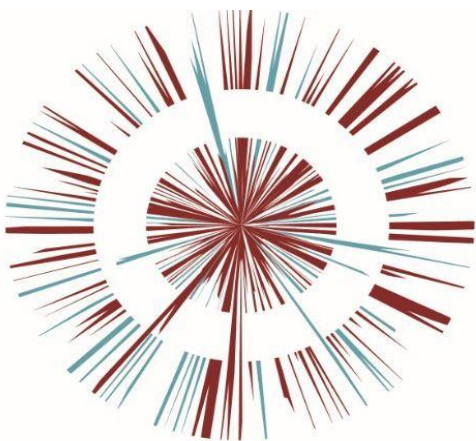




OMEGA ZONE 8, ST HELENS

Omega St Helens Ltd / T. J. Morris Limited



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WSP

8 First Street

Manchester

M15 4RP

Phone: +44 161 200 5000

WSP.com

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12. TRANSPORT

12.1. INTRODUCTION

- 12.1.1. This chapter reports the outcome of the assessment of likely significant transport-related effects arising from the Proposed Development.
- 12.1.2. The assessment of transport has established that mitigation measures are required at the M62 Junction 8 – Westbound Off-Slip and Circulatory Carriageway. The proposed mitigation measures at this junction can be delivered within the existing highway boundary, within land under the control of Warrington Borough Council and only requiring changes to road markings and lane allocation.
- 12.1.3. No significant residual effects have been identified during either the construction or operation phase.
- 12.1.4. Monitoring of transport-related effects during the construction phase will be undertaken through the implementation of a Construction Environmental Management Plan (CEMP). The CEMP will detail the environmental controls / protection measures and safety procedures that would be adopted during the construction of the Proposed Development, whereby providing a tool to ensure the successful management of the likely environmental effects as a result of construction activities, including transport-related effects.
- 12.1.5. No monitoring is required during the operational phase as no significant effects have been identified.
- 12.1.6. The remainder of this chapter describes the assessment methodology and the baseline conditions relevant to the assessment, which have been used to reach these conclusions. A summary of the likely significant effects leading to the additional mitigation measures required to avoid, prevent, reduce or, if possible, offset any likely significant adverse effects, and the likely residual effects and any required monitoring after these measures have been employed. Opportunities for enhancement, where such opportunities exist, are also discussed.
- 12.1.7. This chapter (and its associated figures and appendices) is intended to be read as part of the wider ES, with particular reference to **Chapter 6: Air Quality** and **Chapter 7: Noise and Vibration**.

12.2. CONSULTATION, SCOPE, METHODOLOGY AND SIGNIFICANCE CRITERIA

CONSULTATION UNDERTAKEN TO DATE

- 12.2.1. **Table 12-1** provides a summary of the consultation activities undertaken in support of the preparation of this assessment.

Table 12-1 - Summary of consultation undertaken

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
St. Helens Council	Meeting – 15 May 2019 WSP Transport Study Scoping Note - 27 May 2019	Consideration of improvements to the existing public right of way (PRoW) across the M62 and opportunities to improve sustainable transport links to St. Helens required.

Body / organisation	Meeting dates and other forms of consultation	Summary of outcome of discussions
	<p>St. Helens Council written response – 28 May 2019</p> <p>WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019</p> <p>Meeting – 13 November 2019</p>	<p>The study network within St. Helens Council’s authority will be confirmed once Warrington Borough Council and Highways England have confirmed their requirements.</p> <p>Outcomes of Transport Assessment presented and discussed in advance of formal submission.</p>
Warrington Borough Council	<p>Meeting – 15 May 2019</p> <p>WSP Transport Study Scoping Note - 27 May 2019</p> <p>Warrington Borough Council written responses – 11 June 2019 & 14 June 2019</p> <p>WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019</p> <p>Meeting – 13 November 2019</p> <p>EIA Scoping Responses – 22 November 2019 & 2 December 2019</p>	<p>Consideration of improvements to the existing PRoW across the M62 is required. The impacts of the Proposed Development on M62 Junction 8 need to be fully considered, and where appropriate, mitigation measures proposed.</p> <p>The following committed developments in Warrington are appropriate for consideration: Apollo Way (Outline 2007/11923) and Lingley Mere East (Outline 2016/27313).</p> <p>Outcomes of Transport Assessment presented and discussed in advance of formal submission.</p> <p>The EIA should reflect the findings of the Transport Assessment.</p>
Highways England	<p>Meeting – 15 May 2019</p> <p>WSP Transport Study Scoping Note - 27 May 2019</p> <p>Highways England written response – 13 June 2019</p> <p>WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019</p>	<p>At least one additional site survey of an existing development, similar in size and use for the B2 aspect of the Proposed Development, is used to supplement the proposed survey undertaken at the Omega Dominos industrial unit, to derive a more robust trip generation for the B2 land use quantum.</p>

SCOPE OF THE ASSESSMENT

- 12.2.2. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Chapter 5: Approach to EIA**.
- 12.2.3. This section provides an update to the scope of the assessment and re-iterates the evidence base for scoping out elements following further iterative assessment.

Construction Phase

- 12.2.4. The construction phase will necessitate the movement of heavy goods vehicles (HGVs) in the form of plant and construction materials loads between the national road network and the application site. In addition, cars and light goods vehicle (LGV) movements will be required to transport staff, smaller-scale equipment and materials.
- 12.2.5. These movements are predicted to have a sufficient level of impact on receptors in the vicinity of the application site that elements of the construction phase effects are included within the scope of the assessment.

