Derby City Council

A38(T) Derby Junctions scheme

Local Highway Impact Report

Version 1.0

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1 Introduction

This Local Impact Report (LIR) is prepared on behalf of Derby City council in accordance with the requirements of the Planning Act 2008 (the Act) as amended by the Localism Act 2001. This document takes into account the advice set out in The Planning Inspectorate's Advice Note One: Local Impact Reports (Version 2 April 2012).

This LIR is the Local Authority Highways response to an application by Highways England for a Development Consent Order (DCO) authorising the grade separation of the three junctions of:

- A38(T)/A5111 Kingsway
- A38(T)/A52 Markeaton, and
- A38(T)/ A61 Little Eaton.

It should be noted that the Kingsway and Markeaton Junctions are within Derby City Council's unitary boundary. The Little Eaton junction is within Derbyshire County Council's highway administrative area and Erewash District Council's planning area. It is identified that the development will consist of the following:-

- the lowering of the A38(T) to pass underneath the modified Kingsway and Markeaton Junctions;
- the widening of the A38(T) to three lanes in each direction between the Kingsway and Kedleston Road junctions; and
- The construction of two bridges to carry the A38(T) over the modified roundabout at the Little Eaton Junction.

The proposed works include the closure of a number of existing accesses and the provision of new pedestrian and cycle links across and in the vicinity of the new grade separated junctions.

The A38(T) Derby Junctions Grade Separation is a National Significant Infrastructure Project (NSIP) under Section 14(1)(h) and Section 22 of the Planning Act 2008 (PA 2008)(as amended by The Highway and Railway (Nationally Significant Infrastructure Project) Order 2013) by virtue of the fact that:

It comprises the construction of a highway;

- The highway to be constructed is wholly within England;
- The Secretary of State is the highway authority for the highway; and

- The speed limit for any class of vehicle on the highway is to be 50 miles per hour or greater, and the area for the construction for the highway is greater than 12.5 hectares (ha).

2 The Local Impact Report

The 2008 Act process allows local authorities to submit a Local Impact Report (LIR) giving details of the likely impact of the proposed development on the authority's area. Advice Note One goes on to give guidance on the content of the LIR but stresses that the content is a matter for the local authorities and should cover any topics considered relevant to the impact of the proposed development on their area.

The Advice Note advises that the LIR is to be used as the means by which the local authorities can use its knowledge and evidence on local issues in order to present a robust assessment to the Examining Authority. The document should also contain statements of positive, negative and neutral impacts but does not need to set out a balancing exercise on such impacts as this will be the responsibility of the Examining Authority. The Advice note highlights topics that may be of assistance in the report. Most notably for this report the Local transport patterns and issues.

For the purposes of this LIR the report has been written to specifically focus on the local operational highway impact of the A38(T) Derby Junction scheme, also referred to as the development scheme. The LIR will discuss highway matters using local knowledge and evidence and will assess the following issues.

a) Overall impact of scheme including road traffic collisions, journey time, climate, air quality and noise.
b) A38(T) Strategic transport modelling and local Impacts
c) Slip road closures and local impacts
d) Sustainable transport and public transport
e) Traffic Management Plan

3 Proposed Development

At the Kingsway junction:

A. The A38(T)(T) will be lowered to pass underneath the modified junction in a new underpass with two new roundabouts and a new bridge to carry traffic over the lowered A38(T)(T).

B. New slip roads will be built between the A38(T) and the new (ground level) roundabouts to allow people to join and leave the A38(T) and use the local roads.

C. The A38(T) will be widened to three lanes in each direction between the Kingsway junction and Markeaton junction, with the speed limit increased from 40mph to 50mph. The two existing bridges that carry the A38(T) northbound and southbound carriageways over Brackensdale Avenue would be widened to accommodate the additional lanes.

D. A new pedestrian and cycle route would be provided across the new bridge in the centre of the junction to link the residential areas and the National Cycle Route west of the A38(T) with the A5111 and the Kingsway Retail Park.

E. For safety reasons, there would no longer be access to or from the A38(T) at the Brackensdale Avenue and Raleigh Street junctions. Instead, there would be access from Kingsway Park Close. Of the alternatives access options considered at the public consultations, this option would impact less on the local community, in particular, the properties on Greenwich Drive South and reduced severance impacts to the adjacent area of public open space. The Kingsway Park Close access option also provides a more direct access to the A38(T) for commercial traffic using the Kingsway Industrial Park, so keeping these larger vehicles away from residential areas.

F. The uncontrolled pedestrian crossing of the A38(T) dual carriageway between Thurcroft Close and Greenwich Drive North would be removed for safety reasons. Alternative pedestrian routes would be via Brackensdale Avenue or the signal-controlled crossings of the slip roads at new Markeaton junction.

At the Markeaton junction:

A. The A38(T) would be lowered to pass underneath a modified signalised roundabout in a new underpass with two new bridges to carry the A52 traffic across the lowered A38(T). The lowered A38(T) carriageways would be three lanes in each direction with a speed limit of 50mph.

B. New slip roads would be built between the lowered A38(T) and the enlarged new roundabout at ground level to allow people to join and leave the A38(T) and use the local roads.

C. The A38(T) would also be widened to three lanes in each direction between Markeaton junction slip roads and the Kedleston Road slip roads, with the speed limit increased from its existing 40mph to 50mph.

D. Signal controlled crossings would be provided to allow pedestrians and cyclists to safely navigate the junction.

E. The existing pedestrian footbridge over the A38(T) would be replaced. The new bridge would provide improved access for all pedestrian, cyclist and disabled users.

F. The zebra crossing of A52 Ashbourne Road would be replaced by a traffic signal-controlled crossing.

G. A revised access would be provided to Sutton Close and the two properties on Ashbourne Road.

H. The existing entrance to Markeaton Park from the roundabout would be closed.

I. An improved entrance and exit to the park would be provided from the A52 West. This would be at a new signalised junction that would also change the way people currently access the petrol station and McDonald's.

At the Little Eaton junction:

A. Two new bridges would be built to carry the A38(T) traffic on a flyover over the roundabout.

B. The existing roundabout would be extended to the south and new slip roads would be built to allow road users to join and leave the A38(T) and other local roads. The dedicated A38(T) to A61 southbound segregated lane would be retained.

C. The existing bridge over the railway would be widened to carry the new southbound A38(T) carriageway and southbound merge slip road. The existing flood arch would also be widened.

D. The existing national speed limit on the A38(T) will be retained, although an advisory 50mph limit will be displayed in advance of the curved horizontal alignment through the junction.

E. All existing footways and cycle paths would be maintained. Where necessary they would be re-routed around the new roundabout. Signal controlled crossings would be provided to

assist pedestrians and cyclists in crossing the A38(T) slip roads on the west side of the new roundabout.

F. For safety reasons, vehicle access to and from the A38(T) northbound carriageway at Ford Lane would be closed permanently. Access to the local business Talbot Turf would be via Ford Lane from the A6 Duffield Road. This is likely to require minor alterations to the layout of the junction between Ford Lane and Lambourn Drive.

G. The Ford Lane River Derwent Bridge will be assessed and would be upgraded, if necessary, to ensure it has capacity to carry the lorries from Talbot Turf.

H. The existing A6 Duffield Road/Ford Lane junction could be traffic signal controlled to assist with the control of any additional trips that could divert through this junction as a result of the closure of the A38(T) access.

4 Site Area and Constraints

The area that is the subject of the DCO lies between the administrative areas of Derby City Council and Derbyshire County Council. The junctions of A38(T)/A5111 Kingsway and A38(T)/A52 Markeaton Island lie within Derby City Council's administrative area and the A38(T)/A61 Little Eaton Island within the Derbyshire County Council administrative area.

The A38(T), as part of the Strategic Road Network (SRN), provides a link from Birmingham to Derby and Junction 28 of the M1 Motorway. The A38(T) passes Derby where it acts as the western section of the outer ring road, severing the suburbs of Mackworth and Mickleover from the rest of Derby and acts as one of the few routes to cross the River Derwent.

