/7 which is on both the west and east side of the railway will be extinguished. Crossing infrastructure at the level crossing will be removed and type F4 fencing will be installed on the east side of the railway to prevent trespass. On the west side of the railway, type F7 fencing will be installed to prevent trespass. New public wayfinding signage will be provided.

E07 Ugley Lane

Ugley Lane is a private user worked crossing located in Henham, Essex. The crossing does not have any public rights of way and is currently out of use.

The west approach to the crossing is via a wide paved path which is uneven in some places. The east approach to the crossing is via a steep grass hill which is partially overgrown. Due to the steep gradient of the overgrown approach, any users with mobility difficulties are likely to find access to the crossing challenging. There are crossing gates on both sides; these are likely to present challenges to people with mobility difficulties.

Ugley Lane crossing is infrequently used by both pedestrians and vehicles. Approximately 135 trains cross this part of the network each day, travelling at speeds of 70mph. No incidents have been recorded at the crossing. Risk factors for the crossing are sun glare and frequent trains. Safety protection consists of gates, signage and telephones provided for vehicle users. The crossing has a risk rating of C8.

The crossing provides access between an electrical switchgear site to the east and North Hall Road to the west. Although, it is noted that the level crossing does not provide access to any community facilities

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing rights of way over the level crossing will be extinguished.

Users of Ugley Lane level crossing will be diverted east on North Hall Road via the existing underbridge 50m south east of the level crossing. Access to the substation on the east side of the railway will remain.

Some crossing infrastructure at the level crossing will be removed however vehicular access gates will be retained for Network Rail use only. Type 4 fencing will be installed on the west side of the railway to prevent trespass.

The proposed diversion increase walking distances from 252m to 254m. This is an increase of 2m and so it is not anticipated that adverse impacts will arise.

The diversion does though include use of an underbridge. There is no footpath under the bridge and North Hall Road is very narrow with sharp bends - this may limit the safety benefits of closing the crossing. There is also no footpath on North Hall Road.

Furthermore, although most of the route has a gradient under 5%, the diversion potentially includes stretches with gradients of between 5 and 7.7%, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is private (without any public rights of way) and is currently out of use, it is felt that *a DIA* is not required.

E08 Henham

This crossing links an area of farmland with some light industrial buildings that are most likely farm related.

The accessibility of this crossing is limited by the use of stiles, steps and narrow pathways, which reduces the ability of those with limited mobility or wheelchair users to access the crossing.

There are also several old and dilapidated pieces of metal and concrete that appear to have once been part of a walkway or bridge that are abandoned next to one of the approaches to the crossing. The grass approaches to the crossing may also worsen the accessibility of the site for those with limited mobility.

The overall risk rating for this site is C8 with the low sighting time, high frequency of trains and glare from the sun highlighted as key risk drivers. The protections against these risks are the use of signage and whistle boards on the line. This section of the line sees approximately 135 trains per day pass by, operating at speeds of up to 70mph. There have been no reported accidents, near misses or incidents of user misuse at this site.

A nine-day census undertaken in July 2016, recorded four people using the crossing – three adults and one older person. This indicates very limited use of the crossing.

No community facilities in the area are served by this crossing and the infrequency with which pedestrians use this crossing suggests this crossing does not provide any major purpose to the area. Therefore it is unlikely that negative effects will occur due to the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of existing bridleway

EX/51/21 heading east towards the railway will be diverted south via a new P1 footpath along field boundary adjacent to North Hall Road to the existing underbridge where users can cross the railway. Users can then continue north on the east side of the railway to existing footpath EX/55/26 to via a new P1 footpath along field boundary. Existing footpath EX/55/26 west of the level crossing will be extinguished and the existing footbridge on this footpath will be removed.

The new footpath on the west side of the railway will require a timber footbridge >5m (type Type E-B1) to cross a drainage ditch where the footpath connects onto New Hall Road. Crossing infrastructure at the level crossing will be removed and type F4 fencing will be installed on

The proposed diversion results in a change in walking distances from 223m to 625m. This is an increase of 402m. This may be difficult for some users with mobility issues, wheelchair users or those with pushchairs.

The new route includes the creation of new 2m wide footpaths in the field boundary. This may limit some users with impaired mobility from using the footpath, due to its uneven surface.

The diversion also includes use of an existing underbridge, which does not have a footpath and has an uneven terrain. This may restrict accessibility for some users with protected characteristics. A timber footbridge will also be created – potentially negatively impacting some user groups.

Although most of the route has a gradient under 5%, the diversion potentially includes three stretches with gradients of between 5 and 9.8%, these are unlikely to cause significant impacts as the route is less steep than the existing route and these stretches

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing

As the current route is inaccessible (notably due to the presence of stiles and steps, as well as grassy approaches to the crossing) and usage of the crossing is very low, the proposed works will not negatively alter pedestrian accessibility. It is also noted that gradients along the diversion route are less steep than the existing route.

Therefore, a DIA is not required.

the east side of the railway and type F7 fencing on the west side of the railway to prevent trespass.

largely appear to be errors in the available data.

E09 Elephant

The crossing is located in Newport in Essex.

It is important to note that this crossing is currently closed for safety reasons.

The narrow wooden bridges would reduce the ability of those with limited mobility or who use a wheelchair to access the site, as would the overgrown, wooded pathways.

The paths on both sides of the railway are unmade, with the one of the east being passing but with overgrown vegetation.

There is also some potential risk to young children as the crossing has sizeable holes in the fence, allowing people or animals to get through the fence onto the open track, and this could pose a serious safety risk.

The overall risk rating of this site is C6. The key risks that have been identified are the high frequency of the trains using the line, the low sighting time and the risk of glare from the sun further reducing the chance of spotting risks early. The signage warning users of the risk they face and the presence of whistle boards tackles this risk to some extent.

There are approximately 130 trains using this line per day, travelling at speeds of up to 70mph. Despite the risk, there have been no reported accidents, near misses or incidents of user misuse at this crossing.

The crossing connects an area of housing with an area of light woodland next to farmland. There are no community facilities that are accessed via this crossing. There is an alternative level crossing approximately 150m south of this site which is a road bridge therefore closure of Elephant level crossing is unlikely to result in any disproportionate equality impacts.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX-41-14 will be extinguished west of the railway and for a length of approximately 50m east of the railway. Users will be diverted along existing footway on High Street to Debden Road. Users would then use the existing carriageway up to railway bridge. Traffic signals are proposed on approach and departure of the bridge and the station access road which runs parallel to the railway. A new 1m wide P1 raised footway would be proposed over the bridge which would connect to a new footpath east of the railway. The new footpath would run in a northerly direction in field margins and connect to footpath EX-41-14 approximately east of the level crossing. This new footpath will be unsurfaced (P1).

Crossing infrastructure at Elephant level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

The proposed diversion route increases walking distance from 157m to 475m. This is an increase of 318m and may be difficult for users of impaired mobility.

Although High Street has footways on either side of the road, the bridge at Debden Road does not have footpaths. This may force users into the carriageway. However, there are plans for route improvement measures that may help mitigate some of the negative impacts.

The creation of a new unsurfaced footpaths along the route may also restrict accessibility for some groups who require even terrain.

Although most of the route has a gradient under 5%, the diversion potentially includes some stretches with gradients of over 5%³², this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

The existing crossing is currently closed and there are plans for route improvement measures to mitigate any negative impacts of the proposed diversion route. In addition, the route will give access to a circular walking route and will not significantly increase walking distances

Therefore, a DIA is not required.

E10 Dixies

³² The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

Existing configuration

This crossing links an area of housing and some businesses with several playing fields, a school and other residential properties.

The accessibility of this crossing is limited by narrow, unlit pathways. Users also have to manage stepping onto the elevated level crossing furniture. This may deter many users with limited mobility of those who use wheelchairs or mobility scooters as access would be very difficult.

This site has an overall safety rating of C6. There are approximately 130 trains passing through this section of track every day, travelling at speeds of up to 70mph.

The high frequency of trains on this line is a key risk factor. The low sighting time and the potential for glare form the sun are also identified as risks at this site. Signage and whistle boards are present at the site to mitigate these risks and no accidents, near misses or incidents of user misuse have been recorded at this site.

A nine-day census undertaken in July 2016, recorded 34 people using the crossing over the survey period.

Dixies level crossing is not the sole access point for these areas but the crossing does serve the purpose of being an easier, shorter route to access the school playing fields for those who live on the eastern side of the line, and to access the businesses on the east side for those who live on the west. This route may

It should be noted that the school does not encourage use of the level crossing for access to its site.

also be used by some to access the

Joyce Frankland Academy.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

Existing public rights of way over the level crossing will be extinguished. Footpath EX-41-7 will be extinguished for a length of approximately 135m west of the railway and for a length of approximately 80m east of the railway. Users would be diverted along the existing Footpath EX-41-4 to Bury Water Lane, then travel along the footway of Bury Water Lane to join Footpath EX-41-22. At Gaces Acre, users would use the existing footway and travel in a easterly direction to Belmont Hill. Users can continue to walk along the footway on Belmont Hill to cross beneath the railway, or alternatively, cross Belmont Hill and walk along the carriageway on Water Lane and the footway on Bridge End and rejoin the B1383.

Crossing infrastructure at Dixies level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass.

The proposed diversion route results in a total walking distance of 1,337m - an increase of 1,109m. This is likely to pose significant problems for people who struggle to walk long distances.

The new diversion includes going under an underbridge on Cambridge Road or an alternative underpass on Bridge End Road. Although there are wide surfaced footpaths under the Cambridge Road underpass, the underpass on bridge End Road has no footpath. This may restrict pedestrian accessibility for users on this route.

Although most of the route has a gradient under 5%, the diversion potentially includes some sections with gradients of over 5%³³, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As this level crossing links a residential area with playing fields and a school it was likely that children are frequent users of the level crossing.

Dixies level crossing was subject to a more detailed DIA.

E11 Windmills

Windmills level crossing is a public footpath crossing in Newport, Essex.

The crossing is located south of the village of Wendens Ambo and provides access between agricultural fields to the east and west. It is accessed via a path from Rookery Lane around 100m north of the crossing.

The approach to the level crossing is through grass fields on both sides, and the surface is unlikely to be suitable for wheelchair use. The immediate approach to the crossing is blocked off by a fence and users have to step over a stile to reach the crossing. For this reason the crossing is unlikely to be suitable for use by people with mobility difficulties.

Windmills level crossing is infrequently used by pedestrians. Approximately 130 trains cross this part of the network each day travelling at speeds of 70mph. No incidents have been recorded at this crossing. The risk factors for this crossing are sun glare, frequent trains and low sighting time. Safety protection at this crossing consists of signage and whistle boards. The crossing has a risk rating of C8.

A nine-day census undertaken in July 2016, recorded 17 users of the crossing. This consisted of 14 adult users and three accompanied children.

The crossing does not provide access to any community facilities. It is therefore unlikely that community severance impacts will arise as a result a permanent closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX-41-8 will be extinguished. Users would be diverted along the existing Footpath EX-41-8 to Rookery Lane, travel on Rookery Lane in a easterly direction and join Footpath EX-52-12. Users would then walk along Footpath EX-52-12 and EX-52-19, re-join Rookery Lane and cross the railway at Trees (CCTV) level crossing. Users who want to re-join Footpath EX-41-8 to the east of the railway would use a new footpath within NR land and then a new footpath within the field boundary. This new

Crossing infrastructure at Windmills level crossing will be removed and type F7 fencing on the west side of the railway and type F4 fencing on the east side of the railway to prevent trespass. New public wayfinding signage will be provided.

footpath will be unsurfaced (P1).

The diversion route results in a total walking distance of 956m, which is an increase of 759m. This may be difficult for users with impaired mobility.

As part of the proposed diversion route, users would be directed to Rookery Road which is very narrow and does not have footpaths. This may limit accessibility for some user groups.

In addition, users would be directed to Tress level crossing which is a barrier controlled crossing and somewhat limits the safety benefits of closing Windmills level crossing.

The new diversion also includes creation of a 2m wide footpath in the field margins. The unsurfaced nature of this route is likely to make it unsuitable for users of impaired mobility, wheelchair users or those with a pushchair.

Although most of the route has a gradient under 5%, the diversion potentially includes some sections with gradients of over 5%³⁴, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the diversion route may cause negative impacts for some user groups in terms of safety and accessibility, due to use of an alternative level crossing (albeit one with enhanced safety features) and significantly increased walking distances, as the current route is made inaccessible by the presence of stiles and is remote (evidenced by the grassy field approaches on both sides of the crossing), overall it was not felt that accessibility will be reduced. There is also a small number of users of the crossing.

Therefore, it is felt that a DIA is not required.

E12 Wallaces

³³ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

³⁴ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

Existing configuration

Wallaces level crossing is a private footpath crossing in Wendens Ambo, Essex.

The crossing private and not fully accessible to the public.

The entrance to the crossing is via a manually operated wooden gate which is concealed from view due to overgrown vegetation. The immediate approach to the crossing is in an overgrown wooded area, this is unlikely to be accessible to wheelchair users or people with pushchairs and would prove challenging for any users with a mobility difficulty.

Wallaces level crossing is currently infrequently used by pedestrians. Approximately 130 trains cross this part of the network each day travelling at speeds of 70mph. No incidents have been recorded at the crossing. The risk factors for this crossing are user misuses and frequent trains. Safety protection at this level crossing consists of signage only. The crossing has a risk rating of C10.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

Existing private rights over the level crossing will be extinguished. Private users would use private tracks and cross the railway via either Chestnut Avenue north of the level crossing or the private overbridge south of the level crossing. Users on Chestnut Avenue would be able to walk along the verge under the railway and on the carriageway to the east of the railway.

Crossing infrastructure at Wallaces level crossing will be removed and type F7 fencing on both sides of the railway to prevent trespass.

The diversion route results in an increase in walking distances from 175m to 1,686m. This is a significant increase of 1,511m and may pose challenges for users who struggle to walk long distances.

There are two proposed options to cross the railway line. To the north of the crossing, users are directed to an underbridge on Chestnut Avenue. This does not have a footpath, meaning that users would be forced to walk in the carriageway. This is also the case with the carriageway to the east of the railway.

To the south, users would be directed to a private overbridge, which could potentially restrict access for some users.

Although most of the route has a gradient under 5%, the diversion potentially includes some sections with gradients of over 5% 35, this is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route requires users to walk considerably further and walk on verges / unsurfaced paths, it is not felt that this route reduces accessibility compared to the current route. The immediate approach to the current crossing is via an overgrown wooded area.

Furthermore, Wallaces level crossing is also a private user crossing and usage by pedestrians is low.

Therefore, a DIA is not required.

E13 Littlebury Gate House

The level crossing is a public footpath located in rural Essex.

The approach to the level crossing from the East is via a small tarmac road behind a housing estate. To the West, there is a narrow path surrounded on both sides by high overgrown vegetation.

An estimated 152 trains at speeds up to 75mph use the area daily, however. Due to the speed and frequency of the trains, the level crossing has a risk rating of C5. There are clearly visible warning signs on either side of the level crossing, and there have been no incidents of user misuse or accidents.

A nine-day census undertaken in July 2016, recorded 135 people using the crossing, including seven accompanied and 14 unaccompanied children. The remaining users were all adult pedestrians.

The small village of Littlebury lies immediately to the east of the crossing, with agricultural fields to the west. There are a few local amenities within the village, however with nothing to the west of the crossing it is unlikely that community severance impacts will occur as a result of the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. To the west of and parallel to the railway a new footpath will be provided to divert users south of the level crossing over the existing railway tunnel on Littlebury Green Road, Proposed type F4 fencing is required adjacent to the new footpath, to prevent trespass on to Network Rail land. Users would then walk within the carriageway or verge along Littlebury Green Road. To the east of the railway, users would walk inside the field boundary south of Littlebury Green Road along a new footpath. This new footpath will be unsurfaced (P1). New type F7 fencing south of Littlebury Green Road is proposed to prevent trespass onto the railway. Byway EX-31-3 would be downgraded to a footpath. A wooden gate (G7) with

Crossing infrastructure at Littlebury Gate House will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

type F5 fencing would be provided where the existing By Way Open to All Traffic (BOAT) EX-31-3 meets

Strethall Road.

The diversion route results in an increase in walking distances from 303m to 628m (325m further). This may limit some users with impaired mobility.

The diversion also requires users to walk in the road on Littlebury Green Road, in field margins and on grass verges, which may pose accessibility problems for people who struggle with uneven surfaces – such as older people, people with pushchairs or wheelchair users.

Although most of the route has a gradient under 5%, the diversion potentially includes some sections with gradients of over 5%³⁶, particularly along Littlebury Green Road. This is steeper than the current route and may be challenging for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing does not appear to pose any serious accessibility problems, there is high usage of the crossing and the proposed diversion route requires users to walk in the carriageway, in field margins and on grassy verges, it is felt that a DIA should be undertaken to investigate and mitigate any potential negative impacts of the closure of Littlebury Gate House level crossing.

³⁵ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

³⁶ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

E15 Parsonage lane / Margretting

This crossing is a vehicle and pedestrian crossing that serves an area south of Margaretting, Essex.

The accessibility of the crossing itself is good, with fully paved surfaces that are level and therefore accommodate wheelchair users. There are gates on either side of the crossing.

The risk rating for this site is divided into two, one for the pedestrian crossing and one for the vehicle crossing. The pedestrian crossing is rated C4 for overall risk while the vehicle crossing is rated B2. This difference is likely to be due to the different types of incident that have occurred at this crossing, all involving the vehicle crossing.