Operation Phase

- 12.2.6. The operation phase is expected to generate journeys to and from the application site by transport staff, visitors or goods. These movements are predicted to have a sufficient level of impact on receptors in the vicinity of the application site that elements of the operation phase effects are included within the scope of the assessment.

ELEMENTS SCOPED OUT OF THE ASSESSMENT

- 12.2.7. The elements shown in **Table 12-2** are not considered to give rise to likely significant effects as a result of the Proposed Development during construction and operation and have therefore not been considered within this assessment:

Table 12-2 - Elements scoped out of the assessment

Element scoped out	Phase	Justification
Omega North, Lockheed Road (Severance Pedestrian and cyclist delay Pedestrian and cyclist amenity Fear and intimidation)	Construction and Operation	The impacts of the Proposed Development on the study network will be assessed in detail. This will include Driver Delay and Accidents and Safety. Given the location of Omega North, Lockheed Road, it is considered that the Proposed Development would have no direct impact on people walking or cycling.
Barrow Hall Primary School	Construction and Operation	Given the location of Barrow Hall Primary School, the Proposed Development would have no impact.
Lingley Mere Business Park	Construction and Operation	Given the location of Lingley Mere Business Park, the Proposed Development would have no impact.
Lingley Green District	Construction and Operation	Given the location of Lingley Green District, the Proposed Development would have no impact.
Westbrook District	Construction and Operation	Given the location of Westbrook District, the Proposed Development would have no impact.

Element scoped out	Phase	Justification
Old Hall District	Construction and Operation	Given the location of Old Hall District, the Proposed Development would have no impact.

12.2.8. A number of the transport-related effects set out in the Institute of Environmental Management and Assessment (IEMA) Guidelines on the Environmental Assessment of Road Traffic (1993) (Ref. 12.4) (hereafter referred to as ‘the IEMA Guidelines’) are scoped out of the transport assessment, as they are considered within other relevant chapters of the ES; these include:

- Road traffic noise (refer to **Chapter 7: Noise and Vibration**);
- Road traffic vibration (refer to **Chapter 7: Noise and Vibration**);
- Road traffic emissions (refer to **Chapter 6: Air Quality**); and
- Construction related dust (refer to **Chapter 6: Air Quality**).

ELEMENTS SCOPED INTO THE ASSESSMENT

12.2.9. The elements shown in **Table 12-3** are considered to have the potential to give rise to likely significant effects as a result of the Proposed Development during construction and operation and have therefore been considered within this assessment:

Table 12-3 - Elements scoped into of the assessment

Element	Phase	Justification
Omega North, Lockheed Road (Driver Delay Accidents and safety)	Construction and Operation	The impacts of the Proposed Development on the study network will be assessed in detail. This will include Driver Delay and Accidents and safety.
Domino’s, Skyline Drive	Construction and Operation	Potential for direct physical impacts based on routeing of construction and operational phase traffic.
Omega Zone 7, Skyline Drive & Omega Boulevard	Construction and Operation	Potential for direct physical impacts based on routeing of construction and operational phase traffic.
Royal Mail Depot, Orion Boulevard	Construction and Operation	Potential for direct physical impacts based on routeing of construction and operational phase traffic.
M62 Junction 8 signalised gyratory	Construction and Operation	Potential for direct physical impacts based on routeing of construction and operational phase traffic.

EXTENT OF THE STUDY AREA

12.2.10. Following scoping meeting discussions, the agreed study network comprises the following junctions, which are also shown in **Figure 12.1**.

1. Burtonwood Road / Lockheed Road roundabout;

2. M62 Junction 8 signalised gyratory;
3. Burtonwood Road / Charon Way signalised junction;
4. Burtonwood Road / Kingswood Road signalised junction;
5. Burtonwood Road / Westbrook Way roundabout;
6. Skyline Drive / Fairchild Road priority junction; and
7. Omega Boulevard / Catalina Way roundabout.

METHOD OF BASELINE DATA COLLATION

- 12.2.11. As agreed during scoping discussions (see **Table 12-1**), traffic surveys (classified junction turning count surveys and queue surveys) have been carried out for the agreed study network on a weekday in June 2019 between the hours of 05:30-10:00 and 16:00-19:00.
- 12.2.12. Road traffic collision data has been sourced from Department for Transport (DfT) records for the most recently available three-year period (2014-2016).

ASSESSMENT METHODOLOGY

- 12.2.13. The IEMA Guidelines (Ref. 12.4) suggest a screening process to limit the scale and extent of an assessment. It sets out two thresholds that may apply before the environmental effects of increases in traffic need to be assessed in greater detail.
- 12.2.14. The first threshold, Rule 1 suggests that a 30% increase in traffic or HGVs should be used in normal circumstances. This broadly relates to the potential impact on pedestrians from increases in traffic or the capacity performance of links and nodes.
- 12.2.15. The second threshold of a 10% increase in traffic is outlined in Rule 2 and is used in sensitive areas such as accident 'black spots', schools and links with high pedestrian flows. It is not appropriate to consider links or nodes where traffic flows are forecast to change by less than 10% unless there are significant changes in the composition of traffic, such as a large increase in the number of HGVs.
- 12.2.16. The percentage change in traffic flows arising from a development is clearly a function of the level of base flows. In instances where low baseline flows are apparent, a more subjective view is to be taken where the magnitude of change is considered against the absolute level.
- 12.2.17. The IEMA Guidelines (Ref. 12.4) refer to the Department of Transport's (DoT) 'Manual of Environmental Appraisal' (Ref. 12.2), which suggests that changes in traffic flow of 30%, 60% and 90% would be likely to produce 'slight', 'moderate' and 'substantial' impacts.
- 12.2.18. Consideration of the following potential transport-related effects will be covered in this assessment. The specific assessment methodologies for each are discussed in further detail below:
- Pedestrian severance;
 - Driver delay;
 - Pedestrian delay and amenity;
 - Cyclist delay and amenity;
 - Fear and intimidation; and
 - Traffic accidents and safety.