The majority of the development scheme through DCiC's administrative area will be constructed within existing highways boundaries. Due to the fact that the A38(T) corridor cuts through the Mackworth neighbourhood, and physical constraints of the proximity of existing development, the scheme alignment does move the A38(T) closer to existing properties and businesses. There are a small number of land parcels that are required to be permanently acquired for construction, or rights to be acquired permanently in order to provide access and drainage to the asset.

The Kingsway Junction is a three arm gyratory, or large roundabout, which is partial signalisation on the northbound approach and associated signalisation of the circulatory. The junction is located in close proximity to the Kingsway Retail Park and forms a major connection to the A5111 outer ring road and Uttoxeter New Road. The A5111 was originally

a trunk road, which was de-trunked following the construction and opening of the A50(T) dual carriageway in 1997. The Kingsway junction, along with the A516 slips, provide key routes to the Royal Derby Hospital.

Key features and constraints within the vicinity of the Kingsway junction include:

- Nearby residential areas, including properties along Greenwich Drive South and Greenwich Drive North, Brackensdale Avenue, Kingsway Park Close, Raleigh Street, Thurcroft Close.
- Commercial and industrial premises to the east of the junction, including the Kingsway Park Close industrial estate and the Kingsway Retail Park.
- A network of cycleways and footpaths including the National Cycle Route 54/68
- Bramble Brook which passes through the junction.
- A38(T) Roundabout Local Wildlife Site (LWS) located within the island of Kingsway junction.
- Mackworth Park to the west of the junction.
- Air Quality Management Area (AQMA) to the west of the junction with a direct link to the junction via the A5111.

The most significant land acquisition and rights changes are around the Kingsway Junction. This is as a result of the layout of the dumb bell roundabouts, drainage ponds, and the closure of the Brackensdale Avenue/Raleigh Street slips and construction of an alternative link via Kingsway Close.

The Markeaton Junction is a four arm signalised roundabout located on the A52 Ashbourne Road. The A52 Ashbourne Road provides one of the main radial routes into the City Centre and a Primary A Route to Ashbourne, which is 11 miles to the west of Derby. Locally, the junction is situated at the southern edge of Markeaton Park, which comprises areas of open grassland, various play areas and network of lakes.

Key features and constraints within the vicinity of the Markeaton Junction include:

- Residential areas located along the A38(T) and the A52 Ashbourne Road, including properties on Queensway.
- Markeaton Park, which is designated public open space.
- McDonald's Restaurant and EuroGarages petrol station
- Non-motorised user group facilities, including cycleways and footpaths, including the Markeaton Park footbridge.
- Public open space to the north-west of the junction in the vicinity of Mill Pond

- Markeaton Park Local Wildlife Site and Markeaton Brook System Local Wildlife Site
- AQMA to the west of the junction with a direct link to the junction via the A52.

A service area that is occupied by a McDonalds and EuroGarages petrol station is located on the south west corner of the junction. The service area is currently accessible directly from the A38(T) via northbound on and off slips. As part of the scheme these slips, which are sub-standard, will be closed. As such, the access on Ashbourne road will become the access to the site and need to be redesigned to allow for the increase in movements. As a consequence the Markeaton Park access on Ashbourne Road will need redesigning and the road widened at his point.

The northbound on-slip will also require the demolition of the toilet block and removal of a number of mature trees on the fringes of Markeaton Park and subsequent landscape reinstatement.

There are around sixteen properties in the immediate vicinity of the junction, on the eastern side of the A38(T), which will be required to be demolished in order to make room for the slip roads. As a consequence, the A38(T) this will move closer to the Royal School for the Deaf. Further land is required that is currently open land and lies within the curtilage of the Army Reserve Centre.

5 History of the site

The three existing at grade roundabouts were constructed in 1983 as part of the dualling of the A38(T) west and north of Derby. Interim improvements, which included carriageway widening and traffic signals, were made in 2004 to each of the three junctions.

The Highways Agency conducted a Road Based Study in 2002 to consider options for dealing with congestion and safety, environmental impacts, economic accessibility and integration problems associated with the three roundabout junctions on the A38(T). The data collection, consultation and appraisal undertaken for this study are the main sources of information that underpin the strategic case for the grade separation of the Derby Junctions.

Short term improvements (known as 'pinch point' schemes) were implemented at the Little Eaton and Markeaton junctions in 2014. These schemes provided some improvement to the operation and efficiency of the junctions. Further, the cycle and pedestrian facilities around the junctions were improved by replacing the signal equipment and improving the connections to the existing network.

The spending review announcement in 2010 listed the A38(T) Derby Junctions Scheme for potential construction in future spending review periods. The scheme was recognised as a number of "good schemes addressing clear problems". However, due to economic uncertainty, not all the schemes were confirmed in the 2015 round of future development. The grade separation of the three Derby Junctions was outlined as the optimum long term measure for the three junctions. Derby City Council subsequently outlined their support for the grade separation scheme through lobbying Central Government. Derby City Council lobbied for the Highways Agency to include the scheme in the Road Investment Strategy (RIS1) as a priority for funding and delivery 2015-2020.

6 Relevant Policy

Derby City Council's Local Transport Plan (2011-2026), LTP3, recognises the need to grade separate the A38(T) Derby Junctions. The A38(T) forms an important part of Derby's highway network and the junctions are identified as major congestion points. Congestion on the trunk road network in Derby has a significant influence upon local route choice and traffic patterns.

The Derby LTP3 states that the A38(T) Derby Junctions Scheme would separate local and long-distance traffic reducing delays and congestion, allowing the City Council to better manage the local network and improve linkages across the A38(T) for public transport, pedestrians and cyclists.

A well performing network is vital to sustaining economic productivity and competitiveness, and congestion not only causes serious problems for the individual traveller but also for business productivity and economic growth. Investment in transport has a positive impact on the economy. Large infrastructure schemes of national and regional importance can have wide economic benefits by influencing the location and pattern of economic activity, and reducing regional disparities.

However, the LTP identifies, the significant economic price associated with climate change and the role that domestic road transport plays in contributing to CO_2 emissions. As such, the principle set out in LTP3 is to only support new infrastructure that is targeted, which make best use of the available road capacity. The A38(T) Derby Junctions will improve the efficiency of the highway network by reducing congestion, from both the trunk road and local network, and the social, economic and environmental impacts that this has.

The Derby City Local Plan Part 1 (Core Strategy), 2017, sets a housing requirement of 11,000 new homes to be built within Derby over the plan period 2011 to 2028. In addition, the strategy for the Derby Housing Market Area[1](HMA) makes provision for in the region of a further 8,000 new homes around the edge of the City in the Derby Urban Area[2] (DUA) but within the administrative areas of Amber Valley and South Derbyshire. Growth in the DUA will meet Derby's residual housing needs and a proportion of the other two respective HMA authorities' own needs.

The strategy for the DUA includes a number of strategic sites to the west and south of Derby. Derby's Local Plan Part 1 identifies the A38(T) Grade Separation Scheme as a necessary infrastructure project that is required to deliver a safe, sustainable and efficient transport network. Policy CP24 specifically recognises that Derby City Council will support the implementation of the strategic proposal that will create an economically and environmentally sustainable transport network. The plan also states that the Council will ensure that any land needed to implement the scheme will be protected.

The Council will work with partners to deliver the Council's long term transport strategy in association with the Local Transport Plan and support the implementation of strategic proposals and initiatives that help create an economically and environmentally sustainable transport network.

Derby City Council is one of 22 local authorities that make up Midlands Connect. The aim of the partnership is to deliver a sub-regional transport strategy on strategic transport to drive the Midlands Engine and economic growth. Midlands Engine's vision is to create 300,000 additional jobs by 2030 and grow the economy by £54 billion.

In consultation with Highways England, the organisation has developed clear priorities for the Trunk Road Network and set out a list of 20 priorities it wants to see constructed or developed during the second Road Investment Strategy period (RIS2), from 2020-2025. One of these 20 priorities is the A38(T) Derby Junctions grade separation scheme, which is considered of a vital significance to the future of the regional and national transport system.