The key risk drivers identified at this site are the high frequency of trains, the large numbers of users, sun glare, user misuse and low sighting time. The safety features at this crossing are miniature traffic light style warning beacons to alert users to oncoming trains, gates and signage to reduce the risks as much as possible. There are an estimated 294 trains using this line each day, travelling at speeds of up to 90mph down the track.

A nine-day census undertaken in July 2016 recorded 70 pedestrians using the crossing, this included two accompanied children and one unaccompanied child. The rest of the users were adult pedestrians. The crossing was also used by 20 vehicles.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

There are no community facilities or homes on the southern side of the crossing. It is likely though that a significant amount of the use of this crossing is from people staying at or visiting the Parsonage farm cottage guest house on Parsonage lane (located very close to the crossing).

Existing public rights of way over the level crossing will be extinguished. Private vehicular rights would be retained over the level crossing. Pedestrians would use existing Footpath EX-226-32 to cross the railway via the existing underpass to the north east of the level crossing.

Crossing infrastructure at Parsonage Lane / Margaretting will be removed and type F7 fencing will be installed on both sides of the railway to prevent trespass. The proposed diversion route increases walking distances from 154m to 274m - a difference of 120m.

The diversion route also directs users to an underpass to the north east of the crossing. This does not have a footpath and the terrain appears to be uneven. This may limit access for people who require even surfaces.

The proposed route also uses existing footpaths, which appear to have a great number of potholes and an uneven surface. There are also plans for a vehicular gate with lock to be installed along the route.

The entire proposed diversion route has a gradient of under 5%.³⁷ This is less steep than the current route and should not pose any problems in terms of accessibility.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

The existing route appears to be fully accessible, and the proposed diversion route may restrict pedestrian accessibility due to the presence of an underpass and unsurfaced footpaths. This is particularly important given the usage of the crossing by children.

Therefore, a DIA is required.

E16 Maldon Road

Maldon Road level crossing is a public footpath crossing in rural Essex.

The accessibility of this crossing is poor, with uneven access routes along areas of farmland to reach the crossing itself. These are likely to have the effect of excluding wheelchair users and others with limited mobility who would not be able to access the crossing safely. The crossing is also heavily overgrown.

This crossing has an overall safety rating of M13, demonstrating a very low overall risk. The low sighting time and the high frequency of trains have been identified as key risk drivers at this site. The safety features at this crossing are the signage that warns users of the risks and whistle boards to mitigate the low sighting time. Each day, there are approximately 329 trains using this line at speeds of up to 90mph. This crossing is used very infrequently by pedestrians. There have been no reported accidents, near misses or incidents of user misuse at this site.

It is on the periphery of the small town of Margaretting, and connects two agricultural fields. There are several houses in the immediate environment of this crossing but the usefulness of this crossing is limited to recreational walkers. This crossing is infrequently used as it does not provide access to any local facilities.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX-226-21, will be extinguished either side of the level crossing. To cross the railway users would walk northbound along Footpath EX-226-22 towards Maldon Road. Approximately 45m south of Maldon Road a new P2 bridleway, would be proposed alongside Maldon Road in the field boundary. This new bridleway will be unsurfaced. Users can then use the existing footway and underpass to cross beneath the railway.

Crossing infrastructure at Maldon Road level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided. The diversion route has increased from 542m to 1,087m (an increase of 546m). This may be difficult for some users who struggle to walk long distances.

The diversion includes a new 3m wide bridleway within the field margins. The uneven surfaces of this route may to be unsuitable for people with limited mobility – such as some disabled and older people, and parents with pushchairs.

Users are also directed towards Maldon Road, which does not have a footpath on either side of the road. Maldon Road underbridge has a narrow footpath on one side of the road, which may force some users (such as those in wheelchairs or with pushchairs / prams) into the carriageway.

The majority of the diversion route has a gradient of under 5%, there are four stretches which are between 5 and 33% but on closer inspection these appear to be errors in the available data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route will increase walking distances, the route is more accessible than the current level crossing. The gradients of the proposed diversion route are also in line with recommended guidelines. The construction of the 3m wide bridleway along the diversion route, further mitigates against user risks of walking on the road. The crossing is also in a rural location with very low usage.

Therefore, a DIA is not required.

³⁷ The diversion includes a stretches with a gradient of 8.9%, however after assessing the data against the terrain this is likely to be due to an error in the available data.

E17 Boreham

This crossing is a pedestrian level crossing that connects an area of farmland with a small area of land between the railway line and the A12 in Boreham, Essex.

The accessibility of this site is limited by the unpaved, uneven and sloping pathways through which the crossing is accessed. This terrain can have a significant impact on the ability of certain users to access the site - especially wheelchair users and people with limited mobility or visual impairments.

The overall risk rating of this crossing is B9, suggesting some risks for users. The risk drivers identified at this site are the low sighting time and the high frequency of trains using this section of the line.

There are approximately 329 trains using this line each day, travelling at speeds of up to 100mph. There have been no reported accidents, near misses or incidents of user misuse at this site, a key reason for this could be the infrequency with which this crossing is used. Safety features at this site include signage and whistle boards.

This crossing is infrequently used by pedestrians as it does not provide access to any amenities. This crossing appears to only provide access to a narrow channel of land between the A12 and the railway line, this would effectively stop recreational users as it would not safe or possible to cross the A12 to continue a route.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. No diversions are proposed as part of the closure of this crossing, due to the A12 severing the routes considered for the diversions. Instead a circular way is proposed with a new bridleway, approximately 550m in length, formed between existing bridleway EX/213/23 and existing footpath EX/213/24. This new bridleway will be unsurfaced (P2).

Bridleway EX/213/23 leading to the north side of the level crossing will be partly extinguished. A concrete culvert is required to allow the creation of the bridleway so that users can cross safely over a ditch.

Crossing infrastructure at Boreham level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

It is noted that no diversion of the existing route is being proposed, instead a new circular walking route will be created.

The new circular walking route increases walking distances from 52m to 802m. This is a total increase of 750m and may be difficult for some

users with impaired mobility or

wheelchair users to manage.

The new route also includes a new 3m wide bridleway. Users are directed to walk on unsurfaced paths in the field margins. The uneven surfaces are likely to be unsuitable for people with limited mobility – such as some disabled and older people, and parents with pushchairs. The creation of a concrete culvert over a ditch may also

Although the majority of the proposed route has a gradient of under 5%, there is the potential for some stretches with a gradient over 5%. ³⁸ This is steeper than the current route and may pose challenges for older people, wheelchair users, or people with pushchairs.

restrict accessibility for some groups.

However, it must be noted that the use of the route, by people with limited mobility, wheelchair users or those with pushchairs, is likely to be minimal due to the recreational nature of the route.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing

Although the proposed diversion route significantly increases walking distances and requires users to walk on unsurfaced paths, as the current crossing has limited accessibility (due to unpaved, uneven and sloping pathways on the approaches to the crossing), it is felt that accessibility is unlikely to reduce as a result of the proposed diversion route. The route is also likely to only be used by people for recreational / leisure purposes, due to the absence of any local amenities in close proximity to the crossing.

Therefore, no DIA is required.

E18 Noakes

The level crossing is a public footpath located in Essex, close to the town of Boreham.

From the north, the approach to the level crossing is via a gravel road through fields, which is relatively flat. To the south, there is a narrow path through woodland running parallel to both the railway and the dual carriaceway.

It is noted that the crossing has been out of use for many years and the onward footpath has been severed by the A12 with no crossing provision. There is also no crossing infrastructure to facilitate crossing at this location.

Despite having no census data, the level crossing is close to Boreham crossing (less than 300m away along a straight track). It sees around 329 trains travelling at speeds up to 100mph daily, plus infrequent pedestrian use. Due to the low sighting time and frequency of trains, it has a risk rating of B9. It can be said that Noakes level crossing would see the same frequency and speed of trains, therefore have a similar risk rating.

The crossing is surrounded by agricultural fields to the north, and is separated from Boreham due to the A12 dual carriageway. Despite being close to residential houses and amenities, there is no way for pedestrians to cross the dual carriageway to access the level crossing. Therefore it is unlikely that community severance impacts will occur as a result of the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. No diversions are proposed as part of the closure of this crossing, due to the A12 severing the routes considered for the diversions. Instead a circular way is proposed with a new bridleway, approximately 550m in length, formed between existing bridleway EX/213/23 and existing footpath EX/213/24. This new bridleway will be unsurfaced (P2).

Footpath EX/213/24 leading to the north side to the level crossing will be partly extinguished. A concrete culvert is required along the new footpath to allow users to cross a drainage ditch.

Crossing infrastructure at Noakes level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

It is noted that no diversion of the existing route is being proposed, instead a new circular walking route will be created.

The circular walking route results in an increase in walking distances from 209m to 802m - an increase of 593m.

The new circular walking route includes a 3m wide bridleway. Users are also directed to walk on new and existing unsurfaced paths in the field margins. The uneven surfaces are likely to be unsuitable for people with limited mobility – such as some disabled and older people, and parents with pushchairs.

The creation of a concrete culvert over a ditch may restrict accessibility for some group.

Although the majority of the route has a gradient of under 5%, there is the potential for some stretches with a gradient over 5%. ³⁹ This is steeper than the current route and may pose challenges for older people, wheelchair users, or people with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is closed and there is no crossing infrastructure to facilitate crossing at this location, there is the potential for improved accessibility as a result of the proposed works.

The route is also likely to only be used by people for recreational / leisure purposes, due to the absence of amenities in the local area.

Therefore, it is felt that a DIA is not required.

³⁸ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

³⁹ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

However, it must be noted that the use of the route, by people with limited mobility, wheelchair users or those with pushchairs, is likely to be minimal due to the recreational nature of the route.

E19 Potters

Potters level crossing is located on the outskirts of Rivenhall, Essex. Users wishing to access this crossing must enter through a narrow gate and walk up a step set of steps, which eventually leads to a tarmacked pathway. This is likely to pose access issues for certain groups such as those with impairments and wheelchair users.

In addition the approach to the crossing itself may limit the same user groups as they have to negotiate a heavy set of wooden pedestrian gates.

Potters level crossing in used by approximately 8 pedestrians daily. In contrast, it is used by approximately 293 trains per day, travelling at speeds of up to 100 mph. Safety features of the crossing include gates and signage. Risks factors consist of the high frequency of trains and sun glare. It has obtained a risk rating of C4 and one incident of misuse has been recorded in the twelve months before March 2014 (with none recorded since). No other incidents have been recorded at the site.

A nine-day census undertaken in July 2016, recorded 78 users of the crossing. This included 66 adults and 12 unaccompanied children.

It provides pedestrian access between agricultural lands on either side of the crossing. There are no community facilities located within the immediate vicinity; however a residential estate is within close proximity. It is unlikely that closure of the crossing will result in community severance issues.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

On the north side of the railway users heading south on existing footpath EX/105/43 will be diverted west via a new P1 footpath, within fields outside of Network Rail land to connect to footpath EX/105/48. Users will continue south along footpath EX/105/48 towards the railway and onto on Oak Road. Users can the use the existing underbridge to cross the railway and connect onto existing Footpath EX/105/47. Footpath EX/105/43 approaching the level crossing on the north side of the railway will be extinguished.

Crossing infrastructure at Potters level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

The proposed diversion route increase walking distances from 354m to 1169m – an increase of 815m. This may be difficult for users who struggle to walk long distances.

The diversion also requires users to walk on a new 2m wide footpath in the field margin. This will be unsurfaced and therefore difficult for users of impaired mobility. Some users may also face difficulties with the use of the underbridge, as it only has a narrow footpath on one side of the road.

The majority of the diversion route has a gradient of under 5%, there are four stretches which are above 5% but on closer inspection these appear to be errors in the available data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route requires users to walk significantly further and walk on unsurfaced footpaths within field margins, as the current route requires users to negotiate a set of steps, it is not felt that accessibility will be reduced as a result of closure and redirection of Potters level crossing. The gradient of the diversion route also meets recommended guidelines and should not impact any users.

In addition, due to the use of the crossing by unaccompanied children, it is felt that there will be positive safety benefits of closing the crossing.

Therefore, a DIA is not required.

E20 Snivillers

This crossing is a pedestrian level crossing that connects two areas of farmland in rural Essex.

The accessibility of this site is limited by the poor accessibility of the access routes which are unpaved and uneven. This will likely cause wheelchair users and many people with limited mobility to be unable to access the crossing.

In addition to this, the crossing is not flat so requires users to climb up to the line in order to cross it. There is also no distinct pathway on the north side of the crossing, meaning users have to walk through fields to reach where they are going.

The overall risk rating of this site is C6 with the high frequency of trains identified as the key risk driver at this site. The signage that warns users of the risks they face is the key safety feature identified. There are approximately 293 trains that use this section of the line each day, travelling at speeds of up to 100mph. Approximately three people use this crossing each day and there have been no reported accidents, near misses or incidents of user misuse at this site.

A nine-day census undertaken in July 2016, recorded eight adults using the crossing over the survey period.

There are no community facilities, homes or businesses that can be reached only via this crossing. There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of bridleway EX/92/34 approaching Snivillers level crossing on the north side of the railway will be diverted north east onto a new bridleway, which connects to Cranes Lane. This new 3m wide P2 bridleway will be within field margin running parallel to the railway. Users can then use the existing verge footway on Cranes Lane to cross the railway via the existing overbridge.

Crossing infrastructure at Snivillers level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided. The construction and operation of the works, being limited in size and nature, are not expected to have an impact on the setting of the listed buildings, which in any event are a minimum of 450m from the proposed works.

The propose diversion route increases walking distances from 46m to 1032m – an increase of 986m. This may be difficult for some users who struggle to walk long distances.

The diversion route includes an overbridge on Cranes Lane. There is no footpath on this overbridge so users will have to walk in the road / verge, potentially restricting pedestrian accessibility for some user groups.

The creation of a new 3m wide bridleway in the field margin may also potentially cause difficulties for users who require a level surface – such as wheelchair users.

The majority of the diversion route has a gradient of under 5%, there are four stretches which are above 5% but on closer inspection these appear to be errors in the available data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the new route significantly increases walking distances and requires users to walk in the carriageway, current accessibility problems such as unpaved and uneven routes, as well as the crossing itself which requires users to climb up to the line mean that accessibility is currently restricted. In addition, on the northern side of the line there is no distinct pathway, meaning that users are required to walk through fields. The crossing also has very low usage and is very remote.

Therefore, a DIA is not required

E21 Hill House 1

Hill House 1 level crossing is a public footpath crossing in Feering, Essex.

The approach to the crossing is via an unmarked grass path; accessing the crossing itself involves stepping over a stile. The crossing is therefore considered to be unsuitable for wheelchair or pushchair users and may present some challenges to any users with mobility difficulties.

Hill House 1 level crossing is infrequently used by pedestrians. Approximately 293 trains cross this part of the network each day travelling at speeds of 100mph. No incidents have been recorded at this crossing. The risk factors for this crossing are sun glare and frequent trains. Safety protection consists of signage only. As such, the crossing has a risk rating of C10.

The crossing provides access between agricultural fields to the north and industrial warehouses to the south. The crossing does not provide access to any community facilities - on the northern side of the railway line there are only agricultural fields, and to the south of the line pedestrian access is shortly cut off by the A12 approximately 260m south of the crossing.

Given the lack of amenities on either side of the crossing, it is unlikely that community severance impacts will arise as a result of the closure of this crossing. There is also a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/78/7 heading south towards Hill House 1 level crossing will be diverted west via a new P1 footpath in field margin, parallel to the railway, to connect to existing BOAT EX/78/5. Users can then continue north along BOAT EX/78/5 to Littletey Road or cross the railway at Hill House 2 footpath level crossing.

South of Hill House 1 level crossing, footpath EX/78/7 will be extinguished to prevent the creation of a dead end.

Crossing infrastructure at the level crossing will be removed and type F7 fencing will be installed on both sides of the railway to prevent trespass. New wayfinding signage will be provided.

The proposed diversion route increases walking distances from 146m to 369m, an increase of 223m. This may be difficult for some users to manage.

The proposed diversion also includes the creation of a new 2m wide footpath in the field margin. This will be unsurfaced and therefore difficult for users with impaired mobility.

There are two options for users to cross the line. Users can continue north to Litteltey Road, which does not have a footpath on either side of the road. Or cross the line at Hill House 2 level crossing, which is an uncontrolled footpath crossing, which will mean that the safety benefits of closing the crossing are limited.

Most of the proposed diversion route has a gradient that is under 5%. There is the potential for short stretches where the gradient is between 5 and 9%, which may pose some challenges for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible due to the presence of a stile and an unmarked grass path leading up to the crossing, it is not felt that the proposed diversion route will reduce pedestrian accessibility. The crossing is also remote with infrequent pedestrian use.

Therefore, a DIA is not considered to be required.

E22 Great Domsey

Great Domsey level crossing is a public footpath crossing in Feering, Essex.

Accessing the crossing involves walking down steps on one side; the other side of the crossing is uneven and gravelled. The crossing is therefore unsuitable for wheelchair or pushchair users and may present some challenges to any users with mobility difficulties.

Hill House 1 level crossing is infrequently used by pedestrians. Approximately 293 trains cross this part of the network each day travelling at speeds of 100mph. No incidents have been recorded at this crossing. The risk factors for this crossing are sun glare and frequent trains. Safety protection consists of signage only. As such, the crossing has a risk rating of C10.

