5 Highways and Transport Assessment

INTRODUCTION

5.1 This chapter identifies and assesses the potential effects that the development, as described in Chapter 3 may have on the traffic, transport and access to and within the study area. It also identifies the mitigation and compensation measures that will be implemented to prevent, reduce or offset potential adverse effects or enhance potential beneficial effects, where possible.

5.2 This chapter draws on the Transport Assessment (TA) that has been prepared to support the planning application. This TA is included in Appendix 5.1.

5.3 Potential effects on traffic, transport and access are interrelated with effects on noise and air quality. Therefore, this chapter should be read in conjunction with Chapter 8 Noise and Chapter 7 Air Quality of this ES.

ASSESSMENT METHODOLOGY

5.4 The assessment of the environmental effects of the proposed development in terms of transport has been based on the findings of the TA. The overall approach to this TA has been discussed and agreed with Solihull Metropolitan Borough Council. The following diagram (overleaf) sets out how the TA has been developed.
Figure 5.1: Transport Assessment Methodology

Scope of Assessment

5.5 In order to determine the potential impacts of the development proposals on the existing transport network, the following transportation and access issues were examined:

- Baseline traffic levels on the local road network and traffic calculated to be generated by the proposed development;
• Net changes in traffic levels on the wider highway network and junctions resulting from the operation of the development;

• Pedestrian and cycle routes to the site and pedestrian connectivity to the site; and

• Local public transport provision and accessibility.

5.6 Baseline transport conditions have been identified through the analysis of existing traffic count data at local junctions. The operation of the local junctions has been assessed through the development of individual junction models using ARCADY or LINSIG.

5.7 The forecast number of trips by mode have been identified through the analysis of forecast employee and heavy goods vehicle movements. These trips have been distributed onto the local highway network according to the type of trip. For example, inbound and outbound heavy goods movements to the LOC have been distributed between the LOC and strategic road network via Damson Parkway and the A45. Employee trips have been distributed in accordance with journey to work data from the 2011 census.

5.8 The change trips at each junction has been identified and the future year operation of each junction has been assessed. A comparison of the do minimum (without the proposed LOC) and do something (with the proposed LOC) enables the impact on the local highway network to be identified. Depending on the results of this analysis, the need for mitigation has been identified.

Summary of Relevant Planning Policy

5.9 The Department for Communities and Local Government (DCLG) published the National Planning Policy Framework (NPPF) in March 2012. With specific reference to transport, NPPF states:

"The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel".

5.10 NPPF also indicates:

"developments should be located and designed where practical to:

• accommodate the efficient delivery of goods and supplies;

• give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
• create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;

• incorporate facilities for charging plug-in and other ultra-low emission vehicles; and

• consider the needs of people with disabilities by all modes of transport”.

5.11 NPPF indicates:

“…a key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan”.

5.12 Paragraph 32 of NPPF states that plans and development decisions should take account of whether the opportunities for sustainable transport modes have been taken up; safe and suitable access to the site can be achieved for all people; and improvements can be undertaken within the transport network that cost effectively, limit the significant impacts of the development.

5.13 Furthermore, NPPF includes a presumption in favour of sustainable development and the statement that development should only be prevented or refused where the residual cumulative effects of development are severe, which as is demonstrated in the TA is not the case for the proposals.

5.14 The SMBC Local Plan was published in December 2013 and it sets out the boroughs development plans in terms of housing, education and employment up until 2028.

5.15 The plan has been designed so that it promotes job creation in the local area. Furthermore, the plan sets out the local housing strategy to accommodate the grown in population on account of continued economic growth.

5.16 In terms of transport, the council sets out a number of key sustainable and environmental targets which are to be addressed over the lifespan of the Local Plan. These include;

• Reducing Greenhouse Gas Emissions;

• Improve Connectivity between Communities and Employment Centres;

• Encourage Ease of Access; and

• Promote and Enhance Existing Assets.

