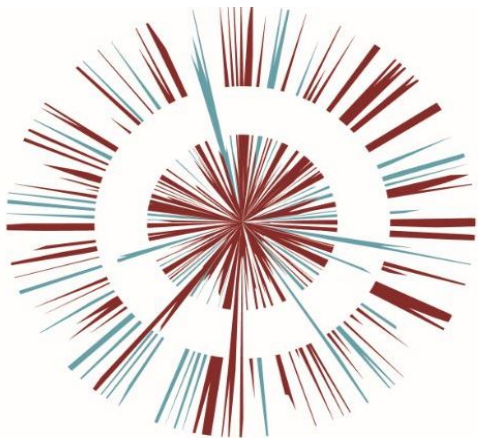




OMEGA ZONE 8, ST HELENS

Omega St Helens Ltd / T. J. Morris Limited



Transport Assessment
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Omega St Helens Limited and T. J. Morris
Limited

OMEGA ZONE 8, ST HELENS

Transport Assessment



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WSP

7 Lochside View

Edinburgh Park

Edinburgh, Midlothian

EH12 9DH

Phone: +44 131 344 2300

Fax: +44 131 344 2301

WSP.com

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1. INTRODUCTION

1.1. GENERAL

- 1.1.1. WSP UK Limited (WSP) has been commissioned by Omega St Helens Limited and T. J. Morris Limited, to provide transportation advice in support of a hybrid planning application for c. 205,500sqm (c.2,210,500sqft) B2/B8 industrial uses on Omega Zone 8, located in the Borough of St Helens.
- 1.1.2. The application will comprise a detailed planning application for an c.880,000sqft B8 industrial use to the north of the site and an outline planning application for the remaining B2/B8 industrial uses to the south of the site.
- 1.1.3. This Transport Assessment (TA) examines the current and future transport matters associated with the proposed industrial development at Omega Zone 8, St Helens. Access matters associated with the site will be examined in a hierarchical manner, with the proposed access strategy detailed for all modes.
- 1.1.4. Scoping discussions (see Appendix A) have been undertaken with St Helens Metropolitan Borough Council (SHMBC), Warrington Borough Council (WBC) and Highways England. These discussions included written correspondence and a scoping meeting which was held on the 15th May 2019. A site visit to inform this study was undertaken on the 11th June 2019.
- 1.1.5. This report has been prepared solely in connection with the development described within this report. As such, no responsibility is accepted to any third party for all or part of this report.
- 1.1.6. This report is copyright © WSP UK Limited. All rights reserved.

1.2. SITE LOCATION

- 1.2.1. The site is located within the Borough of St Helens and is located to the west of Omega Zone 7. The site is generally bound to the north by the M62, to the east by Omega Zone 7 and to the south and west by agricultural land and Mersey Valley Golf & Country Club. Figure 1-1 below indicates the location of the site in the context of the wider Omega site.

Figure 1-1 – Omega Zone 8, St Helens: Site Location



1.3. CONSIDERATIONS OF THE ASSESSMENT

- 1.3.1. The TA has been undertaken in accordance with the guidance contained within the following documents:

The Strategic Road Network – Planning for the Future – A Guide to Working with Highways England on Planning Matters (2015);
SHMBC – Supplementary Planning Document – Ensuring a Choice of Travel (2010); and
WBC – Standards for Parking in New Development (2015).

1.4. REPORT STRUCTURE

1.4.1. This TA is structured as follows:

Chapter 2 reviews the policy context from a transportation perspective at a national, regional, and local level;

Chapter 3 details the Site location and discusses the existing transportation conditions in the locality of the Site;

Chapter 4 outlines the development proposals and the proposed means of access by all modes of travel;

Chapter 5 provides a framework for the creation of a workplace Travel Plan to support and encourage sustainable travel to and from the Site;

Chapter 6 discusses the methodologies used to determine the potential number of trips to and from the proposed development;

Chapter 7 presents the methodologies used for the distribution and assignment of vehicle trips onto the study network and reviews the baseline traffic conditions for the study network;

Chapter 8 assesses the impact of the development on the local network; and

Chapter 9 provides a summary of findings of this TA.

2. POLICY CONTEXT

2.1. INTRODUCTION

- 2.1.1. This chapter summarises relevant transport policy which has been considered in the preparation of this TA.

2.2. NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK

- 2.2.1. The National Planning Policy Framework (NPPF) was first published on 27 March 2012 and updated on 24 July 2018 and 19 February 2019. This sets out the government's planning policies for England and how these are expected to be applied.
- 2.2.2. The revised NPPF still upholds the importance of transport in contributing to sustainable development and wider sustainable and health objectives (para 103).
- 2.2.3. It states that Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
- the potential impacts of development on transport networks can be addressed;
 - opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;
 - opportunities to promote walking, cycling and public transport use are identified and pursued;
 - the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and
 - patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.
- 2.2.4. The planning system should actively manage patterns of growth in support of the above objectives (para 103). Furthermore, significant development should be focused on locations which are, or can be made, sustainable. This can be achieved by limiting the need to travel and by offering a genuine choice of modes.
- 2.2.5. Paragraph 111 of the NPPF requires that all developments expected to generate significant amounts of movement should be required to provide a Travel Plan, and the application should be supported by a Transport Statement or Transport Assessment so that the likely impacts of the proposal can be assessed. Within such documentation there is a requirement to ensure that;
- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
 - safe and suitable access to the site can be achieved for all users; and
 - any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

- 2.2.6. The NPPF in paragraph 109 states that “development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”.
- 2.2.7. With regards to the proposed development, the NPPF states that “planning policies and decisions should recognise the importance of providing adequate overnight lorry parking facilities, taking into account any local shortages, to reduce the risk of parking in locations that lack proper facilities or could cause a nuisance. Proposals for new or expanded distribution centres should make provision for sufficient lorry parking to cater for their anticipated use” (Para 107).
- 2.2.8. In the context of setting local parking standards for both residential and non-residential uses, paragraph 105 of the NPPF recommends that LPA’s should take into account the following factors:
- “the accessibility of the development;
 - the type, mix, and use of development
 - the availability of and opportunities for public transport;
 - local car ownership levels; and
 - the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles”
- 2.2.9. The Transport Assessment for Omega Zone 8 embeds the principles of NPPF at its core, ensuring all modes of transport have been considered. The TA will quantify the impact of the development and identify proportionate cost effective mitigation to limit the significance of those impacts.

DfT CIRCULAR 02/2013: THE STRATEGIC ROAD NETWORK AND THE DELIVERY OF SUSTAINABLE DEVELOPMENT

- 2.2.10. This circular sets out the DfT’s (and its executive agencies) policies in respect of dealing with planning applications, working to achieve sustainable development and safeguarding the primary function and purpose of the strategic road network (SRN). The M62 forms part of the SRN.
- 2.2.11. Paragraph 9 states that ‘development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed. However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.’
- 2.2.12. Paragraph 11 notes that development proposals must comply in all respects with design standards set out in the DMRB and that schemes proposing physical changes to the SRN must be submitted to road safety, environmental and non-motorised user (NMU) audits.
- 2.2.13. Where proposals are not included within the relevant Local Plan then a full assessment of their impact will be necessary. This is to be based on the performance and character of the strategic road network as determined by the presumption that the Plan proposals will be fully implemented (para. 22).
- 2.2.14. Paragraph 26 states that Highways England ‘expects the promoters of development to put forward initiatives that manage down the traffic impact of proposals to support the promotion of sustainable transport and the development of accessible sites. This is particularly necessary where the potential impact is on sections of the strategic road network that could experience capacity problems in the short or medium term.’

- 2.2.15. Only after travel plan and demand management measures have been fully explored and applied should capacity enhancement measures be considered. While capacity enhancements should normally be addressed at the plan making stage, such measures may be considered at the time when individual planning applications are submitted, subject to the over-riding principle that delivery of the adopted Local Plan proposals should not be compromised.
- 2.2.16. The TA recognises the significance of limiting the developments impact upon the SRN. The TA assesses a worst-case scenario to ensure that economically viable and deliverable mitigation proposals are achievable and detailed herein.

2.3. REGIONAL POLICY

TRANSPORT FOR THE NORTH – STRATEGIC TRANSPORT PLAN

- 2.3.1. Transport for the North (TfN) have produced a Strategic Transport Plan (STP), which outlines the need for investment in transport across the North and identifies the priority areas for improved connectivity. The STP has the following aims:
- Connecting People** – improving access to leisure and tourism assets and work opportunities, whilst widening the labour market for businesses;
 - Connecting Businesses** – improving connections to collaborators, client and competitors, including those within the prime and enabling capabilities; and
 - Moving Goods** – supporting businesses to move freight and goods efficiently across modes.
- 2.3.2. The STP seeks to improve the major road network in the north, improving journey reliability, network resilience, network efficiency and journey quality.

2.4. WARRINGTON LOCAL POLICY

WARRINGTON LOCAL TRANSPORT PLAN 3

- 2.4.1. WBC's Local Transport Plan 3 (LTP) was adopted in March 2011 and sets out Warrington's LTP strategy for the period 2011-2030.
- 2.4.2. The objectives of LTP3 are to build and manage a transport network that:
- Is integrated and customer focused and reduces the need to travel by car.
 - Enables the regeneration of the Borough and supports economic growth.
 - Maintains the highway, minimises congestion for all modes of travel and enables Warrington's 'smart growth'.
 - Improves everyone's access to health, employment, education, culture, leisure and the natural environment.
 - Improves everyone's access to the town centre by all modes of travel.
 - Enhances accessibility for those in disadvantaged communities or groups.
 - Improves neighbourhoods and residential areas.
 - Improves safety and security for all modes of travel.
 - Enhances the image and profile of the place.
 - Improves the quality of public space making Warrington more welcoming.
 - Protects and enhances the natural environment.
 - Reduces the impact of traffic on air quality in Warrington and helps to reduce carbon emissions and tackle climate change.
 - Makes Warrington safer, sustainable and healthier.

Integrates with transport networks outside Warrington to enhance the sustainability of cross boundary travel.

2.4.3. The key LTP3 themes are as follows:

Active travel – Focuses on providing for walking and cycling as modes for making day-to-day journeys.

Public transport – Covering all forms of passenger transport services for use by the general public.

Managing motorised travel – Includes routes and facilities used by private motorised passenger modes such as cars and motorcycles and the transportation of freight goods by road, rail or water.

Smarter choices – Focuses on the decisions people make about their journeys including if they need to travel, when and where, and mode of transport used.

Safety and security – Needs to be considered for all users and all parts of the network needs to be considered including elements such as personal safety whilst waiting at bus stops or whilst cycling or walking along off-road routes.

Asset management – focuses on the proposals for maintaining the physical transport assets which make up the transport networks for which WBC have direct responsibility.

Network management – sets out how WBC propose to make the best use of the existing highway network and fulfil their network management duty.

Relevant to the development proposals, the relevant policies and actions contained within the LTS are contained in Table 2-1.

Table 2-1 – Relevant Policies and Actions

Action / Policy	Description
AT4	Ensure that travel plans submitted at the planning application stage of the development control process fully consider the role of physical measures to support walking and cycling.
AT5	Require comprehensive cycle audits to be carried out at the planning application stage of the development control process for relevant highway and land-use development proposals.
AT7	Seek to minimise potential conflict between different categories of Active Travel users and ensure that facilities introduced to benefit one category of user are not detrimental to the convenience, accessibility or safety of other users.
PT7	Ensure that new public transport infrastructure complies with the requirement of the Disability Discrimination Act (DDA)
PT9	Seek to ensure that improvements to the national rail network are positive for Warrington and maximise opportunities that arise to improve rail passenger and freight services.
MT1	Consider the role of charges and controls in seeking to manage the demand for parking and discourage unnecessary single-occupancy car use.
MT4	Seek to ensure that Heavy Goods Vehicles (HGVs) use appropriate routes within the borough.
MT5	Seek to ensure delivery of goods by road to businesses in the town centre and other key locations in the borough can be made efficiently and with minimal disruption to traffic flows on key sensitive routes.
MT6	Support the principle of encouraging freight to switch from using road to rail or inland waterways where this would result in a reduction in carbon emissions from transport at a strategic and local level.
SC1	Engage with business, education, health, leisure, and retail sectors in order to promote access by sustainable travel modes and the adoption of smarter travel choices.
SC3	Encourage existing employers in the Borough to develop and implement effective Travel Plans.
SC4	Ensure that Travel Plans submitted in support of planning applications are of appropriate quality and contain effective measures to facilitate and promote travel by walking, cycling and public transport, as well as schemes to reduce the need to travel.
SC6	Ensure that Travel Plans submitted for speculative developments are taken on by future occupiers of the development and measures implemented.

Source: WBC LTP 3

- 2.4.4. WBC LTP 4 is currently at the draft stage, with consultation on the draft closed on 17th June 2019.
- 2.4.5. The TA will seek to demonstrate compliance with the above policies and actions and will demonstrate how the proposed development aligns with the LTP objectives.

WARRINGTON BOROUGH COUNCIL STANDARDS FOR PARKING IN NEW DEVELOPMENT (2015)

- 2.4.6. WBC's Standards for Parking Supplementary Planning Document (SPD) sets out the parking standards for Warrington Borough. The SPD states that a travel plan or travel plan statement will be required as a key mechanism to reduce the use of high-emission vehicles and to influence travel behaviour in new development. It also states that the parking standards assume that all the main requirements of a travel plan will be met where required.

General and Cycle Parking

- 2.4.7. The parking standards for B2 and B8 land uses are indicated by Figure 2-1 below. The general parking standards represent the required level of parking for each use class, while the disabled, bicycle and motorcycle parking are set as minimum standards.

Figure 2-1 – Warrington Parking Standards

Row ID	Use Class	Specific Land Use	Area A (town centre)	Area B (all other areas)	Disabled parking (minimum standard)	Bicycles (minimum standard)	Motorcycles (minimum standard)	Other considerations
7	B2 General Industry	General industry	1 space per 48 sqm	1 space per 60 sqm 1 space per 48 sqm (Exceptional maximum standard where a travel plan is to be delivered that demonstrates an exceptionally high level of quality, commitment to delivery and availability of alternative modes – see paragraphs 2.7 - 2.9 in the SPD for details).	Standard allocation (see table below)	1 space per 450 sqm (minimum of 2 spaces)	1 space per 1000 sqm (minimum of 2 spaces)	Space for unloading and loading and layout that allows exit in forward gear. 5% of spaces to be covered by electric vehicle charging point or enabled for simple retro-fitting at a later date.
8	B8 Storage and Distribution	Storage and Distribution	1 space per 100 sqm	1 space per 120 sqm 1 space per 100 sqm (Exceptional maximum standard where a travel plan is to be delivered that demonstrates an exceptionally high level of quality, commitment to delivery and availability of alternative modes – see paragraphs 2.7 - 2.9 in the SPD for details).	Standard allocation (see table below)	1 space per 850 sqm (minimum of 2 spaces)	1 space per 2000 sqm (minimum of 2 spaces)	Space for unloading and loading and layout that allows exit in forward gear.

Disabled Parking

- 2.4.8. The SPD states that the standard allocation for non-residential developments is 5% of the total car park capacity with a further 5% of the total car park capacity for enlarged standard spaces which would allow for future expansion of disabled spaces should demand arise.

Electric Vehicle Charging

- 2.4.9. The SPD states that 5% of all parking spaces in the development are to be covered by an electric charging point. However, it is also noted that where this allocation is demonstrated to impact the viability of the development, 5% of spaces should have the capacity to easily retrofit a recharge point for communal use.
- 2.4.10. The management of the charging points, including the mechanism / procedure for charging, will be the responsibility of the developer/occupier.

2.5. ST HELENS LOCAL POLICY

ST HELENS BOROUGH LOCAL PLAN 2020-2033 SUBMISSION DRAFT (2019)

- 2.5.1. SHMBC is currently preparing a new local plan which will set out how much new development for housing, employment and other uses should take place in the borough. It will identify where new development should take place and set out the policies for assessing planning applications. The council put the submission draft document (the version that the council wishes to adopt) out for comment, with the deadline for any comments being the 13th May 2019.
- 2.5.2. Within the document, SHMBC set out their vision for St Helens Borough in 2035 which states: *“A range of high quality new employment development will have taken place, making use of the Borough’s excellent transport links and its location between Liverpool and Greater Manchester. Established employment areas will continue to provide affordable accommodation for a wide range of employers”.*
- 2.5.3. The document sets out the strategic aims and objectives to achieve their vision. The aims and objectives relevant to our objective are indicated by Table 2-2 below.