Pedestrian Severance

- 12.2.19. The IEMA Guidelines (Ref. 12.4) set out a range of indicators for determining the significance of impact on severance. Changes in the degree of traffic flow are regarded as producing 'slight',

'moderate' and 'substantial' changes. These indicators, together with specific local conditions such as the provision of crossing facilities and traffic signal settings, have been used to determine the significance of impact on severance.

Driver Delay

Development Trip Rates

12.2.20. The Proposed Development will comprise a mix of B2 and B8 development and, in line with other industrial development within the Omega Business Park, will be assessed as a maximum of 30% B2 development, with the remainder being B8 development.

12.2.21. It has been agreed to derive trip rates for the Proposed Development through surveys of existing B2 and B8 uses on the Omega Business Park. Classified vehicle arrival and departure surveys will be undertaken as follows to determine an Omega B2 and B8 trip rate:

- B2 Development – surveys have been undertaken of the Domino's industrial unit located to the south of Skyline Drive, accessed from Fairchild Road; and the Plastic Omnium B2 development located within Omega South, which will enable a blended B2 trip rate to be calculated; and
- B8 development – surveys have been undertaken of the Asda industrial unit located on Skyline Drive, together with a combined survey of Lockheed Road (serving numerous industrial units), to determine a blended B8 trip rate.

12.2.22. The surveys covered the time period from 05:00 to 19:00 to ensure the corresponding morning and evening peak hours are captured.

Development Trip Distribution

12.2.23. The trip distribution pattern for cars and HGVs has been calculated separately. For cars, partial postcode data from employee travel plan surveys within the Omega Business Park were examined. This provides a good proxy for the likely employee travel to work, based on existing industrial uses within the Omega Business Park. For HGVs, it is proposed to route all HGV movements to/from M62 Junction 8, via Catalina Way to Skyline Drive and then distribute HGV movements in accordance with existing HGV turning proportions at Junction 8 to/from Skyline Drive. The distribution of existing HGV movements within the Omega Business Park provides a good proxy for future HGV movements from the Proposed Development.

Assessing Driver Delay

12.2.24. Junction capacity and driver delay has been assessed using junction modelling software (Transyt and Linsig for signalised junctions, Junctions 9 for priority junctions and roundabouts) where the impact of the Proposed Development is considered potentially significant. These models provide an assessment of the ratio of flow to capacity (RFC) during each time period as well as the expected level of queuing and delay at each junction approach.

Pedestrian Delay

12.2.25. There is no formal or published guidance for the assessment of pedestrian delay. However, the IEMA Guidelines (Ref. 12.4) recommend assessors use their professional judgement to determine the significance of effects, based on the expected level of pedestrian activity, road traffic conditions and the level of service provided for pedestrians.

Pedestrian Amenity

12.2.26. The IEMA Guidelines (Ref. 12.4) suggest a screening threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is halved or doubled. In the absence of other criteria, this threshold has been applied in the assessment.

Cyclist Delay and Amenity

12.2.27. Cyclist amenity is, like pedestrian amenity, broadly the pleasantness of a journey, and can equally be affected by traffic volume and composition, cycleway width, distance between cycleway and carriageway. This has been assessed qualitatively using judgement. Cyclist delay has been considered in the context of additional junctions that would result in delays to cyclists.

Fear and Intimidation

12.2.28. In the absence of commonly agreed thresholds for judging the significance of likely fear and intimidation effects, professional judgement has been applied. Considerations include volume of traffic, percentage of HGVs and the proximity of pedestrians to traffic. In addition, the speed of traffic, the number of turning movements, and the level of vulnerable groups has been considered.

Traffic Accidents and Road Safety

12.2.29. Consideration of the significance of likely traffic accidents and road safety effects include volume of traffic, percentage of HGVs and the proximity of pedestrians to traffic. In addition, the speed of traffic, the number of turning movements, the proximity of schools and the level of vulnerable groups has been considered.

12.2.30. In line with the IEMA Guidelines (Ref. 12.4), where the impacts of the Proposed Development on a specific link or receptor are considered to be outside the scope of the significance criteria, the impact of the Proposed Development on that link or receptor is considered to be insignificant and therefore does not require detailed assessment.

12.2.31. To assist with assigning the magnitude of the impact upon the analysed receptors, the IEMA Guidelines (Ref. 12.4) sets out consideration and, in some cases, thresholds in respect to changes in the volume and composition of traffic to facilitate judgement on the significance of traffic effects.

Determining the Magnitude of Transport Impacts

12.2.32. **Table 12-4** details the assessment framework adapted from the IEMA Guidelines (Ref. 12.4) to be used in the assessment to determine the magnitude of transport impacts.