[1] The Derby Housing Market Area (HMA) consists of the administrative areas of Derby City Council, Amber Valley Borough Council and South Derbyshire District Council.

[2] The Derby Urban Area (DUA) includes the built extent of the city and contiguous built / planned development that spills over into adjoining authorities.

Derby City Council agrees that there is a strong case that supports the need for the scheme and this is embedded in local and sub regional policies and strategies.

7 Transport Issues and Overall Impact of scheme

The A38(T) is part of the Strategic Road Network, which provides a north south link between the East and West Midlands and beyond. It provides a strategic route for traffic between Birmingham and Derby and to Junction 28 of the M1. The road is also an important part of Derby and Derbyshire's local road network. As such, it is used by local traffic to move north and south between different neighbourhoods of Derby, and routes that intersect the A38(T) and provide routes to other urban areas and key destinations. The road carries approximately 60,000 vehicles through Derby each day with 1 in 8 vehicles being HGVs.

The A38(T) severs the suburbs of Mickleover and Mackworth to the west of the city from the rest of Derby. The strategic traffic converges with the significant volumes of local traffic crossing, joining and leaving the A38(T). This creates the congestion and delay at the three at-grade roundabout junctions. Ultimately any traffic leaving Derby to the west or north of the city will have an interaction with the A38(T). It is estimated that 210,000 combined movements take place across the junctions on a daily basis.

Previous studies of traffic conditions on the A38(T) corridor have recorded weekday peak delays at the three junctions of between 6 and 12 minutes per vehicle. On the local road network, queues are consistently experienced on the A5111 northbound approach to the Kingsway Junction. Queues occur in both the weekday AM (0800-0900) and PM (1700-1800) peaks, often in the PM Peak they extend through the Kingsway Retail Park Junction to the Manor Road/Uttoxeter New Road Junction. At the Markeaton Junction, queuing occurs on the A52 Ashbourne Road on both the eastbound and westbound approaches. In the PM Peak, outbound traffic queues on the westbound approach, often creating a slow moving queue back to the Inner Ring Road. Although the Little Eaton Junction is situated outside the city boundary, northbound queuing traffic on the A61 often extends to the Pektron Roundabout and impacts on the operation of Derby local road network.

The delay and congestion currently experienced at these at-grade junctions results in local traffic 'rat running' and has a significant influence upon local route choice, traffic patterns and congestion. For example, traffic from the communities on the A6 north of Derby avoid the Markeaton Junction by using local roads, such as Kedleston Road, Markeaton Lane and roads through the Mackworth Estate, as a parallel route. Rat running on inappropriate local roads causes unwanted social, economic and environmental impacts for communities and

businesses. The junction improvements are expected to reassign traffic traveling on local parallel routes onto the A38(T).

As identified in the previous section, Derby City Council recognises the need for the A38(T) Derby Junctions scheme in the Core Strategy Part 1 and LTP3. The scheme is seen as essential to supporting the housing growth to the west of Derby City and maintaining reliable connectivity for businesses and Derby's high-tech manufacturing that use the A38(T). Derby City Council included the scheme in their transport modelling of strategic sites within the Derby Housing Market area, undertaken to support the development of Part 1 of the Derby Core Strategy. The modelling work indicated that the A38(T) significantly reduced the highway impacts of the housing growth over the plan period to 2028.

Road Traffic Collisions

The roundabouts suffer from high levels of road traffic collisions and the A38(T) is a significant barrier for pedestrians and cyclists from adjoining neighbourhoods trying to cross. In addition, Local bus movements are impeded by congestion and delays through the junctions particularly at peak hours. Around 400 bus movements cross the Markeaton and Little Eaton Junctions serving the suburbs of Derby and towns and villages beyond. The junction improvements offer the potential to remove some of these conflicts by removing through traffic. This and gives the potential of providing dedicated facilities at the junctions for cyclists, pedestrians and public transport.

The Highways Agency's appraisal of road traffic collisions identifies that the scheme would attract increased flows into the A38(T) corridor. Highways England's forecast transport modelling of the scheme and also increase flows on some roads linked directly to the A38(T) corridor (e.g. the A5111 Kingsway). This additional traffic flow could result in an increase in the number of road-traffic collisions in the A38(T) corridor itself. However, the analysis suggests that there would be fewer road traffic collisions overall because: (1) traffic flows would reduce on those routes parallel to the A38(T); (2) accidents at the Scheme's junctions would reduce due to the grade separation of the A38(T) through traffic from the local traffic movements and vulnerable user movements.

Over the 60-year evaluation period, the Highways Agency's scheme analysis identifies a saving of 1,396 personal injury collisions across the whole highway network. These collision savings would include savings of eight fatalities and 135 serious casualties (i.e. a saving of 143 killed and seriously injured). This is a saving of 23 RTCs per annum, which according to the HE's accident analysis are likely to be on the local road network. There is logic to this assessment and DDCiC agree that the scheme will provide safety benefits.

Journey Time Impacts

Fourteen journey time routes were used to validate the 2015 A38(T) Derby Junctions base year SATURN model. Journey times for each of the route were then extracted from each of the model assignments. The base year journey times for each route have been compared to the Do minimum and Do something scenarios for both the 2024 and 2039 reference year.

The AM2 (0800-0900) period in the 2039 reference year predicts seventeen of the twenty-six assessment routes experience a reduction or remain static between the Do minimum and Do something. The decreases range from 2 seconds to 3 minutes 22 seconds. Nine of the routes increase in journey time ranging from 4 seconds to 11 minutes 48 seconds.

During the PM2 (1700-1800) period, nineteen of the twenty-six route experience a reduction ranging from 8 seconds to 9 minutes 41 seconds. Seven of the twenty-six routes increase in journey times with a maximum increase of 38 seconds.

The largest increase in Journey time is predicted on Mansfield Road in the AM Peak and significant increases in traffic on this route. However, there are a number of network coding errors in the model on the Mansfield Road corridor in terms of the priority at junctions. This could be causing unrealistic delays along the journey time route used to measure changes on Mansfield Road.

Routes that are predicted to experience a reduction in Journey time of over a minute include the A5111 Outer Ring Road, A52 and A61, Uttoxeter New Road and Ashbourne Road. The total journey time on the A38(T) for northbound and southbound decreases in all time periods between and forecast years between the Do minimum and Do something. The largest journey time reductions are 6 minutes 44 seconds and 9 minutes and 25 seconds for northbound and southbound traffic respectively.

It should be noted that changes in journey times in forecast modelling should be considered as the broad direction of change rather than an exact prediction of change. The journey time will be a measure of the average for vehicles on the route over the modelled period. Traffic rarely operates as a flat profile and as such some vehicles may experience different journey times across the period on different days.

Environmental Impacts

The applicant's Environmental Statement (ES) sets out an assessment of a wide range of environmental impacts including heritage, landscape, visual, biodiversity, road drainage and water environment. This Local Highways Impact Report does not deal with these physical

issues and the Statement of Common Ground (SoCG) sets out DCiC's position on these environmental effects.

However, air quality, noise and climate are directly related to traffic volumes and changes in traffic patterns as a result of the operation of the development scheme. As such the following provides a summary of the perceived impacts of the development scheme on Derby's local network.

Air Quality Management Areas and Derby's Roadside Nitrogen Dioxide Scheme

Derby, like many other urban areas in the UK, has some locations where NO_2 concentrations are in excess of national and European air quality standards. In response to its statutory duty under the Environment Act 1995, Derby has two designated Air Quality Management Areas (AQMAs) as a result of exceedances of the UK NO_2 annual mean objective. The AQMAs basically incorporate the Inner Ring Road, Outer Ring Road, parts of London Road, Osmaston Road and Uttoxeter New Road (between the two ring roads) and a section of the A52 around Spondon.