5.17 Furthermore, the Local Plan provides guidance on the access requirements to new
developments within the borough. These include;

- All new development should be focused in the most accessible locations and seek to enhance existing accessibility levels and promote ease of access;

- Proposed offices, retail and leisure developments should be located in town centres, or other established locations including Birmingham Business Park;

- Developments should be within 400 metres walking distance of a bus stop served by a commercially run high frequency bus service; and

- Access to the development from the core walking, cycling, public transport and road networks will be expected to be safe, attractive, overlooked and direct on foot, by bicycle and from public transport and safe for those vehicles which need to access the development.

5.18 Finally, the local plan specifically states that the council have a role to play in supporting existing economic assets within the borough which includes Jaguar Land Rover. Their ambition is to ensure growth to these business can be maintained and encouraged whilst protecting the environment and reducing congestion.

"The Council will support and encourage the development of Jaguar Land Rover within its boundary defined in this Local Plan. This will include a broad range of development needed to maintain or enhance the function of Jaguar Land Rover as a major manufacturer of vehicles. The reasonable expansion of the site into the Green Belt will be given positive consideration where economic need can be demonstrated and appropriate mitigation can be secured".

5.19 It is recognised that Jaguar Land Rover has the potential to encourage significant employment growth as well as other business within the M42 corridor. The council has offered their support for the continued growth of these business and it noted that infrastructural improvement will be considered to encourage future growth.

5.20 The Transport Assessment and Framework Travel Plan confirm that the proposals are suitable in terms of their accessibility by a choice and means of transport and the impact on existing highway and public transport networks, thereby in compliance with NPPF.

5.21 The Transport Assessment and the Framework Travel Plans (FTP) outline a series of measures to manage travel demand. This aims to minimise the impact of increases in traffic related to the development, through the promotion and enhancement sustainable mode so travel. Specifically, the proposed development will enhance cycle and pedestrian
connectivity throughout the site by the provision of cycle and pedestrian links. In addition, a number of improvements and enhancements to the public transport network are proposed to increase the opportunity to travel by sustainable modes of travel.

Summary of Consultation

5.22 A number of meetings and discussions have been held with key transport stakeholders – including Solihull Metropolitan Borough Council and Highways England (and their consultants). These discussions have identified a methodology for assessment, drawn out key opportunities and constraints and have assisted with the development of the transport strategy for the site.

5.23 These discussions assisted with the following:

- Feedback regarding the proposed trip generation methodology;
- The development of a highways strategy to support the LOC;
- The design principles to be adopted for the realignment Damson Parkway; and
- Consideration of the junction of A45 with Damson Parkway.

Assessment of Significance

5.24 The assessment of transport impacts will be carried out in accordance with the IEMA guidelines. The IEMA guidelines identify a number of environmental effects, including driver delay, accidents and safety, noise, dust and dirt, pedestrian delay, pedestrian amenity, community severance, vibration, and air quality.

Magnitude

5.25 Potential traffic effects are considered to be of major, moderate, minor or negligible significance. The IEMA Guidelines identify general thresholds for traffic flow increases for each of the significance categories, shown in Table 5.1 below.

Table 5.1: Impact Criteria (IEMA Guidelines)

<table>
<thead>
<tr>
<th>Significance</th>
<th>Change in traffic flows</th>
<th>Definition</th>
</tr>
</thead>
</table>
These effects are likely to be important considerations at a regional or district scale and, if adverse, are potential concerns to the project, depending on the relative weight attached to the issue in the decision making process.

These effects, if adverse, while important at the local scale are not likely to be key decision making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or resource.

These effects may be raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they are of relevance in the detailed design of the project and consideration of mitigation should be made.

No effects or those which are beneath levels of perception, within normal bounds or variation, or within the margin of forecasting error.

<table>
<thead>
<tr>
<th>Significance</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident blackspots, retirement homes, urban/residential roads without footways that are used by pedestrians.</td>
</tr>
<tr>
<td>Medium</td>
<td>Traffic flow sensitive receptors including: congested junctions, doctor’s surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, un-</td>
</tr>
</tbody>
</table>
segregated cycleways, community centres, parks, recreation facilities.

<table>
<thead>
<tr>
<th>Low</th>
<th>Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negligible</td>
<td>Receptors with low sensitivity to traffic flows and those sufficiently distanced from affected roads and junctions.</td>
</tr>
</tbody>
</table>

**Significance**

5.28 The magnitude of change and the sensitivity of the receptor are then compared to determine the significance of the impact in accordance with Table 5.3 below.