SIGNIFICANCE CRITERIA

12.2.33. The significance level attributed to each effect has been assessed based on the sensitivity/value of the affected receptor(s) and the magnitude of change arising from the Proposed Development, as well as a number of other factors that are outlined in more detail in **Chapter 5: Approach to EIA**. The sensitivity of the affected receptor is assessed on a scale of high, medium, low and negligible, and the magnitude of change is assessed on a scale of large, medium, small, negligible and no change, as set out in **Chapter 5: Approach to EIA**.

Table 12-4 - Determining the magnitude of Transport-related Changes

Impact	Magnitude of Change			
	Negligible	Small	Medium	Large
Severance	Change in hourly traffic flows of less than 30%	Change in hourly traffic flows of 30% - 60%	Change in hourly traffic flows of 60% - 90%	Change in hourly traffic flows of over 90%
Driver Delay	Junction capacity and driver delay have been assessed using industry standard junction modelling software. The complete assessment results are included in the Transport Assessment (see OPP DOC.4) and a summary is provided in this chapter.			
Pedestrian Delay	Two-way traffic flow < 1,400 vehicles per hour	A judgement based on the routes with two-way traffic flow exceeding 1,400 vehicles per hour in the context of their individual characteristics.		
Pedestrian Amenity	Professional judgement based on change in traffic volumes and class composition, pedestrian infrastructure quality and potential interactions between pedestrians and motorised traffic.			
Cyclist Delay and Amenity	Professional judgement based on change in traffic volumes and class composition, cycling infrastructure quality and potential interactions between cyclists and motorised traffic.			
Fear and Intimidation	Identified through combined assessments of Severance, Pedestrian Delay and Pedestrian Amenity			
Traffic Accidents and Road Safety	The effects of increased traffic on accidents and safety are determined from existing accident records, national statistics, the type and quantity of traffic generated, journey lengths and the characteristics of the routes in question.			

EFFECT SIGNIFICANCE

12.2.34. The following terms have been used to define the significance of the effects identified and apply to both beneficial and adverse effects:

- **Major effect:** where the Proposed Development could be expected to have a substantial improvement or deterioration on receptors;
- **Moderate effect:** where the Proposed Development could be expected to have a noticeable improvement or deterioration on receptors;
- **Minor effect:** where the Proposed Development could be expected to result in a perceptible improvement or deterioration on receptors; and

- **Negligible:** where no discernible improvement or deterioration is expected as a result of the Proposed Development on receptors, including instances where no change is confirmed.

12.2.35. As set out in **Chapter 5: Approach to EIA**, effects that are classified as **moderate or above** are considered to be **significant**. Effects classified as below **moderate** are considered to be **not significant**.

Table 12-5 - Significance Matrix

Receptor Sensitivity	Magnitude of Change				
	No Change	Negligible	Small	Medium	Large
High	No Effect	Negligible	Moderate	Major	Major
Medium	No Effect	Negligible	Minor	Moderate	Major
Low	No Effect	Negligible	Minor	Minor	Moderate
Negligible	No Effect	Negligible	Negligible	Negligible	Negligible

12.3. BASELINE CONDITIONS

EXISTING WALKING CONDITIONS

12.3.1. The following paragraphs detail the existing pedestrian infrastructure and facilities near the application site.

Catalina Way

12.3.2. Catalina Way is located on the north-eastern boundary of the application site and links the application site with wider Omega South development via Omega Boulevard. As with all the Omega South site, pedestrians are well provided for, with an approximately 3.5m wide shared footway / cycleway on the southern edge of the carriageway, separated from the carriageway by an approximately 2m wide strip.

12.3.3. Dropped kerbs and tactile paving are provided at all crossing points. From the roundabout with Omega Boulevard, an approximately 2.5m wide lit footway is provided which will eventually provide links to the proposed residential area to the east of the application site.

Omega Boulevard

12.3.4. Omega Boulevard is located approximately 500m to the east of the application 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.

Lingley Green Avenue

- 12.3.5. Lingley Green Avenue is located to the south east of the application 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.
- 12.3.6. Lingley Green Avenue has an approximately 3m wide shared footway / cycleway on the south side of the carriageway for most 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.

Summary

- 12.3.7. The pedestrian conditions ensure that people walking and wheeling are sufficiently separated from motorised traffic when travelling adjacent to carriageways. The crossing facilities are considered to be suitable for the existing traffic conditions.

EXISTING CYCLING CONDITIONS

- 12.3.8. There is a 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-carriageway cycle routes on the main routes through the area, linking to the wider network to the north west and south of the application site. All routes within the vicinity of the application site are well signed to indicate where the cycle routes start and end and signs to key destinations are also provided.
- 12.3.9. From Lingley Green Avenue (accessed via Catalina Way and Sophia Drive), cyclists can travel between the application site and Warrington Town Centre via traffic free cycle routes along Whittle Avenue and Sankey Way. These routes also provide links to the residential areas of Warrington as well as Warrington Bank Quay Station, Warrington Central Station and Warrington Bus Station.
- 12.3.10. The Westbrook to Dallam Greenway was completed in October 2015 and provides a traffic free greenway between Westbrook and Dallam. This provides a suitable link between the application site and a large percentage of the Warrington population.

Summary

- 12.3.11. The cycling conditions ensure that people cycling are sufficiently separated from motorised traffic, where necessary. The crossing facilities are considered to be suitable for the existing traffic conditions.