A pedestrian user census undertaken in July 2016 did not record any users of the crossing over the nine-day period.

The crossing provides access between agricultural fields to the north and south. However, the crossing does not provide access to any community facilities. It is therefore unlikely that community severance impacts will arise as a result of the closure of this crossing.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/78/3 heading south towards Great Domsey level crossing will be diverted via a new P1 footpath in field margin running parallel to the railway, to connect to Domsey Chase. Users can then continue South on Domsey Chase via an existing bridge to connect to the A12 London Road.

Footpath EX/78/3 south of the railway will be extinguished to prevent the creation of a dead end. Crossing infrastructure at the level crossing will be removed and type F7 fencing will be installed on both sides of the railway to prevent trespass. New wayfinding signage will be provided.

The diversion results in an increase in walking distances from 236m to 679m, meaning users are required to walk 443m further. This may be difficult for some users with impaired mobility.

The proposed diversion also includes a new 2m wide footpath in the field margin. This will be unsurfaced and therefore difficult for users of impaired mobility.

The proposed diversion also includes the use of an overbridge on Domsey Chase. This has no footpath and therefore may require users to walk in the road, which may limit the safety benefits of closing the crossing. To the east of the crossing users will be directed to walk alongside the A12, which whilst benefiting from a wide and even footpath, is a 70mph dual-carriageway.

The majority of the diversion route has a gradient of under 5%. There are two stretches which are above 20%, but on closer inspection these appear to be errors in the available data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible due to the presence of steps and an uneven / gravelled approach, has very low usage and is remote, it is not felt that the proposed diversion route will significantly alter pedestrian accessibility.

Therefore, a DIA is not required.

E23 Long Green

Long Green level crossing is a public footpath crossing located in Marks Tey, Essex.

It is noted that the current crossing is already closed and a ramped footbridge in place.

On the western side, the crossing is accessed via a concrete verge off Long Green/Jays Lane; there are metal fences acting as a barrier between the road and the railway with a gate for crossing users. The ground is flat and paved however wheelchair users and pushchair users may have

Approximately 277 trains cross this part of the network each day travelling at speeds of 100mph. No incidents have been recorded at this crossing. The risk factors for the crossing are sun glare and frequent trains. Safety protection includes gates; signage and miniature stop

The crossing provides access between Dobbies Lane to the east and Jays Lane to the west. The west side of the crossing is occupied mostly by residential housing however there is a primary school (St Andrews) located approximately 750m from the crossing. To the east

The proposals involve the formal closure of the level crossing, which would involve removal of residual crossing equipment and legally dedicating the replacement footbridge as the definitive public right of way.

The works solely consist of the formal closure of the level crossing and use of an existing ramped footbridge at the current location. As such, no adverse implications on accessibility will arise.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for

difficulty using the crossing due to the need to push open the gate and the narrow space between the fencing. The east side the crossing is accessed via a wide paved path, wheelchair users and pushchair users are likely to have the same difficulties on this side of the crossing due to the fencing and gate.

lights to warn of train approach. The crossing has a risk rating of M13.

there is an industrial park and business park and some residential housing.

The crossing provides the only pedestrian access from this area to Javs Lane.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

these groups will be improved by the closure of the crossing.

As the proposal only involves the formalisation of the closure of the level crossing and a ramped footbridge is already in place, it is felt that no adverse impacts will arise as a result of the work

Therefore, a DIA is not required.

E25 Church 2

The crossing is a pedestrian footpath that has already been closed for safety reasons. It connects two small areas of woodland, and is close to the A12 dual carriageway.

The crossing is accessed through dense woodland on either side. This could cause problems for users with visual or mobility impairments.

The crossing has been closed for over a year due to safety reasons and the fact that the crossing leads to a footpath that results in a dead end. The route has effectively been severed by the six-lane A12 (there is no crossing provision or central reservation).

The overall risk rating of this crossing is C9, due to the frequency and speed of passing trains. There have been no reported accidents, near missed or incidents of user misuse at the site. For safety, warning signs are clearly visible on both side of the crossing.

There are no community amenities or houses in the immediate area, so adverse severance impacts are unlikely to occur as a result of the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of footpath EX/128/1 heading north towards Church 2 level crossing will be diverted east on a new P1 footpath within a wooded area to connect to Turkey Cock Lane. Users will continue north over the railway using the existing underbridge via a mix of carriageway and verge way walking. Users can the continue north on Turkey Cock Lane to connect to existing footpath EX/132/23.

Footpath EX/132/11#1 north of Church 2 crossing will be extinguished and footpath EX/149/29 south of the level crossing will also be extinguished.

Crossing infrastructure at the level crossing will be removed and type F1 fencing will be installed on the south side of the railway and type F8 fencing on the north side of the railway to prevent trespass.

The proposed diversion results in an increase in walking distances from 831m to 1,388m. This is an increase of 557m, which may be difficult for some users of impaired mobility.

The proposed diversion also requires users to walk in the carriageway on Turkey Cock Lane. The creation of new unsurfaced footpaths within wooded areas may also restrict access for some user groups.

In addition, the route includes use of an underbridge which will require people to walk in the road / verges and therefore may limit the safety benefits of closing the crossing.

The majority of the diversion route has a gradient of under 5%, there are three stretches which are above 15% but on closer inspection these appear to be errors in the available data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the crossing is currently closed and the route is severed by the A12, it is felt that there is the potential for improved pedestrian accessibility at this location due to the proposed works.

Therefore, it is not felt that a DIA is required.

E26 - Barbara Close

This is a stop, look, and listen public footpath level crossing where the user has to decide whether it is safe of

The land to the east of the railway is dominated by residential properties of Rochford, with the land to the west predominantly agricultural.

Meadowbrook Farm is south of the crossing. A stream is located west of the railway and the area around the stream has a high flood risk.

There is no formal path to the level crossing on either side of the railway. The approach from the western side is via private property through Meadowbrook Farm. Access from Barbara Close is through a narrow unsurfaced alley way between two residential properties. The crossing itself has level crossing furniture across the tracks to enable people to walk across more safely. However, the approach to the crossing is through a sloped set of narrow gates.

Barbara Close level crossing is used by an estimated 8 people daily. 130 trains pass this part of the network per day; with line speeds of 80 mph.

Safety features of the crossing include signage. Risk factors consist of frequent trains using the line. There have been no incidents of misuse or near misses reported; however there has been one accident documented at the site since May 2013. Therefore, the risk rating for Barbara Close level crossing is C6.

The crossing is adjacent to private farmland in the west and a residential estate in the east. There are no community facilities on the western side of the crossing; however a number of community facilities are located on the eastern side — including churches, a primary school and a hospital.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/285/21 heading south towards Barbara Close level crossing will be diverted south continuing along existing footpath EX/285/21 to connect to existing BOAT EX/285/11. Users will be diverted east along existing BOAT EX/285/11 to an existing underpass where users can cross the railway using a new 1.5m wide footway (P1). Users will then continue east along Ironwell Lane before heading north on Ashingdon Road.

On the east side of the railway the existing track approaching Barbara Close level crossing from Lesney Gardens retained for Network Rail to gain access. The existing footpath EX/285/18 on the east side of the railway that follows this track

Walking distances, through following the proposed diversion route, are likely to increase to 711m – an increase of 650m. This is likely to impact people who struggle to walk long distances.

Although most of the proposed diversion route has footpaths on either side of the road that will maintain access for all users, Ironwell Lane and the underpass do not. This may force some users to walk in the carriageway. The underpass also has an uneven and muddy terrain that will likely pose challenges for some users, however it is noted that there are plans for route improvement measures (including the creation of a 1.5m footpath through the underpass). This may help mitigate any potential negative implications.

The majority of the diversion route has a gradient of under 5%. There are two stretches which are between 5 and 14%, but on closer inspection these appear to be errors in the available

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to accessibility problems with the current crossing (notably the presence of narrow gates, overgrown vegetation and a sloped approach), it is felt that the proposed diversion route could increase accessibility as the majority of the route has flat, even surfaces.

Although to the east of the crossing there is a residential estate, on the western side there is only agricultural land – this is likely to explain why the route is infrequently used by pedestrians.

will be extinguished. A type G1 gate with type F8 fencing will be installed between Lesney Gardens and the access track on the east side of the railway. Type F4 fencing will be installed on the west side of the railway to prevent trespass.

data. Therefore, the gradient of the proposed diversion route is unlikely to have a significant impact on groups which are likely to struggle with steep gradients.

Therefore, it was felt that a DIA is not required.

E28 Whipps Farmers

Whipps Farmers is a public footpath level crossing located in Brentwood District, Essex.

On both sides the approach to the crossing is via agricultural fields. On the immediate approach to the crossing there is a fence stile and a wide metal gate. The stile is likely to be unmanageable by people with mobility difficulties. People with mobility difficulties may also find opening the metal gate challenging without assistance.

Whipps Farmers is infrequently used by pedestrians. Approximately 197 trains cross this part of the network each day travelling at speeds of 75mph. No incidents have been recorded at this crossing. The risk factors for this crossing are sun glare and frequent trains. Safety protection consists of signage only. The crossing has a risk rating of C8.

A nine-day census undertaken in July 2016, did not record anyone using the crossing.

The crossing provides access between agricultural fields to the north and south. There is a trading park approximately 200m north of the crossing which can also be accessed via the B186, and there are a number of residential houses approximately 350m south of the crossing along St Marys Lane.

The crossing does not provide access to any community facilities. It is therefore unlikely that closing the crossing will have any community severance impacts. There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/272/178 heading south towards Whipps Farmers level crossing will be diverted west via a type P1 footpath within field margin, along the boundary of Upminster Trading Park to the B186. At this point users will cross the B186 via a new pedestrian crossing point where they will be diverted south via a new type P1 footpath within field margin towards the railway. Users will then continue west, parallel to the railway along a type P1 footpath to existing bridleway EX/272/183. Users can continue to use Puddle Dock level crossing to cross the railway which is located approximately 250m west of Whipps Farmers level crossing.

In addition, a 3.5m wide concrete access track is proposed from St Marys Lane, south of the railway. North of the railway, footpath EX/272/178 approaching the level crossing will be extinguished and footpath EX/272/178 to the south of the railway will be extinguished. Crossing infrastructure will be removed and type F7 fencing will be installed to prevent trespass on the railway.

The diversion route increases walking distances to 1,507m. This is an increase of 896m, which may be difficult for some users of impaired mobility.

The proposed diversion includes the creation of a 2m wide footpath in the field margin and 3.5m wide concrete surfaced field access. The new route may pose problems for some users of impaired mobility.

Some users may choose to cross the line at Puddle Dock level crossing which is an uncontrolled crossing and may limit the safety benefits of closing Whipps Farmers crossing.

All of the proposed diversion route has a gradient under 1%, which is lower than the existing route. ⁴⁰ Therefore, the new route is unlikely to cause significant impacts on people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

The proposed diversion route is going to significantly increase walking distances, require users to walk in the field margins and use an alternative uncontrolled crossing, which may reduce accessibility and safety for some users. However, as the current crossing is very remote and there were no recorded users in a nine-day census undertaken in July 2016, it is felt the proposed diversion route will reduce pedestrian accessibility. It is also noted that the gradient of the proposed route is well within recommended quidelines.

Therefore, no DIA is required.

E29 Browne and Tawse

This pedestrian crossing connects several fields with an industrial estate in West Horndon, Essex.

The crossing is bordered by two old stiles that present a significant barrier to those with limited mobility and parents with pushchairs. Also, the corridors to the industrial estate are narrow and overgrown, further increasing the difficulty with which those with limited mobility could use the crossing.

Approximately 197 trains a day use the route travelling at up to 75mph. The greatest risks at this crossing is the frequency of trains, therefore this crossing has a risk rating of C8. There are signs that warn of the crossing and of the risks associated with misuse which mitigates the risks to some extent. There have been no recorded incidents of misuse of the crossing, accidents or near misses which are at least partially due to the infrequency with which people use it.

A pedestrian user census undertaken in July 2016 did not record any users of the crossing over the nine-day period.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups). There are no community amenities in the area, and warehouses are located only on the north side of the crossing. Therefore it is unlikely that the closure would cause a negative equality and diversity impact.

Existing public rights of way over the level crossing will be extinguished.

Users of existing Footpath 4 heading north towards Brown & Tawse level crossing will be diverted via a type P1 footpath in Network Rail Land before connecting to Childerdicth Lane via a set of S2 steps. Type F4 fence will be installed along the length of this footpath to prevent trespass onto the railway.

Users will then use the existing over bridge on Childerditch Lane heading north. Users will be diverted north onto a type P1 footpath within field margin via a set of S2 steps down the embankment. Users will then cross Childerditch Lane and head

The proposed diversion route increases walking distances from 262m to 890m (an increase of 628m). This may affect some users with impaired mobility.

The proposed diversion includes steps which may result in limitations in accessibility for those who are likely to struggle to use such infrastructure – such as wheelchair users.

The plans also include the creation of a new footpath in the field next to the track. This may also be difficult for users who require a level surface.

In addition, the proposed diversion requires users to go over a bridge on Childerditch lane. The bridge is narrow with no footpath on either side, so users will have to walk in the carriageway, making it difficult for

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route significantly increases walking distances and potentially requires users to walk in the road, as the current route is inaccessible due to the presence of a stile and overgrown vegetation on the approaches to the crossing, overall it was not felt that accessibility will be reduced. The current crossing is also remote with very low usage.

Therefore, no DIA is required.

⁴⁰ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

east via a type P1 footpath within field margin along the boundary of Horndon Industrial Park. Type F9 fencing will be installed along the first 30m of the new footpath from Childerditch Iane and a G1 gate installed. Existing footpath EX/313/39 approaching the level crossing on the north side of the railway will be extinguished and approximately 15m of Footpath 4 on the south side of the level crossing will be extinguished.

Crossing infrastructure will be removed and type F9 fence will be installed to prevent trespass on the railway.

wheelchair users and parents with pushchairs.

The entire proposed diversion route has a gradient of under 5%. This is less steep than the current route and should not pose any problems in terms of accessibility.

E30 Ferry

This crossing is a pedestrian level crossing in Benfleet, Essex, and connects a public car park to the East Haven Creek.

Due to safety concerns, Ferry level crossing has been temporarily closed for over 18 months.

Prior to its closure, the accessibility of this site was severely limited by the steps via which the track is reached. These exclude use of the crossing to wheelchair users and many people with limited mobility that would be unable to use the steps and access the track. The approach routes are unpaved and uneven which may also cause significant difficulty to wheelchair users and people with limited mobility for which the uneven terrain may by itself make the route unnavigable.

The overall risk rating for this site is C2 with the low sighting time, high frequency of trains, the close proximity of Benfleet train station, the large number of users and sun glare identified as key risk drivers at this site. There are signs to warn users of the risks they face and whistle boards in action

There are approximately 274 trains that use this line each day, at speeds up to 75 mph. There has been one reported near miss at this site that took place in the year prior to the July 2014 assessment with none reported since. There have been no reported accidents or incidents of user misuse at this site.

Approximately 190 people used the crossing per day when it was in operation.

There are no community facilities, businesses or homes that can solely be accessed using this crossing.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be permanently extinguished.

Users of existing footpath EX/BENF/31 heading west towards Ferry level crossing will be diverted west to continue along footpath EX/BENF/31 to an existing underpass where they can cross the railway approximately 280m west of the level crossing. On the north side of the railway users will then be diverted east via a new P7 footway with type F9 fencing on the south side to prevent trespass to the railway and type F6 fencing to separate the footpath from the car park on the north side. Potential readjustment of car parking spaces required.

This new footpath then becomes unsurfaced for a further 40m before connecting to existing footpath EX/BENF/22#1. There is existing railway boundary fencing on the north side of this section footpath and 1.8m chain link fencing on the south side.

Existing footpath EX/BENF/22#1 on the south side of the railway will be extinguished. Crossing infrastructure will be removed and type F4 fencing will be installed to prevent trespass on the railway.

The proposed diversion results in a total walking distance of 620m. This is an increase of 592m, which may be difficult for some users with impaired mobility to manage.

The diversion directs users to walk on new unsurfaced footpaths. These uneven surfaces are likely to be unsuitable for people with limited mobility – such as some disabled and older people, and parents with pushchairs.

Users are also directed to an underpass, which is wide and evenly paved, 280m west of the level crossing, which should not pose any problems in terms of accessibility.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches with a gradient above 5%. ⁴¹ However, given the gradient of the existing route, it is unlikely that pedestrian accessibility will be significantly reduced along the diversion route.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

While it is acknowledged that the crossing is currently closed and access at the site was limited by the presence of steps and the unpaved approach routes, as the proposed diversion route directs uses to an underpass, requires users to walk on unsurfaced paths and has the potential for steep gradients, it was felt that accessibility could be reduced as a result of the proposed works.

In addition, stakeholders raised concerns about the walking distances, which are significantly increased. This is especially important given the high usage of the crossing.

Therefore, a DIA is required.

E31 Brickyard Farm

The Brickyard Farm level crossing in South Benfleet connects a long walking/cycling route with the main road into Benfleet

The unpaved roads on the northern side of the railway may reduce the ability of the crossing for those with limited mobility. The crossing also requires users to negotiate a stile.