**Table 5.3: Determination of Significance of Effects**

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>Negligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Major</td>
<td>Major</td>
<td>Moderate</td>
<td>Minor</td>
</tr>
<tr>
<td>Medium</td>
<td>Major</td>
<td>Moderate</td>
<td>Minor</td>
<td>Negligible</td>
</tr>
<tr>
<td>Low</td>
<td>Moderate</td>
<td>Minor</td>
<td>Negligible</td>
<td>Negligible</td>
</tr>
<tr>
<td>Negligible</td>
<td>Minor</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Negligible</td>
</tr>
</tbody>
</table>

5.29 The significance of the effects arising from the development will be reported using a seven-point scale:

- Major Adverse
- Moderate Adverse
- Minor Adverse
- Negligible
- Minor Beneficial
- Moderate Beneficial
- Major Beneficial
5.30 The assessment of significance considers the existing transport conditions as a baseline and provides a prediction of the future effect on the transport network for the construction and operation phases of the proposals.

**BASELINE CONDITIONS**

5.31 The application site is located on land predominantly owned by Jaguar Land Rover but outside the extents of the existing Jaguar Land Rover Solihull plant. The LOC will be located to the northeast of the Solihull plant. Currently a stretch of Damson Parkway runs through the site. This will be realigned to be situated on the eastern and northern boundary of the site (see Section 7).

5.32 Damson Parkway provides access to the eastern side of the Solihull plant via Gates D1 and D2, as well as to the recently constructed Despatch site (Gate D4). In the vicinity of the Jaguar Land Rover Solihull site, Damson Parkway is a dual carriageway with signal controlled junctions providing access to both Gate D1 and Gate D4. To the north of Gate D4, the road reduces to a single lane carriageway up to the junction with the A45 Coventry Road.

5.33 The junction of A45 with Damson Parkway is a large signal controlled junction providing access to the Air Cargo Centre and Airport Hotels via Terminal Road. The A45 Coventry Road is a dual carriageway, which provides access to the M42 Junction 6 to the east, and Birmingham City Centre to the west.

5.34 At the southern point of the Solihull site, Damson Parkway provides access to Gate D2, via the Damson Parkway/Damson Lane roundabout. Damson Lane provides access to a residential estate whilst Damson Parkway continues south as a single carriageway to meet the A41 Solihull Bypass.

5.35 There is no vehicular, pedestrian or cycle access to the site.

5.36 In the vicinity of Gates D1, D2 and D4 of the Solihull plant there are footways on both sides of Damson Parkway, providing access between the gates for pedestrians. At each junction with these Gates there are new pedestrian crossing facilities that provide safe and direct crossings into the plant.

5.37 Further north of Gate D4 there is a footway on the eastern verge of Damson Parkway continuing up to the A45 Coventry Road/Damson Parkway signal controlled junction. Whilst this footway is relatively narrow it is separated by the carriageway by a wide grass verge.

5.38 To the south of Gate D1 there are no footways along Damson Parkway to the A41 Solihull
Bypass, however pedestrians can reach the same destination by following Damson Lane through the residential estate, which provides adequate pedestrian facilities.

5.39 With respect to access by bicycle, in the vicinity of the site, there is a shared use path along the eastern side of Damson Parkway opposite Gates D1, D2 and D4. Cyclists travelling southbound from the site can route through Damson Lane south of the Damson Lane/Damson Parkway/Gate D2 roundabout, which is a quiet residential street, to reach the Grand Union Canal towpath. This provides a traffic free route to Birmingham City Centre via Small Heath and Acocks Green.

5.40 To the north of the Jaguar Land Rover plant a shared use path begins at the A45 Coventry Road/Damson Parkway junction, routing eastbound on Coventry Road providing access to Birmingham Airport and Birmingham International Station.

5.41 Damson Parkway, which runs adjacent to the site is served by the Travel West Midlands 966 bus service. There are bus stops located near to Gate D1 and in the vicinity of the LOC site. The 966 service runs from Erdington to Solihull via Chelmsley Wood and Birmingham International Rail Station. The rail station is an interchange between bus and rail travel and a wide range of destinations can be reached by both modes.