HIGHWAY NETWORK

National and Regional

- 12.3.12. The application site is strategically located to access a number of motorway links that provide access to a range of different routes locally, regionally and nationally.
- 12.3.13. The application site is located to the south of the M62 with the motorway extending along the length of the northern 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.

- 12.3.14. 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 application 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.
- 12.3.15. The M62 Junction 8 is located to the northeast of the Proposed Development, 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 the Omega South application site was built as part of Omega Zone 7 development and became operational in 2014 when the access road into the ASDA distribution centre was completed. This access road provides access to the ASDA Distribution centre 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 Proposed Development. There are a range of shops located here including Ikea, Marks and Spencers, Boots and Next, and a number of office units.
- 12.3.16. The A49 is located approximately 5 kilometres to the east of the application 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.
- 12.3.17. 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.
- 12.3.18. The M6 is located approximately 8 kilometres east of the application 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.
- 12.3.19. The M1 is a north-south arterial route and comprises 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.
- 12.3.20. The high quality comprehensive motorway links surrounding the application site provide a range of direct connections to many major cities throughout the UK.

Local

- 12.3.21. The context of the application site within the local highway network is shown in **Figure 1.1**.
- 12.3.22. The application site boundary is accessible via Catalina Way within Omega South. Catalina Way links the application site in the west with Omega Boulevard in the east, is approximately 10m wide and is subject to a 30mph speed limit.
- 12.3.23. 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. Near the application 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.

12.3.24. 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.

12.3.25. Lingley Green Avenue is located to the south west of the application 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.

12.3.26. 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.

REVIEW OF LAND USES

12.3.27. The land uses near the Proposed Development have been reviewed, to determine their influence on the scope of the assessment. **Table 12-6** summarises the conclusions of the land use review.

Table 12-6 - Summary of Land Use Review

Site / Area	Land Uses	Key Considerations
Omega North, Lockheed Road	Class B2/B8 (Manufacturing & Logistics)	Existing traffic movements within the agreed study network are included in the baseline. Users will be considered as receptors and potential impacts are reviewed in Section 12.6.
Domino's, Skyline Drive	Class B2 (Manufacturing)	Existing traffic movements within the agreed study network are included in the baseline. Users will be considered as receptors and potential impacts are reviewed in Section 12.6.
Omega Zone 7, Skyline Drive & Omega Boulevard	Class B2/B8 (Manufacturing & Logistics)	Existing traffic movements within the agreed study network are included in the baseline. Users will be considered as receptors and potential impacts are reviewed in Section 12.6.
Royal Mail Depot, Orion Boulevard	Class B8 (Logistics)	Existing traffic movements within the agreed study network are included in the baseline. Users will be considered as receptors and potential impacts are reviewed in Section 12.6.

PERSONAL INJURY ACCIDENT REVIEW

12.3.28. The most recently available three-year personal injury road accident data for the study area has been sourced from DfT records (2014-2016) and shows the highest density of accidents around junctions, this can be seen in **Figure 12.2**.

12.3.29. The M62 Junction 8 signalised gyratory has the highest number of accidents; this is in line with the volume of traffic associated with the junction. The majority of accidents are recorded as being 'slight' in injury severity and three 'serious' injury accidents noted in the area.

12.3.30. There are no clusters of injury accidents which might indicate there is a major existing road safety issue and therefore the road safety sensitivity of the road network to changes in traffic volumes is considered to be low.

FUTURE BASELINE TRAFFIC FLOWS

Study Network

12.3.31. It has been agreed through scoping discussions that the following junctions should be considered as part of the study shown in **Figure 12.1**:

1. Burtonwood Road / Lockheed Road roundabout
2. M62 Junction 8 signalised gyratory
3. Burtonwood Road / Charon Way signalised junction
4. Burtonwood Road / Kingswood Road signalised junction
5. Burtonwood Road / Westbrook Way roundabout
6. Skyline Drive / Fairchild Road priority junction; and
7. Omega Boulevard / Catalina Way roundabout.

12.3.32. 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 Volume 6, Section 3, Part 5 (Ref. 12.3) .

Assessment Periods

12.3.33. 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 assessment:

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

12.3.34. 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.

12.3.35. Vehicle 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 (Ref. 12.10).

Committed Development

12.3.36. The committed development to be included in this assessment was agreed in an “*Omega Transport Study scoping clarifications*” agreed with St. Helens Council, Warrington Borough Council and Highways England on 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 Gross Floor Area (GFA)), general industry (109,006sqft GFA), self-storage (25,005sqft GFA) and storage distribution (109,006sqft GFA).

12.3.37. The vehicle trip generation for the two committed developments was extracted from the following documents which were provided by Warrington Borough Council:

- 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.

Traffic Growth

12.3.38. The DfT's Tempro V7.2 has been used 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 12-7** were selected and an average growth factor was taken.

Table 12-7 - 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

12.3.39. 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.

12.4. SENSITIVE RECEPTORS

12.4.1. Based on the above review of land uses, the receptors within each land use area have been reviewed. An indicative overview of the sensitivity of each receptor type is provided in **Table 12-8**.

