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HS2

High Speed Rail (Crewe – Manchester) Environmental Statement

Volume 5: Appendix TR-003-00001

Traffic and transport

MA01: Hough to Walley's Green Transport Assessment Part 3

M285

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Transport Assessment Part 3

M285

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.

High Speed Two (HS2) Limited
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA

Telephone: 08081 434 434

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

A report prepared for High Speed Two (HS2) Limited:

ARUP+ ERM | FOSTER + PARTNERS | JACOBS
RAMBOLL | TYPSA | COSTAIN

MWJV
Mott MacDonald | WSP

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12.1 Introduction

12.1.1 This section of the Transport Assessment (TA) considers the impacts of the Proposed Scheme on all modes of transport. This is considered for each community area (CA) in turn along the route of the Proposed Scheme (MA01 to MA08) from south to north for both the construction and operation phases followed by off-route and route-wide impacts. In MA01, combined impacts with HS2 Phase 2a are also considered.

12.1.2 In Greater Manchester, where there is a degree of commonality between the community areas and the same strategic model is being used to inform the assessment, MA06, MA07 and MA08, including both Manchester Airport High Speed station and Manchester Piccadilly High Speed station, have been considered together.

12.1.3 In order to ensure that the design of infrastructure provided does not prejudice future delivery of Northern Powerhouse Rail (NPR), infrastructure has been assessed as a NPR sensitivity for Greater Manchester.

12.2 The Proposed Scheme

12.2.1 The Proposed Scheme includes:

- new stations at Manchester Airport and Manchester Piccadilly; a depot north of Crewe; maintenance facilities north of Crewe and at Ashley; and a connection onto the West Coast Main Line (WCML) near Bamfurlong;
- the Crewe Northern Connection, connecting the route of the Proposed Scheme with the WCML and enabling future Northern Powerhouse Rail (NPR) services to connect with HS2;
- provision for the NPR London to Liverpool, Manchester to Liverpool, and Manchester to Leeds junctions, to enable these future NPR routes to connect with HS2; and
- a number of works at locations beyond the route corridor, referred to as 'off-route works' which include: works to enable HS2 trains to call at existing stations further north on the WCML; and construction of depots to provide overnight stabling for HS2 trains serving the north of England and Scotland.

12.2.2 The route of the Proposed Scheme will run from Crewe to Manchester and to the WCML near Bamfurlong. The total length of the route is 85km (52 miles). The route will begin to the south of the A500 Shavington Bypass on the southern edge of Crewe, where it will connect to HS2 Phase 2a. It will then enter the Crewe tunnel, which will include two vent shafts: at Cowley Way and Middlewich Street. The route will re-emerge to the north of the B5076 Bradfield Road. The Crewe Northern Connection will be provided to the north of Crewe tunnel to connect the route of the Proposed Scheme to the WCML and enable future NPR

services to connect with HS2. The HS2 Phase 2a route will also connect to the WCML to the south of Crewe Station and so integrates the existing station into the HS2 route.

12.2.3 Crewe North rolling stock depot (RSD) and Crewe North infrastructure maintenance base – rail (IMB-R) will be located between the route of the Proposed Scheme and the WCML where they diverge to the east of Walley's Green. The Crewe North RSD will serve as an operational and maintenance hub for HS2 rolling stock. The Crewe North IMB-R will be an infrastructure maintenance facility and storage area for the Proposed Scheme. Reception tracks will connect the Crewe North RSD with the WCML, the route of the Proposed Scheme and the Crewe North IMB-R.

12.2.4 The route of the Proposed Scheme will continue north passing between the towns of Winsford and Middlewich on a series of embankments and viaducts to the west of Lostock Green and east of Higher Shurlach, Rudheath, Lostock Gralam and Higher Wincham. The route will then cross the M6 on a viaduct. The HS2 WCML connection will then diverge from the HS2 spur to Manchester. The Proposed Scheme also includes the London to Liverpool junction at this location. This junction will be provided to enable future NPR services between London and Liverpool to connect to HS2.

12.2.5 The HS2 WCML connection will continue north towards the M56. The NPR Manchester to Liverpool junction overbridge will span the route to the south of the M56. This will enable a future NPR route between Manchester and Liverpool to cross over the route of the Proposed Scheme. The HS2 WCML connection will pass beneath the M56, which will be carried on an overbridge, before crossing the Manchester Ship Canal on a viaduct to the east of Hollins Green. It will then continue north to cross the M62 on viaduct and pass to the west of Culcheth, before continuing through Lowton and connecting with the WCML south of Bamfurlong.

12.2.6 The HS2 Manchester spur will continue in a north-easterly direction towards Manchester. After crossing under the A556 Chester Road, it will run in an easterly direction, broadly parallel with the M56, passing to the north of Rostherne Mere. The Proposed Scheme includes the NPR Manchester to Liverpool junction at this location. This junction will enable a future NPR route between Manchester and Liverpool to connect to HS2. Ashley IMB-R will also be located adjacent to the route in this area. Ashley IMB-R will be a maintenance facility and storage area for the Proposed Scheme.

12.2.7 Continuing in an easterly direction, the HS2 Manchester spur will cross the Mid-Cheshire Line on a viaduct. It will then turn northwards before passing beneath the M56 in a box structure to the east of Warburton Green.

12.2.8 The HS2 Manchester spur will then continue to Manchester Airport High Speed station. The station will be located adjacent to the M56 and north-west of Manchester Airport. It will include four platforms, two of which will be for future NPR services. A section of viaduct will be constructed across the station to enable future provision of a Metrolink (a light rail network operated by Transport for Greater Manchester) stop at the station. Two Metrolink platforms will be provided on the viaduct.

12.2.9 The HS2 Manchester spur will enter the Manchester tunnel to the north of Manchester Airport High Speed station, near Davenport Green. The tunnel will pass beneath south Manchester in a northerly direction and will include four vent shafts: at Altrincham Road, Palatine Road, Wilmslow Road and Birchfields Road.

12.2.10 The northern portal of the tunnel will be located in the Ardwick area, with the route re-emerging into a box structure and cutting. The Proposed Scheme also includes the NPR Manchester to Leeds junction at this location. This junction will enable a future NPR route between Manchester and Leeds to connect to HS2.

12.2.11 The HS2 Manchester spur will then rise onto embankment and continue on viaduct before terminating at the proposed Manchester Piccadilly High Speed station, a six-platform station for HS2 and future NPR services, with its southern edge adjoining the existing Manchester Piccadilly Station. The Proposed Scheme in the area will include:

- the relocation of the existing Piccadilly Metrolink stop, which will be located beneath Manchester Piccadilly High Speed station;
- the realignment of existing Metrolink tracks;
- provision for a new Metrolink stop, called Piccadilly Central; and
- a new Metrolink turnback facility located immediately east of the existing New Islington Metrolink stop, to replace the existing turnback facility on Sheffield Street. The turnback is a terminating section of track enabling trains to reverse.

Interfaces between the Proposed Scheme and other phases of HS2

12.2.12 Phase 2a will terminate at a portal headwall, which forms the southern end of the tunnel that continues underneath Crewe towards Manchester as part of the Proposed Scheme. Provision has been made in the design for the Proposed Scheme for this purpose. Phase 2a also includes spurs from the route of the Proposed Scheme connecting to the WCML south of Crewe and into Crewe Station.

13 Hough to Walley's Green (MA01)

13.1 Description of the Proposed Scheme

13.1.1 The Proposed Scheme within the Hough to Walley's Green area (MA01) is approximately 10.8km in length. The route will extend from the boundary with HS2 Phase 2a northwards under Crewe in Crewe tunnel and onwards into the Wimboldsley to Lostock Gralam area (MA02).

13.1.2 The route of the Proposed Scheme will comprise the following features in the MA01 area:

- cuttings for a total length of 813m (Crewe north cutting and Coppenhall Moss cutting);
- embankments for a total length of 3.5km (Coppenhall Moss embankment, Coppenhall Moss box structure and Walley's Green embankment); and
- tunnels (including porous portals) for a total length of 6.5km (Crewe tunnel south portal, Crewe tunnel and Crewe tunnel north portal).

13.1.3 The key transport issues within the MA01 area are related to the construction and operation of the Proposed Scheme, including construction traffic, temporary and permanent changes to highways and public rights of way (PRoW), modifications to the West Coast Main Line (WCML) to accommodate the Crewe Northern Connection and enable conventional-compatible trains to access the Crewe North RSD, and Crewe Northern Connection lines to connect the route of the Proposed Scheme to the WCML and future NPR services. In addition, in order to construct the Proposed Scheme, there will be a number of construction compounds within the MA01 area.

13.1.4 The following changes to the existing road network will be required to accommodate the Proposed Scheme in the area:

- realignment of the A530 Middlewich Road; and
- temporary closure of Parkers Road.

13.1.5 Utility works will be required, including a new power supply between an existing sub-station on the A530 Middlewich Road and Crewe tunnel north main compound, requiring temporary lane closures and traffic management along sections of Bradfield Road, Underwood Lane, Badger Avenue, Pyms Lane and the A530 Middlewich Road.

13.1.6 The temporary and permanent closure, diversion and realignment of PRoW and roadside footways will also be required, notably Footpath Crewe 12/1, Footpath Crewe 29/1, Footpath Minshull Vernon 2/1, Footpath Warmingham 16/2 and Footpath Minshull Vernon 13/1.

13.1.7 A full description of the assessment methodology is set out in the Transport Assessment Part 1 (see Volume 5: Appendix TR-001-00000), Section 3 Methodology, with specific details and exceptions outlined in the following sections.

13.2 Proposed Scheme construction description

Introduction

13.2.1 This section provides an overview of the construction traffic and transport impacts for the section of the Proposed Scheme that will pass through the MA01 area.

13.2.2 Construction of the Proposed Scheme is expected to commence in 2025 with construction activity continuing to 2038 (although activity in 2038 will be limited to testing and commissioning). Construction activities have been assessed against 2030 baseline traffic flows, irrespective of when they occur during the construction period.

13.2.3 An assessment has been undertaken of the construction traffic volumes and routes associated with HS2 Phase 2a. It should be noted however that the assessment indicates that in the future baseline of 2030 there will be minimal construction traffic movements as a result of HS2 Phase 2a that overlap with the Proposed Scheme. Nevertheless, it is expected that some HS2 Phase 2a construction activities (from HS2 Phase 2a South Cheshire area (CA05)) will overlap with the construction of the Proposed Scheme. HS2 Phase 2a is expected to use a number of roads that will also be used in the construction of the Proposed Scheme in the area. These include the:

- M6 (including junction 16);
- A500 Newcastle Road/Shavington Bypass;
- A5020 David Whitby Way;
- A532 Weston Road; and
- A534 Crewe Road/Nantwich Road.

Construction activities and phasing

13.2.4 Details of the main construction works and the time periods when each compound is operational are summarised in the indicative construction programme. For the construction programme refer to Volume 2, Community Area report: Hough to Walley's Green area (MA01) Section 2.3.

13.2.5 A complete description of the works associated with the Proposed Scheme in the MA01 area is provided in Volume 2, Section 2.3 of the Environmental Statement. The construction works will be carried out throughout the site for the majority of the construction period. The overall programme has been outlined on a year by year basis. The key construction activities, along with their start dates, are provided in Table 13-1.

Table 13-1: Key highway construction activities in the MA01 area

Activity	Community Area (CA)	Start Date
Area Advance Works	MA01	2025 Q1
Middlewich Street vent shaft	MA01	2027 Q3

Activity	Community Area (CA)	Start Date
Cowley Way vent shaft	MA01	2028 Q1
Crewe Northern Connection - northbound works	MA01	2028 Q2
Crewe Northern Connection - southbound works	MA01	2028 Q2
Parkers Road Overbridge	MA01	2028 Q4
Crewe tunnel south porous portal	MA01	2030 Q1

Compounds and construction sites

13.2.6 The Proposed Scheme will be constructed from compounds. This will include main compounds that manage and coordinate the work from satellite compounds. Where material is required to be transferred from site haul movements to highway movements, this will be undertaken through transfer nodes.

13.2.7 Table 13-2 summarises the expected average and peak workforce (site workers plus staff) at each construction compound in the MA01 area. The location of the construction compounds and the associated construction HGV routes are shown in Volume 5, Traffic and transport Map Book, Map Series TR-08.

Table 13-2: Assumed workforce at construction sites in the MA01 area

Compound type	Compound name	Number of site workers (peak)	Number of staff (peak)	Total workforce (site plus staff)	
				Average	Peak
Satellite	Crewe tunnel south portal satellite compound	90	48	86	138
Satellite	Cowley Way vent shaft satellite compound	91	53	94	144
Satellite	Middlewich Street vent shaft satellite compound	80	48	86	125
Main	Crewe tunnel north main compound	410	158	307	560
Satellite	Warmingham Moss satellite compound	215	60	144	275
Satellite	Moss Lane satellite compound	203	60	143	263

13.2.8 Table 13-3 provides details of the compound set up date and the duration of active use. The duration of active use excludes any period where there are no substantial workforce trips or movement of materials to and from the compound.

13.2.9 Table 13-3 also provides a summary of the HGV and car/light goods vehicle (LGV) access trips at each compound in the peak month of activity and during the busy period. For each compound, the peak month of activity is the month within which HGV traffic is at its highest for that compound. The busy period is the period during which HGV traffic serving that compound will be greater than 50% of the HGV traffic in the peak month. The average daily

combined two-way vehicle trips[1] for the busy period is the lower end of the range shown in Table 13-3 and the average daily combined two-way vehicle trips for the peak month is the upper end of the range shown. The estimated duration of busy period is also provided.

Table 13-3: Typical vehicle trip generation for construction site compounds in the MA01 area

Compound type	Compound name	Indicative start/set up date (years/ quarter)	Estimated duration of active use (years/ months)	Average daily combined two–way car/LGV trips during busy period and within peak month of activity	Average daily combined two–way HGV trips during busy period and within peak month of activity	Estimated duration of busy period (months)
Satellite	Crewe tunnel south portal satellite compound	2029 Q4	4 years	142 - 216	189 - 190	6
Satellite	Cowley Way vent shaft satellite compound	2027 Q4	5 years and 3 months	114 - 254	77 - 88	4
Satellite	Middlewich Street vent shaft satellite compound	2027 Q3	5 years and 6 months	97 - 166	59 - 80	9
Main	Crewe tunnel north main compound	2026 Q3	7 years and 3 months	476 - 644	196 - 316	42
Satellite	Warmingham Moss satellite compound	2027 Q2	7 years	365 - 502	161 - 220	7
Satellite	Moss Lane satellite compound	2027 Q2	6 years and 9 months	341 - 458	160 - 220	8

13.2.10 The indicative construction programme in Volume 2, Section 2.3 illustrates how the phasing of activities at different compounds will generally be staggered and that construction activities at individual compounds may not occur over the whole duration presented in Table 13-3.

Construction HGV routes

13.2.11 Construction vehicle movements required to construct the Proposed Scheme will include the delivery of plant and materials, movement of excavated materials and site workforce trips. Works will include utilities diversions, earthworks, and the construction of underpasses, viaducts, bridges and highways.

13.2.12 HGV have been routed, where reasonably practicable, along the strategic or primary road network, although some access locations will be via secondary roads. Where reasonably practicable, the use of the local road network has been limited to site set up, access for

[1] Two-way trips refer to the total number of vehicle movements in both directions (i.e. with 200 westbound (or arriving) vehicles and 100 eastbound (or departing), there would be 300 two-way trips).

environmental surveys and ongoing servicing (including refuse collection and general deliveries).

13.2.13 The location of the compounds and the associated construction HGV routes are shown on the Volume 5, Traffic and transport Map Book, Map Series TR-08. Table 13-4 summarises the construction HGV routes to and from each compound to the main road network. For some compounds, Table 13-4 includes multiple construction HGV routes. This is either because the construction HGV route varies depending on the origin/destination of the trip or because the construction HGV route varies over time to account for changes to the highway network through the construction period.

13.2.14 The average daily combined two-way HGV trips reported in Table 13-3 represent the total number of HGV movements to and from each compound during the busy period and in the peak month of activity on all of the available construction HGV routes combined. Where multiple construction HGV routes are shown in Table 13-4, the split of construction traffic between the available construction HGV routes will vary based on the point in the construction programme and the origin/destination of the construction HGV traffic.

Table 13-4: Construction HGV routes for construction compounds in the MA01 area

Compound name(s)	Access routes to / from compound(s) to main road network
Crewe tunnel south portal satellite compound	Casey Lane, Newcastle Road and A531 Newcastle Road
Cowley Way vent shaft satellite compound	Route to/from the south: Cowley Way, A532 Weston Road, A5020 David Whitby Way and A500 Shavington Bypass Route to/from the north: Cowley Way, A532 Weston Road and A534 Crewe Road
Middlewich Street vent shaft satellite compound	Route to/from the south: B5076 Middlewich Street, Remer Street, Sydney Road and A5020 University Way B5076 Middlewich Street, Remer Street, B5076 North Street, B5076 Bradfield Road, B5076 Flowers Lane and A530 Middlewich Road B5076 Middlewich Street, Vernon Way, A532 West Street, A530 Middlewich Road Route to/from the north: B5076 Middlewich Street, Remer Street, Sydney Road and A534 Haslington Bypass B5076 Middlewich Street, Vernon Way, A532 West Street, A530 Middlewich Road
Crewe tunnel north main compound	Route to/from the south: Warmingham Road, Groby Road, Sydney Road and A5020 University Way Parkers Road, B5076 Bradfield Road, B5076 Flowers Lane and A530 Middlewich Road (to be used before and after closure of Parkers Road) Route to/from the north: Warmingham Road, Groby Road, Sydney Road and A534 Haslington Bypass Parkers Road, B5076 Bradfield Road, B5076 Flowers Lane and A530 Middlewich Road (to be used before and after closure of Parkers Road)

Compound name(s)	Access routes to / from compound(s) to main road network
Warmingham Moss satellite compound	Route to/from the south: On-site construction traffic route, Warmingham Road, Groby Road, Sydney Road and A5020 University Way On-site construction traffic route, Warmingham Road, Groby Road, Sydney Road and A534 Haslington Bypass On-site construction traffic route, Parkers Road, B5076 Bradfield Road, B5076 Flowers Lane and A530 Middlewich Road (to be used before and after closure of Parkers Road) On-site construction traffic route, Parkers Road, B5076 Bradfield Road, B5076 Flowers Lane and A530 Middlewich Road (to be used before and after closure of Parkers Road) Route to/from the north: On-site construction traffic route and A530 Nantwich Road
Moss Lane satellite compound	On-site construction traffic route and A530 Middlewich Road

13.2.15 Table 13-5 summarises the peak daily construction traffic flows associated with the Proposed Scheme, both in HGV and total vehicles, on roads within the MA01 area that form part of construction HGV routes. In the MA01 area, the main construction HGV routes from the Strategic Road Network (SRN) are: the M6 junction 16; the A500 Newcastle Road/Shavington Bypass; the A531 Newcastle Road; the A51 Nantwich Bypass; the A530 Middlewich Road/Nantwich Road; the A5020 David Whitby Way/University Way; the A532 Weston Road; the A534 Crewe Road/Crewe Green Road; and the B5076 Middlewich Street/North Street/Bradfield Road/Flowers Lane.