In 2015 Derby City Council was identified by DEFRA, along with five other cities, to take early action to improve roadside NO_2. Initially, the Government required local authorities to implement clean air zones by 2020. In 2017 the Government launched a revised National Air Quality UK Plan for roadside NO_2 emissions. This plan sets out that local authorities should develop measures to achieve compliance in their areas. The locally developed scheme - the Local Air Quality Plan (LAQP) was submitted to the Secretary of State for approval in early 2019.

Following approval of the LAQP, DCiC is implementing a highway scheme to address roadside nitrogen dioxide (NO_2) in response to air quality exceedances identified through the requirements of the EU Ambient Air Quality Directive. A feasibility study undertaken with Government (utilising approved methodology) identified one site of predicted exceedance on the Derby highway authority road network in Stafford Street. This highway scheme is designed to achieve compliance with the requirements of the Directive in the shortest possible time and subsequently to maintain compliance. Hence the scheme is also designed to ensure that implementation of the scheme does not result in any new exceedances being created elsewhere on the DCiC highway authority network, for example as a result of the re-distribution of traffic across a wider network.

The Roadside NO_2 scheme is a material consideration in the planning process. The requirements to consider and agree appropriate assessment of the Council's Roadside NO_2 scheme, is in addition to other planning considerations and activities. Derby's Roadside NO_2

LAQP scheme comprises of a package of traffic and network management measures to facilitate the control of the flow of traffic in and around Stafford Street. These measures include:

- Changes to the signal junctions at either end of Stafford Street to limit traffic flow in the most sensitive area and provide additional functionality to manage that limit on traffic flow.
- Changes at the Ashbourne Road / Uttoxeter Old Road / Friar Gate junction and on Friar Gate / Bridge Street junction to help provide a sustainable alternative route choice for redistributed traffic.
- Implementation of traffic management measures to further support the use of alternative routes, such as additional waiting restrictions in Uttoxeter Old Road to facilitate capacity.
- Enhancement of the city's Urban Traffic Management and Control (UTMC) system, to enable more dynamic management of the highway network, with emissions reduction and air quality objectives prioritised alongside the need to manage the network, in particular at peak periods and when incidents occur on the network.

The modelling undertaken in the ES Chapter produced in support of the A38 Derby Junctions Scheme DCO application predicts a reduction of more than 1μgm^3 in annual average NO_2 along Stafford Street after the A38(T) Scheme is completed, so it is expected to have a beneficial impact on the only identified non-compliant road link in Derby. This is because it takes traffic away from the city centre and puts it back on the A38(T). The 2039 forecast modelling predicts that the AADT on Stafford Street will decrease by around 1,500 vehicles.

Further, the air quality modelling doesn't predict any new exceedances. Currently however, there is concern as to whether there is full alignment between the A38 Scheme ES modelling and the methodology prescribed by DEFRA for use in EU Directive compliance reporting, primarily relating to the location of modelled receptor points. Within the DEFRA compliance modelling methodology, modelled points are standardised to a point 4m from the kerb, irrespective of whether there is a relevant receptor located at that point. The current ES modelling used to support the A38 Scheme, however, is based on modelling at the façade of the nearest actual receptor to the kerb.

Whilst the ES modelling might be considered to be more representative, it is apparent that formal compliance modelling against the EU Directive would have to follow the standardised DEFRA methodology. **Consequently, this is something that DCiC advises requires further**

investigation in order to provide confidence that the Scheme will not create any new non-compliances elsewhere.

The main cause for concern would be impacts upon receptors located close to the A38(T) due to the significant increase in traffic. One location that could be a concern is a house at the end of Kedleston Old Rd where the façade is only 5m from the kerb of the A38(T), however any other receptors located within 10m, but more than 4m, from road links that are expected to see a notable increase in traffic post-scheme completion, may need to be reviewed. As a guide, the further investigations should include any receptors which:

- Are located adjacent to a road link which is predicted to experience a notable increase in traffic volume AADTs post-scheme completion; **AND**
- Which are located between 4m and 10m from the kerb; **AND**
- Which already experience annual average NO_2 concentrations close to, or higher than, 40μgm^{-3}.

The other area of primary concern regarding air quality impacts in Derby City, are the uncertainties that remain in relation to construction dust and the emissions associated with construction-related traffic diversions. This could be exacerbated if the construction for the A38 scheme starts before the LAQP Stafford Street scheme has been fully delivered and before compliance levels have been achieved. There is a possibility, though remote, that this could lead to a period of higher traffic volumes on Stafford Street and therefore puts Stafford Street at greater risk of non-compliance with the EU Directive in 2020 and possibly also 2021. DCiC appreciates that this is not entirely an issue of the A38 scheme's making, however it is a point worth raising to highlight if there is a way to incorporate contingency arrangements within the A38 scheme construction traffic management plans, subject to practicality and feasibility.

Climate

The ES (Chapter 14) identifies that all greenhouse gases (GHC) emissions contribute to global climate change and can, therefore, be considered to have some level of significance. However, there is currently no specific guidance regarding significance levels for GHG emission impacts. The UK has legally binding GHG reduction targets and, therefore, the ES measured the level of significance of the development scheme against the UK National GHG inventory and the UK achieving its reduction targets.

The analysis in the ES of GHG emissions predicted that the development scheme would produce approximately 856 tCO2e against the do-minimum scenario, whilst for the design

year (2039), GHG emissions with the Scheme would be approximately 2,723 tCO2e higher than the do-minimum scenario. The increase in emissions in the do-something scenario is due to the increase in vehicle kilometres travelled as a result of the Scheme. However, the ES Climate chapter identifies that the projected uptake of lower carbon fuels, EVs and improved vehicle technology since the UK Government published the 'Road to Zero' Strategy (HM Government, 2018) is not currently fully captured in the modelling scenarios of future road traffic emissions. The new strategy sets out aspirations that by 2030 between 50% and 70% of new car sales and 40% of van sales will be ultra-low emission vehicles and that by 2040 all new petrol and diesel cars and vans will be zero carbon.

It is difficult to provide comment on the GHC impacts of the A38(T) Derby Junctions because the current standard appraisal methodology does not take account of the future uptake of lower carbon fuels. The ES concludes that against UK carbon reduction targets the GHG impact of the Scheme would not be material. However, as a broad measure of the schemes impact perhaps it is more tangible to relate the scheme's operational GHC impacts against the annual average UK persons CO_2 emissions, which is around 11 tonnes[1] per annum. As such, in the 2024 opening year the scheme would increase emissions to an equivalent of 78 people and in 2039 247 people.

Noise

Professional judgement regarding the significance of impacts can vary. Whilst the impact descriptors used in the ES (Chapter 9) are deemed appropriate, it is hard to state that full agreement with the significance of impacts has been reached with the applicant, due to the subjective nature of noise and nuisance. This is particularly true in relation to construction noise where there are still many unknowns.

The ES summary of the operational noise impacts, concludes that the scheme will resolve the existing congestion issues at the three A38(T) junctions. As such, traffic will be attracted to the local area. In addition, the speed limit between Kingsway junction and Markeaton junction would be increased from 40mph to 50mph. As a result, the overall trend in the study area is for a slight increase in operational traffic flows, and therefore traffic noise. However, only one receptor, namely the Royal School for the Deaf, is anticipated to experience a moderate (significant) increase in traffic noise – this effect would be restricted to the worst affected façades of Lydia House which is used by boarding pupils during the week, and at the Karten building which is used for offices and meeting rooms. At all other school buildings the change in traffic noise levels is anticipated to be negligible or minor (not significant).

Reductions in operational traffic noise are anticipated in the vicinity of existing accesses onto the A38(T) which would be closed by the Scheme – this includes properties on Raleigh Street, Enfield Road and Ford Lane. Noise levels would also be reduced where the A38(T) would be realigned further away from receptors – this includes properties on Greenwich Drive South, within Markeaton Park and at the Ford Farm Mobile Home Park. Traffic re-routing within Markeaton and New Zealand would occur during Scheme operation due to the closure of local accesses onto the A38(T), resulting in traffic noise effects that are negligible or minor (not significant).

