INTRODUCTION 7.1

7.1.1 Company

Mott MacDonald Limited

7.1.2 Authors

7.1.2.1 Author

Kevin Blakey - Principal Transport Planner for Mott MacDonald. 17 years' experience in Transport Planning, Chartered member of the Royal Town Planning Institute and Master of Civic Design.

7.1.2.2 Reviewer

Dave Drury - Director for Mott MacDonald. An experienced Project Manager and Director with approximately 28 years' experience, 17 of which were working for the Local Authorities of Wirral Borough Council and Liverpool City Council. Has significant experience in traffic and transportation working in both the public and private sector.

7.1.3 Chapter Purpose

This Chapter considers the transport impacts associated with the construction and operation of the proposed Goodison Park Legacy Project (GPLP). This Chapter describes the methods used to assess the impacts, the baseline traffic and transport conditions, the mitigation measures which will be implemented as part of the proposed development to mitigate potential impacts, and the direct or indirect effects of the proposed development.

This Chapter should be read in conjunction with Appendix 7.1 (ES Volume III), which contains the Transport Assessment (TA) for the planning application. The objectives of this Chapter are to assess the transport impact in terms of:

- Severance;
- Vehicle Delay;
- Pedestrian Delay;
- Pedestrian Amenity; and
- Road Safety.

7.1.4 **Chapter Updates for Revised December 2020 Submission**

This transport ES Chapter has been reviewed and it has been confirmed that there are no amendments required to the content of the chapter in relation to legislation/policy revisions, as there have been no related updates to legislation/policy that have affected either the methodology or findings of this assessment; or in relation to baseline data validity, as there have been no relevant changes to the baseline conditions. However, due to the relevance and scale of the proposed development amendments, a limited technical assessment (a 'Level 2' Update) has been undertaken in

accordance with the methodology outlined in Chapter 2 to confirm the validity of the previous conclusions.

As reported in the Transport Assessment in Appendix 7.1, a trip generation assessment has been undertaken for the December 2020 amended scheme, to allow comparison with the trip generation of the previous March 2020 iteration of the scheme. The results demonstrate that the revised application quanta will generate 25 fewer traffic trips in the morning peak and 67 fewer trips in the evening peak hour than the March 2020 scheme.

Under the revised December 2020 submission, the location of the proposed uses around the site has slightly shifted. Furthermore, there are now three east to west connections through the site between Bullens Road and Goodison Road, making the site more permeable.

Notwithstanding this, the modest changes in terms of the location and concentration of uses will not have a material impact on traffic distribution. Traffic will still access and egress the Goodison Park area from the same basic directions, unaffected by the changes in traffic distribution. The methodology employed for the original March 2020 ES chapter was to distribute office, residential and adult education trips using Census Data. Retail, education, health centre trips were distributed using surveyed traffic data on Walton Lane, focussing distribution on this corridor for a robust assessment.

The plans in the Transport Assessment (Appendix L of Appendix 7.1) illustrate the agreed traffic distribution from the previous transport assessment and illustrates how the agreed traffic distribution will remain unaffected.

Taking this into account, there is considered to be no requirement to adjust the March 2020 ES trip distribution data for the purposes of this revised ES chapter, nor to change the traffic generation calculations. The trip distribution and trip generation calculations as included in the original planning submission remain valid. This has been agreed with Liverpool City council and confirmed by them via email 24th November 2020.

7.1.5 Figures

Figure 7.1: Study Area

7.1.6 Appendices

- Appendix 7.1: Transport Assessment
- Appendix 7.2: Transport EIA Technical Appendix
- Appendix 7.3: Framework Travel Plan

METHODOLOGY 7.2

7.2.1 Guidance

This technical assessment has been conducted with reference to:

- Traffic' [1]; and

7.2.2 Legislation & Policy

following are relevant:

- Merseyside Active Travel Strategy Merseytravel [4];
- Merseyside Local Transport Plan 3 Merseytravel [5];
- City of Liverpool Unitary Development Plan (UDP), (adopted November 2002) – Liverpool City Council (LCC) [6];
- Combined Authority (LCRCA) [8];
- LCC [9]
- [10]

7.2.3 Consultees

City Council Highways have been consulted.

Section 1.3.

7.2.3.1 Scoping

Following issue of the EIA Scoping Report (Appendix 2.1, ES Volume III) to LCC on 15th May 2017, no specific advice was received from LCC in regard to transport considerations within the formal Scoping Opinion (Appendix 2.2, ES Volume III) that was issued by LCC on 7th July 2017.

■ The Institute for Environmental Management & Assessment (IEMA) guidance note 'Guidelines for the Environmental Assessment of Road

Volume 11 of the Design Manual for Roads and Bridges (DMRB) [2]

In terms of the key policy documents which have informed this chapter the

- National Planning Policy Framework Ministry of Housing, Communities and Local Government (MHCLG) [3];
- Liverpool Local Plan (Submission Draft, May 2018) LCC [7];
- Liverpool City Region Long Term Rail Strategy Liverpool City Region
- Ensuring a Choice of Travel Supplementary Planning Document (SPD)
- Transport Plan for Growth-Liverpool City Region Combined Authority
- Liverpool City Centre Strategic Investment Framework- [11]
- In preparing the TA which accompanies this planning application, Liverpool
- Detail on consultation and TA scoping is provided in Appendix 7.1,

Consequently, the assessment in this Chapter is carried out in accordance with the Scoping Report. We consider the scope of the assessment appropriate, having undertaken scoping with the Local Authority and with the Transport Assessment also having been scoped. The results reported in sections 7.6 and 7.8 of this ES chapter and in the TA (Appendix 7.1, ES Volume III) indicate that the road network can accommodate the additional traffic and pedestrian amenity and delay will not be affected during either the construction or operational phases. Furthermore, the Transport assessment (appendix 7.1) concludes that the development will be well connected to existing walking, cycling and public transport networks. On this basis the approach of assessing significant effects on operation of the transport network using the IEMA guidelines is appropriate.