Table 12-8 - Key Sensitive Receptors

Site / Area	Receptor Type	Sensitivity Level
Omega North, Lockheed Road	People at work	Negligible sensitivity
	People walking	Low sensitivity
	People cycling	Low sensitivity

Site / Area	Receptor Type	Sensitivity Level
Domino's, Skyline Drive	People at work	Negligible sensitivity
	People walking	Low sensitivity
	People cycling	Low sensitivity
Omega Zone 7, Skyline Drive & Omega Boulevard	People at work	Negligible sensitivity
	People walking	Low sensitivity
	People cycling	Low sensitivity
Royal Mail Depot, Orion Boulevard	People at work	Negligible sensitivity
	People walking	Low sensitivity
	People cycling	Low sensitivity
M62 Junction 8 signalised gyratory	People at work	Low sensitivity
	People walking	Negligible sensitivity
	People cycling	Negligible sensitivity

12.5. LEGISLATIVE FRAMEWORK, POLICY AND GUIDANCE

LEGISLATIVE FRAMEWORK

12.5.1. The applicable legislative framework is summarised as follows:

- National Planning Policy Framework from the Ministry of Housing, Communities and Local Government (Ref. 12.7).

POLICY

- DfT Circular 02/2013: The Strategic road network and the delivery of sustainable development (Ref. 12.1).
- Transport for the North (TfN)– Strategic Transport Plan (Ref. 12.11).
- Warrington Local Transport Plan 3 (Ref. 12.12).
- Warrington Borough Council Standards for Parking in New Developments (Ref. 12.13).
- St. Helens Borough Local Plan 2020-2033 Submission Draft (Ref. 12.9).
- St. Helens Supplementary Document, Ensuring a Choice of Travel (Ref. 12.8).
- In addition, this chapter has been prepared in accordance with the Government's National Planning Practice Guidance (Ref. 12.6).

GUIDANCE

12.5.2. The following guidance documents have been used during the preparation of this assessment:

- Institute of Environmental Assessment (now Institute of Environmental Management and Assessment (IEMA's) 'Guidelines for the Environmental Assessment of Road Traffic (Ref. 12.4); and
- Design Manual for Roads and Bridges Volume 6, Section 3, Part 5 (Ref. 12.3).

12.6. ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND RESIDUAL EFFECTS

CONSTRUCTION PHASE

12.6.1. The hours for construction phase deliveries arriving at the application site are as follows:

- Monday to Friday – 07.00 to 18.00.
- Saturday – 07.00 – 14.00.
- No deliveries on Sunday or Public holidays.

12.6.2. Vehicular access during the fitout of building is expected to include vehicle movements outwith these hours, however the volume of these movements is expected to be negligible.

12.6.3. The exact daily volumes of construction-related traffic will be determined once a Principal Contractor has been appointed. At this stage it is expected that a maximum of 50 movements of HGVs will occur per day on the strategic and local road network during the construction phase. This equates to approximately one vehicle every 7-8 minutes. Therefore, the magnitude of change is considered to be **small** on Catalina Way, Omega Boulevard (north) and Skyline Drive. On all other links within the study network, the magnitude of change is considered to be **negligible**.

12.6.4. Construction traffic is assumed to access the application site via Junction 8 of the M62 motorway, Skyline Drive and Catalina Way. It has been assumed that for the majority of construction deliveries and collections to the application site will occur outside of the traffic peak periods.

12.6.5. The predicted transport-related effects during the construction phase have been assessed and are summarised in **Table 12-9**, together with any necessary mitigation and potential residual effects.

Table 12-9 - Assessment of potential effects, additional mitigation, residual effects and monitoring during construction

Sensitive receptor location	Omega North, Lockheed Road
Potential effects	No significant effect on driver delay, cyclists or pedestrians predicted.
Additional mitigation	None required.
Residual effects and monitoring	The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant).

	<p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people walking (not significant).</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people cycling (not significant).</p>
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Sensitive receptor location	Domino's, Skyline Drive
Potential effects	Potential for effects impacting people walking and cycling based on routing of construction phase traffic.
Additional mitigation	<p>Implementation of a Construction Traffic Management Plan.</p> <p>The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.</p>
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	Omega Zone 7, Skyline Drive & Omega Boulevard
Potential effects	Potential for effects impacting people walking and cycling based on routing of construction phase traffic.
Additional mitigation	<p>Implementation of a Construction Traffic Management Plan.</p> <p>The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.</p>
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	Royal Mail Depot, Orion Boulevard
Potential effects	Potential for effects impacting people walking and cycling based on routing of construction phase traffic.
Additional mitigation	Implementation of a Construction Traffic Management Plan. The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	M62 Junction 8 signalised gyratory
Potential effects	No effect on driver delay, cyclists or pedestrians predicted.
Additional mitigation	None required.
Residual effects and monitoring	<p>The sensitivity of people at work is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant).</p> <p>The sensitivity of people walking is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people walking (not significant).</p> <p>The sensitivity of people cycling is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people cycling (not significant).</p>

OPERATIONAL PHASE

Pedestrian Access

- 12.6.6. A pedestrian/cycle link is proposed within the application site which will connect to the existing pedestrian bridge over the M62 to facilitate active travel to the application site.

12.6.7. The Proposed Development will be accessible by all current modes of transport, with all internal footways connecting into the existing pedestrian network.

Cycle Facilities

12.6.8. The following pedestrian / cycle links from the application site will be provided:

- A connection with the existing pedestrian bridge (south of Clock Face Country Park) over the M62 and thereby facilitate active travel between the site and St. Helens.
- A connection to the existing pedestrian / cycle facilities on Catalina Way.
- A connection to Omega Boulevard, running along the southern edge of the Omega Zone 7 development.