Table 2-2 – Strategic Aims and Objectives

Aims	Objectives
Ensuring a Strong and Stable Economy	<p>To maximise the contribution of St Helens to the economy of the Liverpool City Region and adjacent areas, and meeting local employment needs, by ensuring an adequate supply of employment land and premises.</p> <p>To support the wider Borough by aiding the development of the tourism, leisure and rural economies.</p> <p>To utilise the Borough’s strategic location in relation to the rail network by facilitating rail-enabled employment development</p>
Promoting Sustainable Transport	<p>To improve access for all by facilitating sustainable transport choices, development in accessible locations, an integrated public transport network, and targeted improvements to the transport network.</p>

ST HELENS BOROUGH LOCAL PLAN 2020-2033 SUBMISSION DRAFT

- 2.5.4. Policy LPA04: A Strong and Sustainable Economy states that the Council will aim to deliver a minimum of 215.4 hectares of land for employment between 1 April 2018 and 31 March 2035 to meet the needs of St. Helens Borough. The policy also states that the Council will work with partner organisations to:
- help meet the Liverpool City Region’s needs for economic growth, job creation and skills development;
 - maximise the economic opportunities presented by St. Helens Borough’s location in relation to strategic road and rail routes;
 - ensure the necessary infrastructure is provided to support business needs (see LPA 08); and
 - support the creation of and expansion of small businesses.

- 2.5.5. The majority of the Omega Zone 8 development site is located within “Site 1EA – Omega South Western Extension Land north of Finches Plantation” which has an indicative site area of 31.22 hectares and appropriate uses of B2 and B8. Figure 2-2 below indicates the site which is allocated in the draft plan.

Figure 2-2 – Site Allocation in the Submission Draft



- 2.5.6. The requirements for the site are as follows:
- Appropriate highway access via the existing Omega South development;
 - Implementation of any measures required to mitigate impacts on the M62 (Junction 8) or other parts of the highway network; and
 - Measures to secure suitable access to the site by walking, cycling and public transport from residential areas in St Helens and Warrington.

ST HELENS SUPPLEMENTARY PLANNING DOCUMENT (SPD), ENSURING A CHOICE OF TRAVEL (2010)

- 2.5.7. This document was developed to provide consistent guidance to developers on access and transport requirements for new developments. It is used as a material consideration in the determination of planning applications.

2.5.8. The objectives of the document are as follows:

- Ensure a reasonable choice of access by all modes of transport for new development;
- Enable the provision of balanced transport infrastructure which will provide access to employment, leisure, retail and other facilities for all residents and visitors;
- Reduce the environmental impact of travel choices, by reducing pollution, and improving local environment;
- Provide a framework for future investment in the strategic road and rail network where a new development would create additional travel demand;
- Improve road safety;
- Promote healthier lifestyles by providing opportunities for people to walk or cycle for work or leisure purposes;
- Reduce the level of traffic growth and congestion on the strategic and local road network; and
- Encourage opportunities to improve the quality of development proposals by better use of space through the provision of less car parking spaces where appropriate.

2.5.9. The SPD classifies any B2 land use over 2,500sqm and any B8 land use more than 5,000sqm as a major development, therefore the Omega Zone 8 proposals are classed as a major development.

2.5.10. The SPD also provides parking standards both for bicycles and vehicles. The parking standards for vehicles are maximum numbers, while the bicycle parking standards are minimum standards. The parking standards for B2 and B8 land use classes are set out below in Figure 2-3.

Figure 2-3 – Parking Standards

Class	Broad Use	Specific Land Use	Town Centre	Elsewhere	Disabled Parking	Bicycles	Motorcycles	Service Vehicles	Taxis	Comments
			All areas are Gross Floor Areas unless otherwise stated							
B2	General Industrial		1 space per 60 sq. m	1 space per 48 sq. m	3 spaces or 6% of total maximum standard which ever is greater	Staff - 1 secure staff space and locker per 500 sq. m	1 space per 1500 sq. m (minimum of 2 spaces)	To be assessed on the basis of individual applications	-	-
B8		Storage and Distribution	1 space per 100 sq.m.	1 space per 100 sq.m	3 spaces or 6% of total maximum standard which ever is greater	Staff - 1 secure staff space and locker per 500 sq. m	1 space per 1500 sq. m (minimum of 2 spaces)	To be assessed on the basis of individual applications	-	-
		Wholesale Cash & Carry/ /Garden Centres/Bulk Merchants	1 space per 20 sq.m. of area GFA open to customers (customer parking) plus 1 per 100 sq.m of total GFA (staff parking)	1 space per 20 sq.m. of area GFA open to customers (customer parking) plus 1 per 100 sq.m of total GFA (staff parking)						

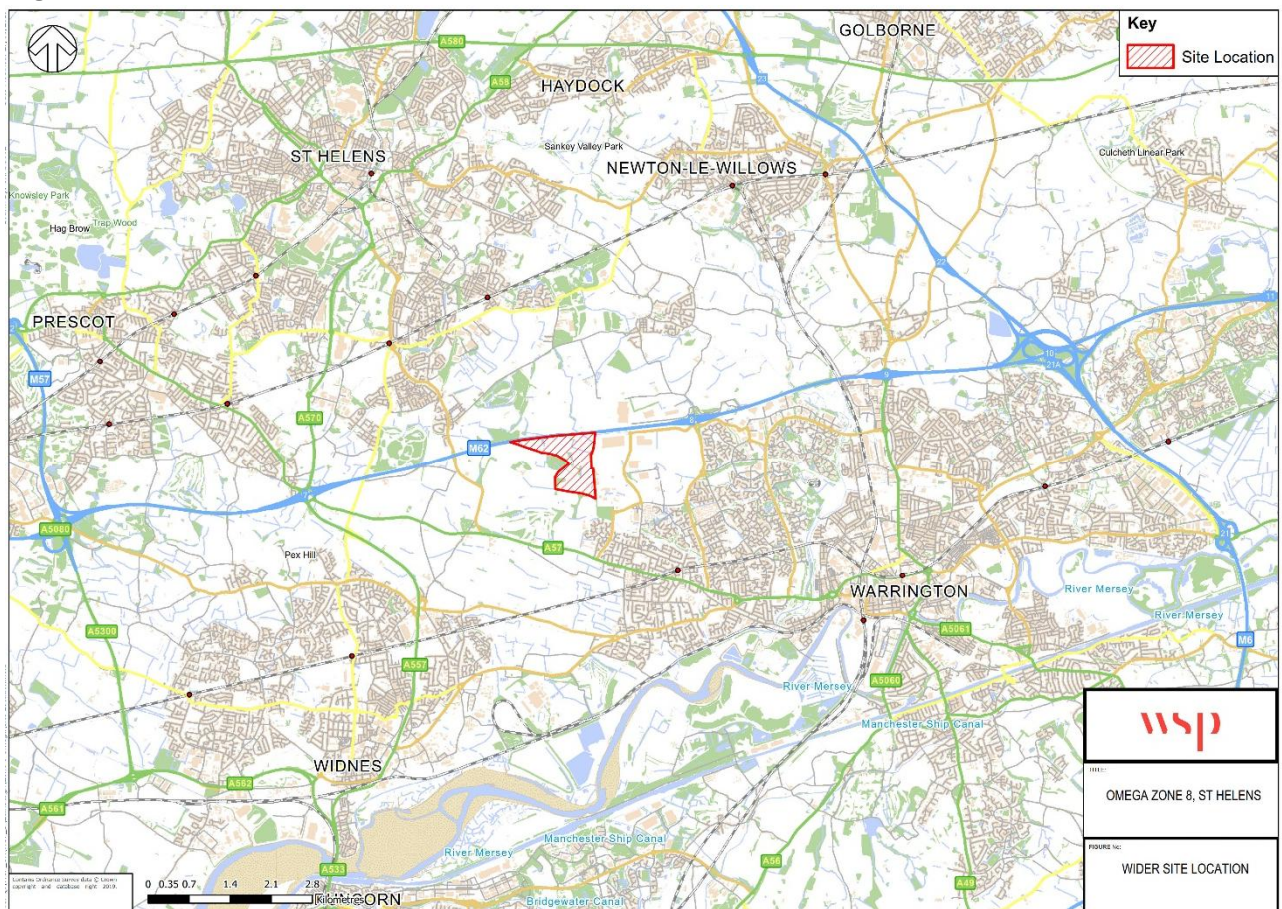
2.5.11. The SPD also provides guidance on what a TA should contain. This TA will adhere to this guidance to ensure that a compliant assessment is undertaken.

3. EXISTING CONDITIONS

3.1. SITE LOCATION

- 3.1.1. As previously discussed, the development site “Omega Zone 8” is located to the west of the existing Omega South site, which is located approximately 4km west of Warrington Town Centre. The wider location of the site is shown below in Figure 3-1. All figures within this report are attached in Appendix B.

Figure 3-1 – Wider Site Location



3.2. EXISTING WALKING CONDITIONS

- 3.2.1. As will be discussed in Chapter 4, the site will be accessed by pedestrians via the internal pedestrian network within the wider Omega South development. The following paragraphs detail the existing pedestrian infrastructure and facilities in the vicinity of the site.

CATALINA WAY

- 3.2.2. Catalina Way is located on the north-eastern boundary of the site and links the site with wider Omega South development via Omega Boulevard. As with all of the Omega South site, pedestrians are well provided for, with an approximately 3.5m shared footway / cycleway on the southern edge of the carriageway, separated from the carriageway by an approximately 2m wide strip.
- 3.2.3. Dropped kerbs and tactile paving are provided at all crossing points. From the roundabout with Omega Boulevard, an approximately 2.5m lit footway is provided which will eventually provide links to the proposed residential area to the east of the site. Photograph 3-1 indicates the general characteristics of Catalina Way, while Photograph 3-2 depicts the future link to the proposed residential area.

Photograph 3-1: General Characteristics of Catalina Way



Photograph 3-2: Future Pedestrian Link



OMEGA BOULEVARD

- 3.2.4. Omega Boulevard is located approximately 500m to the east of the site and is the primary north to south route in Omega South, connecting Skyline Drive in the north with Lingley Green Avenue in the south. Omega Boulevard has a 2.5m wide footway on the west side of carriageway and a 3.5m wide shared footway / cycleway on the east side of the carriageway. Dropped kerbs and tactile paving are provided at all crossing points.
- 3.2.5. Photograph 3-3 below indicates the general characteristics of Omega Boulevard in the vicinity of the site.

Photograph 3-3: General Characteristics of Omega Boulevard



LINGLEY GREEN AVENUE

- 3.2.6. Lingley Green Avenue is located to the south east of the site and is accessed via Omega Boulevard. Lingley Green Avenue provides walking links to the A57 Liverpool Road to the south and Whittle Avenue in the east. The road also provides links to the existing residential areas of West Warrington.
- 3.2.7. Lingley Green Avenue has an approximately 3m wide shared footway / cycleway on the south side of the carriageway for the majority of its length, which links with similar provision on Whittle Avenue. A signalised pedestrian / bicycle crossing of Lingley Green Avenue has been delivered to support the development of Omega South at its junction with Omega Boulevard. This crossing allows pedestrians to access the shared footway / cycleway on the south of the carriageway. Wayfinding signs are also provided, highlighting the locations of residential and employment areas. Photograph 3-4 highlights the shared footway / cycleway and wayfinding, while Photograph 3-5 indicates the general characteristics of the signalised crossing.

Photograph 3-4: Lingley Green Avenue Shared Footway / Cycleway



Photograph 3-5: Lingley Green Avenue Signalised Crossing



PEDESTRIAN BRIDGE OVER M62

There is currently an established walking route within the site boundary, at its north western edge, that connects the wider Omega development to Abbotsfield and beyond, located on the north side of the M62 motorway. An existing pedestrian bridge above the M62 facilitates this movement and is shown in Photograph 3-6.

Photograph 3-6: Pedestrian Bridge Over M62



3.3. EXISTING CYCLING CONDITIONS

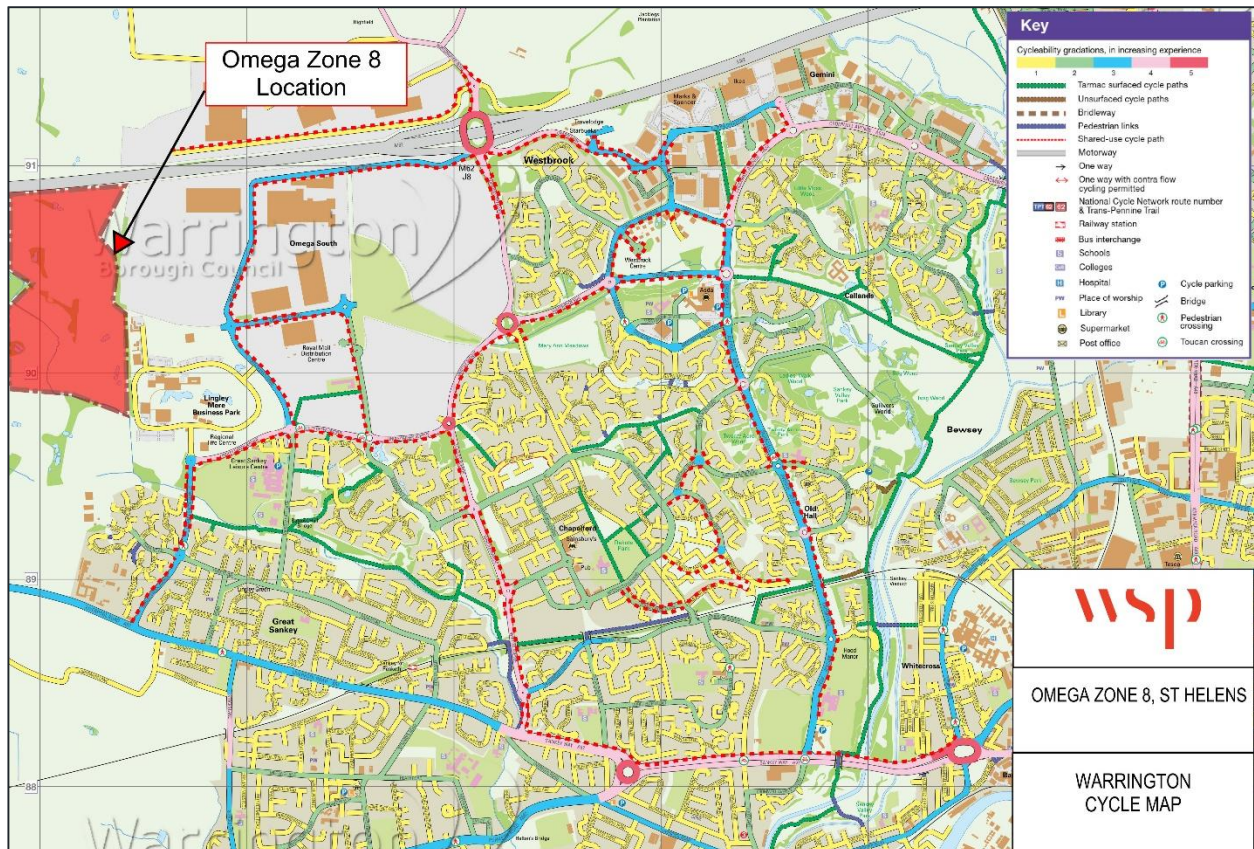
- 3.3.1. There is a comprehensive network of cycle facilities and infrastructure within the existing Omega South site and the surrounding area. As detailed above, the internal network of Omega South has off road cycle routes on the main routes through the area, linking to the wider network to the north west and south of the site. All routes within the vicinity of the site are well signed to indicated where the cycle routes start and end and signs to key destinations are also provided. Photographs 3-7 to 3-9 below identify the high-quality cycling infrastructure that is present.

Photographs 3-7, 3-8 and 3-9: Cycling Infrastructure Examples



- 3.3.2. From Lingley Green Avenue (accessed via Catalina Way and Sophia Drive), cyclists can travel between the site and Warrington Town Centre via traffic free cycle routes along Whittle Avenue and Sankey Way. These routes also provide strong links to the residential areas of Warrington as well as Warrington Bank Quay Station, Warrington Central Station and Warrington Bus Station.
- 3.3.3. Figure 3-2 shows the WBC cycle route plan and highlights the existing cycle routes within the vicinity of the site.

Figure 3-2 – Warrington Cycle Map



- 3.3.4. The Westbrook to Dallam Greenway was completed in October 2015 and provides a traffic free greenway between Westbrook and Dallam. This provides a strong link between the site and a large percentage of the Warrington population. Figure 3-3, taken from the LTSF document, identifies the east to west cycle link and the more recently completed section that completes the strategic cycle route.

Figure 3-3 – Westbrook to Dallam Greenway Cycle Route



- 3.3.5. The existing cycle routes and facilities in the vicinity of the site provide excellent opportunities for journeys to be made to and from the site by bicycle.

3.4. PUBLIC TRANSPORT

BUS

- 3.4.1. Currently, the closest bus stop to the site is located on Omega Boulevard, immediately south of the roundabout with Skyline Drive, approximately 850m from the site boundary. The bus stop is provided with a flagpole and is serviced by Warrington's Own Buses Service 13. The frequency and destinations served by the local bus service is outlined in Table 3-1.