7.2.3.2 April 2020 Planning application Consultation

Following planning submission in April 2020 no specific comments were received on the planning submission in terms of the EIA chapter. Comments were received from Liverpool City Council Highways on the Transport Assessment in their planning response on the planning application of 11th May 2020. Liverpool City Council offered no objection and were content the development would not have a severe impact on the transport network. Contribution was sought to highway improvement schemes via Section 106 for new cycle improvements and minor pedestrian improvements in the local area.

7.2.4 Consideration of Climate Change

The projected climate that is predicted to occur as a result of climate change is set out in Chapter 2 EIA Methodology of this ES. Those climate changes that are predicted are not anticipated to significantly affect the operation of transport in respect of the existing situation at the application site or that associated with the proposed development.

It is acknowledged that vehicle emissions are a key contributor to climate change. This is elaborated on in more detail in Chapter 8 Air Quality of this ES.

7.2.5 Consideration of Human Health

In terms of human health this chapter assesses impacts in terms of road safety. It should be noted that it is the intention that travel by sustainable modes will be encouraged, including walking and cycling. Cycle facilities will be provided at the site to encourage this mode. It should also be noted that a Framework Travel Plan accompanies the planning application, which includes measures to encourage site users to travel sustainably to and from the site.

7.2.6 Consideration of Risk of Major Accidents and/or Disasters

In accordance with the Scoping Report (Appendix 2.1, ES Volume III) and Scoping Opinion (Appendix 2.2, ES Volume III), the identified major accidents and disasters that are to be considered in relation to transport are transport accidents. The impact of the proposed development in terms of road safety is reported in this ES chapter.

7.2.7 Alternatives

Alternatives are discussed in Chapter 5 Alternatives and Design Evolution. None of the alternatives that have been considered are relevant to the assessments reported in this chapter.

7.2.8 Assessment Scenarios

The baseline conditions and assessment years that have been considered are as follows:

- 2019 existing baseline conditions;
- 2028 & 2032 future baseline conditions & cumulative;
- 2028 & 2032 proposed development & cumulative;

The future year of 2028 is considered here as it represents the year the Club envisage that the proposed development will be completed and open in its entirety. The year 2032 has been selected as this represents a future year assessment five years following the full occupation of the development.

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Figure 7.1 Study Area



MOTT MACDONALD | GOODISON PARK LEGACY PROJECT, LIVERPOOL

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7.2.9 Assessment of Baseline Conditions & Receptor Sensitivity

The study area is identified on Figure 7.1. The study area represents the street connections where the highest concentrations of road traffic are expected to route on account of the proposed development. The area has been agreed in the scoping of the Transport Assessment with Liverpool City Council.

The following roads are within the study area:

- Gwladys Street between Goodison Road and Walton Lane;
- Bullens Road between Gwladys Street and Walton Lane;
- Walton Lane between Priory Road and Langham Street;
- Langham Street west of Spellow Lane;
- Spellow Lane west of Walton Lane;
- Goodison Road between Spellow Lane and Nimrod Street;
- Andrew Street west of Goodison Road;
- Nimrod Street west of Goodison Road;
- City Road north of Gwladys Street; and
- Walter Street between Great Howard Street and Regent Road.

For the assessment of driver delay, the study area is slightly smaller and is limited to the major junctions within this part of the transport network. These major junctions are listed below:

- Walton Lane / Priory Road
- Walton Lane / Spellow Lane / Langham Street

These have been identified as the key links for assessment for driver delay as they are under signal control, all other junctions in the study area are priority controlled and not included in the assessment on account of their minor nature.

It should be noted that this study area is consistent with the study area used for the TA.

7.2.9.1 Baseline Data Sources

Traffic surveys were undertaken within the study area for a two-week period in March 2019 at the following locations:

County Road (A59);

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- Walton Lane (A580); and
- Goodison Park site accesses.

Manually Classified Counts (MCC) turning count data was also undertaken for the following junctions on 14th March 2019:

- Walton Lane / Bullens Road;
- Walton Lane / Spellow Lane / Langham Street;

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- Walton Lane / Priory Road;
- Spellow Lane / Goodison Road;
- Goodison Road / City Road / Gwladys Street / Andrew Street / Nimrod Street; and
- Bullens Road / Gwladys Street.

To account for the traffic growth that will take place in Liverpool to the future baseline assessment years, the Trip End Model Presentation Program (TEMPro) has been used. This program developed by the Department for Transport (DfT) uses planning data to calculate changes in transport demand in the future.

For the assessment of road safety RTC (Road Traffic Collision) data has been provided by Liverpool City Council for the local area.

7.2.9.2 Receptors & Sensitivity

In line with the IEMA guidance the assessment focuses mainly upon the increase in road traffic in the area and the impact this will have on receptors.