As such, Highways England are proposing the following mitigation to be included within the Scheme design within Derby City:

- 1.5m reflective noise barrier on the east side of Kingsway Park Close, which becomes a link road access onto Kingsway junction.
- 1.5m absorptive barriers on both the northbound and southbound A38(T) mainline between Brackensdale Avenue bridges and Markeaton junction.
- 4.0m reflective noise barrier on the western boundary of the Royal School for the Deaf, north-east of Markeaton junction.

The mitigation proposals, in association with the operational (completed) scheme, primarily in the form of noise barriers, are agreed in principle based on the current assessment work set out in the ES.

There are however remaining concerns regarding construction noise, due to current uncertainties in precisely how the construction programme will be operated. Nonetheless, DCiC believes that this can be dealt with appropriately, provided that the Council is involved in the development of the Construction Environmental Management Plan (CEMP) and that DCiC's approval is sought before the CEMP is finalised.

Predicted Overall Operational Impacts

Overall, the Highways England's forecast modelling assessment of the scheme predicts that there is a benefit on the A38(T) corridor for both strategic and local traffic. This is reflected in the transport economic analysis, which calculated a benefit to cost ratio (BCR) of 2.6. The majority of these benefits were derived from journey time and accident savings. The Department for Transport's WebTag Guidance, considers a BCR between 2.0 and 4.0 as providing a high value for money.

DCiC considers that overall the A38(T) Derby Junction Scheme will improve the efficiency of the highway network by separating strategic and local traffic. This will reduce congestion

and remove traffic from local roads that is currently 'rat running' through inappropriate areas of the city. Further, it will improve safety by removing conflicts and is predicted to provide some local air quality benefits, particularly on the Inner Ring Road and the Stafford Street.

It is recognised that there are potential greenhouse gas impacts related to the forecast increase in traffic on the A38(T) as a result of the scheme by 2039. However, the GHG modelling did not taken into account the change in low carbon fuel of the national fleet. This is a developing area, which government currently appears to be promoting with an expectation of achieving significant change. For Derby, the tangible benefit is that the scheme is predicted to provide in local air quality and NO_2 emissions balances the potential negative increase in GHGs. As such, it is considered that the scheme will provide local social, economic and environmental benefits.

8 A38(T) Strategic Transport Modelling and Local Impacts

In order to assess the impacts of the scheme a SATURN transport assignment model was specifically developed by Highways England. The basis of the highway network was created from the Derby Area Transport Model (DATM) and updated and checked. The geographic coverage of the scheme was expanded to cover competing routes of the A38(T) including the A42/M42 and M1. A 2015 baseline year was created using observed traffic count information from turning counts for 12 key junctions and over 120 link traffic counts, traffic master data and mobile phone movement data. The model was validated in accordance with the DfT's WebTAG guidance covering the weekday AM Peak, Inter Peak and PM Peak periods.

Future year scenarios of the opening year (2024), and intermediate year (2031) and a Design year (2039) were created in order to assess the impacts of the scheme. The modelling created two forecast scenarios for each year, a Do-Minimum case in which it is assumed the scheme does not go ahead but planned changes to the local highway network and forecast changes in trip demand are still shown and the Do-Something in which the grade separation scheme is included along with the planned changes highway network and forecast trip demand.

The conclusion to Highways England's 2016 Local Model Development Report (LMVR), is the model is considered 'fit for purpose' and sufficiently robust for the purpose of testing and appraising the proposed A38(T) Derby Junctions scheme. Both journey times and flow volumes are consistent with observations on the A38(T) and at junctions near to the Scheme. Further, the LMVR report states that, this is a large model and the majority of the

validation tests set out in DMRB and WebTAG guidance are partially met or reasonably close to the criteria for a model of this scale.

Large transport models are difficult to validate because they require large amounts of observed data, which can be very costly to collect. They also only provide a generalised view of the real world and an assessment tool that is used to provide predictions to help understand impacts. As such, a balance has to be met between the function of the model and its development costs. Highways England's Transport Planning Group, who is responsible for overseeing the strategic modelling work and sits outside of the A38(T) Project Team, has ratified the A38(T) model and LMVR. As such, some confidence has to be put into the professional organisation and judgement of Highways England.

Notwithstanding this point, from the validation statistics contained in the LMVR Derby City Council notes that some links in the City Centre and to the south east of Derby do not meet the validation criteria set by DMRB. As such, when considering local issues a judgement needs to be taken in terms of the accuracy of the model in a specific local area.

As a rough visual aid**, Appendix A** of this report provides a summary of the major changes in traffic flow between the 2024 Do minimum and Do something model for the AM Peak (0800-0900) and PM Peak (1700-1800).

From the forecast modelling Derby City Council has identified a number of impacts on the local road network as a result of the development. It is noted that significant increases in traffic flow are predicted at the following junctions;

- Manor Road/ Kingsway Junction
- Hospital Gyratory
- Kingsway Junction/ Cherry Tree Close/ Kingsway Retail Park
- Uttoxeter New Road/ Brick Street/ Ashbourne Road
- Friar Gate/ Agard Street
- Prince Charles Avenue/ A52 Ashbourne Road
- A61 Sir Frank Whittle Way/ Alfreton Road
- A608/A61/ Hampshire Road
- Kedleston Road Slips
- A38(T)/ A6 Duffield Road – Palm Court Island

An assessment of these impacts has not been undertaken in the A38(T) Derby Junctions transport assessment. As Derby City Council could be left with problems at these junctions as a result of changes in traffic patterns after the development scheme is completed. Two of

the of the junctions form interchanges with the A38(T)(T) between the Markeaton and Little Eaton junctions. These are the grade separated junction of the A38(T)/ A6 Duffield Road/ Kings Croft known as Palm Court Island and the junction of A38(T)/ Kedleston Road.

9 Slip Road Closures and Local Impacts

The closure of the Enfield Road access to the south of the Markeaton Island Junction will restrict the route choice of residents travelling into the city centre from the suburb of Mackworth. As such, any travel towards the city centre will require travel either via the Markeaton Island Junction via the A52/ Prince Charles Avenue Junction. The largest movement from Prince Charles Avenue is the right turn movement onto the A52 towards the Markeaton Junction. This movement is facilitated by a reduction in movements from A52 West to A52 East. The modelling work conducted shows that Prince Charles Avenue would experience and increase in total traffic flow between the DM and DS in all forecast years. It is also noted that there is an increase seen on Knightsbridge westbound in all forecast years

As a result of the Ford Lane access closure, a proposal to signalise the junction of Ford lane and the A6 Duffield Road has been made. At present, Council Officers are not convinced that this is either desirable or necessary. It is recognised that this was supported by residents in the public consultation. The proposal to signalise the junction is a result of an investigation into the transport model, which shows a large increase in left turn movements from Ford Lane onto A6 southbound towards Palm Court Island.

The A6 Palm Court Island/A38(T) also sees a significant increase in traffic flows. This is partly as a result of the closure of Ford Lane re-routing traffic through the junction. In addition, the reduction of delays as a result of the development scheme re-routes local traffic that is currently avoiding the A38(T) and using residential routes to avoid the Markeaton Junction. These impacts are not necessarily bad for the local road network; however, they do place pressure on this location.

The increase in speed limit from 40mph to 50mph between Kingsway and Markeaton means that the A38(T) accesses from Brackensdale Avenue and Raleigh Street will also close. This will lead to an intensification of both northbound and southbound traffic using the Brackensdale Ave/ Kingsway Park Close Junction. The proposed signalisation of the junction has been proposed as mitigation. The new link created to the Kingsway Junction via Kingsway Park Close will mean that the commercial traffic using the industrial units will have closer access to the A38(T) and will reduce routing through residential areas.

Greater clarity is required over the 'stopping up' process where existing roads are severed. The residual landownership and responsibility need to be clearly defined. Further consultation during the design phase is required on this matter and that of any proposed Traffic Regulation Order alterations.