There are approximately 274 trains per day along the line travelling at speeds of up to 75mph. Factors that aggravate the risks of this crossing include the low sighting time, glare from the sun and the high frequency of trains. As such, this crossing was rated a C2 for risk. There are however, signs and whistle boards to mitigate against these risks. In the 12

This crossing serves no local amenities or community facilities other than the footpath. The crossing is near a marina but does not directly serve it.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and

Existing public rights of way over the level crossing will be extinguished.

Users of existing footpath EX/BENF/31 heading west towards Brickyard Farm, level crossing will be diverted west to continue along footpath EX/BENF/31 to an existing underpass where they can cross the railway approximately 350m west of

The proposed diversion route results in an increase in walking distance from 37m to 778m. This requires users to walk 741m further than the existing route and may affect some users with impaired mobility.

The diversion also directs users to walk on unsurfaced paths. The uneven surfaces are likely to be unsuitable for people with limited mobility – such as Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

While the current crossing requires use of unpaved roads and a stile, as

⁴¹ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

months prior to the assessment of this crossing, there was a single incident of miss use of the crossing by users. There were no recorded accidents or near misses.

A pedestrian user census undertaken in July 2016 recorded 114 people (including one accompanied child) using the crossing over the nine-day period.

people from BAME and minority faith

Future configuration

the level crossing. On the north side of the railway users will then be diverted east via a new P7 footway with 2m type F9 fencing on the south side to prevent trespass to the railway and type F6 fencing to separate the footpath from the car park on the north side. This new footpath then becomes unsurfaced for a further 120m before connecting to existing footpath FX/BENE/12. There is existing railway boundary fencing on the north side of this section footpath and 1.8m chain link fencing on the south side.

The existing footpath approaching the level crossing from the south will be extinguished. Crossing infrastructure will be removed and type F4 fencing will be installed to prevent trespass on the railway.

some disabled and older people, and parents with pushchairs.

An existing underpass, 280m west of the level crossing, will also form part of the route and is wide and evenly paved, which should not pose any problems in terms of accessibility.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for short stretches with a gradient above 5%. 42 However, given the gradient of the existing route, it is unlikely that pedestrian accessibility will be significantly reduced along the diversion route.

the proposed diversion route directs uses to an underpass, requires users to walk on unsurfaced paths and has the potential for steep gradients, it was felt that accessibility could be reduced as a result of the proposed works.

In addition, stakeholders raised concerns about the walking distances, which are significantly increased. This is especially important given the high usage of the crossing.

Therefore, a DIA is required.

E32 Woodgrange Close

The level crossing is a public footpath level crossing, and is located in a residential area within Southend-On-Sea

The crossing deck is wooden with anti-slip boards attached. The approach to the level crossing is via an uneven gravelled surface with a moderate gradient – there are also gates on either side of the crossing.

An estimated 165 trains travelling at speeds up to 70mph use the area daily. Due to sun glare, frequent trains and the large number of users, the level crossing has a risk rating of C4. There were six incidents of misuse, seven near misses and one accident at the crossing between 2011 and 2015.

A nine-day census was undertaken in July 2016 and recorded 309 people using the crossing. This included 12 accompanied children and 28 unaccompanied children. There was also one older person and one person with a pushchair / pram.

The crossing is completely surrounded by residential houses and amenities, and the level crossing itself links a residential estate in the south with the grounds of Southend High School for Girls to the north. It is likely that the crossing is used by students when travelling to and from school, so it is likely that younger people and perhaps parents with pushchairs will be affected by the closure.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Existing footpath 189 heading south towards Woodgrange Close level crossing from the A13, Southchurch Blvd, will be extinguished. Instead users will be diverted west along the existing footway on the A13 to Lifstan Way heading south towards an existing underbridge where users can cross the railway. Users can then continue south along the existing footway on Liftsan Way and can either join existing footpath 192 to Butterys or continue south before heading north east on Woodgrange Grove which is a step free diversion route.

Crossing infrastructure will be removed and type F9 fencing will be installed to prevent trespass on the railway.

The proposed diversion is a change in walking distances from 418m to 1,219m. This is an increase of 801m and may affect users of impaired mobility.

Pedestrian footways are available along all sections of the proposed diversion route and, with the exception of the footpath linking Lifstan Way and Butterys (which has many steps), benefit from level pavements, lighting, drop kerbs and tactile paving. The underbridge also has wide pedestrian footpaths on either side that are protected from traffic by railings. This is likely to minimise impacts of the proposed diversion route of people from groups with protected characteristics.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches with a gradient above 5%. ⁴³ This may pose some challenges for older people, wheelchair users, or parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As this level crossing links a large residential area with schools and other amenities it was likely people with protected characteristics (in particular children) are frequent users of the level crossing.

Woodgrange Close level crossing was subject to a DIA.

E33 Motorbike

This crossing is a pedestrian level crossing that broadly links an area of Pitsea containing housing estates and the A13 with several fields in a large open space.

This crossing is approximately 350m west from a signal controlled level crossing on Pitsea Mount which offers a safer and more accessible crossing

The accessibility of this site is poor, with uneven, often muddy approach roads that may serve to exclude wheelchair users and people with limited mobility from safely accessing the track. This will also be the case for the inclines and obstacles that lead to the track; these include steps that members of such groups will struggle to be able to use.

The overall risk rating for this site is C6 with the high frequency of trains, low sighting time and sun glare identified as key risk drivers. The site is equipped with signage to warn users of the risks and whistle boards are also in operation. There are approximately 118 trains that use this section of the line each day travelling at speeds of up to 70mph. There have been no reported accidents,

The crossing does not provide access to any community amenities, so it is unlikely that adverse reactions will occur as a result of the closure.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. South of the railway the existing footpath approaching the level crossing will be extinguished to prevent the creation of a dead end. Users will be diverted east via a newly created P1 footpath outside of network rail land before heading south east via a P6 footpath making use of an existing

The proposed diversion is 985m in length, which is considerably longer than the existing route.

The diversion route includes a new footpath to be created in a field margin. A footbridge will also be created as part of the route to enable users to cross a ditch. These features of the new route may pose difficulties for some users who struggle with certain types of

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible because of the uneven approaches and the presence of steps,

⁴² The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

⁴³ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

that provides access to the wider area.

near misses or incidents of user misuse at this site.

Motorbike level crossing is used by approximately two people a day and the access providing by this crossing is also provided by the Pitsea Mount crossing.

Future configuration

footbridge to cross over the ditch on the south side of the railway. This will lead on to a P1 footpath, outside of Network Rail land, before connecting to a new P7 footway onto the existing highway. Users will continue north on the existing footway to Pitsea Hall level crossing where they will cross the railway and connect to existing footpath EX/279/136 on the north of the railway.

North of the Motorbike level crossing, FP EX/279/213 will be extinguished. Users will be directed along the existing FP EX/279/136 east before connecting to a new highway crossing point located at the end of Terminus Drive. This will direct users south via an existing footway cross the railway at Pitsea Hall level crossing.

Crossing infrastructure will be removed and type F4 fencing will be installed to prevent trespass onto the railway. The new footpath on the south side of the railway will have type F6 fencing on the north side of the footpath, and type F1 fencing on the south side of the footpath. Type F4 fencing will be installed at the end of the new footpath where it connects onto the highway. New wayfinding signage will be provided.

infrastructure – such as wheelchair users.

Users will also be directed to Pitsea Hall level crossing, which is a controlled level crossing with separate flat footways. Although this limits the safety benefits of closing the current crossing, pedestrian accessibility will not be compromised.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches with a gradient above 5%. This may pose some challenges for older people, wheelchair users, or parents with pushchairs.

accessibility will not be reduced by the closure and redirection of Motorbike level crossing.

The level crossing at Pitsea Mount is fully paved so offers users an accessible and safer alternative to this crossing.

Therefore, no DIA is required.

E35 - Cranes No. 1

This is a stop, look and listen public footpath level crossing where the user has to decide whether it is safe to

The surrounding area is predominantly agricultural land with some isolated areas of development. The River Brain runs parallel to the railway, to the west.

The approach to the crossing is on flat grassland, and users have to step over a stile to reach the level crossing itself. The crossing is therefore unlikely to be accessible to wheelchair users or people with pushchairs. It is also likely to prove challenging for users with mobility difficulties due to the need to get over the fence stile to use the crossing.

Cranes No.1 level crossing is currently infrequently used by pedestrians. Approximately 44 trains cross this part of the network each day travelling at speeds of 55mph. No incidents have been recorded at this crossing. The risk factors for this crossing are sun glare and user misuses. Safety protection at this crossing consists of signage only. The crossing has a risk rating of C10.

A pedestrian user census undertaken in July 2016 recorded 16 adults using the crossing over the nine-day period.

Cranes No.1 level crossing is a public footpath crossing in Cressing, Essex. The level crossing provides access between agricultural fields to the east and The Notley's Golf Course to the west. The crossing is located approximately 420m south east of Cressing train station where there is an alternative crossing point via the Cressing public highway level crossing.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

However, the level crossing is not considered to provide access to any important community facilities, therefore closure is unlikely to result in community severances.

Existing public rights of way over the level crossing will be extinguished. Users of FP/EX/120/8 will be diverted south east via existing FP EX/120/21 to an existing underbridge. Users will then continue north east along existing footpaths EX/120/10 and EX/74/28 to connect to existing footpaths EX/74/12 and EX/74/11#1.

On the east side of the railway, FP EX/74/11#1 will be extinguished on approach to the level crossing to prevent the creation of a dead end. West of the railway, FP EX/120/8 will be extinguished on approach to the crossing to prevent the creation of a dead end.

Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway.

The proposed diversion route results in an increase in walking distance of 11m (to 93m). This is unlikely to cause significant problems for people who struggle to walk long distances.

The proposed diversion route directs users to an existing underbridge, which although benefiting from an uneven surfaces, it very narrow. This may restrict accessibility for some user groups – such as wheelchair users or people with a pushchair.

Most of the proposed diversion route has a gradient that is above recommended parameters for route gradients identified in national design guidance. (i.e. under 5%). This may pose problems for users who struggle with steep gradients – such as wheelchair users.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although significant problems have been identified along the proposed diversion route, due to issues with accessibility at the current crossing (notably the presence of a stile and approaches across grassland), it is felt that there will be no reduction in pedestrian accessibility at a result of closure and redirection of Cranes No. I level crossing. It is also noted that the current crossing has low usage and is very remote.

Therefore, a DIA is not required.

E36 – Cranes No. 2

This is a stop, look, and listen public footpath level crossing where the user has to decide whether it is safe to cross

The surrounding area is predominantly agricultural land with some isolated areas of development. The approach to the level crossing consists of a narrow gravel path on either side which is overgrown.

Accessing the level crossing also requires use of steps.

No specific risk information is available for Cranes No.2 level crossing.

Based on the Cranes No1 level crossing (less than 300m away along a straight length of track), there are around 44 trains travelling at speeds The crossing is completely surrounded by agricultural fields, so it is unlikely that community severance impacts occurred as a result of the closure.

There is a low density of all equality groups for which we have data in the

Existing public rights of way over the level crossing will be extinguished. Users of FP/EX/120/8 will be diverted south east via existing FP EX/120/21 to an existing underbridge Users will then continue north east along existing

The proposed diversion route increases walking distances to 1,325m – an increase of 628m.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for

The River Brain runs parallel to the railway, to the west.

up to 55mph use the area daily. The risk rating is C10 due to sun glare and user misuse.

A pedestrian user census undertaken in July 2016 recorded three adult users of the crossing over the nine day period.

immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

footpaths EX/120/10 and EX/74/28 to connect to existing footpaths EX/74/12 and EX/74/11#1.

On the east side of the railway, FP EX/74/11#1 will be extinguished on approach to the level crossing to prevent the creation of a dead end. West of the railway, FP EX/120/8 will be extinguished on approach to the crossing to prevent the creation of a dead end.

Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway.

with a gradient above 5%.⁴⁴ This may pose some challenges for older people, wheelchair users, or parents with pushchairs.

The proposed diversion route also includes use of an existing underpass, which may pose problems for people who struggle with certain types of infrastructure. This may also be the case with the creation of the new footpaths within field margins – people who require even surfaces may be restricted for sections of the proposed route.

these groups will be improved by the closure of the crossing.

Due to problems with accessibility at the current crossing (notably the presence of steps and narrow overgrown approaches), as well as the remote nature and low usage of the crossing, it is felt that pedestrian accessibility will not be reduced as a result of closure and redirection of Cranes No. 2 level crossing.

Therefore, it is felt that a DIA is not required.

E37 - Essex Way

This is a stop, look and listen public footpath level crossing where the user has to decide whether it is safe to cross.

The crossing is in an agricultural area. The nearest properties are located to the north east. The River Brain runs parallel to the railway, to the south west.

The accessibility of the Essex Way crossing is limited by the approaches through farmland which are uneven and unpaved, reducing the ability of wheelchair users and people with limited mobility from safely accessing the crossing. The steep incline to reach the track would also effectively exclude such users as the grassy and potentially muddy hill would act as a major barrier.

Users are also required to negotiate a stile to access the crossing.

The Essex Way crossing has an overall risk rating of C6 with the risks of user misuses and sun glare identified as key risk drivers at the site

There are approximately 44 trains that use this line each day, at speeds of up to 50mph. There have been no reported accidents, near misses or incidents of user misuse at this site.

A pedestrian user census undertaken in July 2016 recorded 42 people using the crossing over the nine-day period. This included 38 adults and four older people.

The Essex Way crossing is a pedestrian level crossing that connects two areas of farmland west of White Notley, Essex. There are no community facilities in the immediate environment of this, suggesting that there would be no adverse effects due to the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

On the west side of the railway, users of FP EX/120/13 will be diverted east along a new P1 footpath through a small area of woodland and across a field outside of Network Rail land before crossing the railway via an existing underpass. Users continue north via a P1 footpath within field margins outside of Network Rail land to connect to existing FP EX/74/37.

West of the railway FP EX/120/13 will be extinguished on approach to the level crossing to prevent creation of a dead end. Similarly, east of the railway FP EX/74/37 would be extinguished on approach to the crossing to prevent the creation of a dead end.

Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway. New wayfinding signage would be provided.

Users following the proposed diversion route will have to walk an additional 452m – an increase from 557m to 1.009m.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for short stretches with a gradient above 5%. ⁴⁵ This may pose some challenges for older people, wheelchair users, or parents with pushchairs.

The proposed diversion route also includes use of an existing underpass, which may pose problems for people who struggle with certain types of infrastructure. This may also be the case with the creation of the new footpaths within field margins – people who require even surfaces may be restricted for sections of the proposed route.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to problems with accessibility at the current route (notably the presence of a stile and unpaved / uneven farmland approaches), it is felt that pedestrian accessibility will not be reduced as a result of closure and redirection of Essex Way level crossing. The crossing is also remote with low pedestrian usage.

Therefore, it is felt that a DIA is not required.

E38 Battlesbridge

Battlesbridge level crossing is a public footpath crossing located on the edge of Battlesbridge town and next to the A1245 road.

There is no formal pathway to the level crossing on either side of the railway and users wishing to cross the railway must walk along a grassy path which lead to steps up to the crossing itself. This is likely to pose access restrictions for a number of users, including those with mobility impairments, older people and pushchair users.

Battlesbridge crossing is infrequently used by pedestrians, and approximately 56 trains daily, travelling at 50 mph, use this part of the network daily.

The only safety feature of the crossing is signage. No key safety risks have been identified and to date no accidents or incidents of misuse have been reported. For this reason, Battlesbridge crossing has a risk rating of D10.

The crossing provides access between agricultural land to the north and south of the crossing. An industrial park is also located within reasonably close proximity to the crossing.

No community resources of particular interest to equality groups are present on either side of the crossing; it is therefore unlikely that community severance impacts will arise as a result of closure.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, Existing public rights of way over the level crossing will be extinguished.

North of the railway, users of FP EX/229/23 will be diverted north via a new P1 footpath which will join a new P7 footway on the A1245 via a set of S2 steps up the embankment. Users will continue south along the A1245 via the new P7 footway, crossing the railway via the existing road bridge before continuing east down the embankment via a set of S2 steps to connect to a new P1 footpath on the south side of the railway. Immediately south of the

The proposed diversion increases walking distances from 42m to 366m - an increase of 324m.

The diversion route includes steps, which may result in accessibility limitations for those requiring a level surface – such as wheelchair users.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches with a gradient above 5%. ⁴⁶ This may prove challenging for people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is inaccessible (due to the lack of a formal pathway and grassy paths) and there were no recorded uses during the nine-day census, it is felt that the proposed diversion route will

⁴⁴ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

⁴⁵ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

⁴⁶ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

A nine-day census undertaken in July 2016, did not record any users of Battlesbridge level crossing.

under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

level crossing a 40m section of footpath EX/229/23 will be extinguished.

Crossing infrastructure would be removed and type F4 fencing installed to prevent trespass onto the railway on either side. At either end of the new footway being provided on the overbridge, existing crash barriers will be amended. New wayfinding signage will be provided.

The proposed diversion route requires users to walk over the bridge on the A1245, which has wide paved footways on either side. There are also plans to create new footpaths along the A1245, which will help maintain pedestrian accessibility along the diversion route.

not significantly reduce pedestrian accessibility.

Therefore, a DIA is not required.

E41 Paget

The level crossing is a public footpath located within the town of Wivenhoe, Essex.