The receptors that have been identified for the proposed development, along with their main features and sensitivity, have been determined based on professional judgement taking into account their relative importance for all road users, and are summarised in Section 7.3 of this Chapter. The majority of the identified receptors are links but do include the aforementioned junctions in terms of driver delay. Section 7.3 sets out the scale of sensitivity that has been applied to receptors identified and considered within this assessment.

Table 7.1 Receptor Sensitivity

SENSITIVITY	DESCRIPTION
High	Links containing schools, colleges, playgrounds, retirement homes. Congested junctions
Medium	Links containing shops/businesses, pedestrians/cyclists, areas of ecological/nature conservation value, residential properties close to the highway
Low	Links containing sites of tourist/visitor attraction, places of worship, residential areas set back from the highway. Uncongested junctions on the road network.
Negligible	Those people and places located away from the affected highway link

It should be noted that the impacts of traffic in terms of air quality and noise & vibration on sensitive receptors are assessed in Chapters 8 and 9 respectively.

This assessment is focussed upon all road users travelling on the highway network within the study area including:

- Pedestrians on the network in the study area;
- Cyclists on the network in the study area; and

Motorists on the network in the study area.

7.2.10 Assessment of Transport Demand Generated by the **Proposed Development**

7.2.10.1 Construction Assessment

The maximum number of daily construction vehicle movements (including cars and HGVs) during the construction phase has been estimated by the Club and the figure is provided in Chapter 4 Construction Strategy. A total of 114 daily movements are anticipated at the peak of construction works (assumed to comprise 100% HGV traffic to provide a robust assessment). These figures have been used as the basis of the assessment. In line with the proposed construction vehicle route presented in Chapter 4, it is expected that Heavy Goods Vehicle (HGV) traffic to and from the application site will be from the motorway network using Walton Lane in the immediate vicinity of the site. Entry for vehicles will be via the existing site access on Goodison Road. Exit for vehicles back onto Walton Lane will be via the existing site access on Bullens Road.

7.2.10.2 Operational Assessment

The traffic generation of the proposed development has been calculated using the Trip Rate Information Computer System (TRICS), an industrystandard database of trip rates for developments used in the United Kingdom for transport planning purposes, specifically to quantify the trip generation of new developments. The development traffic has then been distributed on the surrounding road network using Census (journey to work data [12] (https://www.ons.gov.uk/census/2011census) for residential and commercial uses. For educational and retail uses surveyed, turning movements have been used. This is set out in detail in the TA (Appendix 7.2, Section 7).

7.2.10.3 Cumulative Assessment

In the TA scoping exercise, LCC identified that the following development was required to be considered in any future year assessments for the purposes of the transport assessment:

18F/1316);

In scoping for the TA, it was agreed that the impact of the proposed development should be compared against the baseline situation where the cumulative schemes noted had been implemented. This is a typical approach for TAs. To ensure a consistency of approach between the TA and EIA, the same methodology has been employed for both assessments.

The cumulative scheme has been taken account of by calculating the traffic that would be generated by the development. The Transport Statement which accompanied its respective planning application did not contain this information on account of the modest scale of development and sustainable transport links close to it

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Residential development of 106 units, Bullens Road (Planning Ref.

For cumulative scheme construction traffic, no construction management plan or environmental impact assessment was submitted with application 18F/1316 detailing this, nor was any information provided in the Transport Statement which accompanied the planning application. Accordingly, in this circumstance MM has taken account of the construction stage of this scheme by using data prepared as part of the Construction Management Plan for the GPLP. Similar construction traffic volumes have been included in the cumulative scheme scenario as for the construction of the apartment blocks in the proposed development. We consider this approach to be robust given the absence of construction information in application 18F/1316.

7.2.11 Assessment of Magnitude

The approach to the assessment of impact magnitude in accordance with the broad principles outlined in the IEMA Guidelines is provided in Appendix 7.2. It should be noted that the guidelines do not provide thresholds for all impact criteria, with the guidelines recommending that professional judgement is used.

The criteria used in assessing the magnitude of impact for each of the seven categories is summarised in Tables 7.3 to 7.7.

Table 7.3

Scale of magnitude for severance impacts used in the assessment

MAGNITUDE	DESCRIPTION
High	Increase in AADT (Annual Average Daily Traffic flow) of above 90%
Medium	Increase in AADT traffic flows of 61—90%
Low	Increase in AADT traffic flows of 31% to 60%
Very Low	Increase in AADT traffic flows 11% -30%
Negligible	Threshold for assessment total AADT below 4,000 vehicles. Increase in traffic flow 10% or under. Road links with no or inadequate pedestrian facilities.

Table 7.4

Scale	of	magnitude	for	driver	delay	impacts	used	in	the	assessmer

MAGN	IITUDE DESCRIPTION
Very High	Average vehicle delay changes of more than 1 minute as a result of the proposed development during the peak hour periods
High	Average vehicle delay changes are between 31 and 60 seconds as a result of the proposed development during the peak hour periods
Medium	Average vehicle delay changes are between 21 and 30 seconds as a result of the proposed development during the peak hour periods
Low	Average vehicle delay changes are 20 seconds or less as a result of the proposed development during the peak hour periods
Negligible	Threshold for assessment junctions operating over design capacity at less than 0% PRC (Practical Reserve Capacity)

Table 7.5

Scale of magnitude for pedestrian delay impacts used in the assessment

MAGNI	IUDE DESCRIPTION
High	Increase in AADT traffic flows of above 90%
Medium	Increase in AADT traffic flows of 61— 90%
Low	Increase in AADT traffic flows of 31% to 60%
Very Low	Increase in AADT traffic flows 10% -30%
Negligible	Threshold for assessment total AADT below 4,000 vehicles. Increase in traffic flow below 10%. Road links with no or inadequate pedestrian facilities.