10 Sustainable Transport and Public Transport

There is a network of existing footway and cycleway links in close proximity to all three junctions. These not only include links across the A38(T) but also links that follow parallel routes to the A38(T), linking key destinations such as Derby University and major recreational facilities such as Markeaton Park. For example, the National Cycle Network Route (NR)54 & Regional Cycle Route (RCR)66 provide a continuous route that passes across all three junctions in a north south direction through Derby. The applicant's Walking, Cycling and Horse Riding Assessment contained in Appendix 12.1 of the ES provides a comprehensive description of facilities and assessment of Non-Motorised Users (NMUs).

Collision data submitted within the EIA states that between January 2011 and December 2015 there were 181 slight, 20 serious and 1 fatal injury collisions recorded at the three junctions. In total, 5 of the recorded collisions involved pedestrians and 14 involved cyclists. 11 of the 14 collisions involving cyclists occurred at or on the approach to a roundabout. 60% of the collisions including cyclists happened on a crossing facility. As identified previously, the A38(T)(T) is a significant barrier for pedestrians and cyclists from adjoining neighbourhoods trying to cross.

The following sections discuss current NMUs and public transport movements through the junctions and the physical changes and impacts that the scheme will have on these users.

Markeaton Junction

There are strong desire lines across this junction for pedestrians and cyclists travelling along the A52 to/from the city centre and Markeaton Park. Also for pedestrians and cyclists following the general north-south route of the A38(T) using the RCR66 on the east side of the A38(T), and also the footway though Markeaton Park parallel with the west side of the A38(T). These routes take users to Kedleston Road and to the University of Derby Campus.

It was noted that the existing Zebra Crossings that accommodates the RCR66 are often ignored by motorists during peak hours. Surveys in June 2018 indicated that the Markeaton Junction crossing points and surrounding paths are used regularly throughout the day by pedestrians and cyclists. In total 833 pedestrians and 206 cyclists were recorded crossing the

junction. The survey also highlights that the Kedleston Road junction also caters for large amounts of movement, in total 181 cyclists and 714 pedestrians.

The scheme proposals include the following changes for NMUs:

- Signal controlled crossings would be provided to allow pedestrians and cyclists to safely navigate the junction.

- The existing pedestrian footbridge over the A38(T) would be replaced. The new bridge would provide improved access for all pedestrian, cyclist and disabled users.

- The zebra crossing of A52 Ashbourne Road would be replaced by a traffic signal-controlled crossing.

- New pedestrian crossing on the A52 Ashbourne Road west providing a link to Mackworth Park entrance.

- Maintaining continuous cycle and pedestrian links through the scheme to the existing network, and minimising the length of any diversions. For example new shared cycleway/footway on the eastern side of the A38(T) from Raleigh Street to the Kedleston Road Slip Road.

The pedestrian footbridge over the A38(T) linking Markeaton Park and Markeaton Street caters for the high demand of students walking between the Markeaton and Kedleston campuses. A total of 362 pedestrians and 118 cyclists were recorded over a weekday. It is hoped that the new bridge will continue to cater for all users.

Kingsway Junction

There are currently a number of strong desire lines around the Kingsway Junction. From NMUs surveys along the A38(T) corridor undertaken in June 2018, around 200 pedestrians and cyclists were recorded using NR54 through Mackworth Park to the west of the junction. On the shared cycleway/footway link that runs between Brackensdale Avenue and the Kingsway Retail Park around 1000 NMUs were recorded.

The scheme proposals include the following changes for NMUs:

- A new pedestrian and cycle route would be provided across the new bridge in the centre of the junction to link. This will be extended along the southern edge of the A5111 providing a link to the Kingsway Retail Junction and crossing facilities.

- A new Pedestrian Crossing on the A5111 linking the proposed new pedestrian cycle route and Manor Kingsway Hospital to pedestrian and cycle route north to Brackensdale Avenue and Markeaton Junction.

- The uncontrolled pedestrian crossing of the A38(T) dual carriageway between Thurcroft Close and Greenwich Drive North would be removed for safety reasons. Alternative pedestrian routes would be via Brackensdale Avenue or the signal-controlled crossings of the slip roads at new Markeaton junction.

- A new pedestrian and cycle link across the stopped up slip roads on Raleigh Street to provide a continuous link with the existing pedestrian and cycle route.

- Maintaining continuous cycle and pedestrian links through the scheme to the existing network, and minimising the length of any diversions. For example, the section of NR54/RCR66 that has to be diverted adjacent to Greenwich Drive.

The new route between the A5111 and the area to the west of the A38(T) via the proposed dumbbell junction will be a significant benefit. The inclusion of a new pedestrian and cycle links over the new Kingsway Junction will provide a key link across the A38(T) for the suburbs of Mackworth and Mickleover to the Kingsway Retail Park, Derby Royal Hospital and the City Centre. Further it will provide the Manor Kingsway Development with a link to Mackworth Park and NR54. It will also provide a key link in DCiC's proposed Mick-Mack cycle route, which will follow the disused railway line into the City Centre via Friar Gates Goods Yard.

The existing uncontrolled crossing across the A38(T) between the Markeaton and Kingsway junctions connecting Greenwich Drive North and Thurcroft Close is set to be closed. There are currently no proposals to replace this crossing. This crossing however, caters for 177 pedestrians and 66 cyclists over a weekday. The removal of the crossing means that pedestrians and cyclists will have to re-route 300 metres to Brackensdale Avenue. It is understandable in safety terms why this is being proposed, however, it will slightly increase the severance of communities either side of the A38(T)(T) who use this crossing point.

As such NMU activity will be concentrated at Brackensdale Avenue as it is the only local road across the A38(T) between Kingsway and Markeaton Junctions. Currently 970 pedestrians and 117 cyclists were recorded at this location on a typical weekday. With the closure of the Brackensdale slips, there is potential that the increase in traffic will potentially cause more conflicts for NMUs.

DCiC welcome the cycle and pedestrian improvements that have been incorporated into the scheme design. Further, Highways England are in contact with local officers regarding specific sections of local walking and cycling routes that run parallel to the A38(T). For example, there has been discussion about the creation of a cycle path linking Ford Lane to Haslams lane with the path providing links to little Eaton running parallel to the River Derwent. This will provide part of the Derwent Valley Cycle Way, which is part of DCCs aspirational cycle network. It is expected that DCiC will be consulted further on NMU provision as the scheme moves through the detailed design process.

Public Transport

The scheme will not directly provide bus priority facilities. In general, most of the bus services are local and cross the A38(T)(T) connecting the City Centre to local neighbourhoods, or beyond Derby to other urban centres and villages. The main benefit of the scheme for public transport will be the separation of the A38(T)(T) mainline traffic from local traffic. This will remove the delays and congestion at the junctions providing journey time for buses as well as general traffic.

Table 1 below sets out a summary of current bus services that cross the A38(T)(T) Junctions. This includes the Arriva number 8, which uses Brackensdale Avenue and will be impacted by the scheme as a result of the slip road changes to the Kingsway Junction. Further, the Little Eaton Junction is included because the scheme will provide journey time improvements for buses travelling to Derby on the A61 corridor.

Bus Service	Operator	Daytime Frequency per hour	Daily Total	Destination	Junction Route
8	Arriva	5	66	Mackworth	Brackensdale Avenue
9	Arriva	2	24	Mackworth	Markeaton
Uni Bus 4	Notts & Derby	3	45	Kedleston Road Campus	Markeaton
Uni Bus 7	Notts & Derby	3	25	Kedleston Road Campus	Markeaton
Swift	Trent Barton	1	15	Ashbourne/Uttoxeter	Markeaton
6.x	Trent Barton	1	11	Belper	Little Eaton
7.1	Trent Barton	1	12	Holbrook/Belper	Little Eaton

9s	Trent Barton	4	51	Ripley/Alfreton/Mansfield	Little Eaton
Amberline	Trent Barton	1	12	Heanor/Hucknall	Little Eaton

Table 1: Summary of Weekday Bus Services and Frequencies

In total, around 400 bus movements cross the A38(T)(T) at one of the three junctions over a typical weekday (Monday-Friday).