5.42 Overall, it is concluded that site currently has poor accessibility by cycling and walking, but is accessible by public transport.

5.43 The operation of the local highway was observed on a neutral day in June. These included turning count and queue length surveys. The surveys were undertaken at the following junctions:

- Damson Parkway/ Jaguar Land Rover Gate D1 signal controlled junction
- Damson Parkway/ Jaguar Land Rover/ Despatch signal controlled junction
- Damson Parkway/Old Damson Lane priority junction
- Damson Parkway/ A45 Coventry Road/ Terminal Road signal controlled junction
- Damson Parkway/ Jaguar Landrover Gate D2/ Damson Lane roundabout

5.44 The peak hours have been identified for the three shift changeover periods by combining the traffic count data at each junction with the proposed trip generation of the LOC (outlined in Section 5 of this report). The hours with the highest combined flows were identified as follows:
- 05:30 - 06:30
- 13:00 - 14:00
- 16:30 - 17:30

5.45 For simplicity, these peak hours have been named the morning peak, the interpeak and evening peak hours respectively. The operation of the local junctions has modelled to understand the current operation of the local highway network during the peak hours.

5.46 Table 5.4 summarises how the existing junctions currently operate. It should be noted that the modelling tools do not have the ability to model the queues that were observed at key junctions at shift change over. These queues were observed for a short period within the morning and interpeak hours, were moving queues and transient.

<table>
<thead>
<tr>
<th>Junction</th>
<th>Peak Hr</th>
<th>2016 Existing Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A45/ Damson Parkway/ Terminal Rd</td>
<td>AM</td>
<td>At capacity</td>
</tr>
<tr>
<td></td>
<td>IP</td>
<td>At capacity</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>At capacity</td>
</tr>
<tr>
<td>JLR Gate D2/ Damson Parkway/ Staff Access/ Church</td>
<td>AM</td>
<td>Within capacity</td>
</tr>
<tr>
<td></td>
<td>IP</td>
<td>Within capacity</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>Within capacity</td>
</tr>
<tr>
<td>JLR Despatch/ Damson Parkway/ Solihull Moors</td>
<td>AM</td>
<td>Within capacity</td>
</tr>
<tr>
<td></td>
<td>IP</td>
<td>Within capacity</td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>Within capacity</td>
</tr>
<tr>
<td>Damson</td>
<td>AM</td>
<td>Within capacity</td>
</tr>
</tbody>
</table>
5.47 The planning application relates to a proposed LOC that comprises of:

- 91,800sqm warehouse;
- 5,432sqm of B1 office use; and
- multi-storey car park with up to 1150 parking spaces.

5.48 In order to provide a contiguous site, it is proposed to realign Damson Parkway to run along the eastern and northern boundary of the LOC site. It will then tie in with original alignment to the south of A45/Damson Parkway signal controlled junction. The realigned Damson Parkway will be dual carriageway with a central reservation.

5.49 The LOC will be accessed via a new signal controlled junction on the realigned Damson Parkway. This access will be for goods vehicles only. The car park will be accessed via a separate left in and left out junction on the realigned Damson Parkway.

5.50 In order to minimise conflict between HGVs and pedestrians and cyclist, pedestrians and cyclists will not be able to access the LOC via the new signal controlled junction on the realigned Damson Parkway. A dedicated pedestrian and cycle access will be provided on the eastern side of the site from the realigned Damson Parkway. Within the site, up to 90 cycle parking spaces will be provided in a covered and secure facility adjacent to the multi storey car park.

5.51 A dedicated pedestrian route will be provided from the entry gate, across the internal loop road to the main employee entrance to the LOC building.