Table 13-5: MA01 peak daily construction traffic flow

Location	Direction*	Daily peak HGV vehicles	Daily peak all vehicles
Back Lane (between Casey Lane and Newcastle Road)	EB	95	115
	WB	95	115
Newcastle Road (between Chorlton Lane and A531 Newcastle Road)	EB	95	147
	WB	95	129
Newcastle Road (between Casey Lane and Chorlton Lane)	EB	95	147
	WB	95	129
Casey Lane (between Back Lane and Weston Lane)	NB	95	125
	SB	95	124
A531 Newcastle Road (between Main Road and A500 Shavington Bypass)	EB	95	216
	WB	95	132
A51 Nantwich Bypass (between A51 Newcastle Road and A534 Crewe Road)	NB	511	550
	SB	511	552
A500 Shavington Bypass (between A51 Nantwich Bypass and B5071 Jack Mills Way)	EB	511	554
	WB	511	551
	EB	511	552

Location	Direction*	Daily peak HGV vehicles	Daily peak all vehicles
A500 Shavington Bypass (between B5071 Jack Mills Way and A5020 David Whitby Way)	WB	511	551
A500 Shavington Bypass (between A5020 David Whitby Way and A500 Newcastle Road)	EB	802	934
	WB	802	968
A500 Newcastle Road (between A500 Shavington Bypass and M6 junction 16)	EB	802	984
	WB	802	1,022
A51 Nantwich Bypass (between A534 Crewe Road and A530 Middlewich Road)	NB	511	557
	SB	511	551
A5020 David Whitby Way (between A500 Shavington Bypass and B5472 Weston Road)	NB	461	552
	SB	461	516
A530 Middlewich Road (between A51 Nantwich Bypass and Colleys Lane)	NB	511	561
	SB	511	560
A5020 University Way (between A534 Crewe Green Road and A532 Weston Road)	NB	453	573
	SB	453	459
A532 Weston Road (between A5020 David Whitby Way and Western Road Service Road (southern access))	EB	43	226
	WB	43	68
A530 Middlewich Road (between Peach Lane and Wistaston Green Road)	EB	511	562
	WB	511	588
A532 Weston Road (between Western Road Service Road (northern access) and A534 Crewe Road)	NB	4	31
	SB	4	182
A532 Weston Road (between A534 Crewe Road and A5020 David Whitby Way)	NB	4	31
	SB	4	182
A534 Crewe Road (between A532 Weston Road and Gateway)	EB	4	14
	WB	4	13
A534 Crewe Road (between Gateway and Electra Way)	EB	4	14
	WB	4	13
A534 Crewe Green Road (between Electra Way and A5020 University Way)	EB	4	14
	WB	4	13
A530 Middlewich Road (between Wistaston Green Road and A532 Coppenhall Lane)	NB	511	573
	SB	511	601
Sydney Road (between Hungerford Road and Shakespeare Drive)	NB	514	639
	SB	514	531
Sydney Road (between Shakespeare Drive and Lansdowne Road)	NB	514	639
	SB	514	530
A534 Haslington Bypass (between Sydney Road and Clay Lane)	NB	73	139
	SB	73	146
B5076 Middlewich Street (between Henry Street and Elm Drive)	NB	40	48
	SB	40	180
A530 Middlewich Road (between A532 Coppenhall Lane and Pyms Lane)	NB	511	571

Location	Direction*	Daily peak HGV vehicles	Daily peak all vehicles
	SB	511	599
B5076 Middlewich Road (between Elm Drive and Stamp Avenue)	NB	40	45
	SB	40	153
Sydney Road (between Herbert Street and Maw Green Road)	NB	514	639
	SB	514	531
B5076 Middlewich Street (between Stamp Avenue and Lime Tree Avenue)	NB	40	44
	SB	40	149
B5076 Middlewich Street (between Lime Tree Avenue and Remer Street)	NB	40	44
	SB	40	149
Sydney Road (between Maw Green Road and Elm Drive)	NB	514	640
	SB	514	536
Remer Street (between Groby Road and Elm Drive)	EB	514	537
	WB	514	642
A530 Middlewich Road (between Pyms Lane and Middlewich Road)	NB	511	575
	SB	511	613
Remer Street (between Acer Avenue and Groby Road)	EB	442	461
	WB	442	558
Remer Street (between B5076 Middlewich Street and Acer Avenue)	EB	442	468
	WB	442	567
B5076 Middlewich Street (between Broad Street and Remer Street)	EB	421	500
	WB	421	544
B5076 North Street (between Broughton Road and Broad Street)	EB	421	545
	WB	421	545
B5076 Bradfield Road (between Underwood Lane and Broughton Road)	EB	421	545
	WB	421	545
B5076 Bradfield Road (between Selworthy Drive and Mablins Lane)	EB	421	468
	WB	421	470
B5076 Bradfield Road (between Mablins Lane and Cliffe Road)	EB	421	558
	WB	421	569
B5076 Bradfield Road (between Cliffe Road and Underwood Lane)	EB	421	543
	WB	421	545
Groby Road (between Remer Street and Stoneley Road)	NB	124	158
	SB	124	155
A530 Middlewich Road (between Middlewich Road and Smithy Lane)	NB	511	575
	SB	511	613
B5076 Bradfield Road (between Parkers Road and Selworthy Drive)	NB	421	470
	SB	421	468
Parkers Road (between B5076 Bradfield Road and Higher Croft Drive)	EB	85	238

Location	Direction*	Daily peak HGV vehicles	Daily peak all vehicles
	WB	85	168
B5076 Bradfield Road (between Parkers Road and B5076 Flowers Lane)	EB	492	595
	WB	492	581
Parkers Road (between Higher Croft Drive and Parkfield)	EB	85	244
	WB	85	164
Parkers Road (between Parkfield and Mablins Lane)	EB	85	244
	WB	85	164
A530 Middlewich Road (between Smithy Lane and B5076 Flowers Lane)	NB	511	563
	SB	511	591
Parkers Road (between Mablins Lane and Broughton Road)	EB	124	421
	WB	124	375
A534 Haslington Bypass (between Clay Lane and Elton Lane)	EB	73	131
	WB	73	291
Groby Road (between Stoneley Road and Warmingham Road)	NB	124	158
	SB	124	155
Warmingham Road (between Broughton Road and Waldron's Lane)	EB	124	406
	WB	124	375
B5076 Flowers Lane (between A530 Middlewich Road and B5076 Bradfield Road)	EB	492	594
	WB	492	581
Warmingham Road (between Waldron's Lane and Groby Road)	EB	124	323
	WB	124	375
A534 Wheelock Bypass (between B5079 Crewe Road and Mill Lane)	NB	73	137
	SB	73	281
A530 Middlewich Road (between B5076 Flowers Lane and Eardswick Lane)	NB	691	855
	SB	691	895
A534 Wheelock Bypass (between Mill Lane and A533 Old Mill Road)	NB	73	140
	SB	73	281
A534 Old Mill Road (between Brookhouse Road and A533 The Hill)	EB	73	144
	WB	73	282
A533 Old Mill Road (between A534 Wheelock Bypass and A533 The Hill)	NB	73	144
	SB	73	282
A534 Old Mill Road (between A533 The Hill and Congleton Road)	NB	73	144
	SB	73	284
A530 Middlewich Road (between Eardswick Lane and Brookhouse Lane)	NB	582	933
	SB	582	1,009
A534 Old Mill Road (between A553 The Hill and Congleton Road)	NB	73	144
	SB	73	284
A534 Old Mill Road (between Congleton Road and M6 junction 17)	EB	73	407

Location	Direction*	Daily peak HGV vehicles	Daily peak all vehicles
	WB	73	311

**NB = northbound; SB = southbound; EB = eastbound; and WB = westbound*

Traffic management, road closures and diversions

13.2.16 The construction of the Proposed Scheme has been planned to limit disruption to travellers due to traffic management, road closures or diversions. Nonetheless, the construction of the Proposed Scheme will require the temporary closure or restriction of and/or diversion of some existing highways as well as traffic management. Where temporary closures are necessary and no temporary alternative route is provided, the general approach is to undertake the closures for short discrete periods to ensure that the impact on users is minimised, insofar as reasonably practicable. The TA Part 1 (TR-001-00000), Section 4 sets out the general approach to mitigation for construction which includes constructing new roads prior to the closure of any existing roads where reasonably practicable.

13.2.17 Where site haul routes, created adjacent to the route of the Proposed Scheme, cross the existing road network, traffic control measures will be implemented and could include the provision of temporary signals or roundabouts, which will be removed on completion of the works. These traffic control measures are not expected to have a substantial impact on traffic flows and delays for vehicle occupants and non-motorised road users.

13.2.18 Utility works have been assessed in detail where they are major and where the traffic and transport impacts from the works separately, or in combination with other works, will be greater than other construction activities arising within the area. Minor utility works are expected to result in only localised traffic and pedestrian diversions, which will often be of short-term duration. No additional substantial impacts from these works are expected. Similarly, other minor works will involve a low level of use of local roads. Such use is not expected to give rise to substantial construction traffic impacts.

13.2.19 Permanent road closures are addressed in the operational assessment section of this report.

Public rights of way, closures and diversions

13.2.20 The construction of the Proposed Scheme will require the temporary closure of and/or diversion of some existing footpaths and roadside footways as well as some bridleways. The impact on footpaths (including roadside footways), cycle ways and bridleway links along the route of the Proposed Scheme has been reduced, insofar as reasonably practicable, through the design process. TA, Part 1 (TR-001-00000), Section 4 sets out the general approach to mitigation for construction which includes constructing new PRoW and roadside footways prior to the closure of any existing PRoW or roadside footways, where reasonably practicable.

13.2.21 As with highways, where site haul routes, created adjacent to the route of the Proposed Scheme, cross the existing PRoW network, active control measures will be implemented to manage the safety of PRoW users and could include staffed crossings and the provision of temporary gates or signals, which will be removed on completion of the works. These control measures are not expected to have a substantial impact on delays for pedestrian, cyclist or equestrian users of the network.

13.3 Proposed Scheme assessment of construction impacts

Key construction transport issues

13.3.1 The construction assessment takes account of all of the impacts of the Proposed Scheme in the MA01 area. The main temporary traffic and transport impacts in this area will include:

- construction and workforce vehicle movements to and from the various construction compounds;
- road closures, realignments and diversions;
- alternative routes for PRoW and roadside footways; and
- possessions and blockades on the conventional rail network.

13.3.2 The construction assessment has also considered any impacts in this area that arise from construction of the Proposed Scheme in the adjoining community area.

Highway network

Highway diversions, realignments and closures

13.3.3 Temporary road or lane closures and associated diversions will be required in a number of locations including:

- A530 Middlewich Road - temporary traffic management including shuttle working by traffic control on the A530 Middlewich Road to accommodate utilities works, for a period of two weeks, resulting in no change in journey length;
- Underwood Lane - temporary shuttle working on Underwood Lane with traffic control to accommodate utilities works, for a period of five weeks, resulting in no change in journey length;
- Badger Avenue – temporary traffic management to accommodate utilities works, for a period of three weeks, resulting in no change in journey length;
- Pyms Lane - temporary shuttle working on Pyms Lane with traffic control to accommodate utilities works, for a period of five weeks, resulting in no change in journey length;

- Bradfield Road – temporary traffic management to accommodate utilities works, for a period of one week, resulting in no change in journey length;
- Parkers Road - temporary closure of a section of Parkers Road between Broughton Road and Bleasdale Road during the extension of the Parkers Road Overbridge for a period of one year and three months. Traffic will be diverted along signed routes via Groby Road, Remer Street and the B5076 North Street/Bradfield Road, increasing the journey length for vehicle occupants by up to 2.7km. On completion of the Parkers Road Overbridge, the road will be reinstated along its existing alignment on the extended Parkers Road Overbridge; and
- Sydney Road/Maw Green Road, Remer Street/Sydney Road/Elm Drive and Remer Street/Groby Road junctions - temporary reconfiguration of the three existing priority T-junctions or, in the event that the committed improvement scheme associated with the nearby Coppenhall East development (MA01/148 in Volume 5: Appendix CT-004-00000, Planning data) has been implemented, temporary reconfiguration of the single elongated priority controlled (give-way) roundabout for a period of seven years and three months during the construction phase. This will increase the journey length for vehicle occupants by up to 60m.

13.3.4 These may involve lane closures and partial lane closures under traffic control for the tie-in of the new alignments, intermittent lane restrictions and temporary road closures. Closures and diversions will be restricted to short-term overnight and/or weekend closures where reasonably practicable.

13.3.5 Permanent realignments, diversions and closures are considered under the operational assessment.

Highway network analysis

13.3.6 The impacts of construction of the Proposed Scheme on the highway network have been assessed by undertaking strategic model runs for a number of 'with HS2' construction scenarios, and by comparing the flows and delays against the 2030 future baseline scenario.

13.3.7 Changes have been made within the strategic model to reflect construction including HS2 construction traffic and changes to the road network including road closures, traffic management and changes to junction operations. These scenarios are only relevant to some aspects of the assessment, essentially those related to highway impacts due to the combination of highway changes and construction traffic. These are changes in:

- traffic flows;
- junction performance; and
- bus journey times.

13.3.8 To ensure the assessment addresses the different combinations and interactions of advance works, utility diversions, temporary highway closures and diversions and construction lorry movements through the construction programme period, the effects have been

considered in three scenarios representing three distinct temporal phases. These scenarios ensure that all activities are assessed, and combined impacts identified:

- scenario 1, between 2025 Q1 and 2028 Q4. This corresponds with the construction peak prior to the temporary closure of Parkers Road and includes the commencement of works on Cowley Way vent shaft and Middlewich Street vent shaft. This scenario equates to 100% of the overall peak in construction traffic across the whole construction period;
- scenario 2, peak between 2029 Q1 and 2030 Q2. This corresponds with the construction peak during the extension of the existing Parkers Road Overbridge and the temporary closure of Parkers Road. This scenario equates to 77% of the overall peak in construction traffic across the whole construction period; and
- scenario 3, peak after 2030 Q2 onwards. This corresponds with the construction peak following the reopening of Parkers Road and realignment of Clive Green Lane and includes works associated with the Crewe tunnel north main compound. This scenario equates to 54% of the overall peak in construction traffic across the whole construction period.

13.3.9 The advance works, utility diversions, main works and construction lorry movements included in each scenario are shown in Table 13-6. This ensures that the impacts of the relevant activities are assessed in combination, as appropriate.

Table 13-6: Construction highway interventions by scenario in the MA01 area

Type	Intervention	Scenario 1	Scenario 2	Scenario 3
Main works	Parkers Road temporarily closed	Not included	Included	Not included
Main works	Clive Green Lane (Wimboldsley to Lostock Gralam area (MA02)) available to construction traffic	Not included	Not included	Included
Main works	Sydney Road/Maw Green Road, Remer Street/Sydney Road/Elm Drive and Remer Street/Groby Road junctions	Included*	Included*	Included*
	Construction HGV traffic assessed as a percentage of peak construction HGV traffic	100%	77%	54%

**While it is considered likely that this improvement scheme will have been completed prior to the commencement of the construction of the Proposed Scheme, due to the uncertainty over the timing of its delivery, these junctions have been assessed both with and without the proposed improvement scheme in place.*

Strategic and local road network traffic flows

13.3.10 During the construction period a number of roads will be affected by the construction of the Proposed Scheme. An assessment of the impact of construction related vehicle movements and temporary diversions has been undertaken and is detailed below. The flows outlined in

the following sections will not necessarily occur concurrently, as impacts on different parts of the network will occur at different times.

13.3.11 The A500 Crewe Area Wide Transport model has been used to model the construction scenarios across MA01. In the MA01 area the model covers the area from Stoke-on-Trent in the south, Bunbury in the west, Kidsgrove in the east and the M6 junction 18 in the north.

13.3.12 Table 13-7 and Table 13-8 set out the traffic flows for the 2030 future baseline and the Proposed Scheme on the roads most affected by construction of the Proposed Scheme for the AM and PM peak hour. In both time periods, the percentage changes in HGV flows are generally higher than the percentage changes in all traffic flows as a result of the relatively low number of HGV movements in the future baseline. Due to the simplified way in which the road network is represented in the strategic models, the use of some local roads may not be precisely reflected in the forecast traffic flows during construction of the Proposed Scheme, however, this is not expected to change the conclusions of the assessment.

13.3.13 Traffic flows on all other roads are either unaffected from the future baseline or there are only small changes in traffic flows (HGV or all vehicles of less than 10%) compared to the future baseline daily flow.

13.3.14 It should be noted that, unless identified in the next section of this report relating to junction impacts, these increases in traffic will not result in material increases in congestion or delay.

13.3.15 An assessment has been undertaken of the construction traffic volumes and routes associated with HS2 Phase 2a. However, the assessment indicates that in the future baseline of 2030 there will be minimal construction traffic movements as a result of HS2 Phase 2a that overlap with the Proposed Scheme.

13.3.16 Traffic flow changes are shown in Figure 13-1 to Figure 13-6 for each scenario for the AM and PM peak hours respectively. The width of the band indicates the proportional change in traffic, with red representing an increase and green a decrease compared with the 2030 future baseline scenario.

Table 13-7: 2030 future baseline and with the Proposed Scheme construction traffic (vehicles), AM peak hour (08:00–09:00)