Table 3-1 – Bus Service Route and Frequency

Service	Operator	Route	Frequency		
			Mon-Fri	Sat	Sun
	Available from Omega Boulevard				
13	Warrington's Own Buses	Warrington – Great Sankey – Lingley Green – Great Sankey - Warrington	1 Service Every 30 Minutes	1 Service Every 30 Minutes	No Service

- 3.4.2. In addition to the service above, The B52 bus, serviced by Springfield Bus & Coach Ltd. and initially funded through developer contributions, services the Omega Site. The service has a varying route as indicated below in Table 3-2.

Table 3-2 – B52 Bus Service Route and Frequency

Direction	Route	Frequency (Mon to Sat)	Frequency (Sunday)
To Omega	Westy – Warrington Bus Interchange – Burtonwood – Omega North – Omega South (Hut Group / Asda)	1 AM and 3 PM Services	1 AM and 3 PM Services
To Omega	Warrington Bus Interchange – Omega South (Amazon)	2 AM and 2 PM Services	2 AM and 2 PM Services
From Omega	Omega South (Hut Group / Asda) – Burtonwood – Warrington Bus Interchange – Westy	1 AM and 2 PM Services	1 AM and 2 PM Services
From Omega	Omega South (Amazon) - Warrington Bus Interchange	1 AM and 3 PM Services	2 AM and 2 PM Services

Omega Timetable Information

- 3.4.3. Inclusive Mobility (DfT 2005) suggests that 400m is the preferred walking distance to bus services from new developments and therefore, at present, the proposed site is located beyond the recommended maximum walking distance.

RAIL

Sankey for Penketh Railway Station

- 3.4.4. There nearest railway station to the site is the Sankey for Penketh Railway Station, which is located approximately 3.4km walking distance from the site boundary. It is acknowledged that this is greater than maximum recommended walking distance to rail facilities of 800m as recommended by “Planning for Walking (CIHT 2015)”, however, this is to be expected as the site is located outside the residential area boundary in Warrington and is positioned strategically to take advantage of the strategic road network.
- 3.4.5. The facilities at Sankey for Penketh are relatively dated, however a part time ticket office is open at the station Monday to Saturday and a station car park is provided, which has 10 spaces.
- 3.4.6. The station is on the Liverpool to Manchester Piccadilly via Warrington Central line and provides access to the following services:
- One train per hour to Manchester Oxford Road Monday to Saturday (two per hour in the PM peak); and
 - One train per hour to Liverpool Lime Street (two per hour in the AM and PM peaks).
- 3.4.7. It is understood that services to the station will be cut to 4 trains per day as part of the development of the Warrington West Station which is discussed in the following paragraphs.

Warrington West Station

- 3.4.8. Warrington West Station is a new railway station which is currently under construction (due for completion in late summer 2019) in the Chapelford area, approximately 3.8km walking distance from the site boundary. The station is being delivered to support the substantial growth in population and employment levels in the west of Warrington (up to 2,000 homes and 12,000 new jobs) and reduce the potential highway congestion issues which could come with this growth.
- 3.4.9. The station will benefit from an approximately 250 space Park and Ride facility, which will have disabled parking, electric vehicle charging points, dedicated bus stops, taxi drop off / pick up area, secure cycle parking and two fully accessible platforms with lift facilities.
- 3.4.10. The new northern franchise has a commitment to stop 3 trains per hour in each direction at the station; with one of these being an express Northern Connect service, providing connections to Liverpool, Warrington Central and Manchester.
- 3.4.11. It is anticipated that a new or existing bus service will link the station, and park and ride, with Omega South.

3.5. HIGHWAY NETWORK

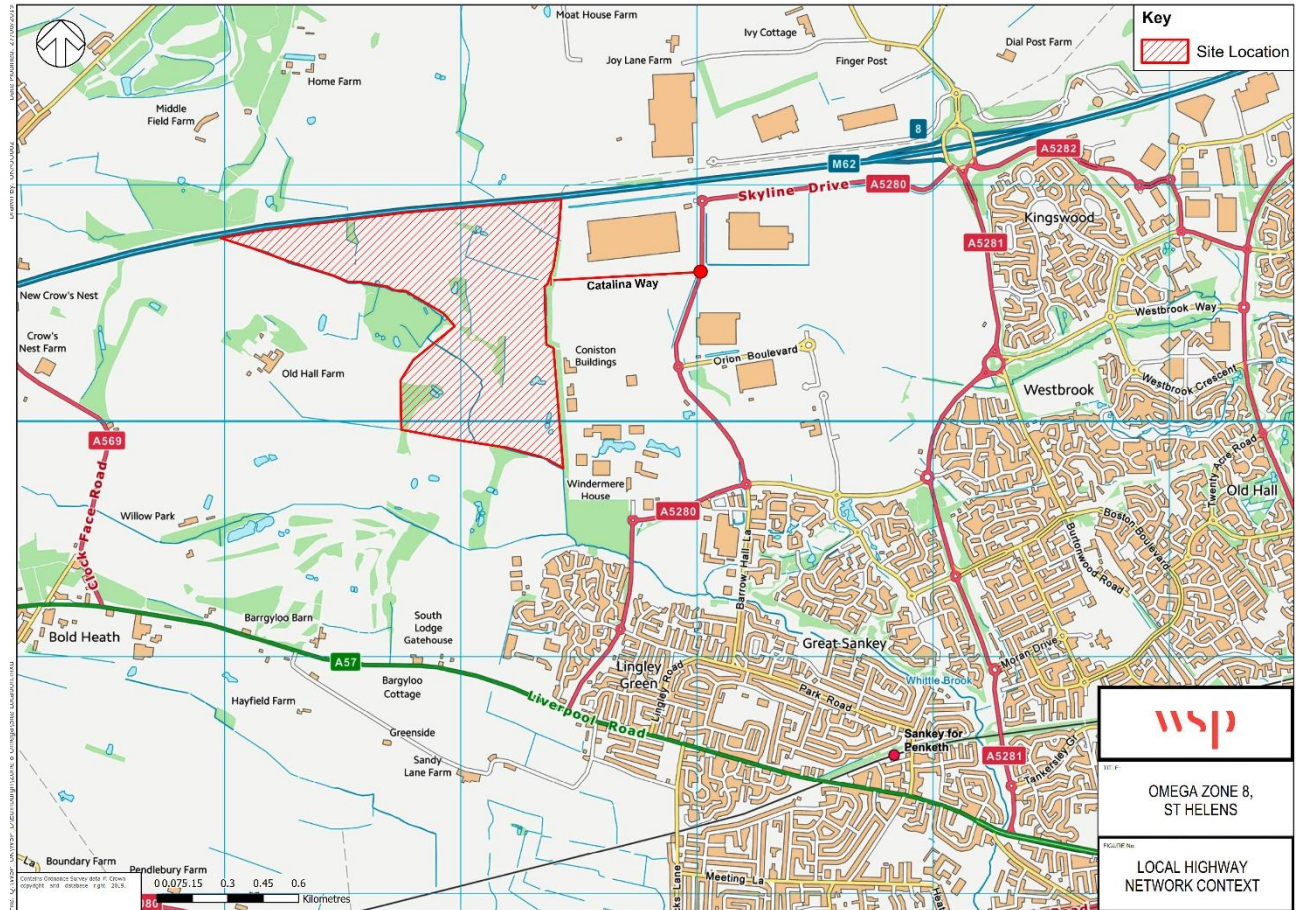
NATIONAL AND REGIONAL

- 3.5.1. The proposed development site is strategically located to access a number of motorway links that provide access to a range of different routes locally, regionally and nationally.
- 3.5.2. The site is located to the south of the M62 with the motorway extending along the length of the northern Omega site boundary. The motorway can be accessed directly from the M62 Junction 8 via the access that was granted planning permission as part of the Omega Phase 1 and 2 planning application.
- 3.5.3. The M62 is a three-lane motorway subject to a 70mph speed limit that crosses the Pennines and extends from Liverpool in the west to Hull in the east, via Manchester and Leeds. Vehicles travelling from the M62 Junction 8 can travel directly from the site to areas of major retail, leisure, residential and employment within Liverpool, Manchester, Leeds and Hull (including the delivery ports at Liverpool and Hull). The M62 provides direct access to the A49 at Junction 9 and the M6 at Junction 10.
- 3.5.4. The M62 Junction 8 is located to the northeast of the development site, the junction is an 8-arm grade separated signalised roundabout. Until recently, only 7 arms of the junction were operational; the final arm that enters into the Omega South development site was built as part of Zone 7 development and became operational in 2014 when the access road into the ASDA distribution centre was completed. This access road (Catalina Way) provides access to the ASDA Distribution centre (and other industrial units within Omega South) from the M62 Junction 8. Charon Way provides access from Junction 8 into the Gemini Retail Park and Gemini Business Park which are located approximately 2.75 kilometres from the development site. There are a range of shops located here including Ikea, Marks and Spencer's, Boots and Next, and a number of office units.
- 3.5.5. The A49 is located approximately 5 kilometres to the east of the development site and can be accessed directly from the M62 at Junction 9. The A49 is a north-south 2 lane road subject to a 70mph speed limit that links Hereford in the south with Wigan in the north via Shrewsbury and Warrington.
- 3.5.6. The M56 is a three-lane motorway subject to a 70mph speed limit that extends from Chester in the west to Manchester in the east via Ellesmere Port and can be accessed via the M6 at Junction 20A and the A49 at Junction 10.
- 3.5.7. The M6 is located approximately 8 kilometres east of the development site and can be accessed directly from the M62 at Junction 10. The M6 is a north-south three lane motorway subject to a 70mph speed limit that links Rugby in the south to Carlisle in the north via Birmingham, Stoke-on-Trent, Preston and Lancaster. The M6 connects with the M1 at Junction 19.
- 3.5.8. The M1 is a north-south arterial route and comprise of a three-lane motorway subject to a 70mph speed limit that links London in the south to Leeds in the north via Milton Keynes, Leicester, Derby, Nottingham and Sheffield.
- 3.5.9. The high quality comprehensive motorway links surrounding the site provide a range of direct connections to a number of major cities throughout the UK.

LOCAL

3.5.10. The context of the site within the local highway network is shown in Figure 3-4 below.

Figure 3-4 – Local Highway Network Context



3.5.11. As highlighted above, the site boundary is accessible via Catalina Way within Omega South. Catalina Way links the site boundary in the west with Omega Boulevard in the east, is approximately 10m wide and is subject to a 30mph speed limit. The general characteristics of Catalina Way are indicated by Photograph 3-10.

Photograph 3-10: General Characteristics of Catalina Way



- 3.5.12. From Catalina Way, access is provided to the wider network via Omega Boulevard followed by Skyline Drive to the north and Lingley Green Avenue to the south, which provide access to the M62 and A57 respectively. In the vicinity of the site, Omega Boulevard is an approximately 10m wide single carriageway road, is subject to a 40mph speed limit (until the junction with Orion Boulevard) and has street lighting along its full length.
- 3.5.13. Skyline Drive is essentially a continuation of Omega Boulevard and therefore has similar characteristics. Skyline Drive provides a direct access onto the M62 Junction 8 grade-separated junction, which provides access onto both directions of the M62 and to Burtonwood via Burtonwood Road.
- 3.5.14. Lingley Green Avenue is located to the south west of the site and is an approximately 7m wide single carriageway road which is subject to a 30mph speed limit and has street lighting along its full length. Lingley Green Avenue is a distributor road which connects Omega Boulevard with the A57 in the south and Whittle Avenue in the east, both of which provide onward connectivity to Warrington Town Centre and the wider network.
- 3.5.15. On a local level, the A57 provides access to Warrington Town Centre in the east and the M62 Junction 7 in the west, where onward connectivity to St Helens is available via the A570.

4. PROPOSED DEVELOPMENT

4.1. INTRODUCTION

- 4.1.1. The site is located within the Borough of St Helens and is located to the west of Omega Zone 7. The site is generally bound to the north by the M62, to the east by Omega Zone 7 and to the south and west by agricultural land and Mersey Valley Golf & Country Club.
- 4.1.2. The entirety of the site is currently greenfield, located immediately north west of the existing Lingley Mere Business Park. It is proposed to develop the site for c. 205,500sqm (c.2,210,500sqft) of B2 manufacturing and B8 logistics development, of which no more than 30% (c.61,600sqm) will be used for manufacturing uses. Figure 4-1 shows the indicative development masterplan with the proposed boundary for Omega Zone 8 outlined. All figures are included within Appendix B.
- 4.1.3. The development will be fully accessible by all modes of transport, with all internal footways connecting into existing pedestrian networks. Cycle access will be encouraged with cycle parking facilities located within the site.

Figure 4-1 – Omega Zone 8 Masterplan



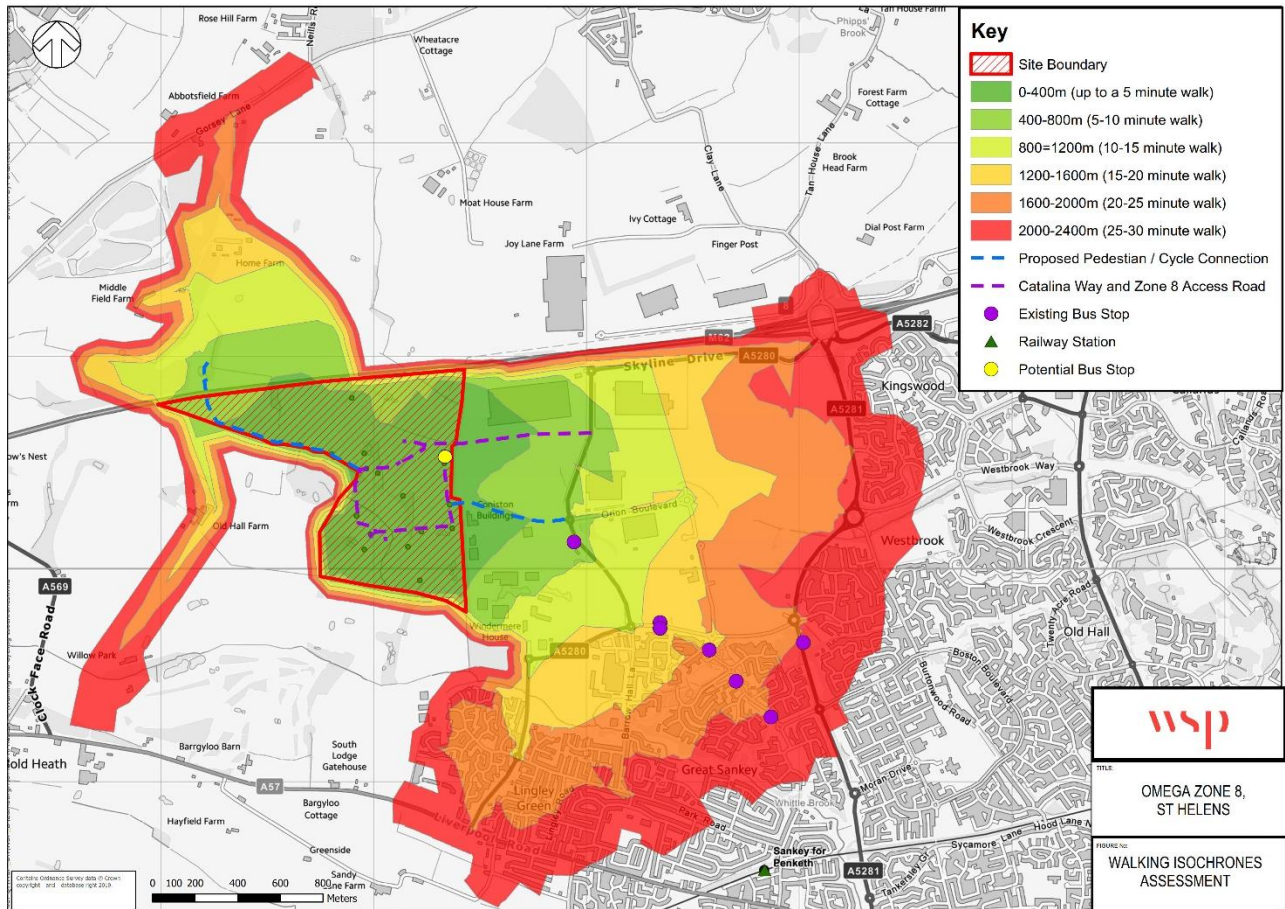
4.2. VEHICLE ACCESS

- 4.2.1. It is proposed that vehicular access to the development would be from Catalina Way, from the M62 Junction 8, north east of the development, and from the Omega Boulevard / Orion Boulevard roundabout to the south.
- 4.2.2. All HGV traffic to/from Omega Zone 8 will be via Skyline Drive, which connects to the M62 Junction 8. No HGV traffic will be routed via Lingley Green Avenue to the south. The formation of multiple vehicle accesses for normal traffic into the wider Omega development is intended to result in a legible development which will enable traffic to disperse onto the external road network.