5.52 Externally, a new two metre wide footway for pedestrians will be provided on the eastern side of the realigned Damson Parkway. This will begin at the junction of Damson Parkway/Old Damson Lane and continue northwards to the A45/Damson Parkway junction. At the proposed northeastern roundabout, there will be an uncontrolled crossing across Old Damson Lane. To the north, this footway will to into the proposals being developed and implemented by SMBC.
With respect to access by cyclists, SMBC have developed proposals to provide a shared use footway/cycleway between Solihull town centre and the existing facilities that run adjacent to the A45 Coventry Road. As part of the LOC proposals and the need to realign Damson Parkway, it is proposed to provide this link via Old Damson Lane. Further details are set out in Section 7. In order to provide a connection between this route and the LOC, a combined 3 metre footway and cycleway will be provided.

A toucan crossing will be provided across Damson Parkway opposite the pedestrian and cycle access in to the LOC.

Two new bus laybys with bus stops will be provided opposite the pedestrian access in to the LOC on Damson Parkway. The new toucan crossing will be located between the two bus stops to provide a safe and direct crossing across the carriageway.

The 966 bus service will serve these two bus stops. These bus stops have been designed to accommodate a future SPRINT service, should this be implemented.

Vehicle Trip Generation

The number of vehicular trips has been calculated based on a first principles approach. There will be two different types of trips:

Goods vehicles form external suppliers and shuttle runs between the LOC and the plant based on information provided by Jaguar Land Rover;

Employee (car) trips, which is based of forecast employee numbers, shift patterns and mode share based on the travel plan. The resultant number of trips generated by the LOC in the three peaks hours under consideration is summarised in Table 5.5.

<table>
<thead>
<tr>
<th>Peak Hour</th>
<th>Relocated Employee Trips</th>
<th>Total Existing Trips (HGV + Employee)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Arrive</td>
<td>Depart</td>
<td>Arrive</td>
</tr>
<tr>
<td>0530 – 0630</td>
<td>283</td>
<td>283</td>
<td>121</td>
</tr>
<tr>
<td>1300 – 1400</td>
<td>283</td>
<td>192</td>
<td>121</td>
</tr>
</tbody>
</table>
5.60 This shows that the LOC will generate up to 800 movements in the morning peak hour and 160 movements in the evening peak hour. Not all these trips will be new trips to the local road network. With respect to goods vehicles, these trips are already on the road network as the plant is currently supplied by three off site logistics facilities which will be replaced by the proposed LOC.

5.61 The LOC is proposed as Jaguar Land Rover seeks to deliver efficiencies within its logistics network by reducing the number of delivery ‘flows’ within its logistics chain, which spans across a global network. Simply put, the new LOC would reduce the number of vehicle flows, movements and distances covered within the UK as well as the risk of deliveries arriving late to Plant.

5.62 Jaguar Land Rover has calculated that development of the LOC would reduce the number of Jaguar Land Rover goods vehicle miles on the West Midlands road network by more than 1 million miles per year, which is the equivalent of over 1,000 tonnes of CO2 per annum.

**Highway Impacts**

5.63 The highway impact of the development has been assessed for a future year of 2026. Existing traffic flows have been growthed to the future year using TEMPRO. In addition, traffic generated by committed developments has been explicitly identified and included in the future year do minimum flows.

5.64 The traffic generated by the proposed LOC has been added to the 2026 do minimum flows to provide 2026 do something flows. The operation of the local junctions under consideration has been assessed for the do minimum and the do something scenarios. A comparison of these two scenarios enables the impact of the development to be identified. Table 5.6 summarises the impact on each junction.

### Table 5.6 Summary: Impact of Development

<table>
<thead>
<tr>
<th>Junction</th>
<th>Peak Hr</th>
<th>Change in Flows 2026 B+C and % change</th>
<th>2026 B+C Operation</th>
<th>2026 B+C+D operation</th>
<th>Adverse Impact?</th>
</tr>
</thead>
<tbody>
<tr>
<td>B+C and</td>
<td>1630 - 1730</td>
<td>0</td>
<td>0</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>Location</td>
<td>AM</td>
<td>%</td>
<td>Status</td>
<td>PM</td>
<td>%</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------</td>
<td>-----</td>
<td>-------------------------</td>
<td>----------</td>
<td>-----</td>
</tr>
<tr>
<td>A45/ Damson Parkway/ Terminal Rd</td>
<td>144</td>
<td>3%</td>
<td>At capacity</td>
<td>96</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-132</td>
<td>-2%</td>
</tr>
<tr>
<td>JLR Gate D2/ Damson Parkway/ Staff Access/ Church</td>
<td>177</td>
<td>7%</td>
<td>Within capacity</td>
<td>100</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-138</td>
<td>-8%</td>
</tr>
<tr>
<td>JLR Despatch/ Damson Parkway/ Solihull Moors</td>
<td>173</td>
<td>7%</td>
<td>Within capacity</td>
<td>111</td>
<td>4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>139</td>
<td>-8%</td>
</tr>
<tr>
<td>Damson Parkway/Damson Lane/JLR Gate D2 Roundabout</td>
<td>245</td>
<td>13%</td>
<td>Within capacity</td>
<td>234</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-32</td>
<td>-2%</td>
</tr>
</tbody>
</table>