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Back Lane (between Casey Lane and Newcastle Road)	EB	112	0	110	0	-2%	0%	113	3	1%	0%	122	10	9%	0%
	WB	60	0	70	0	17%	0%	68	3	13%	0%	88	10	47%	0%
Newcastle Road (between Casey Lane and Chorlton Lane)	EB	363	9	371	9	2%	0%	379	12	4%	33%	382	18	5%	100%
	WB	427	10	438	9	3%	-10%	436	13	2%	30%	455	19	7%	90%
A531 Newcastle Road (between Main Road and A500 Shavington Bypass)	EB	317	9	244	9	-23%	0%	260	12	-18%	33%	259	18	-18%	100%
	WB	301	10	283	9	-6%	-10%	280	13	-7%	30%	300	19	0%	90%
A51 Nantwich Bypass (between A51 Newcastle Road and A534 Crewe Road)	NB	1,005	43	1,024	72	2%	67%	1,000	89	0%	107%	1,021	54	2%	26%
	SB	611	31	613	57	0%	84%	591	73	-3%	135%	607	40	-1%	29%
Casey Lane (between Back Lane and Weston Lane)	NB	85	3	71	2	-16%	-33%	80	3	-6%	0%	83	2	-2%	-33%
	SB	62	7	64	7	3%	0%	86	6	39%	-14%	109	7	76%	0%
Cemetery Road (between Whites Lane and Mere Road)	EB	40	0	42	0	5%	0%	40	0	0%	0%	40	0	0%	0%
	WB	68	0	70	0	3%	0%	71	0	4%	0%	71	0	4%	0%
	EB	1,432	34	1,406	60	-2%	76%	1,401	77	-2%	126%	1,427	44	0%	29%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A500 Shavington Bypass (between A51 Nantwich Bypass and B5071 Jack Mills Way)	WB	1,314	67	1,358	97	3%	45%	1,317	114	0%	70%	1,338	79	2%	18%
A500 Shavington Bypass (between B5071 Jack Mills Way and A5020 David Whitby Way)	EB	1,597	36	1,575	62	-1%	72%	1,575	80	-1%	122%	1,586	46	-1%	28%
	WB	1,576	80	1,566	109	-1%	36%	1,541	127	-2%	59%	1,579	92	0%	15%
A500 Shavington Bypass (between A5020 David Whitby Way and A500 Newcastle Road)	EB	1,123	45	1,091	117	-3%	160%	1,120	92	0%	104%	1,120	62	0%	38%
	WB	1,349	86	1,334	161	-1%	87%	1,365	136	1%	58%	1,392	104	3%	21%
A500 Newcastle Road (between A500 Shavington Bypass and M6 junction 16)	EB	1,535	80	1,451	150	-5%	88%	1,480	126	-4%	58%	1,513	97	-1%	21%
	WB	1,683	96	1,749	172	4%	79%	1,747	147	4%	53%	1,804	116	7%	21%
A51 Nantwich Bypass (between A534 Crewe Road and A530 Middlewich Road)	NB	1,006	38	1,035	67	3%	76%	1,033	83	3%	118%	1,029	49	2%	29%
	SB	561	26	587	53	5%	104%	570	69	2%	165%	571	36	2%	38%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A5020 David Whitby Way (between A500 Shavington Bypass and B5472 Weston Road)	NB	981	34	936	79	-5%	132%	956	46	-3%	35%	1,007	44	3%	29%
	SB	770	36	716	82	-7%	128%	713	49	-7%	36%	764	47	-1%	31%
A530 Middlewich Road (between A51 Nantwich Bypass and Colleys Lane)	NB	952	20	964	53	1%	165%	987	69	4%	245%	967	35	2%	75%
	SB	836	23	836	56	0%	143%	834	73	0%	217%	839	39	0%	70%
A5020 University Way (between A534 Crewe Green Road and A532 Weston Road)	NB	779	20	828	65	6%	225%	793	32	2%	60%	854	31	10%	55%
	SB	888	27	871	72	-2%	167%	856	38	-4%	41%	903	38	2%	41%
Barthomley Road (between Radway Green Road and B5077 Butterton Lane)	NB	96	1	102	1	6%	0%	102	1	6%	0%	99	1	3%	0%
	SB	55	0	59	0	7%	0%	59	0	7%	0%	55	0	0%	0%
A530 Middlewich Road (between Wistaston Green Road and A532 Coppenhall Lane)	NB	1,105	20	1,106	52	0%	160%	1,115	69	1%	245%	1,112	35	1%	75%
	SB	1,231	33	1,237	66	0%	100%	1,259	82	2%	148%	1,232	48	0%	45%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Coleridge Way (between Hungerford Road and Wordsworth Drive)	NB	35	2	33	2	-6%	0%	32	2	-9%	0%	35	2	0%	0%
	SB	84	0	113	0	35%	0%	115	0	37%	0%	90	0	7%	0%
Sydney Road (between Hungerford Road and Shakespeare Drive)	NB	883	6	940	55	6%	817%	973	20	10%	233%	971	19	10%	217%
	SB	981	13	918	63	-6%	385%	929	28	-5%	115%	979	27	0%	108%
Shakespeare Drive (between Sydney Road and Laureston Avenue)	EB**	4	1	3	1	-25%	0%	3	1	-25%	0%	3	1	-25%	0%
	WB	56	0	84	0	50%	0%	86	0	54%	0%	61	0	9%	0%
Laureston Avenue (between Shakespeare Drive and Wordsworth Drive)	NB	56	0	84	0	50%	0%	86	0	54%	0%	61	0	9%	0%
	SB**	4	1	3	1	-25%	0%	3	1	-25%	0%	3	1	-25%	0%
Wordsworth Drive (between Kipling Way and Laureston Avenue)	EB	5	0	4	0	-20%	0%	4	0	-20%	0%	4	0	-20%	0%
	WB	54	0	82	0	52%	0%	84	0	56%	0%	59	0	9%	0%
Wordsworth Drive (between Tennyson	EB	7	0	6	0	-14%	0%	6	0	-14%	0%	6	0	-14%	0%
	WB	52	0	79	0	52%	0%	82	0	58%	0%	56	0	8%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Avenue and Kipling Way)															
Wordsworth Drive (between Coleridge Way and Tennyson Avenue)	EB	11	0	12	0	9%	0%	11	0	0%	0%	11	0	0%	0%
	WB	53	0	82	0	55%	0%	85	0	60%	0%	59	0	11%	0%
Coleridge Way (between Lansdowne Road and Wordsworth Drive)	NB	26	2	25	2	-4%	0%	24	2	-8%	0%	26	2	0%	0%
	SB	34	0	34	0	0%	0%	33	0	-3%	0%	34	0	0%	0%
Lansdowne Road (between Coleridge Way and Pelican Close)	EB	7	2	6	2	-14%	0%	5	2	-29%	0%	6	2	-14%	0%
	WB	17	0	17	0	0%	0%	16	0	-6%	0%	17	0	0%	0%
Sydney Road (between Shakespeare Drive and Lansdowne Road)	NB	780	6	810	55	4%	817%	840	20	8%	233%	862	19	11%	217%
	SB	903	12	840	62	-7%	417%	851	27	-6%	125%	901	27	0%	125%
Lansdowne Road (between Lansdowne Road and Sydney Road)	EB	13	2	12	2	-8%	0%	11	2	-15%	0%	13	2	0%	0%
	WB	54	0	55	0	2%	0%	54	0	0%	0%	54	0	0%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A530 Middlewich Road (between A532 Coppenhall Lane and Pyms Lane)	NB	573	10	561	42	-2%	320%	507	59	-12%	490%	575	25	0%	150%
	SB	763	17	729	51	-4%	200%	741	66	-3%	288%	742	32	-3%	88%
B5076 Middlewich Road (between Elm Drive and Stamp Avenue)	NB	210	3	219	7	4%	133%	231	7	10%	133%	220	4	5%	33%
	SB	438	3	460	7	5%	133%	395	7	-10%	133%	450	5	3%	67%
Sydney Road (between Herbert Street and Maw Green Road)	NB	757	8	785	57	4%	613%	814	22	8%	175%	838	21	11%	163%
	SB	922	12	859	62	-7%	417%	870	27	-6%	125%	919	26	0%	117%
Stamp Avenue (between Greenway and B5076 Middlewich Street)	EB	35	1	128	1	266%	0%	186	1	431%	0%	88	1	151%	0%
	WB	25	0	21	0	-16%	0%	25	0	0%	0%	25	0	0%	0%
B5076 Middlewich Street (between Stamp Avenue and Lime Tree Avenue)	NB	211	3	220	7	4%	133%	234	7	11%	133%	222	5	5%	67%
	SB	430	3	354	7	-18%	133%	236	7	-45%	133%	389	5	-10%	67%
	EB	40	1	40	1	0%	0%	71	1	78%	0%	39	1	-3%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Lime Tree Avenue (between B5076 Middlewich Street and Sycamore Avenue)	WB	46	1	42	1	-9%	0%	45	1	-2%	0%	46	1	0%	0%
Lime Tree Avenue (between Sycamore Avenue and Acer Avenue)	EB	38	1	39	1	3%	0%	70	1	84%	0%	37	1	-3%	0%
	WB	42	0	38	0	-10%	0%	41	0	-2%	0%	42	0	0%	0%
Clay Lane (between Newtons Lane and Maw Lane)	EB	73	0	74	0	1%	0%	71	0	-3%	0%	72	0	-1%	0%
	WB	88	1	82	1	-7%	0%	85	1	-3%	0%	82	1	-7%	0%
Greenway (between Stamp Avenue and B5076 Middlewich Street)	NB	16	1	16	1	0%	0%	16	1	0%	0%	16	1	0%	0%
	SB	41	0	135	0	229%	0%	190	0	363%	0%	95	0	132%	0%
Lime Tree Avenue (between Prunus Road and Elm Drive)	EB	3	1	1	0	-67%	-100%	40	1	1233%	0%	1	0	-67%	-100%
	WB	47	1	48	1	2%	0%	517	7	1000%	600%	53	1	13%	0%
Elm Drive (between Lime	NB	212	5	200	4	-6%	-20%	228	5	8%	0%	200	4	-6%	-20%
	SB	273	6	273	6	0%	0%	785	12	188%	100%	272	5	0%	-17%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Tree Avenue and Remer Street)															
Lime Tree Avenue (between Acer Avenue and Prunus Road)	EB	1	1	0	0	-100%	-100%	38	1	3700%	0%	0	0	-100%	-100%
	WB	43	0	45	0	5%	0%	513	6	1093%	0%	50	0	16%	0%
B5076 Middlewich Street (between Lime Tree Avenue and Remer Street)	NB	177	3	185	7	5%	133%	167	7	-6%	133%	188	5	6%	67%
	SB	389	3	317	7	-19%	133%	195	7	-50%	133%	348	5	-11%	67%
Sydney Road (between Maw Green Road and Elm Drive)	NB	911	14	941	63	3%	350%	979	29	7%	107%	989	26	9%	86%
	SB	1,014	20	985	69	-3%	245%	1,041	34	3%	70%	1,019	34	0%	70%
Remer Street (between Groby Road and Elm Drive)	EB	1,221	20	1,202	69	-2%	245%	1,254	35	3%	75%	1,230	34	1%	70%
	WB	1,057	13	1,085	61	3%	369%	635	22	-40%	69%	1,127	25	7%	92%
A530 Middlewich Road (between Pyms Lane and Middlewich Road)	NB	533	13	522	45	-2%	246%	478	62	-10%	377%	546	28	2%	115%
	SB	752	18	722	52	-4%	189%	714	67	-5%	272%	740	34	-2%	89%
Acer Avenue (between Remer	NB	39	0	46	1	18%	0%	504	6	1192%	0%	46	1	18%	0%
	SB**	0	0	0	0	0%	0%	0	0	0%	0%	0	0	0%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Street and Lime Tree Avenue)															
Remer Street (between B5076 Middlewich Street and Acer Avenue)	EB	991	13	998	55	1%	323%	1,243	15	25%	15%	994	23	0%	77%
	WB	357	9	421	53	18%	489%	528	13	48%	44%	451	19	26%	111%
Selworthy Drive (between B5076 Bradfield Road and Underwood Lane)	NB	109	0	130	0	19%	0%	131	1	20%	0%	120	0	10%	0%
	SB	76	1	83	1	9%	0%	139	1	83%	0%	56	1	-26%	0%
B5076 Middlewich Street (between Broad Street and Remer Street)	EB	1,377	14	1,306	55	-5%	293%	1,427	13	4%	-7%	1,334	24	-3%	71%
	WB	531	10	597	51	12%	410%	685	10	29%	0%	632	20	19%	100%
Newtons Lane (between Clay Lane and Nesfield Drive)	EB	24	0	26	0	8%	0%	24	0	0%	0%	24	0	0%	0%
	WB	16	0	11	0	-31%	0%	14	0	-13%	0%	10	0	-38%	0%
Underwood Lane (between Cliffe Road and Newbury Avenue)	EB	40	2	42	3	5%	50%	121	4	203%	100%	40	2	0%	0%
	WB	212	2	221	3	4%	50%	268	3	26%	50%	257	3	21%	50%
Newtons Lane (between	EB	81	0	83	0	2%	0%	81	0	0%	0%	81	0	0%	0%
	WB	64	0	58	0	-9%	0%	62	0	-3%	0%	59	0	-8%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Nesfield Drive and Crewe Road)															
Underwood Lane (between Newbury Avenue and Pear Tree Avenue)	NB	43	2	42	3	-2%	50%	118	4	174%	100%	42	2	-2%	0%
	SB	211	2	214	2	1%	0%	258	3	22%	50%	251	3	19%	50%
Stoneley Road (between B5076 Broad Street and Waldron's Lane)	NB**	36	1	54	1	50%	0%	45	1	25%	0%	52	1	44%	0%
	SB	163	1	228	1	40%	0%	307	1	88%	0%	184	1	13%	0%
B5076 North Street (between Broughton Road and Broad Street)	EB	770	17	760	58	-1%	241%	874	15	14%	-12%	774	27	1%	59%
	WB	458	16	523	58	14%	263%	654	17	43%	6%	557	26	22%	63%
Underwood Lane (between Pear Tree Avenue and B5076 Bradfield Road)	NB	43	2	42	3	-2%	50%	117	4	172%	100%	42	2	-2%	0%
	SB	210	2	213	2	1%	0%	256	3	22%	50%	250	3	19%	50%
B5076 Bradfield Road (between Underwood Lane and Broughton Road)	EB	688	16	674	57	-2%	256%	1,136	16	65%	0%	681	25	-1%	56%
	WB	514	13	578	55	12%	323%	855	15	66%	15%	638	24	24%	85%
B5076 Bradfield Road (between Selworthy Drive	EB	392	12	356	53	-9%	342%	393	11	0%	-8%	395	22	1%	83%
	WB	518	10	502	52	-3%	420%	488	9	-6%	-10%	527	20	2%	100%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
and Mablins Lane)															
B5076 Bradfield Road (between Mablins Lane and Cliffe Road)	EB	789	23	758	64	-4%	178%	953	19	21%	-17%	749	32	-5%	39%
	WB	393	22	465	65	18%	195%	567	22	44%	0%	488	32	24%	45%
B5076 Bradfield Road (between Cliffe Road and Underwood Lane)	EB	475	17	441	58	-7%	241%	831	15	75%	-12%	460	27	-3%	59%
	WB	498	15	537	57	8%	280%	786	16	58%	7%	573	25	15%	67%
Broughton Road (between Maplins Moss Place and Parkers Road)	NB	79	3	80	4	1%	33%	407	6	415%	100%	80	3	1%	0%
	SB	217	2	222	3	2%	50%	346	3	59%	50%	254	3	17%	50%
Groby Road (between Remer Street and Stoneley Road)**	NB	50	3	45	9	-10%	200%	54	14	8%	367%	44	9	-12%	200%
	SB	451	4	444	12	-2%	200%	354	17	-22%	325%	464	12	3%	200%
A530 Middlewich Road (between Middlewich Road and Smithy Lane)	NB	405	13	396	45	-2%	246%	353	61	-13%	369%	419	28	3%	115%
	SB	733	18	704	52	-4%	189%	697	67	-5%	272%	721	33	-2%	83%
B5076 Bradfield Road (between Parkers Road	NB	520	8	513	50	-1%	525%	455	8	-13%	0%	550	18	6%	125%
	SB	433	11	393	52	-9%	373%	434	11	0%	0%	426	21	-2%	91%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
and Selworthy Drive)															
B5076 Bradfield Road (between Parkers Road and B5076 Flowers Lane)	EB	661	29	620	75	-6%	159%	558	26	-16%	-10%	704	43	7%	48%
	WB	894	18	871	67	-3%	272%	794	15	-11%	-17%	907	33	1%	83%
Parkers Road (between Higher Croft Drive and Parkfield)	EB	1,162	16	1,181	23	2%	44%	817	12	-30%	-25%	1,235	24	6%	50%
	WB	212	10	221	18	4%	80%	167	9	-21%	-10%	222	18	5%	80%
A530 Middlewich Road (between Smithy Lane and B5076 Flowers Lane)	NB	289	11	298	44	3%	300%	301	61	4%	455%	308	26	7%	136%
	SB	411	18	438	52	7%	189%	392	68	-5%	278%	438	33	7%	83%
Parkers Road (between Mablins Lane and Broughton Road)***	EB	791	5	819	14	4%	180%	18	13	-98%	160%	811	13	3%	160%
	WB	359	3	455	12	27%	300%	101	13	-72%	333%	470	11	31%	267%
Groby Road (between Stoneley Road and Warmingham Road)	NB	417	3	411	9	-1%	200%	473	14	13%	367%	410	9	-2%	200%
	SB**	759	4	744	12	-2%	200%	759	16	0%	300%	764	12	1%	200%
	EB	797	6	821	14	3%	133%	437	17	-45%	183%	806	14	1%	133%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Warmingham Road (between Broughton Road and Waldron's Lane)	WB	352	4	449	13	28%	225%	293	15	-17%	275%	488	13	39%	225%
B5076 Flowers Lane (between A530 Middlewich Road and B5076 Bradfield Road)	EB	786	32	766	79	-3%	147%	724	30	-8%	-6%	802	46	2%	44%
	WB	684	19	617	67	-10%	253%	591	15	-14%	-21%	673	34	-2%	79%
Warmingham Road (between Waldron's Lane and Groby Road)	EB	718	6	752	15	5%	150%	421	17	-41%	183%	734	14	2%	133%
	WB	330	5	429	13	30%	160%	300	16	-9%	220%	468	13	42%	160%
A530 Middlewich Road (between B5076 Flowers Lane and Eardswick Lane)	NB	531	14	478	82	-10%	486%	507	63	-5%	350%	525	31	-1%	121%
	SB	1,018	33	1,019	101	0%	206%	1,018	83	0%	152%	1,039	49	2%	48%
A530 Middlewich Road (between Eardswick Lane and Brookhouse Lane)	NB	245	9	276	66	13%	633%	263	57	7%	533%	251	26	2%	189%
	SB	549	21	697	79	27%	276%	713	69	30%	229%	761	37	39%	76%
B5074 Over Road/B5074 Swanlow Lane (between Cross	NB	433	21	608	22	40%	5%	506	23	17%	10%	518	23	20%	10%
	SB	382	14	529	27	38%	93%	449	18	18%	29%	417	14	9%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 - % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 - % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 - % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Lane and Moor Lane)															

***Some traffic movements may not be precisely reflected due to the simplified way in which the road network is represented in the strategic traffic models, however, this is not expected to change the conclusions of the assessment*

****Due to the temporary closure of Parkers Road in Scenario 2 the flows reported on Parkers Road are representative of the section between Warmingham Moss satellite compound access and Broughton Road*

Table 13-8: 2030 future baseline and with the Proposed Scheme construction traffic (vehicles), PM peak hour (17:00–18:00)