12.6.9. Cycle use will be encouraged with secure covered cycle parking facilities located within the application site, including shower, changing and locker facilities.

Vehicle Access

12.6.10. It is proposed that vehicular access to the Proposed Development would be from Catalina Way, from the M62 Junction 8, north east of the Proposed development, and from the Omega Boulevard / Orion Boulevard roundabout to the south.

12.6.11. All HGV traffic to/from the Proposed Development 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 permeable development which will enable traffic to disperse onto the external road network.

Vehicle Trip Generation

12.6.12. During the scoping discussions, it was agreed that trip rates for the land uses for the proposed B2 and B8 development would be derived through surveys of existing B2 and B8 uses on the wider Omega site. Therefore, 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).

12.6.13. 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 Transport Assessment (see **OPP DOC.4**) and the resultant trip rates and generation is summarised in **Table 12-10** and **Table 12-11** below.

Table 12-10 - 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 12-11 - 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

Predicted Change in Vehicle Trips

12.6.14. The operational phase vehicle trips have been assigned to the study network using the methodology used in the Transport Assessment (**OPP DOC.4**). A summary of the future baseline, operational phase and combined vehicle trips on the links within the study network is presented in **Table 12-12**. This table also includes the percentage change in all vehicles to inform the assessment of potential effects.

Table 12-12 - Summary of the future baseline, operational phase and combined vehicle trips on the links within the study network

	Future Baseline (inc. Committed Development)		Operational Phase		Future Baseline + Operational Phase		% Change		Magnitude of Change
	AM	PM	AM	PM	AM	PM	AM	PM	
Omega Boulevard	1165	1054	62	87	62	1141	5%	8%	Negligible

	Future Baseline (inc. Committed Development)		Operational Phase		Future Baseline + Operational Phase		% Change		Magnitude of Change
	AM	PM	AM	PM	AM	PM	AM	PM	
(South of Catalina Way)									
Omega Boulevard (North of Catalina Way)	1233	1086	344	461	344	1547	28%	42%	Small
Skyline Drive (West of Fairchild Road)	1421	1322	344	461	344	1784	24%	35%	Small
Skyline Drive (East of Fairchild Road)	1624	1503	344	461	344	1964	21%	31%	Small
M62 Junction 8 Gyratory	5111	5549	344	456	5455	6005	7%	8%	Negligible

12.6.15. In addition to the predicted changes in all vehicle trips, there is expected to the increases in HGV movements on Omega Boulevard and Skyline Drive which exceed the IEMA 30% threshold for assessing impacts. This is in part related to the relatively low baseline levels of HGV movements.

12.6.16. Based on the predicted changes in all vehicle and HGV movements during the operational phase, the impacts on identified sensitive receptors have been assessed. The outcomes of this assessment are presented in **Table 12-13**.

Table 12-13 - Assessment of potential effects, additional mitigation, residual effects and monitoring during operation

Sensitive receptor location	Omega North, Lockheed Road
Potential effects	Potential for change in driver delay based on routing of operational phase traffic. No impact on cyclists or pedestrians is predicted.
Additional mitigation	Mitigation measures have been developed for implementation at M62 Junction 8 – Westbound Off-Slip and Circulatory Carriageway junction 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 Warrington Borough Council and only requires changes to road markings and lane allocation.

	Further details of the mitigation proposals are presented in the Transport Assessment (see OPP DOC.4).
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	Domino's, Skyline Drive
Potential effects	Potential for effects impacting people walking and cycling based on routeing of operational phase traffic.
Additional mitigation	It is proposed to build upon the existing network of infrastructure, providing footways and cycleways as part of the master planning process, together with investigating additional and/or re-routed/extended public transport services. Discussions will be held with both St. Helens Council and Warrington Borough Council to determine the most appropriate provision of public transport services, ensuring that the Proposed Development is appropriately served by public transport.
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	Omega Zone 7, Skyline Drive & Omega Boulevard
Potential effects	Potential for effects impacting people walking and cycling based on routeing of operational phase traffic.
Additional mitigation	It is proposed to build upon the existing network of infrastructure, providing footways and cycleways as part of the master planning process, together with investigating additional

	and/or re-routed/extended public transport services. Discussions will be held with both St. Helens Council and Warrington Borough Council to determine the most appropriate provision of public transport services, ensuring that the Proposed Development is appropriately served by public transport.
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	Royal Mail Depot, Orion Boulevard
Potential effects	Potential for effects impacting people walking and cycling based on routeing of operational phase traffic.
Additional mitigation	It is proposed to build upon the existing network of infrastructure, providing footways and cycleways as part of the master planning process, together with investigating additional and/or re-routed/extended public transport services. Discussions will be held with both St. Helens Council and Warrington Borough Council to determine the most appropriate provision of public transport services, ensuring that the Proposed Development is appropriately served by public transport.
Residual effects and monitoring	<p>The sensitivity of people at work is negligible, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is low, and the magnitude of change, following mitigation, is small. Therefore, there is likely to be a minor adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

Sensitive receptor location	M62 Junction 8 signalised gyratory
Potential effects	Potential for change in driver delay based on routeing of operational phase traffic.
Additional mitigation	Mitigation measures have been developed for implementation at M62 Junction 8 – Westbound Off-Slip and Circulatory Carriageway junction to mitigate the identified impact on the operation of the junction of the Proposed Development.