5.65 It is concluded that:
• A45/Damson Parkway/ Terminal Road junction is at operating at capacity in both scenarios in 2026 for all peak hours;
• JLR Gate D2/ Damson Parkway junction is within capacity for both scenarios in the morning and evening peak, but is approaching capacity in the inter peak hour;
• JLR Despatch/Damson Parkway junction is within capacity for all peak hours and both scenarios; and
• Damson Parkway/JLR Gate D2 roundabout is within capacity for all peak hours and both scenarios.

5.66 Based on this analysis, some form of improvements will be required on the Damson Parkway corridor to mitigate the impact of the development proposals.

Pedestrian and Cycle Impacts

5.67 The development would result in an increase in pedestrian movement, an increase in traffic movements and an increase in congestion, the potential significance of the impacts on pedestrians and cyclists can be categorised as Moderate Adverse. An appropriate mitigation strategy is set out later in this chapter.

Public Transport Impacts

5.68 The development would result in additional demand for public transport and increased congestion, the potential significance of the impacts on public transport can be categorised as Moderate Adverse. An appropriate mitigation strategy is set out later in this chapter.
MITIGATION AND ENHANCEMENT

Construction

5.69 The management of traffic during construction will be set out in a Traffic Management Plan that will be prepared by the contractor in advance of the works. This plan will typically include:

- Use of designated construction traffic routes to avoid the use of the busiest roads and residential streets in the vicinity of the site. The routing would be agreed with the local highway authority;

- Carefully selecting construction vehicle access points in consultation with the local highway authority;

- Providing notice regarding planned closures and diversions of roads and footpaths forming part of the site to the local highway authority, the Police, the Fire and Rescue Service and other emergency services sufficiently in advance of the required closure or diversion dates;

- Undertaking loading and unloading within the site except in exceptional circumstances, where this is not possible;

- Controlling deliveries to avoid queuing on the public highway;

- Implementing a car parking policy on site and encouraging construction site operatives to use public transport where possible;

- Ensuring that all contractors are aware of parking, loading and waiting restrictions in force on the public highway;

- Ensuring that all construction vehicles used on the highway conform to current road safety standards;

- Providing a wheel wash at the site exits, where necessary, to minimise the potential for mud being spread on public highways and footpaths;

- Periodic street cleaning and road sweeping, where necessary, to remove mud arising from the site;

- Types of vehicles to be used;
Hours of operation; and

How pedestrian and cycle access will be managed to minimise conflict with construction activities.

Highway Impacts

5.70 The junction analysis of A45 with Damson Parkway has shown that the junction will be operating at capacity and with queues in the future without the proposed development. It is recognised that the local area is under, and will be under increased pressure to accommodate growth, including future developments at Birmingham Airport, NEC and HS2. As such, there will be a need for detailed consideration of the cumulative impact of these growth aspirations on the local highway network, particularly at the junction of A45 with Damson Parkway. It is also recognized that the proposed LOC, in terms of the change in traffic flows, forms a relatively insignificant part of this imminent growth.

5.71 As such, an approach to consider a corridor approach to mitigating the impact of the proposals on the Damson Parkway corridor has been discussed with Solihull. The proposals will increase capacity of Damson Parkway by providing an addition section of dual carriageway that is currently single carriageway. This will also aid the future growth aspirations in the local area.