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Back Lane (between Casey Lane and Newcastle Road)	EB	87	0	87	0	0%	0%	97	3	11%	0%	96	10	10%	0%
	WB	145	0	113	0	-22%	0%	116	3	-20%	0%	133	10	-8%	0%
Newcastle Road (between Casey Lane and Chorlton Lane)	EB	516	4	534	4	3%	0%	538	8	4%	100%	541	14	5%	250%
	WB	536	4	520	4	-3%	0%	524	8	-2%	100%	539	13	1%	225%
A531 Newcastle Road (between Main Road and A500 Shavington Bypass)	EB	142	1	136	2	-4%	100%	152	5	7%	400%	177	11	25%	1000 %
	WB	307	3	264	4	-14%	33%	267	7	-13%	133%	284	12	-7%	300%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A51 Nantwich Bypass (between A51 Newcastle Road and A534 Crewe Road)	NB	993	31	982	65	-1%	110%	961	82	-3%	165%	982	47	-1%	52%
	SB	837	24	795	57	-5%	138%	780	74	-7%	208%	803	39	-4%	63%
Casey Lane (between Back Lane and Weston Lane)	NB	27	0	27	0	0%	0%	53	0	96%	0%	76	0	181%	0%
	SB	87	0	84	0	-3%	0%	82	0	-6%	0%	85	0	-2%	0%
Cemetery Road (between Whites Lane and Mere Road)	EB	31	0	42	0	35%	0%	64	0	106%	0%	79	0	155%	0%
	WB	18	0	19	0	6%	0%	19	0	6%	0%	18	0	0%	0%
A500 Shavington Bypass (between A51 Nantwich Bypass and B5071 Jack Mills Way)	EB	967	19	991	52	2%	174%	1,026	69	6%	263%	973	34	1%	79%
	WB	1,504	34	1,472	67	-2%	97%	1,468	84	-2%	147%	1,480	50	-2%	47%
A500 Shavington Bypass (between B5071 Jack Mills Way and A5020 David Whitby Way)	EB	1,047	26	1,080	58	3%	123%	1,149	76	10%	192%	1,066	40	2%	54%
	WB	1,297	38	1,296	70	0%	84%	1,312	87	1%	129%	1,292	53	0%	39%
A500 Shavington Bypass (between A5020 David Whitby Way and	EB	1,285	28	1,199	107	-7%	282%	1,197	83	-7%	196%	1,219	50	-5%	79%
	WB	1,069	59	1,099	137	3%	132%	1,081	113	1%	92%	1,063	81	-1%	37%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A500 Newcastle Road)															
A500 Newcastle Road (between A500 Shavington Bypass and M6 junction 16)	EB	1,590	25	1,533	105	-4%	320%	1,547	81	-3%	224%	1,576	49	-1%	96%
	WB	1,405	63	1,417	142	1%	125%	1,398	118	0%	87%	1,386	87	-1%	38%
A51 Nantwich Bypass (between A534 Crewe Road and A530 Middlewich Road)	NB	1,046	35	1,042	69	0%	97%	1,026	84	-2%	140%	1,057	51	1%	46%
	SB	805	17	842	50	5%	194%	850	67	6%	294%	826	32	3%	88%
A5020 David Whitby Way (between A500 Shavington Bypass and B5472 Weston Road)	NB	858	28	871	72	2%	157%	898	40	5%	43%	854	37	0%	32%
	SB	1,344	12	1,202	59	-11%	392%	1,193	26	-11%	117%	1,254	23	-7%	92%
A530 Middlewich Road (between A51 Nantwich Bypass and Colleys Lane)	NB	768	8	713	42	-7%	425%	715	58	-7%	625%	732	24	-5%	200%
	SB	726	6	704	40	-3%	567%	689	57	-5%	850%	717	22	-1%	267%
A5020 University Way (between A534 Crewe Green Road and	NB	676	9	654	52	-3%	478%	692	19	2%	111%	643	18	-5%	100%
	SB	776	4	756	50	-3%	1150 %	775	17	0%	325%	742	16	-4%	300%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A532 Weston Road)															
Barthomley Road (between Radway Green Road and B5077 Butterton Lane)	NB	23	0	24	0	4%	0%	23	0	0%	0%	24	0	4%	0%
	SB	202	0	308	0	52%	0%	217	0	7%	0%	310	0	53%	0%
A530 Middlewich Road (between Wistaston Green Road and A532 Coppenhall Lane)	NB	779	9	756	43	-3%	378%	765	60	-2%	567%	760	25	-2%	178%
	SB	1,235	8	1,230	42	0%	425%	1,213	59	-2%	638%	1,243	24	1%	200%
Coleridge Way (between Hungerford Road and Wordsworth Drive)	NB	48	2	50	2	4%	0%	102	2	113%	0%	47	2	-2%	0%
	SB	242	0	269	0	11%	0%	416	0	72%	0%	254	0	5%	0%
Sydney Road (between Hungerford Road and Shakespeare Drive)	NB	704	1	770	52	9%	5100 %	747	17	6%	1600 %	726	16	3%	1500 %
	SB	538	1	519	52	-4%	5100 %	351	17	-35%	1600 %	507	16	-6%	1500 %
Shakespeare Drive (between Sydney Road and Laureston Avenue)	EB**	1	0	4	0	300%	0%	56	0	5500%	0%	1	0	0%	0%
	WB	202	0	226	0	12%	0%	232	0	15%	0%	213	0	5%	0%
	NB	202	0	226	0	12%	0%	232	0	15%	0%	213	0	5%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Laureston Avenue (between Shakespeare Drive and Wordsworth Drive)	SB**	1	0	4	0	300%	0%	56	0	5500%	0%	1	0	0%	0%
Wordsworth Drive (between Kipling Way and Laureston Avenue)	EB	2	0	5	0	150%	0%	57	0	2750%	0%	2	0	0%	0%
	WB	202	0	226	0	12%	0%	232	0	15%	0%	213	0	5%	0%
Wordsworth Drive (between Tennyson Avenue and Kipling Way)	EB	3	0	6	0	100%	0%	58	0	1833%	0%	3	0	0%	0%
	WB	201	0	225	0	12%	0%	232	0	15%	0%	212	0	5%	0%
Wordsworth Drive (between Coleridge Way and Tennyson Avenue)	EB	7	0	10	0	43%	0%	62	0	786%	0%	7	0	0%	0%
	WB	204	0	228	0	12%	0%	234	0	15%	0%	215	0	5%	0%
Coleridge Way (between Lansdowne Road and Wordsworth Drive)	NB	43	2	42	2	-2%	0%	42	2	-2%	0%	42	2	-2%	0%
	SB	40	0	43	0	8%	0%	183	0	358%	0%	40	0	0%	0%
Lansdowne Road (between Coleridge Way	EB	7	2	6	2	-14%	0%	7	2	0%	0%	6	2	-14%	0%
	WB	31	0	34	0	10%	0%	174	0	461%	0%	32	0	3%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
and Pelican Close)															
Sydney Road (between Shakespeare Drive and Lansdowne Road)	NB	467	1	509	52	9%	5100 %	483	17	3%	1600 %	479	16	3%	1500 %
	SB	515	1	495	52	-4%	5100 %	278	17	-46%	1600 %	485	16	-6%	1500 %
Lansdowne Road (between Lansdowne Road and Sydney Road)	EB	10	2	8	2	-20%	0%	9	2	-10%	0%	9	2	-10%	0%
	WB	57	0	59	0	4%	0%	191	0	235%	0%	57	0	0%	0%
A530 Middlewich Road (between A532 Coppenhall Lane and Pyms Lane)	NB	514	4	484	38	-6%	850%	504	54	-2%	1250 %	493	19	-4%	375%
	SB	771	3	778	37	1%	1133 %	775	54	1%	1700 %	772	19	0%	533%
B5076 Middlewich Road (between Elm Drive and Stamp Avenue)	NB	459	2	359	5	-22%	150%	479	5	4%	150%	370	3	-19%	50%
	SB	293	11	277	13	-5%	18%	337	15	15%	36%	299	11	2%	0%
Sydney Road (between Herbert Street and Maw Green Road)	NB	428	3	468	54	9%	1700 %	442	19	3%	533%	438	18	2%	500%
	SB	532	1	511	52	-4%	5100 %	427	17	-20%	1600 %	499	16	-6%	1500 %
	EB	15	0	16	0	7%	0%	16	0	7%	0%	16	0	7%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Stamp Avenue (between Greenway and B5076 Middlewich Street)	WB	16	0	157	0	881%	0%	45	0	181%	0%	126	0	688%	0%
B5076 Middlewich Street (between Stamp Avenue and Lime Tree Avenue)	NB	453	2	211	5	-53%	150%	444	6	-2%	200%	254	3	-44%	50%
	SB	288	11	271	13	-6%	18%	332	15	15%	36%	293	11	2%	0%
Lime Tree Avenue (between B5076 Middlewich Street and Sycamore Avenue)	EB	29	0	29	0	0%	0%	43	0	48%	0%	30	0	3%	0%
	WB	14	0	13	0	-7%	0%	14	0	0%	0%	14	0	0%	0%
Lime Tree Avenue (between Sycamore Avenue and Acer Avenue)	EB	23	0	25	0	9%	0%	38	0	65%	0%	26	0	13%	0%
	WB	11	0	11	0	0%	0%	11	0	0%	0%	11	0	0%	0%
Clay Lane (between Newtons Lane and Maw Lane)	EB	215	1	302	2	40%	100%	373	2	73%	100%	300	2	40%	100%
	WB	28	0	22	0	-21%	0%	30	0	7%	0%	22	0	-21%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Greenway (between Stamp Avenue and B5076 Middlewich Street)	NB	24	0	160	0	567%	0%	49	0	104%	0%	129	0	438%	0%
	SB	8	0	7	0	-13%	0%	8	0	0%	0%	7	0	-13%	0%
Lime Tree Avenue (between Prunus Road and Elm Drive)	EB	15	0	18	0	20%	0%	24	0	60%	0%	13	0	-13%	0%
	WB	35	0	27	0	-23%	0%	24	0	-31%	0%	29	0	-17%	0%
Elm Drive (between Lime Tree Avenue and Remer Street)	NB	36	11	32	11	-11%	0%	41	11	14%	0%	31	11	-14%	0%
	SB	235	2	150	1	-36%	-50%	274	2	17%	0%	162	1	-31%	-50%
Lime Tree Avenue (between Acer Avenue and Prunus Road)	EB	14	0	18	0	29%	0%	23	0	64%	0%	12	0	-14%	0%
	WB	34	0	25	0	-26%	0%	22	0	-35%	0%	28	0	-18%	0%
B5076 Middlewich Street (between Lime Tree Avenue and Remer Street)	NB	430	2	186	5	-57%	150%	407	6	-5%	200%	228	3	-47%	50%
	SB	279	11	262	13	-6%	18%	323	15	16%	36%	284	11	2%	0%
Sydney Road (between Maw Green Road and Elm Drive)	NB	450	4	490	55	9%	1275 %	489	20	9%	400%	460	19	2%	375%
	SB	1,081	3	1,177	55	9%	1733 %	1,071	20	-1%	567%	1,160	19	7%	533%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Remer Street (between Groby Road and Elm Drive)	EB	1,263	3	1,276	55	1%	1733 %	1,286	20	2%	567%	1,273	18	1%	500%
	WB	435	12	473	63	9%	425%	473	28	9%	133%	443	27	2%	125%
A530 Middlewich Road (between Pyms Lane and Middlewich Road)	NB	590	8	515	41	-13%	413%	549	58	-7%	625%	540	23	-8%	188%
	SB	587	6	597	40	2%	567%	620	57	6%	850%	591	22	1%	267%
Acer Avenue (between Remer Street and Lime Tree Avenue)	NB	38	0	35	0	-8%	0%	38	0	0%	0%	40	0	5%	0%
	SB**	7	0	14	0	100%	0%	12	0	71%	0%	10	0	43%	0%
Remer Street (between B5076 Middlewich Street and Acer Avenue)	EB	329	5	354	49	8%	880%	445	10	35%	100%	328	15	0%	200%
	WB	444	12	468	56	5%	367%	463	15	4%	25%	439	22	-1%	83%
Selworthy Drive (between B5076 Bradfield Road and Underwood Lane)	NB	134	0	246	2	84%	0%	150	0	12%	0%	235	2	75%	0%
	SB	41	0	46	0	12%	0%	42	0	2%	0%	44	0	7%	0%
B5076 Middlewich Street (between Broad Street and Remer Street)	EB	596	7	590	48	-1%	586%	745	8	25%	14%	588	16	-1%	129%
	WB	864	3	636	44	-26%	1367 %	851	3	-2%	0%	650	13	-25%	333%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Newtons Lane (between Clay Lane and Nesfield Drive)	EB	198	1	290	2	46%	100%	358	2	81%	100%	288	2	45%	100%
	WB	7	0	7	0	0%	0%	9	0	29%	0%	7	0	0%	0%
Underwood Lane (between Cliffe Road and Newbury Avenue)	EB	132	4	129	4	-2%	0%	248	4	88%	0%	130	4	-2%	0%
	WB	92	4	45	3	-51%	-25%	88	4	-4%	0%	43	3	-53%	-25%
Newtons Lane (between Nesfield Drive and Crewe Road)	EB	209	2	301	2	44%	0%	369	2	77%	0%	299	2	43%	0%
	WB	46	0	44	0	-4%	0%	49	0	7%	0%	45	0	-2%	0%
Underwood Lane (between Newbury Avenue and Pear Tree Avenue)	NB	125	4	121	4	-3%	0%	240	4	92%	0%	121	4	-3%	0%
	SB	91	4	44	3	-52%	-25%	87	4	-4%	0%	42	3	-54%	-25%
Stoneley Road (between B5076 Broad Street and Waldron's Lane)	NB**	0	0	0	0	0%	0%	1	0	0%	0%	0	0	0%	0%
	SB	234	0	496	0	112%	0%	251	0	7%	0%	496	0	112%	0%
B5076 North Street (between Broughton Road and Broad Street)	EB	695	8	806	51	16%	538%	802	9	15%	13%	830	19	19%	138%
	WB	738	4	1,080	44	46%	1000 %	807	5	9%	25%	1,064	13	44%	225%
Underwood Lane (between Pear	NB	121	4	117	4	-3%	0%	235	4	94%	0%	117	4	-3%	0%
	SB	92	4	44	3	-52%	-25%	88	4	-4%	0%	42	3	-54%	-25%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Tree Avenue and B5076 Bradfield Road)															
B5076 Bradfield Road (between Underwood Lane and Broughton Road)	EB	668	8	754	50	13%	525%	992	9	49%	13%	778	18	16%	125%
	WB	599	2	752	44	26%	2100 %	703	2	17%	0%	746	12	25%	500%
B5076 Bradfield Road (between Selworthy Drive and Mablins Lane)	EB	472	7	581	49	23%	600%	589	7	25%	0%	582	17	23%	143%
	WB	290	4	203	45	-30%	1025 %	292	4	1%	0%	245	14	-16%	250%
B5076 Bradfield Road (between Mablins Lane and Cliffe Road)	EB	648	14	730	56	13%	300%	751	14	16%	0%	766	24	18%	71%
	WB	587	9	711	49	21%	444%	517	8	-12%	-11%	714	17	22%	89%
B5076 Bradfield Road (between Cliffe Road and Underwood Lane)	EB	748	11	820	53	10%	382%	925	12	24%	9%	845	22	13%	100%
	WB	502	6	715	47	42%	683%	574	6	14%	0%	714	15	42%	150%
Broughton Road (between Maplins Moss Place and Parkers Road)	NB	205	2	388	1	89%	-50%	521	3	154%	50%	377	1	84%	-50%
	SB	93	1	112	1	20%	0%	227	1	144%	0%	111	1	19%	0%
	NB	0	0	9	9	0%	0%	15	12	0%	0%	11	8	0%	0%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Groby Road (between Remer Street and Stoneley Road)**	SB	0	0	9	9	0%	0%	15	12	0%	0%	11	8	0%	0%
A530 Middlewich Road (between Middlewich Road and Smithy Lane)	NB	529	8	454	41	-14%	413%	489	58	-8%	625%	480	23	-9%	188%
	SB	473	6	483	40	2%	567%	506	57	7%	850%	477	21	1%	250%
B5076 Bradfield Road (between Parkers Road and Selworthy Drive)	NB	342	4	304	46	-11%	1050 %	370	4	8%	0%	340	14	-1%	250%
	SB	494	4	543	46	10%	1050 %	620	4	26%	0%	543	14	10%	250%
B5076 Bradfield Road (between Parkers Road and B5076 Flowers Lane)	EB	1,031	13	1,080	62	5%	377%	918	12	-11%	-8%	1,070	28	4%	115%
	WB	530	11	501	59	-5%	436%	482	10	-9%	-9%	557	26	5%	136%
Parkers Road (between Higher Croft Drive and Parkfield)	EB	372	9	372	18	0%	100%	130	9	-65%	0%	364	17	-2%	89%
	WB	282	6	283	14	0%	133%	205	6	-27%	0%	304	14	8%	133%
A530 Middlewich Road (between Smithy Lane and B5076 Flowers Lane)	NB	245	13	236	46	-4%	254%	197	63	-20%	385%	236	28	-4%	115%
	SB	331	9	442	45	34%	400%	363	60	10%	567%	402	25	21%	178%
Parkers Road (between	EB	421	4	826	12	96%	200%	125	14	-70%	250%	842	12	100%	200%
	WB	254	3	251	11	-1%	267%	17	14	-93%	367%	248	11	-2%	267%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Mablins Lane and Broughton Road)***															
Groby Road (between Stoneley Road and Warmingham Road)	NB	414	0	241	9	-42%	0%	418	12	1%	0%	243	8	-41%	0%
	SB**	19	0	26	9	37%	0%	30	12	58%	0%	27	8	42%	0%
Warmingham Road (between Broughton Road and Waldron's Lane)	EB	404	5	1,014	12	151%	140%	431	17	7%	240%	1,017	12	152%	140%
	WB	231	3	249	11	8%	267%	133	14	-42%	367%	245	11	6%	267%
B5076 Flowers Lane (between A530 Middlewich Road and B5076 Bradfield Road)	EB	835	16	792	63	-5%	294%	844	16	1%	0%	828	31	-1%	94%
	WB	531	15	453	63	-15%	320%	501	14	-6%	-7%	517	29	-3%	93%
Warmingham Road (between Waldron's Lane and Groby Road)	EB	976	3	1,316	11	35%	267%	1,036	15	6%	400%	1,319	11	35%	267%
	WB	257	3	254	11	-1%	267%	198	15	-23%	400%	250	11	-3%	267%
A530 Middlewich Road (between B5076 Flowers Lane and Eardswick Lane)	NB	554	18	512	86	-8%	378%	523	67	-6%	272%	562	34	1%	89%
	SB	602	14	727	83	21%	493%	705	65	17%	364%	693	31	15%	121%

Location	Direction	2030 baseline flows		Proposed Scheme flows - Scenario 1		Scenario 1 – % change from 2030 baseline		Proposed Scheme flows - Scenario 2		Scenario 2 – % change from 2030 baseline		Proposed Scheme flows - Scenario 3		Scenario 3 – % change from 2030 baseline	
		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A530 Middlewich Road (between Eardswick Lane and Brookhouse Lane)	NB	258	7	396	64	53%	814%	405	54	57%	671%	461	23	79%	229%
	SB	282	10	372	68	32%	580%	362	59	28%	490%	316	27	12%	170%
B5074 Over Road/B5074 Swanlow Lane (between Cross Lane and Moor Lane)	NB	528	3	625	3	18%	0%	559	3	6%	0%	597	2	13%	-33%
	SB	348	4	571	4	64%	0%	494	5	42%	25%	413	5	19%	25%

***Some traffic movements may not be precisely reflected due to the simplified way in which the road network is represented in the strategic traffic models, however, this is not expected to change the conclusions of the assessment*

****Due to the temporary closure of Parkers Road in Scenario 2 the flows reported on Parkers Road are representative of the section between Warmingham Moss satellite compound access and Broughton Road*

Figure 13-1: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 1, AM peak hour

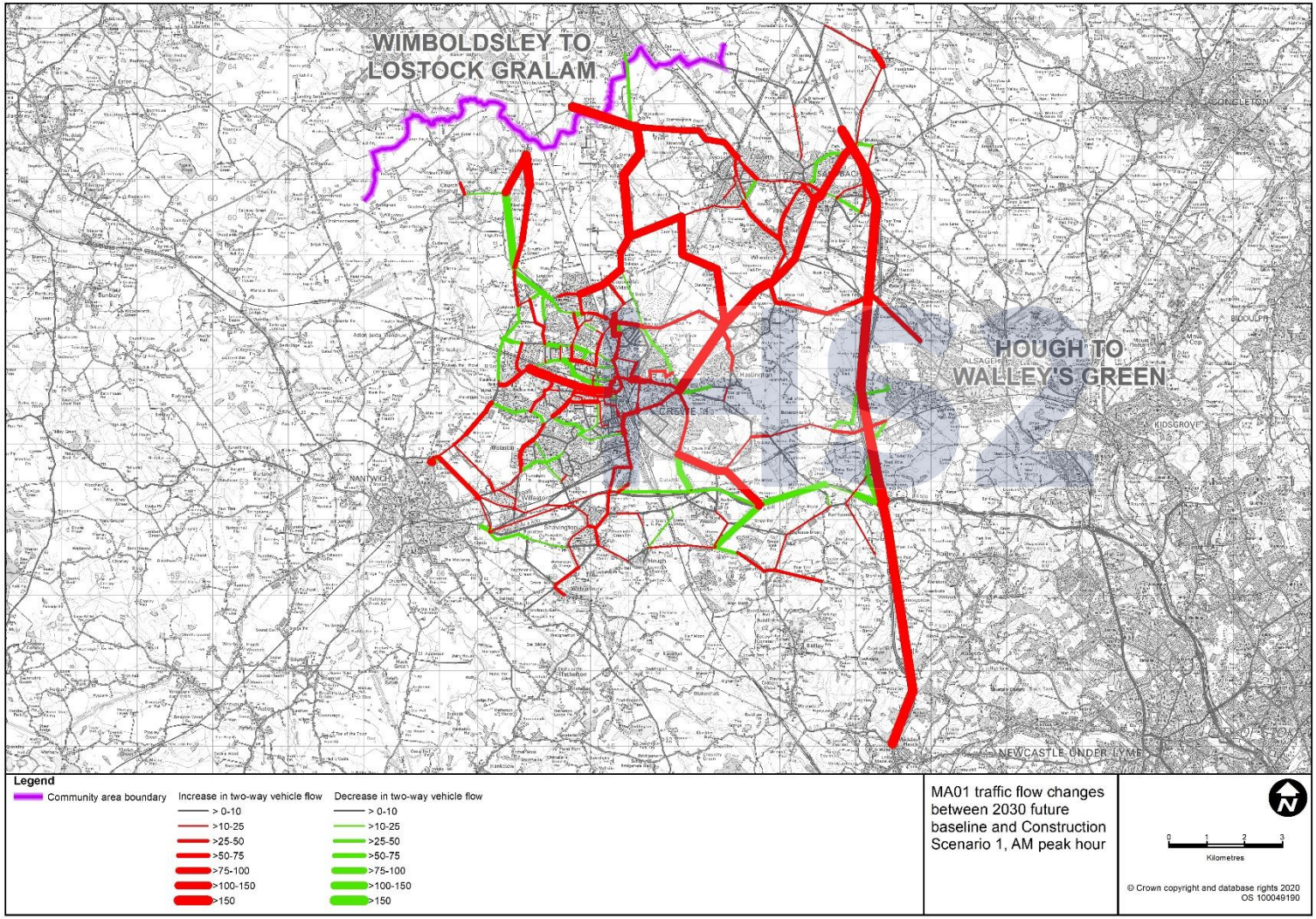


Figure 13-2: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 1, PM peak hour

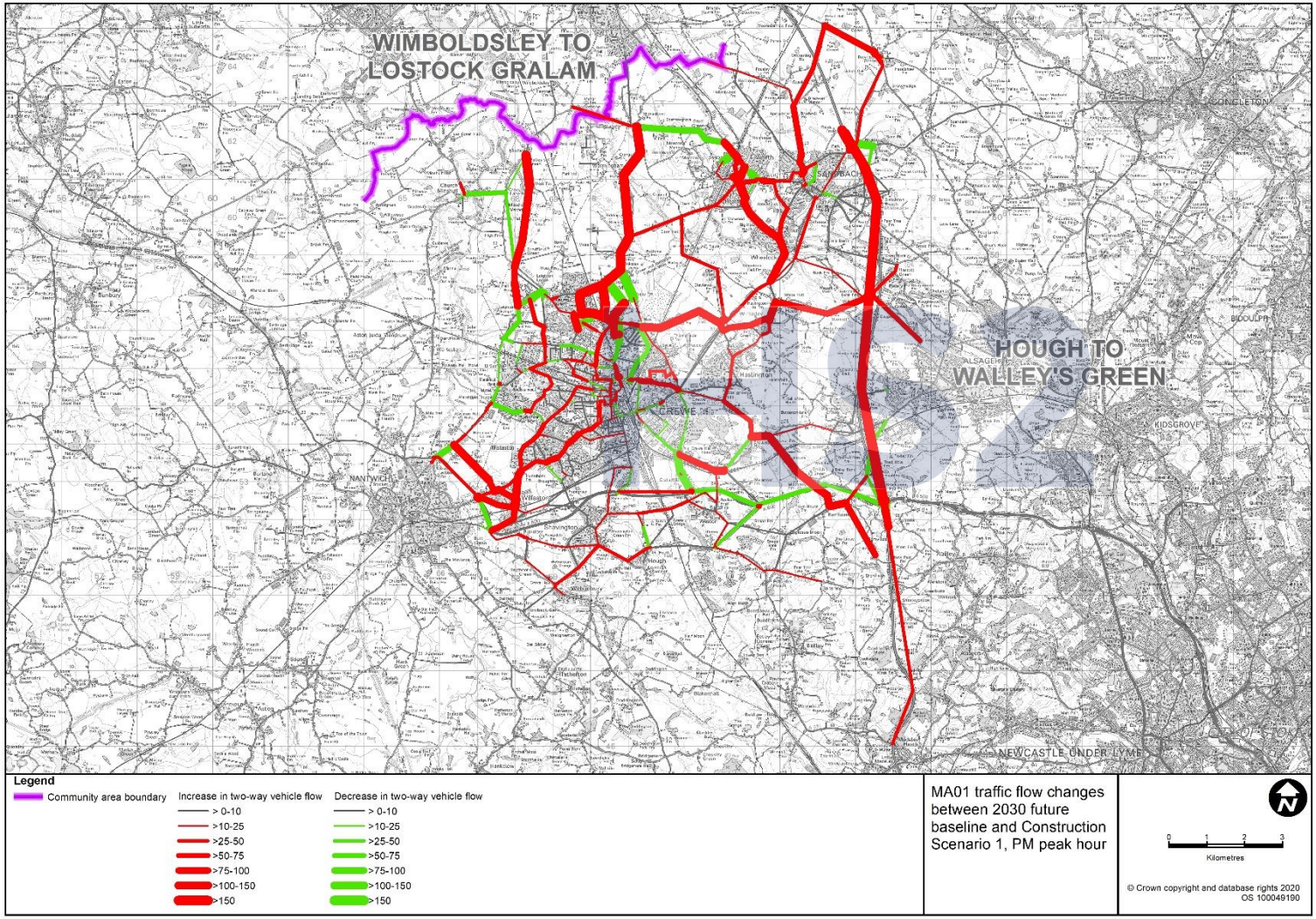


Figure 13-3: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 2, AM peak hour

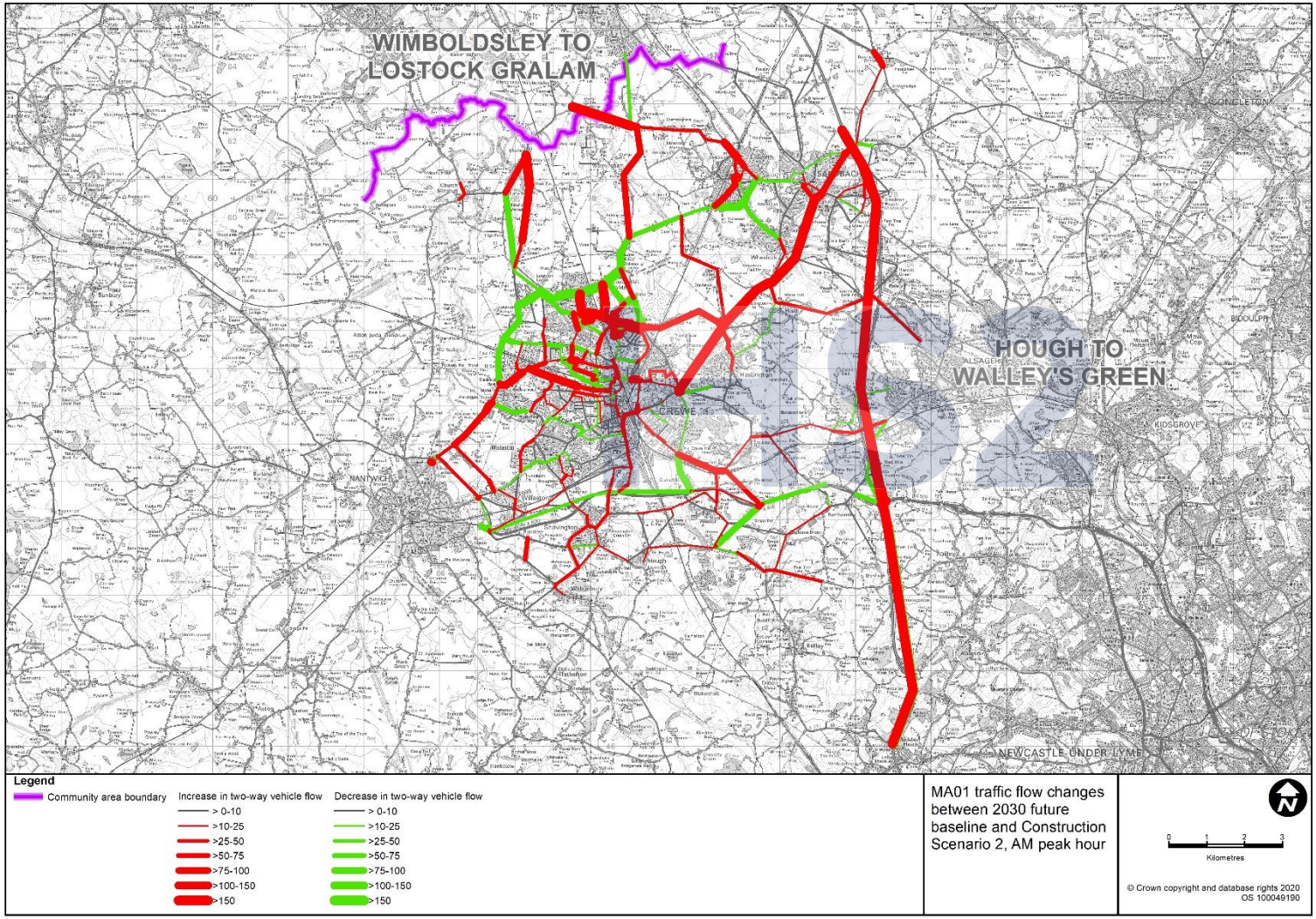


Figure 13-4: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 2, PM peak hour

