

# High Speed Rail (Crewe – Manchester) Environmental Statement

## Volume 5: Appendix HA-001-0MA02

### Health

MA02: Wimboldsley to Lostock Gralam  
Health assessment matrix

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Department  
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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# 1 Introduction

- 1.1.1 This report presents assessment matrices that have been used to identify the health effects relating to the Wimboldsley to Lostock Gralam area (MA02).
- 1.1.2 This appendix should be read in conjunction with:
- Volume 2, Community Area reports;
  - Volume 3, Route-wide effects; and
  - Volume 5, Appendices.
- 1.1.3 The matrices in this appendix list the impacts on health determinants identified along the route of the Proposed Scheme and apply assessment criteria as set out in the Environmental Impact Assessment (EIA) Scope and Methodology Report (SMR) (see Volume 5: Appendix CT-001-00001) to evaluate the likely health effects arising from these impacts. The assessment matrices for the construction and operational phases of the Proposed Scheme are set out in Table 1 and Table 2 respectively.
- 1.1.4 Impacts that are categorised as having low intensity and a low extent of exposure are not considered to affect the health of the population. For such impacts, no health effects are reported. The last column of the tables indicates whether or not a health effect is reported, and in which volume of the Environmental Statement (ES) is discussed.
- 1.1.5 Commentary on the scientific evidence base used in the health assessment is presented in Volume 5, Appendix HA-002-00000.

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**Table 1: Wimboldsley to Lostock Gralam (MA02) – Construction health assessment matrix**

MA02 Wimboldsley to Lostock Gralam – Health effects during construction											
Communities	Impact description	Impact pathway	Temporary / permanent	Beneficial / adverse	Health determinant	Intensity of impact (low / moderate / high)	Extent of exposure (low / moderate / high)	Vulnerable groups	Health effects at population level	Mitigation	Reporting
Wimboldsley and surrounds	Presence of construction workforce on worksites and at satellite compounds. Estimated 90 workers accommodated at Crewe rolling stock depot satellite compound.	Presence of workers in local communities including in local shops, restaurants and other facilities, leading to changes in levels of community cohesion and trust.	Temporary (up to three years)	Adverse	Social capital	Low	Moderate	None identified	Adverse effects on wellbeing associated with negative feelings about community cohesion and trust.	Incorporated mitigation as reported in the ES.	Volume 2
Wimboldsley and surrounds	The construction of the Crewe North Rolling Stock Depot and A530 Nantwich Road Overbridge will require the demolition of five residential properties in Wimboldsley. There are approximately 30 residential properties in Wimboldsley.	Demolition of residential properties and relocation of residents, resulting in the erosion of social networks.	Permanent	Adverse	Social capital	Moderate	Moderate	None identified	Reduction in the beneficial health effects gained through social contact.	None identified	Volume 2
Middlewich, Winsford and surrounds	Construction of the Clive Green south embankments 1, 2 and 3. Views of construction from some properties in Clive Green. Noticeable change in noise environment at residential properties and along Public Rights of Way (PRoW) during construction. Increase in heavy goods vehicle (HGV) traffic along Clive Green Lane.	Visual intrusion, changes to noise environment and an increase in HGV traffic leading to reduced levels of satisfaction with the local environment.	Temporary (up to one year and three months)	Adverse	Neighbourhood quality	Low	Moderate	None identified	Adverse effects on physical and/or mental wellbeing, such as increased stress and reduced satisfaction with quality of life.	Incorporated mitigation as reported in the ES.	Volume 2
Middlewich, Winsford and surrounds	Designated construction traffic routes along the, the B5309 Centurion Way and the B5081 Byley Road in Byley will result in an increase in HGV traffic along	Increase in HGV traffic along the road and changes to the noise environment leading to reduced levels of satisfaction with	Temporary (during peak months of construction)	Adverse	Neighbourhood quality	Low	Moderate	None identified	Adverse effects on physical and/or mental wellbeing, such as increased stress and reduced satisfaction with quality of life.	Incorporated mitigation as reported in the ES.	Volume 2.