4.3. PEDESTRIAN ACCESS

- 4.3.1. As set out in Chapter 3, a comprehensive network of pedestrian facilities is provided throughout the established residential area which is located to the south of the site. The area to the west of the site is rural in nature and therefore has limited facilities provided for pedestrians. An existing track and footbridge is located over the M62, northwest of the site, which provides a pedestrian / cycle link to St Helens.
- 4.3.2. As shown in Figure 4-1, a pedestrian / cycle link is proposed within the site which will connect to the existing pedestrian bridge over the M62 to facilitate active travel to between the site and St Helens.
- 4.3.3. An additional pedestrian / cycle link will be provided eastwards to Omega Boulevard, at the southern edge of the Omega Zone 7 development.
- 4.3.4. The new development will be fully accessible by all current modes of transport, with all internal footways connecting into the existing pedestrian network. Pedestrian access will be taken from a number of locations from each of the four plots within Omega Zone 8.
- 4.3.5. A walking isochrones assessment has been undertaken to determine the accessibility of the site for pedestrians. 5, 10, 15 and 20 minute walking isochrones have been calculated from the access for each plot within the development based on the existing and proposed pedestrian network. The assessment assumes a walking speed of 4.8km/hr (400m every five minutes). The result of the analysis is presented in Figure 4-2.

Figure 4-2 – Walking Isochrones Assessment



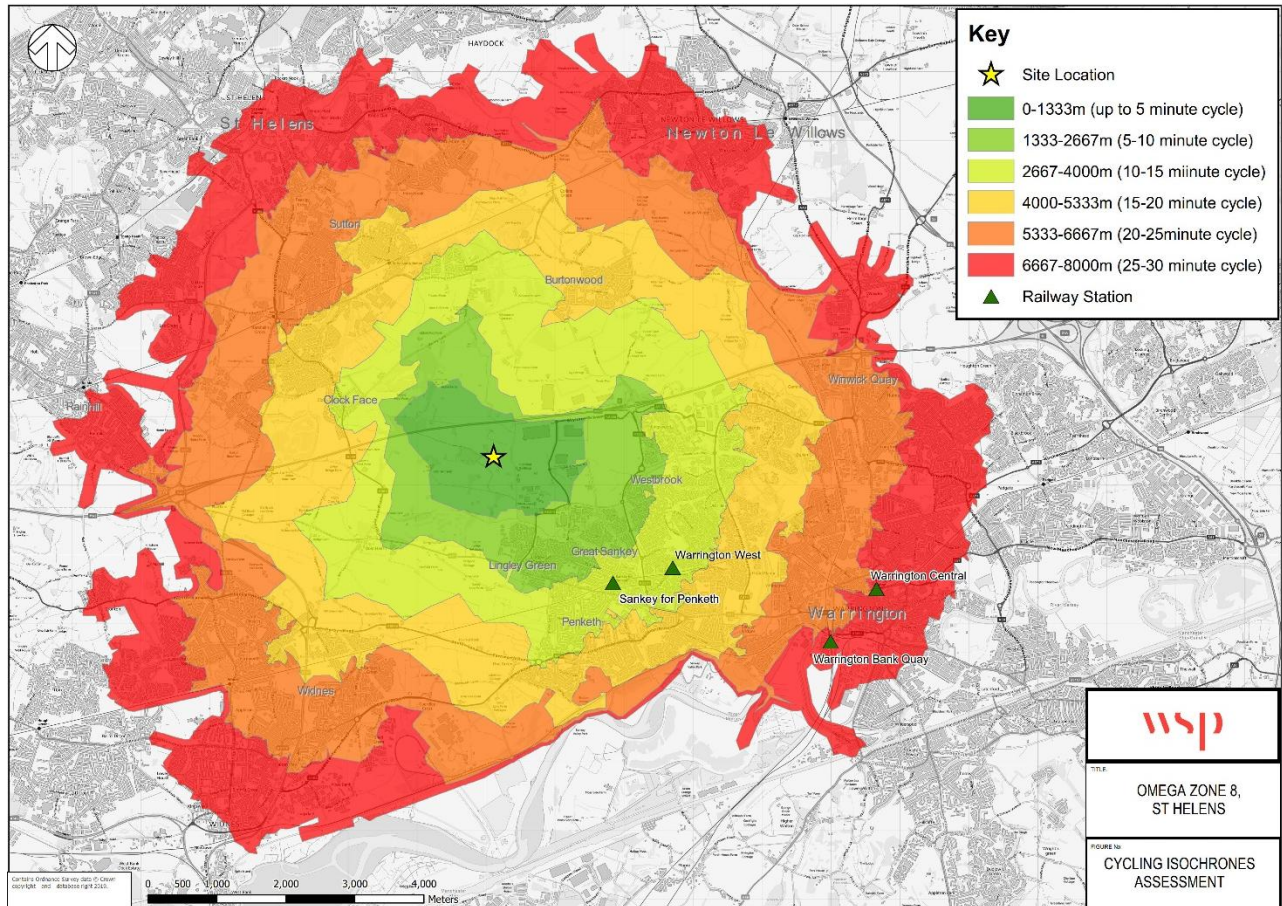
4.3.6. Figure 4-2 confirms that the outer edges of Westbrook, Lingley Green and Kingswood are located within a 30-minute walk of the development site. The accessibility analysis also shows that the existing bus stop located Omega Boulevard is located within a 10-15 minute walk of the site, where staff can access local bus services as laid out in Chapter 3.

4.4. CYCLE FACILITIES

- 4.4.1. As set out in Chapter 3, a comprehensive network of cycle facilities are provided throughout the Omega South development and the established residential areas which are located immediately to the south and east of the wider Omega development. The majority of local facilities take the form of segregated cycle lanes and dual use paths.
- 4.4.2. As previously mentioned, a pedestrian / cycle link is proposed within the site which will connect to the existing footbridge over the M62 providing a cycle link to St Helens.
- 4.4.3. In addition, cycle provision will be made along the proposed path through “Greenheart” to connect with existing cycle facilities to the east and the south of the development. Connection to ‘Greenheart’ will be facilitated via cycle provision on Catalina Way and via the proposed pedestrian / cycle connection highlighted in Figure 4-2. It is anticipated that Workplace Travel Packs will be issued to all new employees with the packs setting out measures and incentives aimed at encouraging cycle use for local trips. Chapter 5 of this report provides further detail with regard to the potential content of the Travel Packs.

- 4.4.4. Cycle use will be encouraged with secure covered cycle parking facilities located within the site, including shower, changing and locker facilities. In addition, WSP have assessed the accessibility of the proposed development by undertaking a cycling isochrone assessment of the development site. Figure 4-3 shows the 5, 10, 15, 20, 25 and 30 minute cycle isochrones from the proposed development site.

Figure 4-3 – Cycling Isochrones Assessment



- 4.4.5. Figure 4-3 confirms that the areas of Westbrook, Great Sankey and Lingley Green, with its associated residents, are located within a 10-15 minute cycle of the development site. As is Sankey for Penketh rail station and Warrington West rail station.
- 4.4.6. In addition, a number of local settlements including, Penketh, Burtonwood and Callands are shown to be within a 15-20 minute cycle of the development site.
- 4.4.7. Warrington and St Helens town centres are located around a 25 minute cycle of the development site. It is considered that the number of employment opportunities and extensive network of cycle facilities which are provided between the site and both town centres will encourage a proportion of future employees to access the site by cycle.

4.5. PUBLIC TRANSPORT

- 4.5.1. As shown in Chapter 3, Warrington's Own Buses service number 13 and the B52 bus service currently operate within the area. Figure 4-2 confirms that the nearest existing bus stops to the site are located within a 10-15 minute walk on Omega Boulevard via Catalina Way.
- 4.5.2. It is proposed to improve the public transport provision by diverting the existing B52 service into Omega Zone 8 as part of its route. As shown in Figure 4-2, a bus stop will be provided within the Omega Zone 8 boundary to serve the site, resulting in less than a 5 minute walking distance from all four units to access public transport. In addition, discussions will be held with SHMBC to determine the viability of rerouting or extending a bus service from St Helens to the site.
- 4.5.3. Sankey for Penketh rail station and Warrington West rail station are also located within a 15 minute cycle south of the proposed development providing a regular service to Warrington Central, Manchester Oxford Road and Liverpool Lime Street.

4.6. PARKING PROVISION

- 4.6.1. Maximum car parking standards will be based on the St Helens SPD, as discussed in Chapter 2. Table 3-1 displays the relevant maximum parking standards in relation to the Omega Zone 8 development.

Table 4-1 – St Helens SPD Parking Standards

Type of Vehicle	Use Class and Development Type	Maximum Parking Standard
Car	B2 General Industry	1 space per 48sqm (GFA)
	B8 Storage and Distribution	1 space per 100sqm (GFA)
Cycle	Both B2 and B8	1 secure staff space and locker per 500sqm (GFA)
Disabled Parking	Both B2 and B8	3 spaces or 6% of total maximum standard which ever is greater

- 4.6.2. It is important to note that whilst the development assessment is based on typical manufacturing and logistics operational patterns, it is highly likely that shift pattern working will occur on Omega Zone 8 over a 24 hour period. This may require a re-assessment of parking provision for detailed planning applications to suit specific operator requirements, particularly covering shift changeover periods.

4.7. ACCESS SUMMARY

- 4.7.1. The proposed development will facilitate connection to a comprehensive network of pedestrian and cycle facilities which are provided throughout the wider Omega development and beyond. This should encourage local trips to be made on foot or by cycle. A number of pedestrian / cycle accesses will be formed to ensure that the internal transport network is comprehensively connected to the external network as well as being connected to other sustainable transport links.
- 4.7.2. It is proposed to divert the existing B52 service into Omega Zone 8 as part of its route, as well as provide a bus stop within the site, resulting in less than a 5 minute walking distance from all four units to access public transport.
- 4.7.3. It is considered that the range of proposed accesses will ensure that the development is legible by all modes of transport and that it will provide good opportunity for employees to access the site by sustainable modes of travel.

5. WORKPLACE TRAVEL PLAN FRAMEWORK

5.1. INTRODUCTION

- 5.1.1. Sustainable transport measures are now very much to the fore of both Local and National Government policies. This chapter will outline a range of measures that will be incorporated into a Travel Plan (TP) to help promote sustainable transport for employees working within the proposed development.
- 5.1.2. Travel Plans are becoming more and more attractive to operators and developers of large developments throughout the UK. The TP is a management tool that brings together transport and other business issues into a co-ordinated strategy for a developer, a strategy that encourages employees to examine more sustainable measures in getting to and from their destination whether it be employment, leisure, retail or another use.
- 5.1.3. Travel Plans were originally developed in the United States. Since then, their benefits have been long recognised. Current UK planning and transportation guidance from national, local and devolved Government all require developers to consider a more sustainable approach, and TPs can be used to help achieve these requirements.
- 5.1.4. The main benefits of a TP are:
 - Reduced pollution;
 - Reduced local congestion;
 - Healthier workforce (public transport use, cycling and walking all allow greater opportunities for exercise than the private car);
 - Reduced on-site car parking problems;
 - Financial savings through items such as parking costs, car allowances, etc; and
 - Release land for more productive uses.

5.2. TRAVEL PLAN FRAMEWORK MEASURES

- 5.2.1. The measures proposed for inclusion as part of the proposed development are described in detail in the following sections and are listed below;
 - Creation of a TP Co-ordinator role;
 - Public transport initiatives;
 - Cycling initiatives;
 - Pedestrian initiatives;
 - A formal car sharing scheme; and
 - Miscellaneous measures.
- 5.2.2. The measures proposed in the framework are intended to be flexible enough that they could form part of a wider TP for the whole of the Omega South site, or measures that could be adopted for use by the final occupiers of individual employment land uses.

5.3. TRAVEL PLAN CO-ORDINATOR

- 5.3.1. The key to any effective TP is to have an identified person responsible for its operation and updating. In order for the TP to be effective and responsive, it must be kept up to date and relevant otherwise it may become ineffective.
- 5.3.2. In order to maintain and develop the TP, it is important to designate a member of staff from one of the businesses operating on the site (or within a site wide management company, or through the local authority) to be the TP Co-ordinator. The key tasks for a TP Co-ordinator would be:
- Develop, implement and promote the TP;
 - Maintaining the support and commitment of companies located on the site, staff, union representatives, etc.;
 - Design and implement travel awareness campaigns for the promotion of the travel plan;
 - Chairing, co-ordinating and attending internal TP staff groups;
 - Undertaking the necessary survey work required to develop the TP and maintaining the database;
 - Acting as a point of contact and reference for staff with queries relating to any transport issues;
 - Acting as a point of contact for external agencies such as bus operators, the local authority, Chamber of Commerce, etc.;
 - Co-ordinating the monitoring progress and setting targets;
 - Develop a condensed version of the TP report for staff reference;
 - Provide input into the development of a website and marketing literature to encourage the use of sustainable transport modes to the site e.g. providing links to bus timetables; and
 - Presenting the business case for the travel plan and securing a budget for continued development and ensuring its efficient and effective use.
- 5.3.3. The role of a Co-ordinator is one that should never be overlooked. The person identified for the job should be someone that can combine enthusiasm and commitment with pragmatic thinking. They also need to be effective and robust communicators who have the backing of management. Qualities identified by other companies that have Co-ordinators for their TPs include;
- Popularity amongst staff and the ability to command respect;
 - Marketing skills;
 - Adaptable;
 - Capability to be able to deal with a wide variety of people both internal to the company and external;
 - Computer literate;
 - Ability to lead by example; and
 - Practical and realistic.
- 5.3.4. The backing of management is essential for the success of the TP. Ideally, if managers and directors of each of the site occupying businesses can be seen to be actively using some of the TP measures, then it builds in some level of normality and security and will help encourage other members of staff to participate.

5.4. PUBLIC TRANSPORT INITIATIVES

- 5.4.1. Bus taster tickets are a tested method of encouraging employees to consider public transport as a viable option in getting to and from work.
- 5.4.2. A simple measure to encourage greater bus usage will be the creation of a travel plan Notice Board within the staff common rooms located across the development. These will contain a copy of bus and train timetables for services operating within the surrounding area as well as a route map. The new notice boards would allow easy access to public transport information for all staff.
- 5.4.3. The notice board would also display information on season tickets and the links with other forms of sustainable transport.
- 5.4.4. In order to further improve the staff reactions to public transport, the TP Co-ordinator would remain in close contact with local bus and rail operators, and would inform staff of new projects whilst also providing feedback to the bus operators on how they can improve their service thus potentially increasing patronage.
- 5.4.5. The key public transport attraction of the proposed development will be the re-routing / extension of the B52 service into Omega Zone 8. The availability of such a facility within the site will significantly enhance the sustainable travel credentials of the proposed development.

5.5. CYCLING INITIATIVES

- 5.5.1. Measures to promote cycling as a form of transport to and from the site very much depend upon the fitness and age of the person travelling. Suitable measures for encouraging cycling will include:

- Promoting the health benefits of cycling to work through leaflets, posters, internal memos, email for staff;

- Promoting the health benefits to visitors of cycling to the site through promotional literature and the external website;

- Secure, undercover cycle parking facilities located throughout the site;

- Showering and changing facilities for staff and the provision of secure lockers;

- A “Bike Buddy” scheme for first time cycle commuters to get help and advice on cycle commuting from those already using bikes;

- Setting up of a Bicycle User Group (BUG);

- Interest free cycle loans for bike purchases; and

- A copy of the local cycle map for the area located at the travel plan Notice Boards to help illustrate to employees the cycle friendly routes in the surrounding area.

5.6. PEDESTRIAN INITIATIVES

- 5.6.1. Pedestrian measures that can be introduced are reasonably few in number, however they will include;

Promoting the health benefits of walking to work through leaflets, posters, internal memos and email;

Promoting the health benefits to visitors of walking to the site through promotional literature and the external website;

Ensuring that the Council maintains the footway network in the area around the site to a proper standard. This would include making sure that repairs are carried out to street lighting as well as the footway surfaces;

A “Borrow a Brolly” scheme to lend employees umbrellas during periods of inclement weather; and

Liaison with Cheshire Police to ensure that those choosing to walk to work have access to advice on safe routes etc.

- 5.6.2. The most effective of these measures would be to stress the cost savings and health benefits of walking to and from work with statistics such as those from the Health Education Authority.

- 5.6.3. The design of the development provides an integrated and diverse land use pattern, connected throughout with pedestrian footways and cycleways and ensures a truly integrated development promoting walkable neighbourhoods and easy access to facilities by sustainable modes of travel.

5.7. CAR SHARING

- 5.7.1. Car sharing increases the numbers of people travelling as passengers, reduces costs, reduces stress and helps combat congestion and air/noise pollution.

- 5.7.2. Car sharing involves two or more people sharing a car for their journey to work. Its greatest attraction is that it reduces the environmental impact of car travel whilst at the same time staff can still enjoy the convenience of their own vehicles. For car sharing to work properly, car sharers should either live close together or on a specific route to the workplace.

- 5.7.3. The Car sharing scheme would be administered by the travel plan Co-ordinator, who would survey staff to identify those who would be interested in joining the scheme. A database of those interested would then be set up with mechanisms to identify people on specific routes. Specialised software has been developed for this purpose; however any bespoke database or spreadsheet would suffice.