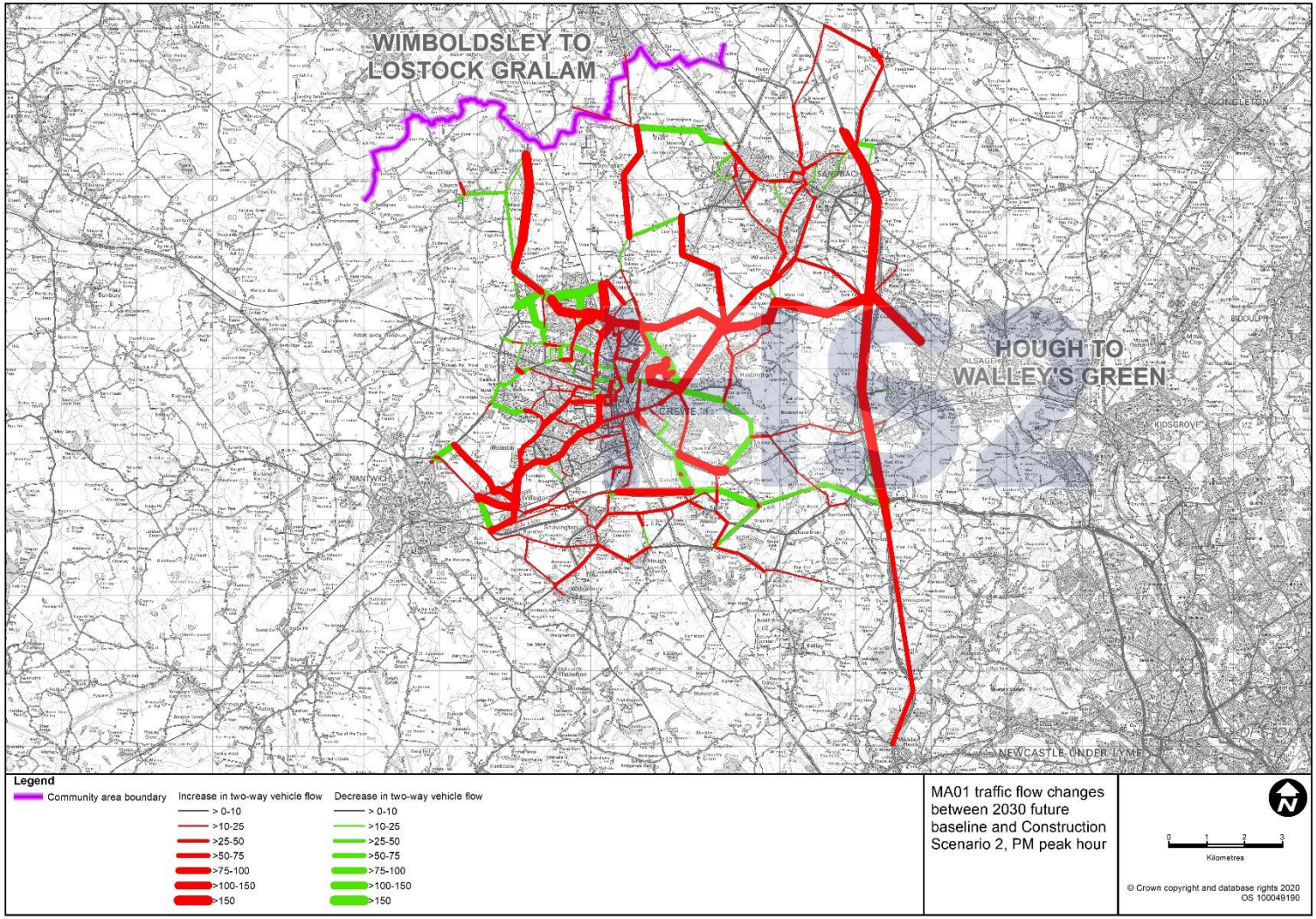


Figure 13-5: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 3, AM peak hour

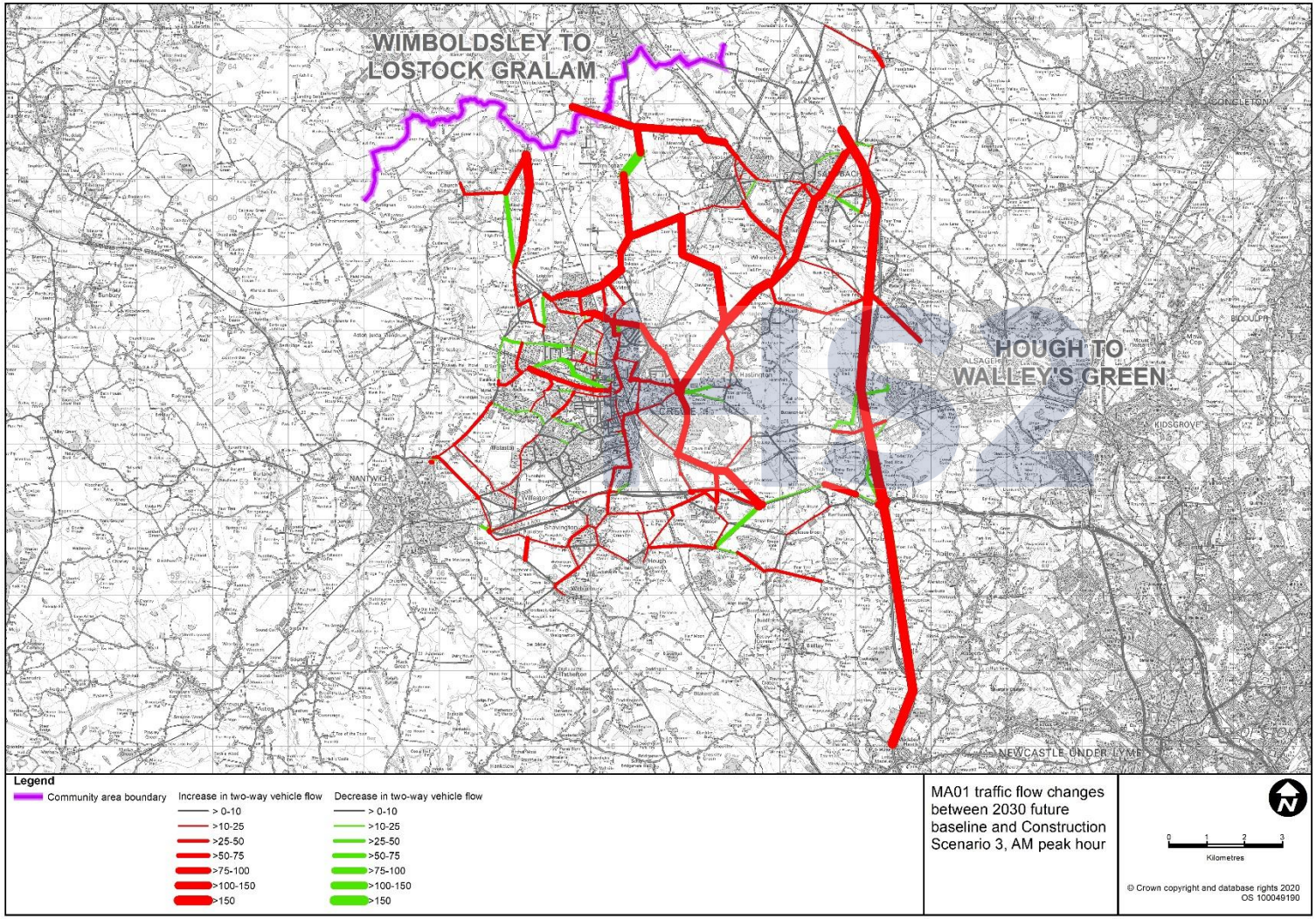
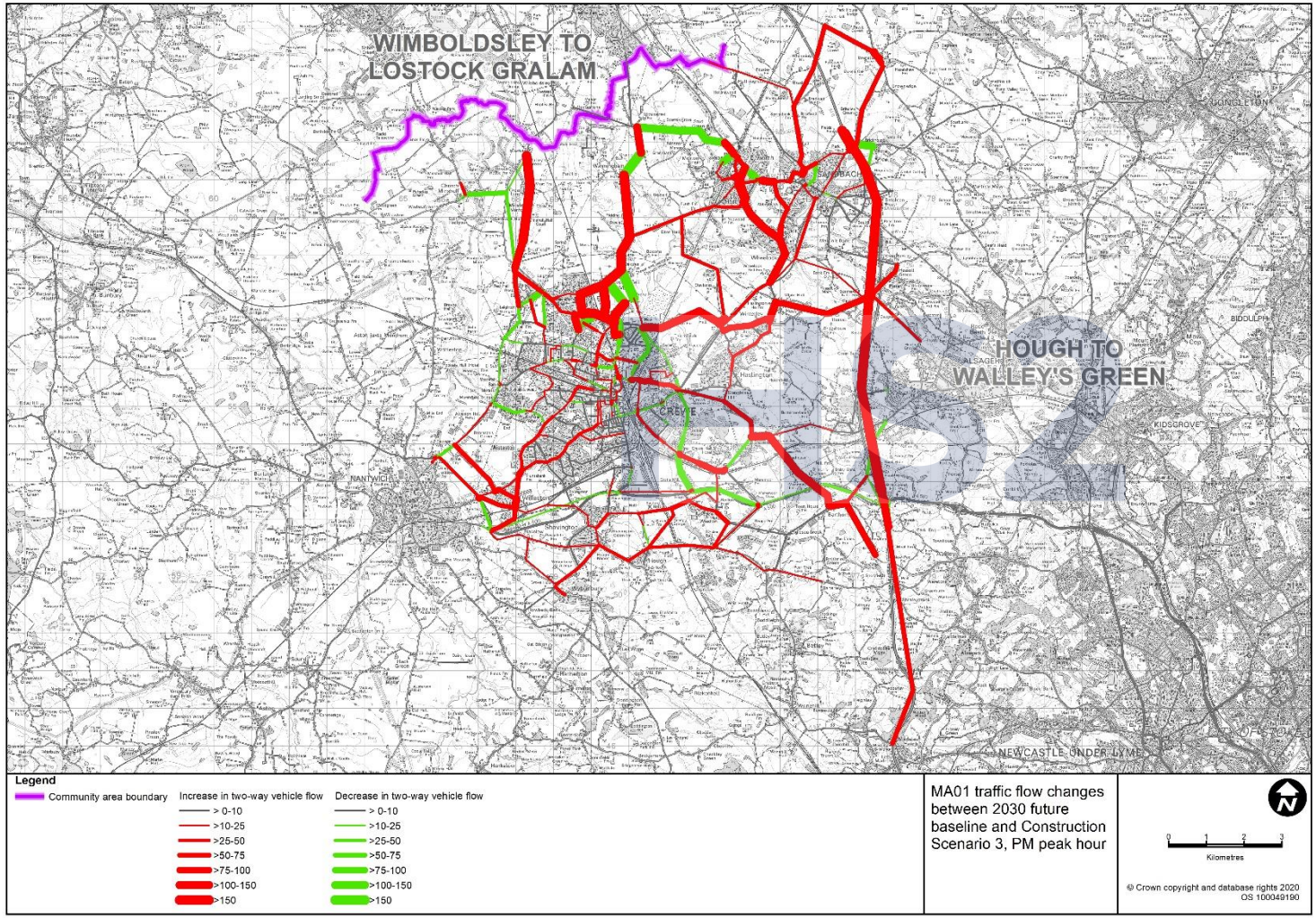


Figure 13-6: MA01 traffic flow changes between 2030 future baseline and Proposed Scheme Scenario 3, PM peak hour



Junction performance

13.3.17 Junction capacity analysis has been undertaken for the AM and PM peak hours comparing junction operation in the 2030 future baseline scenario with the modelled scenarios for the Proposed Scheme.

13.3.18 The following tables and commentary set out the performance at junctions where there is the potential for the Proposed Scheme to have substantial impacts, including new temporary junctions and those junctions where temporary changes are proposed.

13.3.19 Junctions which experience an impact as a result of the Proposed Scheme, but where the layout is not changed are generally identified using the following criteria:

- the Ratio of Flow to Capacity (RFC), Degree of Saturation (DoS) or Volume over Capacity (VoC) for an approach arm increases to over 87% during the construction of the Proposed Scheme; and
- the RFC, DoS or VoC for an approach arm increases by 2% or more from the baseline.

13.3.20 Similarly, junctions which experience a beneficial impact as a result of the Proposed Scheme, but where the layout is not changed are generally identified using the following criteria:

- the RFC, DoS or VoC for an approach arm is over 87% during the baseline; and
- the RFC, DoS or VoC for an approach arm decreases by 2% or more during the construction of the Proposed Scheme.

13.3.21 The results are presented from south to north through the MA01 area, firstly for junctions on the strategic road network, followed by junctions on other roads. The 2030 future baseline results are included for comparison. The models developed to assess the existing and future baseline have been used, except where otherwise stated.

13.3.22 Where relevant, the impacts are presented for the baseline excluding Phase 2a, for the baseline including Phase 2a and for the Proposed Scheme in combination with Phase 2a. The impact of the Proposed Scheme in isolation can be assessed by comparing the results with the Proposed Scheme and Phase 2a against those for Phase 2a only. The combined impact can be assessed by comparing the combined results against the future baseline without Phase 2a.

13.3.23 It should be noted that the assessments consider the peak level of construction traffic in each location and these conditions will not be present across the whole construction period.

M6 junction 16/A500 Newcastle Road/B5078 Radway Green Road/A500 (Barthomley Interchange) junction

13.3.24 Table 13-8: summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-9: M6 junction 16/A500 Newcastle Road/B5078 Radway Green/A500 (Barthomley Interchange) junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU*/hr	VoC	Q**, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5078 Radway Green Road	290	105%	6	245	107%	6	253	106%	6	267	105%	6
M6 junction 16 off-slip (north)	1,277	70%	10	1,543	85%	12	1,544	85%	12	1,495	82%	12
A500 (east)	2,155	94%	12	2,202	96%	12	2,204	96%	12	2,209	96%	12
M6 junction 16 off-slip (south)	702	46%	6	793	52%	7	769	50%	7	790	51%	7
A500 Newcastle Road	1,650	91%	14	1,650	91%	14	1,650	91%	14	1,650	91%	14
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5078 Radway Green Road	209	110%	5	215	110%	5	218	110%	5	214	110%	5
M6 junction 16 off-slip (north)	1,200	57%	9	1,439	69%	11	1,432	68%	11	1,343	64%	10
A500 (east)	1,784	91%	11	1,781	91%	11	1,778	91%	11	1,784	91%	11
M6 junction 16 off-slip (south)	635	41%	6	694	45%	6	665	43%	6	652	42%	6
A500 Newcastle Road	1,650	91%	14	1,650	91%	14	1,650	91%	14	1,650	91%	14

**PCU Passenger Car Unit*

***Q = Queue*

13.3.25 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.26 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5078 Radway Green Road approach from 105% in the future baseline to 107% in the AM peak hour, with no change in corresponding queue length. In Scenarios 1, 2 and 3, the change in traffic due to construction of the Proposed Scheme in the AM peak hour will increase the VoC on the A500 (east) approach from 94% in the future baseline to 96%, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

M6 junction 17/A534 Congleton Road junction

13.3.27 Table 13-10 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-10: M6 junction 17/A534 Congleton Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
M6 southbound off-slip (junction 17)	263	47%	3	330	59%	4	300	54%	3	331	59%	4
A534 Congleton Road (east)	614	102%	7	613	102%	7	614	102%	7	615	102%	7
A534 Congleton Road (east) (left slip)	345	32%	0	330	31%	0	341	32%	0	334	31%	0
M6 northbound off-slip (junction 17) (roundabout entry)	271	32%	0	255	33%	0	254	32%	0	270	35%	0
M6 northbound off-slip (junction 17) (left slip)	131	18%	0	166	25%	0	171	25%	0	164	25%	0
A534 Old Mill Road (west)	823	65%	0	863	68%	0	844	66%	0	834	66%	0
A534 Old Mill Road (motorway overbridge eastbound)	1,094	93%	9	1,118	95%	9	1,098	93%	9	1,104	94%	9
A534 Old Mill Road (motorway overbridge westbound)	863	53%	0	930	57%	0	900	55%	0	931	57%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
M6 southbound off-slip (junction 17)	386	81%	6	368	78%	6	368	78%	6	370	78%	6
A534 Congleton Road (east)	612	85%	7	633	88%	8	628	87%	8	636	88%	8
A534 Congleton Road (east) (left slip)	451	40%	0	439	39%	0	436	39%	0	433	38%	0
M6 northbound off-slip (junction 17) (roundabout entry)	464	68%	3	516	76%	4	474	69%	3	502	74%	4
M6 northbound off-slip (junction 17) (left slip)	233	33%	1	234	34%	1	237	34%	1	235	34%	1
A534 Old Mill Road (west)	659	68%	2	534	58%	2	660	69%	2	528	57%	1
A534 Old Mill Road (motorway overbridge eastbound)	1,123	73%	11	1,050	69%	11	1,134	74%	11	1,030	68%	10

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
A534 Old Mill Road (motorway overbridge westbound)	998	61%	0	1,002	61%	0	997	61%	0	1,005	61%	0

13.3.28 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.29 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A534 Old Mill Road (motorway overbridge eastbound) approach from 93% in the future baseline to 95% in the AM peak hour, with no change in corresponding queue length. In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A534 Congleton Road (east) approach from 85% in the future baseline to 88%, with a corresponding increase in queue length from seven PCU in the future baseline to eight PCU.

13.3.30 Following discussions with Highways England, it is understood that queues on the M6 southbound off-slip at this junction may extend back to the M6 mainline at peak times. However, given the limited level of additional traffic that would be added to this approach during construction of the Proposed Scheme, this is not expected to change the conclusions of the assessment.

A500 Shavington Bypass/A51 Newcastle Road/A51 Nantwich Bypass (Cheerbrook Roundabout) junction

13.3.31 Table 13-11 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-11: A500 Shavington Bypass/A51 Newcastle Road/A51 Nantwich Bypass (Cheerbrook Roundabout) junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A51 Nantwich Bypass	656	61%	1	685	62%	1	680	62%	1	661	61%	1
Cheerbrook Road	305	40%	0	304	40%	0	318	41%	0	304	40%	0
A500 Shavington Bypass	1,411	73%	1	1,493	77%	1	1,473	76%	1	1,450	75%	1
Newcastle Road	416	61%	1	396	63%	1	451	71%	2	451	69%	1
A51 Newcastle Road	1,124	107%	10	1,062	106%	10	1,041	108%	10	1,070	107%	10
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A51 Nantwich Bypass	882	59%	1	877	58%	0	881	60%	1	865	58%	0
Cheerbrook Road	197	25%	0	292	36%	0	306	40%	0	260	32%	0
A500 Shavington Bypass	1,574	102%	9	1,579	103%	9	1,597	104%	9	1,569	102%	9
Newcastle Road	282	49%	1	303	52%	1	303	52%	1	297	51%	1
A51 Newcastle Road	793	65%	1	779	65%	1	812	67%	1	780	64%	1

13.3.32 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.33 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour. In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A500 Shavington Bypass approach from 102% in the future baseline to 104%, with no change in corresponding queue length.