A potential indirect benefit of the scheme is that the reconfigured access to the Kingsway junction, via Kingsway Park Close, may provide additional route options for services between Mackworth, Mickleover and key sites such as the Derby Royal Hospital.

However, other than the relocation of bus stops around the Markeaton Junction the scheme does not provide any other bus facilities. Further investigation of bus priority measures utilising traffic control technologies should be explored by the applicant.

It is important that Highways England continues to liaise with Derby City Council, transport providers and user groups through the detailed design process, to ensure that the best solutions can be incorporated to reduce severance and maximise connectivity for none motorised users and public transport.

11 Construction Traffic Management Plan

A development of this scale will involve a considerable amount of construction activity, including the generation of HGV movements. The current Traffic Management Plan, as set out in Chapter 7.3 of the ES, provides an initial programme. Preliminary works are planned to start in late 2020. The main construction work is expected to be undertaken between March 2021 and August 2024, a total of 3.5 years. The three junctions would each be constructed in several phases: Kingsway would be constructed in three phases, Markeaton in five phases and Little Eaton in six phases. These fourteen junction construction phases would be progressed at all three junctions simultaneously and would overlap in time over 8 Traffic Management Scenarios.

The core working hours for the scheme would be 07:30 – 18:00 Monday to Friday, and 08:00 – 13:00 Saturdays. In general there will be no working on Sundays and Bank Holidays. Some activities with limited durations would be undertaken outside of the core working hours. For example, the Markeaton footbridge demolition and installation of the new footbridge is proposed to be carried out overnight using a night-time road closure.

Throughout the construction of the A38(T) Derby Junctions the speed limit would be at least 30mph until each junction has been completed when the speed limit would be increased to 50mph at Kingsway and Markeaton and to national speed limit at Little Eaton.

At the current time the phasing plans lack detail in terms of explaining capacity (number of trafficable lanes and lane widths) during the construction phases. In summary, more information needs to be provided on the following:

- Haulage construction traffic in works areas and how this will be managed and interface with adjacent running lanes.
- A clear picture of how phasing sequences at all thee junctions will interlink.
- Detailed traffic management plans showing site layouts.
- Clarification on speed limits as the document says it will be 'at least' 30mph during construction phases.
- More detail is required on the coordination of other works in the City as the document makes reference to this. Traffic and Transportation need a clear understanding of Highways England's expectations. Derby City Council does not operate a Road Space Booking system as referenced in the Construction Traffic Management document.
- Incident management strategy.
- More detail on pedestrian management for example controlled crossing points.
- Potential AQ impacts on Stafford Street, should the A38 construction works precede implementation of DCiC's LAQP TM Scheme.

There is concern that there is no flexibility in the Traffic Management Plan and there is a concern that the construction traffic management plan is focused on maintaining journey times on the A38(T) during the construction period.

The city has experienced unplanned failure of the A38(T) and reductions in capacity at Markeaton Roundabout. Based on these experiences it is anticipated that there will be widespread congestion across the city road network (during AM and PM peak periods) away from the direct interaction with the A38(T) corridor. It is clear that the local road network will not be able to accommodate peak time increases in traffic levels, and there is not local network management strategy that can be deployed to facilitate the potential increase during the construction period. It is therefore desirable that the scheme is managed to ensure that traffic remains in the A38(T) whilst providing adequate opportunity for local traffic entering and exiting the city to be able to maintain reasonable journey times. It is

accepted that this is a difficult to achieve and again some dynamic management may be required to respond to changes in flow, however local journey times cannot be simply sacrificed as part of the management of the works.

Further, during the construction, entering and exiting Derby from the west is going to be difficult. Under Phase Two of the plan around the Markeaton Roundabout, it is proposed to ban the right turn and provide a shuttle lane under traffic control for the ahead movements on Ashbourne Road. This is likely to cause significant congestion and will be extremely disruptive to people living on the Mackworth Estate, and anyone entering or leaving the City. Is this the only option to manage this phase of the construction?

It is appreciated that the delivery of the A38(T)(T) Derby Junctions Scheme will require major construction works that will have unavoidable impacts on the daily operation of the strategic and local highway networks. As such, the construction will be a challenging period for the City, with major employers, city centre retailers, and the hospital all expressing concerns about accessibility and congestion having negative impacts. As such, communication and flexibility will be key in managing the movement of traffic through and around Derby. To this end, it is critical that Highways England continue to liaise with key stakeholders and Traffic and Transportation over the Traffic Management Plan. However, the Council will struggle to meet this demand and we would like to explore with Highways England any resources they could provide to facilitate this function through the construction programme.

It is also considered that an appropriate assessment of the overall traffic implications through the construction period, which is expected to last four years, should be undertaken by the Examining Authority given that these impacts will not be mitigated by the overall highway improvement works but would contribute to increasing the current volumes of traffic which would need to be absorbed by the current highway infrastructure. It is, however, anticipated that the majority of the movements of construction vehicles on the highways are likely to occur outside the peak times of traffic movements.

Air Quality and Noise Impacts

There are still a number of unknown quantities in respect of the construction of the development. As the ES acknowledges, this primarily relates to the fact that the exact details of construction activities would not be fully known until a specific contractor is appointed, which hasn't happened to date.

The implications of the additional details on construction activities could be significant, especially with respect to (but not restricted to):

- The phasing of the works;
- The duration of the works;
- The timing of the works;
- The traffic management scenarios for each phase; and
- The chosen equipment and methods of construction.

Consequently, this could materially affect the current assumptions and conclusions regarding air quality impacts and noise, as presented in the ES. Whilst the methodological approach is considered to have been agreed, the conclusions surrounding potential impacts cannot currently be said to have been agreed.

As already mentioned, consultation and agreement with DCiC in development of the CEMP is vital. As for the traffic management consultation though, consideration is requested to see if Highways England are able to support DCiC in terms of the resources that will be needed for DCiC to commit fully to the required level of consultation and associated evaluation given the predicted resource requirements for this.

Impacts on NMUs, Public Transport and Wider Stakeholders

In practice, the management of construction traffic is likely to be an evolving process throughout the whole project, the impacts of which cannot be concluded or agreed at this stage.

Public transport users, as listed in Table 1 of this report, will be directly impacted by the construction programme. This will not be just across the physical works on the junctions but also other routes that will require construction works such as Brackensdale Avenue. NMUs are particularly sensitive to construction works in terms of their perceived security through the works but also as a result of diversions to cycle and pedestrian routes, which can add significant distance and time to their journeys. The impact for businesses, health care providers and retail is a reduction in accessibility that can impact on the ability of users and visitors to access services, goods and leisure.

A travel behaviour change group, including public transport operators, train operators, Marketing Derby, Hospital, INTU and Sustrans – has been working to set out proposals for pre-planning and incentives that need to be delivered in advance of work starting to encourage change in mode of transport and reduce congestion. It is important that consultation with this group continues.

12 Conclusion

For the purposes of this Local Impact Report (LIR) the report has been written to specifically focus on the local operational highway impact of the A38(T) Derby Junction scheme.