5.72 On this basis, further discussions with Solihull are required given that the local area is an area of imminent change and the need to consider wider highway improvements.

Pedestrian and Cycle Impacts

5.73 The site current has no pedestrian or cycle access and the development proposals will result in an increase in pedestrian and cycle movements in the local area. As such, a series of measures are proposed as follows:

- A dedicated pedestrian route will be provided from the entry gate, across the internal loop road to the main employee entrance to the LOC building.

- Externally, a new two metre wide footway for pedestrians will be provided on the eastern side of the realigned Damson Parkway. This will begin at the junction of Damson Parkway/Old Damson Lane and continue northwards to the A45/Damson Parkway junction. At the proposed northeastern roundabout, there will be an
uncontrolled crossing across Old Damson Lane. To the north, this footway will to
into the proposals being developed and implemented by SMBC.

5.74 With respect to access by cyclists, SMBC have developed proposals to provide a shared
use footway/cycleway between Solihull town centre and the existing facilities that run
adjacent to the A45 Coventry Road. As part of the LOC proposals and the need to realign
Damson Parkway, it is proposed to provide this link via Old Damson Lane. In order to
provide a connection between this route and the LOC, a combined 3 metre footway and
cycleway will be provided.

5.75 A toucan crossing will be provided across Damson Parkway opposite the pedestrian and
cycle access in to the LOC.

Public Transport Impacts

5.76 The proposal will result in additional demand for travel by public transport. There is
currently a good frequency bus service that runs along Damson Parkway. Two new bus
laybys with bus stops will be provided opposite the pedestrian access in to the LOC on
Damson Parkway. The new toucan crossing will be located between the two bus stops to
provide a safe and direct crossing across the carriageway. The 966 bus service will serve
these two bus stops. These bus stops have been designed to accommodate a future
SPRINT service, should this be implemented.

Residual Effects

Construction

5.77 Although measures would be incorporated to minimise the impact of construction traffic as
described above, it is possible that some disruption to the surrounding highway network,
pedestrian and cyclists and the public transport network would nevertheless occur resulting
in, at worst, a temporary Negligible impact.

Operation

5.78 A comprehensive package of proposals would mitigate the traffic impact of the development
proposals on the local transport networks. The public transport, walking and cycling
proposals would encourage employees to use public transport thereby lowering car trips to
the development.

Operational Highway Impacts

5.79 Further to the above, given that the proposals would result in an increase in traffic and
additional queues at the junction of A45 with Damson Parkway, the residual impacts are categorised as Minor Adverse.

**Operational Pedestrian and Cycle Impacts**

5.80 The development would encourage travel on-foot or by cycle, which would be further promoted via travel plans prepared for the proposed development. As referred to earlier in this chapter, improvements are proposed would benefit future residents and employees on the site. Residual pedestrian and cyclist impacts can hence be categorised as Minor Beneficial.

**Operational Public Transport Impacts**

5.81 The development would result in increased demand for existing public transport services, which would be further encouraged via travel plans (see Appendix 5.3). Improvements to public transport infrastructure are proposed as part of the development which will benefit future employees and as such the residual impacts are considered to be Neutral.

**CUMULATIVE AND IN-COMBINATION EFFECTS**

5.82 The proposed mitigation for the transport and traffic effects identified in this chapter are likely to have an impact upon noise and air quality receptors. These impacts have been taken into consideration in the assessment on noise and air quality impacts and are detailed in Chapter 8 Noise and Chapter 7 Air Quality of this ES.

5.83 With respect to wider cumulative transport impacts, the TA and the analysis in this chapter have taken into consideration the transport implications of other committed developments and infrastructure in the local area.

**SUMMARY OF FINDINGS**

5.84 The ethos of access to the development is based on its accessibility to sustainable modes of transport, and access to bus routes. Measures are proposed to provide safe and attractive pedestrian and cycle access to and within the site. In addition, improvements to public transport infrastructure are proposed. On the basis of the assessments undertaken in the TA, it can be concluded that the proposed development can be satisfactorily accessed by the modes of transport considered.