A500 Newcastle Road/A500 Shavington Bypass/A531 Newcastle Road/B5472 Weston Road (Meremoor Moss Roundabout) junction

13.3.34 Table 13-12 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-12: A500 Newcastle Road/A500 Shavington Bypass/A531 Newcastle Road/B5472 Weston Road (Meremoor Moss Roundabout) junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5472 Weston Road	307	38%	0	343	42%	0	321	39%	0	340	40%	0
A500 Newcastle Road	1,821	58%	0	1,984	63%	0	1,950	62%	0	1,967	62%	0
A531 Newcastle Road	331	96%	5	257	100%	5	277	95%	4	285	98%	5
A500 Shavington Bypass	1,190	67%	1	1,246	71%	1	1,245	71%	1	1,207	70%	1
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5472 Weston Road	423	115%	4	428	116%	4	423	115%	4	427	116%	4
A500 Newcastle Road	1,512	44%	0	1,619	48%	0	1,571	46%	0	1,520	45%	0
A531 Newcastle Road	147	28%	0	140	30%	0	160	33%	0	192	38%	0
A500 Shavington Bypass	1,343	109%	3	1,340	111%	3	1,315	110%	4	1,298	111%	4

13.3.35 The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.36 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A531 Newcastle Road approach from 96% in the future baseline to 100% in the AM peak hour, with no change in corresponding queue length. In Scenario 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A500 Shavington Bypass approach from 109% in the future baseline to 111%, with a corresponding increase in queue length from three PCU in the future baseline to four PCU.

A51 Nantwich Bypass/A534 Crewe Road/B5338 Crewe Road/Park Road

13.3.37 Table 13-13 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-13: A51 Nantwich Bypass/A534 Crewe Road/B5338 Crewe Road/Park Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A51 Nantwich Bypass (north)	599	36%	0	645	39%	0	642	38%	0	616	37%	0
A534 Crewe Road	818	94%	3	843	100%	6	845	101%	6	829	97%	4
Park Road	114	23%	0	126	28%	0	119	26%	0	116	25%	0
A51 Nantwich Bypass (south)	1,069	89%	2	1,120	93%	3	1,116	93%	3	1,097	91%	3
B5338 Crewe Road	627	110%	7	615	114%	7	601	113%	7	617	112%	7
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A51 Nantwich Bypass (north)	840	45%	0	911	51%	0	936	53%	0	877	48%	0
A534 Crewe Road	718	101%	7	678	101%	7	665	101%	7	697	101%	7
Park Road	165	39%	0	249	60%	1	261	63%	1	227	54%	1
A51 Nantwich Bypass (south)	1,051	88%	2	1,079	90%	3	1,077	90%	3	1,058	88%	2
B5338 Crewe Road	516	84%	2	486	89%	3	488	90%	3	500	88%	2

13.3.38 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.39 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A534 Crewe Road approach from 94% in the future baseline to 101% in the AM peak hour, with a corresponding change in queue length from three PCU in the future baseline to six PCU.

13.3.40 In Scenario 1 and 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A51 Nantwich Bypass (south) approach from 89% in the future baseline to 93% in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to three PCU.

13.3.41 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5338 Crewe Road approach from 110% in the future baseline to 114% in the AM peak hour, with no change in corresponding queue length.

13.3.42 In Scenario 1, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A51 Nantwich Bypass (south) approach from 88% in the future baseline to 90%, with a corresponding change in queue length from two PCU in the future baseline to three PCU.

A500 Shavington Bypass/B5071 Jack Mills Way junction

13.3.43 Table 13-14 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-14: A500 Shavington Bypass/B5071 Jack Mills Way junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5071 Jack Mills Way	620	64%	1	646	67%	1	655	68%	1	626	64%	1
A500 Shavington Bypass (east)	1,692	82%	1	1,718	85%	1	1,715	84%	1	1,710	83%	1
B5071	245	42%	1	250	46%	1	243	44%	1	241	43%	1
A500 Shavington Bypass (west)	1,487	91%	2	1,489	90%	2	1,504	91%	2	1,492	90%	2
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5071 Jack Mills Way	781	54%	0	763	55%	0	782	59%	1	774	54%	0
A500 Shavington Bypass (east)	1,368	76%	1	1,404	77%	1	1,442	78%	1	1,381	76%	1
B5071	160	24%	0	151	22%	0	150	23%	0	156	23%	0
A500 Shavington Bypass (west)	1,009	48%	0	1,070	51%	0	1,126	55%	0	1,031	49%	0

13.3.44 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme.

13.3.45 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A500 Shavington Bypass (east) approach from 82% in the future baseline to 85% in the AM peak hour, with no change in corresponding queue length. In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

A500 Shavington Bypass/A5020 David Whitby Way

13.3.46 Table 13-15 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-15: A500 Shavington Bypass/A5020 David Whitby Way junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A5020 David Whitby Way	800	63%	1	805	66%	1	759	63%	1	808	65%	1
A500 Shavington Bypass (east)	1,471	87%	2	1,550	92%	2	1,550	90%	2	1,537	92%	3
A500 Shavington Bypass (west)	1,656	85%	1	1,664	88%	1	1,685	88%	1	1,656	89%	2
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A5020 David Whitby Way	1,364	75%	1	1,268	75%	1	1,225	73%	1	1,283	74%	1
A500 Shavington Bypass (east)	1,165	65%	0	1,288	72%	1	1,242	70%	1	1,184	67%	1
A500 Shavington Bypass (west)	1,100	54%	0	1,170	61%	0	1,262	63%	0	1,134	57%	0

13.3.47 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme.

13.3.48 In Scenario 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A500 Shavington Bypass (east) approach from 87% to 92% in the AM peak hour, with a corresponding change in queue length from two PCU to three PCU. In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

A530 Middlewich Road/A51 Nantwich Bypass/B334 Middlewich Road (Alvaston Roundabout) junction

13.3.49 Table 13-16 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-16: A530 Middlewich Road/A51 Nantwich Bypass/B5334 Middlewich Road (Alvaston Roundabout) junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Alvaston Business Park Approach	222	21%	0	222	22%	0	222	22%	0	222	22%	0
A530 Middlewich Road	872	112%	7	911	115%	7	926	115%	7	894	113%	7
A51 Nantwich Bypass (east)	1,063	89%	2	1,122	93%	4	1,138	95%	4	1,097	91%	3
B5334 Middlewich Road	503	110%	7	480	110%	7	480	110%	7	489	110%	7
A51 Nantwich Bypass (west)	995	120%	6	1,009	123%	6	993	123%	6	1,000	121%	6
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Alvaston Business Park Approach	193	19%	0	193	19%	0	193	19%	0	193	19%	0
A530 Middlewich Road	747	111%	7	764	114%	7	770	114%	7	756	113%	7
A51 Nantwich Bypass (east)	1,109	92%	3	1,145	95%	4	1,147	96%	4	1,140	95%	4
B5334 Middlewich Road	495	104%	7	511	104%	7	508	104%	7	504	104%	7
A51 Nantwich Bypass (west)	963	108%	6	982	109%	6	974	109%	6	978	109%	6

13.3.50 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.51 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the AM peak hour will increase the VoC on the A51 Nantwich Bypass (east) approach from 89% in the future baseline to 95%, with a corresponding change in queue length from two PCU in the future baseline to four PCU. In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A51 Nantwich Bypass (east) approach from 92% in the future baseline to 96%, with a corresponding change in queue length from three PCU in the future baseline to four PCU.

A532 Weston Road/A5020 University Way/A5020 David Whitby Way/B5472 Weston Road/Savoy Road junction

13.3.52 Table 13-17 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-17: A532 Weston Road/A5020 University Way/A5020 David Whitby Way/B5472 Weston Road/Savoy Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A5020 University Way	930	49%	0	970	52%	0	912	49%	0	959	51%	0
B5472 Weston Road	1,047	87%	2	1,135	95%	4	1,112	93%	3	1,105	92%	3
A5020 David Whitby Way	1,032	88%	3	1,042	95%	5	1,021	91%	4	1,071	96%	5
Savoy Road	35	15%	0	35	17%	0	35	16%	0	35	18%	0
A532 Weston Road	404	28%	0	411	31%	0	407	29%	0	412	31%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A5020 University Way	794	103%	9	810	103%	9	806	102%	9	769	103%	9
B5472 Weston Road	251	26%	0	239	23%	0	243	23%	0	243	23%	0
A5020 David Whitby Way	910	42%	0	975	44%	0	965	44%	0	916	42%	0
Savoy Road	121	20%	0	121	21%	0	121	21%	0	121	20%	0
A532 Weston Road	1351	99%	9	1,316	101%	10	1,326	102%	10	1,373	100%	10

13.3.53 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.54 In Scenario 1, the change in traffic due to construction of the Proposed Scheme in the AM peak hour will increase the VoC on the B5472 Weston Road approach from 87% in the future baseline to 95%, with a corresponding change in queue length from two PCU in the future baseline to four PCU. In Scenario 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A5020 David Whitby Way approach from 88% in the future baseline to 96% in the AM peak hour, with a corresponding change in queue length from three PCU in the future baseline to five PCU.

13.3.55 In Scenario 2, the change in traffic due to construction of the Proposed scheme in the PM peak hour will increase the VoC on the A532 Weston Road approach from 99% in the future baseline to 102%, with a corresponding change in queue length from nine PCU in the future baseline to 10 PCU.

Valley Road/Wistaston Green Road junction

13.3.56 Table 13-18 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-18: Valley Road/Wistaston Green Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Wistaston Green Road	439	59%	0	436	58%	0	451	60%	0	427	57%	0
Valley Road (north)	381	42%	0	399	45%	0	375	43%	0	396	44%	0
Valley Road (south)	786	75%	0	771	73%	0	767	73%	0	776	74%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Wistaston Green Road	655	72%	0	667	73%	0	672	75%	1	662	73%	0
Valley Road (north)	592	83%	1	632	89%	2	651	92%	3	615	86%	2
Valley Road (south)	542	58%	0	537	57%	0	558	61%	0	539	57%	0

13.3.57 The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and well within capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme.

13.3.58 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.59 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Valley Road (north) approach from 83% in the future baseline to 92%, with a corresponding change in queue length from one PCU in the future baseline to three PCU.

Wistaston Green Road/Capesthorne Road junction

13.3.60 Table 13-19 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-19: Wistaston Green Road/Capesthorne Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Capesthorne Road	257	42%	0	277	44%	0	273	44%	0	263	42%	0
Wistaston Green Road (east)	374	34%	0	347	32%	0	356	33%	0	362	33%	0
Wistaston Green Road (west)	936	58%	0	941	59%	0	943	59%	0	925	58%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Capesthorne Road	524	91%	2	534	94%	3	523	95%	4	533	93%	3
Wistaston Green Road (east)	473	31%	0	450	29%	0	483	32%	0	450	30%	0
Wistaston Green Road (west)	733	45%	0	787	48%	0	781	48%	0	756	46%	0

13.3.61 The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.62 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.63 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Capesthorne Road approach from 91% in the future baseline to 95%, with a corresponding change in queue length from two PCU in the future baseline to four PCU.

A534 Crewe Road/A534 Nantwich Road/A532 Weston Road/A532 Macon Way/Tommy's Lane junction

13.3.64 Table 13-20 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-20: A534 Crewe Road/A534 Nantwich Road/A532 Weston Road/A532 Macon Way/Tommy's Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 Macon Way	621	67%	5	657	71%	6	663	72%	6	643	70%	5
A534 Crewe Road	569	50%	5	582	51%	5	576	51%	5	577	51%	5
A532 Weston Road	658	46%	6	655	46%	6	673	47%	6	668	47%	6
A534 Nantwich Road	891	55%	5	917	57%	6	914	57%	6	906	56%	5
Tommy's Lane	66	5%	0	66	5%	0	66	5%	0	66	5%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 Macon Way	727	78%	6	733	78%	6	779	83%	6	757	81%	6
A534 Crewe Road	642	50%	6	607	47%	6	615	47%	6	616	48%	6
A532 Weston Road	501	26%	5	521	27%	5	544	28%	5	513	26%	5
A534 Nantwich Road	868	52%	6	861	52%	6	891	54%	6	857	52%	5
Tommy's Lane	75	5%	0	75	5%	0	75	5%	0	75	5%	0

13.3.65 The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme.

13.3.66 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths at this junction.

A534/A534 Crewe Green Road/A5020 University Way (Crewe Green Roundabout) junction

13.3.67 Table 13-21 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-21: A534/A534 Crewe Green Road/A5020 University Way (Crewe Green Roundabout) junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Sydney Road	1,032	92%	4	1,012	97%	7	990	96%	6	1,042	96%	6
A534	1,053	52%	1	1,179	58%	1	1,214	58%	1	1,179	58%	1
B5077 Crewe Road	789	97%	7	740	100%	9	736	100%	9	738	100%	9
A5020 University Way	809	57%	1	913	67%	1	837	65%	1	897	67%	1
A534 Crewe Green Road	601	29%	0	622	33%	0	613	33%	0	612	33%	0
Hungerford Road	563	54%	1	597	65%	1	588	65%	1	574	62%	1
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Sydney Road	582	104%	8	535	104%	8	315	106%	7	538	104%	8
A534	901	50%	1	907	50%	1	955	48%	1	900	50%	1
B5077 Crewe Road	363	27%	0	360	27%	0	363	28%	0	361	26%	0
A5020 University Way	701	22%	0	740	22%	0	740	23%	0	689	21%	0
A534 Crewe Green Road	880	30%	0	910	32%	0	949	35%	0	893	30%	0
Hungerford Road	702	72%	2	775	86%	3	807	97%	7	771	80%	2

13.3.68 The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.69 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Sydney Road approach from 92% in the future baseline to 97% in the AM peak hour, with a corresponding change in queue length from four PCU in the future baseline to seven PCU. In Scenario 1, 2 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5077 Crewe Road approach from 97% in the future baseline to 100% in the AM peak hour, with a corresponding change in queue length from seven PCU in the future baseline to nine PCU.

13.3.70 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Hungerford Road approach from 72% in the future baseline to 97%, with a corresponding change in queue length from two PCU in the future baseline to seven PCU.

A532 Earle Street/A532 Manchester Bridge/William Street/Grand Junction Way junction

13.3.71 Table 13-22 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-22: A532 Earle Street/A532 Manchester Bridge/William Street/Grand Junction Way junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
William Street	594	78%	1	622	84%	2	596	79%	1	605	80%	1
A532 Manchester Bridge	800	39%	0	854	41%	0	854	40%	0	840	40%	0
Grand Junction Way	25	2%	0	24	2%	0	23	2%	0	24	2%	0
A532 Earle Street	1,007	46%	0	1,030	47%	0	989	45%	0	1,010	47%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
William Street	564	82%	1	526	78%	1	666	92%	3	564	84%	2
A532 Manchester Bridge	894	44%	0	875	42%	0	864	44%	0	873	42%	0
Grand Junction Way	16	2%	0	15	1%	0	16	2%	0	16	1%	0
A532 Earle Street	885	40%	0	914	41%	0	831	37%	0	916	41%	0

13.3.72 The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme.

13.3.73 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.74 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the William Street approach from 82% in the future baseline to 92%, with a corresponding change in queue length from one PCU in the future baseline to three PCU.

A532 Vernon Way/A532 Earle Street/A5019 Vernon Way/Earle Street junction

13.3.75 Table 13-23 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-23: A532 Vernon Way/A532 Earle Street/A5019 Vernon Way/Earle Street junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 Vernon Way	788	51%	0	816	54%	0	797	53%	0	798	52%	0
A532 Earle Street	926	77%	1	951	79%	1	902	75%	1	928	77%	1
A5019 Vernon Way	607	36%	0	619	37%	0	619	37%	0	626	37%	0
Earle Street	362	30%	0	390	32%	0	394	33%	0	368	31%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 Vernon Way	640	37%	0	723	43%	0	660	37%	0	702	42%	0
A532 Earle Street	1,076	90%	1	1,024	85%	1	1,100	92%	1	1,024	85%	1
A5019 Vernon Way	757	46%	0	766	47%	0	759	47%	0	771	46%	0
Earle Street	337	28%	0	325	27%	0	325	27%	0	327	27%	0

13.3.76 The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.77 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.78 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A532 Earle Street approach from 90% in the future baseline to 92%, with no change in corresponding queue length.

A532 West Street/A5078 Dunwoody Way/Bessemer Way junction

13.3.79 Table 13-24 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-24: A532 West Street/A5078 Dunwoody Way/Bessemer Way junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 West Street (east)	272	82%	9	255	77%	9	265	80%	9	261	79%	9
A5078 Dunwoody Way	323	31%	7	261	24%	6	256	23%	5	276	25%	6
Bessemer Way	47	41%	2	47	41%	2	47	41%	2	47	41%	2
A532 West Street (west)	681	95%	17	689	98%	17	688	98%	17	682	96%	17
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A532 West Street (east)	86	60%	3	89	63%	3	78	55%	3	87	61%	3
A5078 Dunwoody Way	480	39%	6	478	39%	6	461	38%	6	476	39%	6
Bessemer Way	40	32%	2	40	32%	2	40	32%	2	40	32%	2
A532 West Street (west)	767	81%	14	786	83%	14	841	89%	15	776	84%	14

13.3.80 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme.

13.3.81 In Scenario 1 and 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A532 West Street (west) approach from 95% in the future baseline to 98% in the AM peak hour, with no change in corresponding queue length.

13.3.82 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A532 West Street (west) approach from 81% in the future baseline to 89%, with a corresponding change in queue length from 14 PCU in the future baseline to 15 PCU.

Badger Avenue/Broad Street junction

13.3.83 Table 13-25 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-25: Badger Avenue/Broad Street junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broad Street (north)	651	98%	9	645	99%	9	638	98%	9	648	99%	9
Badger Avenue (east)	261	35%	3	260	35%	3	271	37%	4	260	36%	3
Broad Street (south)	363	53%	5	390	57%	6	395	57%	6	374	55%	5
Badger Avenue (west)	383	86%	7	391	90%	7	384	89%	7	386	88%	7
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broad Street (north)	565	94%	8	593	95%	9	575	97%	9	584	94%	9
Badger Avenue (east)	299	39%	4	329	44%	4	306	40%	4	333	44%	4
Broad Street (south)	332	47%	5	328	47%	5	374	53%	6	330	47%	5
Badger Avenue (west)	300	54%	5	300	54%	5	307	56%	5	304	55%	5

13.3.84 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.85 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Badger Avenue (west) approach from 86% in the future baseline to 90% in the AM peak hour, with no change in corresponding change in queue length.

13.3.86 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Broad Street (north) approach from 94% in the future baseline to 97% in the PM peak hour, with a change in corresponding queue length from eight PCU in the future baseline to nine PCU.

Badger Avenue/Underwood Lane junction

13.3.87 Table 13-26 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-26: Badger Avenue/Underwood Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Underwood Lane (north)	285	48%	4	262	45%	4	264	45%	4	269	46%	4
Badger Avenue (east)	586	101%	6	580	101%	6	570	100%	6	582	101%	6
Underwood Lane (south)	485	96%	7	500	98%	7	504	98%	7	487	98%	7
Badger Avenue (west)	257	29%	3	262	30%	3	269	30%	3	265	30%	3
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Underwood Lane (north)	371	66%	5	328	59%	5	330	57%	5	348	62%	5
Badger Avenue (east)	603	96%	7	599	96%	7	566	98%	7	599	96%	7
Underwood Lane (south)	454	88%	6	460	90%	6	464	93%	6	459	89%	6
Badger Avenue (west)	263	31%	3	266	31%	3	311	36%	3	260	31%	3

13.3.88 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.89 In Scenario 1, 2 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Underwood Lane (south) approach from 96% in the future baseline to 98% in the AM peak hour, with no change in corresponding queue length.

13.3.90 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Underwood Lane (south) approach from 88% in the future baseline to 93% in the PM peak hour, with no change in corresponding queue length.

Broad Street/Davenport Street/McLaren Street junction

13.3.91 Table 13-27 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme. Davenport Street approach is a minor arm that is not included within the SATURN model.

Table 13-27: Broad Street/Davenport Street/McLaren Street junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broad Street (north)	352	24%	0	340	23%	0	322	22%	0	346	23%	0
Davenport Street	-	-	-	-	-	-	-	-	-	-	-	-
Broad Street (south)	646	39%	0	689	42%	0	729	44%	0	673	41%	0
McLaren Street	605	92%	2	611	95%	3	583	97%	4	610	93%	3
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broad Street (north)	627	45%	0	654	47%	0	696	51%	0	640	46%	0
Davenport Street	-	-	-	-	-	-	-	-	-	-	-	-
Broad Street (south)	426	27%	0	461	29%	0	491	31%	0	452	29%	0
McLaren Street	349	54%	0	345	53%	0	391	61%	0	352	54%	0

13.3.92 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme.

13.3.93 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the McLaren Street approach from 92% in the future baseline to 97% in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to four PCU.

13.3.94 In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

Sydney Road/Maw Green Road/Remer Street/Elm Drive/Groby Road network

13.3.95 The Sydney Road/Maw Green Road/Remer Street/Elm Drive/Groby Road network incorporates three priority-controlled (give-way) T-junctions located in close proximity. The network comprises:

- Sydney Road/Maw Green Road;
- Remer Street/Sydney Road/Elm Drive; and
- Remer Street/Groby Road.

13.3.96 During construction the three existing priority T-junctions will be temporarily reconfigured to accommodate abnormal loads for a period of seven years and three months. This is not expected to affect the layout of the junctions for other traffic. In the event that the committed improvement scheme associated with the nearby Coppenhall East development (committed development reference MA01/148 in Planning data, Volume 5: Appendix CT-004-00000) has been implemented, which replaces the three existing priority T-junctions with an elongated priority controlled roundabout, the roundabout will be temporarily reconfigured to accommodate abnormal loads for a period of seven years and three months. The proposed elongated priority controlled roundabout junction layout is shown in the Statement to Discharge Highway Conditions[2] (Appendix A, drawing number CH_021 Issue 02) that was submitted as part of the reserved matters application for the Coppenhall East residential development (planning application reference 13/4725N). Table 13-27 to Table 13-30 summarise the results of the changes to these junctions as a result of the Proposed Scheme with and without the improvement scheme in place.