The approach to the level crossing is via a narrow gravel path between residential houses. Once past a wooden gate, metal railings and vegetation narrow the path even further, restricting access for some users, e.g. those in wheelchairs / mobility scooters and pushchairs. The only signage warns of overhead cables, but not passing trains. The crossing itself would also be an issue, due to there being gaps between the walkway and the tracks.

An estimated 90 trains travelling at speeds up to 50mph use the area daily, along with approximately 65 pedestrian users. Due to the train frequency, glare from the sun and the high volume of users, the level crossing has a risk rating of C4. For safety, there are whistle boards on the track. Despite the high rating, to date, no near misses or incidents have been recorded.

A pedestrian user census was undertaken in July 2016 and recorded 1,184 people using the crossing over the nine-day period. This included 1,099 adults, 60 accompanied children, six unaccompanied children, 17 older people, one impaired user and one person with a pushchair / pram. This indicates high usage of this crossing.

The train line bisects the town, and there are residential estates and community and business resources on either side of the level crossing. There are two vehicular crossings within 200m either side of Paget, which are accessible for pedestrians within equality groups.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

On the south side of the railway, users of the level crossing will be diverted along an existing footway and carriageway along Paget Road and then Anglesea Road heading north, before crossing the railway via an existing road bridge. Users will continue north along a privately maintained highway to connect to Queens Road. A handrail will be provided on Queens Road and a paved area will be reprofiled to a provide a flatter rest area with a bench.

In addition, the access track on the south side of the railway will be removed. A new 1.5m wide P1 footpath link within Network Rail land will be created fenced off with type F9 fencing, to connect users west to a newly created footway at the existing overbridge located on High Street road. This new footpath in Network Rail land would require a culvert to cross an existing ditch.

Crossing infrastructure would be removed and type F9 fencing installed to the north, and type F4 fencing installed to the south of the level crossing, to prevent trespass onto the railway.

The proposed diversion route increase walking distances to 409m - this will require users to walk potentially 396m further. This may be difficult for users of impaired mobility.

The proposed route includes the use of an existing road bridge (Anglesea Road) to the east of the crossing. This has a gravelled surface with no footpaths on either side of the bridge. This may pose problems for users who require even terrain – such as wheelchair users.

To the west, users can use an existing overbridge on the High Street B1028 – this has narrow paths on either side of the road which could create challenges for some users. However, it is noted that there are plans for route improvement measures.

The diversion route also includes a proposed footbridge which over a culvert. This could potentially impact users with impaired mobility.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for very short stretches with a gradient above 5%. ⁴⁷ The proposed diversion route is also significantly steeper than the existing route, especially along part of the Queen's Road. This may prove challenging for people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

This level crossing links residential properties with amenities. The proposed diversion route, via Anglesea Road, incorporates a steep gradient and has no designated footpath which may restrict access for some users. The current crossing is also heavily used.

Paget level crossing was subject to a more detailed DIA.

E42 Sand Pit

The level crossing is a public footpath located in Essex.

On either side, the approach to the level crossing is via a narrow, dirt track which is relatively flat. There are high stiles to cross, and then steep steps to the level crossing. This route would be largely difficult to access for users with mobility or visual impairments, nor parents with pushchairs or small children.

An estimated 94 trains travelling at speeds up to 75mph use the area daily, and less than 5 pedestrian users. Due to frequent trains, the level crossing has a risk rating of C7. There are warning signs clearly visible on either side of the crossing, and there have been no reports of misuse or accidents on the level crossing.

A pedestrian user census was undertaken in July 2016 and recorded 73 people using the crossing over the nine-day period. This included 67 The crossing is completely surrounded by fields and wooded areas, and the town of Alresford is located approximately 1km to the East. There are a few isolated houses to the south and west of the level crossing, and nature trust woodlands to the north. It is unlikely that community severance impacts will occur as a result of the closure; however the crossing may be used by resident's crossing over to the woodland trail.

Existing public rights of way over the level crossing will be extinguished.

Users of FP EX/157/13 will be diverted north via a new 2m wide P1 footpath within field margin where they can connect to FP EX/163/15 east or continue north through a new G1 gate onto Alresford Road and cross the railway via the use of an existing bridge. Users will continue east along a new P1 footpath along an existing track outside of Network Rail land to

The new route results in a change in walking distance from 336m to 783m. This is an increase that will require users to walk 447m further and may impact some users of impaired mobility.

The new route also includes the creation of new 2m wide footpaths in field margins. This may be difficult for some users of impaired mobility who require level surfaces such as wheelchair users.

The diversion also directs users to use the bridge on Alresford Road. This

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing

As the current route is inaccessible (due to the presence of stiles and access via a narrow, dirt track), it is felt that accessibility will not be reduced as a result and the users from groups with protected

⁴⁷ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

adults, two unaccompanied children, two accompanied children, one older person and one impaired user. There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

connect to existing FP EX/162/16. North of the level crossing, FP EX/162/16 will be extinguished to prevent the creation of a dead end. South of the level crossing, FP EX/157/7 up to Wivenhoe Road will be extinguished.

A proposed speed limit reduction to 40mph will be implemented along Wivenhoe Road. Crossing infrastructure would be removed and type F4 fencing installed on both sides of the crossing to prevent trespass onto the railway. New wayfinding signage would be provided.

bridge does not have footways on either side of the road, meaning that users would be forced into the carriageway.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for stretches with a gradient above 5%. ⁴⁸ This may prove challenging for people who struggle with steep gradients.

characteristics may benefit in terms of safety.

Therefore, no DIA is required.

E43 High Elm

This crossing is a pedestrian crossing that connects several fields with an area of farmland that contains a large pond.

The accessibility of this crossing is poor with the use of stiles and steps to reach the crossing from either side excluding wheelchair users and many users with limited mobility from accessing the crossing. The narrow pathways to access the crossing also reduce the accessibility of this site as users with limited mobility or visual impairments may struggle to navigate the uneven ground and overgrown plant life.

The overall risk rating of this site is C6. The high frequency of the trains, approximately 94 per day that use this track at speeds of up to 75mph is identified as the key risk driver.

Signage warns users of these risks but does not necessarily remove these risks. Despite the risks at this site, there have been no reported accidents, near misses or incidents of user misuse at this crossing.

A pedestrian user census was undertaken in July 2016 and recorded 23 adults using the crossing over the nine-day period. This crossing does not provide access to any community facilities but may be part of a local walking or cycling route. This is evident from the eight userse that reportedly use this crossing each day.

There is a road bridge with separate pavement approximately 200m west of this crossing that could serve as a viable and safer alternative to this level crossing.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

South of the railway, users of existing FP EX/157/4 will be diverted west along an existing footway along the B1027 heading north. Users will then follow this footway where a pedestrian crossing is to be installed along the B1027, users will continue north to cross the railway via the existing road bridge and footway. Users will then continue east via existing FP EX/157/5. South of the level crossing FP EX/157/4 will be extinguished to prevent the creation of a dead end. North of the level crossing footpath EX/157/4 will be extinguished.

Crossing infrastructure would be removed and type F4 fencing installed to prevent trespass onto the railway. Two pedestrian crossing islands; one north of the road bridge and one south of the road bridge on the B1027 would be installed.

The proposed route results in a change in walking distances to 930m. This is a change that will require users to walk 444m further and may limit some users with impaired mobility.

Users will also have to use narrow footpaths on the existing bridge on the B1027 and along the road itself. This may restrict accessibility for some users – such as wheelchair users. The implementation of two pedestrian crossing islands along the route will help mitigate some of the negative impacts of the proposed diversion route.

The route also requires users to walk along tracks within fields, which may restrict accessibility for some users.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for stretches with a gradient above 5%. ⁴⁹ This is steeper than the current route and may prove challenging for people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible because of stiles and steps, as well as narrow pathways, and is remote with low usage, closure and redirection will not reduce pedestrian accessibility.

Therefore, a DIA is not required.

E45 Great Bentley Station

This crossing is next to Great Bentley railway station in Essex, it connects a housing estate to a small industrial estate.

The accessibility of this crossing is poor as the presence of stiles, steps and narrow paths leading to the crossing prevents wheelchair users or those with limited mobility from using the crossing.

Safety is a major consideration with level crossings and this crossing at Great Bentley station has an overall risk rating of C6, with the high frequency of the trains and the close proximity of the crossing to the station highlighted as key risk drivers. The presence of signage is identified as being the key protection against these risks. This site has approximately 92 trains per day crossing this section of the line at speeds of up to 75mph. Despite the risks, there have been no reported accidents, near misses or incidents of user misuse at this site.

While there are several key community facilities in the area such as the village hall and a primary school that are accessible by this crossing, there is an alternative route that offers a safer and more accessible crossing point to the other side of the railway line. Only four people use Great Bentley level crossing, implying that the impacts of closing and diverting the crossing will have minimal effects to the community.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s.

Existing public rights of way over the level crossing will be extinguished.

Users of bridleway EX/165/20 and footpath EX/165/8#1 will be diverted west via a new P1 footpath around allotments, south of Plough Road Business Centre. Existing fence on the north side of the railway separating the new footpath and the allotments will be retained. New 1.8m high chain link fence will be installed between the footpath and the west side of the allotment to prevent trespass.

The proposed diversion route results in a change in walking distances from 281m to 592m. This is a change that will require users to walk 311m further and may impact some users of impaired mobility.

Users will also be directed to Great Bentley level crossing, a controlled level crossing, which may somewhat reduce the safety benefits of closing the current crossing.

The new route requires users to walk along new 2m wide footpaths. The uneven surfaces may have accessibility

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible due to the presence of stile, steps and narrow paths, the proposed diversion will not reduce pedestrian accessibility. The current crossing also has minimal usage.

Therefore, a DIA is not required.

⁴⁸ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

⁴⁹ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

A pedestrian user census was undertaken in July 2016 and recorded 39 adults using the crossing over the nine-day period. over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

This will connect users to an existing footway along Plough Road where users will be directed north over Great Bentley (CCTV) level crossing. Once in Great Bentley users can follow and existing footway along Station Road, Birch Avenue and Pine Close.

North of the level crossing FP EX/165/8#2 will be extinguished to prevent the creation of a dead end. South of the crossing approximately 135m of footpath EX/165/8#1 will be extinguished.

Crossing infrastructure would be removed and fencing installed to prevent trespass onto the railway. Type F1 fencing will be installed south of the crossing, with type F4 fencing installed to the north.

limitations for those who require a level surface such as wheelchair users.

All of the proposed diversion route (Station Road, Birch Avenue and Pine Close) though benefits from at least one level, paved footpath, meaning that pedestrian accessibility will be maintained across the current route.

The majority of the route has a gradient within recommended parameters for route gradients identified in national design guidance (i.e. under 5%). There are two stretches with a gradient of up to 10.4%, however these appear to be errors in the available data. Therefore, the proposed diversion route is unlikely to cause significant problems for people who struggle to manage steep gradients.

E46 Lords No. 1

This crossing is a pedestrian level crossing that connects a housing estate with a large area of farmland in Great Bentley, Essex.

The accessibility of this crossing is poor, as the crossing has stiles either side of the track that will exclude wheelchair users and many people with limited mobility. There are also narrow, unlit and uneven pathways to access the crossing from the north side and open fields with no actual pathway on the southern side. These surfaces will add further barriers to wheelchair users and people with limited mobility using this crossing.

The overall risk rating at this site is C7, with sun glare and high frequency of trains identified as key risk drivers at this site. Signage is the safety feature at this site. There are an estimated 94 trains that use this line each day at speeds of up to 75mph. There have been no reported accidents, near misses or incidents of user misuse at this site.

A pedestrian user census was undertaken in July 2016 and recorded 23 people using the crossing over the nine-day period. This included seven adults and 16 unaccompanied children.

This area does contain a relatively dense housing estate and the wider area contains a range of other homes, businesses and community facilities. It is clear, however that the access to these facilities is more direct through the road network leading to the centre of Great Bentley, rather than using this level crossing. There are no community facilities or other buildings south of the crossing aside from farms which can be accessed via the road network. It is likely that the majority of access to this farm is made using a car or other vehicle rather than from this crossing.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Footpath EX/165/12 south of the level crossing will be extinguished to prevent the creation of a dead end. Users will be diverted west on bridleway EX/165/20 and then north onto existing footpath EX/165/8#1. Users will be diverted west at the top of St Mary's Road along the existing bridleway EX/165/20 before connecting to Plough Road. Here users can follow FP EX/165/8#1 south or alternatively travel north to connect to a newly created P1 footpath around Plough Road Business Centre.

This will connect users to an existing footway along Plough Road where users will be directed north over an existing road level crossing into Great Bentley. Once in Great Bentley users can follow and existing footway along Station Road, Birch Avenue and Pine Close. North of the level crossing approximately 45m of footpath will be extinguished preventing a dead end to users. Footpath EX/165/12 south of the crossing will be extinguished to prevent the creation of a dead end.

Crossing infrastructure would be removed and type F1 fencing installed on the south side of the crossing, on the north a 30m section of type F4 fencing installed to prevent trespass onto the railway. New wayfinding signage would be provided.

The new route is an increase in walking distances from 590m to 1,506m. This will require users to walk 916m further and may be difficult for users with impaired mobility.

Users will also be directed to Great Bentley level crossing, a controlled level crossing, which may somewhat reduce the safety benefits of closing the current crossing.

The new route requires users to walk along new 2m wide footpaths. The uneven surfaces may have accessibility limitations for those who require a level surface such as wheelchair users.

All of the proposed diversion route (Station Road, Birch Avenue and Pine Close) though benefits from at least one level, paved footpath, meaning that pedestrian accessibility will be maintained across the current route.

The majority of the route has a gradient within recommended parameters for route gradients identified in national design guidance (i.e. under 5%). There is one sections with a gradient up to 9.1%, however this appears to be errors in the available data. Therefore, it is unlikely that the implementation of the diversion route is unlikely to cause significant problems for people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is inaccessible to users (due to the presence of stiles and uneven pathways across open fields), it is felt that the proposed diversion route will not reduce accessibility. In addition, safety benefits associated with use a crossing with enhanced safety features may be felt by the high number of child users.

Therefore, a DIA is not required.

E47 Blue House

Bluehouse level crossing is a public footpath crossing in the rural outskirts of Kirby Cross, approximately 1km west of Kirby Cross station.

There is no formal path to the level crossing on either side of the railway, therefore all users wishing to cross the line must walk along natural tracks which run along the border, or go through, the adjoining fields. The approaches themselves and the presence of stiles currently prevent access for certain users, such as people with visual or mobility impairments and children in pushchairs. The crossing furniture itself also does not span the entire length of the level crossing, making it difficult for some users to cross.

Bluehouse level crossing is infrequently used by pedestrians and an estimated 50 trains, travelling at speeds of 50 mph, use this part of the network daily.

Sun glare is the primary risk factor at the level crossing and safety features consist of stiles and signage. No incidents of misuse, near misses or accidents have been recorded at the site; however the crossing has acquired a risk rating of D11.

A pedestrian user census undertaken in July 2016 recorded 11 adults using the crossing over the nine-day period.

The level crossing provides pedestrian access between agricultural fields located on both sides of the railway line. A number of farm houses are located further to the south and south-west of Bluehouse level crossing, with the village of Kirby

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Cross located to north-east.

Future configuration

Existing public rights of way over the level crossing will be extinguished.

South of the railway, users heading north along Pork Lane, intending to use existing FP ES/146/16 will be diverted north along the existing verge alongside Pork Lane where they will cross the railway via the existing Pork Lane crossing. North of the railway, users will then be diverted east along a new P1 footpath within field margin parallel to the railway, connecting users to existing FP EX/146/16 connecting to Thorpe Road, South of the level crossing FP EX/164/16 will be extinguished to prevent the creation of a dead end.

Crossing infrastructure would be removed and 2m of type F1 fencing installed to prevent trespass onto the railway on either side of the closed crossing. New wayfinding signage would be provided.

The proposed diversion route results in a total walking distance of 487m. This is an increase that will require users to walk 42m further and may be difficult for some users of impaired mobility.

Users will also use Pork Lane level crossing, which is a controlled crossing with separate footpaths either side (though these do not continue beyond the crossing). Users are, therefore, required to walk along a verge alongside Pork Lane which may be difficult for some users who have impaired mobility and will require a level surface – such as wheelchair users.

In addition, the new route proposes the creation of new 2m wide footpaths in the field margins. These will be unsurfaced and therefore cause accessibility limitations for those who require a level surface such as wheelchair users.

The entire proposed diversion route has a gradient of under 5%. This is marginally steeper than the existing route, but is within the 5% recommended parameters for route gradients identified in national design guidance.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to problems with accessibility at the current crossing (notably the presence of stiles and use of natural tracks), the proposed diversion route will not significantly reduce pedestrian accessibility. The crossing is also very remote and has low usage. The gradient of the proposed route is also only marginally steeper than the existing route and includes use of a level crossing with enhanced safety features.

Therefore, it is felt that a DIA is not required.

E48 Wheatsheaf

Wheatsheaf is a public footpath level crossing in Wrabness, Essex.

There are 25+ steps up to the level crossing at a steep gradient, a hand rail is provided on the left hand side for users to hold on to. On one side the path leading up to the crossing is made of narrow wooden boards, this surface is likely to become slippery during times of heavy rainfall. The fields on either side of the crossing are overgrown in some places and at a moderate gradient. Access to the level crossing also involves the use of kissing gates. The level crossing is therefore unsuitable for use by wheelchair or pushchair users and is likely to present a number of challenges for any users with mobility impairments.