- 5.7.4. If car sharing between staff is undertaken on an alternating basis then no money need change hands. If this does not happen, then the participants could agree a maximum mileage rate amongst themselves.

5.8. STAFF INDUCTION PACK

- 5.8.1. Businesses would provide a staff welcome pack to new employees of the site. The pack would provide information about sustainable modes of travel including a map showing the local pedestrian / cycle / public transport network and public transport timetable information. The staff welcome pack would include:

- Map showing local pedestrian / cycle / public transport network;
- Public transport timetable information;
- Details of car share spaces and cycle parking areas; and
- Website links for local travel operators.

5.9. MISCELLANEOUS STAFF INITIATIVES

- 5.9.1. The UK participates with other European countries in European Mobility Week, where more sustainable transport measures are promoted (see www.mobilityweek.eu for further details).
- 5.9.2. The marketing of the health and environmental benefits of sustainable travel are worth making on a regular basis, given the public's increased interest in health, exercise and climate change. Posters and email campaigns on these subjects are extremely worthwhile and require little organisation or funding.
- 5.9.3. The costs of travel are another marketing exercise that is worth undertaking. The running costs for a typical small car are in excess £200 a month (based upon an annual mileage of 12,000 miles per year), which could be reduced through measures such as car sharing.
- 5.9.4. Promotion of websites for public transport services and cyclist organisations will also help raise general awareness of sustainable travel. Information on internal web or intranet sites for the following organisations would prove useful:

- National Car Share – www.nationalcarshare.co.uk;
- Network Warrington – www.networkwarrington.co.uk;
- National Rail Enquiries – www.nationalrail.co.uk;
- Sustrans – www.sustrans.org.uk; and
- Cycling England – www.cyclingengland.co.uk/

5.10. OPERATIONAL TRAVEL PLAN

- 5.10.1. It is proposed to submit a draft of the TP to the local authority for approval prior to the development becoming operational. The full TP report would contain the results of the staff survey and further detail on a number of the proposed measures.

5.11. STAFF SURVEYS

- 5.11.1. In order to start up a TP, a survey of those working in the development would need to be conducted within a few months of the development becoming operational. This survey would establish the travel characteristics of those visiting the site, allowing an informed choice to be made on what travel plan measures would be further refined for use on the site.
- 5.11.2. The survey would also establish the base modal shifts for the site, allowing targets to be set for future years.
- 5.11.3. The survey would take the form of a travel questionnaire, asking questions such as:
 - Age and gender;
 - What mode of transport did you use to travel to the site today?
 - Are the modes of transport you used today your normal modes of transport?
 - Where do you live?
 - Do you currently car share?
 - Do you have any difficulties in using public transport?
 - What travel plan measures would you consider supporting?
 - Why do you use your car to get to work?
 - How often do you use your car for work purposes?
 - What barriers to using non-car modes of transport do you face? and
 - What could be done to encourage you to use non- car modes of transport?
- 5.11.4. The results of the survey would be compiled in a separate chapter within the completed TP report.

5.12. MODE SHARE TARGETS

- 5.12.1. Realistic mode targets would be set within the completed TP upon completion of the staff surveys and would incorporate any comments received from the local authority following the granting of planning permission.
- 5.12.2. Mode share targets must be SMART i.e. **S**pecific, **M**easurable, **A**ppropriate, **R**ealistic, and **T**imed.

5.13. REVIEW AND MANAGEMENT PROCESS

- 5.13.1. An effective management system for the TP is essential in order to make the plan as effective as possible.
- 5.13.2. The TP will need to be reviewed on an annual basis to ensure that it is achieving its modal share objectives. This will require roughly the same survey to be undertaken by the TP Co-ordinator every year, with the results compared on a year on year basis.
- 5.13.3. Should the review of the survey results indicate that changes to the TP are needed, the Co-ordinator will need to assess what alternative measures should be put in place, or identify any information gaps that may have arisen.

5.14. TRAVEL PLAN TIMETABLE

5.14.1. Table 5-1 illustrates a suggested implementation timetable for developing, implementing and operating the Travel Plan.

Table 5-1 – Suggested Travel Plan Timetable

Task	Pre-Construction	Construction Phase	Development Opening	Month 2	Month 3	Month 4	Month 5	Month 6	Months 7 -12	First Year Anniversary
Develop Travel Plan Framework										
Appoint Travel Plan Co-ordinator										
Confirm Travel Plan Measures										
Initiate Travel Plan										
Undertake Staff Surveys										
Informal Review of Travel Plan										
Annual Staff Survey										

- 5.14.2. When a site is occupied, a staff survey similar to that proposed in the preceding sections would be undertaken to establish the accurate base point for modal split targets, using site specific results.
- 5.14.3. An informal review of the initial TP is suggested following the first six - twelve months of operation. This could take the form of the co-ordinator informally asking select members/groups of staff their thoughts on access and the effectiveness of the plan, rather than a full survey. At this point, if any consistent or major issues arise, the co-ordinator would be able to discuss these issues with the management team, for remedial action.
- 5.14.4. The TP should be reviewed on an annual basis to ensure that it is achieving its modal share objectives. This will require roughly the same survey to be undertaken by the TP Co-ordinator every year, with the results compared on a year on year basis.

5.15. SUMMARY

- 5.15.1. It is intended that this Travel Plan Framework form the basis for an initial Workplace Travel Plan which will support the proposed development. It sets out a range of measures and incentives which would be adopted at the development to promote access by sustainable travel modes. The framework is flexible enough to be implemented within a site wide travel plan covering all employers within the site if required.
- 5.15.2. Development of the site will provide good opportunities to promote sustainable travel patterns from the outset. The proposed development will provide the opportunity for comprehensive transport links for bus, rail, walking and cycling facilities.

6. DEVELOPMENT TRIP GENERATION

6.1. INTRODUCTION

- 6.1.1. The scope of this study has been discussed with St Helens Metropolitan Borough Council, Warrington Borough Council and Highways England, through a scoping exercise and subsequent scoping note submissions. The scoping submissions are included in Appendix A.
- 6.1.2. This section sets out the vehicle trip generation potential of the proposed Omega Zone 8 development, while also setting out the trip generation characteristics of the other consented and proposed developments in the wider Omega South.

6.2. PROPOSED DEVELOPMENT

- 6.2.1. During the scoping discussions, it has been agreed that trip rates for the land uses for the proposed B2 and B8 development will be derived through surveys of existing B2 and B8 uses on the Omega site. Classified vehicle arrival and departure surveys were undertaken at the following sites:

B2 Development – surveys have been undertaken from the following developments to determine a blended B2 trip rate:

- Dominos industrial unit located to the south of Skyline Drive, accessed from Fairchild Road; and
- Plastic Omnium unit located to the south east of Omega Boulevard / Catalina Way roundabout, accessed from Omega Boulevard.

B8 Development – surveys have been undertaken from the following developments to determine a blended B8 trip rate:

- Asda industrial unit located on Skyline Drive; and
- a combined survey of Lockheed Road (serving numerous industrial units on Omega North).

- 6.2.2. Separate trip rates have been obtained for light and heavy vehicles, which is considered appropriate for the assessment of logistics type developments. The analysis of the trip rate derivation is included within Appendix C and the resultant trip rates and generation is summarised in Tables 6-1 and 6-2 below.

Table 6-1 – Omega Zone 8: Proposed B2 Development Trips

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
B2 Car Trip Rate (per 100m ² GFA)	0.187	0.039	0.109	0.190
B2 HGV Trip Rate (per 100m ² GFA)	0.021	0.037	0.050	0.037
B2 Car PCU Trips (11,819m ² GFA)	115	24	67	117
B2 HGV PCU Trips (11,819m ² GFA)	13	23	31	23
Total B2 PCU Trips	128	47	98	140

Table 6-2 – Omega Zone 8: Proposed B8 Development Trips

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
B8 Car Trip Rate (per 100m ² GFA)	0.057	0.013	0.037	0.071
B8 HGV Trip Rate (per 100m ² GFA)	0.055	0.070	0.064	0.044
B8 Car PCU Trips (27,579m ² GFA)	82	18	53	102
B8 HGV PCU Trips (27,579m ² GFA)	80	100	92	64
Total B8 PCU Trips	162	118	145	166

- 6.2.3. Tables 6-1 and 6-2 indicate that the Omega Zone 8 development will generate a total of 239 and 339 two-way car trips in the AM and PM peak hours. Furthermore, the tables also show that the development will generate a total of 226 and 210 two-way HGV trips in the AM and PM peak hours.

6.3. DEVELOPMENT CONSIDERATIONS

- 6.3.1. In order to fully assess the performance of any junction within the vicinity of the site, it is necessary to take into consideration the proposed development and the currently consented developments which are included within the wider Omega South.
- 6.3.2. The traffic associated with the following developments, in addition to that of the proposed development, have been considered within this Transport Assessment:

Consented at Omega South

- Zone 7 Mountpark B2 / B8 land uses (424,079sqft GFA remaining);
- Zones 3–6 residential (1,050 units remaining), discount food store (21,528sqft GFA), hotel and pub restaurant (30,677sqft GFA) and care home (80 beds);
- Omega Phases 4-7 residential development (300 unit net increase over Zone 3-6 allocation); and
- Zone 1 & 2 B1 development (640,000sqft GFA).

MOUNTPARK (424,079SQFT REMAINING, LOCATED ON CATALINA WAY)

- 6.3.3. The Mountpark trip generation trip rates have been extracted from the Zone 7 Transport Assessment (WSP, Feb 2014). Of the original consent, there is approximately 424,079sqft GFA of B2 / B8 development left to be constructed / occupied. The B2 and B8 trip rates and resultant trip generation for cars and HGVs in the AM and PM peak hours are indicated below in Table 6-3 and Table 6-4 respectively (note the HGV trips are expressed in PCUs using a factor of 2.3).

Table 6-3 – Mountpark Car and HGV Trip Rates and Resultant Trips – B2 Land Use

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
B2 Car Trip Rate (per 100m ² GFA)	0.371	0.187	0.103	0.305
B2 HGV Trip Rate (per 100m ² GFA)	0.017	0.025	0.011	0.009
B2 Car PCU Trips (11,819m ² GFA)	44	22	12	36
B2 HGV PCU Trips (11,819m ² GFA)	2	3	1	1
Total B2 PCU Trips	46	25	13	37

Table 6-4 – Mountpark Development Car and HGV Trip Rates and Resultant Trips – B8 Land Use

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
B8 Car Trip Rate (per 100m ² GFA)	0.159	0.057	0.060	0.158
B8 HGV Trip Rate (per 100m ² GFA)	0.022	0.033	0.024	0.017
B8 Car PCU Trips (27,579m ² GFA)	44	16	17	44
B8 HGV PCU Trips (27,579m ² GFA)	6	9	7	5
Total B8 PCU Trips	50	25	24	49

6.3.4. Table 6-5 below indicates the total trip generation potential of the Mountpark development.

Table 6-5 – Mountpark Development Car and HGV Trips – Total

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Total Car PCU Trips (39,398m ² GFA)	88	38	29	80
Total HGV PCU Trips (39,398m ² GFA)	8	12	8	6
Total PCU Trips (39,398m ² GFA)	96	50	37	86

6.3.5. Table 6-5 indicates that the proposed development will generate 146 two-way and 123 two-way PCU trips in the AM and PM peak hours, respectively.

OMEGA ZONES 3-6

6.3.6. The trip generation rates for the land uses associated with Zones 3-6 have been extracted from the Zones 3-6 Omega South TA Addendum (WSP, Jan 2016). Of the original consent, only 50 units have been constructed and occupied. The trip rates and resultant trips for the Zones 3-6 land uses are indicated in Table 6-6.

Table 6-6 – Zones 3-6 Development Vehicle Trip Rates and Resultant Trips – All Land Uses

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Vehicle Trip Rates				
Residential (per unit)	0.225	0.523	0.495	0.307
Discount Food Store (per 100m ² GFA)	0.660	0.321	2.799	3.280
Hotel & Pub/Rest. (per 100m ² GFA)	0.302	0.631	1.033	0.474
Care Home (per bed)	0.068	0.068	0.083	0.113
Vehicle Trips				
Residential Car Trips (1,050 units)	236	549	520	322
Discount Food Store (2,000m ² GFA)	4	2	17	20
Hotel & Pub / Rest. (2,850m ² GFA)	9	18	29	14
Care Home (80 beds)	5	5	7	9
Total	254	574	573	365

6.3.7. Table 6-6 indicates that the Zone 3-6 will generate a total of 829 and 937 two-way vehicle trips in the AM and PM peak hours, respectively.

OMEGA PHASES 4-7

- 6.3.8. The trip generation rates for the Omega Phases 4-7 residential development have been extracted from the Omega South – Phase 4-7 TA (WSP, November 2019). The proposals for Phases 4-7 comprise 617 residential units on land formerly known as Zones 1 and 2. It should be noted that this is only an increase of 300 units over the existing consent for Zones 3-6, immediately south of the site, as this application will coincide with a relinquishment of 317 residential units on Zones 3-6.
- 6.3.9. The agreed trip rates used in the Omega Zones 3-6 TA addendum have been applied to the proposed 617-unit (300-unit net) residential development (Phases 4-7). The trip rates and resultant trips for the Phases 4-7 residential development are indicated in Table 6-7 below.

Table 6-7 – Phases 4-7 Residential Development Vehicle Trip Rates and Resultant Trips

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Residential Vehicle Trip Rate (per unit)	0.225	0.523	0.495	0.307
Residential Vehicle Trips (300 units)	68	157	149	92

- 6.3.10. Table 6-7 indicates that the Phases 4-7 (net additional 300 units) will generate a total of 225 and 241 two-way vehicle trips in the AM and PM peak hours.

ZONES 1 & 2 B1 LAND USE

- 6.3.11. The trip generation rates for the B1 land use associated with Zones 1 & 2 have been extracted from the Omega South - Zones 1 & 2 TA (WSP, May 2017). The trip rates and resultant rates for the Zones 1 & 2 B1 land use are indicated in Table 6-8.

Table 6-8 – Zone 1 & 2 Development Vehicle Trip Rates and Resultant Trips - B1 Land Use

Scenario	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
	Arrivals	Departures	Arrivals	Departures
Car Trip Rate (per 100m ² GFA)	1.47	0.182	0.154	1.18
Total PCU Trips (59458m ² GFA)	874	108	92	702

- 6.3.12. Table 6-8 indicates that Zone 1 & 2 will generate a total of 982 and 793 two-way vehicle trips in the AM and PM peak hours, respectively.

7. TRIP DISTRIBUTION

7.1. INTRODUCTION

7.1.1. This chapter sets out the trip distribution methodology for the proposed development, while also setting out the distribution methodologies and sources of the other consented and proposed developments in Omega South. The sources of the trip distribution of the two committed developments are also presented in this section.

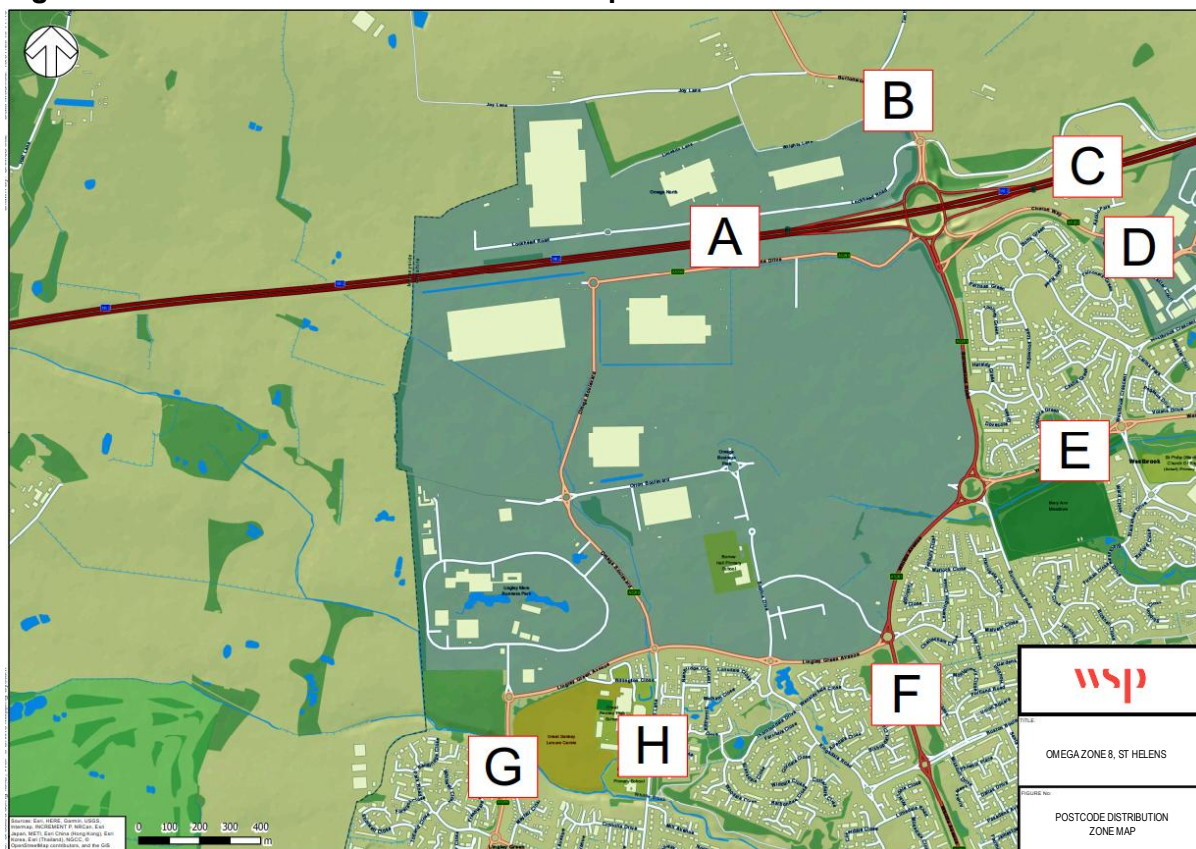
7.2. POSTCODE DATA DISTRIBUTION – GENERAL VEHICLES

7.2.1. As set out in the Scoping Note (Appendix A), the trip distribution for the general vehicles associated with the proposed development, as well as the currently consented developments which are included within the wider Omega South, has been calculated using postcode data from employees based at Omega.