Table 7.6

Scale of magnitude for pedestrian amenity impacts used in the assessment

MAGN	ITUDE DESCRIPTION
High	Increase in AADT traffic flows or HGV component above 200%
Medium	Increase in AADT traffic flows or HGV component— 101 - 200%
Low	Increase in AADT traffic flows or lorry component of 51% to 100%
Very Low	Increase in AADT traffic flows or lorry component 31-50%
Negligible	Threshold for assessment total AADT below 4,000 vehicles. Increase in traffic flow or lorry component 30% or under.

Table 7.7

Scale of magnitude for road safety impacts used in the assessment					
MAGNITUDE	DESCRIPTION				
High	Area identified as an accident cluster site, increase in traffic of 30% or more. Area not identified by LCC as an accident cluster site, increase in traffic of 50% or more.				
Medium	Area identified by LCC as an accident cluster site, increase in traffic 15% or more. Area not identified as an accident cluster site, increase in traffic of 30% or more.				
Low	Threshold for assessment total AADT of 4,000 or above. Area identified by LCC as an accident cluster site, increase in traffic below 15%. Area not identified as an accident cluster site, increase in traffic below 30%.				

7.2.12 Assessment of Effect Significance

Table 7.8 shows how the significance of traffic effects has been established with reference to the receptor sensitivity and impact magnitude.

Significance	Matrix
MAGNITUDE OF IMPACT	Verv Hi

Table 7.8

MAGNITUDE	SENSITIVITY OF RECEPTOR					
OF IMPACT	Very High	High	Medium	Low	Negligible	
Very High	Major Significance	Major Significance	[3]	Moderate Significance	[1]	
High	Major Significance	[3]	Moderate Significance	Minor Significance	[2]	
Medium	[3]	Moderate Significant	Minor Significance	[2]	Negligible Significance	
Low	Moderate Significance	Minor Significance	[2]	Negligible Significance	Negligible Significance	
Very low	[2]	[2]	Negligible Significance	Negligible Significance	Negligible Significance	
Negligible	[1]	Negligible Significance	Negligible Significance	Negligible Significance	Negligible Significance	

judgement and reasoning.

Based on the above, the impact magnitude and the sensitivity of the receptor are considered to determine the overall significance of effect.

It should be noted that only effects of 'major' and 'moderate' significance are significant in EIA terms. Nevertheless, where 'minor' adverse effects are predicted, efforts have been made to identify appropriate mitigation measures.

7.2.13 Assumptions/Limitations

In undertaking the transport assessment of the application site and wider surrounding area, there are several assumptions and limitations that have been made. These are as follows:

methodology has been agreed with LCC.

[1] The choice between 'Moderate Significance', 'Minor Significance' and 'Negligible Significance' will depend on the specifics of the impact and will be down to professional

- [2] The choice between 'Minor Significance' and 'Negligible Significance' will depend on the specifics of the impact and will be down to professional judgement and reasoning.
- [3] The choice between 'Major Significance' and 'Moderate Significance' will depend on the specifics of the impact and will be down to professional judgement and reasoning.
- n.b. 'Negligible Significance' includes 'Neutral' and 'No Impact' assessments.

The assessment is limited to the accuracy of the forecast tools used for calculation of future background traffic flows and the estimation of trips that would be generated by the proposed development, including the mode of travel and their distribution onto the transport networks that provide access to the application site. Notwithstanding these limits, these tools are widely accepted industry standards and the

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- The assessment will rely on available data, and best endeavours have been made to ensure that the data are accurate and up to date. It is assumed that information supplied by third parties is accurate.
- The assessment is made under normal baseline conditions i.e. non matchday. The assessment does not consider the drop in impacts which would result from the closure of the stadium for example the removal of match day traffic, match day road closures and match day parking. Therefore, we consider that the assessment is conservative.
- The application is made in outline, and the end users of the development site are not yet known. Accordingly, a number of assumptions have been made on the potential end users and uses of the site and are detailed in Section 6 of the TA in Appendix 7.1.