Wheatsheaf is infrequently used by pedestrians. Approximately 62 trains cross this part of the network each day travelling at speeds of 60mph. No incidents have been recorded at this crossing. Sun glare is the main risk factor for this crossing. Safety protection consists of signage only. The crossing has a risk rating of D10.

A pedestrian user census undertaken in July 2016 recorded 27 adults users of the crossing over the nine-day period.

The crossing provides access between fields to the north and south. However, the crossing does not provide access to any community facilities.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. North of the Wheatsheaf level crossing, FP EX/184/19 will be extinguished to prevent a dead end. Users will be diverted east of FP FX/184/19 on the north side of the railway along a new P1 footpath before connecting to an existing footway along Church Road. This will allow users to cross the railway at the existing Church Road bridge. Users will continue south of the bridge using the verge to continue along the Station Road, south of the railway, connecting to the point of where existing FP EX/184/19 connects to Station Road, FP EX/184/19 south of Wheatsheaf level crossing will be extinguished.

Crossing infrastructure will be removed and type F7 fencing will be installed both north of the crossing and type F1 fencing on the south side to prevent trespass onto the railway. New wayfinding signage will be provided.

The new route is a change in walking distance from 316m to 1,140m. This will require users to walk 824m further, which may be difficult for some users of impaired mobility.

The new route includes 2 m wide footpath in the field margins. This may be difficult for users who require a level surface such as wheelchair users.

The new route also requires users to go over an existing footbridge on Church Road, which involves use of a narrow footpath which may result in accessibility limitations for groups such as wheelchair users. The remainder of Station Road has no footpaths and therefore will requires users to walk on a grassy verge. This may cause some accessibility limitations for users who require a level surface such as wheelchair users.

Although the majority of the diversion route has a gradient of under 5%, there is the potential for short stretches with a gradient between 5 and 15%. ⁵⁰ This may prove challenging for people who struggle with steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion requires users to walk considerably further, as the current route is not accessible (due to the presence of steps, steep gradients and overgrown / slippery approaches), it is not felt that accessibility will be reduced as a result of the proposed works. In addition, there is low pedestrian usage, especially by people from groups with protected characteristics.

Therefore, no DIA is required.

E49 Maria Street

This crossing connects Maria Street to Ferndale Street either side of the

The accessibility of this crossing is very good with fully paved access corridors with gates wide enough to This site has an overall risk rating of C3 meaning that there is a significantly high risk to both

There are no community facilities that rely on this crossing for access but on the grounds of easy access that

Existing public rights of way over the level crossing will be extinguished. On the western side

The new route results in an increase in walking distance from 22m to 481m. This will require users to walk 459m

Safety is especially relevant as children, older people, disabled people and men are more likely to be

⁵⁰ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

railway line that leads to the Harwich Town terminus.

accommodate wheelchairs and mobility scooters and with hand rails to assist those users who may have limited mobility.

Access to the crossing on both sides is via flat, paved roads that lead to a ramped and fully accessible crossing.

individuals and other groups at this site. The key risks identified are the potential for user misuse, sun glare and the large numbers of users. Around 62 trains per day use this section of the line, travelling at speeds of up to 25mph. Signs warn users of the risks they face. Despite the high risk, no accidents, near misses or incidents of user misuse have been identified at this crossing.

A nine-day census undertaken in July 2016, recorded 2,064 people using the crossing over the survey period, indicating that the crossing is well-used.

requires less walking or cycling to reach a destination in the area, this crossing may make it easier for certain people to reach destinations on the other side of the line.

There is a low to moderate density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

of the railway users will be diverted south along an existing footway along Albert Street to Alexandra Road (CCTV) level crossing West Maria Street level crossing, users will be diverted south along an existing footway along Fernlea Road to Alexandra Road level crossing.

Crossing infrastructure would be removed and fencing installed to prevent trespass onto the railway. Type F9 fencing will be provided to prevent trespass onto the railway.

further and may be difficult for some users of impaired mobility.

Users will be directed to Alexandra Road level crossing, which is a barrier controlled crossing, somewhat limiting the safety benefits associated with closure of Maria Street level crossing.

The footways, though, along the whole of the diversion route are wide and surfaced, meaning that pedestrian accessibility will be not be compromised along the route.

Although there is the potential for short stretches of the diversion route with a gradient between 5 and 13%, it is unlikely to cause significant impacts as these look likely to be errors in the available data. The remainder of the route has a gradient which is under 5%.

involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to the highly urbanised location of this crossing, it is likely that Maria Street level crossing is frequently used by people with protected characteristics.

Maria Street level crossing was subject to a more detailed DIA.

E51 Thornfield

This crossing connects an area of woodland with an area of farmland north of Wakes Colne in Essex.

The accessibility of this crossing is severely limited by the presence of steps, narrow gates and muddy inclines that must be used to access the crossing. These features exclude wheelchair users and those with limited mobility from accessing the crossing. Users with impaired vision may also struggle to safely use this crossing as the layout is not intuitive and there are no audible warnings given for approaching trains.

The overall risk rating of this crossing is D6 with the risk of user misuses identified as the key risk driver and the signage at the crossing noted as a protection against this risk. Each day, approximately 38 trains, travelling at speeds of up to 50mph. Despite the risk, there have been no reported accidents, near misses or incidents of user misuse at this crossing.

A pedestrian user census undertaken in July 2016 recorded 19 adult users of the crossing over the nine-day period.

This crossing does not provide access to any community facility, business or home and as such only has approximately four users per day.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX/152/11 will be extinguished west of the crossing, users will be diverted north along a new P1 footpath in field margin, outside of Network Rail land, connecting to the highway where users will use the existing overbridge to cross the railway. Users will then continue south along a newly created P1 footpath, also in field margin outside of Network Rail land, for approximately 440m where it connects to existing footpaths EX152/12 and EX/152/13.

Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway. New Wayfinding signs will be provided. The existing footbridge at the level crossing is to be removed.

The diversion route increases walking distances from 44m to 1,162m. This will require users to walk 1,117m further and may be difficult for some users of impaired mobility.

The proposed diversion route directs users to an overbridge to the north of the crossing. The bridge is very narrow and does not have a footway on either side of the road, forcing users into the carriageway.

The new route also requires users to use new 2m wide footpaths in the field margins, which may cause accessibility limitations for those who require a level surface such as wheelchair users.

Although the majority of the diversion route has a gradient of under 5%, there are potentially stretches with a gradient between 5 and 17%. This is steeper than the current route and may pose challenges for older people, wheelchair users, and parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion is considerably longer, the current route has steps, narrow gates and muddy inclines meaning that accessibility, through closure and redirection, will not be reduced. The current crossing is also remote with low usage.

Therefore, it is felt that not DIA is required.

E52 Golden Square

The level crossing is a public footpath located in rural Essex.

The approach to the level crossing consists of a steep woodland trail leading to a stile on either side. Once over the stile, there are difficult steep steps down to the railway line with an uneven gravel path across it. This route would not be accessible for users with mobility or visual impairments, nor parents with pushchairs or small children.

An estimated 38 trains travelling at speeds up to 50mph use the area daily.

Due to user misuse, the level crossing has a risk rating of D10. There are warning signs close to the level crossing, and there have been no recent reports of misuse or accidents on the level crossing.

A pedestrian user census undertaken in July 2016 recorded three adult users of the crossing over the nineday period.

The crossing is completely surrounded by agricultural fields, and is only accessible via a woodland path. There are a few large isolated houses around the level crossing, but there is no road or amenities linking it to a property. Therefore it is unlikely that community severance impacts will occur as a result of the closure.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX/152/7 will be extinguished west of the crossing and replaced with a field edge footpath, connecting users to Chappel Road. East of the crossing footpath EX/146/21 will be extinguished to prevent a dead end. Users of existing footpath EX/152/8 will connect to a new P1 footpath on the western side of the railway.

Users will be able to cross the railway south of the crossing via an existing bridge on the carriageway. Alternatively, if following the new footpath heading north on the west side of the railway, this will connect to existing footpath EX/146/12 and users will be able to cross using an

The new route is a change from 707m to 1,506m. This will require users to walk 799m further and may be difficult for some users of impaired mobility.

There are two proposed options for users to cross the railway line. To the north, users are directed to an existing overbridge, which is relatively narrow and does not have footways on either side of the road. This will force users into the carriageway and reduce pedestrian safety due to the sharp bend at one side of the bridge.

To the south, users will use a bridge which also has no footpath. This may be difficult for some users, such as wheelchair and parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current route is inaccessible (due to the presence of stiles, steep steps and an approach through a woodland trail), it is felt that accessibility will not be reduced as a result of the closure of Golden Square level crossing. The crossing is also remote with very minimal usage.

Therefore, no DIA is required.

existing bridge connecting into existing footpath EX146/15 on the east. Should users continue south they will be directed along an existing carriageway alongside Fordham Road before connecting users to either FP EX/146/35 east or continue along Fordham Road.

Crossing infrastructure would be removed and type F7 fencing installed to prevent trespass onto the railway. New wayfinding signage will be provided.

Parts of the new route requires users to walk in a 2m wide footpath in the field margin. This may cause accessibility limitations for those who require a level surface -such as wheelchair users.

Although the majority of the diversion route has a gradient of under 5%, there are potentially stretches with a gradient over 5%. ⁵¹ This is steeper than the current route and may pose challenges for older people, wheelchair users, and parents with pushchairs.

E54 Bures

This crossing connects Colne Road with The Paddock residential area and does not serve a distinct purpose beyond this.

The accessibility of this site is severely limited by the presence of stiles and narrow tracks to access the crossing. These exclude wheelchair users and many people with limited mobility from using the crossing. The accessibility of the approaches to this crossing are similarly inaccessible to all users given that they are natural, informal tracks.

The overall risk rating for this site is D7 with user misuses identified as the key risk driver at this site and signage as the principal safety feature. There are approximately 38 trains that use this section of the line each day, operating at speeds of up to 50mph. There have been no accidents, near misses or incidents of user misuse at this site.

A pedestrian user census undertaken in July 2016 recorded 34 people using the crossing over the nine-day period. This included 25 adults, eight unaccompanied children and one older user.

The crossing does not provide direct access to any community facilities.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath EX/70/30 will be extinguished on the west side of the crossing to prevent the creation of a dead end. Alternatively, west of the crossing users will be diverted north along an existing carriageway along Colne Road before being diverted east under an existing underbridge on Lamarsh Hill. A P7 footway will be provided and a crossing point to allow users to cross. Here users would follow an existing footway south along The Paddocks road before connecting to the existing footpath EX/70/30. This would allow users to also connect to existing footpath EX/70/32 east of the crossing, heading further east into Bures village.

Crossing infrastructure would be removed and fencing installed to prevent trespass onto the railway. West of the crossing the existing type F1 fencing will be removed, and replaced with type F4 fencing. On the east side of the crossing a 1m length section of type F4 fencing will be installed to prevent trespass onto the railway.

The proposed diversion route results in increased walking distances (from 157m to 486m). This will require users to walk 329m further and may be difficult for some users of impaired mobility.

The new diversion requires users to walk in the carriageway along a grassy verge. This may be difficult for users of impaired mobility that require a level surface such as wheelchair users. However, this footpath does not extend beyond the underbridge on the eastern side of the line.

The rest of the proposed diversion route benefits from at least one level and evenly paved footpath.

Although the majority of the diversion route has a gradient of under 5%, there are potentially stretches with a gradient between 5 and 8.5%. This is slightly steeper than the current route and may pose challenges for older people, wheelchair users, and parents with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current diversion requires users to negotiate stiles and narrow, natural tracks, accessibility will not be reduced as a result of users following the proposed diversion route. The proposed route may also pose benefits for users (such as children and older people) in terms of safety.

Therefore a DIA is not required.

E56 Abbotts

Abbotts public footpath (EX/158/27) level crossing is located in the Ardleigh Parish in the county of Essex.

It is understood that this crossing is currently closed.

The level crossing has gates on either side. The approach to the crossing is uneven with some overgrown vegetation. The crossing is surrounded on all sides by agricultural land. The crossed itself is decked with anti-slip boards

The crossing has whistle boards, but following a noise abatement notice preventing trains from sounding their horns to alert level crossing users of an approaching train, it became necessary to close the level crossing on a temporary basis for reasons of public safety.

The crossing carries passenger and freight trains with a line speed of 100mph. There are generally 184 trains using the crossing per day. The ALCRM risk score at this crossing of M13, making it a low risk crossing.

It is located to the south of Ardleigh in an area that is predominately agricultural, although there is an industrial estate to the north of the crossing.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished.

Users of Footpath 42 will be diverted along footpath 49 then north along the existing footway on Station Road to cross the railway over the existing Ardleigh crossing, after which users will then use existing footway on Station Road and Church View north into Ardleigh.

Here they would join existing footpath 27, users would then follow a newly created P1 footpath in field margins outside of Network Rail The propose diversion route results in a total walking distance of 2,531m. This will require users to walk 456m further and may be difficult for some users of impaired mobility.

Users will be directed to Ardleigh Crossing, which is a controlled crossing, somewhat limiting the safety benefits of closing the crossing. To access this crossing users are directed to existing footways – all of the proposed route benefit from at least one, evenly paved footways on either side of the road.

The new route requires users to walk in 2m wide footpaths in the field margins.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Ass the current crossing is inaccessible and is understood to be closed, there is the potential for improved pedestrian accessibility as a result of the proposed works.

Therefore, a DIA is not required.

⁵¹ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

land south. Users heading east from the level crossing will then be diverted northeast along a newly created footpath in field margins outside of Network Rail land before joining the existing highway Little Bromley Road to cross the railway at the associated road bridge. Users will continue east along Little Bromley Lane and will then connect via a newly created P1 footpath in field margins outside of Network Rail land south before joining existing footpath 42.

Crossing infrastructure at Abbots crossing would be removed and type F7 fencing installed to prevent trespass onto the railway. The new footpaths would be constructed to an appropriate standard including new wayfinding signs. Details will be discussed and agreed with the local authority.

This may be difficult for users who require a level surface such as wheelchair users.

To the north of the crossing, users are directed to Little Bromley Road bridge. This only has very narrow footways on either side of the road, meaning that users are potentially required to walk in the road. Little Bromley Road also has no footpaths.

All of the proposed diversion route has a gradient under 5%, which is similar to the existing route. 52 Therefore, the new route is unlikely to cause significant impacts on people who struggle with steep gradients.

E57 Wivenhoe Park

Wivenhoe Park is a pubic footpath (EX/127/236) level crossing located in the Wivenhoe Parish, Essex.

There are two crossings located at this site: a public footpath level crossing and a private user crossing. The public footpath level crossing will remain open and is not affected by the proposals.

The crossing is accessed via an uneven track from Boundary Road. The crossing has gates on either side.

The crossing is a private vehicle user working crossing with a telephone.

The line carries passenger trains with a line speed of 60mph, and there are generally 94 trains passing through this level crossing per day.

The crossing has a ALCRM of B4, making it a high risk crossing. Key issues relate to gates being left open, short sighting time, large numbers of users, frequent trains and sun glare. There were two incidents of misuses, four near misses and no accidents at this crossing between 2011 and 2015.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Private vehicular rights of way will be extinguished and existing public rights will remain for users of footpath EX/127/236. The footpath level crossing will be retained with cycle friendly gates provided. Private vehicles which are occasionally used in this location to maintain land on the south west of the railway as part of a land stewardship scheme. These will be diverted north and west from the level crossing on existing public highways for approximately 1.75km before crossing the railway at the existing highway bridge on Eastern Approach. On the west of the railway users would be diverted along an existing public road (adopted status to be confirmed) to the waterfront before joining footpath EX/127/130 for approximately 350m to the sluice where the private vehicle will use an existing ramp to come off the footway/flood bund into the local nature reserve. Vehicles will then head south through the local nature reserve (no surfacing required) to access the land under the stewardship scheme.

Private crossing infrastructure at Wivenhoe Park level crossing will be removed replaced with the cycle friendly gates.

The level crossing will remained open for pedestrians, so there will be no change in pedestrian accessibility at this point.

There will be a diversion route in place for private vehicular users. This will result in total travel distance of 1,507m. This is an increase of 63m on the existing route.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As there will be no change to pedestrian accessibility at this site, *a DIA* is not required.

H01 Trinity Lane

This public highway crossing connects Trinity lane in Cheshunt, Hertfordshire with the Lee Valley Regional National Park.

The accessibility of this crossing is generally good with paved access routes leading from the housing estates on Trinity Lane and access gates that should be wide enough for The overall risk rating for this site is E8, with sun glare and the high frequency of trains highlighted as key risk drivers. Approximately six vehicles use this crossing each day

This crossing appears to be significant in providing access to these allotments which may be considered a significant community facility. There are several alternative

The Trinity Lane level crossing will be closed to public highway users and downgraded to a public bridleway level crossing with private vehicular rights granted to As users will still be able to use the current crossing, as it is being downgraded to a public bridleway level

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in

⁵² The diversion includes one stretch with a gradient of 9.7%, however after assessing the data against the terrain this is likely to be due to an error in the available data

This is primarily a vehicle crossing with a gate for pedestrians at the side. This crossing constitutes the closest crossing to the two areas of allotments on the west of the park.

most wheelchairs and mobility scooters. The pathways on the other side of the line may pose a challenge for users with limited mobility for which the uneven ground and puddles of both mud and water may make access difficult.

and the crossing is infrequently used by pedestrians. This line sees approximately 370 trains per day travelling at speeds of up to 85mph. The gates provide some protection against the risks at this site, as does the signage which was both identified as protections against these risks. It is important to stress however, that much of the signage is unclear, unduly long and not especially eye catching and that the sign warning users of the need to close the gates after use is a handwritten sign on a piece of paper taped the gate. There are, however CCTV cameras at this site through which the crossing can be monitored and recorded to maintain safety standards. There have been no accidents, near misses or incidents of user misuse reported at this site.

routes through which the allotments and the park can be accessed, including a more established crossing approximately 1.2km north of this crossing at Windmill Lane.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Future configuration

authorised users. Pedestrians can make use of the existing stepped footbridge immediately adjacent to the crossing. crossing, pedestrian access will be maintained at the current location.

society. In general, personal safety for these groups will be improved by the closure of the crossing.