7.2.2. WSP were provided with the 2017 employee postcode data from WBC, which was previously used to inform the route of the B52 bus. This data was then examined in Excel to determine the number of employees who reside in each broad postcode area (e.g. WN7). For the postcodes closest to the site, Warrington postcodes, the data was included at a more detailed level (e.g. WA1 1) to allow for the correct routing to be determined.

7.2.3. The primary entry zones based on the agreed study network were then identified and given a label (A-H). These zones are indicated in the zone map depicted in Figure 7-1.

Figure 7-1 – Postcode Distribution Zone Map



- 7.2.4. Online route planning software was then used to identify the quickest route during the weekday PM peak for people travelling home to each postcode area from Omega South. Where two or more routes were equally as viable, a proportional split was inputted based on distances and journey times. This was undertaken for all zones and a percentage distribution for each zone was identified. The percentage distribution for each zone is indicated below in Table 7-1.

Table 7-1 – Postcode Distribution

Zone	Zone Description	% Distribution
A	M62 Westbound	18%
B	Burtonwood Road North	7%
C	M62 Eastbound	46%
D	Charon Way	3%
E	Westbrook Way	4%
F	Whittle Avenue	14%
G	Lingley Green Avenue South	6%
H	Barrow Hall Lane	2%

- 7.2.5. In order to assign the traffic for the proposed and consented Omega developments, online route planning software was again used to determine the likely route to each zone based on the quickest route in the Weekday PM peak. The resultant assignments are included in Figures 52 and 53 for general vehicles, and Figures 56 and 57 for HGVs of Appendix D for the proposed development.

8. TRAFFIC IMPACT ASSESSMENT

8.1. INTRODUCTION

- 8.1.1. The scope of this study has been discussed with St Helens Metropolitan Borough Council, Warrington Borough Council and Highways England, through a scoping exercise and subsequent scoping note submissions. The scoping submissions are included in Appendix A.

8.2. TRAFFIC SURVEYS

- 8.2.1. It has been agreed that the following junctions should be considered as part of the TA:

Burtonwood Road / Lockheed Road roundabout
M62 Junction 8 signalised gyratory
Burtonwood Road / Charon Way signalised junction
Burtonwood Road / Kingswood Road signalised junction
Burtonwood Road / Westbrook Way roundabout
Skyline Drive / Fairchild Road priority junction; and
Omega Boulevard / Catalina Way roundabout.

- 8.2.2. In addition, an assessment of the M62 Junction 8 merge and diverge slip roads has been undertaken with reference to the Design Manual for Roads and Bridges (DMRB).

8.3. ASSESSMENT PERIODS

- 8.3.1. As agreed during scoping discussions, traffic surveys (classified junction turning count surveys and queue surveys) were undertaken at the above junctions on Tuesday 11 June 2019 for the following periods to provide data to inform this study:

05:30-10:00 hrs; and
16:00-19:00 hrs.

- 8.3.2. From the survey data, it was identified that the peak hours of network operation were

AM Peak: 07:45 – 08:45 hrs; and
PM Peak: 16:45 – 17:45 hrs.

- 8.3.3. AM and PM peak hour surveyed network flows are shown in Figures 1 and 2 in Appendix D. It should be noted that all flows have been converted into Passenger Car units (PCUs) based upon the most recent research outlined in the Transport for London (TfL) Modelling Guidance V3.0.

8.4. COMMITTED DEVELOPMENT

8.4.1. The committed development that is proposed to be included in this TA was agreed in an “*Omega Transport Study scoping clarifications*” agreed with SHMBC, WBC and Highways England on the 21 June 2019. This confirmed the developments are:

2016/27313 – Lingley Mere Business Park residential (160 units remaining); and
2007/11923 – Burton Wood Services business (117,509sqft GFA), general industry (109,006sqft GFA), self-storage (25,005sqft GFA) and storage distribution (109,006sqft GFA).

8.4.2. The vehicle trip generation for the two committed developments was extracted from the following documents which were provided by WBC:

2016/27313 – Lingley Mere Business Park Residential – Trip Generation from Technical Note 4090/303 Cole Easdon Consultants; and
2007/11923 – Burton Wood Services – Trip Generation from 2007 TA Scott Wilson Ltd.

8.4.3. The above information has been extracted into the following figures (found within Appendix D) for the study area:

Figure 7 2016/27313 Committed Development Distribution;
Figure 8 2007/11923 Committed Development Distribution;
Figure 9 2016/27313 Committed Development AM Vehicle Trips;
Figure 10 2016/27313 Committed Development PM Vehicle Trips;
Figure 11 2007/11923 Committed Development AM Vehicle Trips; and
Figure 12 2007/11923 Committed Development PM Vehicle Trips.

8.5. TRAFFIC GROWTH

8.5.1. The Department for Transport’s Temprow V7.2 has been used to identify a growth factor for the existing traffic flows on the network to factor the surveyed flows to the opening year of the proposed development (2021). In terms of settings, the area type was set to rural, the road type was set to principal and the areas shown in Table 8-1 were selected, as they surround and include Omega South, and an average growth factor was taken.

Table 8-1 – Growth Factor

Level	Area	Local Growth Factor
E02002592	Warrington 003	1.027
E02002595	Warrington 006	1.032
E02002598	Warrington 009	1.021
E02002599	Warrington 010	1.020
E02002602	Warrington 013	1.035
E02002604	Warrington 015	1.020
E02002605	Warrington 016	1.017
E02002607	Warrington 018	1.028
E02002608	Warrington 019	1.023
E02001427	St. Helens 022	1.024
Average		1.025

- 8.5.2. This growth factor of 1.025 has been applied to the 2019 AM and PM surveyed flows to produce AM and PM 2021 Base traffic flows. These can be observed as Figures 5 and 6 within Appendix D respectively.

8.6. JUNCTION CAPACITY ASSESSMENT

- 8.6.1. In accordance with current guidance, the development impact assessment has been undertaken for 2021, the anticipated year of opening. The following scenarios have been analysed for each of the junctions for both the AM and PM peaks:

Scenario 2 - 2021 Base (Growthed Survey Flows + currently committed Omega developments)
 Scenario 5 – 2021 Base + Phases 4-7 (Zone 1&2 B2/B8 development + 300-unit residential development – Omega B1 Development) + Omega Zone 8 B2/B8 development.

- 8.6.2. Figures 58 and 59 (Appendix D) show the 2021 Base (Scenario 2) traffic flows for the AM and PM Peak hours.
- 8.6.3. Figures 64 and 65 (Appendix D) show the Scenario 5 traffic flows for the AM and PM Peak hours.

8.7. OVERVIEW OF METHODOLOGY

- 8.7.1. Priority junctions and roundabouts have been assessed using the industry standard Junctions 9 program. Junctions 9 provides an indication of the performance of a junction in terms of the Ratio of Flow to Capacity (RFC) and queue length on the approaches to the junction. An RFC value of 0.85 (85%) is considered to indicate a junction which is operating within capacity.
- 8.7.2. In order to assess the signalised junctions identified within the study network the LINSIG software package has been used. LINSIG is an industry standard software tool which allows traffic engineers to model signalised junctions and their effect on capacities and queuing. LINSIG also allows for the optimisation of traffic signals to increase capacity and reduce delays at junctions.
- 8.7.3. The LINSIG model presents results as percentage degrees of saturation and corresponding likely traffic queues for each modelled link of the junction. It is generally accepted that degrees of saturation of 90% or less on individual links represent satisfactory signal operation, but should be viewed with cycle times and queue lengths.
- 8.7.4. Outwith the proposed works at the Burtonwood Road / Kingswood Drive signalised junction, the general configuration, phasing and staging of each junction included within the study networks have been assumed to remain largely unchanged. Therefore, we have used any existing Signal Specification Data received from WBC's traffic signals team and have utilised, where applicable, existing phasing, staging and intergreen data to inform the models and these have been revised as necessary.

8.8. BURTONWOOD ROAD / LOCKHEED ROAD ROUNDABOUT - M62 JUNCTION 8 SIGNALISED GYRATORY - BURTONWOOD ROAD / CHARON WAY SIGNALISED JUNCTION

- 8.8.1. Due to the proximity of the junctions to one another, WSP has used the TRANSYT15 software package (Version 15.5.0.6767) to model their overall performance and interaction with one another. TRANSYT is an industry standard software tool which allows traffic engineers to model signalised and un-signalised junctions and their effect on capacities and queuing. TRANSYT also allows for the optimisation of traffic signals to increase capacity and reduce delays at junctions.
- 8.8.2. TRANSYT presents its results in the same manner as LINSIG, with degrees of saturation of 90% or less on individual links representing satisfactory signal operation, but should be viewed with cycle times and queue lengths.
- 8.8.3. Discussions with WBC have confirmed that the signalised junctions at the M62 Junction 8 and Charon Way operate using a MOVA system. MOVA is a sophisticated strategy using the computing power of microprocessors to assess and implement the best signal timings, given the physical layout of the junction, the signal stages available, and the traffic conditions at the time. MOVA is extremely flexible, and the signal timings can vary widely, even within a particular peak hour, as traffic conditions change.
- 8.8.4. Early trials carried out by the Transport Research Laboratory (TRL) have shown that MOVA reduces delays by an average of 13% compared to a vehicle actuated system. The method used for these trials results in an underestimate of delay under the most congested conditions, and subsequent work has shown a wide range of benefits, with the greatest benefits, both in delay reduction and improved safety, at junction's subject to heavy traffic flows where the MOVA configuration has been tailored to suit the physical conditions at the junction and resulting traffic behaviour.
- 8.8.5. The operation of the existing network has been assessed using TRANSYT and the results of the assessment are shown in Tables 8-2 to 8-4. Where a traffic stream is indicated to operate over capacity (greater than 90% DoS for signalised junction and 85% for priority junctions), this is highlighted in red.

Table 8-2 – Burtonwood Road / Lockheed Road TRANSYT results

Arm	Traffic Stream	Scenario 2 2021 AM (Base)		Scenario 2 2021 PM (Base)		Scenario 5 2021 AM + Phase 4-7 + Omega Zone 8		Scenario 5 2021 PM + Phase 4-7 + Omega Zone 8	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
Burtonwood Road / Lockheed Road Roundabout									
RA	1	21	0.03	41	0.14	23	0.03	41	0.14
RAc	1	0	0	0	0	0	0	0	0
RAx	1	54	0.32	38	0.12	52	0.27	38	0.12
RB	1	5	0	16	0.01	5	0	16	0.01
RBc	1	0	0	0	0	0	0	0	0
RBx	1	0	0	0	0	0	0	0	0
RC	1	50	0.25	29	0.06	48	0.22	30	0.06
RCc	1	0	0	0	0	0	0	0	0
RCx	1	0	0	0	0	0	0	0	0
RD	1	12	0.01	8	0	12	0.01	8	0
RDc	1	0	0	0	0	0	0	0	0
RDx	1	0	0	0	0	0	0	0	0

- 8.8.6. The roundabout is shown to operate with minimal levels of delay and queuing in both the AM and PM peak hours. The development associated with Scenario 5 is shown to have a minor impact on the junction compared to Scenario 2, which is still forecast to operate within capacity following the addition of development generated traffic.

Table 8-3 – Burtonwood Road / Charon Way TRANSYT results

Arm	Traffic Stream	Scenario 2 2021 AM (Base)		Scenario 2 2021 PM (Base)		Scenario 5 2021 AM + Phase 4-7 + Omega Zone 8		Scenario 5 2021 PM + Phase 4-7 + Omega Zone 8	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
Burtonwood Road / Charon Way									
1	1	41	4.77	26	2.53	37	4.04	30	2.97
2	1	65	0.62	32	0.08	61	0.47	33	0.08
3	2	42	5.34	26	2.83	38	4.56	30	3.13
4	1	41	4.71	26	2.65	37	4.25	30	2.92
5	1	5	0.28	10	0.45	5	0.28	9	0.45
6	1	55	3.21	75	3.99	57	3.16	66	3.53
7	1	55	3.27	74	7.72	57	3.11	65	6.93
8	1	12	1.46	52	5.09	11	1.46	48	4.65
10	1	18	0.02	47	0.21	17	0.02	47	0.21
11	1	41	0.14	20	0.03	38	0.12	21	0.03
12	1	17	0.02	37	0.11	17	0.02	36	0.1
13	1	0	0	0	0	0	0	0	0
14	1	0	0	0	0	0	0	0	0
53	1	31	0.07	34	0.08	29	0.06	34	0.09
	2	28	0.06	23	0.03	26	0.05	23	0.04
	3	27	0.05	22	0.03	25	0.04	22	0.03
54	1	25	1.25	70	2.01	25	1.25	73	2.21
	2	25	1.25	70	2.01	25	1.25	73	2.21

- 8.8.7. The junction is shown to operate with minimal levels of delay and queuing in both the AM and PM peak hours of the 2021 Base (Scenario 2). The development associated with Scenario 5 is shown to have a minor improvement on the junction compared to Scenario 2 in the AM Peak and a minor impact in the PM peak. However, Scenario 5 is still forecast to operate within capacity following the addition of development generated traffic in both peak hours.