7.3 **BASELINE CONDITIONS**

7.3.1 Existing Baseline

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
Walton Lane North of Priory Road	Strategic road link. Dual carriageway with a 30mph speed limit. Limited frontage activity outside of match days. Stanley Park is located on the eastern side and residential properties / Gwladys Street School at the western side. Wide footways are present on both sides of the road. Traffic modelling undertaken for the TA demonstrates the road is uncongested (Peak Hour PRC above 0%). Walton Lane forms part of the local bus network.	High	Appendix 7.1 Sections 3 & 4.
Walton Lane South of Priory Road	Strategic road link. Dual carriageway with a 30mph speed limit. Limited frontage activity outside of match days. Stanley Park is located on the eastern / southern side and Goodison Park at the northern / western side. Wide footways are present on both sides of the road. Traffic modelling undertaken for the TA demonstrates the road is uncongested (Peak Hour PRC above 0%). Walton Lane forms part of the local bus network.	Medium	Appendix 7.1 Sections 3 & 4.
Gwladys Street East of Bullens Road	Local distributor with a 30mph speed limit. Residential properties on both sides of the road. Primary School on Southern side of road. Forms part of the LCC cycle network Regional Route 81. No cycle facilities present, cyclists share the road with traffic.	High	Appendix 7.1 Sections 3 & 4.
Gwladys Street West of Bullens Road	Local distributor with a 30mph speed limit. Residential properties on both sides of the road, Goodison Park on the southern side in the western section. Church of St Luke the Evangelist at the western section. Forms part of the LCC cycle network Regional Route 81. No cycle facilities present, cyclists share the road with traffic.	Medium	Appendix 7.1 Sections 3 & 4
Goodison Road North of Gwladys Street	Local distributor with a 30mph speed limit. Residential properties on both sides of the road as well as some local businesses (betting, take away, pub).	Medium	Appendix 7.1 Sections 3 & 4
Goodison Road South of Gwladys Street	Local distributor with a 30mph speed limit. Residential properties on western side of the road as well as some local businesses. Goodison Park on the eastern side of the road	Medium	Appendix 7.1 Sections 3 & 4
Bullens Road North of Goodison Park Access	Local distributor with a 30mph speed limit. Goodison Park on the western side of the road, Gwladys Street School and a limited number of residential properties on the eastern side. Forms part of the LCC cycle network Regional Route 81. No cycle facilities present, cyclists share the road with traffic.	High	Appendix 7.1 Sections 3 & 4
Bullens Road South of Goodison Park Access	Local distributor with a 30mph speed limit. Goodison Park on the western side of the road vacant site on the eastern side. Forms part of the LCC cycle network Regional Route 81. No cycle facilities present, cyclists share the road with traffic.	Low	Appendix 7.1 Sections 3 & 4
Spellow Lane West of Goodison Road	Distributor road connecting two strategic routes (County Road and Walton Lane) 30mph speed limit. Terraced residential properties and community facilities located on both sides of the road. Spellow Lane forms part of the local bus network.	High	Appendix 7.1 Sections 3 & 4
Spellow Lane East of Goodison Road	Distributor road connecting two strategic routes (County Road and Walton Lane) 30mph speed limit. Limited frontage apart from take away, Goodison Park and Salop Church. Spellow Lane forms part of the local bus network.	Medium	Appendix 7.1 Sections 3 & 4
Langham Street	Local distributor with a 30mph speed limit. Everton Free School and residential properties are located on this link	High	Appendix 7.1 Sections 3 & 4
Priory Road	Local distributor with a 30mph speed limit. Anfield Cemetery to the north and Stanley Park to the south. Little residential frontage, limited frontage activity outside of match days when the road is used for coach parking.	Low	Appendix 7.1 Sections 3 & 4
City Road	Local distributor with a 30mph speed limit. Residential properties and local convenience shops / takeaways on both sides of the road. Footways on both sides of the road. Forms part of the LCC cycle network Regional Route 81. No cycle facilities present, cyclists share the road with traffic.	Medium	Appendix 7.1 Sections 3 & 4
Andrew Street	Residential local distributor with terraced residential properties on both sides of the road. One-way road 30mph.	Medium	Appendix 7.1 Sections 3 & 4
Nimrod Street	Residential local distributor with terraced residential properties and footways on both sides of the road. One-way road 30mph	Medium	Appendix 7.1 Sections 3 & 4
Walton Lane / Priory Road Signal Junction	Currently operating below its design capacity. Peak Hour PRC is 27% in the morning peak and 67% in the evening peak. The junction is equipped with signalised pedestrian crossing facilities.	Low	Appendix 7.1 Section 8
Walton Lane / Spellow Lane / Langham Street	Currently operating below its design capacity. Peak Hour PRC is 33% in the morning peak and 70% in the evening peak. The junction is equipped with signalised pedestrian crossing facilities.	Low	Appendix 7.1 Section 8

Traffic flow data for the baseline, and future baseline scenarios is shown in Appendix 7.2.

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7.3.2 Future Baseline 2028 and 2032

KEY RECEPTORS	DESCRIPTION	SENSITIVITY	FURTHER INFORMATION
All vehicular routes	There are no scheduled changes to take place on the local highway network that Mott MacDonald is aware of in the future baseline years. Traffic growth will take place, and this has been accounted for in the traffic data presented in Appendix 7.2. No change in sensitivity of the highway link receptors is envisaged.	As per the sensitivity results for the Existing Baseline, provided in the table above (section 7.3)	Appendix 7.1 Sections 3 & 4.
Walton Lane / Priory Road Signal Junction	The modelling undertaken for the transport assessment reveals that in the future baseline years the junction will continue to operate below 0% PRC. No change to sensitivity	Low	Please refer to TA Section 8 in Appendix 7.1
Walton Lane / Spellow Lane / Langham Street	The modelling undertaken for the transport assessment reveals that in the future baseline years the junction will continue to operate below 0% PRC. No change to sensitivity	Low	Please refer to TA Section 8 in Appendix 7.1

7.4 POTENTIAL SIGNIFICANT IMPACTS

PHASE	RECEPTOR	DESCRIPTION
Construction	All vehicular links within the study area	Increase in HGV traffic leading to impacts on severance, pedestrian delay, pedestrian amenity and road safety. Increase in traffic on account of staff vehicles on the network.
Construction	All junctions within the study area	Increase in HGV traffic resulting in an increase in driver delay on the network.
Operation	All vehicular links within the study area	Increase in traffic leading to impacts on severance, pedestrian delay, pedestrian amenity and road safety. Increase in traffic on account of staff vehicles on the network.
Operation	All junctions within the study area	Increase in traffic resulting in an increase in driver delay on the network.