As pedestrian access at the current location will be maintained, *no DIA is required.*

H02 Cadmore Lane

The Cadmore Lane level crossing is already closed and has been replaced by a fully accessible footbridge with full ramp access.

The accessibility of the original level crossing was limited by the lack of a separate gate for the pedestrian crossing. This crossing had only one gate that covered both the vehicle and pedestrian crossings, this meant that pedestrians seeking to cross would have to open the full length gate in order to do so, exposing them to the active railway line for longer than was necessary. This would have been an even greater risk for wheelchair users or those with limited mobility. The road surfaces may also have caused accessibility problems for certain users. The footbridge that has replaced this level crossing is fully accessible, with ramped access routes on both sides, and a smooth floor surface designed to provide grip to both walkers and wheelchair users.

There is no overall risk rating given for this crossing as it is no longer open. Prior to closure several deaths and serious injuries were highlighted as being caused by the lack of safety at this crossing. The safety features at the level crossing at this site was a gate and signage. There is now a much safer crossing as the footbridge does not require the user to enter onto an active railway line and it does not require users to cross quickly which may be difficult for certain users.

There are businesses, community facilities and homes on the western side of the lines with the Lee Valley Regional Park on the eastern side.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. On the west side of the railway line, users will be diverted to an existing ramped footbridge approximately 50m south of the existing crossing and continue onto footpath Cheshunt 009. Level crossing users coming from the east along footpath Cheshunt 009 will divert south onto the existing footbridge and continue north onto Cadmore Lane. Crossing infrastructure will be removed.

As the current crossing is closed and a fully ramped footbridge is already in place, it is not felt that pedestrian accessibility will be altered.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is already closed and a ramped footbridge is already in place, pedestrian accessibility will not be altered at the current location.

Therefore, a DIA is not required.

H03 Slipe Lane

This crossing is a popular public footpath crossing that connects the two sides of Slipe Lane in Wormley, Hertfordshire.

The approaches are paved. There are kissing gates on one side which may restrict access to wheelchair users. Nevertheless, accessibility is good at this site.

The overall risk rating for this site is B1 meaning there is a significantly high risk to both individuals and collective groups at this site. The key risk drivers identified are the risk of glare from the sun, the high frequency of trains and the high number of users at this crossing. There are approximately 370 trains per day using this section of the line. These are both freight and passenger services that travel at speeds of up to 80mph. The only safety feature at this crossing is the use of signs to warn users of danger. Despite the risk, there have been no reported accidents, near misses or incidents of user misuse at this site.

It is estimated that an average of 195 people use this crossing each weekday and 280 people use the

While there are only a small number of houses on the east side of the line, it is possible that this crossing serves as a key access point for those who live in those houses to reach Wormley, including its shops, schools and community facilities.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

The existing private vehicular rights will be extinguished and existing public rights will be retained. The existing vehicle gates on the east side will be removed and replaced with gates suitable for non-motorised users. The existing gates on the west side of the crossing will be retained for Network Rail access. Motorised users will be diverted northwards along High Road to the existing Wharf Road level crossing, approximately 400m north of Slipe Lane crossing. A new private track approximately 500m in length will be formalised to the east of the railway, providing private vehicular access The key alternative route is approximately 400m north of the crossing at Wharf Road, where a more accessible, signal controlled crossing offers a more inclusive and less dangerous alternative.

However, as the existing public rights of way will be retained at the current site, there is likely to be no impacts on pedestrian accessibility.

There will be a diversion route in place for private vehicles, which will result in a diversion of 1,505m – an increase of 1,475m.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As pedestrian accessibility will be retained at the current site, *no DIA is required.*

crossing each weekend. This makes the crossing a popular one and one that may be considered important to the local community for both economic reasons such as access to employment and businesses and for social reasons such as access to community facilities.

Future configuration

from Wharf Road level crossing to the lakes east of Slipe Lane.

Existing level crossing infrastructure for vehicle access will be removed, and fencing installed to prevent trespass to the railway. To the east of the crossing, fencing will be type F4 fencing, and to the west will comprise type F9 fencing.

H04 Tednambury

This crossing is a pedestrian crossing in the village of Spellbrook that connects land next to the River Stort to an area of farmland.

The accessibility of this crossing is limited by the presence of stiles, narrow kissing gates and overgrown, grassy pathways and inclines that would significantly undermine the ability of those with limited mobility or those who use a wheelchair to access the crossing. This crossing is entirely inaccessible to wheelchair users or those with pushchairs..

This site is given an overall risk rating of B6. Sun glare, the low sighting times and the high frequency of trains are identified as key risk drivers at this site with the presence of signage and whistle boards noted as key precautions against these risks. This line sees around 275 trains per day, travelling at speeds of up to 80mph. Despite the risks at this site, no accidents, near misses or incidents of user misuse have been reported.

The pedestrian user census undertaken in July 2016 recorded 24 people using the crossing over the nine-day period. This included 21 adults, one accompanied child and two older people.

While there is a school near the crossing, it is unlikely that local residents would use this crossing in order to access it. It would be much more likely that anyone seeking to access the village on foot would use the more established routes such as via the bridge off Cambridge Road, approximately 150m south of this crossing or at the signal controlled level crossing approximately 500m north at Spellbrook Lane.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. To the west of the level crossing, users will be diverted south via the creation of a new unsurfaced public footpath within Network Rail land, which crosses the railway via an existing private track, south of the existing crossing. The new footpath will require the construction of a composite hardwood footbridge and where it connects to the existing private track to the south of the crossing, new timber board steps will be provided. A composite footbridge (<8m in length) will also be required to allow users to cross a small watercourse at its eastern end on the western side of the railway.

The new footpath will continue along a field margin, before joining footpath EX-37-22. The section of footpath Sawbridgeworth 003 to the east of the level crossing will be extinguished up to footpath EX-37-22. Users will then make use of the newly created footpath to the south.

Crossing infrastructure will be removed at Tednambury level crossing and type F4 fencing to be installed to prevent trespass to the railway.

The new diversion results in a total walking distance of 598m. This is a change that will require users to walk 191m further and may impact people who struggle to walk long distances.

The majority of the diversion route uses new 2m wide footpaths within field margins; this may cause problems for some users who require even surfaces.

The new diversion also includes steps and the creation of a timber footbridge, which may result in accessibility limitations for those who require a level surface such as wheelchair users.

Although the majority of the proposed diversion route has a gradient of under 5%, there is the potential for some stretches with a gradient over 5%. 53 This is steeper than the current route and may pose challenges for older people, wheelchair users, or people with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As accessibility is limited at the current crossing, by the presence of stiles, narrow kissing gates and grassy inclines, closure and redirection along the proposed diversion route will not reduce accessibility. The crossing is also very remote and has low usage.

Therefore, a DIA is not required.

H05 Pattens

This crossing is a public footpath, connecting a nature reserve with a famer's field. There is nothing of note beyond the nature reserve that is reached by this crossing and there are alternative routes by which the nature reserve can be reached such as via Spellbrook Lane East, approximately 700m south of this crossing.

The accessibility of this crossing is very poor as the presence of several stiles, uneven passageways and steep, grassy inclines means that those with limited mobility or who use a wheelchair would be unable to access this crossing.

This site is given an overall risk rating of B6. Sun glare, the low sighting times and the high frequency of trains are identified as key risk drivers at this site with the presence of signage and whistle boards noted as key precautions against these risks. This line sees around 275 trains per day, travelling at speeds of up to 80mph. Despite the risks at this site, no accidents, near misses or incidents of user misuse have been reported.

A pedestrian user census undertaken in July 2016 recorded 109 people using the crossing over the nine-day period. This included 100 adults, five accompanied children and four older people.

There are several community facilities in the area but due to the lack of houses on the opposite side of the line to these, this crossing is not necessarily important in providing access to them. There is a sign post near this crossing that instructs visitors that there is no thoroughfare through the reserve, meaning that this crossing does not link the western side to any other location than the nature reserve.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. To the west of the level crossing, footpath Users of bridleway Thorley 010 heading east towards Pattens level crossing will be diverted onto a newly created 2m wide unsurfaced public footpath approximately 300m in length, and users will then cross the railway via an existing pedestrian underpass. A canopy structure would be installed to accommodate the new footpath beneath the railway. Either side of the canopy opening would be 2m high steel palisade fencing which would extend across the span of the existing underpass. Network

The new diversion results in an increase in walking distances from 136m to 1,216m. This is a difference that will require users to walk 1,080m further and may have an impact of users with impaired mobility.

The diversion includes 2m wide footpaths in the field margins. These are potentially unsurfaced and could impact users who struggle with uneven surfaces.

The diversion also requires use of infrastructure such as an underpass and two footbridges. This could result in accessibility limitations for those who struggle with these types of

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route is considerably longer, as the current route contains a number of obstacles including stiles, uneven passage ways and grassy inclines, it is felt that overall pedestrian accessibility will not be reduced.

In addition, although there is relatively high usage of the crossing, due to the remote location it is felt that use is

⁵³ The diversion includes stretches with a gradient of over 15%, however after assessing the data against the terrain this is likely to be due to an error in the available data. See section 1.5 for more detail.

Rail access gates would be provided as part of the palisade fencing to allow maintenance and inspection of the existing underpass. The new footpath will continue north, to the east of the railway for approximately 150m before heading south through the local nature reserve, and connect to footpath Thorley 022 after approximately 410m.

Existing crossing infrastructure will be removed and fencing will be installed to prevent trespass onto the railway. The fencing will be approximately 1.8m high type F4 fencing. infrastructure – such as disabled people.

Although the majority of the proposed diversion route has a gradient of under 5%, there is the potential for some stretches with a gradient between 5 and 13%. This is steeper than the current route and may pose challenges for older people, wheelchair users, or people with pushchairs.

likely to be for recreational / leisure purposes rather to access local amenities.

Therefore, a DIA is not required.

H06 Gilston

This crossing is a public footpath crossing that connects an area of fields next to the River Stort to an area of housing and businesses south of Bishop's Stortford in Hertfordshire.

The accessibility of this crossing is poor, with the presence of stiles and steps to access the crossing reducing the ability of those with limited mobility to use the crossing and excluding those who use wheelchairs or mobility scooters.

The overall risk rating of this site is C6 with the high frequency of trains identified as a key risk driver at this site. The presence of signs to warn users is highlighted as the key safety feature at this site. This line sees around 275 trains operating freight and passenger services each day, travelling at speeds of up to 80mph. Despite the risk, there have been no accidents, near misses or incidents of user misuse reported at this site.

A pedestrian user census was undertaken in July 2016 and recorded 51 users of the crossing over the nine-day period (50 adults and one impaired user).

This crossing does not appear to be significant in itself as there are no houses or buildings on the eastern side of the line that are served primarily by this crossing.

Closure of this crossing alone would not therefore cause foreseeable harm to the local community. The crossing is used by an estimated two people each day, meaning the impact of closing this crossing would not be widely felt.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. A section of the existing PRoW Thorley 007 will be extinguished between Thorley Street and the level crossing. To the west of the railway, users will be diverted south onto Thorley Street and cross the railway using a newly created P1 footpath, which makes use of an existing underpass below the railway.

A canopy structure would be installed to accommodate the new footpath beneath the railway. Either side of the canopy opening would be type F9 fencing which would extend across the span of the existing underpass. Network Rail access gates would be provided as part of the palisade fencing to allow maintenance and inspection of the existing underpass.

Users will then continue north along a 250m stretch of newly created footpath, which re-joins footpath Thorley 007.Existing crossing infrastructure will be removed and fencing will be installed to prevent trespass onto the railway. The fencing will be type F4 fencing.

The new diversion route is a change from 119m to 641m. This will require users to walk 522m further and may impact some users of impaired mobility.

The diversion includes 2m wide footpaths in the field margins. These are potentially unsurfaced and could impact users who struggle with even surfaces.

The diversion also requires use of infrastructure including an underpass, an existing footbridge, and a new footbridge to be put in place. This could result in accessibility limitations for those who struggle with these types of infrastructure – such as wheelchair users.

Although the majority of the proposed diversion route has a gradient of below 5%, there is the potential for some stretches with a gradient between 5 and 12%. This is steeper than the current route and may pose challenges for older people, wheelchair users, or people with pushchairs.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed diversion route requires users to walk further, as the current route has stiles and steps, it is not felt that overall pedestrian accessibility will be reduced as a result of the proposed work. The crossing is also fairly remote and has low usage.

Therefore, a DIA is not required.

H08 Johnsons

The Johnsons crossing is a former level crossing in Bishop's Stortford, Hertfordshire that was closed following a report by the Rail Accident Investigation Branch (RAIB) at the Department for Transport (DfT). A fully accessible footbridge with ramped access has been installed to replace the crossing.

The accessibility of the former level crossing was limited by the gates and fences that were narrow in places and potentially difficult for some wheelchair users to navigate.

The former level crossing at this site had a variety of safety features including miniature traffic signals. audible warning alarms, gates and signs but despite this, it was still possible for users to miss or misunderstand the warnings. The last risk assessment of this site in 2012 reported that the crossing was used approximately 319 users each day and that there were approximately 253 trains that used this line each day, travelling at speeds of up to 70mph. It is apparent from the RAIB report that the poor safety record and significant risk at this site was the primary reason for its closure,

This crossing provides access between two dense areas of housing that contain a range of community facilities and businesses that people from either side of the line will likely require.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Users of the public footpath Bishops Stortford 060 to the west of the railway will make use of an existing footbridge adjacent to the Johnsons level crossing. The diversion route formalises the PRoW that makes use of an existing track to the east of the level crossing, and extinguishes the PRoW shown on the definitive map.

As the current crossing is already closed and users are required to use an adjacent ramped footbridge. This is a ramped and fully accessible crossing that is unlikely to restrict pedestrian accessibility at this site.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the current crossing is already closed and a ramped, fully accessible footbridge is in place at the current site, it is not felt that a DIA is required.

however the new footbridge does provide improved accessibility in addition to improved safety.

H09 - Fowlers

This is a private user worked level crossing for registered users.
Currently there is no public right of way across this level crossing.

The approach to the crossing is through fields. The crossing itself is flat and appears relatively accessible There is a gate on one side of the crossing.

The railway line at this point carries passenger and freight trains with a line speed of 90mph. There are generally 317 trains passing through this level crossing per day.

The crossing has an ALCRM score of B6, making it a high risk crossing. There was one incident of misuse, two near misses and no accidents between 2011 and 2015.

There are a small number of residential and commercial properties along Thorley Street south west of the crossing. The wider surrounding area is largely agricultural. There is a large pond on the west side of the railway, north west of the crossing. The River Stort is to the east.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing private rights over the level crossing will be extinguished. No vehicular diversion would be provided as part of this project. Private non-motorised users would cross the railway by heading southbound along the existing footway on Thorley Street. At a point approximately 100m north of the roundabout where St James Way meets the A1184, a new footpath would be created which runs in an easterly direction towards an existing underpass beneath the railway. This new footpath will be unsurfaced. A canopy structure would be installed to accommodate the new footpath beneath the railway. Either side of the canopy opening would be 2m high type F9 fencing which would extend across the span of the existing underpass. Network Rail access gates would be provided as part of the palisade fencing to allow maintenance and inspection of the existing underpass. To the west of the railway a new footpath would be created outside Network Rail land parallel to the railway to link the

Existing crossing infrastructure will be removed at Fowlers level crossing and fencing will be installed to prevent trespass onto the railway. The fencing will be type F1 fencing.

existing underpass and Footpath

Thorley 007.

The proposed diversion route requires the use of a range of different types of infrastructure, including an existing underpass, a new footbridge and new 2m wide footpaths. This may pose challenges for people who struggle to negotiate certain types of infrastructure.

The entire proposed diversion route has a gradient of under 5% which is within recommended parameters for route gradients identified in national design guidance. In addition, walking distances are likely to reduce by 252m, resulting in a total walking distance of 160m. This is likely to positively benefit users of the crossing.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the crossing is a private user crossing and the proposed diversion route is unlikely to significantly reduce accessibility (as the gradients are in line with recommended parameters and walking distances are likely to reduce), it is felt that a DIA was not required.

HA01 Butts Lane

Butts Lane is a public footpath (FP 170) level crossing located in the London Borough of Havering.

The crossing is located approximately 400m from Emerson Park station. The railway line bisects the highly urbanised area of Hornchurch to the south and Emerson Park to the north.

The approach to the level crossing is via narrow tracks and there are crossing stiles on either side of the crossing. The crossing itself is fully paved and marked.

The crossing has an ALCRM score of C6, making it a relatively high risk crossing. Key issues relate to sun glare.