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Communities	Impact description	Impact pathway	Temporary / permanent	Beneficial / adverse	Health determinant	Intensity of impact (low / moderate / high)	Extent of exposure (low / moderate / high)	Vulnerable groups	Health effects at population level	Mitigation	Reporting
	sections of these roads, resulting in traffic related severance effects. Noticeable change in noise environment from the increase in traffic at residential properties along these roads.	the local environment.									
Middlewich, Winsford and surrounds	Construction of the Stanthorne north embankment will result in the demolition of Greenheyes Farm, a residential and working dairy farm providing educational trips to local groups.	Demolition of facility leading to loss of a service supporting education and wellbeing.	Permanent	Adverse	Education	Low	Moderate	Children (under 10 years)	Reduction in the beneficial wellbeing effects associated with educational attainment.	None identified	Volume 2
Middlewich, Winsford and surrounds	Presence of construction workforce on worksites and at satellite compounds. Estimated 125 workers accommodated at A54 Middlewich Road satellite compound.	Presence of workers in local communities including in local shops, restaurants and other facilities, leading to changes in levels of community cohesion and trust.	Temporary (up to three years and six months)	Adverse	Social capital	Low	Moderate	None identified	Adverse effects on wellbeing associated with negative feelings about community cohesion and trust.	Incorporated mitigation as reported in the ES.	Volume 2
Rudheath, Lostock Green, Lostock Gralam and surrounds	Construction of the Rudheath embankment and realignment of the A556 Chester Road will result in the loss of Lostock Green Picnic Area.	Reduced opportunities for physical activity and access to green space.	Permanent	Adverse	Access to green space and physical activity	Low	Low	None identified	Reductions in wellbeing benefits associated with physical activity.	Incorporated mitigation as reported in the ES.	Not reported
Rudheath, Lostock Green, Lostock Gralam and surrounds	Construction of the Smoker Brook viaduct will result in temporary and permanent loss of land affecting recreational opportunities at Winnington and Peas	Reduced opportunities for physical activity and access to green space.	Permanent	Adverse	Access to green space and physical activity	Low	Moderate	None identified	Reductions in wellbeing benefits associated with physical activity.	Incorporated mitigation as reported in the ES.	Volume 2

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Communities	Impact description	Impact pathway	Temporary / permanent	Beneficial / adverse	Health determinant	Intensity of impact (low / moderate / high)	Extent of exposure (low / moderate / high)	Vulnerable groups	Health effects at population level	Mitigation	Reporting
	Wood Local Wildlife Site.										
Rudheath, Lostock Green, Lostock Gralam and surrounds	Presence of construction workforce on worksites and at satellite compounds. Estimated 100 workers accommodated at Gad Brook viaduct north satellite compound.	Presence of workers in local communities including in local shops, restaurants and other facilities, leading to changes in levels of community cohesion and trust.	Temporary (up to two years and five months)	Adverse	Social capital	Low	Moderate	None identified	Adverse effects on wellbeing associated with negative feelings about community cohesion and trust.	Incorporated mitigation as reported in the ES.	Volume 2
All areas	Construction of the Proposed Scheme intersecting PRow.	Changes in the amenity value of PRow, increased distance due to diversions, and introduction of features such as footbridges and underpasses, deterring the use of PRow for active travel and recreation.	Temporary and permanent	Adverse	Access to green space, recreation and physical activity	Low	Low	People on low incomes.	No health effects at population level.	Incorporated mitigation as reported in the ES.	Commentary in Volume 2
All areas	Presence of construction traffic, including HGV, on local roads.	Amenity impacts and safety concerns, deterring the use of local roads by non-motorised users.	Temporary	Adverse	Access to green space, recreation and physical activity	Low	Low	None identified	No health effects at population level.	Incorporated mitigation as reported in the ES.	Commentary in Volume 2
Route-wide	Demolition of a total of 24 residential properties in Wimboldsley, Stanthorne, Rudheath and Lostock Green.	Residents required to relocate involuntarily, leading to disruption and uncertainty. Changes in connectivity to social networks, schools, employment, services and facilities.	Permanent	Adverse	Housing	Low to high (depends on individual circumstances)	High (route-wide)	Older people, young families, children, people with specific housing needs, people with mental health conditions.	Effects on mental wellbeing including reduced life satisfaction and increased stress.	Incorporated mitigation as reported in the ES.	Volume 3
Route-wide	Presence of construction activities close to residential	Concern and uncertainty about impacts of	Temporary (throughout	Adverse	Planning blight and uncertainty	Low to high	High (route-wide)	None identified	Effects on mental wellbeing including reduced	Incorporated mitigation as reported in the ES.	Volume 3