7.5 **DESIGN INTERVENTIONS**

DESIGN INTERVENTION	DESCRIPTION	REASON FOR INTERVENTION
Provision of circulatory routes through and around the development (operational phase)	A number of pedestrian, cycle and vehicular connections will be provided internally within the site. This will provide connections through the site which are currently not present. There are no public routes through Goodison Park currently.	Connectivity with existing transport networks
Safety Standards (operational phase)	All internal routes, pedestrian, cycle and vehicular will be subject to road safety audit to ensure that these routes comply with safety standards.	Pedestrian, cyclist and vehicle safety

7.6 ASSESSMENT PRE-MITIGATION (INCLUDING DESIGN INTERVENTION) 2028 & 2032

PHASE	RECEPTOR(S) AFFECTED	% INCREASE IN TRAFFIC IN 2028 & 2032 % INCREASE IN HGV TRAFFIC IN 2028 & 2032 (WORST CASE INCREASE QUOTED OF 2028 & 2032)	ІМРАСТ	MAGNITUDE PRE- MITIGATION
Construction	Walton Lane North of Priory Road	0.4% increase in all traffic, 13% increase in HGV Traffic. Baseline traffic flow 27,660 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Construction	Walton Lane South of Priory Road	0.3% increase in all traffic, 11% increase in HGV Traffic. Road not identified as an accident cluster site by LCC. Baseline traffic flow 32,284 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible

TRANSPORT

ADVERSE/BENEFICIAL
Adverse
Adverse
Adverse
Adverse

FURTHER INFORMATION

Design & Access Statement (DAS) and DAS Addendum & the TA in Appendix 7.1, Section 6.

NA

SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Minor Adverse	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2

		% INCREASE IN TRAFFIC IN 2028 & 2032		MAGNITUDE PRE-	SIGNIFICANCE	MITIGATION	FURTHER
PHASE	RECEPTOR(S) AFFECTED	% INCREASE IN HGV TRAFFIC IN 2028 & 2032 (WORST CASE INCREASE QUOTED OF 2028 & 2032)		MITIGATION	PRE-MITIGATION	PROPOSED?	
PHASE RECEPTOR(S) AFFECTED % INCREASE IN TRAFFIC IN 2028 & 2032 Construction Gwladys Street East of Bullens Road No change in traffic ^{4/2} Construction Gwladys Street West of Bullens Road No change in traffic ^{4/2}		No shanna in traffic flave from baseling beerly	Koaa Satety	LOW	Negligible	Yes	Appendix 7.2
Construction	GWIADYS STREET LAST OT BUILENS KOAD	NO CHANGE IN TRATTIC TIOW TROM DASEIINE IEVEIS	Severance	Negligible	Negligible	Yes	Appendix 7.2
			redestrian Delay		Negligible	Yes	Appendix 7.2
_			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Satety	Low	Negligible	Yes	Appendix 7.2
Construction	Gwladys Street West of Bullens Road	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Satety	Low	Negligible	Yes	Appendix 7.2
Construction	Goodison Road North of Gwladys Street	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Road Safety Low Negligible		Yes	Appendix 7.2
Construction	Goodison Road South of Gwladys Street	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Spellow Lane East	0.5% increase in all traffic, 24% increase in HGV Traffic. Baseline traffic flow 11,875 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Bullens Road North of Goodison Park site access	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Bullens Road south of Goodison Park site access	7% increase in all traffic, 188% increase in HGV Traffic. Baseline traffic flow 811 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			, Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safetv	Low	Negligible	Yes	Appendix 7.2
Construction	Spellow Lane West of Goodison Road	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
	• • • • • • • • • • • • • • • • • • • •	v	Pedestrian Delav	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negliaible	Negliaible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2