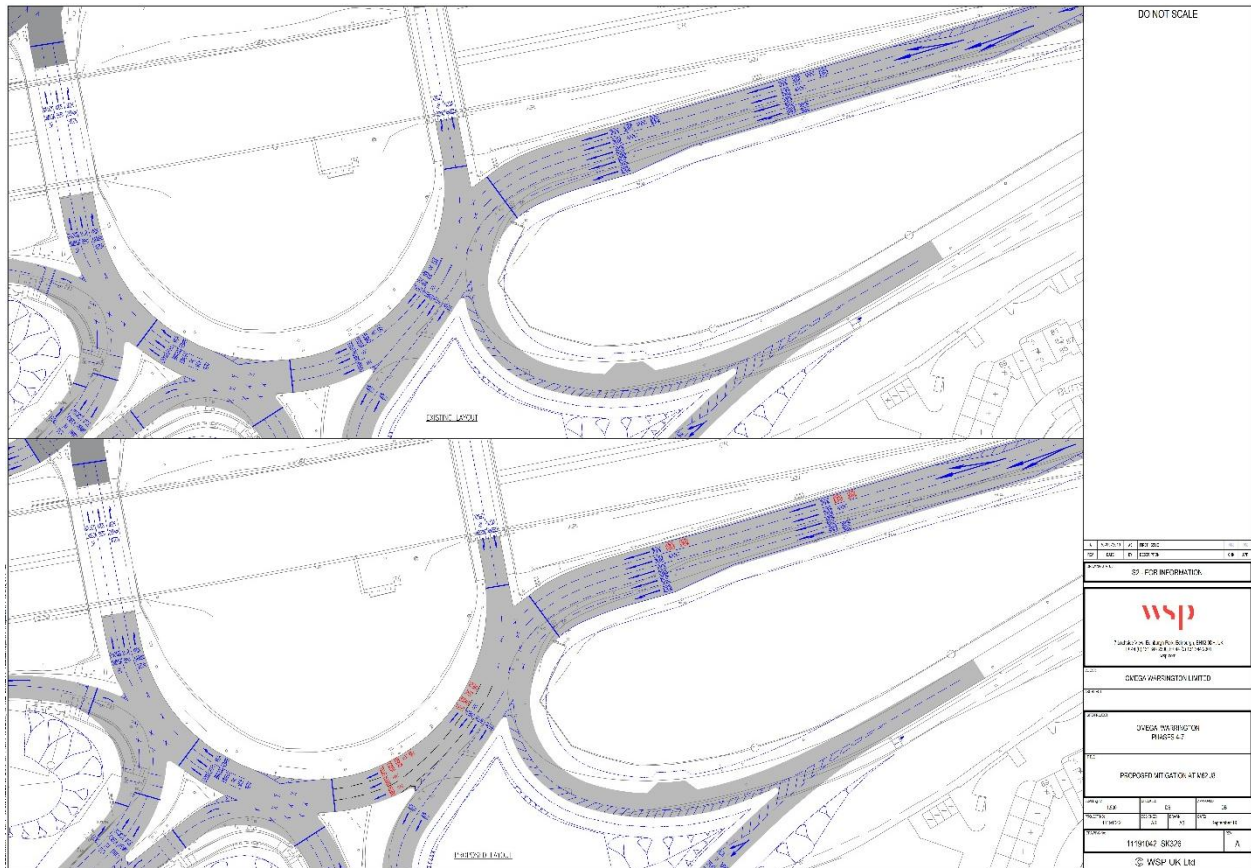
Table 8-4 – M62 Junction 8 (Existing Layout) TRANSYT results

Arm	Traffic Stream	Scenario 2 2021 AM (Base)		Scenario 2 2021 PM (Base)		Scenario 5 2021 AM + Phase 4-7 + Omega Zone 8		Scenario 5 2021 PM + Phase 4-7 + Omega Zone 8	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J62 Junction 8									
15	1	17	0.02	57	13.43	17	0.02	51	3.38
	2	17	0.02	57	13.43	17	0.02	51	3.38
16	1	84	10.73	68	8.7	65	8.19	72	9.12
	2	87	11.43	86	11.13	89	12.06	87	11.3
	3	42	4.51	28	2.76	33	3.35	39	3.9
17	1	4	0	32	1.53	8	0.03	69	5.37
18	1	78	12.87	44	10.33	75	12.23	55	10.58
19	1	65	4.11	40	1.53	48	3.73	47	3.66
	2	54	3.96	60	3.61	72	4.67	65	4.1
20	1	79	9.08	64	3.64	60	5.03	57	2.6
	2	85	8.81	91	11.88	69	5.1	78	10.09
	3	40	1.59	22	1.48	24	1.49	25	1.49
21	1	48	6.02	24	2.18	29	2.6	29	2.99
	2	26	2.35	24	2.18	29	2.6	29	2.99
22	1	0	0	0	0	0	0	0	0
23	1	21	1.99	89	12.66	51	4.35	90	10.78
24	1	24	1.81	59	4.26	38	2.31	77	5.37
25	1	41	4.47	89	11.37	50	4.48	86	9.66
26	1	25	0.04	65	3.5	21	0.03	34	0.09
27	1	34	0.09	101	89.94	36	0.1	56	0.36
28	1	64	5.01	71	4.72	58	2.13	65	5.36
	2	9	1.45	12	1.88	5	1.45	9	1.94
29	1	0	0	0	0	0	0	0	0
30	1	32	1.57	65	6.62	41	3.75	69	13.83
	2	57	4.8	65	11.21	69	5.26	53	7.77
	3	44	1.65	70	15.3	57	9.14	65	10.75
31	1	80	8.37	26	1.97	46	4.64	31	2.44
32	1	60	3.46	75	4.06	47	3.21	70	3.81
33	1	35	3.4	48	5.37	32	2.51	47	5.35
34	1	24	1.27	37	1.6	19	1.22	33	1.52
35	1	26	0.05	50	0.25	28	0.05	50	0.24
36	1	56	9.12	57	3.63	61	9.56	46	4.56
	2	73	11.16	89	19.75	81	16.21	86	13.06

	3	36	3.74	10	2.1	29	2.74	13	0.01
37	1	74	7.13	57	3.69	57	5.25	53	3.6
38	1	88	10.41	88	8.3	79	8.87	83	7.45
39	1	35	2.81	56	3.74	32	2.69	52	3.5
40	1	33	1.53	26	0.04	32	0.08	26	0.05
41	1	0	0	0	0	0	0	0	0
42	1	66	2.1	76	9.89	69	0.77	74	1.02
43	1	0	0	0	0	0	0	0	0
44	1	92	16.54	87	14.53	88	14.85	89	15.1
45	2	73	6.79	29	4.47	58	3.64	37	4.55
46	1	372	431.94	101	26.9	213	254.69	57	3.3
47	1	30	0.06	53	0.31	31	0.07	55	0.34
48	1	26	2.14	82	9.01	29	2.3	68	7.34
49	1	49	4.23	30	2.42	51	4.35	24	2.17
	2	26	2.14	82	9.01	29	2.3	68	7.34
50	1	22	0.03	31	0.07	22	0.03	32	0.08
51	1	100	35.4	100	38.4	100	36.74	102	42.94
	2	6	1.45	51	4.63	12	1.46	42	4.01
52	1	0	0	0	0	0	0	0	0

- 8.8.8. The junction is shown to operate over capacity in the Scenario 2 AM and PM peak hours. In both peak periods, the largest level of queuing is observed on the M62 westbound off-slip (Streams 51/1+46/1) and is a result of a lack of lanes at the stopline (Stream 44/1) for vehicles travelling to Skyline Drive (Omega South), as well as a lack of lanes travelling to Burtonwood Road and Charon Way on the corresponding section of the carriageway. This queuing could potentially back to the M62 carriageway based on the modelled conditions, however, as mentioned previously the TRANSYT model cannot model the benefits to queuing and delay created by the MOVA control which is currently installed.
- 8.8.9. The Skyline Drive entry arm (Streams 25/1+25/2) is also shown to tend towards capacity in the PM peak, with the corresponding circulatory lane (Stream 20/2) operating slightly over capacity (91%).
- 8.8.10. The junction is also shown to operate over-capacity in the Scenario 5 AM and PM peak hours. This occurs on the M62 westbound off-slip (Streams 51/1+46/1) similar to Scenario 2. However, the severity of queuing to the downstream link and impact on the motorway is predicted to be less.
- 8.8.11. A full junction analysis report is provided within Appendix E.
- 8.8.12. To improve the situation of the M62 westbound off-slip (Streams 51/1+46/1), it is proposed to alter the lane allocation at the stopline and upstream stopline to accommodate two traffic lanes from the M62 westbound off-slip to Skyline Drive.
- 8.8.13. The proposed alterations to the lane allocations on the signalised gyratory is shown in Figure 8-1 and included within Appendix F.

Figure 8-1 – General Arrangement of Proposed M62 J8 Signalised Gyratory



- 8.8.14. The operation of the proposed M62 Junction 8 signalised gyratory has been assessed using TRANSYT and the results of the assessment are shown in Table 8-5.

Table 8-5 – M62 Junction 8 (Proposed) TRANSYT results

Arm	Traffic Stream	Scenario 5 2021 AM + Phase 4-7 + Omega Zone 8		Scenario 5 2021 PM + Phase 4-7 + Omega Zone 8	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
J62 Junction 8					
15	1	18	1.47	51	2.88
	2	18	1.47	51	2.87
16	1	65	8.19	72	9.12
	2	89	12.06	87	11.3
	3	33	3.35	39	3.9
17	1	29	1.57	45	2.15
18	1	45	8.18	30	0.06
	2	56	7.75	38	0.12
19	1	81	5.74	63	3.38
	2	77	5.63	41	3.98
20	1	51	2.05	53	4.08
	2	84	8.56	85	10.45
	3	24	1.49	25	1.49
21	1	54	6.2	38	4.48
	2	41	3.97	19	1.82
22	1	0	0	0	0
23	1	51	4.35	90	10.78
24	1	38	2.31	77	5.37
25	1	50	4.48	86	9.66
26	1	21	0.03	34	0.09
27	1	36	0.1	56	0.36
28	1	50	1.98	61	5.39
	2	14	1.46	16	1.95
29	1	0	0	0	0
30	1	49	6.92	69	10.97
	2	70	12.5	52	4.03
	3	57	5.01	64	4.28
31	1	46	4.64	31	2.44
32	1	47	3.21	70	3.81
33	1	32	2.51	47	5.35
34	1	19	1.22	33	1.52
35	1	31	0.07	50	0.24
36	1	61	16.42	46	6.04

	2	81	14.77	87	15.84
	3	29	1.75	13	0.01
37	1	57	5.25	53	3.6
38	1	79	8.87	83	7.45
39	1	32	2.69	52	3.5
40	1	32	0.08	26	0.05
41	1	0	0	0	0
42	1	78	7.2	74	1.02
43	1	0	0	0	0
44	1	88	15.92	80	10.34
45	2	57	6.22	33	4.47
46	1	49	0.24	49	0.24
47	1	31	0.07	55	0.34
48	1	29	2.3	81	9.15
49	1	51	4.35	29	2.37
	2	29	2.3	81	9.15
50	1	22	0.03	32	0.08
51	1	90	11.44	86	10.23
	2	90	11.44	86	10.23
52	1	0	0	0	0

- 8.8.15. Table 8-5 shows that proposed layout is shown to operate with limited levels of delay and queuing in both the AM and PM peak hours. It should be noted that the M62 westbound off-slip (streams 51/1 and 51/2) are operating at 90%, but operationally efficient, with no predicated queuing blocking back to the M62. Furthermore, as discussed, the on-site operation of this gyratory will be improved due to MOVA control which cannot be replicated by TRANSYT.

8.9. M62 JUNCTION 8 SIGNALISED GYRATORY – MERGE DIVERGE ANALYSIS

- 8.9.1. It is recognised that the proposed development will result in an increase in traffic at the existing M62 Junction 8 signalised gyratory. Consequently, a merge / diverge assessment in accordance with CD 122 'Geometric design of grade separated junctions' of the Design Manual for Roads and Bridges has been undertaken to determine whether the current layout of the junction is adequate to accommodate anticipated Scenario 5 traffic levels. These results are compared with those of the surveyed base and Scenario 2 flows (which represents the currently consented development in the area). The results of this assessment are discussed below.

M62 JUNCTION 8 – WESTBOUND ON-SLIP (MERGE)

- 8.9.2. The results of the assessment undertaken for the westbound on-slip are summarised in Table 8-6.

Table 8-6 – Westbound Merge

WB Merge	Surveyed 2019 Base		Scenario 2 2021 Base		Scenario 5 2021 Base + Phase 4-7 + Omega Zone 8	
	AM	PM	AM	PM	AM	PM
Merging Flow	471	589	615	813	645	819
Upstream Flow	3855	3636	3971	3746	3971	3746
Existing Type	B	B	B	B	B	B
Upstream (Lanes)	3	3	3	3	3	3
Downstream (Lanes)	3	3	3	3	3	3
Required Type	A	A	A	A	A	A
Upstream (Lanes)	3	3	3	3	3	3
Downstream (Lanes)	3	3	3	3	3	3
Compliant?	Yes	Yes	Yes	Yea	Yes	Yes

- 8.9.3. For the westbound on-slip, the results of the assessment indicate that for Scenario 5, a Type A merge with a 3 lane upstream main line and downstream would be appropriate. The existing on-slip is a Type B merge with a 3 lane upstream and downstream mainline. Given that the existing merge is of a higher standard than the calculations would indicate is required, no improvements are required to support the proposed development.

M62 JUNCTION 8 – EASTBOUND ON-SLIP (MERGE)

8.9.4. The results of the assessment undertaken for the eastbound on-slip are summarised in Table 8-7.

Table 8-7 – Eastbound Merge

EB Merge	Surveyed 2019 Base		Scenario 2 2021 Base		Scenario 5 2021 Base + Phase 4-7 + Omega Zone 8	
	AM	PM	AM	PM	AM	PM
Merging Flow	738	935	1036	1363	1106	1380
Upstream Flow	4168	3532	4294	3639	4294	3639
Existing Type	E (O2)	E (O2)	E (O2)	E (O2)	E (O2)	E (O2)
Upstream (Lanes)	3	3	3	3	3	3
Downstream (Lanes)	4	4	4	4	4	4
Required Type	B	D	D	#	D	B
Upstream (Lanes)	3	2	3	3	3	3
Downstream (Lanes)	3	3	4	3	4	3
Compliant?	Yes	Yes	Yes	Yes	Yes	Yes

8.9.5. For the eastbound on-slip, the results of the assessment indicate that for Scenario 5, a Type D merge with a 3 lane upstream main line and a 4 lane downstream would be appropriate. The existing on-slip is a Type E (Option 2) merge with a 3 lane upstream and a 4 lane downstream mainline. Given that the existing merge is of a higher standard than the calculations would indicate is required, no improvements are required to support the proposed development.

M62 JUNCTION 8 – WESTBOUND OFF-SLIP (DIVERGE)

8.9.6. The results of the assessment undertaken for the westbound off-slip are summarised in Table 8-8.

Table 8-8 – Westbound Diverge

WB Diverge	Surveyed 2019 Base		Scenario 2 2021 Base		Scenario 5 2021 Base + Phase 4-7 + Omega Zone 8	
	AM	PM	AM	PM	AM	PM
Diverging Flow	819	1058	1269	1339	1235	1460
Upstream Flow	4674	4694	5265	5117	5231	5237
Existing Type	D (O2)	D (O2)	D (O2)	D (O2)	D (O2)	D (O2)
Upstream (Lanes)	4	4	4	4	4	4
Downstream (Lanes)	3	3	3	3	3	3
Required Type	A	C	C	C	C	D
Upstream (Lanes)	3	4	4	4	4	4
Downstream (Lanes)	3	3	3	3	3	3
Compliant?	Yes	Yes	Yes	Yes	Yes	Yes

8.9.7. For the westbound off-slip, the results of the assessment indicate that for Scenario 5, a Type D diverge with a 4 lane upstream main line and a 3 lane downstream would be appropriate. The existing off-slip is a Type D (option 2) diverge with a 4 lane upstream and a 3 lane downstream mainline with a lane drop. Given that the existing diverge is of a higher standard than the calculations would indicate is required, no improvements are required to support the proposed development.

M62 JUNCTION 8 – EASTBOUND OFF-SLIP (DIVERGE)

8.9.8. The results of the assessment undertaken for the eastbound off-slip are summarised in Table 8-9.

Table 8-9 – Eastbound Diverge

EB Diverge	Surveyed 2019 Base		Scenario 2 2021 Base		Scenario 5 2021 Base + Phase 4-7 + Omega Zone 8	
	AM	PM	AM	PM	AM	PM
Diverging Flow	359	380	590	510	574	556
Upstream Flow	4527	3912	4895	4160	4879	4207
Existing Type	A	A	A	A	A	A
Upstream (Lanes)	3	3	3	3	3	3
Downstream (Lanes)	3	3	3	3	3	3
Required Type	A	A	A	A	A	A
Upstream (Lanes)	3	3	3	3	3	3
Downstream (Lanes)	3	3	3	3	3	3
Compliant?	Yes	Yes	Yes	Yes	Yes	Yes

8.9.9. For the eastbound off-slip, the results of the assessment indicate that for Scenario 5, a Type A diverge with a 3 lane upstream main line and downstream would be appropriate. The existing on-slip is a Type A diverge with a 3 lane upstream and downstream mainline and therefore no improvements are required to support the proposed development.

8.10. BURTONWOOD ROAD / KINGSWOOD ROAD SIGNALISED JUNCTION

- 8.10.1. The operation of the existing Burtonwood Road / Kingswood Road signalised junction has been assessed using LINSIG and the results of the assessment are shown in Table 8-10.

Table 8-10 – Burtonwood Road / Kingswood Road LINSIG results (existing junction)

	Scenario 2 (2021 Base)			
	AM Peak		PM Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
Burtonwood Rd (N) Ahead Left	33.8%	4.3	79.1%	14.5
Burtonwood Rd (N) Ahead	35.6%	4.9	80.3%	16.1
Kingswood Rd Right Left	81.3%	5.9	36.9%	2.0
Burtonwood Rd (S) Ahead Right	89.0 : 89.0%	23.7	48.2 : 48.2%	6.0
Overall Junction	CYCLE TIME: 75S - PRC: 1.1%		CYCLE TIME: 75S - PRC: 12%	

- 8.10.2. The junction is shown to operate with minimal levels of delay and queuing in both the AM and PM peak hours of the 2021 Base (Scenario 2). The largest queue is observed on Burtonwood South approach (24 PCUs). This is not predicted to block back to the downstream junction.
- 8.10.3. The operation of Burtonwood Road / Kingswood Road signalised junction, following the addition of the site access as shown in Table 8-11 as well as the development traffic associated within Scenario 5 has been assessed using LINSIG and the results of the assessment are shown in Table 8-11.