5.85 The transport impacts of the development are summarised in Table 5.8 below.
<table>
<thead>
<tr>
<th>Receptor</th>
<th>Value / Sensitivity</th>
<th>Nature of Effect</th>
<th>Duration</th>
<th>Magnitude</th>
<th>Potential Significance</th>
<th>Summary of Mitigation</th>
<th>Residual Effect</th>
<th>Residual Significance</th>
<th>Means by which environmental mitigation measures may be secured</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategic Highway Network</td>
<td>Medium</td>
<td>Adverse</td>
<td>Temporary</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Construction management plan</td>
<td>Negligible</td>
<td>Construction management plan secured by planning condition</td>
<td></td>
</tr>
<tr>
<td>Local Highway Network</td>
<td>Medium</td>
<td>Adverse</td>
<td>Temporary</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Construction management plan</td>
<td>Negligible</td>
<td>Construction management plan secured by planning condition</td>
<td></td>
</tr>
<tr>
<td>Pedestrians</td>
<td>High</td>
<td>Adverse</td>
<td>Temporary</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Construction management plan</td>
<td>Negligible</td>
<td>Construction management plan secured by planning condition</td>
<td></td>
</tr>
<tr>
<td>Cyclists</td>
<td>High</td>
<td>Adverse</td>
<td>Temporary</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Construction management plan</td>
<td>Negligible</td>
<td>Construction management plan secured by planning condition</td>
<td></td>
</tr>
<tr>
<td>Public Transport</td>
<td>Medium</td>
<td>Adverse</td>
<td>Temporary</td>
<td>Negligible</td>
<td>Negligible</td>
<td>Construction management plan</td>
<td>Negligible</td>
<td>Construction management plan secured by planning condition</td>
<td></td>
</tr>
</tbody>
</table>
## Potential Conflict with Public Transport Plan for Construction

<table>
<thead>
<tr>
<th>Operation</th>
<th>Network Type</th>
<th>Traffic Condition</th>
<th>Subject to</th>
<th>Planning Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strategic Highway</strong></td>
<td>Medium</td>
<td>Adverse</td>
<td>Subject to ongoing discussion</td>
<td>Planning condition</td>
</tr>
<tr>
<td><strong>Network</strong></td>
<td></td>
<td>Permanent Low Minor None</td>
<td>Subject to ongoing discussion</td>
<td></td>
</tr>
<tr>
<td><strong>Local Highway Network</strong></td>
<td>Medium</td>
<td>Adverse</td>
<td>Minor adverse</td>
<td>Pedestrian routes proposed which connects the site to the wider network. Will benefit existing users</td>
</tr>
<tr>
<td><strong>Pedestrians</strong></td>
<td>High</td>
<td>Adverse Permanent Medium Major</td>
<td>Pedestrian routes proposed which connects the site to the wider network. Will benefit existing users</td>
<td>Minor Beneficial</td>
</tr>
<tr>
<td><strong>Cyclists</strong></td>
<td>High</td>
<td>Adverse Permanent Medium Major</td>
<td>Will benefit existing users</td>
<td>Minor Beneficial</td>
</tr>
</tbody>
</table>

- Traffic generated by the development proposals results in additional traffic on the A45.
- Traffic generated by the development proposals results in additional traffic and congestion on the local highway network.
- Traffic generated by the development proposals results in additional traffic, which could affect the pedestrian environment. In addition, the development will result in an increased demand for walking.
- Traffic generated by the development proposals results in additional traffic, which could affect the cycling networks. In addition, the development will result in an increased demand for cycling which needs to be accommodated.

- Junctions predicted to continue to operate within capacity.

- Pedestrian routes proposed which connects the site to the wider network.

- Cycle route proposed linking with existing cycle infrastructure.

- Will benefit existing users.

- Planning condition.
Traffic generated by the development proposals results in additional traffic, which could affect the public transport networks. In addition the development will result in an increased demand for travel by bus and rail which needs to be accommodated.

<table>
<thead>
<tr>
<th>Public Transport</th>
<th>Medium</th>
<th>Adverse</th>
<th>Permanent</th>
<th>Medium</th>
<th>Major</th>
<th>New bus stops proposed</th>
<th>None</th>
<th>Neutral</th>
<th>Planning condition</th>
</tr>
</thead>
</table>