13.3.97 The three junctions are reported separately below, but it should be noted that due to the close proximity of these three junctions, if queues at one of the junctions extend beyond the available storage capacity of the right turn lane, they could impact on the operation of the upstream junction(s).

[2] Croft Transport Solutions (2013), *Residential Development Coppenhall East Crewe Statement to Discharge Highway Conditions*. Available online at: https://doc.cheshireeast.gov.uk/NorthgatePublicDocs/07552992.pdf.

Sydney Road/Maw Green Road junction

13.3.98 Table 13-28 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme without the committed improvement scheme in place.

Table 13-28: Sydney Road/Maw Green Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	RFC	Flow, PCU/hr	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Sydney Road (north) (ahead)	912	-	-	938	-	-	903	-	-	953	-	-
Sydney Road (north) (left)	94	-	-	142	-	-	188	-	-	116	-	-
Maw Green Road (left)	32	0.16	0	6	0.38	1	6	0.94	1	6	0.17	0
Maw Green Road (right)	158	0.72	2	181	0.90	6	190	0.92	6	175	0.88	5
Sydney Road (south) (ahead and right)	808	0.07	0	862	0.04	0	848	0.04	0	870	0.04	0
17:00–18:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Sydney Road (north) (ahead)	533	-	-	515	-	-	433	-	-	502	-	-
Sydney Road (north) (left)	554	-	-	683	-	-	660	-	-	953	-	-
Maw Green Road (left)	8	0.02	0	2	0.00	0	2	0.00	0	2	0.00	0
Maw Green Road (right)	28	0.08	0	32	0.10	0	57	0.16	0	32	0.11	0
Sydney Road (south) (ahead and right)	454	0.05	0	537	0.02	0	470	0.02	0	466	0.03	0

13.3.99 The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme.

13.3.100 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the RFC on the Maw Green Road (right) approach from 0.72 in the future baseline to 0.92 in the AM peak hour, with a corresponding change in queue length from two PCU in the future baseline to six PCU.

13.3.101 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as RFC and queue lengths in the PM peak hour.

Remer Street/Sydney Road/Elm Drive junction

13.3.102 Table 13-29 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme without the committed improvement scheme in place.

Table 13-29: Remer Street/Sydney Road/Elm Drive junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	RFC	Flow, PCU/hr	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Remer Street (ahead and right)	1,216	0.43	1	1,251	0.45	1	1,306	0.58	2	1,283	0.49	1
Sydney Road (ahead)	885	-	-	984	-	-	476	-	-	967	-	-
Sydney Road (left)	85	-	-	85	-	-	4547	-	-	63	-	-
Elm Drive (left)	198	0.50	1	188	0.54	1	191	0.45	1	200	0.48	1
Elm Drive (right)	29	0.35	1	26	0.43	1	45	0.41	1	6	0.10	0
17:00–18:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Remer Street (ahead and right)	1,280	0.33	1	1,298	0.19	0	1,312	0.41	1	1,295	0.21	0
Sydney Road (ahead)	429	-	-	516	-	-	476	-	-	446	-	-
Sydney Road (left)	45	-	-	45	-	-	43	-	-	44	-	-
Elm Drive (left)	35	0.06	0	40	0.07	0	41	0.07	0	40	0.07	0
Elm Drive (right)	19	0.10	0	9	0.05	0	18	0.10	0	8	0.04	0

13.3.103 The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in both the future baseline and with the Proposed Scheme.

13.3.104 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as RFC and queue lengths at this junction.

Remer Street/Groby Road junction

13.3.105 Table 13-30 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme without the committed improvement scheme in place.

Table 13-30: Remer Street/Groby Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Remer Street (north) (ahead)	706	-	-	688	-	-	810	-	-	656	-	-
Remer Street (north) (left)	314	-	-	427	-	-	558	-	-	413	-	-
Groby Road (left and right)	608	N/A*	644	645	NA	667	537	NA	427	666	NA	691
Remer Street (south) (ahead and right)	1,148	1.93	510	1,174	1.76	412	667	1.67	195	1,176	1.75	411
17:00–18:00	**2030 future baseline (existing layout)**			**Proposed Scheme Scenario 1 (existing layout)**			**Proposed Scheme Scenario 2 (existing layout)**			**Proposed Scheme Scenario 3 (existing layout)**		
Remer Street (north) (ahead)	351	-	-	380	-	-	459	-	-	340	-	-
Remer Street (north) (left)	1	-	-	14	-	-	20	-	-	14	-	-
Groby Road (left and right)	1,011	1.92	201	976	1.85	451	916	1.80	397	1,011	1.87	483
Remer Street (south) (ahead and right)	437	0.07	0	559	0.08	0	517	0.10	0	493	0.08	0

** This RFC is not reported due to the model reaching its upper limit. The reported queue length provides only an indication of the level of queuing likely to be experienced at this junction as in practice some drivers may choose to modify their route or the timing of their journey to avoid the congestion.*

13.3.106 The assessment shows that in the AM peak hour the junction over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.107 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as RFC and queue lengths at this junction.

Remer Street/Groby Road/Sydney Road/Elm Drive/Maw Green Road junction

13.3.108 Table 13-31 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme with the committed improvement scheme in place.

Table 13-31: Remer Street/Groby Road/Sydney Road/Elm Drive/Maw Green Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU	Flow, PCU/hr	RFC	Q, PCU
08:00–09:00	**2030 future baseline (proposed layout)**			**Proposed Scheme Scenario 1 (proposed layout)**			**Proposed Scheme Scenario 2 (proposed layout)**			**Proposed Scheme Scenario 3 (proposed layout)**		
Groby Road	619	0.74	3	624	0.73	3	537	0.66	2	666	0.79	4
Maw Green Road	189	0.42	1	187	0.42	1	195	0.43	1	181	0.45	1
Sydney Road	800	0.81	4	739	0.74	3	849	0.88	7	878	0.88	7
Elm Drive	227	0.31	1	202	0.26	0	236	0.23	0	206	0.29	0
Remer Street	1,033	1.36	164	1,014	1.22	110	1,369	1.56	376	1,063	1.32	155
17:00–18:00	**2030 future baseline (proposed layout)**			**Proposed Scheme Scenario 1 (proposed layout)**			**Proposed Scheme Scenario 2 (proposed layout)**			**Proposed Scheme Scenario 3 (proposed layout)**		
Groby Road	990	1.10	59	969	1.02	30	936	1.08	51	1,024	1.10	62
Maw Green Road	34	0.04	0	34	0.05	0	60	0.10	0	34	0.05	0
Sydney Road	429	0.39	1	421	0.36	1	474	0.43	1	477	0.41	1
Elm Drive	52	0.05	0	19	0.02	0	62	0.06	0	51	0.05	0
Remer Street	343	0.29	0	333	0.27	0	481	0.40	1	364	0.30	0

13.3.109 In the case that the committed improvement scheme has been delivered in advance of the construction of the Proposed Scheme, the assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.110 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the RFC on the Remer Street approach from 1.36 in the future baseline to 1.56 in the AM peak hour, with a corresponding change in queue length from 164 PCU in the future baseline to 376 PCU.

13.3.111 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as RFC and queue lengths in the PM peak hour.

13.3.112 If the committed improvement scheme has not been delivered in advance of the construction of the Proposed Scheme, the improvements will be delivered as part of the Proposed Scheme. In this case the impacts of the Proposed Scheme are determined by comparing the results of the assessments for the existing three priority junctions presented in Table 13-27, Table 13-28 and Table 13-29 with the results of the assessments for the proposed layout in Table 13-30. This shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In Scenario 2, the RFC on the Remer Street approach will increase from zero RFC in the future baseline to 1.56 in the AM peak hour, with a corresponding change in queue length from zero PCU to 376 PCU. This is because the Remer Street approach is an unopposed movement with the existing layout, while it becomes an opposed movement with the committed improvement scheme layout.

B5076 Middlewich Street/B5076 North Street/Broad Street/Stoneley Road junction

13.3.114 Table 13-32 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme. Broad Street (north) approach is a minor arm that is not included within the SATURN model.

Table 13-32: B5076 Middlewich Street/B5076 North Street/Broad Street/Stoneley Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Stoneley Road	165	37%	0	230	52%	1	310	72%	1	186	41%	0
Broad Street (north)	-	-	-	-	-	-	-	-	-	-	-	-
B5076 Middlewich Street	548	45%	0	667	58%	0	703	63%	0	661	56%	0
Greenway	17	2%	0	17	2%	0	17	3%	0	17	2%	0
Broad Street	619	57%	0	653	65%	0	682	70%	1	632	62%	0
B5076 North Street	935	95%	3	915	96%	4	928	99%	5	922	96%	4
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Stoneley Road	238	30%	0	504	74%	1	255	37%	0	504	73%	1
Broad Street (north)	-	-	-	-	-	-	-	-	-	-	-	-
B5076 Middlewich Street	882	86%	1	694	92%	3	869	86%	1	675	89%	3
Greenway	25	6%	0	163	49%	1	50	12%	0	132	39%	0
Broad Street	179	21%	0	188	29%	0	337	39%	0	183	28%	0
B5076 North Street	787	59%	0	949	72%	0	895	70%	0	938	71%	0

13.3.115 The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.116 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5076 North Street approach from 95% in the future baseline to 99% in the AM peak hour, with a corresponding change in queue length from three PCU in the future baseline to five PCU.

13.3.117 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5076 Middlewich Street approach from 86% in the future baseline to 92% in the PM peak hour, with a corresponding change in queue length from one PCU in the future baseline to three PCU.

B5076 Bradfield Road/B5076 North Street/Broughton Road junction

13.3.118 Table 13-33 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-33: B5076 Bradfield Road/B5076 North Street/Broughton Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broughton Road	222	26%	0	227	27%	0	352	69%	4	260	31%	0
B5076 North Street	483	31%	0	601	39%	0	682	47%	0	595	38%	0
B5076 Bradfield Road	715	42%	0	752	44%	0	1,166	71%	0	719	42%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Broughton Road	95	11%	0	115	13%	0	232	30%	1	114	13%	0
B5076 North Street	755	52%	0	1,131	87%	1	827	68%	0	1,092	84%	1
B5076 Bradfield Road	690	41%	0	824	49%	0	1,020	62%	0	812	48%	0

13.3.119 The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in the future baseline and close to capacity with the Proposed Scheme.

13.3.120 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.121 In Scenario 1, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the B5076 North Street approach from 52% in the future baseline to 87%, with a corresponding change in queue length from no queue in the future baseline to one PCU.

B5076 Bradfield Road/Mablins Lane junction

13.3.122 Table 13-34 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-34: B5076 Bradfield Road/Mablins Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Mablins Lane	702	101%	6	681	101%	7	840	114%	7	660	101%	7
B5076 Bradfield Road (east)	427	30%	0	553	39%	0	601	43%	0	535	39%	0
B5076 Bradfield Road (west)	430	25%	0	441	26%	0	430	25%	0	445	26%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Mablins Lane	192	23%	0	232	31%	0	163	21%	0	265	34%	0
B5076 Bradfield Road (east)	610	45%	0	769	67%	0	537	41%	0	745	63%	0
B5076 Bradfield Road (west)	502	30%	0	660	39%	0	622	37%	0	625	37%	0

13.3.123 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme.

13.3.124 In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Mablins Lane approach from 101% in the future baseline to 114% in the AM peak hour, with a corresponding change in queue length from six PCU in the future baseline to seven PCU.

13.3.125 In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

B5076 Bradfield Road/Parkers Road junction

13.3.126 Table 13-35 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-35: B5076 Bradfield Road/Parkers Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Parkers Road	463	109%	5	466	110%	5	488	115%	5	468	110%	5
B5076 Bradfield Road (south)	535	57%	5	580	59%	5	469	45%	4	577	59%	5
B5076 Bradfield Road (north)	706	94%	10	716	100%	10	598	95%	8	765	97%	11
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Parkers Road	258	47%	5	285	51%	5	181	36%	3	298	53%	5
B5076 Bradfield Road (south)	354	33%	3	357	32%	3	381	35%	4	362	33%	3
B5076 Bradfield Road (north)	1,067	77%	15	1,174	85%	16	951	74%	13	1,124	81%	15

13.3.127 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme.

13.3.128 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5076 Bradfield Road (north) approach from 94% in the future baseline to 100% in the AM peak hour, with no change in corresponding queue length. In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Parkers Road approach from 109% in the future baseline to 115% in the AM peak hour, with no change in corresponding queue length.

13.3.129 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5076 Bradfield Road (north) approach from 77% in the future baseline to 85% in the PM peak hour, with a change in corresponding queue length from 15 PCU in the future baseline to 16 PCU.

B5076 Flowers Lane/B5076 Bradfield Road/Minshull New Road/Smithy Lane junction

13.3.130 Table 13-36 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-36: B5076 Flowers Lane/B5076 Bradfield Road/Minshull New Road/Smithy Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5076 Flowers Lane	641	65%	0	687	70%	0	648	63%	0	671	69%	0
B5076 Bradfield Road	926	98%	3	960	100%	4	821	88%	1	957	98%	3
Minshull New Road	108	18%	0	57	9%	0	88	13%	0	92	15%	0
Smithy Lane	194	21%	0	182	20%	0	121	13%	0	197	21%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
B5076 Flowers Lane	344	45%	0	420	52%	0	408	51%	0	394	50%	0
B5076 Bradfield Road	554	52%	0	576	53%	0	504	49%	0	596	55%	0
Minshull New Road	369	47%	0	384	49%	0	323	39%	0	354	46%	0
Smithy Lane	528	57%	0	462	51%	0	473	51%	0	488	54%	0

13.3.131 The assessment shows that in the AM peak hour the junction operates close to capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme.

13.3.132 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the B5076 Bradfield Road approach from 98% in the future baseline to 100% in the AM peak hour, with a corresponding change in queue length from three PCU in the future baseline to four PCU.

13.3.133 In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

A534/Crewe Road junction

13.3.134 Table 13-37 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-37: A534/Crewe Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Crewe Road (north)	480	40%	0	496	41%	0	509	42%	0	502	42%	0
A534 Wheelock Bypass	697	58%	0	799	67%	1	823	69%	1	805	67%	1
Crewe Road (south)	468	39%	0	522	43%	0	501	42%	0	513	43%	0
A534 Haslington Bypass	961	80%	1	996	83%	1	1,003	84%	1	984	82%	1
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Crewe Road (north)	489	42%	0	524	44%	0	528	46%	0	518	43%	0
A534 Wheelock Bypass	805	67%	1	820	68%	1	850	71%	1	817	68%	1
Crewe Road (south)	489	41%	0	504	42%	0	493	41%	0	505	42%	0
A534 Haslington Bypass	1,138	95%	2	1,187	99%	5	1,170	98%	4	1,187	99%	5

13.3.135 The assessment shows that in the AM peak hour the junction operates within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.136 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.137 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A534 Haslington Bypass approach from 95% in the future baseline to 99%, with a corresponding change in queue length from two PCU in the future baseline to five PCU.

Warmingham Road/Waldrons Lane junction

13.3.138 Table 13-38 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-38: Warmingham Road/Waldrons Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	339	21%	0	449	27%	0	322	20%	0	487	30%	0
Waldrons Lane	79	14%	0	97	21%	0	58	10%	0	95	20%	0
Warmingham Road (south)	810	50%	0	846	53%	0	460	28%	0	830	53%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	266	16%	0	268	16%	0	215	13%	0	264	16%	0
Waldrons Lane	636	109%	6	349	114%	6	660	110%	6	349	114%	6
Warmingham Road (south)	419	25%	0	1,043	61%	0	457	27%	0	1,045	62%	0

13.3.139 The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.140 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.141 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Waldrons Lane approach from 109% in the future baseline to 114%, with no change in corresponding queue length.

Warmingham Road/Groby Road junction

13.3.142 Table 13-39 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-39: Warmingham Road/Groby Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	942	59%	0	1,016	63%	0	982	62%	0	1,061	66%	0
Groby Road	424	76%	4	426	102%	6	494	60%	1	424	102%	6
Warmingham Road	731	53%	0	777	58%	0	445	32%	0	757	58%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	285	17%	0	281	17%	0	225	14%	0	276	17%	0
Groby Road	425	130%	6	243	135%	5	422	130%	6	244	135%	5
Warmingham Road	996	61%	0	1,344	82%	0	1,055	64%	0	1,346	82%	0

13.3.143 The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and over capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.144 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Groby Road approach from 76% in the future baseline to 102% in the AM peak hour, with a corresponding change in queue length from four PCU in the future baseline to six PCU.

13.3.145 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Groby Road approach from 130% in the future baseline to 135% in the PM peak hour, with a change in queue length from six PCU in the future baseline to five PCU.

A530 Middlewich Road/B5076 Flowers Lane/Eardswick Lane junction

13.3.146 Table 13-40 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-40: A530 Middlewich Road/B5076 Flowers Lane/Eardswick Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A530 Middlewich Road (North)	560	66%	9	640	76%	10	617	73%	10	598	71%	10
B5076 Flowers Lane	288	35%	0	292	37%	0	236	30%	0	293	37%	0
A530 Middlewich Road (South)	329	21%	0	375	24%	0	398	25%	0	368	24%	0
Eardswick Lane	527	103%	13	533	105%	13	533	104%	13	533	104%	13
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A530 Middlewich Road (North)	291	34%	5	498	59%	8	458	54%	8	401	47%	7
B5076 Flowers Lane	277	31%	0	315	38%	0	290	34%	0	327	38%	0
A530 Middlewich Road (South)	352	23%	0	374	25%	0	360	24%	0	357	24%	0
Eardswick Lane	341	67%	9	337	66%	8	332	65%	8	341	67%	9

13.3.147 The assessment shows that in the AM peak hour the junction operates over capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme.

13.3.148 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths at this junction.

Warmingham Road/Hall Lane junction

13.3.149 Table 13-41 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-41: Warmingham Road/Hall Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	538	33%	0	597	36%	0	598	36%	0	624	38%	0
Hall Lane	700	56%	1	824	68%	2	755	62%	1	811	67%	1
Warmingham Road (south)	988	72%	0	1,013	75%	0	838	61%	0	975	74%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Warmingham Road (north)	216	14%	0	247	16%	0	236	15%	0	240	15%	0
Hall Lane	353	27%	0	328	27%	1	309	25%	1	324	27%	1
Warmingham Road (south)	1,352	85%	0	1,538	97%	1	1,389	88%	0	1,538	97%	1

13.3.150 The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and within capacity in the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.151 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.152 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Warmingham Road (south) approach from 85% in the future baseline to 97%, with a corresponding change in queue length from no queue in the future baseline to one PCU.

A534/A533 Old Mill Road junction

13.3.153 Table 13-42 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-42: A534/A533 Old Mill Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Brookhouse Road	66	7%	0	66	8%	0	66	8%	0	66	8%	0
A533 Old Mill Road (east)	725	74%	0	821	86%	1	791	85%	1	826	86%	1
A534 Wheelock Bypass	1,021	85%	1	1,058	88%	1	1,086	90%	1	1,046	87%	1
A533 Old Mill Road (west)	663	55%	0	731	61%	1	735	61%	1	699	58%	1
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Brookhouse Road	194	29%	0	194	30%	0	194	30%	0	194	30%	0
A533 Old Mill Road (east)	751	88%	2	764	90%	2	763	91%	2	764	90%	2
A534 Wheelock Bypass	1,057	88%	1	1,075	90%	2	1,070	89%	2	1,075	90%	2
A533 Old Mill Road (west)	948	79%	1	956	80%	1	977	81%	2	962	80%	2

13.3.154 The assessment shows that in the AM and PM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.155 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A533 Old Mill Road (east) approach from 74% in the future baseline to 86% in the AM peak hour, with a corresponding change in queue length from no queue in the future baseline to one PCU. In Scenario 2, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A534 Wheelock Bypass approach from 85% in the future baseline to 90% in the AM peak hour, with no change in corresponding queue length.

13.3.156 In Scenario 2, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A533 Old Mill Road (east) approach from 88% in the future baseline to 91%, with no change in corresponding queue length. In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the A534 Wheelock Bypass approach from 88% in the future baseline to 90% in the PM peak hour, with a change in corresponding queue length from one PCU in the future baseline to two PCU.

Brookhouse Lane/Eardswick Lane/Cross Lane junction

13.3.157 Table 13-43 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-43: Brookhouse Lane/Eardswick Lane/Cross Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Brookhouse Lane	444	86%	2	499	90%	2	464	86%	2	465	87%	2
Eardswick Lane	297	18%	0	168	10%	0	209	13%	0	235	15%	0
Cross Lane	1,321	82%	0	1,375	86%	0	1,388	87%	0	1,387	87%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Brookhouse Lane	234	39%	0	298	48%	0	296	48%	0	286	46%	0
Eardswick Lane	267	16%	0	220	13%	0	245	15%	0	232	14%	0
Cross Lane	732	45%	0	651	40%	0	644	40%	0	661	41%	0

13.3.158 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates well within capacity in both the future baseline and with the Proposed Scheme.

13.3.159 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Brookhouse Lane approach from 86% in the future baseline to 90% in the AM peak hour, with no change in corresponding queue length. In Scenario 2 and 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Cross Lane approach from 86% in the future baseline to 87% in the AM peak hour, with no change in corresponding queue length.