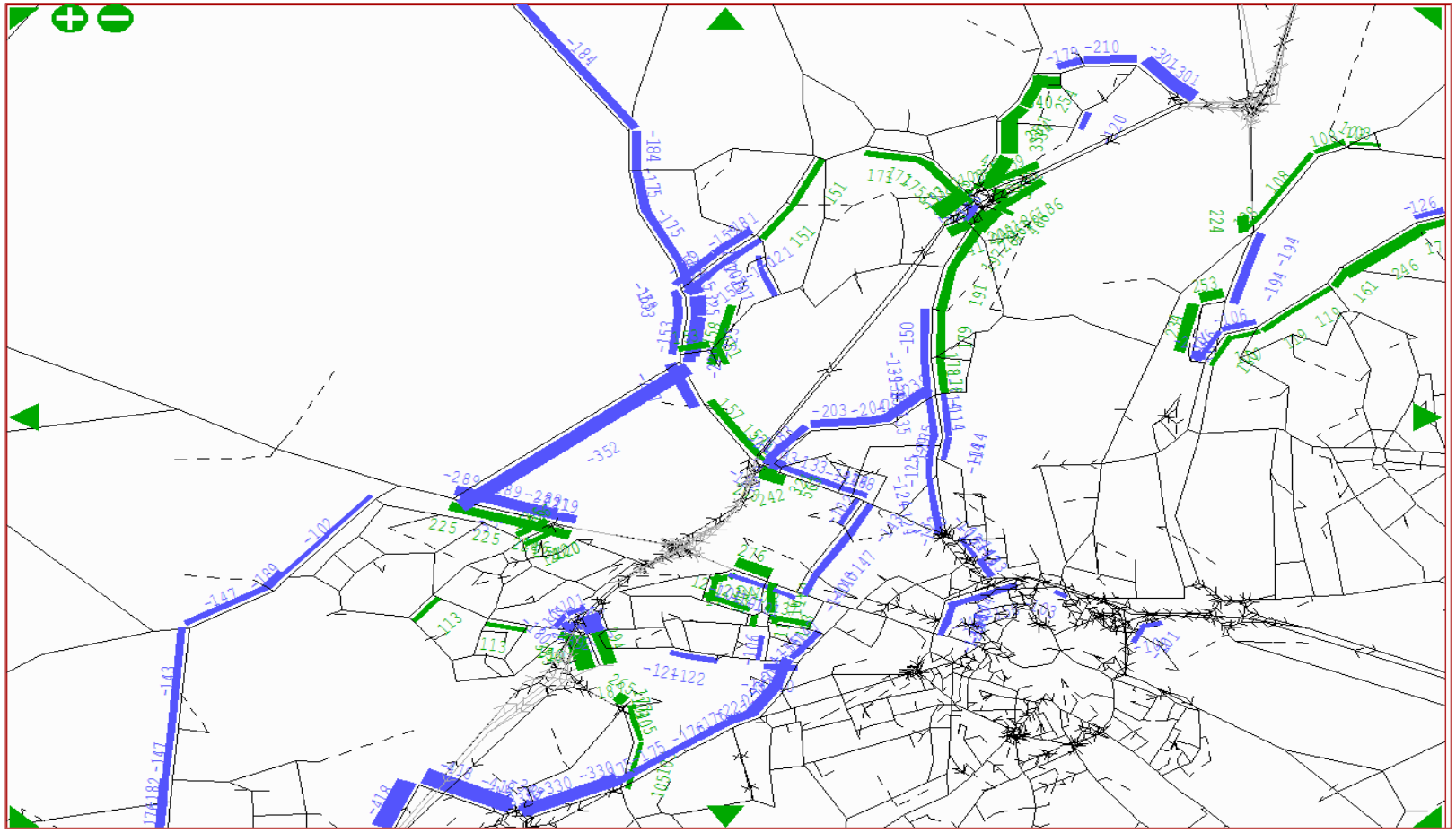
The applicant's Environmental Statement (ES) sets out an assessment of a wide range of environmental impacts including heritage, landscape, visual, biodiversity, road drainage and water environment. This Local Highways Impact Report does not deal with these physical issues and the Statement of Common Ground (SoCG) sets out DCiC's position on these environmental impacts.

The Advice Note on LIRs suggests that the report should be used as the means by which the local authorities can use its knowledge and evidence on local issues in order to present a robust assessment to the Examining Authority. The document should also contain statements of positive, negative and neutral impacts but does not need to set out a balancing exercise on such impacts as this will be the responsibility of the Examining Authority. The Advice note highlights topics that may be of assistance in the report. Most notably for this report the Local transport patterns and issues.

As such, it is hoped that this LIR assists the Examining Authority in their consideration of the A38(T).

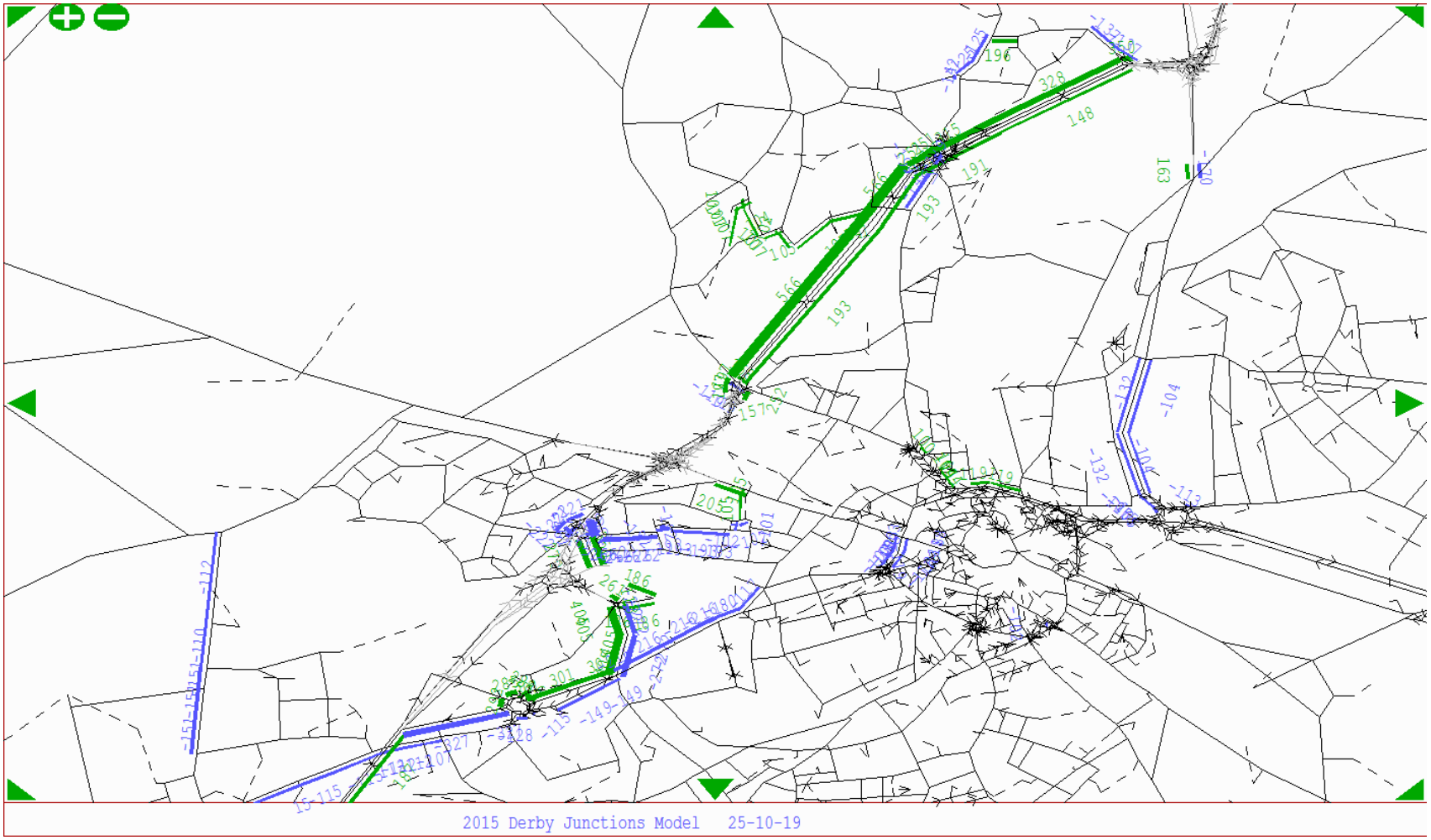
Appendix A

2024 AM Peak (0800-0900) Changes in Traffic Flows between Do Something and Do Minimum



*Note: Showing flow changes over 100 vehicles and less than 600. Increases on the A38(T) in the AM Peak are over 1000 vehicles and this obscures the changes on the local road network. Green = increase Blue = Decrease

2024 PM Peak (1700-1800) Changes in Traffic Flows between Do Something and Do Minimum



*Note: Showing flow changes over 100 vehicles. Green = increase Blue = Decrease