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PHASE	RECEPTOR(S) AFFECTED	% INCREASE IN TRAFFIC IN 2028 & 2032 % INCREASE IN HGV TRAFFIC IN 2028 & 2032 (WORST CASE INCREASE QUOTED OF 2028 & 2032)	IMPACT	MAGNITUDE PRE- MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Construction	Spellow Lane East of Goodison Road	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Langham Street	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Priory Road	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	City Road	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Andrew Street	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Nimrod Street	No change in traffic flow from baseline levels	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Construction	Walton Lane / Priory Road Signal Junction	Junction predicted to operate at above 0% PRC with development in place. Traffic generation of construction stage is lower than operational stage. Road not identified as an accident cluster site by LCC.	Vehicle Delay	Negligible	Negligible	Yes	TA Section 8 in Appendix 7.1
Construction	Walton Lane / Spellow Lane / Langham Street	Junction predicted to operate at above 0% PRC with development in place. Traffic generation of construction stage is lower than operational stage. Road not identified as an accident cluster site by LCC.	Vehicle Delay	Negligible	Negligible	Yes	TA Section 8 in Appendix 7.1
Operation	Walton Lane North of Priory Road	5% increase in all traffic, 5% increase in HGV Traffic. Baseline traffic flow 27,774 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Minor Adverse		Appendix 7.2
Operation	Walton Lane South of Priory Road	5% increase in all traffic, 5% increase in HGV Traffic.	Severance	Negligible	Negligible	Yes	Appendix 7.2
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		% INCREASE IN TRAFFIC IN 2028 & 2032 % INCREASE IN HOV TRAFFIC IN 2028 & 2022 (WORST CASE INCREASE OUDTED OF 2028 & 2022)	IMDACT	MAGNITUDE PRE-	SIGNIFICANCE	MITIGATION	FURTHER
FHAJL	RECEFTOR(S) AFFECTED	Baseline traffic flow 33.002 AADT. Road not identified as an accident cluster site by LCC.	IMFACI	MITIGATION	FRE-MITIGATION	rkorojed:	INFORMATION
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Operation	Gwladys Street East of Bullens Road	97% Increase in total traffic. Baseline flow of 1,269 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Minor Adverse	Yes	Appendix 7.2
Operation	Gwladys Street West of Bullens Road	56% Increase in total traffic. Baseline flow of 1,954 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Minor Adverse	Yes	Appendix 7.2
Operation	Goodison Road North of Gwladys Street	11% Increase in total traffic. Baseline flow of 1,016 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	Yes	Appendix 7.2
Operation	Goodison Road South of Gwladys Street	36% Increase in total traffic. Baseline flow of 4,617 AADT. Road not identified as an accident cluster site by LCC.	Severance	Very Low	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Very Low	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Very Low	Negligible	Yes	Appendix 7.2
			Road Safety	Medium	Minor Adverse	Yes	Appendix 7.2
Operation	Bullens Road North of site access	126% increase in traffic, Baseline flow of 976 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Minor Adverse	Yes	Appendix 7.2
Operation	Bullens Road South of site access	126% increase in traffic, Baseline flow of 976 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Delay	Negligible	Negligible	Yes	Appendix 7.2
			Pedestrian Amenity	Negligible	Negligible	Yes	Appendix 7.2
			Road Safety	Low	Negligible	YEs	Appendix 7.2

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PHASE	RECEPTOR(S) AFFECTED	% INCREASE IN TRAFFIC IN 2028 & 2032 % INCREASE IN HGV TRAFFIC IN 2028 & 2032 (WORST CASE INCREASE QUOTED OF 2028 & 2032)	IMPACT	MAGNITUDE PRE- MITIGATION
Operation	Spellow Lane West of Goodison Road	4% increase in traffic, 4% increase in HGV traffic. Baseline flow of 9,397 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	Spellow Lane East of Goodison Road	18% increase in traffic, 18% increase in HGV traffic. Baseline flow of 11,919 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	Langham Street	No change in traffic flow from baseline levels	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	Priory Road	2% increase in traffic, 2% increase in HGV traffic. Baseline flow of 10,142 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	City Road	6% increase in traffic, 6% increase in HGV traffic. Baseline flow of 3,186 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	Nimrod Street	61% increase in traffic, 61% increase in HGV traffic. Baseline flow of 663 AADT. Road not identified as an accident cluster site by LCC.	Severance	Negligible
			Pedestrian Delay	Negligible
			Pedestrian Amenity	Negligible
			Road Safety	Low
Operation	Walton Lane / Priory Road Signal Junction	Junction predicted to operate at above 0% PRC with development in place.	Vehicle Delay	Negligible
Operation	Walton Lane / Spellow Lane / Langham Street	Junction predicted to operate at above 0% PRC with development in place.	Vehicle Delay	Negligible

SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Negligible	Yes	Appendix 7.2
Minor Adverse	Yes	Appendix 7.2
Negligible	Yes	TA Section 8 in Appendix 7.1
Negligible	Yes	TA Section 8 in Appendix 7.1

7.7 MITIGATION & ENHANCEMENT MEASURES 2028 & 2032

PHASE	POSSIBLE EFFECT BEING MITIGATED	MITIGATION MEASURE	HOW SECURED / TRIGGER	MAGNITUDE POST-MITIGATION	ADVERSE / BENEFICIAL	FURTHER INFORMATION
Construction	Severance, pedestrian delay,	Construction Environmental Management Plan (CEMP)	Planning	No change in impact magnitude from pre mitigation in the	Adverse	Chapter 4 Construction
	pedestrian amenity, driver delay, road safety	Prior to construction commencing, a CEMP will be submitted to LCC for approval. This will contain a range of measures to reduce the traffic impact of the construction of the development.	Condition	interest of providing a robust assessment. Impact remains the same for all criteria.		Strategy and CEMP
		A draft version of the measures that will be employed at the site to reduce transport impacts, and which will be included within the CEMP in due course, are provided in Chapter 4 Construction Strategy and CEMP. These measures include:				
		Construction Travel Plan				
		 Construction workers to be encouraged to use public transport, walking and cycling wherever possible and discouraged from parking in nearby streets. 				
		 Remote car parks to be used by construction workers who choose to drive. 				
		 Designated HGV access routes so that HGVs do not adversely impact the most sensitive areas. 				
		Where appropriate, the CEMP will identify temporary traffic management measures which can be deployed on the local road network to mitigate impact, this can include temporary signalised pedestrian crossing points.				
Operation	Severance, pedestrian delay, pedestrian amenity, driver delay, road safety	<u>Travel Plan</u> Within a defined period following occupation, a staff and residents travel plan will be agreed with LCC which contains a series of measures to encourage the sustainable travel of staff and residents of the proposed development. The measures will seek to reduce travel by single occupancy vehicles and encourage sustainable travel where practical.	Planning Condition	No change in impact magnitude from pre mitigation in the interest of providing a robust assessment. Impact remains the same for all criteria.	Adverse	Appendix 7.3
Operation	Severance, pedestrian delay, pedestrian amenity, road safety.	New pedestrian crossing points connecting the site to the existing pedestrian and cycle network. The Transport Assessment identifies a number of potential new crossing point locations. Following planning permission, new crossing points will be provided as the phased development is built out, following the approval of subsequent Reserved Matters submissions.	Planning Condition / Section 278	No change in impact magnitude from pre mitigation in the interest of providing a robust assessment. Impact remains the same for all criteria.	Adverse	Appendix 7.1 Section 6.4.
Operation	Road Safety	All new road junctions, pedestrian and vehicle routes will be subject to safety audit both in the design and operation stages.	S278	No change in impact magnitude from pre mitigation in the interest of providing a robust assessment. Impact remains the same for all criteria	Adverse	NA