13.3.160 In the PM peak hour, the change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths.

A533 London Road/B5079 Station Road junction

13.3.161 Table 13-44 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-44: A533 London Road/B5079 Station Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A533 London Road (north)	787	69%	10	814	71%	10	867	76%	11	806	71%	10
A533 London Road (south)	511	80%	10	549	86%	10	547	86%	10	538	85%	10
B5079 Station Road	364	84%	8	382	88%	8	381	88%	8	377	87%	8
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A533 London Road (north)	786	69%	10	873	77%	11	855	75%	10	846	74%	10
A533 London Road (south)	600	94%	11	627	99%	12	601	95%	11	623	98%	12
B5079 Station Road	409	94%	9	426	98%	9	409	94%	9	424	98%	9

13.3.162 The assessment shows that in the AM peak hour the junction operates within capacity in the future baseline and close to capacity with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.163 The change in traffic due to the construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.164 In Scenario 1, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the A533 London Road (south) approach from 94% in the future baseline to 99%, with a corresponding change in queue length from 11 PCU in the future baseline to 12 PCU.

A534/Congleton Road junction

13.3.165 Table 13-45 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-45: A534/Congleton Road junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A534 Congleton Road	853	50%	0	949	56%	0	932	55%	0	956	56%	0
A534 Old Mill Road	840	49%	0	910	54%	0	906	53%	0	875	51%	0
A534 Old Mill Road (left turn slip)	43	4%	0	43	4%	0	43	5%	0	43	4%	0
Congleton Road	745	90%	5	709	93%	6	700	92%	6	721	92%	6
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A534 Congleton Road	967	57%	0	979	58%	0	971	57%	0	982	58%	0
A534 Old Mill Road	933	55%	0	952	56%	0	913	54%	0	946	56%	0
A534 Old Mill Road (left turn slip)	2	0%	0	2	0%	0	2	0%	0	2	0%	0
Congleton Road	590	100%	8	594	104%	8	613	102%	8	601	104%	8

13.3.166 The assessment shows that in the AM peak hour the junction operates close to capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and with the Proposed Scheme.

13.3.167 In Scenario 1, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Congleton Road approach from 90% in the future baseline to 93% in the AM peak hour, with a corresponding change in queue length from five PCU in the future baseline to six PCU.

13.3.168 In Scenario 3, the change in traffic due to construction of the Proposed Scheme will increase the VoC on the Congleton Road approach from 100% in the future baseline to 104% in the PM peak hour, with no change in corresponding queue length.

A533 London Road/Moss Lane junction

13.3.169 Table 13-46 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme.

Table 13-46: A533 London Road/Moss Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A533 London Road (north)	736	45%	0	763	47%	0	816	50%	0	755	46%	0
A533 London Road (south)	879	52%	0	936	56%	0	933	55%	0	920	55%	0
Moss Lane	134	37%	0	134	40%	0	135	42%	0	134	39%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
A533 London Road (north)	751	48%	0	834	53%	0	818	52%	0	807	52%	0
A533 London Road (south)	1,015	60%	0	1,058	62%	0	1,015	60%	0	1,053	62%	0
Moss Lane	361	86%	2	311	95%	4	337	86%	2	315	93%	4

13.3.170 The assessment shows that in the AM peak hour the junction operates well within capacity in both the future baseline and with the Proposed Scheme. In the PM peak hour, the junction operates close to capacity in both the future baseline and with the Proposed Scheme.

13.3.171 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.172 In Scenario 1, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the Moss Lane approach from 86% in the future baseline to 95%, with a corresponding change in queue length from two PCU in the future baseline to four PCU.

Forge Mill Lane/Dragons Lane/Tetton Lane/White Hall Lane junction

13.3.173 Table 13-47 summarises the results of the changes to the performance of the junction as a result of the Proposed Scheme. Tetton Lane approach is a minor arm that is not included within the SATURN model.

Table 13-47: Forge Mill Lane/Dragons Lane/Tetton Lane/White Hall Lane junction 2030 future baseline and with the Proposed Scheme junction capacity assessment results

Approach	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU	Flow, PCU/hr	VoC	Q, PCU
08:00–09:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Tetton Lane	-	-	-	-	-	-	-	-	-	-	-	-
Dragons Lane	155	9%	0	260	16%	0	216	13%	0	274	17%	0
White Hall Lane	742	69%	0	835	79%	0	767	74%	0	782	74%	0
Forge Mill Lane	679	46%	0	699	50%	0	740	52%	0	690	50%	0
17:00–18:00	**2030 future baseline**			**Proposed Scheme Scenario 1**			**Proposed Scheme Scenario 2**			**Proposed Scheme Scenario 3**		
Tetton Lane	-	-	-	-	-	-	-	-	-	-	-	-
Dragons Lane	233	14%	0	108	7%	0	117	7%	0	104	6%	0
White Hall Lane	1,082	104%	5	1,212	108%	3	1,160	104%	4	1,212	108%	3
Forge Mill Lane	284	20%	0	347	23%	0	347	23%	0	330	22%	0

13.3.174 The assessment shows that in the AM peak hour the junction operates well within capacity in the future baseline and within capacity with the Proposed Scheme. In the PM peak hour, the junction operates over capacity in both the future baseline and the Proposed Scheme.

13.3.175 The change in traffic due to construction of the Proposed Scheme will not result in substantial changes in capacity indicators such as VoC and queue lengths in the AM peak hour.

13.3.176 In Scenario 1 and 3, the change in traffic due to construction of the Proposed Scheme in the PM peak hour will increase the VoC on the White Hall Lane approach from 104% in the future baseline to 108%, with a change in queue length from five PCU in the future baseline to three PCU.

Accidents and safety

13.3.177 There are no locations with existing safety concerns that are likely to experience substantial increases in traffic during construction and, consequently, no unacceptable impacts on accident and safety risks are expected. Although there will be increases in construction traffic on other links and junctions, none have been identified in the baseline assessment as the location of a known or likely safety concern.

Parking and loading

13.3.178 There will be a temporary loss of off-street parking along the route of the Proposed Scheme in the MA01 area at two sites. This will be the temporary loss of four out of eight parking spaces for a period of five years and two months at McColl's convenience store off the B5076 Middlewich Street in Crewe. The construction of Cowley Way vent shaft will require the temporary acquisition of approximately 65% of the land used for HGV parking at Crewe Truck Stop and Café, located off the A532 Weston Road, resulting in the temporary loss of 90 out of 124 parking spaces for a period of five years and three months.

13.3.179 Permanent loss of parking is reported under the operational assessment.

Public transport

Local bus services

13.3.180 Local bus services will be affected where they are crossed by the route of the Proposed Scheme and where the Proposed Scheme results in changes to the route taken or where construction traffic or general traffic diversions affect bus services.

13.3.181 Temporary shuttle working on the A530 Middlewich Road to accommodate utilities work which will affect one bus route for ten months: route 85 (Nantwich - Crewe - Keele University - Newcastle - Hanley). This will not cause a change in the journey length.

13.3.182 Temporary shuttle working on Underwood Lane with traffic control to accommodate utilities work which will affect four bus routes for ten months: route 6 and route 6E (Leighton Hospital - Crewe - Shavington); and route 31 and route 31A (Crewe - Leighton Hospital - Winsford/Northwich). This will not cause a change in the journey length.

13.3.183 Temporary closure of a section of Parkers Road between Broughton Road and Bleasdale Road will affect two bus routes for one year and three months: route 12 (Shavington - Crewe - Leighton Hospital) and route 317 (Leighton Hospital - Sandbach - Rode Heath - Alsager). This will increase the journey length by 2.7km. The frequency and diversion distance of these services are summarised in Table 13-48.

Table 13-48: Diversion of bus routes associated with temporary closure of Parkers Road

Bus route	Frequency (buses per hour)	Diversion distance
12	2	2.7km
317	1	2.7km

13.3.184 The construction of the Proposed Scheme will not result in disruption to coach services due to temporary closure or diversions. However, increases in traffic on the highway network may result in increases in delay for coach services.

Rail network

13.3.185 There are interfaces with the existing rail network in this area, in particular on the operation of the WCML and its passengers and rail freight services. However, the majority of the rail possessions and blockades will have little or no impact on the operation of rail services as they will be relatively minor localised works, such as work on and adjacent to track when not services, interventions will be combined where practicable to reduce the frequency of potential disruption. Since the WCML will be affected by possessions and blockades in this and other community areas the impacts and effects of these are reported in the Transport Assessment Part 4 (see Volume 5 Appendix TR-005-00000), Section 20.

13.3.186 HS2 Ltd will work with Network Rail and the train operating companies and freight operating companies to ensure that disruption to passengers and freight is minimised as far as reasonably practicable and that any need for additional possessions can be reduced with good planning and communication (including appropriate advance notice). This includes measures such as:

- careful programming of works to coincide with possessions that are planned for the general maintenance of the existing railway;
- planning works so that they will be undertaken in short, overnight stages when passenger services will not be disrupted; and
- programming longer closures at weekends or bank holidays to reduce the number of passengers affected.

Public transport interchanges

13.3.187 The construction of the Proposed Scheme and HS2 Phase 2a will not impact upon any public transport interchanges in the MA01 area.

Pedestrians, cyclists and equestrians

13.3.188 The works required to construct the Proposed Scheme will affect routes used by pedestrians, cyclists and equestrians, primarily where construction results in changes to the affected routes. In most cases this will enable the construction of temporary diversions or permanent diversions and over and under-bridges, which will carry the permanent

diversions of these PRoW and roadside footways. In some circumstances, access to PRoW will need to be managed by way of banksmen and very local realignments. Pedestrians and other non-motorised users may also be affected by changes in traffic levels due, particularly, to construction traffic associated with the Proposed Scheme. Roads with substantial changes in traffic levels are listed above.

13.3.189 Locations where routes used by pedestrians, cyclists and equestrians will be temporarily diverted, realigned or closed are shown below. Table 13-49 summarises the temporary diversions, realignments and extensions to PRoW required to accommodate the construction of the Proposed Scheme.

Table 13-49: MA01 construction changes on public rights of way and roadside footways for non-motorised users

PRoW name	Surveyed daily usage	Temporary diversion	Change in distance	Duration
Footpath Crewe 13/1	0 users	Temporary diversion of a 210m section of Footpath Crewe 13/1. Users will be diverted along Hythe Avenue and Parkers Road.	Increase of 127m	Two years and two months
Parkers Road	N/A	Temporary diversion via a temporary footbridge across the existing WCML and the route of the Proposed Scheme.	Increase of 7m	One year and three months
Footpath Crewe 12/1	0 users	Temporary diversion west at the intersection with Footpath Crewe 29/1, around the northern perimeter of the housing estate, along Moss Fields and Moss Lane.	Increase of 273m	Five years and seven months
Footpath Crewe 29/1	Three users	Temporary closure during construction. Users will be diverted via Footpath Crewe 30/1 to Parkers Road and Crewe Footpath 12/1.	Increase of 720m	Three years and eight months
Footpath Minshull Vernon 17/1 and Footpath Leighton 7/1	Three users	Temporary diversion west at the intersection of Footpath Crewe 12/1 and Footpath. Crewe 29/1, around the northern perimeter of the housing estate, along Moss Fields and Moss Lane.	Increase of 296m	Five years and seven months
Footpath Minshull Vernon 2/1 and Footpath Warmingham 16/2	35 users	Temporary diversion to cross the route of the Proposed Scheme at the Parkers Road Overbridge via a temporary alignment, Footpath Crewe 28/1 and the Footpath Crewe 12/1 temporary diversion.	Increase of 2.4km	Five years and seven months

PRoW name	Surveyed daily usage	Temporary diversion	Change in distance	Duration
Footpath Minshull Vernon 13/1	N/A	Temporary diversion north along an existing track to meet an east-west track to Footpath Minshull Vernon 8/1.	Increase of 989m	One year
Footpath Minshull Vernon 8/1	N/A	Managed use of existing route during construction.	No change	One year and 10 months

13.3.190 The busiest routes affected will be the Footpath Minshull Vernon 2/1 and the Footpath Warmingham 16/2 (35 users), the Footpath Crewe 29/1 (three users), the Footpath Minshull Vernon 17/1 and Footpath Leighton 7/1 (three users).

13.3.191 Two of the PRoW routes affected experience little change, or no change in length. A further three changes result in diversions which increase PRoW route length up to 296m. Other PRoW routes experience larger changes in length of diversion, including the longest diversion of up to 2.4km. Other longer diversions include Footpath Crewe 29/1 and Footpath Minshull Vernon 13/1 with increases in route length of up to 720m and 989m respectively. These longer diversions had three users per day when surveyed, or no survey was undertaken.

13.3.192 Permanently diverted PRoW and roadside footways are reported under the operational assessment, although these could also be subject to temporary closure, diversion or realignment during construction.

13.4 Proposed Scheme operation description

13.4.1 The Proposed Scheme within the MA01 area has four main components:

- the route of the Proposed Scheme: approximately 10.8km in length, continuing from HS2 Phase 2a northwards under Crewe in Crewe tunnel towards the Wimboldsley to Lostock Gralam area (MA02);
- modifications to the WCML: realignment of sections of the existing WCML and modification of existing railway systems and equipment are required to accommodate the Crewe Northern Connection and WCML reception tracks;
- Crewe Northern Connection: lines to connect the route of the Proposed Scheme to the WCML and enable future NPR services to connect with HS2 at Crewe; and
- WCML reception tracks: tracks to connect the WCML to the Crewe North RSD which will be located within the Wimboldsley to Lostock Gralam area (MA02).

13.4.2 The Proposed Scheme also comprises the introduction of the Crewe North IMB-R as a permanent base and satellite site to the Phase 2a Stone IMB-R, to support the maintenance of railway infrastructure. The Crewe North IMB-R will continue into the Wimboldsley to Lostock Gralam area (MA02). The Crewe North RSD will be located in the adjacent Wimboldsley to Lostock Gralam area.

13.5 Proposed Scheme assessment of operation impacts

13.5.1 This section provides an overview of the impacts resulting from the operation of the Proposed Scheme. HS2 Phase Two services are expected to commence in 2038. Operation of the Proposed Scheme will not have any cumulative impacts resulting from the operation of the Proposed Scheme with HS2 Phase 2a.

Key operation transport issues

13.5.2 The operational assessment takes account of all of the impacts of the Proposed Scheme in the MA01 area. The main traffic and transport impacts during operation of the Proposed Scheme in this area will be associated with Crewe North RSD and Crewe North Infrastructure Maintenance Base - Rail (IMB-R).

13.5.3 The proposed Crewe North RSD, located in the adjacent Wimboldsley to Lostock Gralam area (MA02), and the Crewe North IMB-R, partly located in the MA01 area, will generate additional vehicle movements due to staff, servicing and operational traffic. The Crewe North RSD is expected to generate fewer than 25 vehicle trips passing through the MA01 area in the weekday peak hours. Consequently, it is not expected to generate any traffic and transport impacts in the MA01 area. Crewe North IMB-R is expected to generate infrequent traffic movements and will not result in any traffic and transport impacts in the MA01 area.

13.5.4 The maintenance of the Proposed Scheme will generate a limited number of vehicular trips associated with servicing and maintenance, and there will be some minor local reassignment of traffic due to road diversions, but these impacts will not be substantial.

13.5.5 The potential operational impacts will, therefore, primarily relate to the diversion, realignment of roads and implementation of new junctions in order to accommodate the Proposed Scheme, together with changes to PRoW.

Highway network

Highway diversions, realignments and closures

13.5.6 Table 13-50 summarises the permanent road diversions, realignments and extensions and any new or altered junctions required to accommodate the Proposed Scheme. New or altered junctions are assessed under junction performance.

Table 13-50: MA01 permanent highway diversion/closure/amendment

Highway name/junction	Description	Change/alteration
Parkers Road	Following completion of the changes to the existing Parkers Road Overbridge, Parkers Road will be reinstated along its existing alignment.	No change.
A530 Nantwich Road	Realignment of the A530 Nantwich Road, 55m southeast of its current alignment, crossing existing WCML and the route of the Proposed Scheme on the A530 Nantwich Road overbridge. The realignment extends in to the Wimboldsley to Lostock Gralam area (MA02).	The permanent realignment of the A530 Nantwich Road will not materially change journey length for vehicle occupants.

Network traffic flows

13.5.7 Traffic flows on road links in the MA01 area are either unchanged from the future baseline or the Proposed Scheme results in only small changes due to maintenance traffic or reassignment as a result of the realignments and closures in 2038 and 2046.

Junction performance

13.5.8 There are no junctions which are affected by the operation of the Proposed Scheme within the MA01 area.

Accidents and safety

13.5.9 The baseline safety analysis identified one location which had experienced an accident cluster over a three-year period.

13.5.10 In the MA01 area, there are no locations with substantial forecast changes in traffic flows due to the operation of the Proposed Scheme and, consequently, no unacceptable impacts on accident and safety risks are expected.

13.5.11 New highway links and junctions will be constructed to current standards and/or in keeping with the existing infrastructure. The Proposed Scheme is unlikely to create any new safety concerns.

Parking and loading

13.5.12 The construction of Cowley Way vent shaft will require the permanent acquisition of approximately 35% of the land used for HGV parking at Crewe Truck Stop and Café, located off the A532 Weston Road, resulting in the permanent loss of 59 out of 124 existing HGV parking spaces as a result of the Proposed Scheme.

Public transport

Local bus services

13.5.13 No local bus services will be affected by the operation of the Proposed Scheme.

Rail network

13.5.14 There are no local changes to the rail network or operations in this area as a result of the Proposed Scheme.

Public transport interchanges

13.5.15 There are no substantial impacts on public transport interchange facilities in the MA01 area and no committed proposals for public transport interchange facilities in this area.

Pedestrians, cyclists and equestrians

13.5.16 The operational scheme will affect PRoW and roadside footways used by pedestrians, cyclists and equestrians that cross the route of the Proposed Scheme or where the operation of the Proposed Scheme results in changes to PRoW or roadside footways.

13.5.17 Locations where roads used by pedestrians, cyclists and equestrians are permanently diverted, realigned or reinstated are shown in Table 13-51 and Table 13-52 below. The tables

summarise the permanent diversions, realignments and extensions required to PRoW and roads to accommodate the Proposed Scheme.

Table 13-51: MA01 permanent changes to PRoW for non-motorised users

PRoW name	Change in length	Comments
Footpath Crewe 12/1	Diversion of a section of Footpath Crewe 12/1, to provide a connection between Footpath Crewe 29/1 overbridge and Footpath Leighton 7/1. Access to the existing path along the northern edge of the houses on Perry Fields, Magecroft Thornfields to Moss Fields will be retained. The existing connection between Footpath Crewe 12/1 and 12/2 will be severed. For users travelling between Coppenhall Moss and Moss Lane, this will increase the journey length by up to 235m. For users travelling from Parkers Road to Moss Lane via Footpath Crewe 12/1, users will be diverted via the existing path along the northern edge of the houses on Perry Fields, Magecroft and Thornfields, Moss Fields and Moss Lane, increasing journey length by up to 271m.	New overbridge
Footpath Crewe 29/1	Diversion of Footpath Crewe 29/1, up to 68m north of its existing alignment, crossing the route of the Proposed Scheme on the Footpath Crewe 29/1 accommodation overbridge and continues north to Footpath Warmingham 16/2, increasing journey length by up to 715m.	New overbridge
Footpath Minshull Vernon 2/1 and Footpath Warmingham 16/2	Diversion of a section of Footpath Minshull Vernon 2/1, up to 530m south of its current alignment, crossing the route of the Proposed Scheme on Footpath Crewe 29/1 overbridge. Diversion of Footpath Warmingham 16/2, 330m south of its current alignment to connect with the Footpath Crewe 29/1 diversion. Users of Footpath Minshull Vernon 2/1 and Footpath Warmingham 16/2 (a continuous route between Moss Lane and Warmingham Road) will be diverted via the Footpath Warmingham 16/2 diversion, the Footpath Crewe 29/1 diversion and the Footpath Crewe 12/1 diversion, increasing the length of journey by up to 1.2km.	New overbridge
Footpath Minshull Vernon 13/1	Diversion of Footpath Minshull Vernon 13/1, up to 500m north of its current alignment. A new section of PROW will be introduced, running parallel to, and to the east of, the route of the Proposed Scheme, before connecting with Footpath Minshull Vernon 8/1 and crossing the route of the Proposed Scheme on the Footpath Minshull Vernon 8/1 accommodation overbridge, increasing journey length by up to 1.1km.	New overbridge
Footpath Minshull Vernon 8/1	Realignment of a section of Footpath Minshull Vernon 8/1, up to 100m north of its existing alignment, and crossing the Proposed Scheme via the Footpath Minshull Vernon 8/1 overbridge increasing journey length by up to 85m.	New overbridge

Table 13-52: MA01 permanent changes to roads for non-motorised users

PRoW name	Change in length	Comments
A530 Nantwich Road (MA02)	Realignment of a section of the A530 Nantwich Road, 55m southeast of its current alignment, crossing the existing WCML and the route of the Proposed Scheme on the A530 Nantwich Road overbridge, resulting in a change in journey length of less than 100m.	New overbridge

PRoW name	Change in length	Comments
Parkers Road	Following completion of the Parkers Road Overbridge, Parkers Road will be reinstated along its existing alignment, resulting in a change in journey length of less than 100m.	Realigned overbridge

13.5.18 Within these diversions and reinstatements, only the Parkers Road route experiences no change in length. A further three changes result in diversions which increase route length up to 271m on footpaths.

13.5.19 Other routes experience larger changes in length, including Footpath Minshull Vernon 2/1 and Footpath Warmingham 16/2, up to 1.2km.

hs2.org.uk

High Speed Two (HS2) Limited
Two Snowhill
Snow Hill Queensway
Birmingham B4 6GA
Freephone: 08081 434 434
Minicom: 08081 456 472
Email: HS2enquiries@hs2.org.uk