	<p>The proposed mitigation measures at this junction can be delivered within the existing highway boundary, within land under the control of Warrington Borough Council and only requires changes to road markings and lane allocation.</p> <p>Further details of the mitigation proposals are presented in the Transport Assessment (see OPP DOC.4).</p>
<p>Residual effects and monitoring</p>	<p>The sensitivity of people at work (business travel) is low, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people at work (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people walking is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people walking (not significant) following the implementation of mitigation measures.</p> <p>The sensitivity of people cycling is negligible, and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible adverse residual effect on people cycling (not significant) following the implementation of mitigation measures.</p>

12.7. OPPORTUNITIES FOR ENHANCEMENT

12.7.1. No opportunities for enhancement have been identified.

12.8. LIMITATIONS AND ASSUMPTIONS

- 12.8.1. The estimated baseline traffic flows have been based on single day traffic surveys which are considered to be representative of general traffic conditions for the agreed study network. Whilst this approach is the standard industry practice and has been accepted by the ruling highways authorities, it is acknowledged that traffic volumes fluctuate on a daily and seasonal basis. To minimise this effect, the surveys were undertaken on a neutral weekday and outwith the local school holiday or public holiday periods.
- 12.8.2. Future baseline traffic flows for the study road network have been estimated using the DfT's Tempro V7.2; this is the industry standard approach. Tempro uses historical data to identify future trends and it only provides a forecast of conditions in the year of opening (2021). However, it is considered the most appropriate method to estimate future baseline traffic flows.
- 12.8.3. The trip generation estimates for the proposed B2 and B8 development land uses have been derived through surveys of existing B2 and B8 uses on the wider Omega site. Whilst this approach is predicted to provide a good proxy for the Proposed Development, there may be some variation in how the Proposed Development operates compared to the existing neighbouring developments.

12.9. SUMMARY

12.9.1. **Table 12-14** provides a summary of the findings of the assessment.



Table 12-14 - Summary of Transport Effects

Sensitive Receptor Location	Receptor Type	Potential Effects	Additional Mitigation	Residual Effects	Monitoring
Construction Phase					
M62 Junction 8 signalised gyratory	People at Work People Walking People Cycling	No significant effect predicted.	The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.	Negligible Adverse (Not Significant) T	None proposed.
Omega North, Lockheed Road	People at Work	No significant effect predicted.	The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.	Negligible Adverse (Not Significant) T	Any reported concerns from local businesses related to the movement of construction phase traffic should be reviewed by the Principal Contractor and any necessary additional measures incorporated into the CEMP.
Royal Mail Depot, Orion Boulevard	People Walking People Cycling	Potential for effects on impacting people walking or cycling based on routing of construction phase traffic on Omega Boulevard and Skyline Drive.	The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.	Negligible Adverse (Not Significant) T	Any reported pedestrian or cyclist concerns related to the movement of construction phase traffic should be reviewed by the Principal Contractor and any necessary additional measures incorporated into the CEMP.

Sensitive Receptor Location	Receptor Type	Potential Effects	Additional Mitigation	Residual Effects	Monitoring
Domino's, Skyline Drive	People at Work	No significant effect predicted.	The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.	Negligible Adverse (Not Significant) T	Any reported concerns from local businesses related to the movement of construction phase traffic should be reviewed by the Principal Contractor and any necessary additional measures incorporated into the CEMP.
Omega Zone 7, Skyline Drive & Omega Boulevard	People Walking People Cycling	Potential for effects on impacting people walking or cycling based on routeing of construction phase traffic on Omega Boulevard and Skyline Drive.	The Principal Contractor will produce a CEMP, which will include measures to manage the movement of construction traffic to, from and on site.	Minor Adverse (Not Significant) T	Any reported pedestrian or cyclist concerns related to the movement of construction phase traffic should be reviewed by the Principal Contractor and any necessary additional measures incorporated into the CEMP.
Operational Phase					
M62 Junction 8 signalised gyratory	People at Work	Potential for change in driver delay based on routeing of operational phase traffic.	Changes to road markings and lane allocation at M62 Junction 8 signalised gyratory.	Negligible Adverse (Not Significant) P	No specific monitoring required.



Sensitive Receptor Location	Receptor Type	Potential Effects	Additional Mitigation	Residual Effects	Monitoring
	People Walking People Cycling	None	None required.	None (Not Significant) P	No specific monitoring required.
Omega North, Lockheed Road	People at Work	Potential for change in driver delay based on routeing of operational phase traffic.	None required.	Negligible Adverse (Not Significant) P	No specific monitoring required.
	People Walking People Cycling	Potential for effects impacting people walking or cycling based on routeing of operational phase traffic.	None required.	Negligible Adverse (Not Significant) P	No specific monitoring required.
Domino's, Skyline Drive Omega Zone 7,	People at Work	Potential for change in driver delay based on routeing of operational phase traffic.	None required.	Negligible Adverse (Not Significant) P	No specific monitoring required.

Sensitive Receptor Location	Receptor Type	Potential Effects	Additional Mitigation	Residual Effects	Monitoring
Skyline Drive & Omega Boulevard Royal Mail Depot, Orion Boulevard	People Walking People Cycling	Potential for effects impacting people walking and cycling based on routeing of operational phase traffic.	Provision of suitable footway / cycleways as part of the master planning process.	Minor Adverse (Not Significant) P	No specific monitoring required.

Key to table:

P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

12.10. REFERENCES

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- Ref. 12.10. (n.d.). Traffic Modelling Guidelines (2010). London: Transport for London.
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