Table 8-11 – Burtonwood Road / Kingswood Road LINSIG results (proposed junction)

	Scenario 5 (2021 PM + Phase 4-7 + Omega Zone 8)			
	AM Peak		PM Peak	
	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
Burtonwood Rd (N) Ahead Left	33.5%	6.4	88.1%	20.3
Burtonwood Rd (N) Ahead	34.9%	7.3	88.2%	21.8
Kingswood Rd Right Left	89.0%	9.4	45.8%	2.6
Burtonwood Rd (S) Ahead Right	89.6 : 89.6%	33.7	60.4 : 60.4%	11.6
Omega Access Left Right Ahead	25.6 : 24.3%	1.4	12.4 : 11.4%	0.6
Overall Junction	Cycle Time: 115s - PRC: 0.5%		Cycle Time: 93s - PRC: 2.0%	

8.10.4. The junction is shown to operate within capacity in both the AM and PM peak hours of Scenario 5. The largest queue is observed on Burtonwood South approach (33 PCUs). This is not predicted to block back to the downstream junction. Furthermore, like the M62 J8 and Charon Way signals, this junction is under MOVA control and therefore will operate better in real-world conditions than what is modelled in LINSIG.

8.10.5. A full junction analysis report is provided within Appendix E.

8.11. BURTONWOOD ROAD / WESTBROOK WAY ROUNDABOUT

8.11.1. As part of the Omega Zones 3-6 TA, proposals to alter the geometry of the Burtonwood Road / Westbrook Way roundabout were agreed with WBC. The proposed layout is shown in Appendix G and include the following:

- Localised widening of the Burtonwood Road North entry arm;
- Localised widening of the Westbrook Way entry arm and the inclusion of a 100m flare;
- Localised widening of the Whittle Avenue entry arm and the inclusion of a 100m flare; and
- Provision of two circulatory lanes on the roundabout with associated spiral road markings.

8.11.2. The operation of the consented Burtonwood Road / Westbrook Way roundabout has been assessed using Junctions 9 and the results of the assessment are shown in Table 8-12. Where an arm is indicated to operate over capacity (over 85% RFC), this is highlighted in red.

Table 8-12 – Burtonwood Road / Westbrook Way – Junctions 9 (ARCADY) results (proposed layout)

	Scenario 2 (2021 Base)			
	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Burtonwood Rd (N)	0.51	0.97	0.93	11.01
Westbrook Way	0.38	0.54	0.62	1.62
Burtonwood Rd (S)	0.16	0.18	0.08	0.08
Whittle Ave	0.79	2.56	0.56	1.28
Omega Access	0.55	1.05	0.27	0.37

8.11.3. As shown in Table 8-12, the junction is shown to currently operate within capacity and limited levels of queuing in both the AM and PM peak hours on the majority of roundabout approaches. However, the Burtonwood Road North arm, which has already been upgraded as part of the overall Omega development works, is shown to operate slightly over theoretical capacity in the PM peak hour.

8.11.4. The operation of the proposed roundabout with the Scenario 5 traffic flows has been assessed using Junctions 9 and the results of the assessment are shown in Table 8-13. Where an arm is indicated to operate over capacity (over 85% RFC), this is highlighted in red.

Table 8-13 – Burtonwood Road / Westbrook Way –Junctions 9 (ARCADY) results (proposed layout)

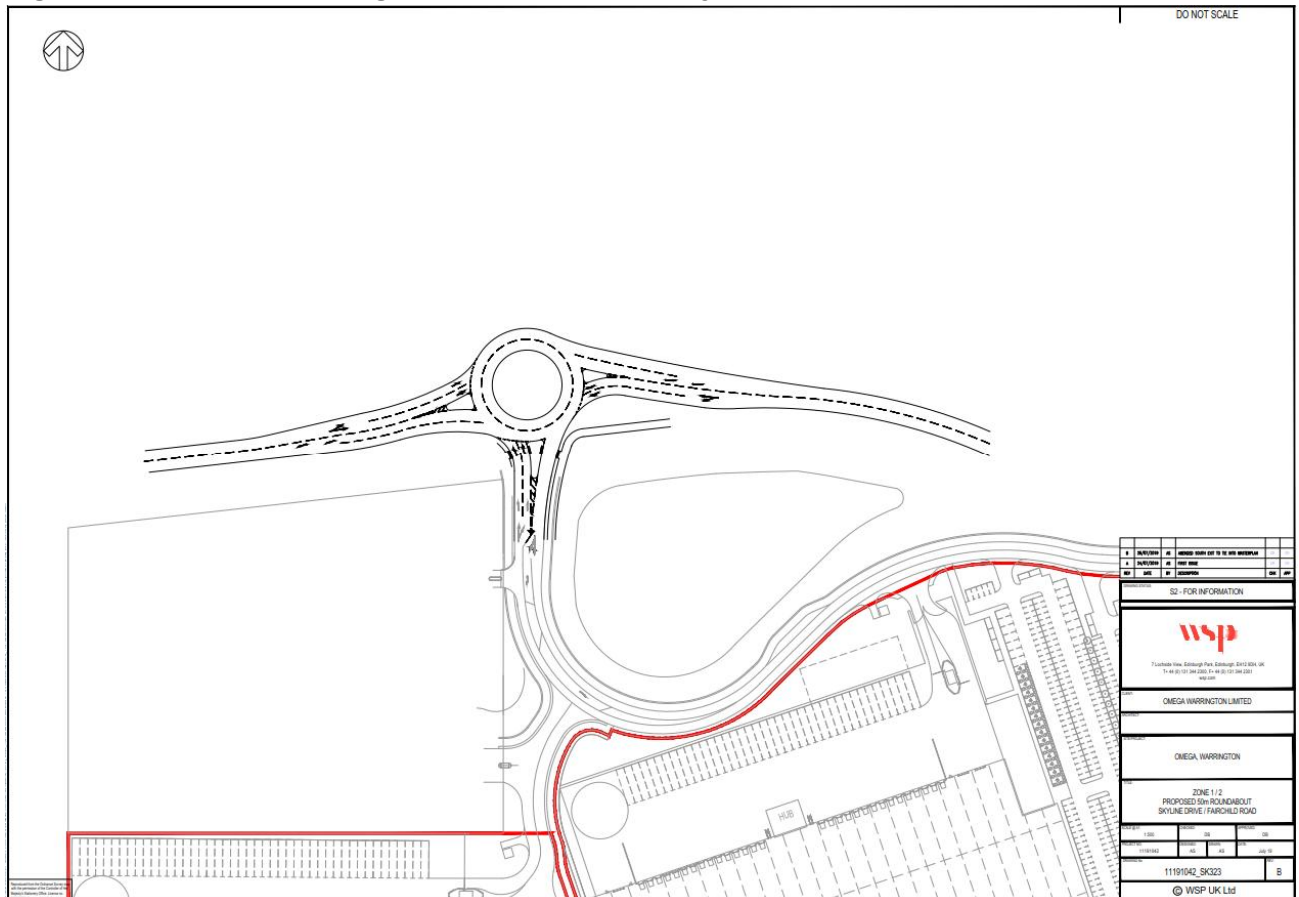
	Scenario 5 (2021 PM + Phase 4-7 + Omega Zone 8)			
	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Burtonwood Rd (N)	0.54	1.17	0.90	8.00
Westbrook Way	0.38	0.60	0.64	1.75
Burtonwood Rd (S)	0.16	0.19	0.08	0.08
Whittle Ave	0.74	2.80	0.60	1.48
Omega Access	0.59	1.41	0.31	0.44

- 8.11.5. The junction is shown to operate within capacity and limited levels of queuing in both the AM and PM peak hours on the majority of roundabout approaches, as like Scenario 2. The addition of the Omega Zone 8 development traffic is shown to have a minor impact on the junction following the alterations proposed as part of the Zone 3-6 TA.
- 8.11.6. Like Scenario 2, the Burtonwood Road North arm is shown to operate slightly over theoretical capacity in the PM peak hour. However, the max RFC is less in Scenario 5 than it is in the consented Scenario 2 PM peak hour.
- 8.11.7. A full junction analysis report is provided within Appendix E.

8.12. SKYLINE DRIVE / FAIRCHILD ROAD PRIORITY JUNCTION

- 8.12.1. As part of the proposals associated with Omega Zones 1&2, it is proposed to upgrade the Skyline Drive / Fairchild Road to a 50m Inscribed Circle Diameter (ICD) roundabout. The roundabout has been designed to allow 2 HGVs to navigate the junction side-by-side, thus allowing the full capacity to be realised. The general arrangement of the proposed roundabout is indicated below in Figure 8-2 and is included in Appendix H.

Figure 8-2 – General Arrangement of Proposed Skyline Drive / Fairchild Road Roundabout



- 8.12.2. The results of the Junctions 9 analysis for both the weekday AM and PM peak hours for Scenario 5 are shown in Table 8-14. A full junction analysis report is provided within Appendix E.

Table 8-14 – Skyline Drive / Fairchild Road Proposed Roundabout - Junctions 9 (ARCADY) results

	Scenario 5 (2021 PM + Phase 4-7 + Omega Zone 8)			
	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Skyline Drive East	0.61	1.6	0.43	0.7
Fairchild Road	0.08	0.1	0.11	0.1
Skyline Drive West	0.27	0.4	0.43	1.4

- 8.12.3. Table 8-14 indicates that proposed roundabout will operate well within capacity for both the AM and PM peak periods of Scenario 5.

8.13. OMEGA BOULEVARD / CATALINA WAY ROUNDABOUT

- 8.13.1. The operation of the existing Omega Boulevard / Catalina Way roundabout has been assessed using Junctions 9 and the results of the assessment are shown in Table 8-15. A full junction analysis report is provided within Appendix E.

Table 8-15 – Omega Boulevard / Catalina Way Roundabout - Junctions 9 (ARCADY) results

	Scenario 2 (2021 Base)			
	AM Peak		PM Peak	
	RFC	Queue	RFC	Queue
Omega Boulevard (S)	0.38	0.62	0.41	0.69
Catalina Way	0.04	0.04	0.08	0.08
Omega Boulevard (N)	0.61	1.53	0.38	0.61
	Scenario 5 (2021 PM + Phase 4-7 + Omega Zone 8)			
Omega Boulevard (S)	0.41	0.70	0.47	0.89
Catalina Way	0.13	0.14	0.30	0.42
Omega Boulevard (N)	0.78	3.42	0.56	1.24

- 8.13.2. As shown in Table 8-15, the modelling indicates that the roundabout will operate well within capacity following the addition of the Omega Zone 8 traffic flows associated with Scenario 5.

8.14. DEVELOPMENT IMPACT ASSESSMENT SUMMARY

- 8.14.1. The impact of the development has been identified at each of the junctions on the local study network. It can be seen that the majority of the junctions assessed are operating within capacity following the addition of traffic generated by the Omega Zone 8 development, as well as other committed development and development associated with the wider Omega development.
- 8.14.2. Mitigation measures have been developed for implementation at the following junction to diminish the identified impact of the proposed development:
 - M62 Junction 8 – Westbound Off-Slip and Circulatory Carriageway
- 8.14.3. The proposed mitigation measures at this junction can be delivered within the existing highway boundary, within land under the control of the Highway Authority and only requires changes to road markings and lane allocation.
- 8.14.4. Furthermore, the modelling results cannot demonstrate the current operational efficiencies achieved through MOVA control, which is expected to improve journey time reliability as well as aid in queue management. Therefore, we would expect the junction results to be better than what is shown within the modelling as part of this assessment.

8.15. M62 J8 SENSITIVITY TEST

- 8.15.1. As part of the scoping discussions (Appendix A) undertaken with Highways England, an additional sensitivity test was requested to gauge the performance of the M62 J8 signalised gyratory in a future year scenario.
- 8.15.2. Using the same parameters in Tempro as shown in Section 8.5, the 2019 surveyed traffic has been growthed to the agreed future year, 2029. Development traffic flows associated with Scenario 5 have been added to the 2029 AM and PM traffic flows and input into TRANSYT to model the junction's performance.
- 8.15.3. The full TRANSYT results for the sensitivity test are included within Appendix I.

9. SUMMARY AND CONCLUSIONS

9.1. SUMMARY

- 9.1.1. WSP UK Limited (WSP) has been commissioned by Omega St Helens Limited and T. J. Morris Limited, to provide transportation advice in support of a hybrid planning application for c. 205,500sqm (c.2,210,500sqft) B2/B8 industrial uses on Omega Zone 8, located in the Borough of St Helens.
- 9.1.2. The application will comprise a detailed planning application for an c.880,000sqft B8 industrial use to the north of the site and an outline planning application for the remaining B2/B8 industrial uses to the south of the site.
- 9.1.3. It is considered that the proposed development supports national, regional and local transport planning policy.
- 9.1.4. The Transport Assessment has considered the accessibility of the site by all modes of transport including walking, cycling, public transport and by car. The accessibility by all modes is considered to be good. The Transport Assessment has demonstrated that there are high quality comprehensive motorway network links surrounding the site providing a range of direct connections to a number of major cities and distribution centres throughout the UK.
- 9.1.5. After considering the access requirements for the site, the TA has estimated the vehicular traffic flows associated with the development for assessment and the development impact methodology has been agreed in principle with St Helens Metropolitan Borough Council, Warrington Borough Council and Highways England.
- 9.1.6. Analysis undertaken has demonstrated that the majority of junctions assessed are forecast to operate within capacity. Proposed mitigation measures have been developed for implementation at the M62 Junction 8 westbound off-slip to diminish the identified impact of the proposed development. The proposed mitigation measures at this junction can be delivered within the existing highway boundary, within land under the control of the Highway Authority and only requires changes to road markings and lane allocation.

9.2. OVERALL CONCLUSION

- 9.2.1. A thorough assessment has been undertaken of the proposed development and its potential impact upon the local road network. Where necessary, the requirement for improvements to the existing road and transportation conditions has been highlighted within the report.
- 9.2.2. The Transport Assessment has shown that the development site is well located in relation to the local transport network and currently enjoys a good level of accessibility by sustainable modes of transport through measures already implemented as part of the wider Omega site.
- 9.2.3. It is concluded, in transport terms, that the proposed development site is considered suitable for the development proposals.

Appendix A

SCOPING DISCUSSIONS WITH RELEVANT STAKEHOLDERS



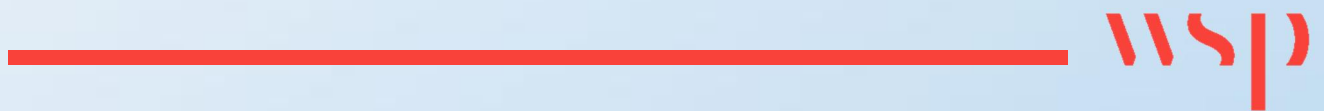
Appendix B

FIGURES



Appendix C

ANALYSIS OF TRIP DERIVATION FROM NEARBY DEVELOPMENT



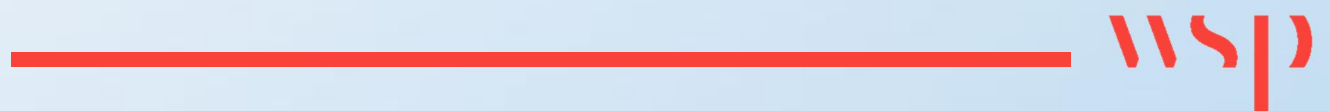
Appendix D

NETWORK DIAGRAMS



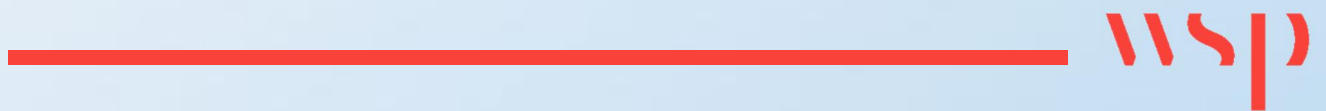
Appendix E

JUNCTION MODELLING RESULTS



Appendix F

**11191042_SK326 PROPOSED
MITIGATION AT M62 JUNCTION 8**



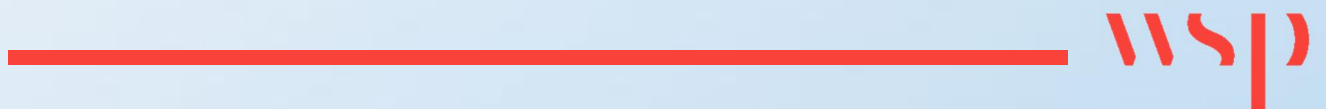
Appendix G

**PROPOSED MITIGATION AT
BURTONWOOD ROAD / WESTBROOK
WAY ROUNDABOUT AS PER ZONE 3-
6 TA**



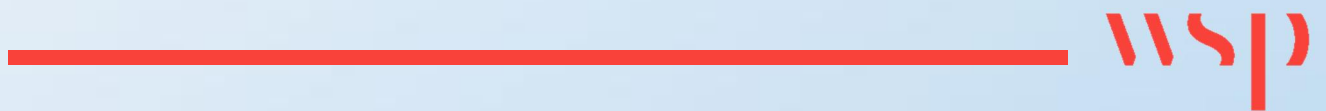
Appendix H

**11191042_SK323 PROPOSED
ROUNDAABOUT AT FAIRCHILD ROAD /
SKYLINE DRIVE**



Appendix I

M62 J8 - 2029 SENSITIVITY TEST - TRANSYT RESULTS





7 Lochside View
Edinburgh Park
Edinburgh, Midlothian
EH12 9DH

wsp.com

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