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Communities	Impact description	Impact pathway	Temporary / permanent	Beneficial / adverse	Health determinant	Intensity of impact (low / moderate / high)	Extent of exposure (low / moderate / high)	Vulnerable groups	Health effects at population level	Mitigation	Reporting
	properties at Wimboldsley, Clive Green, Stanthorne, Whatcroft, Lostock Green and Lostock Gralam.	construction on local environment and property values.	planning and construction)						life satisfaction and increased stress.		
Route-wide	Direct effects on businesses affecting business activities and employment.	Loss of employment and earnings for some business owners and employees.	Permanent	Adverse	Employment and income	Moderate to high	Moderate (route-wide)	People on low incomes, people with disabilities.	Effects on mental and physical wellbeing associated with loss of employment and earnings.	Incorporated mitigation as reported in the ES.	Volume 3
Route-wide	Presence of the construction works providing employment opportunities and demand for local goods and services.	Direct construction employment and training, employment within the supply chain, and benefits to local businesses through increased expenditure.	Temporary (throughout construction)	Beneficial	Employment and income	Moderate to high	High (route-wide)	Unemployed people and people on low incomes.	Beneficial effects on wellbeing associated with improved skills, employment status and income.	None identified	Volume 3
Route-wide	Increased traffic flows, temporary road/lane closures and diversions.	Delays and route uncertainty for drivers.	Temporary	Adverse	Transport	Low to moderate (route-wide)	Moderate (route-wide)	None identified	Adverse effects on wellbeing due to increased stress.	Incorporated mitigation as reported in the ES.	Volume 3
Route-wide	Increase in traffic flows and proportion of HGV on local road network.	Increased risk of road traffic accidents and fear of accidents.	Temporary	Adverse	Transport	Low to high	Moderate (route-wide)	Older people, children, people with disabilities.	Adverse effects on mental and physical wellbeing including stress and behavioural changes such as reductions in walking.	Incorporated mitigation as reported in the ES.	Volume 3
Route-wide	Presence of construction sites, vehicles and plant resulting in increased air emissions.	Increase in exposure of the population to dust, nitrogen oxides and particulates.	Temporary	Adverse	Air quality	Low	Low	Children, older people, people with existing respiratory health conditions.	No health effects at population level.	Incorporated mitigation as reported in the ES.	Not reported

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**Table 2: Wimboldsley to Lostock Gralam (MA02) – Operational health assessment matrix**

MA02 Wimboldsley to Lostock Gralam – Health effects during operation											
Communities	Impact description	Impact pathway	Temporary / permanent	Beneficial / adverse	Health determinant	Intensity of impact (low / moderate / high)	Extent of exposure (low / moderate / high)	Vulnerable groups	Health effects at population level	Mitigation	Reporting
Middlewich, Winsford and surrounds	Presence of operational trains on the Clive Green south embankment and Stanthorne south embankment no.1. Trains and/or rail infrastructure visible from street level in Clive Green, Clive and Stanthorne. Intermittent train noise noticeable from Clive Green, Clive and Stanthorne.	Visual intrusion and changes to the noise environment leading to reduced levels of satisfaction with the local environment.	Permanent	Adverse	Neighbourhood quality	Low	Moderate	None identified	Adverse effects on physical and/or mental wellbeing, such as increased stress and reduced satisfaction with quality of life.	Incorporated mitigation as reported in the ES.	Volume 2
Middlewich, Winsford and surrounds	Presence of operational trains on the Dane Valley embankment and Puddinglake viaduct. Trains and/or rail infrastructure visible from street level in Whatcroft. Intermittent train noise noticeable from Whatcroft.	Visual intrusion and changes to the noise environment leading to reduced levels of satisfaction with the local environment.	Permanent	Adverse	Neighbourhood quality	Low	Moderate	None identified	Adverse effects on physical and/or mental wellbeing, such as increased stress and reduced satisfaction with quality of life.	Incorporated mitigation as reported in the ES.	Volume 2
Middlewich, Winsford and surrounds	Presence of operational trains on the Gad Brook viaduct. Trains and/or rail infrastructure visible from street level at Pear Tree Farm Cottages, Davenham Road. Intermittent train noise noticeable.	Visual intrusion and changes to the noise environment leading to reduced levels of satisfaction with the local environment.	Permanent	Adverse	Neighbourhood quality	Low	Moderate	None identified	Adverse effects on physical and/or mental wellbeing, such as increased stress and reduced satisfaction with quality of life.	Incorporated mitigation as reported in the ES.	Volume 2

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Route-wide	Operation of high speed trains close to the population at Wimboldsley, Clive Green, Stanthorne, Whatcroft and Pear Tree Farm Cottages.	Increased exposure to noise from operational trains.	Permanent	Adverse	Airborne noise	Low to high (route-wide)	High (route-wide)	Children, older people, people with existing health conditions.	Adverse effects on mental and physical wellbeing including annoyance, sleep disturbance and physiological effects.	Incorporated mitigation as reported in the ES.	Volume 3
Route-wide	Presence of operational depot providing employment opportunities.	Direct operational employment and training.	Permanent	Beneficial	Employment and income	Moderate to high	Moderate (route-wide)	Unemployed people and people on low incomes.	Beneficial effects on wellbeing associated with improved skills, employment status and income.	None identified	Volume 3
CA-wide	Operational trains	Increased exposure to noise in the population close to the Proposed Scheme resulting from operational train movements.	Permanent operational impact	Adverse	Sound, noise and vibration.	Low to high (route-wide)	High (route-wide)	Children, older people, people with existing health conditions.	Adverse effects on mental and physical wellbeing including increased annoyance, loss of sleep and physiological effects.	Incorporated mitigation as reported in the ES.	Volume 3