7.8 ASSESSMENT POST-MITIGATION

	RESIDUAL EFFECT							
PHASE	RECEPTOR	RESIDUAL IMPACT	SIGNIFICANCE	ADV/ BEN	ST/MT/LT	D/IND	P/T	R/IRR
Construction	All road links within the study area	Severance	Negligible	Adv	ST	D	T	R
Construction	All road links within the study area	Pedestrian Delay	Negligible	Adv	ST	D	T	R
Construction	All road links within the study area	Pedestrian Amenity	Negligible	Adv	ST	D	T	R
Construction	Walton Lane / Priory Road Signal Junction & Walton Lane / Spellow Lane / Langham Street Junction	Driver Delay	Negligible	Adv	ST	D	T	R
Construction	All road links within the study area apart from: Walton Lane North of Priory Road	Road Safety	Negligible	Adv	ST	D	T	R
Construction	Walton Lane North of Priory Road	Road Safety	Minor	Adv	ST	D	T	R
Operation	All road links within the study area	Severance	Negligible	Adv	LT	D	Р	R
Operation	All road links within the study area	Pedestrian Delay	Negligible	Adv	LT	D	Р	R
Operation	All road links within the study area	Pedestrian Amenity	Negligible	Adv	LT	D	Р	R

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			RESIDUAL EFFECT					
PHASE	RECEPTOR	RESIDUAL IMPACT	SIGNIFICANCE	ADV/ BEN	ST/MT/LT	D/IND	P/T	R/IRR
Operation	Walton Lane / Priory Road Signal Junction & Walton Lane / Spellow Lane / Langham Street Junction	Driver Delay	Negligible	Adv	LT	D	T	R
Operation	All road links within the study area apart from: Walton Lane North of Priory Road, Gwladys Street, Goodison Road South of Gwladys Street, Bullens Road North of site access, Spellow Lane West of Goodison Road.	Road Safety	Negligible	Adv	LT	D	T	R
Operation	Walton Lane North of Priory Road, Gwladys Street, Goodison Road South of Gwladys Street, Bullens Road North of site access, Spellow Lane West of Goodison Road.	Road Safety	Minor	Adv	LT	D	T	R
Key: ADV/BEN = Adverse/Beneficial; ST/MT/LT = Short-term/Medium-term/Long-term; D/IND = Direct/Indirect; P/T = Permanent/Temporary; R/IRR = Reversible/Irreversible								

7.9 **BIBLIOGRAPHY**

- [1] Institute of Environmental Management and Assessment (Former Institute of Environmental Assessment), "Guidelines for the Environmental Assessment of Road Traffic," IEMA, 1993.
- [2] Design Manual for Roads and Bridges, "Volume 11: Environmental Assessment," 2011.
- [3] Ministry of Housing, Communities and Local Government, "National Planning Policy Framework," February 2019.
- [4] Merseytravel, 2011. [Online]. Available: https://www.merseytravel.gov.uk/about-us/local-transport-delivery/Documents/LTP3/Annexe%2006%20-%20Active%20Travel%20Strategy.pdf.
- [5] Merseyside Transport Partnership, 2011. [Online]. Available: https://www.merseytravel.gov.uk/Site%20Documents/Full%20LTP3%20(lo%20res)%20-%20Regional%20and%20National%20Strategy.pdf.
- [6] Liverpool City Council, "A Plan for Liverpool: Liverpool Unitary Development Plan," 2002. [Online]. Available: http://liverpool.gov.uk/council/strategies-plans-and-policies/environment-and-planning/plan-making-in-liverpool/currentlocal-plan-documents/unitary-development-plan/.
- [7] Liverpool City Council, The Draft Liverpool Local Plan Pre-submission Version, 2018.
- [8] Liverpool City Region Combined Authority, April 2018. [Online]. Available: https://www.merseytravel.gov.uk/about-us/local-transport-delivery/Documents/10399%20Merseytravel%20LongTermRail_Stratergyweb.pdf.
- [9] Liverpool City Council, December 2008. [Online]. Available: https://liverpool.gov.uk/media/9638/ensuring-a-choice-of-travel-spd.pdf.
- [10] Liverpool City Region Combined Authority, "A Transport Plan for Growth," 2015/16.
- [11] Liverpool City Council, "Strategic Investment Framework," 2012.
- [12] Office for National Statistics, "Census Journey to Work Data," 2011.

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