The line is used by approximately 56 passenger trains per day with a line speed of 30mph. The crossing spans the one track Romford to Upminster Line. Between 2011 and 2015, no incidents of misuse, near misses or accidents were recorded at the site.

In the local area, there are a number of local amenities and it is understood that the crossing forms part of a relatively popular route to access local facilities.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath 170 will be diverted onto the existing footway on Burnway, heading east to connect to an existing footbridge. Public right for FP 170 would be extinguished on the south side of the crossing and up to Maybush Road on the north side to prevent the creation of a dead end whilst maintaining access to private properties. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished and gates will be installed at the boundary of the adopted highway to allow private access. Users will then use existing footpath, heading north to cross the railway via the existing footbridge before continuing west along Woodhall Crescent. Users will then be diverted via existing FP170

The proposed diversion route results in a total walking distance of 746m, which is an increase of 625m. This may pose problems for people who struggle with long walking distances.

The full diversion route has paved, level footpaths on both side of the road. The route also requires use of a ramped footbridge, which is at least 4m in width and has a gradient of 5%. This should not pose any accessibility problems.

The entire proposed diversion route has a gradient of under 5.6% which is within recommended parameters for route gradients identified in national design guidance.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to the highly urbanised location of this crossing, it is likely that Butts Lane level crossing is frequently used by people with protected characteristics

Butts Lane level crossing was subject to a more detailed DIA.

footpath to Maybush Road north of the level crossing.

Crossing infrastructure at Butts Lane level crossing will be removed and 2.0m type F9 fencing to be installed to prevent trespass onto the railway. New wayfinding signage will be provided.

HA02 Woodhall Crescent

Woodhall Crescent public footpath (FP 172) level crossing is located in the London Borough of Havering.

It is located approximately 980m from Emerson Park station. The railway line bisects the highly urbanised, residential area of Hornchurch to the south and Emerson Park to the north.

The approach to the crossing is via narrow and uneven paths, that would restrict accessibility for some people from protected characteristic groups. Woodhall Crescent is a 'Stop, Look and Listen' crossing. Between 2011 and 2015, no incidents of misuse, near misses or accidents were recorded at this site. The crossing has an ALCRM score of C5, making it a relatively high risk crossing.

Approximately 56 passenger trains use this part of the line daily, with a line speed of 30mph.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over the level crossing will be extinguished. Footpath 172 will be diverted onto the existing footway on Maywin Drive, heading southeast to connect to an existing footbridge. Public right for FP 172 would be extinguished on the both side of the crossing to prevent the creation of a dead end whilst maintaining access to private properties. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished and gates will be installed at the boundary of the adopted highway to allow private access. Users will then use existing footway, heading north to cross the railway via the existing footbridge on Wingletye Lane before continuing northwest along the existing footway

Crossing infrastructure at Woodhall Crescent level crossing will be removed and 2.0m high type F9 fencing to be installed to prevent trespass onto the railway.

on Woodhall Crescent.

Walking distances are increased to 447m, an increase of 289m. This may pose problems for people who struggle to walk long distances.

The diversion has paved footpaths along the full length of the route. In addition, the existing bridge has a segregated pedestrian footbridge alongside it and has a gradient of 5% and width of 1.9m. This is unlikely to pose accessibility problems for any users.

The entire proposed diversion route has a gradient of under 5% which is within recommended parameters for route gradients identified in national design guidance.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Due to the highly urbanised location of this crossing, it is likely that Woodhall Crescent level crossing is frequently used by people with protected characteristics.

Woodhall Crescent level crossing was subject to a more detailed DIA.

HA03 Manor Farm

Manor Farm is a public right of way (FP 251) level crossing located in the London Borough of Havering.

The crossing has been closed since the creation of the M25 which servers the route to the east. The railway line at this point carries passenger and freight trains with a line speed of 70mph. There are generally 82 trains passing through this level crossing per day.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

This crossing is not present on site and residual existing public rights of way over the level crossing will be legally extinguished. Footpath 251 will be legally extinguished from Pea Lane on the west to the M25 on the east, approximately 330m. It is proposed at an alternative walking route be implemented.

The proposed diversion route requires users to walk 558m. This is an increase of 317m and may impact users with impaired mobility, though the current crossing is already clsoed.

The diversion requires use of 2m wide footpaths in the field margin. These are likely to be unsurfaced and have an adverse impact on users who require a level surface such as wheelchair users.

The route also requires users to walk in the road for part of Ockendon Road, which has no footpaths on either side of the road. This will force users to walk in the carriageway.

The entire proposed diversion route has a gradient of under 5% which is within recommended parameters for route gradients identified in national design guidance.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

As the crossing is currently closed, pedestrian accessibility is likely to be improved by the creation of an alternative route.

Therefore, a DIA is not required.

HA04 - Eve's

This is a stop, look and listen public footpath level crossing where the user has to decide whether it is safe to cross

The crossing is not accessible for people with mobility difficulties, or those with wheelchairs / pushchairs, as it requires the use of stiles. The

The crossing is a 'Stop, Look and Listen' crossing. The railway at this point carries passenger and freight trains with a line speed of 70mph. There are generally 82 trains per day There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and

Existing public rights of way over the level crossing will be extinguished. Footpath 252 will be diverted west onto the existing footway and verge on Dennis Road. The proposed diversion route results in a change in walking distances from 982m to 1,504m. This is a change that will require users to walk 522m further

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in

The M25 is located immediately west of the crossing. A drain runs parallel with the footpath on both sides of the railway. The surrounding area is predominantly agricultural, with a small number of residential properties and farms in the area. Three large lakes known as Russell's Lake, used for recreational purposes, are located to the south west.

approach to the crossing is also uneven with overgrown vegetation.

The crossing has an ALCRM score of C7, making it a relatively high risk crossing. Key issues relate to sun glare and frequent trains.

A pedestrian user census undertaken in July 2016 did not record any users of the crossing over the nine-day period.

people from BAME and minority faith groups).

Future configuration

FP 252 would be extinguished on the west side of the crossing and on the east side of the level to prevent the creation of a dead end. Boundary fencing will be installed at the railway boundary where the footpath is to be extinguished. Users will be diverted from Dennis Road onto a new, P1 footpath. This new footpath will be within a field margin, outside of Network Rail land to the west of the woodland and then heading west and north before crossing over the existing highway, Pea Lane. Users will make use of the existing track over which a P1 footpath will be created, heading north to FP251 which will then be used to reach Pea Lane by heading east. Users will continue over Pea Lane onto a new, P1 footpath. This new footpath will be within a field margin, outside of Network Rail land to the east of Pea Lane and then heading north and east before crossing the railway at the existing road bridge on Ockendon Lane. To the east of the railway, users will be diverted east onto a new P1 footpath within a field margin outside within Network Rail land before using the existing footway on Ockendon Lane to re-join FP231 heading south to connect to existing footpath FP253.

Crossing infrastructure at Eves level crossing will be removed and type F7 fencing will to be installed to prevent trespass onto the railway. New wayfinding signage will be provided.

and could impact users of impaired mobility.

Users would be directed to the underbridge on Dennis Road, this has a wide and paved footpaths but the majority of Dennis Road would require users to walk on the grass verges. This is also the case with Pea Lane, which is a very narrow road without any footways. This would require users to walk in the road and may pose safety problems for some users.

The diversion also requires use of 2m wide footpaths in the field margin. These are likely to be unsurfaced and have an adverse impact on users who require a level surface such as wheelchair users.

The entire proposed diversion route has a gradient of under 5% which is within recommended parameters for route gradients identified in national design guidance.

society. In general, personal safety for these groups will be improved by the closure of the crossing.

Although the proposed route increases walking distances, as the current crossing requires users to negotiate stiles and uneven / overgrown appraoches, it is felt that accessibility will not be reduced. The current crossing is also very remote and has very low usage.

Therefore a DIA is not required.

T01 – No Name No. 131

This crossing is a public footpath that connects the Milehams industrial estate, off Tank Hill Road, to the A1306.

The accessibility of this crossing is poor as it includes several stiles to access the line with muddy and uneven pathways that are likely to have the effect of excluding wheelchair users, those with pushchairs and users with limited mobility. There is a narrow and uneven, wooden footbridge over a ditch across which certain users would be expected to access the crossing. As well as reducing the ability of those with limited mobility from accessing the crossing, it may also pose a risk to young children. The use of whistle boards at this crossing make it more accessible to those with visual impairments. however such users would also be limited by the uneven ground and various obstacles.

161 trains (travelling at speeds of up to 50mph) use this part of the network daily. As such, the overall risk rating of this crossing is C8, with sun glare and the high frequency of trains identified as key risk drivers.

A pedestrian user census undertaken in July 2016 recorded eight users, including six adults and two impaired users.

There are no community facilities in the immediate vicinity of the crossing; however, the wright Car Company and a number of residential properties lie with reasonable proximity.

There is a low density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

The level crossing will be extinguished. Footpath 32 will be diverted onto a new footpath on the east side of the A13 heading south west along the field boundary. Users would then be diverted onto new stepped access west of the railway and cross over the railway bridge. To return to the west side of Footpath 32 users would be diverted onto new stepped access east of the railway. The stepped access would be to the east of the existing bridge parapet and would require realignment of the existing noise barrier. Users would then be diverted along a new footpath within Network Rail land and then use the existing path to link into Footpath 32 east of the railway.

It is also proposed to provide a new continuous footpath link between the stepped accesses on both sides of the railway by connecting to Footpath 36 which extends beneath the railway via an existing underpass. These new footpaths

The proposed diversion route increases walking distances from 447m to 1,195m. This will require users to walk 748m further and may have an impact on some users.

The proposed diversion includes the use of new 2m wide footpaths in the field margin. These are likely to be unsurfaced and therefore cause accessibility limitations for people with impaired mobility such as wheelchair users. In addition, the route includes the creation of a steel footbridge. This could potentially cause accessibility limitations for users with impaired mobility.

The proposed diversion also links two footpaths through the use of steps, which may result in accessibility limitations for those who require a level surface such as wheelchair users.

The new diversion includes the use of two overbridges. Both bridges benefit from footways that are unlikely to cause problems for people who require accessible routes. Safety features of the crossing include signage and whistle boards and, to date, there have been no reported accidents, near misses or incidents of misuse at this site.

Although the proposed diversion route potentially includes the use of steps and requires users to walk significantly further, as the current route is inaccessible (due to the presence of stiles, a footbridge, an underbridge and muddy / uneven pathways), it is not felt that overall pedestrian accessibility will be reduced. In addition, the location of the current crossing means that it is unlikely to be used to access local amenities.

Overall, it is felt that no DIA is required.

will be unsurfaced (P1) and would make use of the existing open span underneath the bridge supporting A1014 The Manorway. The surfacing beneath the bridge within the open spans would have a gravel or stone finish (P3).

To the west of the railway a steel footbridge (>8m in length) is required along the new footpath to the west of the railway near Footpath 36 to allow users to cross a drainage ditch. Crossing infrastructure at Jefferies level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided.

The entire proposed diversion route has a gradient of under 5.2% which is within recommended parameters for route gradients identified in national design guidance.

T04 Jefferies

This crossing is a pedestrian crossing that connects an area of farmland next to the A13 to a residential area of Stanford-Le-Hope.

The accessibility of Jeffries level crossing is somewhat limited by the uneven pathways that lead to the crossing on each side. Moreover all users will have to walk through the adjacent field to access the level crossing from the north. Access to the crossing on both sides is via uneven track and crossing gates.

An estimated 153 pedestrian users use this crossing daily. Additionally, approximately 136 trains, travelling at speeds of up to 70mph, use this part of the network each day. Due to the volume of users, frequency of trains and risks of sun glare, Jefferies level crossing has an overall risk rating of C4. Despite these risks, there have been no reported accidents, near misses or incidents of user misuse.

A pedestrian user census recorded 153 users of the crossing over the nine-day period. This included 145 adults, two accompanied children and six unaccompanied children.

There is a high density of equality groups in the area. The crossing however does not provide access to any local facilities which may be required by persons with protected characteristics.

Existing public rights of way over the level crossing and between the east side of the A13 and the level crossing will be extinguished. Footpath 32 will be diverted onto a new footpath on the east side of the A13 heading south west along the field boundary. Users would then be diverted onto new stepped access west of the railway and cross over the railway bridge. To return to the west side of Footpath 32 users would be diverted onto new stepped access east of the railway. The stepped access would be to the east of the existing bridge parapet and would require realignment of the existing noise barrier. Users would then be diverted along a new footpath within Network Rail land and then use the existing path to link into Footpath 32 east of the railway.

It is also proposed to provide a new continuous footpath link between the stepped accesses on both sides of the railway by connecting to Footpath 36 which extends beneath the railway via an existing underpass. These new footpaths will be unsurfaced (P1) and would make use of the existing open span underneath the bridge supporting A1014 The Manorway. The surfacing beneath the bridge within the open spans would have a gravel or stone finish (P3).

To the west of the railway a steel footbridge (>8m in length) is required along the new footpath to the west of the railway near Footpath 36 to allow users to cross a drainage ditch. Crossing infrastructure at Jefferies level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent

As part of the proposed diversion route, users will be required to use an existing underpass, which could potentially restrict access for some users. Users would also be required to negotiate steps as part of the diversion route – this may pose significant challenges for wheelchair users, people with mobility issues and those with pushchairs.

There are plans to create new footpaths along the route, which is likely to benefit users who may have struggled with the lack of footpaths along parts of the route. However, parts of the route requires users to walk in the field boundaries which may potentially restrict users who will struggle to manage uneven surfaces.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

The level crossing seems well used and the nearest alternative crossing was via the A1014 which has no designated pedestrian footpath.

Jefferies level crossing was subject to a more detailed DIA.

trespass. New public wayfinding signage will be provided.

T05 Howells Farm

This crossing is a public footpath crossing that connects a campsite and caravan park and Southend Road (B1420) a wooded area and farmland.

The northern approach to the level crossing is via a densely vegetated, narrow dirt track. This will limit accessibility for people with disabilities and parents with pushchairs. The southern approach is via a partially tarred road, off Inglefield Road, which poses little restriction for any users.

Approximately 118 trains, travelling at speeds of up to 70mph, user this part of the network daily. Due to the frequency of trains, volume of users and risks of sun glare, the overall risk rating for this crossing is C4. Despite these risks, there have been no reported accidents, near misses or incidents of misuse at this site. Safety features at the crossing include warning signs.

A pedestrian user census undertaken in July 2016 recorded 18 adults using the crossing over the nine-day period.

This crossing does not provide access to community facilities that may be required by persons with protected characteristics, but it does provide a shortcut to the properties and businesses located on either side of the railway.

There is a moderate to high density of all equality groups for which we have data in the immediate area (under 1s, under 16s, over 65s, people with a LLTI, and people from BAME and minority faith groups).

Existing public rights of way over and north of the level crossing will be extinguished. There are two diversion routes proposed. Footpath 23 will be extended onto a new footpath, on the south side of the railway heading in a south west direction along the edge of field boundary outside Network Rail land. This new footpath will be unsurfaced (P1). To cross the railway users would use proposed stepped access on to Southend Road and bridge over the railway using the existing footway.

Alternatively, Footpath 23 will be extended onto a new footpath on the south side of the railway heading in a north east direction outside Network Rail land. This new footpath will be a combination of existing path through the development site and a P1 footpath. To cross the railway users would use Fobbing (Automatic Half Barrier) level crossing.

Crossing infrastructure at Howells Farm level crossing will be removed and type F4 fencing will be installed on both sides of the railway to prevent trespass. New public wayfinding signage will be provided. The proposed diversion route increases walking distances by 1,194m (from 91 to 1,285m). This is a significant increase that may pose challenges for people who struggle to walk long distances.

The diversion route includes the

The diversion route includes the creation of a new 2m wide footpaths between the level crossing and High Road, as well as establishing a new footpath along an existing private track in adjacent field margins between the level crossing and Southend Road. As Southend Road is at an elevated level to the fields on the eastern side of the railway, the construction of a stepped access has been proposed linking Southend Road to the new footpath.

Alternatively, users will be directed to Fobbing level crossing which is a controlled crossing and may somewhat limit the safety benefits of closing Howells Farm level crossing.

The majority of the diversion route has a gradient under 5%. There are several sections with the potential for gradients up to 6.7%; however these are only very short stretches (up to 20m) and given the steepness of the current route it is unlikely that these will cause significant impacts on people who struggle to manage steep gradients.

Safety is especially relevant as children, older people, disabled people and men are more likely to be involved in accidents at level crossings than other groups in society. In general, personal safety for these groups will be improved by the closure of the crossing.

Closure, without the establishment of new footpaths linking Howells Farm level crossing to alternative crossings in the area, would result in a lengthy diversion – disproportionately impacting some people with protected characteristics.

Howells Farm level crossing was subject to a more detailed DIA.

4.3 Recommendations

In light of the evidence presented, the following crossings were recommended (in earlier versions of this report) for further DIA analysis:

- E13 Littlebury Gate House
- E15 Parsonage Lane / Margetting
- E30 Ferry
- E31 Brickyard Farm

The following have already been subject to a DIA:

- E02 Camps
- E05 Fullers End
- E10 Dixies
- E32 Woodgrange Close
- E41 Paget
- E49 Maria Street
- HA01 Butts Lane
- HA02 Woodhall Crescent

- T04 Jefferies
- T05 Howells Farm

All DIAs recommended above had been undertaken at the time of updating this report to revision C.

